The Essex County Council Bus Service Improvement Plan 2021 to 2026

Welcome to Essex County Council's Bus Service Improvement Plan.

Bus Service Improvement Plans are a key part of the strategy set by Bus Back Better, the Government's national bus strategy published in March 2021. They set out the local issues relating to the bus network and how local authorities will tackle them.

This Bus Service Improvement Plan covers the following areas:

- The Vision for the Essex Bus Network and why we need an improvement plan: Sections 1 and 2.
- The background to the plan: Section 3.
- How the plan has been produced and how it will be managed: Section 4.
- Data and background on the network, the key operational elements, and statistics: Section 5.
- The impact of COVID-19: Section 6.
- The barriers to growing and improving the network: Section 7.
- What Essex County Council will do, alongside a significant number of partners including bus operators, to tackle those barriers and deliver improvements: Section 8.

The plan is a substantial document. Essex is a large area, with a complex geography and diverse communities. We will all need to work together to deliver a better, stronger bus network and reap the environmental, economic and social benefits that will flow from those improvements. A journey by bus is an investment in your community, in the environment and in your local economy.

Contents

Abbreviations

AQMA	Air Quality Management Area
BODS	Bus Open Data System
BRT	Bus Rapid Transit
BSIP	Bus Service Improvement Plan
BSOG	Bus Service Operators Grant
CBSSG (R)	COVID-19 Bus Service Support Grant (Restart)
CIL	Community Infrastructure Levy
CMA	Competition and Markets Authority
CPC	Certificate of Professional Competence
CT	Community Transport
DfT	Department for Transport
DNR	District Network Review
DRT	Demand Responsive Transport
D-DRT	Digital Demand Responsive Transport
EBSB	Essex Bus Strategy Board
EBSF	Essex Bus Strategy Forum
ECAC	Essex Climate Action Commission
ENCTS	English National Concessionary Travel Scheme
EP	Enhanced Partnership
EPMB	Enhanced Partnership Management Board
ECC	Essex County Council
FBN	Future Bus Network
G2S	Getting to School
IMD	Indices of Multiple Deprivation
IPTU	Integrated Passenger Transport Unit
KPIs	Key Performance Indicators
LAD	Local Authority District
LADO	Local Authority Designated Officer
LBS	Local Bus Station
LI	Local Interchange
LTA	Local Transport Authority
LLSOA	Lower Layer Super Output Area
LTP	Local Transport Plan
MI	Major Interchange
NBS	National Bus Strategy
NTEM	National Trip End Model
NTS	National Travel Survey

OA	Output Area
ONS	Office for National Statistics
P&R	Park and Ride
PPE	Personal Protective Equipment
PR1	Priority 1 Road
RMF	Rural Mobility Fund
RTPI	Real Time Passenger Information
RTS	Rapid Transit System
S106	Section 106 agreement
SEND	Special Educational Needs and Disabilities
SGH	Safer Greener Healthier
SSG	Stop.Swap.*GO!*
SIP	Service Intervention Point
SME	Small and Medium-sized Enterprises
TfL	Transport for London
TRO	Traffic Regulation Order
TSP	Transit Signal Priority

Table 1 List of abbreviations

Cllr Kevin Bentley

Cllr Lee Scott

Introduction

Cllr Kevin Bentley, Leader of Essex County Council
Cllr Lee Scott, Cabinet Member for Highways Maintenance and Sustainable Transport.

Welcome to Essex's Bus Service Improvement Plan (BSIP). In Essex we are proud of our long-term commitment to buses across the county, not just in urban centres but for our rural areas and market towns too. We have some huge challenges to delivering bus services in Essex and some equally huge opportunities with Bus Back Better.

Our BSIP marks a real attempt to deliver a transformative approach. It sets out why we believe that investing in Essex will have a halo effect, extending more broadly across the county and nationally, beyond the immediate benefits delivered by the five paradigm shift projects we set out. There are four defining elements to our plan:

Passion: this plan is written by the in-house team under the leadership of a key group of Cabinet Members. It was written by the people who have lived and breathed the challenges of delivering a bus network in Essex, who have met and engaged with the people who use it and those who cannot access it. It was written by people who have gone out and met parishes; walked proposed bus stop changes to get them right; travelled on the buses they commission; listened to parents on their doorsteps who struggle to find sustainable ways to get their children to school; and arranged for overhanging trees to be cut to allow a service to run. It was written by people who have worked hard to keep a good bus network in Essex and who see this as a huge opportunity to make a transformational change. It was written by the people who will be around to deliver it, and make it work for the people and communities of Essex.

Ambition: we do not want to simply make a series of geographically based, worthy, but evolutionary improvements, we want to create a new paradigm for how bus services are delivered in Essex. Essex has a strong record in delivering bus

investment in a challenging geography. We invest significantly more than similar authorities in the supported network, and our passenger numbers have historically held up in the face of steeper national decline. Our diverse geography is challenging: we have everything from Roman towns to new towns; industrial urban geographies to rural hamlets; ports, airports, coastlines, areas of wealth and of deprivation.

We want to transform sustainable travel opportunities for all of them. We have identified five model projects to give us a way of delivering transformation across that diversity. We want to deliver high quality rapid transit for our urban and garden community populations; swift and reliable journeys for our urban centres; and link our less well-off areas with jobs, training, and stronger local economies. We also want to transform travel opportunities for our rural villages, hamlets, and market towns. We do not want a two-tier bus service offer. We do not want communities where you need a car or must wait for a lift to make the journeys you want to make. We want everyone to be able to make a sustainable choice.

Renewal: Buses helped deliver a golden age of travel and economic opportunity in the early to mid-twentieth century. They enabled individual opportunity and strengthened rural and urban communities. They allowed large numbers of people to move around to work, access leisure and get to school, without shaping and dominating the urban landscape or wider world environment in the way the car has done. We know we need new paradigms to revive those opportunities. Technology can capture much of the convenience of the car and give a less stressful more productive journey.

Equality: A journey for everyone. Many BSIPs will focus on improving existing bus services. That is important, but it is not enough in Essex. In Essex most of our population cannot access a bus because they do not live close enough to a bus route. We do not want to produce a plan where those with bus services see improvements, and those who have nothing still have nothing. That is a big challenge because we cannot run environmentally or financially sustainable bus routes with only a handful of people using them. We need to develop new models that can create journeys that are attractive, convenient and earn their keep. Anyone watching the increasingly visible impacts of climate change will recognise the urgent need for such options.

We commend to you this plan and its ambition for transformation and look forward to working with you to deliver it.

Section 1. Vision statement for the Essex Bus Service Improvement Plan:

1. Safer, Greener, Healthier (SGH) is Essex County Council's vision for travel across Essex. It will deliver a shift towards sustainable travel by encouraging Essex residents to rethink their journeys. The SGH vision is to make it easy for residents to travel more sustainably. Bus travel is safer, greener, and healthier than travel by car, both for individuals and for communities. If you travel by bus, rather than car, everyone benefits. Buses also help deliver the four key objectives in Everyone's Essex: A Plan for Essex:

2. **A strong, inclusive, and sustainable economy.** Buses support economic growth by:

   - Providing access to education and training to help people develop their skills.
   - Providing employment opportunities and getting people to work.
   - They are disproportionately used by those on lower incomes and can be critical in linking job seekers with employment.
   - Linking people with shops and leisure and supporting vibrant night-time economies.
   - Allowing urban shopping centres to be green, attractive, and feel safe.
   - Generating economic growth without the costs of congestion, road traffic incidents, and air pollution.

3. **A high-quality environment.** Moving longer journeys from car to bus helps improve air quality and reduce CO_2 emissions. The greatest single climate change mitigation measure for the transport sector in Essex is to transfer journeys from car to bus, bike, or walking. That is true even given a wholly diesel bus fleet. Establishing bus, bike and walking as the predominant modes for urban areas would enable the creation of a more attractive environment than one dominated by cars and parking infrastructure.

4. **Health, wellbeing, and independence for all ages.** Buses are predominantly used by older and younger people and those with disabilities. They provide independence and an ability to access healthcare, education, training, and other services. For many, they are a key part of being able to live independently.

5. **A good place for children and families to grow.** By using buses, you are investing in your community. You are supporting access to services, improving health outcomes, and ensuring that communities are not just a good place to live for those with cars. Bus journeys are often a social occasion for regular passengers, allowing them to build friendships to combat loneliness.

6. Over the next five years, Essex County Council will work with the bus industry and other partners to deliver safer, greener, and healthier travel by:
   - Rebuilding the Essex bus network to recover from the impact of the COVID-19 pandemic.
   - Developing an attractive, sustainable, and affordable bus network, offering an alternative to car use.

- Reversing the long-term decline in passenger numbers, in absolute terms and as a modal share of all journeys.
- Improving public health and addressing climate change by reducing pollutants such as particulate matter, nitrogen oxides (NO_x), ozone (O_3), sulphur dioxide (SO_2) and carbon dioxide (CO_2) emissions, produced by cars in Essex.

Section 2. The need for a BSIP

7. Despite the Transport Act 1985, and attempts through subsequent legislation[1], there has been a long-term decline in bus service use across the UK, even prior to the COVID-19 pandemic.

8. Since the late 1980s concerns have risen over the environmental and economic costs of increased car use. Evidence shows that greenhouse gas emissions are contributing to climate change. In 2019, an estimated 34% of CO_2 emissions were from the transport sector, with 26% from energy supply, 19% from the residential sector and 18% from business[2].

9. The impact of pollutants such as NO_X, SO_2 and particulates on human health have become increasingly clear. The Review of interventions to improve outdoor air quality and public health (PHE March 2019) report states:

10. "Air pollution is the biggest environmental threat to health in the UK, with between 28,000 and 36,000 deaths a year attributed to long-term exposure. There is strong evidence that air pollution causes the development of coronary heart disease, stroke, respiratory disease and lung cancer and exacerbates asthma"[3].

11. The outbreak of COVID-19 in 2020 had a severe impact on bus service use and commercial viability. National and local lockdowns, and government advice to avoid public transport, resulted in a large and sustained fall in passenger use. The industry is in a state of commercial failure, reliant on substantial public subsidy to continue to run the bus network.

12. In response, the Government launched its National Bus Strategy (NBS), **'Bus Back Better**', in March 2021. This aims to:

    - Recast the bus sector to allow it to recover from the impact of COVID-19.
    - Reverse the long-term decline in passenger numbers.
    - Help meet national emission, pollution, and health goals.
    - Help meet economic regeneration goals by reducing congestion.

13. This strategy redefines the market settlement established after the deregulation of bus services in 1985. It strengthens the role and powers of Local Transport Authorities (LTAs), giving them responsibility for:

    - The shape, functionality, and accessibility of the bus network.
    - The quality, accessibility, and integration of bus infrastructure.
    - Meeting the goals set out above.

14. The delivery of these objectives can be achieved through:

[1] Transport Acts 2000 and 2008, the Concessionary Bus Travel Act 2007 and the Bus Services Act 2017
[2] DfEIS "2019 UK greenhouse gas emissions, provisional figures" 26 March 2020
[3] Review of interventions to improve outdoor air quality and public health. PHE March 2019

- An Enhanced Partnership (EP) between the LTA and bus operators, or
- A county-wide Bus Franchising approach. This requires development of an EP as a first step.

15. The National Bus Strategy's approach to persuading LTAs and bus operators to follow its preferred pathway is to limit their ability to access capital and revenue funding from central government, if they do not produce a suitable Bus Service Improvement Plan (BSIP) and EP. The DfT will assess the BSIP to determine if it is ambitious enough to access these funds. Both the BSIP and the EP are 'living documents', that are required to be regularly reviewed. BSIP targets and indicators will be reported on every six months, and there will be an annual BSIP review. The funds affected by the assessment of the BSIP include:

    - The £3bn of government funding that will only be offered to LTAs or operators who produce a satisfactory BSIP and EP.
    - Existing funding, including the COVID-19 Bus Service Support Grant (BSSG), forthcoming recovery funding and the Bus Service Operators Grant (BSOG).
    - Any future bus related grant schemes such as the Green Bus Fund.
    - Less favourable consideration when bidding for transportation related funding.

16. The National Bus Strategy sets three deadlines for local authorities to deliver their revised approach to bus services:

    - By 30th June 2021, issue a statutory note to the DfT indicating which route, EP or Franchising, the local authority intends to take.
    - By 31st October 2021, issue a BSIP detailing the County Council's approach toward delivering a revised bus network, setting out high level objectives and performance indicators.
    - By 1st April 2022, agree an EP with operators.

17. Essex County Council indicated its intention to follow the EP route in Cabinet Decision FP/063/05/21 agreed by Cabinet on 22nd June 2021.

18. This BSIP document meets the second deadline. It is a key strategy setting out the County Council's approach to developing the bus network in Essex over the next five years. It will form the basis of the EP Plan, the strategic element of the EP, that the Council will issue for April 2022.

Section 3. Background to the BSIP

Historical development of transport services.

19. Easy access to services and amenities underpins our quality of life but is often taken for granted. This is a relatively recent phenomenon. In previous centuries most people spent most of their lives within 15 miles of their birthplace. Today, journeys longer than this are considered a normal commuting distance for work, school, or shopping. The industrial revolution brought people from the countryside to live within travelling distance of major employment and other service centres.

20. Transport studies show that over the last 150 years, people have chosen to live within an hour's travel time of their place of work. Developments in transport technology during the industrial revolution did not change this desire, but the building of rail and then comprehensive road based public transport networks increased the distances which can be covered within an hour's travel.

21. Over the second half of the 20th century technological and socio-economic factors challenged the primacy of public transport services for delivering these journeys. Rising incomes and mass production made cars more affordable. This made participation in activities easier for those with access to a car. These changes are reflected in the steady decline in bus use.

22. To reverse this decline, and reduce public subsidy, the bus industry outside London was privatised in the Transport Act 1985. Local Authorities were designated as Local Transport Authorities (LTAs) and limited to acting as a 'provider of last resort', where they considered that services were socially necessary but not commercially viable. Essex County Council is the LTA for Essex, excluding the unitary authorities for Thurrock and Southend.

23. This led to the creation of many small local bus companies, followed by commercial consolidation, and the emergence of a small number of national and often locally dominant bus operators.

24. Changes in information and communication technology have given rise to the 'digital economy', including higher levels of home working and the growth of on-line retailing. This has led to more sporadic travel demand, favouring car use, and reduced the attractiveness of public transport.

The geography and demography of Essex

25. Essex has an area of 3,670 km^2, around twice that of Greater London. This makes it one of the largest English Shire Counties.

26. In 2020 the projected population of Essex was 1.498m, making it the largest County in the East of England, with 25% of the regional population.

27. Essex includes a range of environments, from the city of Chelmsford and three other large towns, (the ancient town of Colchester and the post WW2 New Towns of Basildon and Harlow), to heavily urbanised corridors along the fringes of London and Southend. It also has traditional market towns, seaside towns and ports, (e.g., Clacton & Harwich), coastal marshlands, and sparsely populated rural upland zones to the north and east of the county.

28. Settlement patterns in Essex are mixed. The four large regional interchange centres of Basildon, Chelmsford, Colchester, and Harlow have populations between 80 and 150,000. These are supplemented by smaller market towns with populations between 25 and 50,000, including Braintree, Brentwood, Wickford, and the seaside town of Clacton. Smaller market towns with populations of 10 to 25,000 include Saffron Walden, Maldon, and port towns such as Harwich and Brightlingsea.

29. About 50% of the county's population live in its 10 largest urban areas, with populations of over 25,000, whilst 25% live in rural settlements of less than 10,000. The population density for each district is shown in Table 2. These figures are projections based on the 2011 census.

District	Population	Population Density Persons per hectare
Basildon	187,964	15
Braintree	152,370	2
Brentwood	76,383	5
Castle Point	90,500	19
Chelmsford	180,245	5
Colchester	197,246	5
Epping Forest	132,284	4
Harlow	87,425	25
Maldon	65,305	2
Rochford	88,232	5
Tendring	148,624	4
Uttlesford	91,604	1

Table 2 Essex population and population density by district

30. In 2018 it was estimated that 18.9% of the Essex population were aged 0-15, 60.6% were in the working age group of 16-64, and 20.5% were 65 and over. The working age group was 2% lower than the average for England, whilst the 65+ group was 2% higher.

31. Within the working age group, it was estimated that 183,549 people were between 55 and 64 and may have retired by 2028. This is equivalent to 12.4% of the total population, or 20.5% of the working age group.

32. By comparison, 174,805 of the six to 15-year-old group, 11.8% of the population, would have entered the working age group by 2028.

33. In 2011 census data showed the population of Essex was:
    - 51.1% female
    - 48.9% male
    - 90.8% identified as White British
    - 3.6% identified as White (other)
    - 2.5% identified as Asian
    - 1.3% identified as Black
    - 1.5% identified as Mixed
    - 0.3% identified as Other

Travel patterns

34. Its dispersed settlement pattern, lack of a single demand-focusing conurbation and being an affordable place to live for those working in London or Cambridge, lead to Essex residents having relatively high car trip generation. Essex has a high proportion of people working away from the area in which they live; around 20% of workers commute to London and there is a high proportion of interurban commuting and rural 'dormitory' villages and hamlets.

35. As a result, in 2019, according to the NTS, in England 61% of all journeys were undertaken by car. For Essex the equivalent figure is 71.8%.

Car ownership

36. Essex has a high level of vehicle ownership:

Area name	All categories: Car or van availability	Number of All cars or vans in the area	Cars or vans per household				
			0	1	2	3	4 or more
Essex Total	581,589	795,400	18.0%	42.1%	29.6%	7.4%	3.0%

Table 3 Car or van availability, 2011 Census

37. The high percentage of car ownership reflects the dispersed settlement pattern in Essex, the concentration of key service and amenity centres, (such as health), in centralised locations and the high levels of in and out commuting. For example, morning-peak travel often combines school, work, and shopping journeys. It also reflects limited access to practical alternatives to cars for those in rural areas, or in urban areas with poor connectivity.

38. As shown in Table 4, Essex residents are affluent compared to England as a whole. Districts in England are ranked 1 to 317 with 1 being the most deprived and 317 being the least. This conceals pockets of deprivation, particularly in north-east coastal settlements, which have some of the highest areas of deprivation, not only in Essex, but nationally.

District	Index of Multiple deprivation (2019)	
	Score	Rank
Tendring	22083.12	32
Harlow	18582.78	100
Basildon	17744.6	111
Colchester	13956.03	181
Castle Point	13905.85	182
Epping Forest	12930.26	200
Braintree	12716.15	203
Maldon	12389.29	211
Chelmsford	10004.42	260
Rochford	8121.79	286
Brentwood	8058.04	287
Uttlesford	7386.46	295

Table 4 Index of Multiple Deprivation Scores for Essex

39. Large developments across the county, including the proposed 'Garden Communities' and suburban development, will put additional pressure on the transport network. Local Plans in Essex will provide for 146,000 new homes between 2029 and 2036. These are to be provided at proposed garden communities, significant development within existing urban areas and other villages. Using population estimates based on 2018 subnational projections, this will increase the population by 122,500 (8%).

40. Based on 2018 National Travel Survey figures and allowing for an average of 986 journeys per person/year, this would result in 282 million journeys. Of these, 172 million (61%), would be made by car, if modal shares remain unchanged.

41. Essex has good rail connections along the north/south axis with Greater Anglia connecting London Liverpool Street with Norwich, Colchester and Chelmsford to the east and Cambridge, Stansted Airport and Harlow to the west. C2C lines link Southend, Wickford, and Brentwood to London. Branch lines link coastal areas and some smaller towns to the main lines. A map showing this network is included in Appendix B **Figure 8** *The rail and tube network in Essex*

42. Essex has an extensive local bus network, shown in Appendix B **Figure 7** *The bus network in Essex*

43. The four largest urban areas are the focus for the commercial network, with operators running high frequency services, every 10-to-30-minutes, between residential areas, transport hubs and employment, health, and shopping centres. Commercial operations focus mainly on daytimes, between 05:00 and 19:00, Mondays to Saturdays.

44. There is a strong inter-urban commercial network along the main roads linking larger settlements and other attractor sites such as Stansted Airport, including

the A120, A130, A414, A13, and A127. A small number of express bus services link Stansted Airport to Essex's major towns and Southend, with nearly 24-hour coverage. An Express Coach network provides links to London, Stansted, Heathrow and Gatwick airports, Cambridge, and the Midlands. Stansted Airport is a considerable trip generator for work and air passenger purposes. There are specific planning commitments for surface modal share undertaken by Stansted airport. Essex County Council works with Manchester Airport Group, Uttlesford District Council and bus and coach operators to address them. A similar position is developing with the growth of Southend Airport on the Rochford/Southend-on-Sea border.

45. There are fewer commercial networks serving the smaller market towns. These are supplemented by interurban services which travel through them as an intermediate destination. Small towns, and some areas in larger towns, are not an attractive commercial proposition for bus operators.

46. In urban areas away from the main commercial network, in rural areas, in the evenings (19:00 to 24:00) and on Sundays and public holidays, most services are not commercially viable. Here the County Council acts in its role of 'service provider of last resort', using tax-payer funding to purchase contracted bus services where socially necessary. This comprises around 15% of the bus network, but it provides a considerably higher proportion (up to 100%) in some areas. The County Council's policy guiding its decision making over how to provide these services is set out in the Local Bus Services Policy 2015-22. Considerations include passenger use, alternative travel options available, socio-economic factors, service levels, cost per passenger journey and the Council's budgetary situation.

47. Essex has good north/south commuter bus connections along the main travel corridors, but weaker east/west connectivity. Rural districts along the coastal plain are poorly connected to the rest of the County and the wider transport network. The river barriers created by the Blackwater, Crouch and Thames estuaries result in isolated peninsulas, requiring long and sometimes complex journeys. This is particularly acute for areas away from main rail lines.

48. Larger towns have comprehensive bus networks, but there are areas which are not well served. This may be because of inertia around long-standing network and service structures, commercial viability and resource issues leading to a focus on core routes. Through ECC funding, most rural areas have a basic network linking medium and smaller settlements to service and amenity centres. Rural service levels are set by the Local Bus Services Policy.

Section 4. The Essex BSIP

Scope and scale

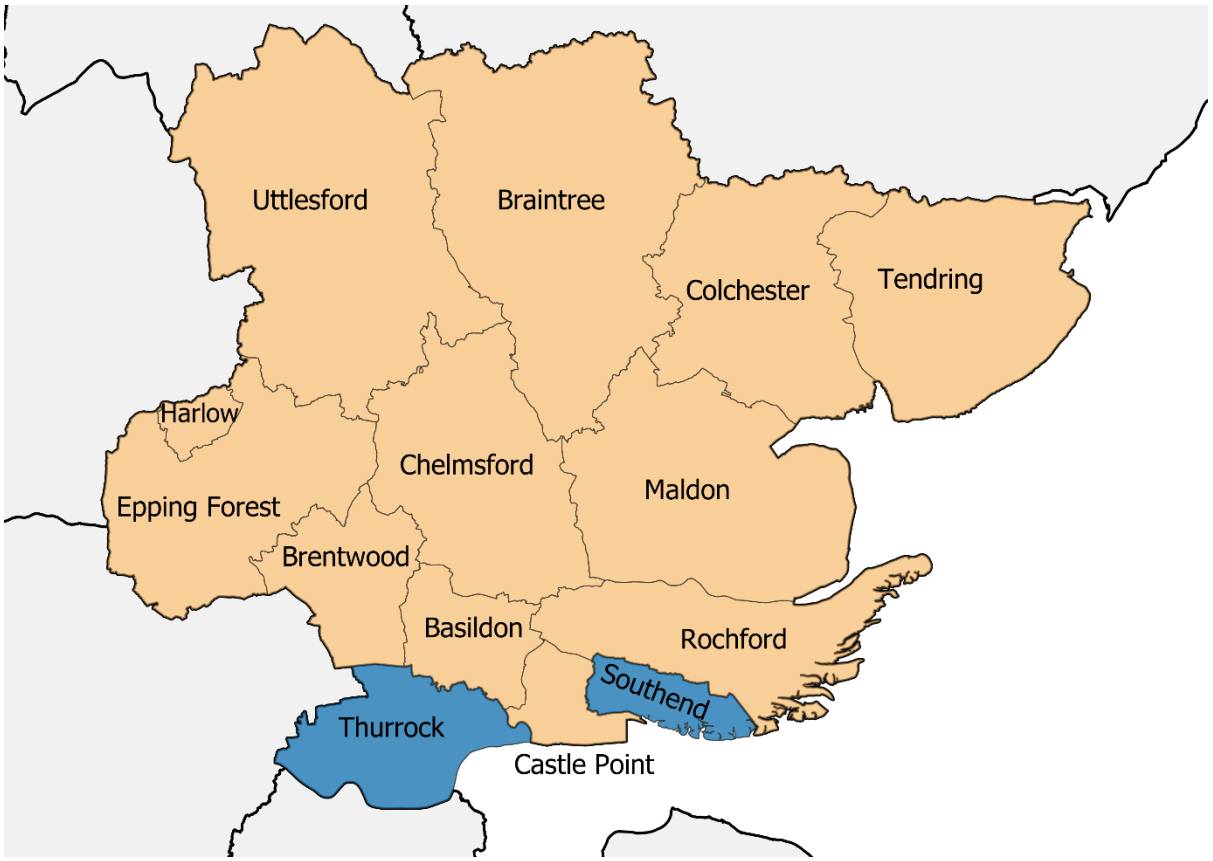

Figure 1 Essex administrative boundaries

The following Essex City, Borough and District Councils are included within the BSIP area. Southend and Thurrock Unitary Authorities are **not** covered in the BSIP.

City Council	District Councils	Borough Councils
Chelmsford	Uttlesford	Colchester
	Braintree	Brentwood
	Tendring	Basildon
	Harlow	Castle Point
	Epping Forest	
	Maldon	
	Rochford	

Table 5 Councils covered in the BSIP

49. Essex has boundaries with six LTAs: Suffolk, Cambridge, Hertfordshire, Southend, Thurrock, and Greater London, which is covered by the Transport for London franchised zone.

50. In line with DfT guidance, ECC considered creating a joint BSIP with neighbouring authorities. Following discussion with its neighbours it was felt that a combination of factors made it impractical to develop a single BSIP across more than one authority at this time. These included geographic and demographic factors, the range of bus operators, network structures, limited cross boundary services with some authorities, local priorities and the short timescale set out by Government for issuing a BSIP.

51. Essex County Council recognises that its bus network has cross boundary movements and shared networks, particularly with Southend and Thurrock Councils. It will ensure that the Essex BSIP, and subsequent EPs, are compatible with those of neighbouring authorities and do not place undue stress on bus operators. It will continue to work with neighbouring authorities to co-ordinate measures set out under the BSIP that have a cross boundary impact.

52. On 25th of June 2021 ECC sent a statutory note to the DfT, indicating that it intended to follow the EP route for developing the bus network in Essex. See Appendix A.

Engagement approach

53. While the BSIP preparation timescale made formal public consultation impractical, ECC has engaged with stakeholders to identify the targets, outcomes and enabling measures needed to produce the revitalised bus network the national bus strategy envisages.

54. These stakeholders include:

- Commercial bus operators.
- Voluntary sector transport providers.
- Passenger representative groups.
- The wider business community including Essex Chambers of Trade and Commerce, as well as local Business Improvement Districts.
- The NHS.
- City, Borough and District Councils.
- Neighbouring Local Authorities.
- Transport Focus.
- Essex Police.
- Local MPs.

55. Engagement was carried out through:

- On-line meetings where ECC's proposals were set out and comments were invited.
- Analysis of surveys carried out on behalf of ECC by Passenger Focus to determine the attitude of bus and non-bus users.

Review mechanisms and governance

56. The Essex BSIP will be overseen by two governing bodies: the Essex Bus Strategy Forum (EBSF) and the Essex Bus Strategy Board (EBSB). These advisory bodies will not have formal decision-making powers.

Essex Bus Strategy Forum

57. The EBSF will bring together stakeholders each year to review progress of the BSIP. It will make recommendations to the EBSB about priorities for improving the bus network that it should consider for the following year.

58. It will meet annually, normally in November and is intended to have the following composition:

- Chair: ECC Cabinet Member for Highways Maintenance and Sustainable Transport.
- Deputy Chair: ECC Deputy Cabinet Member for Highways Maintenance and Sustainable Transport.
- Representatives from ECCs governing and opposition political groups.
- ECC officers from Highways and Transportation, Education and Finance.
- All commercial bus service operators.
- All voluntary sector transport providers.
- All Essex District, Borough and City Councils.
- Representatives from the business sector in Essex, including Chambers of Trade, Commerce and Business Improvement Districts.
- Passenger representative bodies including Essex Transportation. Representatives, Bus User Groups, Transport Focus and Bus Users UK.
- The NHS.
- Observers from neighbouring transport authorities.

Essex Bus Strategy Board

59. The EBSB will be an executive board with representatives from groups that have roles in improving the bus network. It will:

- Set future BSIP strategic aims and targets for improving services.
- Develop policy and recommendations to steer ECC and wider planning around the shape of the Essex bus network.
- Make policy recommendations for climate change, health, environment, development, and parking policy from a bus network perspective.
- Be embedded as a consultee into wider ECC policy and planning processes, including the revised Local Transport Plan.

60. The EBSB will normally meet in December and June each year. Extra meetings will be arranged if needed. It will have the following membership:

- Chair: ECC Cabinet Member for Highways Maintenance and Sustainable Transport.

- Deputy Chair: ECC Deputy Cabinet member for Highways Maintenance and Sustainable Transport.
- Three ECC council members representing opposition groups.
- Four members from the commercial bus industry. One from each of the three leading bus operating companies, by the number of registered local bus service Km's run, and one nominated by small and medium operators.
- Three members nominated by District, Borough and City Councils.
- One member nominated by Essex's CT providers.
- One member from Transport Focus to represent passenger interests.

61. The EBSB will produce an annual statement for ECC Cabinet outlining progress towards its goals and make recommendations for policy.

Enhanced Partnership Management Board

62. There will also be an EP Management Board (EPMB). This group will represent all the parties to the EP. It is not directly related to the development of the BSIP, but the EP will be one of the key delivery mechanisms for measures identified in the plan. The EPMB will be set up through the EP agreement. Its role will be to:

- Oversee the delivery of the EP Plan and Schemes.
- Manage the relationship between partners.
- Identify priorities for future EP Schemes.
- Identify additional measures that the EP will need to take.
- Identify additional facilities needed to meet the objectives of the EP.

63. The EPMB will comprise of:

- Chair: A Rotating Chair alternating between ECC and the three operator groups.
- The Director of ECC Highways and Transport.
- The Head of the ECC IPTU.
- Three representatives each from large, medium, and small operators.

64. Further details about the EMPB will be given in the Essex EP documentation. This will include the criteria for large, medium, and small operators. The EPMB will make annual progress reports to the EBSB, including recommendations for further actions to be taken to Cabinet.

Review process

65. The first Essex BSIP will run for five years, between October 2021 and October 2026. ECC views the BSIP as a living document that will evolve as the market structure set out by 'Bus Back Better' comes into being.

66. The national strategy requires an annual review. This will be carried out by officers from the ECC IPTU. They will produce a report each year to be considered by the EBSF, EBSB and Cabinet. It will include:

- Reviewing the strategic aims of the BSIP and suggesting any revision needed to best align them with national and ECC policies, including the LTP.
- Assessing changes to the bus network and commercial market over the year, to understand their impact on the network and determining what measures need to be taken as a result.
- Analysis of which elements of the BSIP have worked, which have not and how it should be revised to reflect this.
- Reviewing progress on KPIs, aims and objectives.
- Agreeing any alterations to KPIs, aims or objectives that the BSIP may need
- Assessing how external factors such as housing development or the availability of central government funding may be affecting the delivery of the policy.
- Reporting on passenger views using annual surveys, paid for by ECC but carried out by an independent surveyor, to understand passenger and non-passenger attitudes.

67. The County Council will publish its KPI data twice each year, in May and November, through the EBSB.

Alignment with the Essex Local Transport Plan.

68. Bus Back Better requires the BSIP to be reflected in the authority's Local Transport Plan (LTP).

69. The Local Transport Act 2008 requires Transport Authorities to develop a LTP. It includes policies for the promotion of safe, integrated, efficient transport facilities and services to, from and within their area. They must meet the needs of people living or working in the authority's area, visiting, or travelling through, including the transportation of freight. This requirement is addressed by the Essex Transport Strategy, adopted by ECC in 2011. This is ECC's third Local Transport Plan, LTP3.

70. The LTP promoted bus and other sustainable travel modes and included the Essex Passenger Transport Strategy as a 'daughter document'. It focused on ECC's statutory roles, managing socially necessary services and some aspects of information provision. It positioned bus services as an important element in its overall traffic and network management processes. The publication of ‘Bus Back Better’, a new legislative regime and the revised ECC Organisational Strategy have highlighted the need to update LTP3 and take these developments into account.

71. Development of a new LTP requires commitment and consultation. Options have been examined to develop a revised LTP in stages, starting with a ‘Strategic Framework’ for transport that creates a vision, outcomes, and strategic approach. This will define the role transport plays in the delivery of the emerging ECC Organisational Strategy and align transport policy in Essex with Government priorities. It will include those set out in Bus Back Better. This process has been designed to be implemented in line with the timescales for the submission of this BSIP and can be found here.

Section 5. Analysis of the current local bus network

Responsibilities for delivering the current bus network

72. Bus services in Essex operate within a complex framework of responsibilities, challenges, opportunities, and pressures. They are managed and supplied by different authorities and service providers. These include:

- **Bus operators:** responsible for determining which commercial bus routes to run, their frequency, fare structure, operational delivery, marketing, and advertising. They are responsible for 85% of the bus network by kilometres. They manage their services to their own commercial interests.
- **ECC is the LTA:** responsible for the management of the road network through the LTP. It manages concessionary fare reimbursement, statutory education transport, the provision of information and climate change policies. It provides socially necessary but commercially unviable local bus services, which make up 15% of the overall network. They are commissioned by ECC, but mainly run by operators under contract.
- **Statutory undertakers** who have a right to close the highway for works, managed through a permit system.
- **Highways England**, responsible for the management of the motorway and trunk road network.
- **City, District, and Borough Councils** responsible for planning and development control, air quality, parking policy and some bus interchange and roadside infrastructure.
- **The Traffic Commissioner for the East of England**, responsible for licensing, registration, and enforcement of local bus services.

73. Essex County Council cannot impose solutions to the challenges that face public transport, it must work through a series of bilateral relationships and informal understandings to balance competing demands. Introduction of the National Bus Strategy gives an opportunity to formalise and strengthen these arrangements.

Overview of the Essex bus network.

Network structure, operator and passenger data and kilometres run

74. The Essex registered local bus network is run by 33 operators, listed in Appendix B **Table 44** *Local Bus Operators in Essex.* They run 441 registered publicly accessible local bus services, listed by district in Appendix B **Table 46** *Geographic Split.*

75. Of those 441, 214 are run or partially run under contract to ECC. In 2021-22 ECC is investing £9.1mn, net of revenue, of taxpayer funding per year on supported bus services. This includes the £1.1m Government grant made in lieu of being able to claim Bus Services Operators Grant for its services.

76. In the financial year 2019-20 passengers on Essex buses made 40,774,681 journeys.
    - 3,642,437 were carried out by ECC contracted local services.
    - 12,709,516 (31%) were made using the English National Concessionary Travel (ENCT) Bus Pass Scheme. The proportion will vary between services and across times of day.

77. For some journeys e.g., shopper buses, more than 90% will be made by ENCTS pass holders. The outturn figure for 2020-21 for concessionary pass journeys across the overall bus network is 3,583,064 passenger journeys, reflecting the impact of COVID-19.

78. In Essex the four largest commercial operators provide 90% of registered local bus journeys. In addition, Transport for London (TfL) run 25 cross boundary services from London into the Epping Forest and Brentwood Districts. These five operators carry 95.57% of passenger journeys in Essex. Table 6 shows the number of passengers carried by the largest five operators, their main areas of operation by district, and their share of the market.

Operator	Areas of operation	% passengers carried
First Essex Buses Ltd (part of First Group PLC),	Chelmsford, Basildon, Castle Point, Maldon, Colchester, Braintree	60%
Arriva Herts and Essex and Arriva Southern Counties (part of the Arriva Group PLC),	Castle Point, Rochford, Colchester, Harlow	18%
Stephensons of Essex Ltd and NIBs Ltd	Maldon, Rochford, Brentwood Wickford, Uttlesford	7%
Transport for London	Epping Forest, Brentwood	6%
Hedingham Omnibus Ltd and Chambers Ltd (both part of the Go-Ahead Group PLC)	Tendring, Braintree, Colchester	5%
Total passenger numbers carried by largest five operators		96%
Overall number of passenger journeys in Essex		**100%**

Table 6 Passenger numbers of the five largest operators and the % of the overall bus market 2019-20.

79. As shown in Table 7, between 2015-20 bus passenger use in Essex dropped by 1.4%, from 41,342,995 to 40,774,681 passengers carried.

Year	Essex passenger numbers 2015-20	
	All operators	Trend (% change)
2015-16	41,342,995	0
2016-17	41,731,831	0.94%
2017-18	41,239,583	-1.18%
2018-19	41,420,643	0.44%
2019-20	40,774,681	-1.56%

Total passenger change	**568,314**	**-1.39%**

Table 7 Passenger trends for Essex registered bus services 2015-20

80. Essex has outperformed both the national and England (outside London) trend for bus passenger use.
    - Bus passenger use fell nationally by 9.9%.
    - Bus use in England outside London fell by 10.7%.

81. See Appendix B: **Table 50** *National Bus Passenger Use Trends 2015-20.* and **Table 51** *Bus Passenger Use Trends for England outside London 2015-20.*

82. The top five operators, by number of services registered to operate in Essex, are shown in Table 8.

Operator	Bus service routes registered 2020-21	
	Number	Percentage
First	127	29%
Stephensons of Essex	107	24%
Konect, t/a Hedingham & Chambers	61	14%
Arriva Kent Thameside Ltd	29	7%
TfL	24	5%
Total services run by the top five operators 2021	**348**	**79%**
Total Bus Services run in the Essex network 2020-21	**441**	**100%**

Table 8 Number of bus service registered in Essex by five largest operators.

83. A map of the Essex bus network is shown in Appendix B **Figure 7** *The bus network in Essex*.

84. Using a seven-day average across the network, each week local bus operators ran more than 1 million Kms 'in Service' ('live Km claimable for fuel duty rebate from the DfT through the BSOG). Appendix B **Table 53** *Trend of Registered 'Live' Bus Kilometres run in Essex 2015-20.*

85. The top six operators by live Kms using a seven-day average are shown in Table 9. They operate 91.2% of the total network Kms run:

Operator	Operational Km 2019-20	% of Essex network Km run
First Essex Buses Ltd	24,125,717	47%
Arriva Kent Thameside Ltd	10,016,802	19%
TfL	5,614,427	11%
Stephensons of Essex Ltd	3,711,684	7%
Konect Bus Ltd	2,322,181	5%
Galleon travel 2009 ltd	1,275,483	2%
Total Km by top six operators 2019-20	**47,066,294**	**91.2%**
Total network Kms 2019-20 in Essex	**51,587,694**	**100%**

Table 9 Live' Bus Km run in Essex by top six Essex bus operators

Essex is a geographically diverse county, and its bus network reflects that.

86. Most of the network is operated commercially. Decisions over routes, their frequency, times of operation, fares and service quality are made by the operators. They are required to register service timetables with the traffic commissioner. There is a minimum notice period of 42 days with the commissioner for changes, new registrations, or withdrawals. Since 2019 an additional 28 days with the LTA was added. There are short notice arrangements for emergency situations, reducing the notification to the Traffic Commissioner to 28 days. The LTA can waive some or all its notice period if necessary.

87. For its contracted service network, ECC makes decisions about what services it will run and their timetables. If ECC keeps fare revenue it decides their level, but if operators keep the fares, they can set their own prices. Except in minor cases, if ECC needs to change service levels or operations it will consult with passengers for between four and 12 weeks. This may be 'on bus' or more widely, depending on the scale of the changes proposed. Responses can change the outcomes, though consultations are not binding, and responses are weighed against other factors.

88. Commercial operators do not have to consult with the public over changes. Outside of their ability to contract for replacement service, the LTA cannot stop a bus operator withdrawing a service.

Commercial viability of the local bus network

89. Essex is a challenging territory in which to run bus services. Higher rates of commercial return tend to be seen in areas with dense populations making simple and direct journeys. Essex's large geographic footprint with dispersed settlements and often lengthy and complex journeys means higher operational costs and lower revenues.

90. In the years immediately before the pandemic there were reductions in commercial mileage in several areas across the county, with some of those operations being partly or wholly replaced by contracted services and others lost entirely. This trend in reduction of service by commercial operators was in part driven by declining patronage, but also by the challenges of delivering efficient and rapid services in the face of severe traffic congestion in town and city centres and around the major arterial roads.

91. The growth in general traffic was also exacerbated by the limited road space in many areas and some reduction of capacity due to traffic schemes. This in turn reduced levels of reliability, restricted frequencies and made the bus service less attractive with longer journey times. Together this led to increased costs damaging the viability of many routes.

92. In conjunction with this the slow decline in passenger numbers reduced revenues. This meant that an increasing number of routes became commercially unviable.

93. During the pandemic capacity restrictions and the reduction in service levels badly impacted passenger numbers. The COVID-19 Bus Service Support Grant

(CBSSG) funding and now the COVID-19 Bus Service Support Grant Restart (CBSSGR) funding from Government saved many operators from serious financial problems and potential closure. However, passenger numbers have broadly only returned to the 70% level and this impact is disproportionately felt across the network, for example rural services are more vulnerable.

94. Most semi-rural and small-town networks are dependent upon school peak movements to cover the fixed costs of the route, or they are operated at marginal cost in combination with batches of either school contracts or local bus tenders. Changes in travel patterns can therefore have a knock-on effect on services.

95. The bus industry is working proactively to encourage passengers to return, and to attract new passengers, by giving reassurances regarding safety and cleaning to allay fears about the spread of the virus.

96. Most importantly passengers need to see reliability, journey times and punctuality improved. This will be increasingly challenging as we continue to see more cars on the road and worse congestion than before the pandemic.

97. Bus Service Improvement Plans, Enhanced Partnerships and joint investment will be key to the recovery and growth of commercial services.

Key Bus Corridors

98. Key Bus Corridors are the main arteries of the bus network and carry high passenger volumes between the main origin and attractor sites in Essex. Their smooth operation is vital to maintaining the efficiency of the network. They should form the focus for bus priority measures.

99. Since publication of its Road Passenger Transport Strategy in 2001, the County Council has identified 82 key urban and 31 interurban bus corridors. These can be found in our Local Bus Services Policy 2015 to 2022. Corridors were identified through a qualitative analysis, considering:

    - The volume of services using them.
    - Linking passenger hubs, attractor, and generator locations.
    - The shape of the existing network.

100. The Local Bus Services Policy 2015 to 2022 identified a Service Intervention Point (SIP), a trigger point level of service for each route, below which ECC would invoke its intervention policy to assess whether additional services were required.

101. Appendix B **Table 62** *Key urban bus corridors and associated SIPs.* and **Table 63** *Key Interurban Bus Corridors and associated SIPs.,* list these by town and corridor.

102. The policy sets an upper subsidy limit of £5 per passenger journey, net of all income, beyond which ECC will not normally subsidise bus services.

Cross Boundary Services

103. Essex shares boundaries with six other LTAs.

- Thurrock Council.
- Southend On Sea Council.
- Hertfordshire County Council.
- Cambridgeshire County Council.
- Suffolk County Council.
- Transport for London.

104. Over 130 local bus services operate cross-boundary. A breakdown is shown in Appendix B Tables 55-60. Major cross boundary movements occur between Essex and Southend, Thurrock, Hertfordshire, and TfL. As well as offering inter-urban connections, these services form a significant proportion of the local bus network serving urban centres in Castle Point (Canvey Island – Leigh on Sea corridor), Rochford (Rayleigh, Rochford) and Epping Forest (Loughton and Waltham Abbey).

105. The connections between Essex, Cambridge and Suffolk are weaker. They focus on interurban journeys, which also serve some smaller settlements. They often mirror interurban rail movements, for example Hertford to Harlow, Cambridge - Saffron Walden - Harlow, and Ipswich to Colchester.

Demand Responsive Transport services

106. Essex has six local bus registered Demand Responsive Transport (DRT) Schemes, operating as 'DaRT' services. They provide flexible services for passengers in some of the most rural areas of Essex, where running conventional bus services, even with ECC support, proved impractical. The Suffolk, Cambridge, and Hertfordshire borders are amongst the most rural areas of all three counties. Maps showing the areas covered by the six Essex DaRTs are shown in Appendix B **Figure 10** *Essex DaRT areas of operation.*

107. One scheme, DaRT 99, is run commercially and links areas of the rural Dengie Peninsular in Maldon with Broomfield Hospital in Chelmsford. It started with the help of a grant from ECC but has run without support for over 10 years. The other five schemes, DaRTs 1 to 5, are run under tendered contract to ECC and supported by tax-payer funding. They have run since 2016, when they replaced a set of conventional bus services that were not meeting ECC's service subsidy support criteria, as set out in the Local Bus Services Policy 2015 to 2022.

108. DaRTs 1,2 and 3 operate in Uttlesford and Braintree districts, while DaRTs 4 and 5 operate in the Maldon District. The Maldon Schemes have run well and operate within the service subsidy parameters. The Uttlesford and Braintree schemes have been less successful. Although passenger numbers grew from the base of the bus services they replaced and they have high customer satisfaction levels, they have struggled to meet service subsidy parameters.

109. Factors contributing to the lack of success include:

- The large size of the areas covered by the DaRT schemes, compared to the number of vehicles and drivers available to run the services.
- Lower population densities. The areas covered by the schemes are some of the most rural in Essex. The schemes had to be shaped to avoid competing with commercial and ECC supported local bus services. As a result, the potential passenger base was lower than in the Maldon schemes, despite integrating with some home to school transport journeys.
- Cost. The large size of the areas, and their remoteness, meant that the cost of the services was relatively high.
- DaRT can be a cost-effective solution, but it isn't always a cheap one. It can be more expensive than a conventional service.
- Difficulty in keeping the initial marketing momentum once the launch phase was over, and issues around getting service information out to potential new users.

110. We have drawn lessons from these experiences and will build them into our proposals for developing DRT for the future. DRT schemes can work successfully, however developing an economically sustainable long-term model has proved difficult.

111. The County Council is looking at the next stage of DRT development, including ways of combining the DRT with digital information systems to create a single point of contact to book, pay for and track DRT services. To support this ECC obtained funding from the DfT to develop a Digital DRT programme. More information on these services can be found here.

Digital Demand Responsive Transport (D-DRT)

112. Issues with DRT include the level of manual resource needed to make use of them with only a telephone booking system and the need for significant back-office support. There are also perception issues, with services being viewed as for older people, putting off other customer age groups. A third issue is that they operate in areas with low or dispersed customer demand, with the associated difficulty in identifying unmet demand in areas or at times with poor bus services.

113. When combined with a digital passenger app, to form Digital Demand Responsive Transport (D-DRT), these issues can be overcome. This is part of a wider approach to digitalisation, encouraging ridesharing, reducing car use, and building a Safer, Greener, Healthier Essex. Digital DRT operates flexibly, where you want, when you want, like the UberPool shared taxi scheme in London. It uses smaller vehicles, such as minibuses, and can be booked in advance or on-demand. It uses a mobile phone app to book journeys, make payments and see in real-time when the vehicle will arrive. For those without a smartphone, telephone booking remains a back-up option.

114. ECC has experience in this area. It delivered two pilots in 2019 using a D-DRT platform with services for students. The pilots tested D-DRT technology and proved the concept. Assessment of the pilots showed that with D-DRT, a better

level of service can be provided with fewer vehicles and that users valued tracking their vehicle in real-time.

115. Building on this experience, ECC submitted two D-DRT proposals to the DfT's Rural Mobility Fund in Summer 2020. These included a plan to deliver a digital, fully electric DRT, in partnership with District Council's and Gridserve. These would serve rural and sub-urban areas and complement high-frequency, commercial bus, and train services. The Rural Mobility Fund awarded ECC £2.5m to run two pilots, in Braintree and central Essex, from Spring 2022. These will develop a model to enable service provision to rural areas.

116. The County Council wants a future where Essex residents can leave their cars at home, because they can use public transport to anywhere in the county. Digital DRT offers a critical piece of the jigsaw. The D-DRT industry is complex and warrants its own detailed strategy to support successful implementation of schemes across Essex. The council is developing a Future Digital-DRT strategy to support this plan.

117. Over the next five years, ECC's plan is to have a fully commercial D-DRT scheme across Essex, catering for all ages, geographical areas, and specialist transport services. This will include home to school transport, community transport, and local bus. It will provide a better, more flexible service with green credentials at its heart. Through integration with the wider bus network, it will support traditional bus by complementing high-frequency commercial services.

The Community Transport sector

118. There is a strong voluntary sector component to the Essex transport network, called Community Transport (CT). Community Transport schemes are aimed at people who cannot access mainstream public transport on grounds of age, health, or location. They are run on a not-for-profit basis, using a mixture of professional and volunteer staff to provide transport services for their members.

119. Most CT schemes are based around the use of Section 19 permit licensing, under the Transport Act 1985, which limits the use of their services to members of the scheme. They deliver a range of services including flexible door to door, and dial-a-ride, using accessible vehicles with trained volunteer or paid drivers. There are also Social Car Services, where volunteers provide both car and driver on an expenses-only basis. Some CT schemes include Group Hire services where groups or individuals can hire vehicles owned and maintained by the scheme and associated bodies, for non-commercial purposes.

120. Some schemes make use of the Section 22 provision in the Transport Act 1985 to operate registered passenger services, open to the public. These run in a similar way to commercial bus services, including running to a timetable.

121. There are many CT schemes in Essex. In its first LTP in 2001, ECC recognised the diversity of CT services across the County, with some areas having well developed services, whilst others have few or none.

122. The County Council recognised the unique position of the CT sector within the overall transport network, particularly its ability to help some of the least well off, most vulnerable and isolated members of the community and the opportunities for developing flexible locally based transport CT scheme offers.

123. ECC also recognises that Community Transport schemes face challenges, particularly the need for ongoing long term funding stability and the restrictions on development caused by the availability of volunteers.

124. Since 2001 ECC has funded a single CT service provider in each district, with two in Tendring. Some of these schemes joined together for financial and service reasons, but independent funding is still allocated on a district basis. Each year ECC invests grants worth £1.1m to CT Schemes, who prior to COVID-19 carried out 500,000 passenger journeys a year. Some ECC supported schemes offer grant funding to smaller local CT schemes.

125. Each scheme has signed up to partnership agreements with ECC to provide a specified range of services, with funding based on a needs related formula. This includes annual passenger satisfaction surveys, which have regularly returned ratings of more than 95%. In some cases, district authorities have joined the partnerships to add local funding.

126. From 2016 CT schemes faced an existential challenge due to changes in the way the voluntary sector licencing regime was interpreted by the DfT. Essex County Council worked with the schemes and other interested bodies to lobby government over the issue, and eventually a resolution was achieved. Uncertainty about their future affected the schemes' ability to manage long term investment for several years. This has been compounded by the impact of COVID-19, to which their passenger base was particularly vulnerable.

127. During the lockdowns CT schemes used their capabilities to undertake alternative community support roles, such as shopping and meal deliveries, or vaccination appointments.

Network, fare, and revenue data

Average fares in Essex

128. The average bus fare in Essex is £2.49 per journey[4]. This is calculated as the average fare paid by adult single and return-fare paying passengers on an individual route basis. It includes the sale of discounted tickets, as required by the DfT 'Discount Factor' method.

Commercial fares

129. Each operator in Essex has their own fare charts and stages. They are not co-ordinated, even when operating in the same town they will be different. While fare revenue can be isolated to a service level, this is commercially confidential.

[4] Based on calculations carried out by MCL Ltd for ECC in relation to the reimbursement of concessionary bus pass revenue to bus operators for 2019-20

Only aggregated data for each company and for Essex will be published in the BSIP.

130. Essex County Council has not collected this data. Bus Back Better and the guidance for the BSIP indicates that metadata about bus fares should be considered. These include the proportions of fares taken via the following options:

- Single fares
- Return fares
- Annual Season tickets
- Flexible Carnet options
- Electronic (Phone App)
- Electronic (Debit Card)
- Electronic (Pre-paid Card)
- Electronic (ENCTS Bus Pass)
- Multi-operator Ticketing Schemes
- Plus Bus (combined bus/rail)

131. Essex County Council will work with bus operators through the Area Review Process to gather data on how people buy their bus journeys and identify how fare purchase options could be developed in the future.

Concessionary Bus Passes

132. Essex County Council is the Travel Concession Authority for Essex. It is responsible for administering the ENCTS Bus Pass for residents, and for reimbursing operators.

133. The basic Essex ENCTS Bus Pass offer has remained unchanged since 2011. Prior to this ECC administered the scheme on behalf of the 12 Essex Districts. The Essex scheme follows that of the national statutory entitlement for older people and those with disabilities. It includes a local time extension to allow use between 09:00 and midnight Mondays to Fridays and all day at weekends and on Public Holidays. Essex has a ‘Companion Pass’ for people with severe disabilities, allowing one other person free travel anywhere in Essex when in company with the pass holder.

134. Essex has 272,232 bus pass holders, 85.1% of eligible Essex residents.

- 257,183 hold age-related passes (94.47%).
- 15,049 hold disability related passes (5.53%).
- 6,334 are Companion Passes (2.33%).

135. Between 2015 and 2020 concessionary bus pass use fell from 14,530,653 journeys to 12,709,516, a drop of 1,821,137 (12.53%).

136. As the Travel Concession Authority, ECC is responsible for reimbursing operators for the revenue they have foregone by not charging pass holders. It

negotiates a fixed pot scheme with operators. Between 2015 and 2021 this amount fell from £18,561,863 to £17,649,000.

Ticketing arrangements in Essex

137. The Essex local bus network is dominated by commercial operators. Each company sets its own fares, issues its own tickets, and will independently determine its own fare stages, sections of each bus route by which journey fares are calculated. These can differ significantly between operators, even where they run in the same town. Major operators in Essex have adopted electronic ticket machines for fare calculation, ticket issue and recording purposes.

138. Although most operators have a day-capped network fare, these are not generally inter-available, even when operator share connecting routes in the same town. Competition and Markets Authority (CMA) regulations make it difficult for bus operators to work together to improve integration, even where they might choose to do so, despite the 'block exemption' from regulations given for some forms of multi operator tickets. All but the simplest shared ticketing schemes incur administration costs from recording and allocating revenue received from the scheme between the operators.

139. The Essex bus network has several fare schemes and policies in place. Some are easily understood, others are complex with value to the customer dependent on a range of interlinked factors. There are too many potential arrangements to look at all in detail, but they include:

- The **ENCTS** Bus Pass. Statutory Scheme. All operators must offer free travel on off-peak local bus services for people above retirement age, or with a qualifying level of disability.
- **Child discount**. Commercial offer. Children under the age of five are usually allowed to travel free of charge.
- **Younger persons fare discount**. Commercial offer. Most operators offer a 50% discount to under 16's, or to the end of the school term when they turn 16, when using off-peak bus services (after 09:00). This does not apply to most closed school services, or some services with flat rate fares.
- **Return fares**. Commercial offer. Discounts averaging 33% (depending on operator), for pre-paid return leg of journeys. For example, if a single journey costs £1, a return journey might cost £1.66. Some operators do not offer a return discount, having either a flat rate fare for each leg or not offering single fares as only a return option is available.
- **Annual, monthly, and weekly network tickets**. Commercial offer. Larger operators offer a range of season tickets, for travel across a week, month, or a year. These can offer significant discounts. For example, a major operator offers an all Essex, unlimited travel pass bought through direct debit that would save £178 per year over buying 13 four-weekly tickets. The value of these offers depends on a range of factors: the area in which you live, how you pay, how many days per week/month you use the pass (unused days are lost) and a relatively high upfront cost. These tickets are not available for use on premium express services.

- **Network Day Tickets.** Commercial offer. A capped fare offering all day travel on the operator's network. Attractive for people making complex journeys or multiple journeys per day. Limited to one operator network.
- **Network town fares**. Commercial Offer. Offers a range of discounts on travel within a boundary. For example, in Chelmsford, First Essex buses offer fares for:
  - Regular travellers: Weekly and four weekly tickets.
  - Less regular travellers: 10 and five journey carnets valid for 3 months.
  - Travelling with children or doing the school run: one + two-day ticket, unlimited travel all day for one adult and up to two children.

140. **Zone fares.** There are inner and outer zones, with different fares. All are available on bus or by phone and can be paid through direct debit.

141. **Colchester Borough Card**. A multi-operator unlimited day capped-fare dating back to the 1980s, for people travelling within a defined zone around Colchester Town. Commercial bus operators and ECC participate. The terms are set by agreement, and revenue allocation is by formula. The card allows:

    - Unlimited bus travel in and around Colchester on First Essex, Arriva Colchester, Panther Travel, Ipswich Buses, Stephensons of Essex, and Hedingham Omnibuses services.
    - Inner and outer Zone fares.
    - Tickets can be purchased via the First Bus App, Anglian Buses App or Arriva Bus App.
    - Day and Week tickets can be purchased on bus.
    - Adult: daily, week, four-week, quarterly and annual fares.
    - Child: daily, week and four-week fares.
    - Family: daily for up to two adults and three children.

142. **Essex Saver**: Statutory Scheme under the Transport Act 2000, introduced by ECC. A multi operator, all day, capped fare ticket allowing:

    - Unlimited same day travel on every registered local bus service within the administrative boundary of ECC, and into neighbouring authorities, providing the journey starts or finishes in Essex, and no change of bus is made outside of the county.
    - Costs £11 per day
    - You can buy the ticket on the first bus you board. It is not available as a weekly or monthly ticket and it cannot be purchased online.
    - Some premium services or services with small parts of their route in Essex are exempt. Tickets are valid for, but not issued on, TfL bus services starting or finishing in Essex
    - Revenue is allocated on a 'lies where it falls' basis.

143. **The Essex Sunday Saver.** Voluntary County Council mediated scheme. A multi operator, all-day, unlimited travel, capped fare ticket valid for any Sunday or Public Holiday bus journey, or combination of journeys, within Essex. Range of

offers available:

- Single adult £4.30
- Single child £2.20
- Family £10.80
- Family tickets can be used by two adults and two children or one adult and three children.
- The ticket cannot be purchased on buses outside of Essex (i.e., Thurrock, Southend, Hertfordshire, Suffolk, and London), but they can be used for journeys from these areas into Essex. For travel wholly within the county, where the fare is equal to or greater than a Sunday Saver, a Sunday Saver Ticket is issued.
- Revenue is allocated on a 'lies where it falls' basis.

144. Hertfordshire County Council's 'Intalink Explorer' ticket offers unlimited travel on the Herts bus network. It is accepted on all ECC bus services that cross into Hertfordshire, as well as by many Arriva services in and around Harlow.

145. **The Southend Octopus** ticket. Commercial offer. The Octopus ticket is a multi-operator, daily and weekly capped fare multi journey bus pass, with the support of Southend Council. It is valid in the Southend Council area and parts of Essex's Rochford and Castle Point districts. With some exceptions, they are accepted on First Essex, Arriva, NIBS, Stephensons, and on ECC contracted services.

146. Plusbus provides unlimited travel around town, at the start, the finish or both ends of your train journey. There are 16 zones in Essex:

Basildon	Cheshunt
Benfleet & Canvey	Clacton-on-Sea
Billericay	Colchester
Bishop's Stortford	Harlow
Braintree	Rayleigh
Brentwood	Southend
Broxbourne	Wickford
Chelmsford	Witham

Table 10 Plusbus zones.

Modal share

147. Office for National Statistics (ONS) data obtained through the NTS showing journey share for different travel modes is shown in Table 11.

Base Year 2019 (NTEM)		
Mode	Trips	Percentage
Walk	825,889	20.06%
Cycle	67,547	1.64%
Car driver	1,765,621	42.88%
Car Passenger	1,152,609	27.99%
Bus / Coach	227,595	5.53%

Rail / Underground	78,265	1.90%
Total	**4,117,527**	

Table 11 Essex modal share of journeys 2019-20

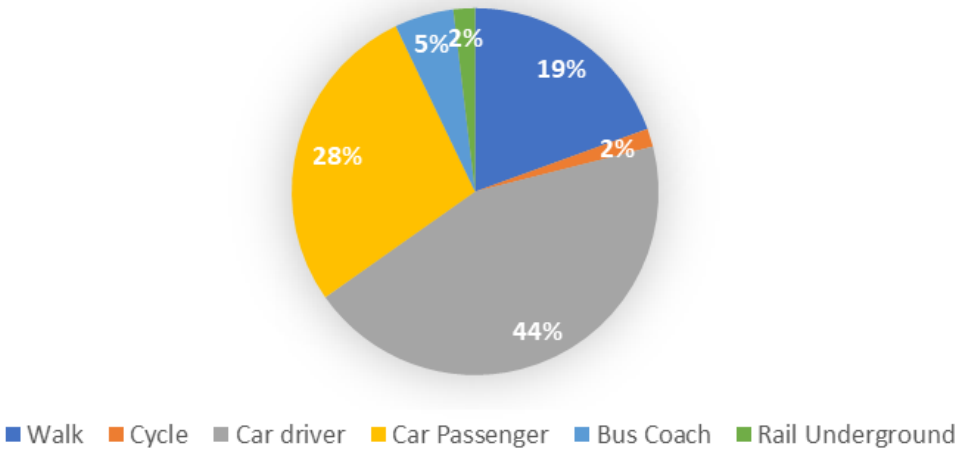

Figure 2 Essex modal transport share 2019.

148. According to the NTS, modal share for buses nationally is 5%, compared to 5.53% in Essex. The number of journeys undertaken by bus in Essex between 2015-20 fell from 30.4 to 27.1 local bus passenger journeys per head. This suggests that Essex is outperforming the national figure for bus use, which has dropped from 82.3 to 72.3 over the same period.

149. The modal share for different transport types is shown in: Appendix B Table 61 Personal Journey % Modal Share nationally.

Service Density and Accessibility

150. The County Council has produced an accessibility model using the 'Basemap' Accessibility Mapping Tool. This combines census data, the road network, bus stop locations and bus timetables to identify how easy it is for people to reach amenities by bus. This is expressed as a percentage of the population and as isochronal (time based) mapping.

151. The key services and amenities identified were:

- Access to Town centres (shopping) between 09:00 and 12:00.
- Access to Education (Primary and Secondary Schools, FE and HE centres) between 07:00 and 09:00.
- Access to Health Services (Hospitals, GP Surgeries, and pharmacies) between 09:00 and 12:00.
- Access to major employment centres between 07:00 and 10:00.

152. Journey times of 60 minutes to all key services, and 90 minutes for hospitals only. Walk time is included within the 60/90-minute journey time limits, up to a maximum straight-line distance of 400m. A similar mapping exercise was carried out to determine which of the 4,592 Output Areas (OA) have a high 'sensitivity' to

public transport provision based on the following indicators:

- Indices of Multiple Deprivation, most deprived Quintiles (IMD 2019).
- High proportion of households without access to a car or van (Census 2011).
- High proportion of households with multiple adults and access to only one car or van (Census 2011).

153. Combined Accessibility and Sensitivity scores were used to generate a 'Priority Rating' for each OA, to determine which areas should be prioritise for further assessment. A summary of County wide accessibility results by destination type is shown in Table 12.

Destination type	Number and % of OAs able to access each destination type	
*Employment	3,628	79%
Primary schools	3,383	74%
Secondary schools	3,269	71%
Further Education	3,270	71%
Higher Education	2,156	47%
Hospitals	3,275	71%
GP surgeries	3,311	72%
Job Centres	3,088	67%
Rail & Tube stations	3,259	71%
Bus Stations	2,898	63%
Country Parks	767	17%
Retail Centres	3,111	68%
Leisure Centres	3,156	69%
Town Centres	3,280	71%

Table 12 County wide accessibility results by destination type

* Number of OA's able to access at least one Lower Layer Super Output Area employment destination.

Summary of County wide accessibility results by district are shown in Table 13.

Local Authority District (LAD)	% of OAs in LAD with 'Low' accessibility score (unweighted)
Basildon	26.7%
Braintree	27.3%
Brentwood	26.5%
Castle Point	33.4%
Chelmsford	23.2%
Colchester	23.8%
Epping Forest	32.5%
Harlow	19.3%

Maldon	30.2%
Rochford	35.5%
Tendring	18.8%
Uttlesford	26.4%

Table 13 County wide accessibility results by district.

154. The findings based on 'unweighted' show:

- Areas with poor accessibility scores are distributed evenly across the county but more apparent in rural areas.
- Prioritisation considers likely sensitivity of the local population to public transport access, such as through combined deprivation scores or lack of car access.
- High priority areas include larger regions to the North East and South West of the county as well as small areas on the outskirts of Basildon and Chelmsford.
- Basildon, Harlow, and Tendring Districts have the highest proportion of High Priority Output Areas.

155. The Isochronal mapping for this analysis is shown in Appendix C.

156. The Local Bus Services Policy 2015 to 2022 also identified a Service Intervention Point (SIP) which can be seen here.

Travel Training

157. To support its accessibility and education transport provision responsibilities, Essex began developing its own Travel Training programme in 2005. This gives people with special educational needs or disabilities the confidence and skills to travel independently on buses, trains, and walking routes. Over 3,500 people have benefited from the programme. It is provided free to Essex residents with an Education and Health Care Plan, special educational needs or whom are in receipt of transport from the Local Authority.

158. The programme delivers tailored one to one training on an agreed bus route that lets them access an amenity. The service is provided year-round, Monday to Friday, and works with people with a broad range of needs including learning or physical difficulties, visual impairments, or sensory issues. Travel Training is also delivered on behalf of other Local Authorities, increasing the size and expertise of the team for the benefit of all. For more information see the website.

159. The County Council has a team of 22 staff who work in Essex, Suffolk, Southend, and Ealing. The service provides benefits aligned with the Council's Strategic Priorities, including:
    - **Helping people in Essex prosper by increasing their skills,** through enabling young people and adults with SEND to become independent travellers, opening their opportunities for education, work, and social interaction.

- **Keeping vulnerable children safe and enabling them to fulfil their potential** by giving them strategies to deal with travel issues, building resilience and self-esteem.
- **Promoting a Safer, Greener, Healthier environment** by increasing the number of people travelling independently using sustainable transport, thereby reducing emissions from car use.
- **Limit cost and drive growth in revenue** by winning contracts and delivering Travel Training for other Local Authorities. Also lowering home to school transport costs by enabling students with SEND to travel on public transport, reducing the need for taxi journeys.

The Essex bus fleet

160. The 33 Essex local bus operators have a combined fleet size of 693 vehicles. The type, age, and Euro emission standards for the fleet are set out in Table 14.

Vehicle type	No. of Vehicles	Average Age (yrs.)	Euro Emission Standard				
			1-2	3	4	5	6
Double Deck Bus	263	12	11	74	93	27	58
Single Deck Bus	341	11	0	71	22	41	5
Minibuses	86	13	0	21	54	144	72
Total	**693**	**12.4**	**11**	**166**	**169**	**212**	**135**

Table 14 Composition of the Essex Bus Fleet

161. All vehicles operating registered local bus services in Essex meet the minimum accessibility criteria set out in Public Service Vehicle Accessibility Regulations 2000, for vehicles of their class, age, and type. This includes low floor entrances, wide isles, colour contrasting to help visually impaired people identify stanchions, and provision of a wheelchair space.

Information availability

162. Commercial operators are responsible for producing information for their own networks. This includes paper leaflets and electronic information, accessible through their websites. Except for a small number of jointly run routes, such as the Quality Bus Partnership service 88 run by Hedingham Omnibus and First Essex Buses, they will not normally carry information about other operators' services, even if they form part of a wider town network.

163. The County Council's IPTU administers registration details and changes for all local bus services operating in the administrative area of ECC. It is notified by operators when they wish to register, cancel, or vary their services with the Traffic Commissioner. This is known as the Local Authority Notification process, where ECC has powers to request information from operators about services.

164. As the LTA, ECC plays a role in supporting bus operators meet their Open Data obligations, as set out in the Bus Services Act 2017 and accompanying regulations, to provide information for the Bus Open Data (BODS) system. The County Council acts as an agent on behalf of those operators who need

assistance with collecting and hosting data.

165. The County Council is the custodian of the Greater Essex dataset which details routes and timetable data for registered local bus services lodged with the Traffic Commissioner, under section 6 of the Transport Act 1985. It also runs the National Public Transport Access Nodes, i.e., Bus Stops data for 'Greater Essex'. as part of a statutory responsibility, which includes the Unitary Authorities of Southend and Thurrock. This data is submitted to the Department for Transport.

166. This ensures the National Dataset is complete with Essex route, timetable, and point data to allow effective multi-modal journey planning for customers, and App developers such as Traveline. The Greater Essex Dataset allows for effective transport planning and modelling, ensuring future strategic growth is built with sustainable transport at its heart.

167. The County Council oversees the coordination of roadside information in electronic and printed format, to suit roadside assets. There are 2,500 timetable frames and 400 real-time displays at stops, including key interchanges.

168. Stops with electronic information systems show live bus times using ECCs Real-Time Information System. Passenger concerns over the reliability of services are a barrier to use and real time information tackles this, allowing the tracking of each bus location and showing customers if a service is running. About 65% of bus services operating in Essex are real-time enabled. This will change in 2022 as ECC assists operators in complying with the Open Data obligations set out in the Bus Act 2017.

169. In partnership with operators, ECC produces 4,000 printed information panels each year for use in timetable frames. These comprehensive stop-specific panels are made with the latest registered bus timetables and routes.

170. Social media is an effective way to provide a complete picture of public transport services to customers. Essex County Council uses its Twitter account to give passengers key messages such as disruptions to their services, and for promotions such as Plus-Bus availability. The County Council publishes an interactive Essex Bus and Train Map. This provides highlighted routes and bus stops, with links to service timetables, allowing passengers to:

- Plan journeys.
- View bus stop information and see the next five departures.
- Download timetables and town maps.
- Follow the route their service takes.
- See rail departures for Greater Essex and beyond.

171. The map and timetables are updated monthly, in line with general start/change dates for local bus services. The ECC website is often a customer's first point of contact with us. Public transport information publications are made available to view and download. The Highway Service Information Centre provides information on:

- Bus Lane and Gate Enforcement.
- Bus operators contact details.
- The Bus Strategy 2015-22.
- Bus timetable changes.
- Community Transport Services.
- The Essex bus shelter project.
- Ticketing and bus passes, including concessionary fares.
- How to use Hail and Ride Services.
- Essex Park and Ride service information.
- County Council supported bus services.
- Ugobus, ECC's in-house fleet
- The Public Travel interactive map
- Real Time passenger Information (RTPI)

172. Each month ECC publishes a free subscription Transport and Travel Update that provides information on changes to bus services, road closures and general travel news, uploaded to the ECC website, called 'Bus Passenger News'. The @Essex_pt Twitter account is used to share forthcoming changes, planned and unplanned disruption and public transport messages.

The Essex road network

173. Essex includes strategic roads such as the A120, A12, and the M11. Highways England is responsible for the management of these assets.

174. Except for the A120, these roads are little used by local bus services. A small number of long-distance coach services link Stansted and larger urban areas to London, Cambridge, and Ipswich. The M11 and A12 do not serve main residential areas. They have limited connectivity to the wider public transport network. Except for a few isolated bus stops intended to serve small villages separated from the wider transport network by the development of the major roads, they lack interchange facilities. They are heavily used by private car and freight and prone to delays, making them unattractive for bus services. The A120 is a major interurban bus corridor, linking Harwich, Colchester, Braintree, and Stansted Airport to the M11.

Road type	Distance (km)
A	640
B	771
Class 3	1,601
Unclassified	4,545

Table 15 Essex road length by type, excluding motorways.

175. Essex has 640 Km of A roads, principal, and primary routes. These link the larger urban settlements in Essex and are used by many inter-urban bus services, particularly those set out in Appendix B Table 62 and 63 *Key Interurban bus corridors and associated Service intervention Points (SIPS).*

176. Essex has 771 Km of B Roads, which link smaller settlements and are feeder roads for larger settlements. They carry many of the key urban corridor routes set out in Table 62 and 63: *Key urban bus corridors and associated SIPs.* Essex has:

- 1,601 Km of Class 3 *Classified* unnumbered roads.
- 4,545 Km of *Unclassified* roads, highways maintainable at the public expense that do not apply under the provisions of Section 12 Highways Act 1980.

177. Prior to the COVID-19 outbreak congestion proved an increasingly serious issue for bus services, increasing journey times for both passengers and operators, introducing variable travel time delays for services. Bus operators had to commit additional resources to maintain headways and service punctuality.

178. The first pandemic lockdown significantly reduced traffic levels, leading to temporary improvements in punctuality and reliability. As lockdown eased, traffic levels returned to near normal, despite high levels of homeworking. Large scale housing and commercial development and population growth, combined with a high level of car ownership have created a long-term trend for rising traffic levels.

179. In rural areas congestion is less of an issue. In small market towns it is focussed around peak travel times on weekdays. These can be problematic for bus operators and passengers since services are less frequent, with hourly or lower frequency services being common. Delays in smaller town centres can lead to services running off time, reducing their attractiveness to current and potential new passengers and bus operators.

Congestion in urban areas, and along main interurban routes between 2015-20

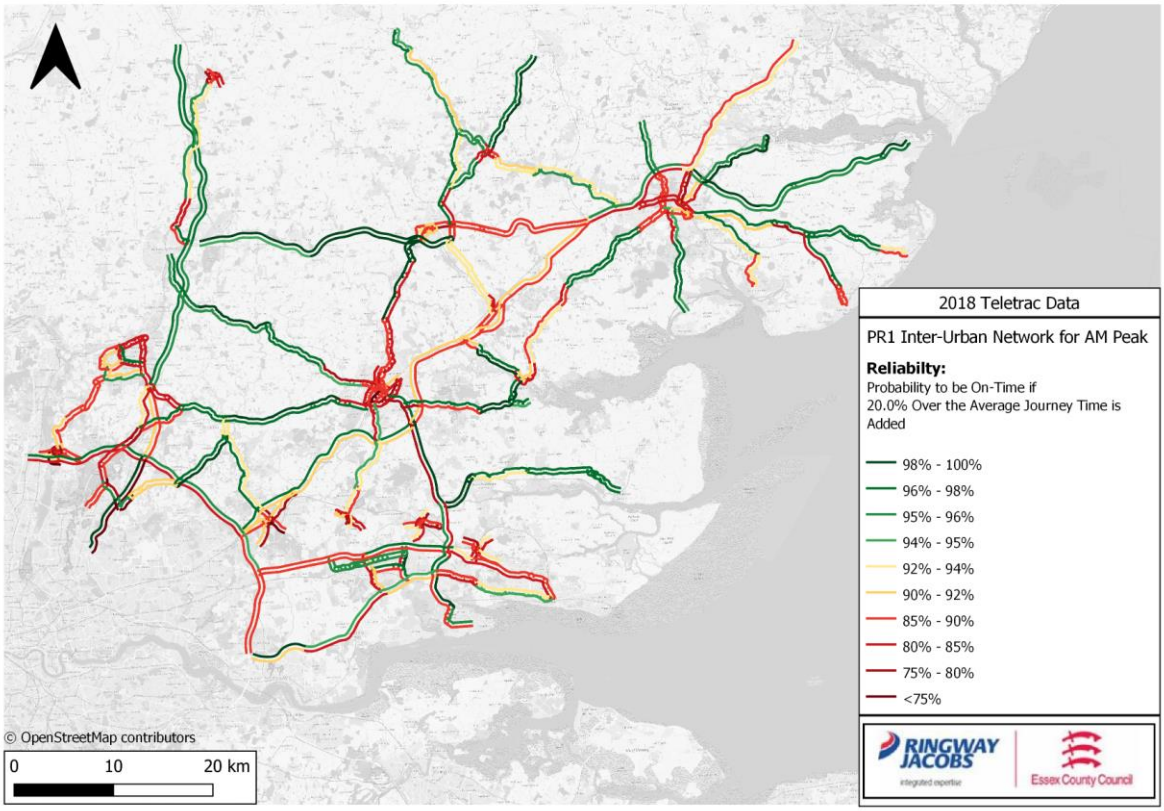

Figure 3 PR1 Inter-urban network for AM peak - Reliability.

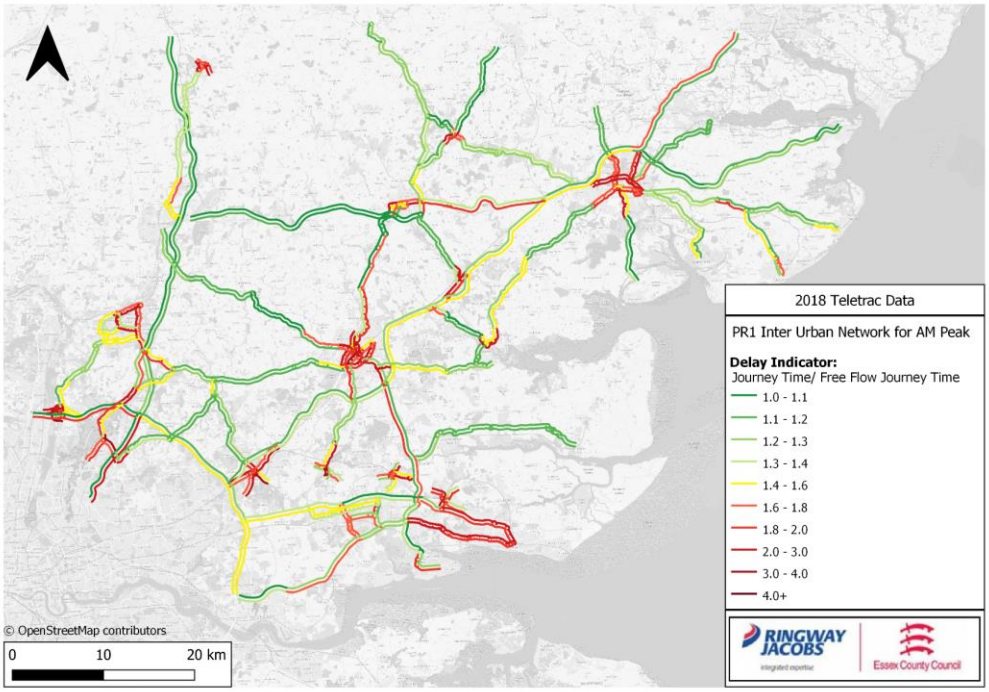

Figure 4 PR1 Inter-urban network for AM peak - delay indicator.

Bus speeds

180. Although we have data on overall traffic speeds and congestion, we do not have separate data for bus. We intend to assess how we might gather this as part of the network reviews.

181. Slower journeys due to congestion mean that more vehicles and drivers are required to run a timetable than would be needed for free-flowing routes. This increases the cost of services and makes them inefficient. Data from services run during and after the pandemic showed buses running 15% slower due to congestion after the lockdowns finished. In terms of cost, 15% of each fare is there simply to pay for regular congestion. Disruption from roadworks or road traffic incidents can add similar costs.

Bus service infrastructure

182. As the LTA and the Highways Authority for Essex, ECC is responsible for building and maintaining bus network infrastructure. This falls into three categories:

- **Roadside passenger infrastructure**, such as flags, poles, shelters, timetable cases, Real Time Passenger Information screens, raised or lowered kerbs and bus cages.
- **Larger scale bus priority measures** such as bus lanes, traffic light bus priority systems, bus gates and minor road layout alterations designed to improve accessibility and reliability across the network.
- **Major projects** such as bus stations, integrated modal interchange points, transport hubs, Rapid Transit Systems (RTS) and Park and Ride sites.

Roadside passenger infrastructure

183. Responsibility for roadside infrastructure is split between:

- ECC: bus stop flags, poles, kerbing and some shelters.
- District Councils: direct ownership of some shelters and through agreements with commercial advertising shelter providers for many more.
- Town and Parish Councils: ownership of some shelters

184. There are 7,483 bus stops in Essex, with 5,488 having some form of infrastructure.

- 2,108 have bus shelters
- 2,891 are bus stops with a level boarding facility or raised kerb.
- All 5,488 have flags and poles.

185. Requests for new passenger transport infrastructure are received in several ways, each with a different funding stream.

- All 12 Boroughs, City and District areas have Local Highway Panels, responsible for making recommendations and setting priorities for schemes in

their areas. Panels are made up of ECC Members from the County and from individual Boroughs, Cities or Districts. They meet quarterly to consider highway issues in their area, including funding schemes for new or improved facilities at bus stops.

- Developers may have to install new bus stops, or enhance those near their development, as a condition for planning approval.
- Local bus operators and members of the public make requests. These are assessed individually. The funding route will depend on the scale and nature of the scheme.

186. The County Council has a capital replacement budget to keep bus stops in good order and add Essex branding. Where possible all bus stops will have a minimum of a bus stop pole and flag with the Essex logo. Additional measures, such as raised kerbs or shelters, will be included as part of the assessment. Funding for these works will come from a new shelter scheme currently in development, or by those methods shown above. This rolling programme reviews all 7,483 stops, starting with those on key routes.

187. Old, non-standard, galvanised poles and out of date flags are being replaced with Essex branded infrastructure. The replacement of the old poles and flags is a long-term plan with an investment of £1 million being allocated to passenger transport infrastructure improvements over the next five years.

188. All Essex passenger transport assets are photographed and added to a database. When a change is made to the bus stop the information is updated with a new survey. Previous surveys are kept for historic information and can be viewed to show when the works took place.

189. There is a revenue budget for reactive urgent and non-urgent works. The table below shows the scale of activity. It does not include shelters, bus stop clearway signs or any civil works such as raised kerbs.

Work Type	Jobs completed		Total	Average jobs / year
	2018-19	2019-20		
Urgent reactive	22	14	36	18
Non-urgent reactive	316	274	590	295
Capital planned	0	0	0	180

Table 16 Works 2018-20

The Essex Bus Shelter Project

190. Data provided by bus stop surveys, discussions with bus operators, passenger representatives and other local authorities suggest that:

- The quality of roadside infrastructure is a ‘gateway’ element for passengers use of the bus network and is a major element in determining peoples view of its quality.
- This in turn influences their view of whether bus travel is ‘for them’.
- Current infrastructure quality, particularly for passenger shelters, is low and variable, even within a single settlement.

191. The imminent expiry of long-term agreements between district councils in Essex and commercial advertising shelter providers offers an opportunity to rethink the County's bus shelter provision. This will allow it to develop a more financially sustainable and mutually beneficial arrangement for the delivery of bus shelter infrastructure.

192. Essex County Council is working with all the district, borough, and city councils in Essex to improve, maintain and future-proof shelters.

193. The project will establish a 10-year contract to create a better bus shelter estate, incorporating all maintenance, cleaning, replacement, and supply of shelters. This will be funded by advertising income.

194. The project will deliver a sustainable and high-quality bus infrastructure network that provides consistency of experience, is commercially focussed and future proof.

195. Project benefits include:

- **A modernisation of the estate** to improve customer experience and by extension, increased and sustainable bus patronage.
- **Ability to expand the bus shelter network**, through commercial income, resulting in residents being more likely to benefit from their use and protection from the weather.
- **Planned, programmed and sustainable cleaning regime** offering a better bus stop experience, aiding efforts to increase sustainable transport journeys.
- **Estate rationalisation and reduced street clutter**. An improved street scene environment and better accessibility
- **Income leveraged from advertising**, replacing taxpayer's money with commercial funding.

196. A Bus Lane is a dedicated lane restricted to use by buses under a Traffic Regulation Order. Restrictions may be limited to certain days and times. They speed up public transport and improve service punctuality and reliability by allowing buses to by-pass areas that would otherwise hold them due to traffic congestion. Bus lanes are a key component of a high-quality Bus Rapid Transit (BRT) network.

197. A bus lane may occupy only part of a road, which also has lanes serving general traffic. The related term 'Busway' describes a road completely dedicated for use by buses.

198. Essex has over 10km of Bus Lanes, focused on the larger urban centres of Chelmsford, Colchester, and Harlow. A list of available bus lanes across Essex is set out in Table 18.

Area	District	Road Name	Start location	End location	Length (m)
Pitsea	Basildon	Hazlemere Tesco Extra (Off the A13)	Tesco Petrol Station	Mini roundabout, Tesco Car Park	85
Basildon	Basildon	Cherrydown East	Station Way/Cherrydown East Junction	Cherrydown East/Cherrydown East junction	15
Basildon	Basildon	Southernhay	Basildon Bus Depot	Southernhay/Station Way Junction	15
Basildon	Basildon	Southernhay	Southernhay/Market pavement Junction	Southernhay Basildon Bus depot exit	120
Laindon	Basildon	Station Approach	Laindon Railway Station	The Laindon Chippy	88
Gloucester Park	Basildon	Ghyllgrove	Cranes Farm Road/A1235	Ghyllgrove	160
Braintree Freeport	Braintree	Charter Way	Braintree Freeport Railway Station/Charter Way	Braintree Freeport Railway Station/Charter Way	50
Castle Point	Castle Point	London Road/A13	London Road/Morrison's Supermarket	251 London Road	321
South Benfleet	Castle Point	London Road/A13	London Road/Manor Road Junction	London Road/Kents Hill Road Junction	321
Chelmsford	Chelmsford	Broomfield Road	Broomfield Road/Parkway Junction	Hyatt Place	45
Chelmsford	Chelmsford	New London Road	The Ivory Peg Public House	New London Road/Parkway Junction	160
Great Baddow	Chelmsford	A114	Maldon Road Junction	Army and Navy Roundabout	2,414
Broomfield	Chelmsford	Broomfield	Broomfield/Broomfield Hospital	Broomfield/Broomfield Hospital	360
Chelmsford	Chelmsford	New London Road/B1007	Moulsham/New London Junction	Queen Street/New London Road Junction	804
Moulsham	Chelmsford	Gunson Gate	6 Gunson Gate	255 Gunson Gate	109
Chelmsford	Chelmsford	ARU campus	Bishops Hall Lane	Alan Cherry Drive	965
Chelmsford	Chelmsford	A1016 to Essex Regiment Way	A1016	Essex Regiment Way	2560
Chelmsford	Chelmsford	Essex Regiment Way to A1016	Essex Regiment Way	A1016	1440
Colchester	Colchester	High Street	95 High Street	Natural History Museum	84

Colchester	Colchester	Osborne Street	Colchester Bus Station	Osborne Street/St Johns Street junction	27
Mile End	Colchester	Nayland Road	A134/Nayland Road Roundabout	108 Nayland Road	39
Colchester	Colchester	Bruff Close	20 Bruff Close	Mile End Road/North Station Road Roundabout	45
Colchester	Colchester	Station Way	North Station Roundabout/Station Way Exit	North Station Road/The Albert Roundabout	321
Colchester	Colchester	Middlesborough	Middlesbrough/North Station Road Mini Roundabout	Middlesborough/St Peters Street Junction	60
Colchester	Colchester	Middlesborough	Middlesborough/St Peters Street Junction	North Hill	25
Colchester	Colchester	North Hill	North Hill/St Peters Street Junction	North Hill/High Street Junction	321
Colchester	Colchester	Via Urbis Romanae	Via Urbis Romanae/A134 Junction	Axial Way/Via Urbis Romanae Junction	804
Colchester	Colchester	Via Urbis Romanae	Whitmore Drive/Via Urbis Romanae Junction	Via Urbis Romanae/A134 Junction	804
Colchester	Colchester	Southway/A1124	Hospital Lane/Southway Junction	Rawstorn/Southway Junction	100
Harlow	Harlow	Post Office Road	Post Office Road/Velizy Avenue Junction	Post Office Road/Velizy Avenue Junction	321
Harlow	Harlow	Fifth Avenue	Elizabeth Way/Fifth Avenue Roundabout	Fifth Avenue/Gladwin Way Junction	200
Harlow	Harlow	Fifth Avenue	Fifth Avenue/Gladwin Way Junction	Elizabeth Way Roundabout	160
Harlow	Harlow	Station Approach	Station Approach	Harlow Town Railway Station	17
Harlow	Harlow	Velizy Avenue	Harlow College Exit	A1019/Velizy Avenue Junction	320
Harlow	Harlow	Second Avenue/A1025	Second Avenue/A1025 Tripton Road Roundabout	Harlow Leisure Centre Exit	360
Netteswell	Harlow	First Avenue	First Avenue/Muskham Road junction	First Avenue/Orchard Croft junction	482
Netteswell	Harlow	First Avenue	First Avenue/Muskham Road junction	First Avenue/A414 Roundabout	360
Church Langley	Harlow	A414	A414/Church Langley Way Roundabout	A414/Second Avenue Roundabout	360

Newhall	Harlow	A414	A414 Allotments	A414/Newhall Way	61
Latton Bush	Harlow	Second Avenue/A1025	Traffic island	Second Avenue/A1025 Howards Way Roundabout	360
Latton Bush	Harlow	Second Avenue/A1025	Second Avenue/A1025 Tripton Road Roundabout	traffic island	360
Shoeburyness	Rochford	A13	Asda car park entrance	Asda car park exit	128
Rayleigh	Rochford	Castle Drive	Castle Drive/Station Road Junction	Castle Drive/Station Road Junction	47
Clacton	Tendring	Pier Avenue	Pier Avenue/Jackson Road Junction	Rosemary Road/Pier Avenue Junction	91

Table 17 Bus Lanes in Essex.

199. Bus lanes in Chelmsford and Colchester mainly serve the three ECC owned Park and Ride sites at Sandon and Chelmer Valley in Chelmsford, and near the football stadium in Colchester.

200. Harlow, a new town with a more open street layout, has bus lanes along its main corridors. These were installed as part of a long-term programme to improve reliability for the main routes across the town. They were funded by ECC resources, developers and government grants.

201. A **bus gate** is a short section of road with a Traffic Order restricting access to buses and other authorised vehicles (taxis, cyclists, emergency vehicles) between specified times of day. They allow short cuts for public transport at junctions, roundabouts or through one-way systems. They are not physical gates, instead using cameras to prevent unauthorised traffic from going past a specific point on the road. They are normally marked with the same street signage as bus lanes, but with the words "BUS GATE" marked on the road.

Essex has eight bus gates, as shown in Table 18.

Area	District	Road Name	Location	
			Start	End
Laindon	Basildon	Laindon Link	Church of Jesus Christ of Latter-Day Saints	Albert Drive Bus Stop
Fryerns	Basildon	Long Riding	Napier Close/Long Riding Junction	Farhouse Court/Long Riding Junction
Chelmsford	Chelmsford	Duke Street	The Plough Public House	Duke Street/Victoria Road Junction
Chelmsford	Chelmsford	ARU campus	Bishops Hall Lane	Alan Cherry Drive
Moulsham	Chelmsford	Gunson Gate	6 Gunson Gate	255 Gunson Gate
Abbeyfield	Colchester	Maldon Road	76 Maldon Road	Maldon Road Chapel
Highwoods	Colchester	Nayland Road	Nayland Road/Northern Approach Roundabout	104 Nayland Road
Hythe	Colchester	Hythe Hill	Maudlyn Road/Hythe Hill roundabout	Hythe Hill/Hythe Quay Roundabout

Table 18 Bus Gates in Essex.

202. Where bus priority infrastructure of the types set out above is not practical, priority can be given by using **Bus Priority** or **Transit Signal Priority** (TSP). These improve service reliability, punctuality and journey speed at junctions controlled by traffic lights.

203. Traffic light priority techniques can be **active** or **passive**. **Active** techniques detect buses as they approach a light controlled junction and adjust signal timing to give them priority. Active TSP requires specialised hardware, including a transmitter on the transit vehicle and one or more receivers. The traffic light must be TSP capable. **Passive** techniques optimise signal timing, or the coordination of successive signals, to create a ‘green wave’ for traffic along the transit line's route. Passive techniques do not need specialised hardware.

204. Essex has light-based Bus Priority systems to allow services through traffic using intelligent transport systems such as SCOOT, and MOVA, from the Transport Research Laboratory.

205. Working with operators, ECC identified a series of minor road layout improvements and has allocated funding for a programme of works. These improvements include Traffic Regulation Orders to restrict parking, bus stop lay-by extensions, and kerb realignments to make it easier for buses to turn.

206. The measures we have already completed, plus those we are looking to undertake as part of the BSIP and associated EP Plan with Essex bus operators are set out in Section 8.

Major infrastructure

207. Major infrastructure includes bus stations, integrated modal interchanges, service hubs, Bus Rapid Transit (BRT) systems and Park and Ride sites.

Bus Stations

208. Bus stations in Essex are listed in Appendix D. They have been divided into:
- **Major Interchanges (MI)** acting as foci for local urban/rural networks, cross Essex inter-urban and long-distance networks, including coach services.
- **Local Interchanges (LI)**, acting as foci for town and Essex inter-urban networks.
- **Local Bus Stations (LBS)**, smaller stations acting largely as foci for the local bus network.

209. Notes on known issues, capacity and facility quality are given in Appendix D

210. Major issues with Essex bus stations include:

- Aging infrastructure
- Lack of capacity for existing and forecast services and passenger levels
- Poor passenger facilities
- Poor location for town centre services and amenities
- Passenger and vehicle access issues.

211. ECC will develop plans to improve these sites through the EP Schemes.

Bus Rapid Transit

212. Essex does not have any operational Bus Rapid Transit systems. There are plans to develop BRT systems for Harlow, Colchester, Chelmsford, and Basildon.

Parking policies

213. Car parking policy plays a role in managing the modal attractiveness and reliability of bus services in comparison to car journeys. It can help improve air quality by managing the number of car journeys and promoting modal shift.

Parking costs make up a significant proportion of the cost of a car journey. Setting prices, especially for long stay commuters, at levels that place bus fares at a competitive advantage, can encourage modal shift.

214. Limiting the availability of parking spaces can encourage modal shift to bus journeys, provided that such journeys are available. It can also create a more attractive, sustainable, and greener urban centre.

215. Parking policy falls under the remit of District, Borough and City level authorities. Car parking can be difficult for local authorities to address, and the revenue it generates can be a significant source of income for councils. Strong partnerships between bus operators and local authorities can deliver sustainable change to rejuvenate town centres, support local growth and protect the environment.

216. Some councils, businesses and residents believe having sufficient affordable parking is a key attractor for their town and that if measures are taken to limit parking, particularly short stay, their economy will suffer. This can lead to strong opposition to efforts to reduce parking availability.

217. The growth of out-of-town shopping centres and the move toward less frequent weekly shopping has led to an increase in large parking areas associated with superstores. These journeys are difficult to replace with public transport.

218. Despite this, good outcomes have been delivered elsewhere. These include workplace parking levies, which are reinvested in public transport services and clean air zones. However, they may be a disincentive to inward investment and a threat to the area's economy. Businesses may see charging as an additional bureaucratic burden and a disincentive to attracting new staff, who will resent paying for something they previously had for free.

219. Many of these issues can be addressed by developing realistic public transport options to manage these journeys, such as park and ride sites and better interurban and town services. An attractive public transport offer must be in place to make such measures practical.

220. Car parking can be divided into the following categories:

- Parking space attached to private houses.
- Workplace parking. This is privately owned and controlled, and unless a local authority has introduced a workplace parking levy, it is difficult to influence, outside new development planning permissions. Essex does not currently have any areas where this levy is applied.
- Commercial car parking sites. Other than through planning policy, local authorities have no control over the number of spaces or the prices they charge.
- Publicly owned off-street parking sites. Local authorities have control over the number of spaces and the charges.
- On street parking. Local authorities can control such parking using Traffic Regulation Orders (TROs) which may include residential parking permit

schemes, requiring residents to display a valid permit to park.

221. On-street parking in Essex is managed jointly by ECC and District level authorities through Parking Partnerships. These bring together all street-based parking services in Essex. The aim is to administer the parking rules to a fair, proportionate, and consistent standard to provide a high-quality service. The service is run in two areas:

- North Essex Parking Partnership, led by Colchester Borough Council
- South Essex Parking Partnership, led by Chelmsford City Council

222. Each Partnership is responsible for its areas Civil Enforcement Officers, the enforcement process, and the management of permit schemes. Details can be found here.

223. District level councils and ECC have co-operated to support modal shift and reduce congestion by co-ordinating public parking charges and bus fares. For example, in Chelmsford the daily cost of parking is set above that of the Park and Ride services at Sandon and Chelmer Valley, which are jointly operated by the two authorities.

224. Where on-street parking affects bus reliability, for example around some residential estates, parking restrictions have been introduced.

225. There is a County Council policy towards parking allowed in new developments.

226. Off-street parking is the responsibility of the 12 district councils. Data on the capacity and pricing of parking provisions in towns and cities, and the split between public and private sector provision, will be gathered as part of the network reviews commencing shortly, and set out in Section 8. This will include current spending on parking enforcement.

227. On-street parking enforcement is delivered via two partnerships between ECC and its associated District, Borough and City Councils. These are the South Essex Parking Partnership and the North Essex Parking Partnership. The partnerships spend around £4.5m annually on enforcement, which is funded through penalty income.

228. Parking costs vary across the County. In Chelmsford city centre, long-stay parking costs are above the equivalent bus fare. However, in Colchester parking is comparatively inexpensive and bus journeys can cost more than the equivalent car trip, even allowing for fuel, parking, and fixed costs even for a single person. Some smaller towns and most villages see free, or very low-cost parking as a vital part of their attraction.

229. The range of factors set out above has helped create a perception that buses are not considered as important a mode of travel as cars. This has impacted on larger bus operator's ability to build business cases at a national level for prioritising commercial investment into Essex, in comparison with other areas. While SME operators have been willing to invest in infrastructure to support their

business, for example building depot space, decisions over expanding their networks will be influenced by the operational issues they encounter day to day.

230. If a highways environment that promotes bus passenger growth is to be established it will be necessary for central government, ECC and other local Essex authorities to work with bus operators to alter the importance placed on prioritising and enhancing the bus network.

Managing roadworks

231. While delivering long term benefit, roadworks cause short term disruption to traffic flow, delays and add to congestion. Bus networks, with their fixed timetables, tight schedules and high levels of passenger expectation are particularly vulnerable to roadworks. Over a day even delays due to temporary traffic lights can accrue so that a service would ultimately run an hour late if left uncorrected. In some cases, closure of a key road might make running the route impossible, and isolate a community from its transport connection, in some cases for lengthy periods.

232. If bus operators are engaged in advance roadworks are manageable, albeit at additional cost. If too little notice is given, operators must manage services as best they can. This may have adverse impacts for that route and passengers, and knock-on impacts on other routes as both vehicle and driver schedules are disrupted. The costs of managing this disruption are reflected in increased fares for bus users, who also bear the inconvenience of service reductions or withdrawals.

233. There were 74,064 permits issued in 2019-20 for works carried out across the Essex road network, ranging from temporary skips and scaffolding or access requests for major works. Effective management of these is critical in delivering a reliable bus service.

234. Essex has a permit scheme for working on or requesting access to any publicly maintainable road in the county. These include traffic sensitive streets, strategic routes, and non-traffic sensitive streets, defined as reinstatement category 0 – 4, as identified on the National Street Gazetteer.

235. This scheme provides an alternative to the notification system, in accordance with the New Roads and Street Works Act 1991. Rather than informing the Highway Authority about its intention to carry out work, a works promoter must apply for a permit to occupy the highway. The Permit Scheme applies to all works promoters, including the Highway Authority (ECC's own works). Works' promoters must display a board showing the permit number.

ECC road closure process

236. When a body wishes to close a road, it must complete a road closure permit request. This requires it to identify any bus services that use the route and to contact the operator and / or the Essex IPTU to discuss the closures impact.

This process aims to reduce the closure impact as much as possible.

237. The permit is assessed and once approved the details are placed on the Elgin One Network platform. Bus operators are sent details of all closures in the County by the Permit Team. They are sent details of the 'Elgin One Network' system and are asked to monitor it to identify planned closures on routes that affect them. Enforcement with the permit requirements is undertaken by ECC's New Roads and Street Works Act team.

238. To manage the impact of full road closures, ECC IPTU has developed a process for roadworks undertakers and works promoters to follow. This focuses on using the Essex interactive bus map to see if there are any services that will be affected.

239. Looking at options for mitigation and avoid a full closure if possible, including:

- Escorted/convoyed access through the site.
- Over-night and weekend working to minimise disruption
- Introducing TTRO to improve and protect diversion routes.
- Working outside peak travel periods and avoiding school travel times
- Providing shuttle buses to compensate for route severance
- Provision of bus service information to residents.

240. Where bus stops need to be temporarily closed the works undertaker should:

- Agree safe locations for temporary stops near the closed stop.
- Use A boards to sign the temporary stop a "Bus Stop".
- Provide details of the times of the bus stop suspension, and a map showing where the temporary stops will be located.
- Provide information at the permanent bus stop location to direct people to the temporary stop.
- If an alternative stop is not practical, inform passengers of the location of the nearest bus stop.

241. In principle the system for planned work should be effective, in practice it does not perform as well as operators would like. They have identified a range of issues:

- Permits for works taking place in the same area not being co-ordinated, so having a cumulative impact on service provision.
- Works finishing early but restrictions being left in place
- late night working during the summer or weekend working not used as often as it could.
- works not finishing within the permit time
- Permits being arranged to cover a long period with the actual closure taking place for a short, but unspecified part of the permitted time.
- Roadworks undertakers:
  - not following the permit process and creating 'pop up' roadworks.
  - not noting the impact on bus routes in the permit application.

- failing to take the agreed mitigation arrangements.

242. To address these issues ECC has been improving the current system. This will use road and bus routes network mapping systems to identify where a roadwork will interrupt a bus service and provide the roadworks undertaker with service and operator contact details. Emails can be sent to bus operators informing them of specific issues, reducing the chances of them not being notified of a closure.

ECC Integrated Passenger Transport Unit (IPTU) roles and responsibilities

243. Essex County Council is responsible for passenger transport across a range of legislation. This includes:

- The Education Acts 1944 and 1996 and the Education and Inspections Act 2006, for the statutory provision of Education Transport for both mainstream students and those with special needs.
- The Transport Acts 1985, 2000, 2008 and the Bus Act 2017 for the provision of 'socially necessary' bus services, bus information and multi operator ticketing schemes.
- Addressing the impact of congestion and disruption on the Bus Network through the Traffic Management Act 2004.
- The provision in Essex of the English Concessionary Bus Travel Act 2007 (as amended).
- Transport related provision of the Equalities Act 2010.
- Bus Back Better, the National Bus Strategy 2021.

244. ECC also undertakes a range of transport related functions including:

- Developing strategies and policies to deliver the County Council's public transport aspirations, aims and objectives, including contributing to the Transport Plan.
- The provision of transport for some social care customers
- The provision of supporting roadside infrastructure such as stops, flags and poles, shelters and RPTI.
- Supporting CT Services.
- Supporting the development of new models such as digital demand responsive services
- Advising planning authorities on the necessary contribution toward public transport required to mitigate the impact of developments.
- Developing policies and programmes and advice on the development of major highways schemes, including specific public transport schemes.
- Managing an in-house fleet to undertake a range of transport functions, including social care and some registered local bus services.
- Managing Essex Park and Ride services
- Providing travel training services to support children and adults with special needs and disabilities
- Developing and implementing an attitudinal change programme to promote modal shift (Stop.Swap.GO!)

- Managing the impact of roadworks on the bus network.

245. To fulfil these functions ECC has had a Passenger Transport teams since 1992. The current structure is called the Integrated Passenger Transport Unit (IPTU) and was created in 2018 to bring all these functions together.

246. The IPTU sits within the County Council's Highways and Transport Division within the Place and Public Health Directorate, alongside other functions including Waste & Environment, Capital Delivery & Investment, Economic Growth & Localities, Strategic Commissioning and Policy Wellbeing and Public Health & Communities.

247. The Head of the IPTU reports to the Director of Highways and Transport, who reports to the Executive Director for Place and Public Health, then upwards to the Chief Executive, and through him to the Cabinet.

248. Essex has a Cabinet System, so there is a Cabinet Member for Highways Maintenance and Sustainable Transport who is responsible for political oversight and strategic policy and expenditure decisions. The Head of the IPTU has direct access to, and works closely with, senior officers and the Cabinet Member to manage the County Council's responsibilities.

249. Table 20 summarises service budgets allocated to managing the County's direct role in the delivery of Essex bus network, and the number of staff active in supporting integrated transport delivery.

Management Area	Team	FTE Posts	Service budgets for 2021-22	Responsibilities
Community and Education Travel	Local bus, Demand Responsive Transport and Community Transport Team	3.5	£9.1m £1.1m	Procuring designing and managing contracted local bus service network, operational relationships with commercial operators, assessing the impact of commercial bus service registration changes, managing relationship with community transport sector, customer care,
	Education and Special Needs Transport	5.7	£32.0m	Procuring and managing education transport services, special needs school and social care transport, customer care
	Travel and Information Team	5.6	£0.1m	Managing the bus service timetable database, service registrations, roadside passenger information, social media and ECC services publicity. Procuring and managing the Real Time Passenger Information system, including live information feed updates
	Customer and Safeguarding team	3.8		Customer complaint, enquires and compliments, undertaking ECC safeguarding responsibilities including liaison with schools and operators
Strategy, Growth, Infrastructure & Integration Team	Strategy, Growth, Infrastructure & Integration Team	3	£17.9m Concessionary fares S106 funding £0.06m	Developing ECC strategies for delivering local bus services, strategic network design, delivering the ENCTS scheme, managing the impact of road works on the bus network, advising on development requirements for public transport and S106 funding for bus services and supporting infrastructure, advising on bus network impact and needs for major infrastructure projects, developing integrated approach to sustainable travel
Delivery Support	Delivery Support	4.8		Operator and other service provider payments, budgetary control, collection of industry data and KPIs
Commercial Operations	Infrastructure Team	2.6	£0.2m	Roadside infrastructure procurement and delivery,
	Business Development Team	2.8		Innovative business development projects, including Digital DRT, attitudinal change
	Park and ride	1	£1.2m	Procurement and management of Essex Park and Ride services
NB. The Commercial Operations Team is also responsible for the Essex Travel Training programme and for operating Ugobus, Essex CC's in-house minibus fleet.				

Table 19 IPTU budgets.

250. The County Council's Commercial Supply Chain Management Team provides contract management and supplier relationship support, with a team of three FTE.

Working with Essex commercial bus operators

251. The County Council has a good working relationship with Essex's local bus service providers.

252. Since 2016 ECC has managed a Bus Strategy Commissioning Board, comprising the Cabinet Member with responsibility for the portfolio, councillors representing opposition groups, the four largest commercial operators, representatives of the Confederation of Passenger Transport and Community Transport, the Head of IPTU and the Director for Highways and Transport.

253. The Board meets quarterly to address strategic network issues, including, congestion, air quality, emissions policy, road works and the impact of COVID-19.

254. The board is supplemented by a 'Bus Strategy Forum, which includes the above stakeholders and other groups, including passenger representatives, business and the NHS. This forum meets when needed to give a wider perspective on major strategic policy decisions, such as the Essex bus strategy published in 2015.

255. The County Council have run 'Operator Days', with updates on the progress of ECC schemes and issues of concern to operators. These are in addition to engagement sessions at the start of any significant procurement.

256. The IPTU holds regular one to one update and progress meetings with the major bus operators at a senior level, to gain an insight into market conditions, issues of concern and proposed commercial network revisions. From March 2020 this included updates on the impact of COVID-19.

257. The Commercial Contracts Management and Supplier Relationship Team hold quarterly meetings with our largest contracted local bus and education transport suppliers. These address market standing, contract enforcement and management issues.

258. There is day to day contact between operators and ECC officers from the Local Bus and Strategy teams. This covers operational issues including contracted services, commercial network revisions, roadwork impact mitigation and information sharing. This level of contact has allowed ECC to develop a strong working relationship with suppliers, laying a path for future partnership working.

259. Essex has one quality bus partnership agreement. This voluntary agreement applies to Service 88, running between the towns of Halsted and Colchester. This is a shared route, run on a half hourly frequency by First Essex Buses Ltd and Hedingham Omnibus, part of the Go-Ahead Group, with some journeys funded by ECC. After some instability along the route, ECC and the operators

agreed measures to regularise the timetables, permit both operator's tickets to be used on any journey, plus route branding, advertising measures and some infrastructure improvements.

Managing developer funding

260. National strategic planning requirements mean that 146,000 houses will be built in Essex over the next two decades. This will place additional demands on the county's services and amenities, including its highways network.

261. When developers wish to construct a new site, they approach the Local Planning Authority (district level councils) to secure planning permission. In considering the application, the Planning Authority will ensure that the development is in line with their current Local Plan. It also contacts statutory consultees, such as ECC. This is to ensure that potential negative impacts of the development can be minimised.

262. The planning process requires developers to contribute towards the costs of providing community and social infrastructure, the need for which has arisen because of the new development. This is delivered through S106 of the Town and Country Planning Act 1990 and is commonly known as 'Section 106' funding.

263. The local Highways Authority may also make use of its powers under section 278 of the Highways Act 1980, to enact a legal agreement with the developer to fund permanent alterations or improvements to a public highway, as part of a planning approval.

264. The developer is required to explain the sustainability credentials of their development in accordance with Town & Country Planning Act requirements. The Highway Authority assesses how people will access the site and ensures that a significant proportion are encouraged to do so through use of active or sustainable modes, including public transport.

265. The County Council usually only seeks contributions from larger developments for the provision of bus services. Smaller developments may only be required to upgrade the nearest bus stops to current ECC specifications. Where contributions have been sought for services, it has been generally left to the developer to liaise with a local bus operator to provide a service to the development. In some instances, this has led to poor outcomes for both taxpayers and residents. For example, where the agreed services have diverted existing local services away from established routes. Services provided this way have proved difficult to sustain, with only a minority achieving long term commercial viability within the period of financial support, resulting in their withdrawal once funding is expended.

266. In the light of these risks ECC has taken a more strategic approach to responding to planning applications, with the aim of developing outcomes that are financially and operationally sustainable in the longer term.

267. The new approach will look to levy a ‘per house’ contribution from the developer, that is scalable to smaller developments. This funding will be used by the County Council to provide an agreed level of service to the site by contracts with bus operators. The funding can be pooled with contributions from other local developments to help meet the areas transportation needs. Funding from a particular development must be used to alleviate that development’s impact. Pooling allows, for example, the creation of a new bus route that serves several development sites across an area, with each site contributing to it. This allows an individual development’s service to be integrated into the wider network.

268. As ECC hold the contribution and as agreements are often secured several years in advance of the funding becoming payable, during which time network or key service/amenity location changes can occur, this approach retains the flexibility to meet the needs of the development as it grows and its connectivity changes.

269. The ‘per house’ levy will vary according to the size and location of the development, its impact, and its connectivity to the rest of the public transport network. The County Council has reached agreements varying between £2k and £2.6k per home. This approach can be applied to smaller developments than would previously have been required to contribute.

270. Where a development already has good public transport provision, contributions may be used towards the provision of bus-benefitting infrastructure.

271. The final decision on planning requirements lies with the Local Planning Authority rather than ECC, so contribution recommendations cannot be assured until the Local Planning Authority has finalised the terms of its agreement with the developer.

272. This new approach means that ECC, as well as residents, will be able to maximise an important source of income, which provides opportunities to expand the bus network. It provides the catalyst to enable ECC to enhance bus networks in the north west of the county, the first area in which we will implement network improvements through our EP.

ECC Park and Ride operations

273. Park and Ride (P & R) services combine a large out of town parking facility and one or more dedicated bus services. Their aim is to intercept journeys generated by people who want to travel to the town centre outside the urban cordon and relieve pressure on the urban road network.

274. Essex County Council has three P & R services, one in Colchester and two in Chelmsford. They form a key part of ECC approach to managing traffic in these larger urban areas. They are included in the Essex Climate Change Commission’s commitment to reduce congestion and support economic growth through access to local businesses.

275. There are 3,425 car parking spaces across three sites. They generated 1.45m bus passenger journeys a year pre COVID-19. Passengers include commuters

from across Essex, as well as daytime leisure travellers, town centre shoppers and those accessing hospitals and universities.

276. The County Council prices its P & R services to incentivise their use over town and city centre parking. All-day parking in a central location can cost from £8 to £14, and up to four hours can cost £5. P & R aims to be part of a long-term parking strategy to encourage all long stay and commuter traffic to use P & R services. The County Council has developed proposals to improve and broaden the appeal of its P & R sites to multi modal users. Sites will become sustainable travel hubs, providing a range of transport options to complete the last mile of the journey into urban centres.

277. Our strategy is to:

- Work with partners to identify additional P & R sites around larger urban settlements.
- Provide bike storage and provision for e-scooters and e-bikes.
- Be supported by safe, dedicated walking and cycle routes.
- Target new passenger groups by providing shuttle bus services to new destinations, including schools, business parks and hospitals.
- Move toward low and zero emission buses.
- Provide more on-site charging points to promote zero emission car use.
- Develop e-cargo delivery services.

Park and Ride strategy is set out in detail in the section on Essex Commitments below.

Education and social care transport

Education Transport

278. Essex County Council has a statutory duty to provide funded home to school transport for some children of school age, and discretion whether to provide transport for others as required under the Education Act 1996. The following 'qualifying distance' criteria apply: two miles or more for children below the age of eight, or three miles or more for children aged eight and above. More information on student entitlement can be found here.

279. The County Council provides education transport for 9,176 students, of whom 2,926 have been identified as having special educational needs. These include students with a physical disability or learning and emotional needs. The 2021-22 budget for education transport is £32.0m, of which £13.6m is spent on mainstream, and £18.4m is spent on special needs transport. An estimated 3.5m education transport journeys are undertaken each year.

280. There are 163 education transport operators and 205 contracts. Many of these are ‘closed’ and only transport school children. They are not open to the public. Others are also registered local bus services and open to the public, although where this is the case they tend to run only on schooldays.

281. Essex has pioneered the development of ‘one school one operator’ contracts. A single operator is responsible for the provision of all the transport needs of a school, including the use of different size vehicles, sub-contracting where necessary. This has been extended to apply to special needs schools and to clusters of smaller schools, usually primaries, within a defined area. This has resulted in significant service improvements for schools and families and a more cost-effective service.

282. Essex buys 3,738 commercial bus passes for students, worth £2.9m per year. There is a strong network of commercial school travel services in some areas of the county, particularly in the north and west, reflecting geographic and demographic factors and parental choices. ECC buys tickets on these services for entitled students, where this represents best value. At about three times its direct support for the local bus network, education transport makes up a significant proportion of ECC’s investment in and impact on the bus network.

Social care transport

283. The County Council provides a range of social care transport for those for whom it has a duty of care. The emphasis for provision is on meeting the individual customer’s travel needs. The types of journey provided include to daycentres, respite, training, and care homes. Social care customers are amongst the most vulnerable residents, with a range of medical and care needs requiring a careful approach to delivery.

284. Responsibility for delivery of social care transport services sits with the IPTU. Entitlement to transport is dealt with by ECC’s’ People Directorate. Annually, 178,570 journeys are undertaken using minibuses, taxis and local bus services, at a cost of £2.543m. This includes Ugobus, ECC’s in-house fleet.

285. During the height of the COVID-19 outbreak IPTU transport officers, working closely with medical and care staff, managed the safe transfer of very vulnerable people between care and medical facilities. This was often done at short notice and under considerable pressure due to the speed of the outbreak’s development.

Ugobus

286. Ugobus is the County Council’s in house transport fleet, mainly used to provide passenger transport for Adult Social Care clients to Essex Cares Ltd centres, and children to Special Educational Needs, mainstream schools, and local bus routes.

287. Ugobus was set up in 2004, as ‘Community Link’. The aim was to move responsibility for adult social care transport from day centres to a cost neutral centre of expertise. This offered financial savings and logistical efficiency, with tighter control measures, including passenger transport compliance and training. The fleet consists of 74 minibuses and employs 143 staff. They transport 650 passengers each day to locations across Essex.

288. Although the core of the Ugobus service remains adult social care, of which it delivers close to 50% of the entire requirement, the service plans to diversify into other internal transport needs. The service has successfully been used to trial alternative, innovative solutions to transport, such as the Shotl transport planning app.

289. Ugobus provides assurance that transport for some of the most vulnerable Essex residents is carried out to a high standard. The team provide a lifeline to access social and welfare facilities. As the in-house fleet, Ugobus has been at the heart of ECCs response to the pandemic. Reductions in demand for core transport services during the pandemic saw Ugobus being deployed to support other activities. This included the distribution of food parcels, PPE, IT, sports equipment and supporting the movement of the deceased. Social distancing needed to be maintained on public services. Ugobus proved key to aiding the smooth return of students to school in September 2020, by providing additional services at short notice.

Customer contact and safeguarding

290. The Customer and Safeguarding team manage correspondence from our customers through a mailbox monitored during business hours, coordinating responses from across the team and from service operators. This includes Member Enquiries, corporate complaints, and enquiries from the Local Government Ombudsman, managing any investigation which needs to take place.

291. The team also manage safeguarding of children and vulnerable adults on ECC contracted local bus, education, and social care transport. Safeguarding is a priority for ECC, we issue guidance to transport operators and support them to ensure that they recruit and train their drivers and passenger assistants. The team also ensures operators have the correct processes and procedures in place.

292. The Safeguarding and Customer Team works with Essex Local Authority Designated Officers (LADOs), the police, the District Licensing Office, and other authorities to deal with incidents and manage both emergency and long-term measures.

293. While the team does not directly deal with commercial service issues, it will act to help residents if they are having difficulties in getting responses from commercial operators.

The customer view

294. Customer feedback is a vital part of service improvement, ECC has therefore developed a range of measures to allow it to contact customers and gain knowledge of their view of the network. These include managing a county-wide Transport Representatives Network, and commissioning Transport Focus to undertake customer survey work on its behalf.

Local Transport Representatives

295. There are 300 Transport Representatives in the network, offering a single point of contact for each parish or town. In non-parished areas such as Harlow, ECC works with the district level authority to identify suitable representatives. Where possible representatives from local bus user groups, including the Brentwood Bus and Rail Users Association, the Colchester Bus User Group and the Southend Areas Bus User Group are also invited.

296. Where possible the representatives are independent volunteers who have an interest in passenger transport issues. Where this is not possible, Parish Councils are asked to nominate a person. Parish clerks are also sometimes asked to fill the role. Bus user groups are also asked to send a representative.

297. On joining the network, each representative is issued with an information pack, including an outline of their duties and responsibilities. These include taking and forwarding queries and complaints regarding service performance, acting as the point of contact with the Parish Council for transport issues, and distributing information on service changes.

298. Twice yearly meetings are held in each district, to which major local bus operators usually send representatives. The agenda is based on enquiries submitted by network members, but also an opportunity to raise issues and points directly with ECC and operators. The County Council also use the meetings to feedback on recent decisions about services and wider issues, including future developments.

299. Information regarding all local bus service changes is routinely sent to the representatives for the parishes affected by them. Parish representatives help disseminate this information through parish magazines and local information notice boards.

300. Requests, queries and ideas are fed into the decision-making process. Where major changes to services are proposed, (i.e., withdrawal or service amendments) parish representatives are asked to elicit the view of parish councils and public transport users in the affected area and forward them to ECC. These views are considered as part of the decision-making process.

301. Due to the pandemic the Transport Representative programme for 2020-21 was put on hold.

Transport Focus attitudinal surveys

302. Essex County Council has commissioned the national customer representative group, Transport Focus, to include Essex in the national bus passenger survey since 2016. The last full survey was carried out for 2019-20. The 2020-21 survey was not carried out due to the COVID-19 outbreak.

303. Headline Essex results from Transport Focus Bus Passenger Survey.:

- Overall Satisfaction Rating 86%

- Value for money rating 53%
- Punctuality rating 65%
- Journey Time Satisfaction rating 86%

Table 21 shows the key results for Essex: *Transport Focus Bus Passenger Survey 2019-20*

Key results

Satisfaction (%)	2016 all satisfied	2017 all satisfied	2018 all satisfied	2019 all satisfied	2019 very satisfied	2019 fairly satisfied	2019 neither /nor	2019 all dissatisfied	2019 base size
Overall journey satisfaction									
All passengers	**86**	**85**	**80**	**86**	**46**	**40**	**8**	**5**	**795**
Fare-paying passengers	78	79	72	82	37	44	11	7	307
Free pass holders	95	95	90	92	58	34	5	3	485
Aged 16 to 34	75	70	70	80	21	59	12	8	96
Aged 35 to 59	85	87	79	82	48	34	10	8	159
Passengers commuting	76	73	68	80	28	51	13	7	186
Passengers not commuting	94	95	89	90	57	33	5	4	580
Passengers saying they have a disability	89	87	78	87	44	43	8	5	258
Value for money									
All fare-paying passengers	**46**	**51**	**44**	**53**	**23**	**30**	**17**	**29**	**290**
Aged 16 to 34	31	41	37	47	23	24	22	31	86
Aged 35 to 59	63	60	54	58	22	36	15	27	133
Passengers commuting	43	43	41	50	19	32	20	30	166
Passengers not commuting	52	67	50	59	30	29	13	28	118
Punctuality and time waiting for bus									
Punctuality of the bus	70	68	61	65	38	27	12	23	700
The length of time waited	70	68	63	69	37	32	13	18	764
On-bus journey time									
Time the journey on the bus took	85	83	81	86	53	33	9	5	795

Table 20 TF Survey results for Essex.

304. With an overall satisfaction score of 86%, bus services in Essex were 23rd out of the 31 authorities who took part in the survey. This was 9% lower than the top score. The average score across all authorities was 89.2%, 3.2% above the Essex level.

305. Of the major Essex operators whose services were included in the survey, First Essex Buses had an 85% approval rating, Arriva Kent, and Arriva Hertfordshire (Essex Arriva Operations are split between them) 87.5 % satisfaction rating. Go-ahead (Hedingham Omnibus and Chambers) had an 87% satisfaction rating.

306. Bus pass holders were the most satisfied, with overall service scored at 92%. The 16 to 34 age group were the least satisfied, at 47%. Excluding free pass holders, the average satisfaction rating on value for money for Essex was 53%. Non commuters were better satisfied with value than commuters.

307. In terms of value for money Essex was also 29th out of 31, with a 59% approval rating, but this time 18% adrift from the highest scoring authority at 77%. The average approval rating was 63.45%, 4.45% above the Essex level.

308. On punctuality the satisfaction rating was 65% in Essex, placing it 29th out of 31. The highest satisfaction rating was 84%, a 19% difference. The average score

was 73.03% putting Essex 8.03% below average.

309. On length of journey Essex passenger satisfaction was 86%, placing it 14th out of 31. The highest satisfaction score was 90% placing Essex only 4% adrift. The average score was 85.41% placing Essex 0.59% above the average score.

310. On Anti-Social behaviour 4% of Essex passengers felt their journey had been negatively impacted by it. This is below the figure for the comparable counties of Kent and Hertfordshire (6%).

311. The full survey with all participating local authority data and comparisons can be found on Transport Focus's website, here.

312. While there is broad satisfaction with the quality of bus services in Essex there are areas where new approaches are needed if the service is going to meet the County's objectives. This applies particularly to value for money and reliability.

Commercial customer contact systems

313. Based on comments received by ECC, passengers can sometimes find it difficult to contact bus operators and when they do, they are dissatisfied with the accuracy, timeliness, amount of information and relevance of the replies given.

314. Large operators may centralise their customer contact centres to locations remote from the service delivery point. Operationally this makes sense since it relieves local depot staff, whose function is to maintain operational effectiveness, from having to answer them. It allows a cost-efficient response process, working to corporate time scales.

315. In practice this remoteness can mean that service specific queries for example, 'Why was the 48B late this morning?' will be challenging for them to answer. This can lead to lengthy response times and increased customer dissatisfaction. Smaller operators do handle customer contact at a local level, but it is often the job of staff who have other day to day responsibilities and sometimes lack specialist expertise in dealing with the issues raised. They may have to refer to operational staff, who may not be available at the time.

316. Both scenarios can result in an outcome that leaves customers dissatisfied. As a result, the industry has been asked to adopt a Bus Passenger Charter by the DfT. We expect that opportunity to be progressed through the Essex EP.

Air quality management and CO_2 emissions

317. In April 2021 the UK government announced a new set of ambitious climate change targets, aimed at cutting emissions by 78% by 2035 compared to 1990 levels, with an eventual aim of reaching net zero carbon emissions by 2050. Local Government have been given new statutory responsibilities because of this and earlier legislation.

318. The UK Government has also had statutory obligations to keep concentrations of specified pollutants below certain levels. There are also have national emission reduction commitments for overall UK emissions of five damaging air pollutants:

- Fine particulate matter (PM2.5)
- Ammonia (NH_3)
- Nitrogen oxides (NO_x)
- Sulphur dioxide (SO_2)
- Non-methane volatile organic compounds (NMVOCs)

319. UK national emissions targets set ambitious reduction goals for 2010, 2020 and 2030. The UK has met the current targets since 2011. More stringent targets have been set for 2020 and 2030, aiming to cut the harm to human health by half.

320. Air Quality management is a Borough/City/District level function. Monitoring is undertaken mainly through diffusion tubes for NO_x, and a small number of monitoring stations that monitor all major pollutants.

321. The relevant local authority must declare an Air Quality Management Area (AQMA) where pollutant levels exceed the target for example: 40µg for NO_x. Particulate emissions have also become more of an issue in recent years with rising levels of PM10 and PM 2.5 from engines, (both metallic and rubber), braking and road surfaces.

322. To assist local authorities in dealing with pollutants, Essex has joined with them to form the Essex Air Quality Consortium. This comprises: all Borough/City/District tier local authorities in Essex, ECC, the Environment Agency, London Stansted Airport, and the University of Essex. The purpose of the Essex Air Quality Consortium is to promote improvements in air quality related issues. The partnership helps all members regarding their obligations under current UK Air Quality legislation.

Air Quality Management

323. There are nine declared Air Quality Management Areas in Essex:

- Brentwood. Three sites, two on the A12 and one at Wilsons Corner.
- Chelmsford. One site, at the 'Army and Navy' roundabout.
- Colchester. One area-wide site covering three town centre locations.
- Epping Forest. One site at Bell Common.
- Rochford. Two sites, one at the Rawreth Industrial Estate and one in Rayleigh town centre.
- Uttlesford. One area site in Saffron Walden town centre.

324. Where sites are identified ECC works with the relevant authorities to develop mitigation plans, which can include highway capacity improvements and softer measures such as travel planning, walking, cycling, and promoting public transport.

325. Several measures have been identified where action would help address AQMA issues. These include:

- Need to promote sustainable transport as part of growth and ensure infrastructure is in place.
- Promoting the introduction of electric/hybrid buses and electric bikes/scooters
- Looking at pollution and congestion issues around schools, including the quality of school buses.
- The introduction of no idling zones
- Measures to speed the introduction of electric vehicles, including buses.
- Reducing the need to travel, e.g., promoting working from home through the introduction of high-speed broadband and localised work hubs.
- Improving walking and cycling facilities.
- Improving bus services.
- Improving road space capacity but only where strictly necessary.

CO_2 emissions

326. In response to the Governments legislation to address climate change, and the responsibilities this placed on local authorities to help reach net carbon zero by 2050, ECC set up the Essex Climate Action Commission to advise it about tackling climate change.

327. The commission is an independent body, and has over 30 members, led by Lord Randall of Upminster and comprising local councillors, academics, business people and two members of the Young Essex Assembly. Its remit is to identify ways for ECC to mitigate the effects of climate change, improve air quality, reduce waste across Essex, increase the amount of green infrastructure, and biodiversity in the county and explore how we attract investment in natural capital and low carbon growth.

328. They did this by drawing on in-house expertise, commissioning research and forming new external partnerships.

329. The commission has already made several recommendations about how we can improve the environment and the economy of Essex. These were set out in its publication '**Net Zero: Making Essex Carbon Neutral'** which can be found here. The Technical Annexe on Transport can be found here.

330. Some key findings are:

- 49% of Essex carbon emissions come from transport.
- When travelling to work the car is the most common form of transport across Essex.
- Walking, cycling, and buses are commonly used to travel to work in urban areas, where the journey is shorter and bus travel is a realistic alternative to the car.
- Rail is a common form of transport for longer journeys, especially to London.

- All the larger towns in Essex draw some employees from a wide area. Unless someone lives and works close to a railway line, and especially for those that live in rural areas, travel by car is the only realistic option for these trips.
- Coastal communities are often self-contained and well suited to walking and cycling, but this self-containment may reflect a lack of opportunity and travel options.

331. The report suggests the following approach to addressing transport carbon emission reduction needs:

- Replacing transport trips and doing things differently to reduce the need to travel.
- Shifting to sustainable ways of travel.
- Decarbonising the remaining transport.

How this is built into the BSIP

332. The County Council considers that encouraging modal shift from private car use to bus will provide the most immediate opportunity for reducing carbon emissions and pollutants. It considers that the higher efficiency of well used bus services over multiple low occupant car journeys offers a quicker win than trying to upgrade the entire aging Essex bus fleet in the short term with the concomitant risk of significant network reductions.

333. This document sets out a range of measures that will help address all three of the approaches described by the ECAC. These include:

- Integrating new development, workplace and school travel planning more closely into planning policy, including incentives to alter travel patterns such as issuing 'taster', bus season tickets for new homes, funded by developers.
- The County Councils 'Stop,Swap,GO!' behavioural change campaign aimed at nudging residents into changing their travel modes by developing a better understanding of the barriers and cognitive load involved. It will also offer better information and operator funded incentives for doing so.
- Improving the reliability and speed of the existing bus network by improving infrastructure and bus priority, building a more resilient commercial network. This will increase its attractiveness for inward investment by commercial operators
- Improving the accessibility of information and investing in marketing (for example the single Essex information portal and single Essex brand) to improve the visibility and knowledge of the bus network to the public
- The development of Digital Demand Responsive Transport to offer a realistic alternative to the private car for rural residents.
- The **Basildon Volt** bid, creating Essex's first zero emission bus town.
- Area reviews to identify opportunities to develop the network to serve suppressed or unmet needs, integrated with a new approach to building bus travel into new development from the design stage.

Section 6: The Impact of COVID-19

334. To contain the spread of the pandemic, transport operators were required to put protective measures in place. These included:

- Social distancing. Increasing the space between passengers, reducing vehicle capacity to below 25% of normal in most cases.
- Enhanced cleaning regimes, including the use of viricides.
- Maintaining open windows to increase air flow through the cabin space.
- Compulsory wearing of face coverings by passengers who did not have exemption.

335. The DfT issued guidance for operators and passengers, the latter urging people only to make essential journeys by public transport. Clinically vulnerable groups, such as older people and those with underlying medical conditions, were asked to self-isolate, avoiding contact with other people as far as possible.

336. These formed part of a wider package of national measures, including the closure of schools, non-essential shops and amenities, varying degrees of restrictions on social events and the advice that those who can, should work from home. Social distancing and face coverings were also made compulsory in many settings. The statutory elements of these measures were lifted on 19th July 2021, although advice to remain cautious and keep taking measures to avoid transmission was left in place. It is possible that further measures may be required later.

337. The impact of these measures on the bus industry was immediate and profound. Passenger journeys in Essex fell steeply over February 2020. With the imposition of the first lock down they fell to around 10% of pre lock down levels. This disguised significant variations. For example, some schooldays services carried no passengers, while peak travel journeys to key service providers such as hospitals and supermarkets remained relatively high during some periods of the day.

Passenger numbers

338. The Essex Bus Network felt the effects of the pandemic, with passenger numbers reduced by 69% during the 2019-20 period, creating pressure for operators to maintain services ready for the post COVID-19 recovery. The DfT recognised the need for public transport to continue providing underused services to ensure key workers could access work.

339. Passenger numbers varied over time, largely in line with the level of restrictions in place. Numbers have not recovered to pre-COVID-19 levels. This is particularly the case with concessionary bus pass travel.

ENCTS pass holder Journeys in Essex, 2019-20 to 2020-21

Journeys made		Increase / (decrease)	
2020-21	2019-20		
3,583,064	12,709,516	(9,126,452)	(71.81%)_

Table 21 ENCTS pass holder Journeys in Essex, 3/20 – 6/21

340. Passenger use recovered as restrictions were relaxed, however, with average bus passenger numbers in 2020-21 peaking at 31% of pre COVID-19 journeys for the same period a year earlier, demand is still significantly below the pre COVID-19 market equilibrium level for economic sustainability.

341. Within this bus demand pattern, local variations were noted. For example, passenger recovery was more marked in towns with a strong manufacturing and retail-based economy, compared to those with a clerical or administrative office-based economy. A possible cause for this was the greater ability of office-based staff to adopt the 'work from home where possible' advice from the government.

342. This effect has had an impact on travel patterns and the number of bus journeys. For example, in Chelmsford, the traditional peak period morning commuter patterns have altered. The 06:00 to 09:00 commuter peak has been replaced by an 08:00 to 09:00 school travel peak, and a later shopping and services peak from 09:30 to 11:00, albeit at a lower level than previously. Anecdotal evidence suggests that some employers are allowing staff to stagger commuting times, to avoid public transport crowding.

Bus operations

343. Bus service operations were also affected. Staff contracting COVID-19 and the need to isolate colleagues who had met them, put immense pressure on the bus operator's schedules, with nearly all services being altered in some way.

344. As an example, following agreement with DfT over their BSOG status, some 'schooldays only' services were closed to the public to reduce the risk of infection. This ensured there was sufficient capacity to get children to school. Other services reduced frequency or altered routes to allow resources to be focused where needed, to cope with the additional capacity required on key services.

345. Operators worked closely with ECC to identify where special arrangements had to be made. In one instance in Harlow, it was identified that a bus service alteration meant that the bus no longer served the local hospital for the morning shift. Once made aware of the impact ECC contacted the operators and the lost journey was quickly reinstated.

346. By October 2020 the position had stabilised, and the number of Kms run had returned to 89% of its pre COVID-19 level. The number of bus trips (completed journey legs) had reached 91% of earlier levels, as can be seen in Table 22.

Report:	Normal Running	May		June		July		August		September		October	
Item:													
Services running as normal	N/A	18%		20%		28%		36%		46%		49%	
Services currently closed to public	N/A	41%		40%		35%		31%		26% (19% closed school and 7% suspended)		23% (19% closed school and 4% suspended)	
Services running to special arrangements	N/A	39%		38%		35%		32%		26%		25%	
DaRT services operating as/when needed	N/A	2%		2%		2%		1%		1%		2%	
		% of network operational											
Mileage (miles)	671,656	331,446	49%	455,912	68%	522,520	78%	550,972	82%	582,295	87%	594,459	89%
Trips	58,365	29,401	50%	40,035	69%	45,839	79%	48,622	83%	51,888	89%	53,124	91%

Table 22 Variations in Service operation 3/2020 to 10/2020

Impact on wider traffic levels

Average Monday to Thursday traffic trends from March 2020 to mid-September 2021.

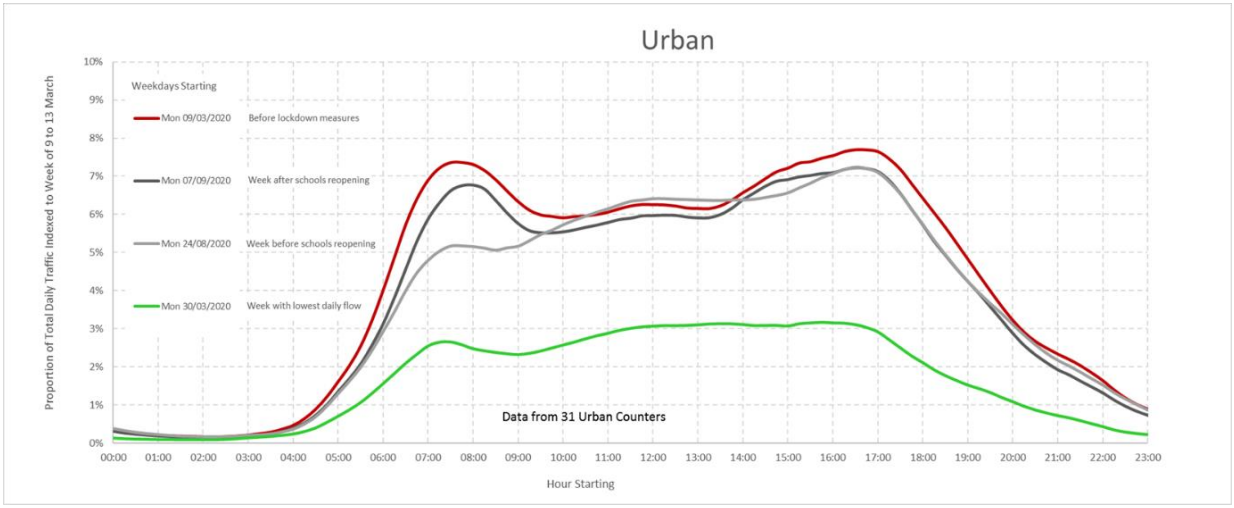

Figure 5 Daily traffic profiles between school and non-school opening periods Urban areas

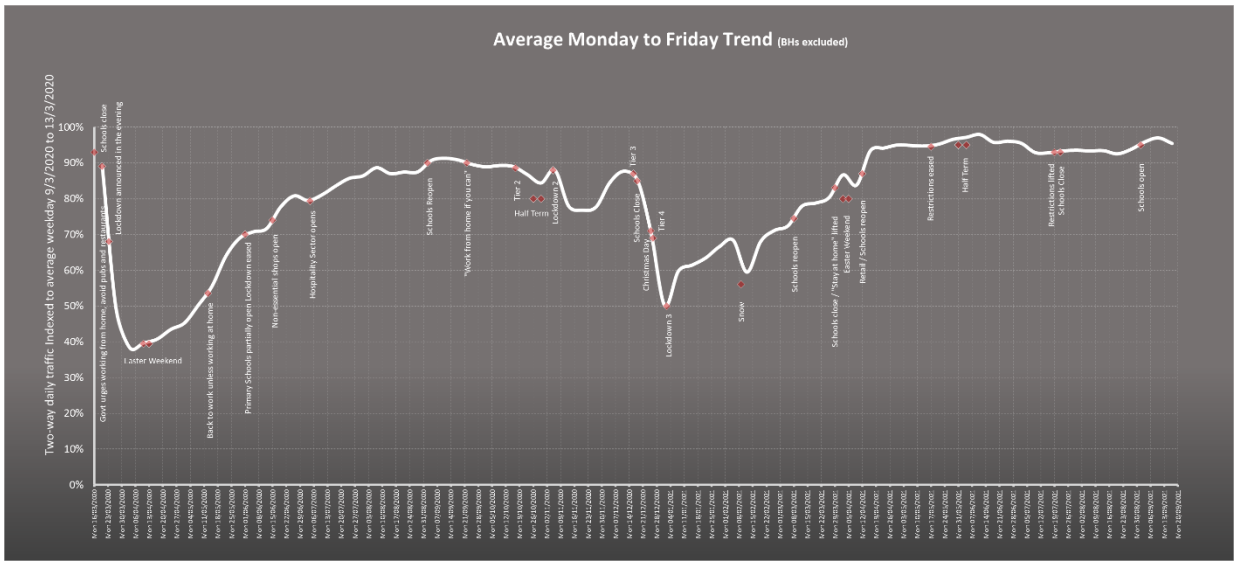

Figure 6 Average Monday to Thursday traffic trends from 3/20 to 9/21

347. After an initial drop to around 15% of expected traffic during the first lockdown, levels rapidly recovered as measures were relaxed. By mid-September 2020, with the return of schools, they were back to 96% of the expected level.

348. Before schools reopened, the distribution during weekdays was one of growth of inter-peak traffic, often exceeding pre-COVID-19 levels. A lower, but still noticeable afternoon peak and a very supressed morning peak. This changed significantly, comparing the daily profiles for the weeks before and after schools reopened. As shown, the morning peak has recovered quickly and interpeak traffic has reduced.

349. Since then, and despite further restrictions, traffic levels have remained relatively high. By September 2021, daily urban traffic was running at 102% and interurban / rural areas was running at 94% of early March 2020 pre-COVID levels.

350. Part of this recovery in traffic level can be explained by direct impacts of COVID-19 restrictions. For example, increased on-line shopping and home deliveries means that more delivery vehicles are on the roads. There is anecdotal evidence that people who have previously used public transport felt unsafe doing so and switched to car journeys. Initially this included many school children, although once school shutdowns ended these numbers tended to pick up, with around 90% of expected school journeys by bus taking place. We are coming out of COVID-19 restrictions with higher-than-expected levels of road traffic, and bus use still plateauing at around 63% -70% of pre-COVID-19 levels.

351. The County Council took measures to encourage greater use of sustainable travel during the COVID-19 outbreak, to prevent car use from becoming even more dominant through the recovery. These included:
    - Adoption of ECC's 'Safer, Greener, Healthier' sustainable travel schemes to provide safe spaces in key locations for visitors to socially distance. These measures were funded by national government, from the Emergency Active Travel Fund phase one, as part of the national response to COVID-19.
    - Early use of ECC's behaviour change campaign, 'Stop.Swap.GO!' aimed at encouraging long term modal shift towards sustainable travel.
    - Development of a Home to School Transport Communications Strategy offering a 'Getting your Child to School and College' information service, to support travel to school choices, including advice on sustainable travel.

352. To meet additional capacity needs for school travel, ECC and service providers have worked in partnership to:

    - Provided additional vehicles
    - Increased the frequency of services / provided double runs
    - Replaced single deck with double deck buses
    - Provided marked sitting zones for student bubbles
    - Changed schedules to accommodate new school opening times
    - Moved some public buses to closed services at peak school times
    - Before the start of the September 2020 term over 100 services were altered.
    - To help parents make sustainable journeys to access education, two new ticket offers were introduced on Park and Ride services and the age of eligibility for a child ticket was raised from 16 to 18. A discounted ticket of 12 for the price of 11 was introduced to take flexible working patterns into

account.

353. The County Council's Sustainable Travel Planning Team published 'Smarter Travel for Essex: guidance on travelling to work post COVID-19'. It sets out advice for travelling to work, and ways businesses and employees can stay safe while helping to get the economy moving again. It also offers links to transport operators' guidance.

354. Between March and October 2020, the times at which concessionary bus passes could be used was extended to 24/7 coverage. This allowed older people and those with disabilities to access extended shopping hours for vulnerable people.

355. Many operators took advantage of the furlough scheme to avoid making staff redundant, especially during the first lockdown, when services were most severely affected. As the outbreak progressed, and service levels and the need to re arrange the network became more important, the use of furlough reduced.

Financial viability of bus services and Government funding

356. The immediate financial effect of COVID-19 on the bus industry was potentially catastrophic. Most of the Essex bus network is commercial and relies on fare revenue. It was clear that even the larger national companies would have to cease operations within a short space of time. Small and medium operators, with lower financial reserves, faced immediate cash flow issues, and one went out of business within a few days of lockdown.

357. The Government recognised this was an existential threat to the industry and put measures in place to address it. These included:

- Cabinet Office and DfT guidance asking local authorities to maintain payments at pre-COVID-19 levels for local bus and home to school contracts, even if the services were not being provided in full. ECC complied with this request (budgeted contractual expenditure in 2020-21 c. £42m).
- Similar guidance over the continued payment of ENCTS bus pass reimbursements to bus operators at broadly pre-COVID-19 levels. ECC complied with this (value c. £17.6m in 2020-21).
- ECC also maintained the full value of its grants to CT schemes (value c. £1.1m 2020-21), to help ensure networks survival.
- DfT maintained payments of its own 'Bus Service Operators Grant' (BSOG) at pre COVID-19 levels
- DfT introduced the COVID-19 Bus Service Support Grant (CBSSG) and later the COVID-19 Bus Service Support Grant Restart (CBSSGR). These packages compensate bus operators for lost on-bus (but not concessionary fare) revenue during the crisis. This is specifically stated to have been shaped around the continued reimbursement of bus operators for concessionary fares at pre COVID-19 levels. As a condition of the CBSSG, operators were prevented from making profits while claiming it.
- As a provider of local bus services, ECC received a share of the CBSSG and CBSSGR funding for services where it retained the revenue. This had a value of £1.2m.

- The DfE made funding available for bus operators who needed to provide duplicate vehicles to address capacity issues from September 2020, due to the need to maintain social distancing. In Essex this involved supplying 34 extra vehicles, with a value of over £2m.
- In July 2021, DfT announced that CBBSGR funding would end on 31st August 2021. In its place, a new £226m Bus Recovery Fund would offer continued support up to 31st March 2022.

358. Much of the support offered was restricted to operators of local bus services. While some coach companies and the CT sector benefitted from the arrangements around education contracts and from the furlough scheme, wider support was not forthcoming from the government. The coach sector, particularly those whose focus was on leisure rather than home to school provision, has struggled.

359. These measures prevented the collapse of large sections of the bus industry in the immediate wake of the COVID-19 outbreak and helped avoid massive service reductions. This has however left the industry reliant on tax-payer funding to survive day to day and undermined its ability to maintain, let alone increase, long term investment to improve services in the way 'Bus Back Better' outlines.

360. This challenge has become more acute now the end date for the CBSSGR and the proposed successor recovery funding grant have been set. There is no clear picture of how quickly bus passenger numbers will recover. Operators do not expect a recovery in passenger numbers to reach much above 80% of pre COVID-19 numbers for some time.

361. The pandemic had a marked effect on local authority finances. Revenue streams were curtailed, and costs, incurred by dealing with the public health and social care response to the pandemic, rose sharply. Central government support for local authorities allowed them to survive the immediate impact. The long-term economic impact, if changes to town centre use pushed by COVID-19 become embedded, weakens their position to intervene to remedy market failure, and will place more pressure on local authority funding for bus services.

362. While Bus Back Better envisages revised definitions for socially and economically viable services, placing additional duties on local authorities will not give them the financial scope to address potential service losses. Additional funding would be needed for extension of local authorities' duties.

363. This poses challenges for operators and local authorities to address if the potential of Bus Back Better is to be met in a post COVID-19 environment. These are set out in Section 8.

Structural challenges produced by the COVID-19 pandemic

364. Despite its ambition and the new powers and responsibilities it sets out, 'Bus Back Better' has not fundamentally altered the nature of service provision in England. Operators remain commercial companies and most services will need to be financially viable to survive. Most local authorities will not be able to step in

if significant commercial service reductions occur because of the pandemic.

365. The pandemic has posed challenges to operators and local authorities, these must be addressed as part of rebuilding the bus market. Major issues are examined below.

366. The impact of COVID-19 has underlined the well-recognised structural weakness in the industry around recruitment and retention of staff. While this is most acutely and obviously felt with drivers, it extends to engineering and support staff.

367. Traditionally the industry in Essex has had a reasonably strong recruitment programme but has struggled to retain fully trained employees over the longer term. While exact comparisons are difficult, the industry has been viewed as relatively low paying compared to other sectors in which the skills they acquire can be used. In Essex this is exacerbated by the proximity of London, where trained staff have been able to obtain significantly higher rates of pay working for TfL funded services.

368. At the same time the average age of its workforce, particularly the drivers, has risen and the introduction of increased training and qualification regimes (for example through the CPC process) reduced the attractiveness of the profession to some older members.

369. Since the late 90s the industry has increasingly looked to recruit staff from elsewhere in the UK, and from abroad, to make up the shortfall.

370. While there was some pressure on staffing following the UK's decision to leave the EU in 2016, and there is evidence of some localised and relatively short-term, staff shortages, this was managed effectively through an increase in the scale of training and recruitment programmes and increases in pay.

371. However, the pandemic and ensuing lockdown measures brought home the fragility of the labour base. Some older workers reassessed their desire to keep going in face of the risks involved. At the same time, the massive increase in the demand for delivery drivers, both for HGV and online retail delivery purchase offered an attractive alternative to a very responsible and high stress occupation, often for higher wages. Lockdown effectively instituted an 18-month moratorium on driver training, disrupting the introduction of new staff to the system.

372. Many staff were affected by the need to isolate following contracting COVID-19, resulting in it becoming increasingly difficult to maintain services at pre pandemic levels.

373. This has led to stiff competition between bus operators, with firms making increasingly attractive offers to lure drivers away from rival firms, including "golden handshakes" and significant increases in pay.

374. While these measures may offer some temporary localised relief to operators (and the restarting of training offer some longer-term relief) the increase costs faced by the industry will make a proportion of pre pandemic bus routes unviable

as commercial services.

375. Following the pandemic, the industry also needs to restore passenger confidence that buses are safe. This is a particular concern for concessionary pass holders, whose use of bus services has not recovered at anything like the rate of other users. This potentially depresses revenue across the network.

376. It also needs to manage the impact of falling concessionary pass use on the viability of parts of the network where they have historically made up a significant proportion of passengers. In smaller urban settlements in rural areas, this means the difference between a service being commercially viable or not. Many commercial rural routes are sustained by high levels of concessionary passenger travel. If those passengers do not return, the routes will not be commercially viable.

377. Operators must adapt to changes in patterns of commuter peak travel. , There was already a pre-existing trend for agile working in organisations that did not need employees to be on site to undertake their work.

378. For many employees and employers, the pandemic highlighted the potential advantages of increased home working. This included a reduced need to commute, a better work-life balance and a reduced need to maintain, heat and power office space, along with less time lost travelling between office sites.

379. The success of this period of enforced agile working means it is likely the trend will continue to grow. Peak period commuting may not recover to pre-pandemic levels and passengers may make fewer journeys overall, for example travelling to work two days per week and working from home for three. This represents a direct loss to operators and offers other challenges. For example, will the use of a bus for two journeys per week be as attractive to passengers as using it for five? Current fare offers may not offer sufficient discounts to favour bus use. This may not be such an issue if, as some data suggests, people made additional use of cars for safety reasons during the pandemic.

380. The same argument can be applied to some school journeys, although these have shown a tendency to recover strongly. In some areas university students make up a substantial proportion of passengers, these have shown lower than average recovery rates. With the relaxation of restrictions applying to universities, the return to face-to-face teaching and the relaxation of rules on leisure activities, it is hoped these will recover.

381. The conditions for accepting government aid during the pandemic meant that operators could not raise fares or make a profit. Some operators had to take out loans, or re-structure existing arrangements. Combined with cash flow issues created by the fall in passenger numbers, this has had a serious impact on the ability of bus operators to make investments both in the short term, and due to uncertainty about the pace and scale of recovery, also in the long term.

382. Many of the objectives of Bus Back Better need significant long-term investment by local authorities and operators, for infrastructure and service quality. For the

reasons outlined above, neither are in a strong position to make investments in the immediate future, and potentially at all, without significant long-term external funding. Focusing efforts on stabilising the staff situation and getting traditional customers to return to the network, while an important part of recovery, will not on its own restore the industry to its pre-pandemic position, let alone grow it as envisaged by the strategy.

383. Operators and local authorities must develop offers for new market segments, to an extent not seen since the early days of de-regulation following the Transport Act 1985.

384. How these, and other challenges of the Bus Back Better strategy will be addressed is set out in Section 8.

Section 7. Barriers to growing the bus network in Essex.

Background.

385. The current position of the bus industry in Essex, and its potential for growth over the short and long term, is a mixed picture.

386. Operators have shown little desire to grow their business beyond their traditional core markets. Even in these core markets, Essex has not been viewed as a prime area for major commercial investment, although there are exceptions to this, usually amongst SME providers who can focus on developing niche operations, often using disruptive approaches.

387. This is shown by the average age of the Essex bus fleet, set out in Table 14. Operators tend to 'manage decline profitably', shown by the gradual shrinkage in commercial patronage and bus Km run, and a focus on concentrating a higher proportion of resources along already profitable corridors.

388. Before the pandemic Essex bus passenger numbers were resilient. Overall bus numbers have declined since 2007, when the introduction of the concessionary pass had a major impact on bus use. Essex passenger numbers over 2015-20 remained broadly stable, beating national trends for non-metropolitan areas, as did the modal share.

389. While ECC has reduced expenditure on bus services from £12m to £9m net between 2010 and 2020, this figure remains relatively high, double the average for non-urban authorities, and one of the highest for comparable authorities in the country. Reduced spend has been the result of re-shaping and re-design, with service withdrawals limited to very low use services, rather than part of a larger scale programme of withdrawals. Measures included removing cross boundary funding for TfL services and the 2016 move to commercial operation of a significant proportion of 'schooldays only' contracted services. Concessionary bus service re-imbursements to operators remained stable, with an average reimbursement value from 2015 to 2020 of around 55% of gross revenue foregone.

390. The expectation of significant housing growth, with some 130,000 houses planned to be built by 2050, indicates that there is potential for market growth across the county. The pre-pandemic market was attractive enough to commercial operations to justify maintaining the network at a broadly stable level, but not strong enough to make it attractive for transformative commercial investment and the level of growth in bus use envisaged by Bus Back Better.

391. Barriers to transformative growth in Essex include:

- Geography
- Demography and public perception
- Legislation
- Bus network structure and accessibility

- The highways network, punctuality reliability and speed
- Quality and affordability of bus services
- Information
- Marketing and publicity
- Roadside Infrastructure

392. These issues are linked and may be mutually reinforcing; for example, public attitude may be influenced by the reliability of a service, which may be affected by highways priority decisions, which can in turn be influenced by policy setting, which are, at least in part, built around public attitudes.

Geographic factors

393. Essex is a large county with a diffuse settlement pattern. The four larger urban settlements act as regional attractors, but no single settlement acts as a demand focus for the whole county's transport network. The large number of market towns creates many localised networks, and the rural hinterland brings its own set of travel needs, with a strong commuter focus. The high level of London commuting across the county, together with other localised out of county attractors such as Cambridge and Southend, exerts an influence on travel demand.

394. The road network, particularly in rural areas, has evolved from ancient travel patterns and as a result is often narrow, meandering and travels through chokepoints created by the need to cross rivers and streams. This tends to make public transport journeys long, slow, and expensive. This makes it unattractive to potential service users and economically unviable for operators.

395. London Stansted Airport, an international travel hub, is in one of the least densely populated areas of the country, where the bus network is sparse.

396. In urban areas a comprehensive bus network might be able to replace a significant proportion of car journeys, particularly where new development can be planned. In less densely populated urban areas, rural areas and for longer interurban journeys, this will be a much larger challenge. It will be necessary to develop an approach that minimises car use in key areas, while acknowledging its continued importance for locations where economically sustainable bus alternatives are not feasible.

Demographic and perception factors

397. The population of Essex has characteristics that influence its travel needs. These include:

- A diffuse population density, particularly in the north and east, with some dense population nodes along the Basildon/Southend corridor.
- An ageing population, with a large proportion of the population over 60. In some areas, such as Harlow, there is a younger than average population.
- A well-off population, with low levels of deprivation. This disguises areas with both very high levels of deprivation, particularly in the new towns and in

coastal settlements, and very low levels in rural commuter belt areas such as Uttlesford.

- Above average levels of car ownership, including multi car households, and a high propensity to travel away from home to work.
- Some ‘dormitory’ settlements in rural areas and smaller towns, where a high percentage of the population is not present during the day.
- Complex multi nodal journey needs.
- Educational and skill mixes in any given settlement are often not suitable for the type of employment available locally.

398. These patterns have been created over 70 years by economic, social and transport policy. They start with the major population transfers from London through the deliberate creation of the new towns and were then fuelled by the increasing value of property within the capital, which has pushed working and middle-class families outward to make use of more affordable housing in the surrounding counties. There is now a comparable effect from the development of the Cambridge - Oxford axis as a focus for scientific and technological business development.

399. Perceptions around service accessibility, reliability and safety also impact people’s willingness to use buses. Transport Focus research, undertaken through ECC’s behavioural change scheme, highlighted public perceptions that limit willingness to try bus services. These include:

Planning a journey.

- Unfamiliarity and effort of planning a bus journey for the first time. Researching routes, timetables and fares can be complicated.
- Making allowances for the extra time taken, and the need to be at a stop on time can be a challenge for those not skilled at time management.
- Unaware of journey planning aids such as mobile bus journey apps, bus stop search, walking routes, live bus times, next bus, m-tickets and contactless payment.

Accessibility and experience at bus stops.

- Lack of easily understandable and real-time information at bus stops adds anxiety and stress of not knowing if the bus will arrive on time.
- Confusion about bus numbers and finding the right stop.
- Unaware of journey planning apps with live maps, times, and next bus.
- Unreliable arrival times, lost time waiting with the risk of being late, and having to rely on something you can’t control.
- Uncomfortable bus stops without seating, shelter, or lighting, particularly when waiting in the winter months.
- Worries about personal safety on walking routes and at bus stops, heightened at night-time and for women.
- All amplified when compared to the comfort and convenience of commuting by car.

On-bus journey experience.

- Uncertainty and variability of journey times makes commuting by bus a stressful experience, car users have certainty and control.
- Being late despite allowing more time compounds the loss of switching from car to bus.
- Overcrowding at peak times and lack of available seats makes for an off-putting experience, particularly on school routes.
- Lack of information inside the bus. Not knowing when to get off adds to the uncertainty for car users trying bus for the first time.

400. Overcoming the view that buses are not a natural choice for many is a significant challenge to making bus travel the mode of choice. Buses are mainly used by younger and older people, women, those on lower incomes and people with a disability. There are exceptions, park and ride services tend to have a similar make up to train passengers.

401. Addressing the issues created by 70 years of planning, technological and social development will not be a short-term process. It will require major changes to current policies, and changes in practice and expectations from local authorities, operators, and the public. If modal shift is to be achieved, the perception of bus services being a difficult to access option of last resort must be addressed.

Legislation

402. Legislation surrounding bus services can be divided into three parts:

- Those directly concerned with governing bus service operations,
- Equality legislation dealing with the ability of people to use bus services
- Those concerned with how bus operators run as businesses within a market, (competition regulations).

403. Bus operations are governed by transport and bus acts, the latest one being the Bus Services Act 2017. The fundamental shape of bus operations was set by the Transport Act 1985. These regulations created a free market in bus service provisions, with limitations set to protect public safety by licensing for drivers and businesses. This includes powers to act on environmental grounds to restrict over-busing. Local authorities were given the role of ‘the provider of last resort’, required to assess market failure and buy in socially necessary services when needed.

404. The 1985 Act offered light touch regulation, allowing market forces to filter-out poor services, reward quality provision, mediate over or under supply, and reduce government subsidy.

405. Until publication of the National Bus Strategy, changes to the legislation covering operations were a mix of minor alterations to various elements, such as registration periods that had proved problematic. They also covered integration of EU regulations on financial stability, drivers’ hours, and incremental changes to the powers of an LTA to control operators. These changes were mainly driven by

larger Passenger Transport Executives, who viewed the London model of franchised operation as preferable to the 'free market' position. They were rarely adopted due to the legal, financial, and practical difficulties they entailed.

406. The Bus Act 2017 set a stronger basis for a LTA to intervene in the market, either through legally enforceable Enhanced Partnerships, or in the case of Combined Authorities, through Bus Franchising, and take on the service registration aspects of the Traffic Commissioner's role. This is a significant shift in legislation, but even this approach initially failed to gain traction, partly because franchising proved both expensive and legally complex. Financially hard-pressed local authorities and bus operators caught in the status quo, saw limited benefits and considerable risks in pursuing legally binding agreements.

407. The pandemic damaged the bus industry's financial viability and altered, perhaps permanently, commuter and related travel patterns. This coincided with increased pressure on government to deal with environmental, economic, and societal impacts of climate change. The National Bus Strategy, with its requirement that all LTAs adopt either an enhanced partnership or franchising, therefore comes at a key moment.

Accessibility of bus services

408. The Equalities Act 2010 set out construction and use regulations for vehicles, and combined with case law, for the conduct of staff. This mandated low floor entry, a wheelchair space, contrasting colours for upright posts and regulations about the size of service information caried on the outside of vehicles.

409. Despite provisions in the Acts, some legislative barriers remain.

- Local authorities are not able to operate bus companies. The NBS indicates that this will be reviewed by central government. In Essex, any benefit from being able to do so would be through the way that socially necessary services and statutory education services are delivered.
- The licensing system for CT services is confusing. A series of legal actions challenged the legality of CT over interpretations of the terms 'not for profit' and 'hire and reward'. This limited their willingness to expand operations. If a wider transport role for the third sector is to be encouraged, further reform of the licensing regulations to restore confidence across the sector is required.
- One of the aims of the Transport Act 1985 was to encourage free market competition to develop better-quality services. The prevention of anti-competitive practices between suppliers, such as the creation of monopolies and price fixing, are key issues. There is tension between the need to maintain fair competition and prevent market fixing, and the ability of the consumer to benefit from better transport integration.

410. Competition between businesses is regulated by the Competition Act 1998 and is enforced by the CMA.

411. Since 1985 several patterns regarding the way in which competition was viewed by successive governments can be identified. Initially many new bus companies

were formed, and a short period of intense competition followed. Regulations to prevent common abuses were enforced, with predatory pricing, over busing and intimidatory behaviour acted upon. Efforts to prevent the creation of cartels have been seen through well publicised court cases. Legislative changes aimed at better integration of services reinforced anti price fixing regulations. These had the desired impact; bus operators became cautious about acting in ways which could suggest they were collaborating.

412. After growth in complaints about the complex fares system and the poor quality of services run along popular corridors by low budget operators, some relaxation was allowed. This led to the issuing of a 'Block Exemption for Bus Ticketing', making it easier for operators and LA's to develop multi operator, multi modal and all-day ticketing. A public interest test was mediated by the LTA and registered with the competition authorities.

413. As the market matured the period of heavy competition ended. Breakup of the 'National Bus Company' left some successor businesses with market advantages. These included depot locations, existing bus fleets and staff pools, plus residual customer loyalty bases. This was leveraged into local market dominance. Some operators used this position, and the increased availability of capital created by the de-regulation of the finance industry, to grow through horizontal integration.

414. Service provision across wide areas became dominated by a small number of large national operators. Competition was limited to SMEs in niche markets, and locations where historical factors, for example the presence of an LTA owned bus company in 1985 had led to different operator buyout chains. This was the case in Colchester and Southend. Even here, direct on-road route by route competition is rare.

415. As a result, single operator geographies emerged, without challenge from regulators. They accepted arguments that the main competitor to operators was the private car, rather than each other, and that to be able to compete with cars they needed to maximise the economies of scale buyouts and mergers created.

416. This was legal and may have been beneficial, creating businesses strong enough to keep a significant proportion of the pre 1985 network commercially viable through a series of economic shocks. A less robust industry may not have survived the increased costs of vehicle construction, improvement for accessibility and environmental factors, increased insurance premiums and fuel crises.

417. From 2008, questions began to be raised by stakeholder groups about the state of the bus market. A series of investigations by competition authorities and the House of Commons Transport Select Committee followed.

418. These did not uncover deliberate anti-competitive practices. They suggested the development of the industry in this way had increased barriers to entry, due to the incumbents' control of underlying infrastructure, particularly depots, needed

to run services, and through their dominant financial position.

419. They also suggested that there was evidence of monopolistic profit making. The industry denied these claims. These findings led to calls from larger LTAs for the ability to regulate the market. They argued that the current system led to them subsidising commercial profits through supported services and concessionary fare reimbursement, but not having a say in how services were run. These pressures led to the Bus Act 2017.

420. This Act, while opening the option for complete LTA regulation through franchising, left several competition issues unresolved.

421. The main issues centre on fares and quality provisions. In the EP model, the partnership gains some control over multi operator and season ticketing, and is expected to develop simple, lower, and inter-available ticketing across the network. Competition regulations require operators to set single and return fares independently and without collusion between them, even with LTA mediation. There is a 'Competition Test' that applies to the market test (Schedule 10 of the Transport Act 2000). This includes issues over fare apportionment. The DfT is working with the CMA to develop a revised approach, but further legislation may be required.

422. The EP process allows for the setting of quality standards that must be met by operators before they can use certain infrastructure in an area, including bus stations and gates. This could be anti-competitive, and subject to legal challenge, if standards agreed with existing operators are so high, they act as a barrier to market entry.

423. The current legal framework could be viewed as favouring existing service providers. It places significant capital and operational barriers in the way of new suppliers and constrains operator's flexibility to respond to local demands. It is hoped this can be improved through the National Bus Strategy.

Bus network structure and accessibility

424. The commercial bus network in Essex has strong geographic operator presence, but overall fragmentation.

425. First Essex Buses Ltd are strong players in Chelmsford and Basildon districts; the interurban network in central and northern Essex; the Colchester market and in the Basildon/Southend Corridor and Brentwood. Over the last five years, pre COVID-19, their network has changed, with the closure of the Clacton and Harwich depots and the Braintree sub-station. Service reviews in Chelmsford, Colchester and along interurban networks have also changed coverage, with resources being concentrated on core routes.

426. The Arriva group holds a strong position in Harlow and Rochford, while competing in Colchester, the Basildon-Southend corridor, and along interurban corridors, particularly to Stansted Airport and to Chelmsford from Harlow. They

have also had to undertake service reviews with similar changes in scale.

427. The Go-Ahead Group's more recent presence, based on purchases of networks run by two SME operators in the late 2000s, is strong in the north east and north central Essex, dominating Clacton, and with a strong presence in Maldon and Colchester. Network reviews have led to some service changes and resource concentration, mainly in rural areas, immediately following the acquisitions. They have also expanded into Clacton.

428. Stephensons of Essex have a county-wide presence, but are dominant service providers along the Braintree, Witham, and Halstead corridors, with the interurban services doubling as town services in these areas. They are strong in Uttlesford, through a large commercial school bus network, and provide commercial and open school services in Rochford, Wickford, Billericay and Maldon.

429. The situation in the southwest of the county is more complex. A strong TfL network in Loughton, and Arriva's presence in Harlow, restrict new operators access to the main population base in the area. Limitations on TfL and Arriva make it hard for them to deliver the network in the more rural areas. This has led to the growth and rapid turnover, of SME operators around Epping, Loughton, and Harlow. The most successful is Galleon Travel, which runs a commercial network linking these towns. Beyond these examples, network stability over the last five years has been poor, with ECC having to intervene to retain service levels. This has included commissioning supported local bus services and working with CT providers to ensure travel opportunities are retained.

430. There are 28 other operators running registered services in Essex, providing a range of community services.

431. The County Council's supported networks vary significantly across the county. Focusing on providing evening, Sunday, and rural services, ECC's provision reflects the weakness of the commercial network. In Uttlesford, supported services account for 80% of the network, while in the Basildon-Southend corridor they represent under 5%. Supported services are provided by a range of operators. Evening or Sunday services, which are an extension of the main commercial service, will often be run by the same operator.

432. Essex uses a range of operators to provide its services, including many SMEs such as Panther Travel and Arrow Taxis, who deliver services in areas where commercial operators have little presence.

433. Despite its commitment to maintaining bus access for residents, the severe financial pressures on ECC over the last 10 years has had an impact. The time range of evenings services has been reduced, most complete by 22:00, although a tailored approach has allowed better used journeys to be retained. Sunday services have been reduced to a two-hourly frequency, allowing the network to be retained even if times are less convenient, and with better used journeys also being retained.

434. A review in 2016 led to a restructuring of supported services. As well as saving money this extended services overall, and established innovative DRT services for some rural areas, which are valued by communities even though patronage levels vary.

435. The County Council's large-scale funding for bus services over the last five years has maintained the level of service, particularly in the west of the county, despite several commercial withdrawals. It has not been able to replace every withdrawn journey, and the network overall has reduced.

436. In recognition of network inefficiencies, ECC was on the point of launching a review when the National Bus Strategy was announced. This review will now form part of broader network reviews covering each of the twelve district areas.

437. The Essex bus network resembles a patchwork, which raises barriers to growing its passenger base, including:

- Relatively lower bus frequencies, even in towns, than in major urban areas such as London or Birmingham. Some services in larger Essex towns have 12 to 15-minute frequencies, although 20 to 30-minutes is more common. In the peripheries 30 to 60 minutes is normal. In rural areas and for interurban services 60 to 120 minutes is standard.
- Poor cross-town connectivity. Services in towns tend to be radial, so journeys require service changes, adding to times and costs. This is partly for efficiency reasons and to allow interurban journeys to form part of the core town networks.

438. This, along with the large number of operators, affects service co-ordination between different areas of the county. From a passenger perspective it reduces the ability to make seamless transitions on long distance journeys and complicates journey planning. This includes urban areas with more than one service provider, as there is limited co-ordination across different areas of the town.

439. It also makes timing services, to make intermodal connections, more complex and has the following impacts:

- Increased difficulty in developing joint ticketing arrangements. Technical incompatibility, legal concerns, and desire to protect revenue streams are all barriers. This results in confusing fare structures, with different operators charging different fares over similar routes, and for comparable journeys in other areas.
- Confusing service information for the overall network and local services, particularly where this involves other operators.
- Lack of competition reduces competitive pressures on fares. Where there is competition, fares are usually lower than where there is a single provider.
- Lack of a joined-up approach to marketing bus as a mode of choice. Marketing is often sporadic, and company focused. It often highlights a new route and is not maintained over the longer term

- Difficulty in justifying commercial investment. Even in large towns with a dominant operator, the level of population makes it difficult to justify major commercial investment. The potential returns for a national bus operator will be low when compared to the same investment in a major conurbation. In towns with more than one operator, this situation is exacerbated.
- Being the dominant operator in an area reduces the incentives for innovation and risk taking. This makes them content with stability, irrespective of the quality of service.
- A reduction in resources available to ECC for maintaining uncommercial services has caused a disparity in service levels between weekdays and evenings, and Sunday operations. This reduces the attractiveness of the bus network to shift or night-time economy workers, and those in rural areas.
- Customer interaction is limited. Large businesses centralise call centres for efficiency, and to free up local operational teams. Smaller operators have limited capacity. Customers are often confused about who they should be contacting. Responses to similar issues differ between operators, and there is no Code of Practice to ensure issues are dealt with consistently and fairly.
- Turnover of senior management in the bus sector is high. This can mean that local managers are restricted in their ability to set up initiatives in their area. The prevalence of common approaches, attitudes and experiences will limit innovation and long-term transformation.

440. The shape of the bus network is influenced by the operator's structure. As an example, in some urban areas with multiple operators, each will tend to work only in certain parts of the town, restricting access to the wider network and any ticketing offers. This is based on an assessment of the commercial viability of competing in an area where there are not enough passengers to support another operator. If a service is withdrawn, other operators will have no incentive to replace it; it has already been proven to be unviable. This is less likely when an operator withdraws entirely from a large area, particularly if another operator is already present, as demonstrated in Clacton.

441. The strength of north-south bus travel connections and relative weakness of those running east-west, reflect commercial operations growth following the 1985 deregulation. This was determined by the distances from base, and the availability of depot and works facilities in an area.

442. There is a lack of integration between bus and train networks, and to a lesser extent, other modes of travel, such as walking, cycling, and taxis. All main interchanges have cycling and walking access, including cycle racks, and many have significant car parking. Most have one or more taxi ranks, and many have bus interchange sites albeit of variable quality.

443. The need to run fixed bus and train timetables adds additional layers of complexity when compared to transport modes where travellers are in control. It is possible to arrange a bus journey to match train times, this is done with commercial bus services and by using developer funding to create a connection to a rail station. The low frequency of bus services in Essex makes it difficult to match buses with all train journeys, especially in rural areas.

444. Periodic rail timetable changes are not co-ordinated with bus operators, who must decide which connections will be the most profitable. For example, Audley End Station, in Saffron Walden, serves London, Harlow, and Stansted Airport in one direction and Cambridge in the other. It is only possible to run a few peak services commercially that tie into both directions, so that during the day some train services can only be served with a wait. For large towns, with many buses from different areas, it is even more difficult to connect all buses with every service.

445. Bus and rail markets are often seen by operators as separate, with too few passengers to justify the costs of fully integrating bus and rail times, or to carry bus services into the mid evening to accommodate later commuters. This is a classic 'chicken and egg' situation, more people might use the bus if the option was there. It is unlikely to be resolved without external funding.

446. Many Essex residents have difficulty in accessing a bus service**. This may be the single largest factor that limits increased bus use**. Access is shown in the table below.

% of population	% of Essex population living within 500m of an:	
	Hourly service	15-minute service
Urban Areas (74%)	73.2%	36.5%
Rural Areas (26%)	44.4%	4.8%
Whole Essex Area	65.7%	28.8%

Table 23 Bus service accessibility

447. This structure is a result of the commercial imperative for running services in a de-regulated market, the challenges of the geography and a dispersed population and increasingly complex journeys enabled by the private car.

448. The current network may be the only long term economically sustainable one, created by market forces.

449. Increasing environmental pressures and population scale health concerns have altered the economics of transport. The benefits of more people using bus travel now justify the increased investment in services, through public funding or increased financial penalties for car use. Bus Back Better offers LA's and operators a middle road, promoting a framework for a partnership underpinned by statute to create modal shift, with a focus on urban areas, where population density is high enough to allow an expansion for the bus market.

450. The use of this approach for developing services in rural areas, particularly where services are absent, is less clear. Low population densities mean a smaller passenger base, while longer, more expensive journey lengths and high car ownership, reduce opportunity for modal shift. It is unlikely that deeply rural areas can support bus services commercially in their current form. Help for this could come from large scale housing development and associated developer funding, creating new markets and connectivity capable of sustaining a commercial network. It might also be achieved by developing more cost-effective

models, such as D-DRT, for rural areas.

451. DRT services may be as costly to run as conventional bus services and therefore will rely on significant increases in use to become commercially viable. Current DRT models have found it difficult to penetrate rural markets to a commercial extent.

452. The structure of the bus network raises barriers to passenger growth. These include:

- The lack of co-ordination and integration between public transport modes, operators and between different areas of the county leading to a complex, disaggregated, and unattractive passenger offer.
- Lack of incentive, and presence of disincentives, to compete head-to-head with other bus operators.
- 'Managerial' approaches focusing on maximising efficiency from the current network and market segment rather than exploring new opportunities,
- Scale of each operator's network and geographical distances involved limiting investment potential in Essex compared to higher density urban areas.
- Lack of investment in human capital across management, planning and operational levels leading to inconsistent and short-term decision making as well as operational issues.

453. The financial position in Essex was such that even before the pandemic, the commercial network had a very limited capacity to extend, either in terms of the frequency or geography, without external support, whether through public or developer funding. It is unlikely there is sufficient commercial strength in the existing network to increase frequencies, even in the strongly commercial elements, or to equalise service levels between daytime weekdays and evening, Sunday, and rural services.

The highway network: punctuality, reliability, and speed

454. Essex has a large and complex highways network that acts as the principle means of connectivity across an area twice that of Greater London.

455. This complex network covers rural, interurban, and urban areas, ancient market towns and new towns. Each part of the network faces its own challenges and will impact on the others. A major delay on a core interurban route such as the A12 will have far reaching impacts on traffic movement on the surrounding road network.

456. As the Highways Authority for Essex, ECC is responsible for the maintenance of the network. Planning on strategic routes is shared between ECC and Highways England. The National Planning regimes house building requirement on Essex, which has led to widespread and increasing population growth, is set by central government, but dealing with the impact has largely been delegated to local authorities.

457. The Essex Local Transport Plan suggested that £10bn investment was needed by National Government in the Essex road network. This is despite the use of public-private funding initiatives to create new capacity, building new roads such as the A130 and A120.

458. The road network has become increasingly stretched, with growing traffic levels and increased congestion. For example, Chelmsford had reached 95% saturation of its road capacity along the main town access routes prior to March 2020. This impacted on the reliability and speed of the bus network, requiring operators to commit more resources to maintain frequencies and focus on key corridors, at the cost of reduced connectivity across town. Many urban areas, especially those built in the 19th century or earlier, were not designed for motor vehicles and cannot host bus priority measures.

459. The urban village design of the outlying suburbs of new towns replicated the difficult to access cul-de-sac model. As on-street parking increased, bus accessibility has become increasingly difficult. New urban areas such as Harlow and Basildon were planned on an open scale, with some expectation of cars, at least along major corridors. As a result, they have more capacity for bus priority. For example, bus lanes have been installed across Harlow. However, they still have problems in busy periods, at key junctions and in accessing residential areas where most passengers live.

460. In large market towns such as Braintree, a mix of organic development, limited road space, increased car use and their focus as commuting centres has led to increased congestion. This requires operators to provide additional vehicles to cope with time delays, making a low value network even less viable. Use of town roads as alternative routes, if the PR1 network of main interurban roads is blocked, adds to the unreliability.

461. In small market towns and rural areas, congestion tends to be more time specific, restricted to certain routes that cannot be bypassed. They often have only one route suitable for buses, making rerouting impossible. Due to the lower frequency of services, congestion in these areas has a greater impact on buses than in larger towns. Many of these towns are served by interurban services which pass through them and can be caught in delays and chokepoints.

462. Operators are keen to engage with Essex's district, borough, and city councils to develop support for bus services. Despite regular meetings with the Cabinet Member for Highways and Transport, they felt their concerns were not being addressed. This is partly due to Government bid funding for major schemes, which relies on the WEBTAG cost-benefit assessment. Schemes that prioritise bus service reliability at the expense of the larger volume of car journeys do not score well, so are less often successful.

463. National transport planning runs on a model that focuses on moving vehicles through the network, not moving people. This has negative impacts on the provision of bus priority measures.

The quality and affordability of bus services

464. The Essex bus fleet is aging; a significant proportion is below Euro Five standard and few are Euro Six or better. As of 1st July 2021, there are only two electric buses, operating on Service 20 Debden and Walthamstow. There are only a few hybrid vehicles, other than those running cross border from TfL. National operators in Essex tend to use vehicles cascaded from more profitable areas, that already have 5 to 10 years of use. The age of the fleet is partly due to lack of profit generated by bus operations in the county, which is not seen as a priority for investment.

465. Systems to help people with physical or learning disabilities are limited. Although all Essex buses have low floor access and at least one wheelchair space, few have audio visual passenger announcements or Wi-Fi.

466. The use of older vehicles means that operators can run more commercial services than if only newer vehicles were used. Passengers given the option of a service run on an older vehicle, or no service at all, would choose the former. This would still have emissions and environmental benefits compared to the same journeys by car. The greatest carbon gain would be to transfer journeys from car to the existing fleet, rather than invest in zero carbon buses. Significant modal shift would also increase the revenue on services, making investment in newer vehicles more attractive.

Passenger comfort

467. Buses are utilitarian mass transit vehicles designed for short journeys. Passenger accommodation tends to be functional, with build quality focused on longevity and ease of cleaning, rather than comfort. Ride quality is poor compared to a modern car.

468. There is a particular issue with seating, which tends to be functional and set closely together, making it difficult for taller people to find a comfortable position. Bus cabins tend to be noisy, both from the rear mounted diesel engine and from the tendency to develop rattles from lose fittings, air braking, and from interactions between other passengers.

469. Standing passengers add significantly to capacity but reduces ride quality. Standees feel uncomfortable, shorter people, or those with reduced mobility, have difficulty securing a safe grip. On higher speed journeys they can feel unsafe. Sudden braking or acceleration can add to this perception. There are issues for children. Sitting passengers can feel hemmed-in. Over longer distances, journeys can become very uncomfortable. Many passengers consider that buses travel too fast, even when well within the legal limit.

470. Although vehicles are cleaned regularly, they quickly pick up a layer of dirt on the floors and condensation on the windows, sometimes caused by heating. Most buses in Essex lack climate control, so are hot in the summer and cold in the winter. Older vehicles pick up wear and tear to the seating and sub structure. This makes them look shabby. Even if fully refurbished, their age tends to be

apparent more quickly.

471. These factors are avoidable. Buses can be built to higher standards. Regular maintenance can address small issues, cleaning can be enhanced, and drivers can be given more training. Systems such as Drive Green help modify acceleration and breaking issues. However, better buses require a higher return to pay back the investment.

472. The affordability of bus services is a key factor in determining their appeal to potential users. Research carried out in the 2000s by Goodwin and Dargay,[5] suggested that bus service elasticity of demand varied over time, with a very inelastic demand in the short term and a higher elasticity in the longer term.

473. As fares rise some passengers may stop using buses. In the short term, 1-3 years, the increased income will outweigh losses through reduction in passenger numbers. However, over a longer period, passengers may respond by looking at alternative methods of travel, and the benefit from the fare increase will be eroded or perhaps exceeded.

474. In 2021 the average bus ticket price in Essex was £2.49. This compares well to costs for car journeys, particularly when parking is considered. For example, parking in Chelmsford; Park and Ride costs £3.80 per day, and city parking around £9.00 per day.

475. Average bus fares include short hop journeys around urban areas. Longer distance and premium service fares are much higher. For example, the end-to-end fare of the X30 service between Southend and Stansted Airport is £17.00. If more than one bus service must be used, fare costs increase significantly.

476. Many season fares rely on regular journey patterns, offering monthly rates that save money if you travel five days per week, but less if you make fewer journeys.

477. If more than one person in a family needs to make the journey, costs will increase for each additional person. For the same journey by car the average costs will decrease. Family saver fares rely on a particular number of passengers to make the fare value attractive and seem to be aimed more at weekend and leisure trips than day to day commuting.

478. Operators usually offer off-peak child reductions. These are aimed at school age children and are essentially weekend leisure tickets. Many school timed services do not offer child or young person's discounts, and there are no discounts for the 17 to 25 age group. The reason for this is that they would be travelling in peak periods when bus capacity is already stretched.

479. There are ways around these issues. In London, public subsidy allowed free travel to all under 18's, at any time of day. The ENCTS bus pass scheme gets around this by being off-peak and requiring local authorities to compensate

[5] Any More Fares? Delivering better Bus Services, A Grayling (ed) Goodwin, Daragy Hass-Klau et al. IPPR, 2001

operators for lost revenue. A similar approach can be taken to other groups such as young people, or to extend the validity of the scheme across wider hours, but these all have costs attached to them that hard pressed local authorities would have difficulty justifying. They also incur an advantage to those who can access services, while doing nothing to address the position of those who cannot, in contrast to investment in supported local bus services.

480. The government has recognised that the impact of fares on people with disabilities trying to enter the work market can be severe, and as set out an intention in Bus Back Better to review how the rules for the ENCTS might be altered to make this easier.

481. Beyond cost there is a significant barrier in that information about fares, particularly for specific journeys, is very difficult to find prior to boarding the bus. Operator websites are complex to navigate, only carry information about their own fares, and usually any multi-operator ticketing offers. Some carry even more limited information.

482. Most fares in Essex are 'stage' fares and operators use different stages and occasionally different names for the same stops/stage. There are also a range of individual fare offers for different groups at different times, and in some cases geographical location.

483. Anecdotal reports indicate that not only do different bus operators charge different amounts for the same journeys, but that different drivers from the same company may sometimes charge different amounts for the same journeys on different days, although reports about the latter have decreased since the introduction of modern ticketing machines. Generally, no data on fares is held at the roadside and little at interchanges.

484. The government has recognised the barriers this raises to new users and is using their Bus Open Data (BODs) system to collate both journey and fares data from operators. It will not make the information available to the public, instead relying on IT Application providers to develop user apps for it.

485. The cost of traveling by bus has an impact on the willingness, and in some cases the ability, of people to make use of them. While there is a general effect, this is most marked on specific groups and there are actions which can address them, although at a cost that needs to be funded either commercially or by taxpayers. The complexity of the fares system is a barrier to willingness to try buses. This will require joint action across stakeholders to address.

Information, marketing, and publicity

486. Studies undertaken in 2019 by ECC as part of its attitudinal change programme, Stop.Swap.GO!, delivered in partnership with behaviour change consultancy Corporate Culture, demonstrated that the bus network has little visibility amongst non-bus users. Even people who lived close to high frequency bus routes and had a bus stop near their home often had no idea where it went, journey times,

fares, or possible connections.

487. This situation can be seen partially as a product of the way the commercial bus industry has developed since 1985, with individual operator growth largely being gained through horizontal integration between bus companies, rather than by extending their market base by attracting new passengers. It is also the result of the increase in car ownership.

488. This has coincided with the reduced ability of local authorities to intervene to make this good, since the 2008 financial crisis and the following period of austerity. With both service support budgets and staff being reduced nationally and the provision of bus services falling into discretionary rather than statutory requirements, information, publicity, and marketing interventions fell off and have not recovered. This is the case in Essex, where bus investment expenditure by ECC has remained atypically strong. For example, ECC stopped producing universal printed bus timetable books and its regular 'use the bus' marketing campaign around this time.

489. There have been local successes, ECC's Sustainable Travel Planning Team has set up workplace travel plans with business to encourage sustainable modes, including information about public transport. They have developed plans and information packs using developer funding on new sites.

490. Essex County Councils' innovative Interactive Bus Map, allowing on-line access to stop, route and timetable information is another potentially very effective tool, but its public recognition factor is low. Operators and ECC use social media to inform service users about delays and service issues.

491. Operators have invested in information improvements. In the late 1990's the bus network in Chelmsford was subject to a significant route branding and marketing exercise. Along with the introduction of new route branded buses this significantly raised the awareness of route and travel opportunities and was positively commented on in the local press.

492. When the longstanding Colchester Borough Card Multi-operators Ticketing Scheme received a significant upgrade both to its offer and its availability, with children and family offers and phone app purchasing introduced, it was little publicised beyond the initial announcement, largely due to resource and priority issues.

493. Operators and ECC rely on consumers self-serving through separate on-line information sources. These often require a potential consumer to already know where the information is, before being able to access it.

494. Even for experienced bus users, information can be difficult to find and use. The reasons for this are given in Section 5 and Section 7, which set out the legal barriers to close co-operation between rival businesses, and the current state of information provision in Essex. It can be summarised as:

- No easily accessible and well publicised single source of information, with current sources being fragmented between commercial operators, ECC websites and Traveline. There are at least four major operator and several SME bus phone apps in Essex, none of which tie into the others. This can lead to a lack of clarity, for example, the same bus stop having a different name between operators.
- Lack of information regarding fares and fare offers, with each operator only producing data on its services. Different operators charging different fares over similar routes.
- Inconsistent information provision at the roadside
- No organisation with responsibility and funding for the delivery of joined up information. DfT BODS system is a start.
- Co-operation in these matters is difficult due to concerns over Competition Act implications, especially when it comes to ticketing arrangements.

495. The marketing of bus services to both users and non-users is limited by being diffused across individual commercial bus operators. Given the wider challenges of sustaining operations marketing tends to be given a lower priority.

496. Research shows that bus customers have little brand loyalty to their local operator. They use what services are available and tend to follow a first come first use strategy. Paying passengers prioritise cost over quality.

497. There have been successes. Several SMEs in Essex have been able to grow local markets for bespoke services, such as school time travel, through effective marketing on a local scale for bespoke services.

498. Publicity will be a key factor in making the public aware of the bus offer, and in engaging them in the narrative for modal shift. Given the LTAs responsibilities for emissions impacts, the environment and public health, and its ability to operate outside the commercial hierarchy to adopt a provider agnostic view, the LTA might be expected to lead. For the same financial and priority reasons that LTAs drew back on information provision, they have withdrawn from managing effective publicity for the bus network.

499. If bus services are to reach the level of public visibility and comprehension needed to allow them to challenge car use for modal share, there will need to be a wholesale review of policy and priorities by ECC and operators.

Roadside infrastructure

500. Essex residents have expressed concerns over their experience of roadside infrastructure. These include:
- Lack of easily understandable and real-time information at bus stops. This adds anxiety and stress of not knowing if the bus will arrive on time.
- Confusion about bus numbers and finding the right stop.
- Uncomfortable experiences at bus stops with no seating, shelter or lighting, particularly when waiting in the cold, rain and dark.

- Worries about personal safety on walking routes and at bus stops, heightened at night-time and for women.

501. ECC took a lead in introducing real time information during the late 1990s, as a result most interchanges and stops in larger city and town centres have real time information capability. However, the high cost of providing and maintaining the real-time network have held back expansion beyond these areas unless external funding is made available, such as developer S106 funding.

502. The development of new mobile phone-based systems in the last 20 years has called into question the need to deploy expensive and static real time information infrastructure outside major interchanges. Most larger bus operators in Essex now have real time monitoring systems available for their own services through a phone app. Working with operators to develop a single Essex portal may be a more cost-effective way to deliver the level of information passengers are looking for.

503. Many interchanges are operating above their working capacity i.e., they accommodate significantly more buses than they were designed for, and many have poor passenger facilities. This lack of capacity extends to some major settlement centres. Overall, this makes stand allocation and passenger information in these areas very difficult to co-ordinate. Buses in some locations will find their allocated stand blocked and will move to the next available one, sometimes some distance away. Information and interchange infrastructure is not designed for dynamic stand allocation, so passengers find it difficult to find their bus.

504. ECC has worked with operators to address these issues. In 2018 stand allocations around Colchester were revised on a shared corridor basis, to relieve pressure on key stops in the town centre and the bus station. In 2020 the rebuilding of Braintree bus station and alterations to the town centre's flows led to a similar process being undertaken. Stop allocation at Chelmsford Bus Station has also been reviewed. An important factor coming out of this work has been the need to identify adequate layover capacity, to free up stops at interchange points.

505. These measures offer short-term amelioration, they do not offer a long-term solution, particularly given the expected increase in bus use. A more comprehensive and structured approach is needed. If bus stations are already over capacity, any growth will need new approaches to accommodate it.

506. Many bus interchanges offer poor passenger facilities. Primary issues include insufficient service capacity, poor customer facilities and limited availability of information. They tend to be in areas which have little or no surrounding activity at night, increasing feelings of isolation and fears of crime.

507. This is equally apparent in roadside infrastructure. Issues include uncomfortable seating, limited shelter capacity, poor toilet and rest facilities, poor lighting, shelters that offer limited protection from the weather, physical accessibility issues (space for wheelchairs to get through shelters, line up of shelters and

kerbs etc) and poorly placed or outdated timetable information.

508. ECC is working with operators, other local authorities, and stakeholder groups to address these issues, and has had a stop upgrade and maintenance programme since the mid-2000s. Standardised stop and flag designs, shelters and stop layouts have been set and the worst deficiencies in many areas addressed. Funding for these programmes has been limited, and the roll out slower than would have been liked. As a result, ECC is developing a new approach to delivering improved roadside infrastructure, as set out in Section 8.

509. Roadside infrastructure is often uninviting, and maintaining comprehensive roadside information is complex, relying on co-operation from bus operators that has not always been forthcoming. The network has variable quality infrastructure, ranging from excellent in some larger town centres, to poor in more rural and town peripheral areas.

510. The standard of Essex's bus interchange and roadside infrastructure is not high enough to offer an attractive alternative to using a car.

511. Fear of crime can make even good bus service infrastructure unappealing. This is particularly the case for groups who are perceived to be vulnerable. Statistics show that bus travel is very safe and that relatively few crimes are committed on or around buses. Interchanges or stops can create an impression of unfriendliness and isolation. Poor information can create a barrier to people wanting to use bus services.

512. Women, the elderly, and vulnerable groups such as people with disabilities are more likely to be affected by these issues due to societal fears about violence directed at them. Parents will be less likely to allow children to make independent bus journeys if they perceive the network as being unwelcoming, difficult to navigate, and possibly dangerous.

513. Developing a traveling experience that removes these barriers will be key to increasing passenger use across the network.

Section 8: Delivery

Headline targets

514. Essex is a large area with a complex pattern of settlements. It has at least twelve bus networks serving each of its Districts, with significant overlap. It also has cross boundary services with six neighbouring authorities. This BSIP sets out the challenges to growing bus services in Essex. Many of these are decades old and structural in nature. The challenge of reversing decades of decline in a few years should not be underestimated.

515. In the first few years of the BSIP and EP process we are proposing to identify a relatively small number of targets, to focus activity and investment on areas where we can make the most difference. This will change as we develop and

strengthen our partnership. This section sets out the first three targets we intend to set and measure, and the areas we will develop over the coming years.

516. Our priority is to return the network to pre-COVID-19 levels of service and patronage, reversing the significant fall, at one point of around 90% of pre pandemic levels. Therefore, our targets will focus on what bus passengers have said is most important to them:

- Reliability
- Passenger recovery
- Customer satisfaction

517. We will need to test if our strategy is working, so further targets will relate to passenger numbers.

518. In our first plan our intention is to set the following targets:

Target One:

- For reliability to meet the target of 95% of services operating within the statutory window.
- Our assessment is that our current performance is at 94% (2020-21) but this was during the significantly lower traffic levels of COVID-19. Pre-COVID-19 the baseline level was 92% (2018-20) and 88% (2016-17). This is the range we would expect it to return to initially without intervention.

519. Post lockdown car traffic levels have increased significantly in proportion to the overall number of journeys being made. We expect congestion levels to initially be higher, as increasing numbers of people return to work. Reaching the statutory target would mean a 3% increase on pre-COVID-19 levels of performance. This will need to be achieved in advance of major opportunities to improve things like bus priority. There will be a lag in delivering improvements as we identify pinch points through our twelve District level network reviews and understand how congestion can be addressed.

520. People's perception of reliability is influenced by issues such as roadworks and accidents or breakdowns on the network, that cause significant and frequent delays.

521. We will measure progress towards this reliability target every six months. We do not currently have reliability data measures for each of our large urban areas. We are working with BODS to develop these measures, which will be included in future BSIPs.

Target Two:

- For passenger numbers to see a return to pre-COVID-19 levels of patronage of 40.7 million journeys.

522. Our assessment is that we are currently at 12.6 million journeys for 2020-21. On some services, particularly in rural areas, patronage is as low as 80% of pre-COVID-19 levels.

523. Patronage in rural areas has been hit significantly harder by the pandemic than urban services; concessionary travel more than fare paying; and travel in office-based economies harder than for factory or manufacturing based economies. For many, concerns about the risk of shared travel will persist and influence their travel choices. We are expecting the return to pre-COVID-19 patronage levels to be challenging, particularly as working patterns change. The revolution in homeworking will also have a profound impact on the frequency with which journeys to work are made.

Target Three:

- For customer satisfaction to maintain an 86% (2019) overall journey satisfaction rating over what we expect to be a volatile time for the network.
- Our current satisfaction rating should be re-assessed in November 2021 following the cancellation of surveys last year due to COVID-19.

524. We use the annual Transport Focus survey to assess customer satisfaction levels, and how we benchmark against our peers. We expect there to be significant network volatility in the coming years, particularly as post-COVID-19 travel patterns bed down. We expect rural routes, which in many cases were already commercially marginal, to struggle. Holding a customer satisfaction level at pre-COVID-19 rates is therefore ambitious. We would rather set a realistic challenge than a superficially impressive target that is never achieved.

Future targets

525. As we undertake our network reviews, we will establish the current baseline for the following, within a District, to develop future targets:

- Accessibility figure based on % of population with access to bus services/times of day/days of week.

526. For many of our residents, the issue is that they do not have access to any bus service. Simply improving existing provision won't address this. We need to understand how our areas score in terms of accessibility and therefore understand where we can focus support. We can then assess how the measures we put in will change accessibility.

- Modal shift % (switch from car to bus)

527. As post-COVID-19 travel patterns bed down we want to understand how people's journey choices are changing and how we support more sustainable travel. For many longer journeys in Essex bus is the only real alternative to car. Understanding the new base position for our urban centres, and the drivers for those choices, will be key to understanding how we shape services to offer an alternative to car.

The strategic approach

528. To meet the goals of the National Bus Strategy, ECC must adopt a much more proactive role when working with the commercial bus sector than it has in the past. There are **six areas** where close co-operation between ECC and operators will be needed:

- Transformational change
- Delivering innovative service solutions
- Transforming Policy
- Network reviews
- Better Information
- Customer Experience

Area One: Transformational change

529. Five major projects for which ECC will bid for central government funding. These will reverse decades of structural decline.

530. **Basildon Volt,** a town centre transformation project. Investing in one of our strongest bus networks to showcase what a gold standard service can look like, and to drive green growth and passenger satisfaction to establish a model for other Essex towns. Working with operators to deliver a zero-carbon fleet. Involving the introduction of wide scale bus priority measures to improve reliability, reduce journey times, offer better service and modal integration through hub development and improve roadside infrastructure. Operators would invest savings from reduced journey times and reliability to improve the age, quality and comfort of their fleets, improve frequencies, and times of operation, and offer better value fares.

531. **Clacton Connect,** an urban levelling up project, to transform access to education, skills, and jobs for residents. Bringing better connectivity to a coastal community to help residents improve their opportunities. Improving the availability and quality of bus services in a settlement with high levels of deprivation. This will improve bus facilities, priority, and integration across the town, offer better modal interchange, and service information, combined with service branding measures. Operators will invest savings from reduced journey times and reliability to improve the age quality and comfort of the bus fleet, improve frequencies and times of operation, and offer better value fares and a long-term marketing approach.

532. **Harlow Falcon,** a BRT scheme improving connectivity between garden villages and the town centre, running into a newly developed bus station. It will include priority measures and roadside infrastructure, better information systems, optimised to bring the maximum benefit to existing town networks, and promoting modal shift across the town. It would provide rapid access to business, commercial, retail, health and education centres and include the potential for developing or connecting to key hub locations on urban perimeters.

533. **Thrive.** A Market Town viability project. For public transport in Essex one of the major issues is the commercial viability of bus networks in smaller market towns. Many of these services were operating on the edge of commercial viability prior to the COVID-19 pandemic, with a strong reliance on concessionary bus pass users. There is significant risk of these services being withdrawn as government support is phased out.

534. **Reach**. Expanding our D-DRT services to offer everyone a journey. This accessible service uses Digital Demand Responsive Transport to improve access to key services, and the wider transport network, for people who live in locations where there is currently limited access. These are mainly rural areas, but also include some urban settlements. This project will develop DRT schemes managed through a single digital passenger phone application. It will transform the demand responsive offer in Maldon, the Dengie Peninsula, Uttlesford and Braintree by rolling out a new digital platform to enable rapid on-line booking, vehicle tracking, and a more efficient point to point service. It will expand the service geographically and attract new passenger groups.

Area Two: Delivering innovative service solutions

535. Delivering new approaches for rural mobility to provide greener travel options.

Rural mobility

536. DRT is a shared flexible transport service where minibus vehicles collect and drop off passengers within their designated operating area. It does not work like traditional buses, to a fixed route or timetable.

537. The Council has successfully commissioned several DRT services in rural Essex; working in partnership with a local operator, over the last 10 years.

538. The existing DRT schemes in the Dengie Peninsula and North Essex are valued local community services, offering a lifeline for many residents to essential services. They provide a tailored and more readily available public transport service than a traditional fixed-route bus service.

539. One of the schemes has been successfully developed into a commercially sustainable propositions since its inception; the remainder are financially supported by the Council.

540. Issues with DRT remain their manual nature, with solely telephone bookings and need for a significant back-office operation. This is combined with perception issues of the service being only for older people, putting off other customer age groups from using it, and operating in areas with already low or disperse customer demand.

Turning DRT into Digital-DRT

541. Combined with a digital passenger app, to form Digital Demand Responsive Transport (D-DRT), the issues can be overcome, as part of a wider approach to digitalisation, encourage ridesharing, reduce car use, and build towards a Safer, Greener, Healthier Essex.

542. Digital DRT operates flexibly, where you want, when you want, like a shared UberPool. It uses smaller vehicles, such as minibuses, and can be pre-booked, or booked on-demand when needed quickly.

543. It uses a mobile phone app that enables you to book your journey, see in real-time when the vehicle will arrive and make payment. For those without a smartphone, telephone booking remains a back-up option.

544. The Council has experience in this area. It delivered two pilots in 2019 using a Digital DRT platform on services for students. The pilots tested D-DRT technology and proved the concept. Assessment of the pilots showed that with D-DRT, a better level of service can be provided with fewer vehicles, and that users enjoyed tracking their vehicle in real-time.

545. Building on this experience, the Council submitted two D-DRT proposals to the DfT's Rural Mobility Fund in Summer 2020, incorporating an ambitious concept to deliver a digital, fully electric DRT, in partnership with District Council's and the sustainable energy company Gridserve.

546. The Council wants a future where Essex residents can leave their cars at home, or give them up entirely, because they can reliably and confidently use public transport to reach their destinations anywhere within the County. D-DRT offers a critical, final piece of the jigsaw in enabling that to happen.

547. ECC is developing a D-DRT strategy, which will complement the Safer, Greener, Healthier: Getting Around in Essex Strategy. The D-DRT industry is complex and warrants its own strategy to underpin successful implementations of schemes across Essex.

548. Through the development of transport hubs and interchanges, the D-DRT will support the traditional bus industry by complementing high-frequency commercial services.

549. In five years, the intention is to have a fully commercial D-DRT scheme across Essex, catering for all ages, geographical areas, and specialist transport services such as home to school, CT and local bus. It will provide a better, more flexible service with green credentials at its heart.

Park and Choose

550. Essex County Council supplies P & R services in Colchester and two in Chelmsford. They are a key part of the Climate Change Commission commitment to reduce congestion and support economic growth through access

to local businesses.

551. The 3,425 car parking spaces across the three sites supported 1.45m passenger journeys per annum pre COVID-19. This is composed of commuters from across Essex and the wider region as well as daytime leisure travellers. The service supplies key transport links to city centres, hospitals, and universities.

552. Park and Ride services are used by people who have access to a car. The County Council prices its P&R services to incentivise their use over town and city centre car parking. All-day parking in an urban centre can cost from £8 to £14, and up to 4 hours is over £4-£5. Park and Ride aims to be part of a long-term strategy that would encourage all long-stay and commuter traffic to use P&R services.

Changing P&R sites to Park and Choose

553. We intend to change the use of the P&R sites. In future the sites will not just provide a bus service into the town or city, they will become Transport Hubs where residents can choose from a range of sustainable options to complete the last part of the journey into urban centres. They will provide bike storage, rental e-scooters, e-bikes, and be supported by safe, dedicated walking and cycle routes. They will target new passenger groups by providing additional shuttle bus services to new destinations, schools, business parks and hospitals. They will help meet Climate Change Commission Commitments to improve air quality by providing bus services with newer, greener technologies, more on-site charging facilities and e-cargo delivery services.

How will we achieve this?

554. This will be achieved by:

- Establish partnerships with districts to create a shared approach towards developing parking strategies, to reduce car parking options in towns, and encourage residents to use sustainable transport modes. The P & R would become the first option for long stay parking.
- Procure bus services with the latest green technology, and train drivers to reduce emissions.
- Offer a range of different ticket types which reflect the new working hybrid models and standardise operating models at all P & R sites.
- Develop dedicated school services allowing parents to drop off their children, and students to travel to school by shuttle bus, reducing the need to drive into urban centres.
- Work with ECCs walking and cycling strategies, to provide information on cycle and walking routes from P & R sites. Support the move to new transport options, such as e-bikes and scooters, by making facilities for them, with the aim of developing hire schemes.
- Support the local economy, and enhance revenue options, by providing more commercial opportunities at sites, such as car boot sales, healthcare facilities, and e-cargo services.

- Develop a countywide program for building more P & R to make town centres car free.
- Install more standard and fast-charging power points at sites, and increase greener, renewable energy options, such as solar panels and wind turbines.

Stop.Swap.GO! bus pilot

555. Stop.Swap.GO! (SSG) is a behaviour change campaign that aims to improve the long-term modal shift towards sustainable travel. Working across Essex with local businesses, schools, and health organisations it targets car-users to persuade them to switch to sustainable travel options. This social media campaign uses behavioural science, real stories, incentives, gamification, and intervention techniques to actively disrupt the way residents travel.

556. Launched in 2019, the impact of the pandemic meant the bus pilots were postponed, but an opportunity to encourage sustainable travel emerged with the Government recovery plan. In July 2020, the council was able to use DfT support to bolster its existing SSG campaign, through the launch of Getting to School (G2S). Aimed at families and young people, G2S delivered targeted messaging across social media encouraging travellers to walk, cycle, scoot or use Park & Ride, with an early focus on the most congested areas. The campaign produced walking and cycling maps, and a 60 Day Challenge which awarded prizes to residents for walking and cycling. The campaigns reached over 1 million users across social media, attracting almost 40,000 hits on their dedicated website within a three-month period.

557. As the confidence of residents returns, the second phase is being launched. This pilot will target car drivers and seeks permanent modal shift from car to bus. Working with four operators, (First Essex Buses, Stephensons, Arriva, and Go Ahead) and a local healthcare commissioning group, participants will be given two months free travel, as well as travel planning tips, signposting to key apps and aids.

Bus shelter transformation project

558. ECC is working with all district, borough, and city councils in Essex to improve, maintain and future-proof around 1,300 shelters. The Essex Bus Shelter project will establish a 10-year contract to create a better bus shelter estate, incorporating all maintenance, cleaning, replacement, and supply of shelters. It will be paid for from the generation of income through advertising. The project will deliver a sustainable and quality bus infrastructure network that provides consistency of experience and commercially focussed.

559. It is anticipated to deliver benefits, including:

- **A modernisation of the estate** to bring shelter provision into the 21st century, improving customer experience for residents, and increase bus patronage.
- **Ability to expand the bus shelter network** through commercial income, resulting in residents being more likely to benefit from their use and protection from the weather.

- **A planned cleaning programme** offering a better bus stop experience to increase sustainable transport journeys
- **Estate rationalisation and reduced street clutter**, giving an improved street scene environment and improved accessibility.
- **Income leveraged from advertising** to replace taxpayer funding with commercial funding.

560. By coordinating all councils' c. 1,300 bus shelters (not including town and parish councils) into one contract, good-quality shelters can be efficiently maintained and repaired, with income from advertising invested back into roadside bus infrastructure.

561. Essex County Council plans to invest significantly[6] by replacing or upgrading many existing shelters with good seating, lighting, designated wheel-chair spaces, and a pro-active cleaning regime.

562. The Council expects to build roughly 50 new bus shelters every year, from a variety of funding, for example, Section 106 Planning agreements with property developers.

Area Three: Transforming policy

563. ECC has a range of policies over the use of the highway network and the priorities given to the different modes of transport that make use of it. The historical pressures referred to above has led to priority being given to moving vehicles around the network. To meet the aims of the BSIP and the objectives of Bus Back Better the Council will need to refocus its policies to concentrate on moving people around the network. To do so it will need to revise its Highways and Transportation policies.

564. ECC will therefore review the following policy areas as part of the of the BSIP:

565. Review and update its Local Bus Service Priority Policy 2015 to 2022 with the aim of:

- Setting aspirational bus service frequencies and accessibility based on travel time to employment, education, health and retail centres.
- Review the Service Intervention Points – the level of bus service below which the Council will consider intervening to providing a subsidised bus service, using not only service frequency but also passenger use and value for money
- Revise the process for assessing whether a new service is required.
- Revising its approach to the priority given to the planning and development of bus infrastructure in the proposed new Local Transport Plan (LTP 4), including the identification and development of strategic bus routes.
- Increasing the priority given to bus infrastructure in ECC Highways and Transportation investment strategy, and ringfencing an agreed annual sum for bus related infrastructure and improvements.

[6] £2.998m

- Develop a revised ECC road hierarchy that recognises the importance of bus as a mode and sets out ECC's approach to road-space allocation for bus services
- Review ECC's Highways Planning Guidance Notes (HPGN) to recognise the importance of bus services across the highways network, and ensure that they are fully considered during the decision-making process for large and small schemes.
- Adopt a formal set of bus infrastructure standards as an HPGN both for new developments and as templates for upgrading current infrastructure, potentially based on the parameters set out in "Bus Services and New Residential Developments 2017" issued by Stagecoach Ltd, and the infrastructure standards set out in ECC's Road Passenger Transport Strategy 2006 to 2011.
- Agreeing a revised policy on the scale, range and use of developer funding from major housing, business, and commercial developments, to more clearly and consistently set out what developers can expect to provide through S106, CIL or any replacement funding system and strengthen advice to local planning authorities. This will look to establish a fixed sum per house or similar amount for retail, commercial or industrial development.
- Review and revise processes for dealing with the impact of roadworks on bus operations, requiring sufficient advance notice of and consultation over measures to minimise their impact on bus services. This will include consideration of revised requirements for road-closers to evidence that they have consulted operators, and worked with them to demonstrate how they have mitigated impacts.

Transport modelling

566. We are revising our transport modelling tools to ensure we have a better understanding of bus travel. We have an increasingly sophisticated modelling suite which allows databases of vehicles, passenger transport modes and cycling and walking activity to be incorporated within base and forecasting modelling packages. These modelling packages are then able to ascertain how proposals are likely to be used by the travelling public and businesses, including modal shift. This is a longer-term aspiration for walking and cycling information, it is a reality now for passenger transport modes, always accepting that greater data sharing by commercial train, bus and coach operators can only help further in understanding the potential of modal shift from car to bus and train.

Route hierarchy

567. ECC first established a functional route hierarchy in 2005. Several policies, including speed management, are based on this hierarchy.

568. At the time the hierarchy was developed, priorities were focused on reducing congestion and journey times for the private car. As a result, the hierarchy is one dimensional, and doesn't allow for consideration of the function of a place.

569. The functional route hierarchy is now being reconsidered to reflect the changes in Government priorities and the new Essex Transport vision, *Safer, Greener,*

Healthier, with focus on the function of a place, as well as the movement function, to ensure the most appropriate activities for different areas and routes can be prioritised. The revised hierarchy should act as a multi-dimensional tool influencing other policies to help achieve visions for streets and places across Essex. It will consider the movement of all people and balancing the priorities for each route / area to support the vision of a more sustainable transport network for the future.

Roadworks

570. We are reviewing our approach to managing permit applications for roadworks. Roadworks have a significant impact on bus services. Ensuring they can run as full a service as possible minimises disruption for passengers and ensures essential journeys can be made. We are introducing digital bus map tools to help those working on the highway identify which services are impacted, and a hierarchy of solutions to help ensure that journeys can continue to be made. This will mean that bus operators, utilities and Essex Highways can work together more effectively to manage works and support individuals and communities.

School zones

571. ECC is reviewing the guidance it gives to developers building schools in new communities. This is to help us design sustainable schools for the future. We will be consulting later this year on a report that considers how we might do this through establishing school zones. This report will be published alongside this Bus Service Improvement Plan. The proposition is that the area surrounding a new school has distinct zones. These zones will prioritise cycling, walking and bus. The review is suggesting a car free zone should be established around schools at drop off and pick up time. This means that all new schools in new build communities in Essex would have sustainable travel designed-in from the start. This means better air quality, reduced congestion, lower carbon emissions and better health and wellbeing. This will be subject to consultation later in the year. Cycling, walking and buses would be encouraged within the school zone, as well as essential access for services to the school, for emergency vehicles and for those with a disability. The zone would reduce congestion and carbon emissions, improve air quality, wellbeing, and give children around two thirds of their daily activity.

Procurement

572. The climate agenda is a key focus for passenger transport procurement. We are reviewing how we identify the right questions to ask the market when purchasing services and understand how to measure the impacts of service delivery on the climate. For example, the current home to school specification encourages the most effective transport routes, reducing congestion and using the most appropriately sized vehicles. However, we are undertaking further work to understand how to assess the impacts of the size/type of vehicles alongside emissions and therefore the overall impact on the environment. We are intending to collect further data from the market around carbon emissions which will support the development of the climate strategy for transport. We will work with

the market to understand their current practices with the potential of setting a minimum standard of vehicle for purchased transport services. A dedicated Procurement Lead for Climate is working closely with the Essex Climate Action Commission to embed climate quality within all procurement.

573. This year we tested how to bring climate considerations into play through our Park and Ride procurement. The three Essex Park and Ride services were procured with a 20% weighting attached directly to the climate agenda. Specialists developed quality questions around efficiency measures and the recovery of braking energy, as well as technology and operational practices across the life of the contract, which would see a reduction in greenhouse gas emissions and air pollution. Research prior to the tender showed that the market was not able to move towards fully electric vehicles at this time, due to direct costs associated with purchasing and charging electric buses. However, highlighting to the transport market that climate change is at the forefront of our future strategy will provide a clear signal of our long-term ambitions.

574. Following discussions with some of our home to school children, we are also looking at longer contract lengths to minimise the disruption that a change in operator can cause.

Devolution policy, giving people control over how services are run

575. Devolving more to communities**.** The principle of devolution is that services are best commissioned and delivered close to the communities they serve, so they can reflect the needs of that community, and are as cost effective as possible.

576. Currently, supported local bus services are commissioned and funded by ECC. Where no commercial bus service is provided, ECC's role is to assess whether a service should be provided and if it decides it should be, to make such a provision. We have policies that guide how this is done. ECC invests around £9.1m net in supported local bus services every year. We grant fund our CT Schemes who provide transport for those who are unable to access mainstream public transport. The council invests around £1m in these schemes annually.

577. We are keen to explore if this approach is the correct one. Decisions made at a County level can be removed from local knowledge. Stakeholders placed at the heart of the community may be in a better place to understand what is needed and how it should be delivered.

578. We will test how we can enable communities, parishes, districts and local groups to lead the commissioning and delivery of their own services. If we can tailor our support more effectively, we can deliver a better value service for passengers, communities, and taxpayers.

579. In the December 2018 Consultation on Evening and Sunday services, ECC consulted over devolution policy. We are considering how devolution might work in practice. We have developed the following proposals and expect to consult on these in due course:

- Any proposal would need to provide the same journey opportunities that would be provided by the current service. However, there may be some changes to journey times and different approaches, for example the service could be commissioned by Town or Parish Council, or CT operator.
- Devolution 'deals' would be for three years at a time
- Proposals would need to deliver year one at a maximum of existing cost, and then at least a 10% saving for years two and three. Grant funding would be awarded at these levels only. Savings could be offset by additional revenue.
- The proposal would need to comply with all relevant legislation. This should include not competing with commercial services.
- Proposals would need to show how they would support CT, or as a minimum not undermine it.
- Proposals would need to show that they would support the whole community.
- Services would need to meet the £5 per passenger journey value for money criterion.

Area Four: Wholescale network review

580. Bus Back Better indicates that BSIPs should "carefully consider network design, for example, whether local needs are best met through infrequent "branch" services of main routes which provide through journeys at the expense of frequency, or through high-frequency feeder routes connecting to the main line service, with through-ticketing at no extra charge".

581. This will require LTAs and commercial bus operators to undertake joint reviews of the shape of the bus network, including commercial and subsidised services.

582. The County Council therefore commits to undertake 12 District based Area Network Reviews in co-operation with commercial bus operators and other stakeholders. For the purposes of this section 'District' is defined as meaning the geographical area covered by a Borough, City or District Council within ECC boundaries. Essex has a diverse district geography, including rural, urban, large coastal borders and those entirely land locked. It therefore makes sense to review networks on a geographical basis, while ensuring integration across both district and county boundaries.

583. Each District Network Review will comprise three stages,

Stage One: District Network Audit, to identify the key characteristics of the bus network services and its supporting infrastructure

Stage Two: District Network Review, to identify the issues creating barriers to passenger growth, connectivity or accessibility. This stage will recommend measures to over-come the barriers, and promote bus passenger growth, to be consulted on for inclusion in Stage Three.

Stage Three: Enhanced Partnership District Scheme. Take the recommendations set out in Stage Two, and following consultation with

stakeholders, agree a set of measures to be included in a legally binding District-based EP Scheme. This will commit both sides to take the agreed actions and will include identifying funding opportunities.

Stage One: District Network Audit

584. Each District Network Review will focus on identifying and understanding the aspects of the bus network and supporting infrastructure as set out below.

585. Core District geographic and demographic characteristics:

- Rural/urban population mix
- Population density
- Position on ONS Index of Multiple Deprivation
- Overall bus patronage and how this is spread across the district
- Identifiable Passenger Travel Patterns, including key generator and attractor locations, time of day and days of the week
- Passenger characteristics, including, where practicable, proportions of concessionary and paying passengers, young people, and women passengers,
- Broader Travel data, for example, trip numbers and modal share
- Accessibility to bus routes offering journeys key service and amenity centres through accessibility mapping.
- Air Quality Management Issues, including understanding where the Air Quality Management Areas (AQMAs) are in each district, what measures are currently in place to address them and where and how do they interact with bus service routes.

Bus Service Audit

586. The District Network Audits will assess a range of factors that affect the functionality and attractiveness of bus services in each area. The audit will divide the network into three service categories:

- **Key Bus Corridors**. The high passenger use, high frequency, often multi-service bus roads and routes that link the main urban and interurban journey generator and attractor sites. These will act as a focus for infrastructure, service quality and modal shift.
- **The Wider Supporting Bus Network**. The bus services that are focused on providing local journeys and act as the feeder system for key routes. They have lower frequencies and are less heavily used but retain significant commercial viability.
- **Low Accessibility Services**. Services for areas with limited or no access to the wider bus network. These are usually rural areas with low population densities but may include urban areas. They often have high levels of car ownership. Journeys are typically lower volume, longer and have a wider range of destinations than other categories, with limited commerciality. They are the focus for tax-payer service subsidy and in most cases could not exist without it. Community Transport or DRT may be particularly suitable for these

areas.

587. For each of the these the audit will develop a picture of the bus network, including commercial and supported services to:

- Understand which services are provided commercially, which are provided through tax-payer funding and which services are commercially vulnerable.
- Understand passenger flows and use levels at different times of the day and days of the week.
- Set out service frequencies, journey times and service reliability.
- Identify variations to frequency and day length at evening/weekend.
- Set out the fare structure used, including average fares by service and how each operator's fares are determined and structured.
- Understand Intra-bus service connectivity and the journeys they allow.
- Understand connectivity to rail services.
- Set out DRT provision within each district, including which areas it covers.
- Identify the number and location of cross boundary services (both for district and LTA boundaries), their destination and any key out of district amenity centres, such as health services, and shopping centres.

Bus fleet vehicle quality and standards

588. For each district the audit will assess the quality of the local bus feet including information on the following factors:

- Average vehicle age,
- Range of Euro emissions standards
- The availability of next stop audio visual aids for people with disabilities,
- The availability of CCTV,
- The availability of real time live tracking capabilities, on bus and at the roadside.
- These will be set out by service and for key corridors.

Bus infrastructure inventory

589. For each category each district audit will develop an inventory of bus priority measures in place, including:

- Number of prioritised traffic signals.
- Number and length of bus lanes in place.
- Number of bus gates.
- Specifically reference where these occur in key corridors.

590. Each district audit will create an inventory of roadside infrastructure across the network, including:

- Number, location, and state of flags and poles, timetable cases, passenger shelters and real time information screens.

- Replacement age and value.

591. Each district audit will create an inventory of supporting facilities setting out where they are, their capacity, amenities, and what needs to be done to improve them, with reference to:

    - Bus stations.
    - Interchanges.
    - Hubs.

Road network and parking audit

592. For each of the categories, the district audit will identify key road network and parking supply characteristics. These will include:

    - Road traffic data identifying congestion levels and journey reliability data.
    - Bus journey time data, including variability across the day and week.
    - Congestion hotspots.
    - Traffic pinch points.

593. The district audit will identify parking availability and charging frameworks, specifically referencing:

    - Off road car parking capacity.
    - Ownership.
    - Average charges per day.
    - Comparison to average bus fares in the district.
    - Availability of on street parking.
    - Any special parking restrictions/residential parking schemes or school Zones in place.
    - Identified areas or roads where car parking affects bus service operations.

Community Transport audit

594. For the district audit we will work with CT providers to identify the scope and scale of CT operations. This will include:

    - The provider(s).
    - The types of transport offered.
    - The number of members and of passenger journeys carried out.
    - The level of funding from ECC and other sources.
    - The financial stability of the service.
    - Licensing issues.
    - Limiting factors on extending service provision.

Identifying and collating local issues

595. Each district audit will work with local stakeholder groups to identify and collate local issues, and needs affecting the provision or operation of services in their

areas. Stakeholders will include:

- County members.
- City, Borough and District Councils and councillors.
- Public comments received through member and public enquiries/highways reporting services.
- ECC officers from the wider Highways and Transportation Directorate and other Directorates services or teams.
- Neighbouring authorities.
- Service providers, including bus operators.
- Parish and Town Councils.
- BSIP Engagement and consultation sessions.
- The Bus Strategy Forum.
- Local bus user groups.
- Local businesses and service centres.

Stage two: District Network Review

596. The District Network Audits will create a snapshot of the condition of the bus network, and supporting infrastructure, in each district.

597. Using this as a base, and working with commercial operators and other stakeholders, ECC will develop Stage Two of the network review commitment, the District Network Review (DNR). For each of the three Service Categories, **Key Bus Corridors**, **the wider Supporting Bus Network** and **Low Accessibility Services**, we will develop a Future Bus Network (FBN). This will consider the service levels set out in the revised Local Bus Service Support Policy, to be developed as set out in Section 8.

Bus Service Review and Future Bus Network.

598. The DNR will identify factors creating barriers to the recovery and growth of the bus network. For each of the three service categories each district network review will look for:

- Any under or over provision of services on:
  - Key Bus Corridors.
  - the wider Supporting Bus Network.
  - Low Accessibility Routes.
- Identify service frequency variations at evenings and weekends, and the resources needed to bring them into line with daytime services.
- Determine how services will need to be managed to integrate those that cross both district or LTA boundaries.
- Identify opportunities for alternative service operations such as Demand Responsive Transport.
- Identifying funding streams already available to meet these needs, including.
  - ECC Expenditure in support of local bus services in the area
  - Developer contributions already agreed from S106 or CIL payments

- Government grants or bid funding

599. Having competed the DNR a Future Bus Network will be developed for each district, setting out preferred service levels for each of the three service category areas, including:

- Routes and frequencies.
- Vehicle resources employed.
- Days and time of operations.
- Connectivity to other bus services through interchange locations.
- Connectivity to the rail network.
- Connectivity to cross boundary services.
- Accessibility to key services.
- Areas to be covered by DRT.

Bus fleet vehicle quality and standards review

600. Essex has a well maintained but ageing fleet. This means that journeys are not as comfortable as they would be on a more modern vehicle, and that air quality and carbon emissions are higher than they could be. Some technologies, like CCTV, automatic vehicle tracking, and next-stop information is available on many vehicles but not all.

601. We want to improve the quality and accessibility of the Essex bus fleet, reduce fleet age, speed up the introduction of lower or zero emission vehicles, provide better facilities for people with disabilities, and better on-board information services.

602. Identify goals for fleet quality standards including:

- Fleet age. Identify the resources, funding and time needed to lower the average age of the local bus fleet to an agreed level.
- Audio visual next-stop announcement. Identify the resources, funding and time needed for the introduction of next-stop audio-visual announcements on all local bus services.
- CCTV. Identify the resources, funding and time needed for the introduction of CCTV on all local bus services.
- Live vehicle tracking by phone App and through bus stop real-time passenger information displays. Identify the resources, funding and tie needed for its introduction on all local bus services,
- Reduced fleet emissions. Identify the resources, funding and time needed to bring all vehicles operating local bus services in Essex up to Euro VI emission standards, and for the introduction of zero-emission vehicles.

Bus infrastructure standards review

603. For each of the three service categories**,** each DNR will identify the bus priority measures needed to improve the reliability and punctuality of bus services, including the following items:

- New Bus Priority traffic signals.
- New bus lanes.
- New bus gates.

604. Each DNR will set out he need for new, inclusive, and accessible roadside infrastructure including:

- Flags and poles.
- Timetable cases.
- Bus passenger shelters.
- Real-time passenger information screens.

605. For each district the DNR will identify the resources needed to improve supporting facilities, with specific reference to:

- Bus stations.
- Interchanges.
- Transport Hubs.

Road network and parking review

606. For each of the three service categories, the DNR will identify the road network and parking improvement measures needed to improve the reliability and attractiveness of bus services. These will include measures such as alterations to junction layouts, lay-bys, or bus cages that will:

- Improve bus reliability.
- Stabilise journey times across the day and week.
- Give buses priority at congestion hotspots.

607. The DNR will identify opportunities in parking availability and charging frameworks, including:

- Off road car parking capacity.
- Ownership.
- Average charges per hour and day.
- Comparison to average bus fares in the district.
- Availability of on street parking.
- Any special parking restrictions, residential parking schemes or school zones.
- Areas where car parking affects bus service operations.

Community Transport

608. For each of the three service categories, the DNR will identify if CT can provide support in delivering the objectives.

Demand Responsive Transport

609. For each of the three service categories, the DNR will identify if DRT can deliver the objectives.

Local issues

610. Each district audit will work with local stakeholders to identify opportunities for the provision or operation of services in their area.

Stage three: Enhanced Partnership district scheme

611. Following discussion to produce:

- EP Network Strategies to 2026 for each District, considering how inter-district and cross-county routes will be incorporated into strategies.
- Proposals for
  - The October 2022 BSIP.
  - Potential funding opportunities.
  - A district level EP scheme.

612. Ensure the EP network strategies are integrated with others for Essex, including:

- Digital Demand Responsive Transport.
- Bus Rapid Transit.
- Town and city future transport strategies.
- Essex Highways route development plans.
- Active Travel Strategy.
- Local Transport Plan
- Transport East proposals.
- Essex Highways road projects.
- Development management.

613. Based on the above, EP network strategies will be prepared for each district, working with operators and Essex Highways. These will:

- For each District identify key bus corridors based on evidenced criteria.
- For each of those corridors consider the opportunity for the following measures:
  - Bus priority.
  - Bus lanes on roads with space where there are frequent bus services and congestion.
  - Traffic signal priority.
  - Bus gates.
  - Signage.
  - Improved frequencies.
  - Flat rate and simple ticketing.
  - Evening and weekend consistency.
  - Vehicle standards.
  - Improved bus infrastructure (flags, poles, shelters and RTPI).
- For the wider existing network to consider how services integrate with key corridors, including:
  - Bus stations, interchanges and hubs.
  - Park and Ride.

    - Linkages into railway stations, schools, health, social care and employment, isolated housing, out of town industrial estates, factories, and estates.
- Where there are gaps identified in provision, options for new services will be considered, including demand responsive services and Park & Choose, for example as feeder links into a hub.
- An EP network strategy for cross-county and cross-boundary services will also be developed, ensuring alignment with other authorities.
- A proposal for fare structures, ticketing and zoning will be produced for Essex.
- This work will form the EP strategy, with an annually updated plan identifying areas for review in the year ahead.
- Infrastructure deficiencies.

614. Infrastructure requirements would then be managed as follows:

- Higher priority for bus infrastructure in ECC Highways Capital Programme pipeline.
- Including ringfenced capital funding and use of S106 and grant funding to improve the network.
- Integration with other sustainable travel funding.

Area Five: Information, marketing and publicity commitments

615. We want to improve the service for bus users and give non bus users easy access to the information they need to make sustainable choices. Our research shows that the cognitive load required to switch from car to bus is high in Essex. We want to change that. We want people to know that they can track their bus on their phone so they know it's coming, that they can pay by card on the bus, or buy a ticket in advance on their phone, and that there are ticket offers to match how they travel.

616. In collaboration with local operators, ECC will introduce a single Essex bus brand which is coherent, consistent, strong, and will represent the community of Essex, not a single operator. The brand will be used on all buses, at bus stops, on all digital and printed information and publicity, and at transport hubs.

617. A single branded Information Portal will be developed to provide seamless access to all bus information, journey planning tools, maps, bus stop information, school transport provision, ENCTS passes and ticket information. This would be developed by ECC, and used by Operators, and the travelling public. It will provide them with a choice over private forms of transport, such as car. For current bus users it would show the latest changes to their services. For a new resident, or someone who has no knowledge of bus services in Essex, this portal will provide one site for them to self-serve for information. In addition, a planned interface for Operators could provide access to up-to-date documents for registering and running their services.

618. ECC will develop and implement a marketing campaign that will promote and demystify buses, so non-users become familiar with their local services. There

will be an emphasis on measures around personal safety (e.g., CCTV). The campaign will align with commercial operators and national marketing schemes.

Area Six: Customer experience commitment

619. We want passengers to know what to expect from their journey, and how to feedback on their experiences. Making clear the level and standard of service the public can expect, developing methodologies for delivering them, and for gaining redress when not met, through an Essex wide Passenger Charter.

620. Bus operators in Essex are working together to develop a Passenger Charter. This will lay out their promises to passengers across Essex. As part of the EP for Essex, operators and ECC will support measures that set expectations for the passengers. This will be based on county wide feedback and passenger research, and will include the following areas:

- The Charter will set targets and commit to public reporting of performance against them.
- It will commit to communication and consultation with passengers on significant changes.
- Actions to improve punctuality and achieve reliability targets.
- Improved management of roadworks with communication in advance keeping passengers informed of delays and disruption
- Widely available pre-journey information on fares and ticket types, with simple fares and offers that are easy to understand
- Ensuring travel is as safe and comfortable as possible, making efforts to tackle anti-social behaviour
- Clear and up to date timetable information at bus stops, also providing route and network connections maps at major stops.
- Realtime information will be provided at stops and on apps where feasible.
- On board audio-visual next stop information on main routes
- Customer service training for frontline staff.
- Roadside furniture and buses will be maintained in clean and tidy condition with regular checking and measurement by operators.

Monitoring and reporting

621. Our priority is recovery. The impact of the pandemic on the network, on top of the long-term structural barriers, means there is a recovery challenge. Two of our targets, bus reliability and passenger numbers will be monitored and reported on every six months. These reports will be overseen by the Essex Bus Strategy Board (EBSB). Bus passenger satisfaction will be assessed once a year and over-seen by the EBSB.

622. We will develop assessments of accessibility and modal share. The first of these we will do on a geographic basis, to ensure that outliers in performance are not lost in the overall picture. Modal share is more challenging, we will need to

develop new data collection and assessment measures, potentially on a geographic basis, to ensure we are identifying opportunities in the right places.

Investment strategy

623. There are two parts to ECC's investment strategy. The first part covers our investment in both projects and services. These are investments to which we are committed. They showcase Essex's ongoing support for bus. They are incremental in nature so there is a second part to the strategy.

624. The second part sets out five transformational Bus Back Better packages in which ECC would like to invest, and where it is seeking central Government funding. These are the projects that will enable us to establish a new model for service delivery. They are not just about a set of geographically limited improvements; they establish transferable approaches to strengthen the network and services across Essex.

625. ECC will be re-shaping its existing transport investment and project pipelines around sustainable travel. These investments will be identified and captured in future years, and many will be identified as part of the wholescale network reviews.

Investment strategy part one: Committed investment

There are three elements to the committed investment strategy.

Element		Investment
1	County-wide projects	£2.9m
2	Annual service investment	£62m
3	Specific Bus Projects	£5.6m

Table 24 Three elements to the committed investment strategy.

626. The commitment to passenger transport projects represents a net total project investment of £8.5m and an annual service investment for 2021-22 of £62m.

Element One: Countywide investment of £2.9m

Project	Investment
The Essex Bus Shelter Project	£2.9m

Table 25 Countywide investment.

Element Two: annual budgeted service investment of £62m in 2021-22

Service	Investment
The provision of transport from home to school for children with Special Educational Needs	£18.4m
The provision of transport for entitled children to school	£13.6m
The provision of travel for concessionary bus pass holders	£17.9m

The provision of local bus services where no commercial route is available	£9.1m
Support for Community Transport schemes	£1.1m
The provision of Park and Ride services	£1.2m
The provision of travel training services	£0.4m
The provision of bus travel information	£0.1m
Bus infrastructure	£0.2m
S106 investment	£0.06m
Local Highways Panel investment	£0.04m

Table 26 Annual net budget service investment of £62m

Element Three: Geographically based project investment of £5.6m since 2017.

627. The estimated total investment in geographically based bus projects in Essex since 2017/18 is approximately £5.6m. There is no system generated information that enables independent verification of individual costings; therefore, several assumptions have been required to derive this high-level estimate.

- Where specific information on costings is retained, actual costs have been applied.
- Where bus investment forms part of a more extensive project, an estimate of the percentage of the project relating to bus has been applied to the overall project cost. This percentage is project dependent and necessarily varies.
- Where there is specific bus infrastructure that has been installed in an area, estimations as to average infrastructure costs have been made and applied.

Basildon

628. Investment of £575,000 in Basildon:

Improvement packages	Works
Basildon bus	Long Riding bus priority Improved bus-rail interchange Improved passenger facilities at the bus station
Bus service provision to Basildon hospital	Bus interchange enhancement (NHS funded)
Basildon to Billericay corridor	Forecourt improvements at Billericay Station (Greater Anglia funded)
Basildon to Laindon corridor	Tyler Avenue bus priority
Pitsea Bus	Pitsea High Road bus improvements
Wickford Bus	Improved bus access on Guernsey Gardens: Rail station interchange bus access improvements Beauchamps School bus access improvements Bus stop enhancements allowing two-way service provision at The Wick New stop provision on Southend Road

Table 27 Investment in Basildon.

Braintree

629. Investment of £2.1m in Braintree.

Improvement packages	Works
Access for residents with no service	Investment of £1.1m for a digital demand responsive service supported by electric minibuses
Braintree bus	Braintree Bus Park, including increased capacity and improved access Braintree Manor Street car parking review
Braintree district bus stops	Provision of bus stop at Kelvedon rail station forecourt Provision of bus stop at Finchingfield Doctor's surgery Sible Hedingham bus stop improvements
Braintree to Halstead corridor	Enhancements to improve access in Bocking
Colchester to Chelmsford corridor	Bus stop in Witham to serve new Aldi food store
Witham Town Centre	Bus stop enhancements on Forest Road Bus stop enhancements on Laurence Avenue

Table 28 Investment in Braintree.

Brentwood

630. Investment of £7,500 in Brentwood.

Improvement's package	Works
Brentwood bus	Improved bus access on Doddinghurst Road Improved bus access for Kings Road/High Street junction
Brentwood Villages Bus	Improved bus access in Pilgrims Hatch

Table 29 Investment in Brentwood.

Castle Point

631. Investment of £64,500 in Castle Point.

Improvement package	Works
Thundersley	SEEVIC College signal review
Canvey island bus	Introduction of bus priority Bus stop improvements

Table 30 Investment in Castle Point.

Chelmsford

632. Investment of £1.3m in Chelmsford.

Improvement packages	Works
Access for residents with no service	Investment of £746,500 for a digital demand responsive service supported by electric minibuses
Chelmsford City bus stop	Improved access for Waveney Drive Bus stop and stand improvements in Springfield

Supporting infrastructure for orbital services	Improved access on Writtle Road Provision of new bus stops to serve Writtle doctor's surgery
Victoria Road South	Improved bus priority on Market Road
Bus accessibility for Great Baddow	Improved access on Foxholes Road and Maltings Road
Park and Ride	Bus priority through Pump Lane roundabout

Table 31 Investment in Chelmsford.

Colchester

633. Investment of £830,000 in Colchester.

Improvement package	Works
Colchester Town Bus	Greenstead bus stop improvements New bus stops in Myland New bus stops in Mason Road New bus stops in Hooper Avenue and William Harris Way New bus stops in Gosfield Road Improvements to bus stops in Hickory Avenue New bus stops in Stanway Improvements to bus stops in Goring Road Improvements to bus stops in Severalls Park Improvements to Shrub End bus terminal
Fares and ticketing	Improvements to the multi-operator Borough Card ticketing scheme
Colchester General Hospital	Provision of improved bus interchange (NHS funded)
Colchester to Shrub End bus corridor	Bus priority in Maldon Road and Shrub End Improved signalling phasing on Drury Road
Colchester Town Centre Bus	Access improvements in East Street Access improvements in Crouch Street Town centre bus stop reallocation Improved coach stop facility Increased capacity for Head Street bus stops Improved access in Upland Road Improvements to bus reliability on Harwich Road/St Andrew Avenue junction Improvements to bus reliability at Ipswich Road/Cowdray Avenue junction Nayland Road bus priority North Station Road bus priority New bus stop in Mill Road Improved access on Harwich Road/Churnwood Road junction Bus priority in Bruff Close Bus priority at Middleborough Bus priority onto Essex Hall roundabout
Colchester Town Centre to University corridor	Bus priority at Hythe Railways crossing and Hythe Hill
Rural Bus service access and stop	Improved access in Stratford Road, Dedham Improved bus stop accessibility in Crown Street, Dedham

	Bus stop upgrade in Dedham Heath Provision of six new bus stops in West Mersea
South Colchester Bus Corridor	Improved bus access across Southway
Wivenhoe Bus corridor	Improvements to bus interchange at Wivenhoe rail station Improved bus accessibility adjacent to Wivenhoe library

Table 32 Investment in Colchester.

Epping Forest

634. Investment of £17,000 in Epping Forest.

Improvement packages	Works
Epping Forest Bus Stop	Improvements to Honey Lane/Farm Hill Road bus stops, Waltham Abbey
Epping Forest Station Access	Improved access to Buckhurst Hill station

Table 33 Investment in Epping Forest.

Harlow

635. Investment of £12,000 in Harlow.

Improvement packages	Works
Harlow Bus Station	Improvements to accommodate additional capacity Provision of bus priority Velizy Avenue/Post Office Road
Harlow Bus Stop	Improved accessibility to bus stops in Partridge Rd, Traceys Rd and Tumbler Rd.

Table 34 Investment in Harlow.

Maldon

636. Investment of £11,000 in Maldon.

Improvement packages	Works
Maldon District Rural Bus Access	Improved access in Bradwell on Sea village centre Improved access in Catchpole Lane, Great Totham Bus stop improvements at Heybridge Church
Maldon Town Bus Measures	Improved access on Washington Road/Viking Road estates Bus priority at Mill Road/High Street Bus stop improvements in Mundon Road

Table 35 Investment in Maldon.

Rochford

637. Investment of £21,000 in Rochford.

Improvement packages	Works
Rayleigh to Southend corridor	Improvements to Bull Lane bus stop, Rayleigh

Rayleigh Town	Provision of a new bus stop opposite Rayleigh library Bus priority Rayleigh Rail Station forecourt Improved access to Rawreth Lane

Table 36 Investment in Rochford.

Tendring

638. Investment of £10,000 in Tendring.

Improvement package	Works
Harwich Bus Stop	Improvements to accessibility at Abbott Road, Dovercourt Improved accessibility in Chase Lane, Dovercourt Improved accessibility at Fryatt Avenue Bus Stop, Dovercourt Improved accessibility in Hall Lane, Dovercourt
Tendring Bus Stop	Improved bus stops at Bellfield Avenue, Brightlingsea Provision of two new bus stops at Cox's Hill, Lawford Upgrading of bus stops in Mistley High Street Improved access to Naze Park Road, Walton on the Naze

Table 37 Investment in Tendring.

Uttlesford

639. Investment of £748,500 in Uttlesford.

Improvement packages	Works
Uttlesford Bus Stop	Bus Stop improvements in Priors Green
Access for residents with no service	Investment of £746,500 for a digital demand responsive service supported by electric minibuses

Table 38 Investment in Uttlesford

Investment strategy part two: Transformation projects

640. Part two of our investment strategy is our five Bus Back Better transformation projects. We are seeking investment from central Government to enable us to develop these, and to create a model that we can use to deliver transformation across the county more widely, and as national exemplar projects.

641. The projects are set out in detail in Section 8. We are seeking investment of around £476m. These figures are indicative as projects are at the early stage of development and therefore subject to change:

Basildon Volt

Improvement packages	Investment
Refreshed network Improved bus priority Increased frequencies and longer days Reduced and simplified fares	£60m

Sustainable travel hub provision Transform bus fleet to zero carbon (electric or hydrogen) Improved links to employment and education Improved links to Basildon hospital Improved urban realm Enhanced passenger facilities and information	

Table 39 Basildon Volt improvements.

Clacton Connect

Improvement packages	Investment
New bus hub/interchange Better access to employment and education Better information Improved urban realm and services Higher quality passenger infrastructure New commercial opportunities Better access to shops and revitalised town centre Better access for people with a disability and older people	£10m to £20m

Table 40 Clacton Connect improvements.

Harlow Falcon

Improvement packages	Investment
Three rapid transit lines 60% of new journeys made by sustainable means Radial services allowing high quality and rapid access to the town centre, employment, services and ongoing links to London, Stansted, and Cambridge	£300m

Table 41 Harlow Falcon improvements.

Reach

Improvement package	Investment
Digitisation of the five existing DRT services Expanding Digital Demand Responsive Transport across all Essex's transport 'deserts' Providing sustainable travel services to the 35% of residents (55% of rural residents) who cannot access an existing hourly service	£81m

Table 42 Reach improvements.

Thrive

Improvement package	Investment
£5m a year over three years to rejuvenate our struggling market town services A toolkit approach including: • Review of 'pinch-points' to improve journey times • 'Kickstart' funding to provide higher daytime frequencies and review evening and/or Sunday services • Simplified or flat fares • Locally focussed town/area publicity - maps and timetables at all stops • Enhanced roadside infrastructure • Promotion of PlusBus rail through ticketing • Other promotional campaigns – discounts in local cafes, shops with weekly or longer tickets	£15m

• Vehicle refurbishment including reupholstery, interior retrim, repaint • Review of No Waiting/No Stopping and loading at kerbsides • Review of parking	

Table 43 Thrive improvements.

642. These five investment projects represent a real opportunity to showcase innovation and transformation in a county setting. We look forward to working with a range of stakeholders to deliver these projects.

Appendix A Notice of intention to adopt an EP for the Essex bus network

Notice of Intent to Prepare an Enhanced Partnership Plan and Scheme

25 June 2021

Essex County Council hereby gives notice pursuant to section 138F (1)(a) of the Transport Act 2000 that it intends to that it intends to prepare an Enhanced Partnership Plan to cover whole of its area and one or more Enhanced Partnership Schemes.

For further information please contact Helen Morris, Head of the Integrated Public Transport Unit helen.morris@essex.gov.uk

Appendix B Local Bus Service Data and Operator Information.

Figure 7 The bus network in Essex

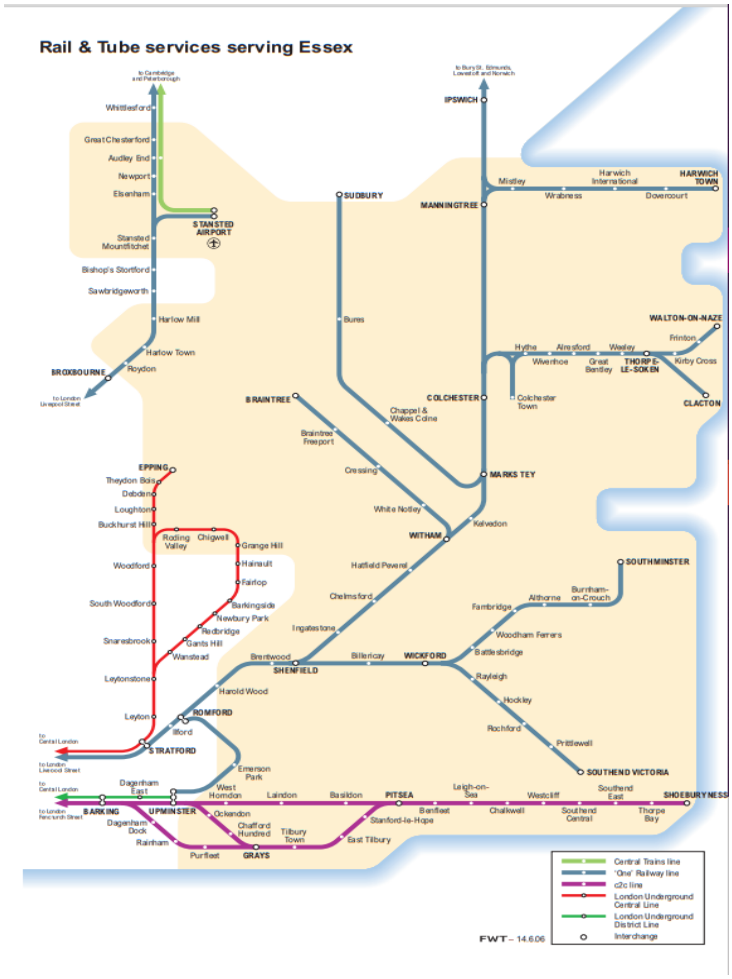

Figure 8 The rail and tube network in Essex

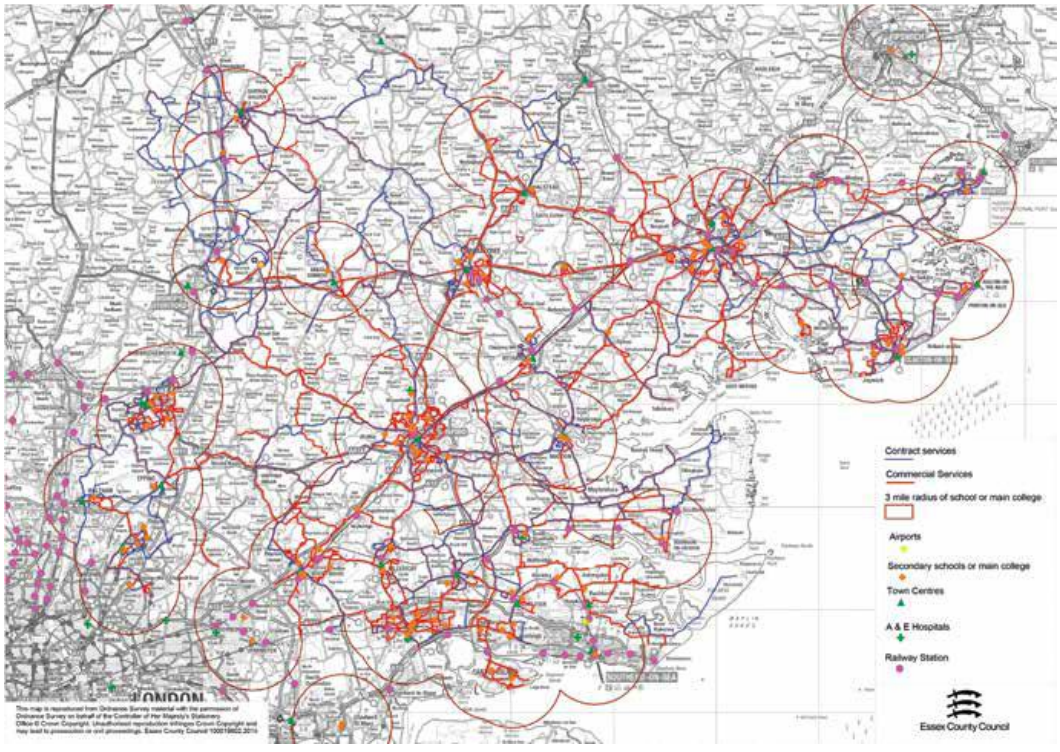

Figure 9 High level accessibility map of Essex bus network.

Local Bus Operators.

Bus operators in Essex	
A2B Travel	Arriva (Herts and Essex)
Arriva London	Arrow Taxi/Essex and Suffolk DaRT
Basildon Community Transport	
	Braintree Community Transport
Brentwood Community Transport	C G Myall & Son
	Chambers
Coggeshall Community Bus	Ensignbus
Epping Forest Community Transport	First Essex
Flagfinders	Fords Coaches
Galleon Travel (trading as Trustybus /Central Connect)	Go-Ahead London
Harwich Connexions	HCT Group
Hedingham	Ipswich Buses
JW Lodge & Sons	London Vintage Bus Hire (trading as The London Bus Company)
National Express	
NIBS buses	Panther Travel
Stagecoach in Cambridge	Stagecoach London
Stephensons of Essex	Star Cabs
Tendring Community Transport	Ugobus
Vectare	

Table 44 Local Bus Operators in Essex.

ECC Contracted Local Bus Services, Geographic Split.

District	Number of ECC Contracted Bus Services
Basildon	17
Braintree	14
Brentwood	9
Castle Point	2
Chelmsford	36
Colchester	42
Epping Forest	16
Harlow	16
Maldon	10
Rochford	11
Tendring	23
Uttlesford	18

Total	214

Table 45 ECC Contracted Local Bus Services.

All Essex services Geographic Split

District	Services per District
Basildon	43
Braintree	33
Brentwood	34
Castle Point	17
Chelmsford	60
Colchester	63
Epping Forest	43
Harlow	23
Maldon	31
Rochford	23
Tendring	39
Uttlesford	32
Grand Total	441

Table 46 Geographic Split.

All Essex Services summarised by Day and Times of Operation

643. The below tables illustrate the frequency of bus services per operator within periods of peak and off-peak times. The times of operation have been divided into 5 period windows. This is indicative of Friday, Saturday, and Sunday days of operation.

Friday

Operator	Number of services running during the following times				
	0000 - 0300	0300 - 0900	0900 - 1430	1430 - 1900	1900 - 2359
A2B Travel	0	0	3	3	0
Arriva	6	260	435	332	75
Arriva London (PK)	2	48	65	61	27
Arrow Taxi	0	6	13	9	1
Basildon CT	0	0	1	0	0
Brentwood CT	0	1	12	1	0
Burnham Ferry	0	1	5	3	0
Carters Heritage Buses	0	0	0	1	0
Central Connect	0	28	43	45	6
Coggeshall Community Bus	0	8	1	4	2

Ensign Bus	1	72	106	95	23
Epping Forest CT	0	3	17	4	0
Essex & Suffolk DaRT	0	5	12	6	0
First Essex	3	451	688	568	193
Flagfinders	0	2	0	0	0
Fords Coaches	0	5	2	4	0
Go-Ahead London	0	0	1	7	0
Harwich Connexions	0	0	1	1	0
Harwich Harbour Ferry	0	0	5	2	0
HCT Group	0	22	33	27	12
Ipswich Buses	0	8	15	17	1
Jetstream Tours	0	7	10	8	1
JW Lodge & Sons	0	0	1	0	0
Konectbus	0	75	195	139	21
NIBSbuses	0	51	59	64	13
Panther Travel	0	8	12	9	1
Stagecoach	0	17	18	20	4
Stagecoach London	1	75	123	100	68
Stansted Airport Shuttle	3	19	19	16	17
Star Cabs	0	2	1	3	0
Stephensons of Essex	0	106	181	111	15
Tendring CT	0	1	2	2	1
The London Bus Company	0	0	12	5	0
Vectare	0	6	21	12	2
Total	**16**	**1287**	**2112**	**1679**	**483**

Table 47 Frequency of bus services per operator.

Saturday

	Number of Services during				
Operator	P1: 0000 - 0800	P2: 0800 - 1000	P3: 1000 - 1230	P4: 1230 - 1600	P5: 1600 - 2359
A2B Travel	0	0	2	2	2
Arriva	75	118	162	222	220
Arriva London (PK)	27	29	33	47	78
Arrow Taxi	3	1	3	3	3
Braintree CT	0	0	1	0	0
Burnham Ferry	0	2	2	4	1
Central Connect	11	15	21	30	26
Ensign Bus	30	49	65	92	85

Epping Forest CT	0	2	3	3	0
Essex & Suffolk DaRT	2	3	4	5	3
First Essex	150	206	273	389	442
Harwich Harbour Ferry	0	1	2	4	0
HCT Group	12	12	14	20	32
Ipswich Buses	3	4	3	5	6
Jetstream Tours	4	3	5	6	7
JW Lodge & Sons	0	1	0	0	0
Konectbus	23	54	77	98	94
NIBSbuses	6	15	20	24	17
Panther Travel	1	4	4	7	3
Stagecoach	4	6	8	10	13
Stagecoach London	44	47	62	83	143
Stansted Airport Shuttle	18	7	9	12	28
Stephensons of Essex	23	44	54	76	62
Tendring CT	0	0	1	1	1
The London Bus Company	0	1	6	9	1
Ugobus	0	0	3	2	2
Vectare	4	4	9	11	8
Total	**440**	**628**	**846**	**1165**	**1277**

Table 48 Saturday services

Sunday

Operator	Number of Services during P1: (All day assumed Off-Peak)
Arriva	227
Arriva London (PK)	94
Burnham Ferry	9
C G Myall & Son	5
Central Connect	27
Ensign Bus	131
First Essex	676
Harwich Harbour Ferry	7
HCT Group	61
Konectbus	71
Stagecoach	10
Stagecoach London	222

Stansted Airport Shuttle	74
Stephensons of Essex	9
Tendring CT	3
The London Bus Company	17
Total	**1643**

Table 49 Sunday services

Year	National Bus Numbers (millions)	Trend - % change in National bus passenger numbers
2015/16	5,023	0
2016/17	4,935	-1.8
2017/18	4,838	-2.0
2018/19	4,787	-1.1
2019/20	4,524	-5.8
Total passenger change	**499**	**-9.9**

Table 50 National Bus Passenger Use Trends 2015-20.

Source ONS table BUS0101, Bus Passenger Use on local bus services Great Britain Annual from 1950

Bus Passenger Use Trends for England outside London 2015/16 to 2010/20:

Year	Bus passenger numbers in England (outside London)	
	Millions	% change
2015/16	2,218	0
2016/17	2,200	-0.8
2017/18	2,123	-3.6
2018/19	2,109	-0.7
2019/20	1,979	-6.6
Total passenger change	**239**	**-10.8**

Table 51 Bus Passenger Use Trends for England outside London 2015-20.

Annual English National Concessionary Travel Pass (ENCTS Bus Pass) Passenger Use Trends in Essex 2015-20:

Year	2015-16	2016-17	2017-18	2018-19	2019-20
Number of ENCTS Pass Holder journeys	14,530,653	15,166,366	14,530,653	13,783,048	12,709,516
Variation	0	635,713	-635,713	-747,605	-1,073,532
% Variation	0	4.37	-4.19	-5.15	-7.79
Total change	0				-1,821,137
Total Variation	0				12.53

Table 52 ENCTS Bus Pass - Passenger Use Trends in Essex 2015-20.

Trend of Registered ‘Live’ Bus Kilometres run in Essex 2018/19 to 2021/2022

Year	2018-19	2019-20	2020-21	2021-22
Total Number live bus Km run in Essex	46.3m	51.6m	25.5m	55.1m
Variation	-	5.3	-26.1	29.6
% Variation	-	11%	-51%	116%
Total change	-	-	-	8.8m
Total Variation	-	-	-	19%

Table 53 Trend of Registered ‘Live’ Bus Kilometres run in Essex 2015-20.

Breakdown of registered ‘Live’ Bus Kilometres run 2018-19 to 2021-2022 by Essex Bus operators

Year	Registered Km			
	2018-19	2019-20	2020-21	202-22
A2B Travel		86,097	86,097	86,097
Arriva Kent Thameside Ltd	10,047,536	10,016,802	7,090,119	9,924,552
Arrow Taxis	307,226	307,226	307,226	309,865
Basildon CT	841	841	841	841
Braintree CT	744	744	744	744
Brentwood CT	53,652	53,652	53,652	53,652
Cambus Ltd	671,262	568,402		739,594
Carters Heritage Buses Ltd	8,861	8,861	8,861	
Coggeshall Community Bus	34,969	34,969		
Ensign Bus Co Ltd	582,815	125,618	223,172	2,431,944
Epping Forest CT	132,393	58,866	55,370	208,030
Essex & Suffolk Dart	404,811	405,222	405,222	405,222
First Essex buses ltd	21,808,773	24,125,717	17,075,431	22,324,287
Flagfinders (CTB) Ltd	16,964	16,964	28,924	28,924
Fords of Althorne	86,794	82,805	82,805	94,432
Galleon Travel 2009 Ltd	1,817,556	1,275,483	1,422,487	1,662,417
Harwich Connexions	43,206	43,206	43,206	43,206
Ipswich Buses ltd	562,796	506,952	595,995	611,659
J W Lodge & Sons Ltd	14,169	14,169	14,169	14,169
Jetstream Tours			11,220	
Konectbus		2,322,181	2,235,119	3,725,332
London Vintage Bus Hire Ltd	39,450	39,450		35,333
Myalls	30,456	30,456	30,456	30,456
New Horizon	26,042	26,042	26,042	
Nibsbuses Ltd	431,671	1,159,315	1,161,062	1,203,154
Panther Travel Ltd	360,843	370,322	148,987	148,987

Stansted Hotel Shuttles	251,678	348,095	251,678	95,915
Star Cabs Ltd		26,116	26,116	218,422
Stephensons of Essex Ltd	3,413,847	3,711,684	3,743,657	3,881,730
Tendring CT	-	-	-	-
TfL	4,961,217	5,614,427	5,572,362	6,517,885
Ugobus	207,011	207,011	103,408	5,235
Vectare			175,977	311,393
Total	46,317,582	51,587,695	40,980,406	55,113,478
Variance		5,270,113	-	10,607,289
Total variance				19%

Table 54 Registered 'Live' Bus Kilometres run 2015-20 by Essex operators.

Cross-boundary local bus services in Essex (May 2021)

Thurrock Council 16 cross border routes		
Service #	Route	
68	Southend-on-Sea	Southend-on-Sea
X1	Southend	London Victoria
X10	Lakeside	Southend on Sea
X81H	Shenfield	Grays
Z4	Tilbury	Laindon
5X	Billericay	Grays
565	Herongate	Brentwood
5A	Pitsea	Grays
5B	Pitsea	Grays
100	Lakeside	Basildon
11	Basildon	Purfleet
51	Chafford Hundred	Southend
269	Brentwood	Grays
374	Basildon	Grays
475	Stanford-le-Hope	Brentwood
25	Purfleet	Stifford Clays

Table 55 Thurrock Council cross border services.

Southend, 45 cross border services		
Service #	Route	
1	Rayleigh	Shoeburyness
6	Southend Travel Centre	Temple Sutton
7	Rayleigh	Shoeburyness

8	Rayleigh	Landwick
9	Rayleigh	Shoeburyness
29	Southend-on-Sea	Belfairs
4A	Southend-on-Sea	Shoeburyness
68	Southend-on-Sea	Southend-on-Sea
X1	Southend	London Victoria
X10	Lakeside	Southend on Sea
20	Southend-on-Sea	Hullbridge
820	Hullbridge	Rayleigh
21	Southend-on-Sea	Canvey
21B	Southend-on-Sea	Canvey
822	Southchurch	Canvey
25	Southend-on-Sea	Basildon Town Centre
825	Basildon Town Centre	Leigh-on-Sea
26	Southend-on-Sea	Hadleigh
27	Hadleigh	Canvey
27A	Southend-on-Sea	Canvey
827	Canvey	Leigh-on-Sea
28	Southend-on-Sea	Basildon
X30	Southend-on-Sea	Chelmsford
090	Southend-on-Sea	London Victoria
51	Chafford Hundred	Southend
63	Rayleigh	Great Wakering
7	Southend Travel Centre	Rayleigh
14	Southend-on-Sea	Shoeburyness
17	Leigh-on-Sea	Southend-on-Sea
24	Southchurch	Southend Travel Centre
61	Southchurch	Southend-on-Sea
509	Southchurch	Leigh-on-Sea
560	Southchurch	Leigh-on-Sea
513	Chelmsford City Centre	Southchurch
514	South Woodham Ferrers	Prittlewell
807	Foulness	Foulness

808	Great Wakering	Great Wakering
809	Great Wakering	Great Wakering
810	Bournes Green	Bournes Green
811	Great Wakering	Great Wakering
814	Bournes Green	Leigh-on-Sea
815	Rochford	Westcliff-on-Sea
816	Rochford	Westcliff-on-Sea
60A	Southend-on-Sea	Paglesham
3	Southend-on-Sea	Chelmsford

Table 56 Southend cross border services.

Hertfordshire County Council, 25 cross border services		
Service #	Route	
508	Harlow Town Centre	Stansted Airport
509	Harlow Town Centre	Stansted Airport
510	Harlow Town Centre	Stansted Airport
724	Harlow Town Centre	Heathrow Airport
10	Church Langley	Hertford
251	Waltham Abbey	Hammond Street
66	Waltham Cross	Waltham Cross
86	Harlow Town Centre	Harlow Town Centre
308	Bishop's Stortford	Thorley Park
309	Stansted Airport	Thorley Park
42A	Galleywood	Stansted Airport
7	Bishops Stortford	Stansted Airport
7A	Stansted Mountfitchet	Stansted Airport
306	Bishops Stortford	Wicken Bonhunt
410	Harlow Town Centre	Waltham Cross
301	Bishop's Stortford	Saffron Walden
444	Saffron Walden	Barley
446	Manuden	Saffron Walden
5	Stansted Airport	Bishop's Stortford
C392	Sumners	Rye Park
211	Breach Barns	Waltham Cross
212	Waltham Cross	Waltham Cross
31	Cambridge	Barley via Chrishall

14	Waltham Cross	Waltham Abbey
22	Waltham Abbey	Waltham Cross

Table 57 Hertfordshire County Council cross border services.

Cambridgeshire County Council, seven cross border services		
Service #	Route	
101	Whittlesford	Saffron Walden
132	Saffron Walden	Cambridge
7	Sawston	Cambridge
X13	Addenbrooke's Hospital	Clare
59	Audley End	Haverhill
444	Saffron Walden	Barley
31	Cambridge	Barley via Chrishall

Table 58 Cambridgeshire County Council cross border services

Suffolk County Council, 21 cross border services		
Service #	Route	
193	Ardleigh	East Bergholt
X13	Addenbrooke's Hospital	Clare
84	Sudbury	Colchester
784	Sudbury	Colchester
89X	Braintree	Sudbury
754	Colchester	Sudbury
756	Colchester	Sudbury
83	Bures	Colchester
83A	Colchester Town Centre	Bures
92	Ipswich	Manningtree
93	Capel St Mary	Ipswich
93A	Ipswich	Colchester
X93	Colchester Town Centre	Ipswich
194	Langham	East Bergholt
250	Ipswich	Stansted Airport
481	Ipswich	London Victoria

59	Audley End	Haverhill
60	Haverhill	Audley End
18	Haverhill	Clare
F315	Sudbury	Halstead
HHF1	Harwich	Felixstowe

Table 59 Suffolk County Council cross border services.

Transport for London. 25 cross border services		
Service #	Route	
724	Harlow Town Centre	Heathrow Airport
150	Chigwell Row	Beacontree Heath
375	Romford	Passingford Bridge
215	Sewardstone	Walthamstow
275	Barkingside	Walthamstow
462	Grange Hill	Ilford
498	Brentwood	Romford
549	Loughton	South Woodford
677	Debden	Ilford
167	Loughton	Ilford
X21	Upminster	Brentwood
X81H	Shenfield	Grays
575	Harlow Town Centre	Romford
804	Debden	Chigwell
608	Romford	Shenfield
667	Grange Hill	Chigwell
090	Southend-on-Sea	London Victoria
250	Ipswich	Stansted Airport
481	Ipswich	London Victoria
397	Debden	South Chingford
20	Debden	Walthamstow
Z2	Lakeside	Amazon
347	Romford	Ockendon
370	Lakeside	Romford

372	Hornchurch	Lakeside

Table 60 Transport for London cross border services.

Personal Journey % Modal Share Nationally

Mode	2015-16	2016-17	2017-18	2018-19	2019-20
Walk	28.66%	30.01%	30.58%	31.05%	30.95%
Bicycle	1.70%	1.45%	1.60%	1.62%	1.59%
Car / van driver	38.02%	38.29%	37.64%	37.62%	37.34%
Car / van passenger	20.33%	19.84%	19.68%	19.76%	19.67%
Motorcycle	0.27%	0.30%	0.31%	0.18%	0.21%
Other private transport	0.66%	0.62%	0.59%	0.71%	0.70%
Bus in London	2.01%	1.58%	1.69%	1.44%	1.79%
Local bus	4.12%	3.48%	3.60%	3.11%	3.11%
Non-local bus	0.06%	0.06%	0.07%	0.04%	0.05%
London Underground	0.91%	0.98%	0.97%	1.03%	1.17%
Surface Rail	2.00%	2.06%	2.02%	2.11%	2.09%
Taxi / minicab	0.97%	1.06%	0.88%	0.99%	1.07%
Other public transport	0.29%	0.26%	0.37%	0.33%	0.27%

Table 61 Personal Journey % Modal Share nationally.

Key urban bus corridors and associated Service intervention points (SIPs) extracted from the Local Bus Service Priority Policy 2015-20

Town		Transport Corridor	Peak	Daytime	Evenings	Sundays
1	Basildon	Langdon Hills – Town Centre	60	120	None	None
2		Great Berry – Town Centre	60	120	None	None
3		King Edward Road – Town Centre	60	120	None	None
4		Laindon Centre – Town Centre	30	120	None	None
5		Lee Chapel North – Town Centre	60	120	None	None
6		Lee Chapel South – Town Centre	60	120	None	None
7		Basildon Hospital – Town Centre	20	60	60	60
8		Fryerns – Town Centre	30	120	None	None
9		Burnt Mills/Northlands -Town Centre	60	120	None	None
10		Felmores – Town Centre	60	120	None	None
11		Chalvedon – Town Centre	60	120	None	None
12		Long Riding – Town Centre	30	120	None	None
13		Pitsea Centre – Town Centre	30	120	None	None
14		Vange – Town Centre	30	120	None	None
15		Noak Bridge - Town Centre	60	120	None	None
16	Brentwood	Warley – Town Centre	60	120	None	None

17		Pilgrims Hatch – Rail Station	60	120	None	None
18		Bishops Hall – Rail Station	60	120	None	None
19		Three Arch – Town Centre	60	120	None	None
20		Hutton – Town Centre	30	120	None	None
21		Shenfield – Town Centre	30	120	None	None
22	Chelmsford	Newlands Spring – Town Centre	30	120	None	None
23		Melbourne – Town Centre	30	120	None	None
24		Chignall Estate – Town Centre	60	120	None	None
25		Woodhall Estate – Town Centre	60	120	None	None
26		Broomfield Hospital – Town Centre	20	120	60	60
27		Writtle – Town Centre	30	120	None	None
28		Westlands – Town Centre	60	120	None	None
29		North Springfield – Town Centre	30	120	None	None
30		Springfield – Town Centre	30	120	None	None
31		Chelmer Village – Town Centre	30	120	None	None
32		Springfield Park – Town Centre	60	120	None	None
33		Great Baddow – Town Centre	30	120	None	None
34		Meadgate – Town Centre	60	120	None	None
35		Moulsham Lodge – Town Centre	30	120	None	None
36		Tile Kiln – Town Centre	60	120	None	None
37		Galleywood – Town Centre	30	120	None	None
38	Clacton	Jaywick – Town Centre	60	120	None	None
39		Bockings Elm – Town Centre	60	120	None	None
40		Great Clacton – Town Centre	30	120	None	None
41		Burrsville – Town Centre	60	120	None	None
42		Holland – Town Centre	30	120	None	None
43	Colchester	Monkwick – Town Centre	30	120	None	None
44		St Michaels – Town Centre	60	120	None	None
45		Shrub End – Town Centre	30	120	None	None
46		Five Ways – Town Centre	30	120	None	None
47		Stanway – Town Centre	30	120	None	None
48		Lexden – Town Centre	30	120	None	None
49		West Bergholt – Town Centre	60	120	None	None
50		Mile End – Town Centre	60	120	None	None
51		General Hospital – Town Centre	20	60	60	60
52		North Station – Town Centre	20	60	60	60
53		Highwoods – Town Centre	30	120	None	None
54		Magdalen Wood – Town Centre	60	120	None	None
55		Parsons Heath – Town Centre	60	120	None	None

56		Greenstead – Town Centre	30	120	None	None
57		University – Town Centre	30	120	None	None
58		Rowhedge – Town Centre	60	120	None	None
59		Old Heath – Town Centre	30	120	None	None
60	Harlow	Latton Bush – Town Centre	30	120	None	None
61		Kingsmoor – Town Centre	30	120	None	None
62		Passmores – Town Centre	30	120	None	None
63		Sumners – Town Centre	60	120	None	None
64		Katherine's – Town Centre	30	120	None	None
65		Great Parndon – Town Centre	60	120	None	None
66		Little Parndon – Town Centre	60	120	None	None
67		Mark Hall North – Town Centre	60	120	None	None
68		Mark Hall South – Town Centre	30	120	None	None
69		Old Harlow – Town Centre	30	120	None	None
70		Church Langley – Town Centre	30	120	None	None
71		Potter Street – Town Centre	30	120	None	None
72		Town Centre - Town Station	20	60	120	120
73	Braintree	Bocking – Town Centre	60	120	None	None
74		Black Notley – Town Centre	60	120	None	None
75		Mountbatten Road – Town Centre	60	120	None	None
76		Cressing Road – Town Centre	60	120	None	None
77		Great Notley – Town Centre	60	120	None	None
78	Rayleigh	Little Wheatleys – Town Centre	60	120	None	None
79		Eastwood – Town Centre	60	120	None	None
80		Hockley – Town Centre	60	120	None	None
81		Town Centre – Thundersley	60	120	None	None
82		Hullbridge – Town Centre	60	120	None	None

Table 62 Key urban bus corridors and associated SIPs.

Key Interurban Bus Corridors and associated Service intervention points (SIPs) extracted from the Local Bus Service Priority Policy 2015-20

Transport Corridor	Peak	Daytime	Evenings	Sundays
1. Harwich – Colchester	120	120	None	None
2. Clacton – Colchester	60	120	None	None
3. Ipswich – Colchester	120	120	None	None
4. Colchester – Halstead	120	120	None	None
5. Colchester – Braintree	60	120	None	None
6. Colchester – Maldon	120	120	None	None

7. Braintree – Halstead	120	120	None	None
8. Braintree – Chelmsford	60	120	None	None
14. Harlow – Chelmsford	60	120	None	None
15. Brentwood – Chelmsford	60	120	None	None
16. Basildon – Chelmsford	60	120	None	None
17. Southend – Chelmsford	120	120	None	None
18. S W Ferrers – Chelmsford	120	120	None	None
19. Maldon – Chelmsford	120	120	None	None
20. Basildon – Southend	60	120	None	None
21. Basildon – Billericay – Brentwood	60	120	None	None
22. Brentwood – Romford	60	120	None	None
23. Wickford – Southend	120	120	None	None
25. Bishops Stortford – Harlow	60	120	None	None
26. Saffron Walden – Bp's Stortford	120	120	None	None
27. Canvey Island – Southend	120	120	None	None
28. Saffron Walden – Cambridge	120	120	None	None
29. Canvey Island - Chelmsford	120	120	None	None
30. Colchester - Chelmsford	60	120	None	None
31. Walton - Clacton	120	120	None	None
32. Harlow - Epping	120	120	None	None
33. Wickford - Basildon	120	120	None	None
34. Wickford - Chelmsford	120	120	None	None

Table 63 Key Interurban Bus Corridors and associated SIPs.

Essex DaRT Areas of Operation

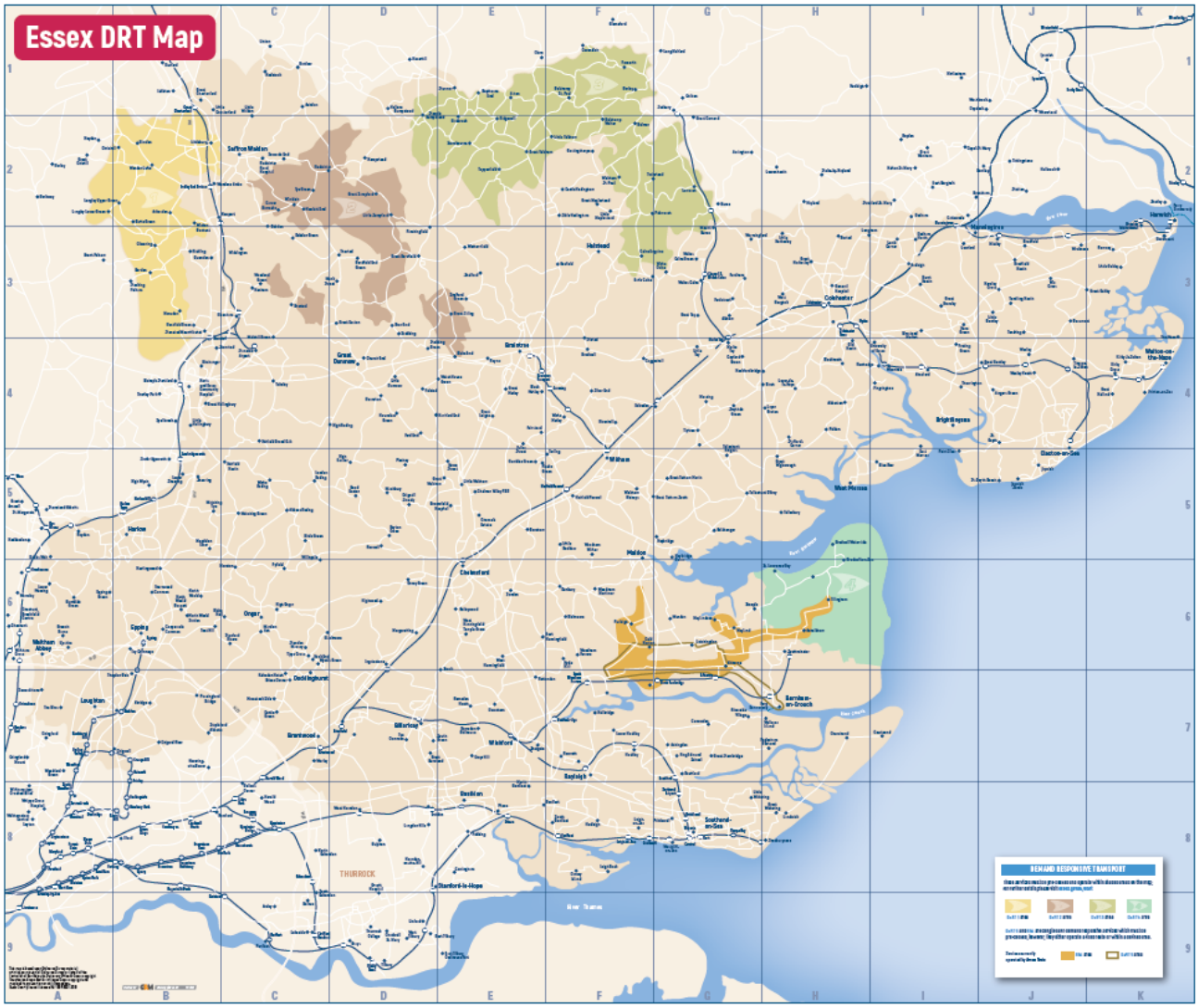

Figure 10 Essex DaRT areas of operation.

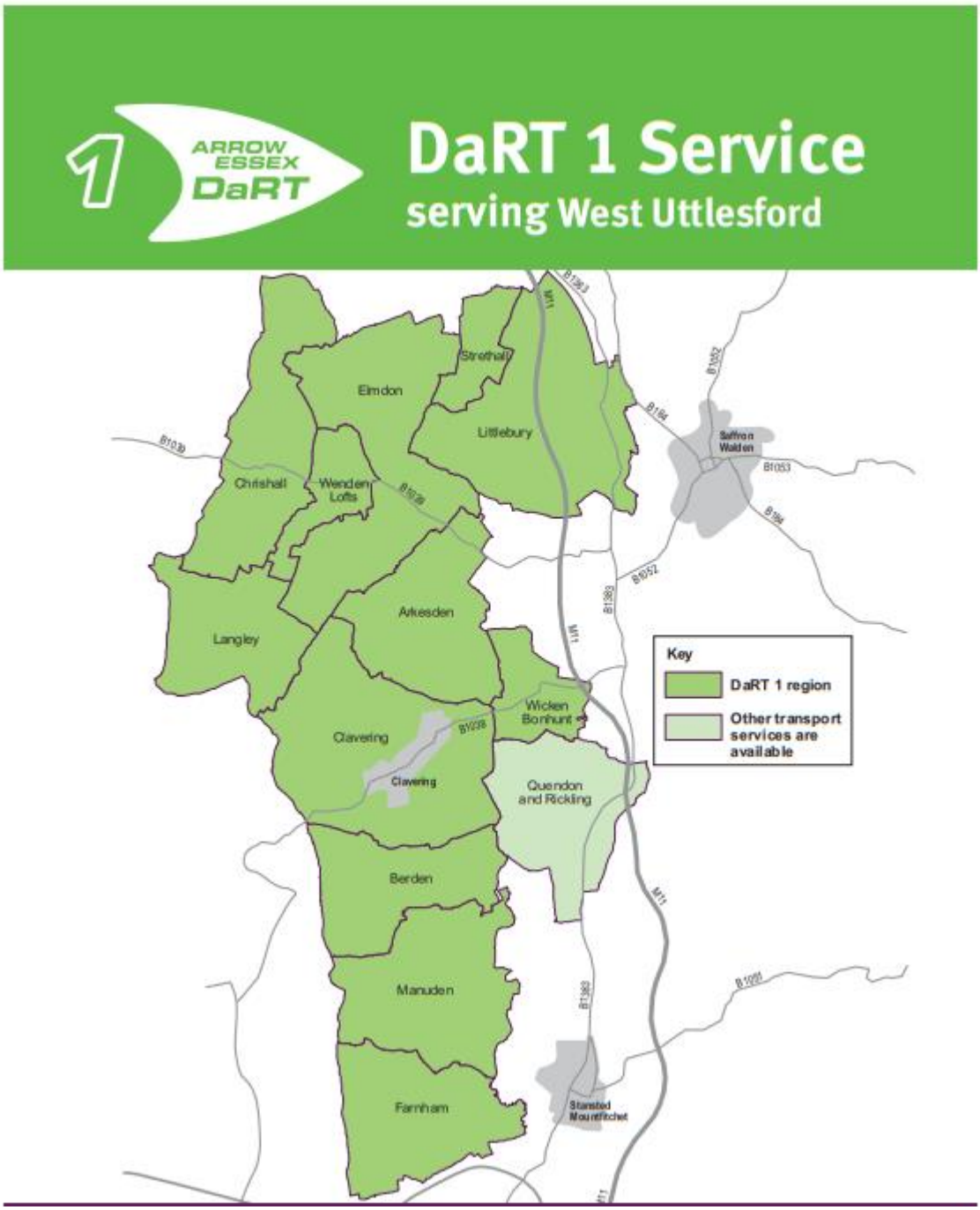

Figure 11 DaRT One serving West Uttlesford.

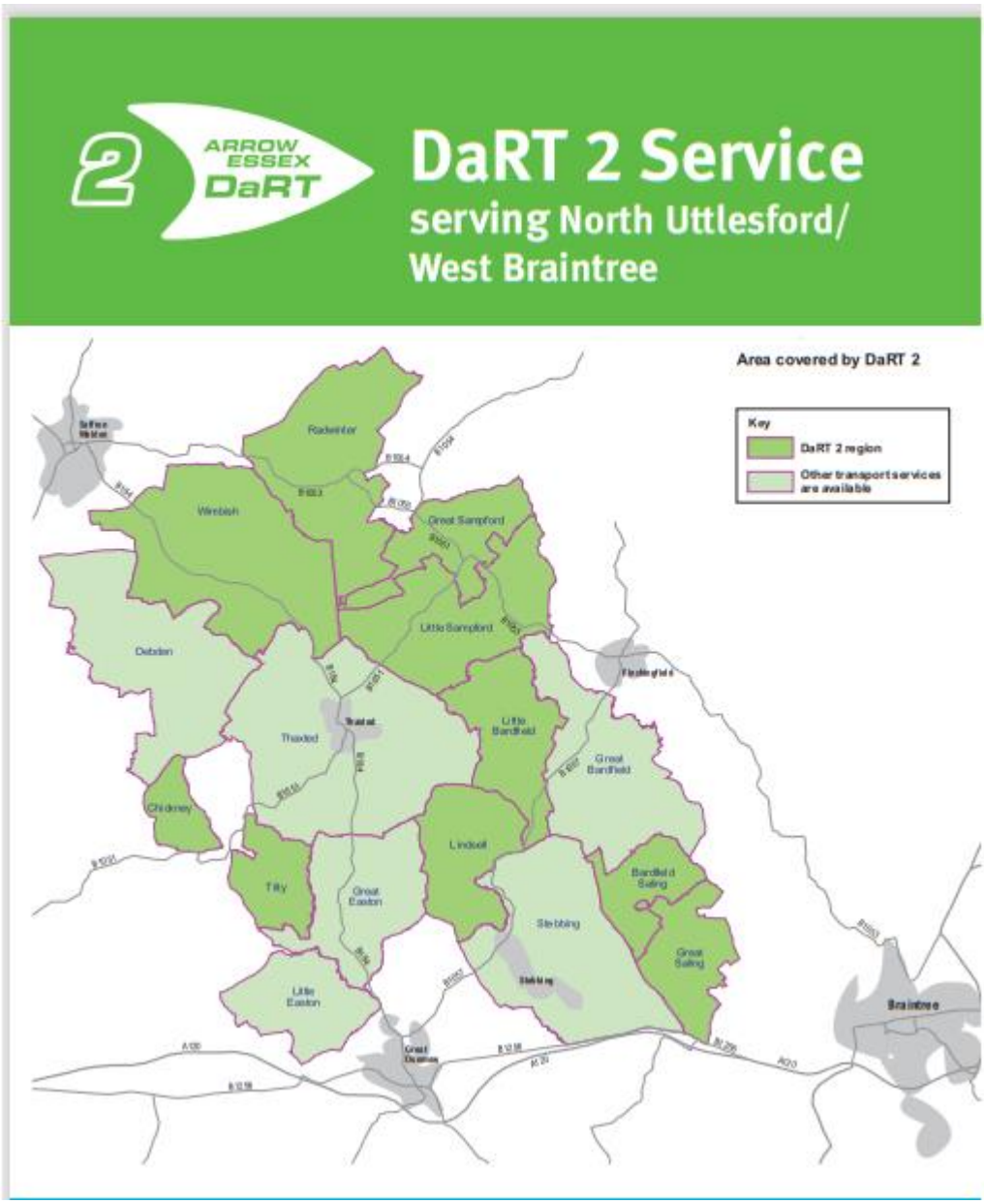

Figure 12 DaRT Two serving Uttlesford and Braintree.

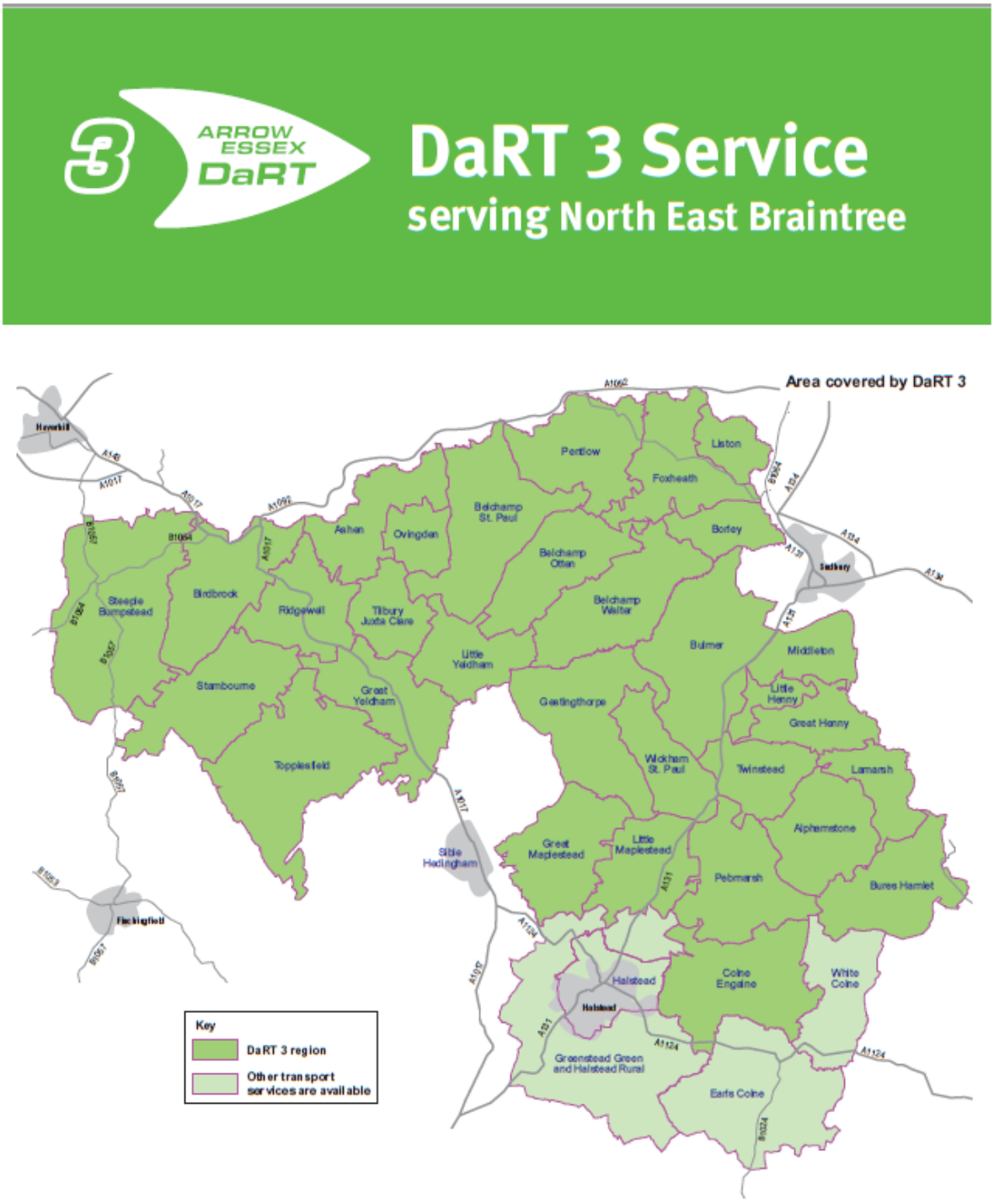

Figure 13 DaRT Three serving NE Braintree.

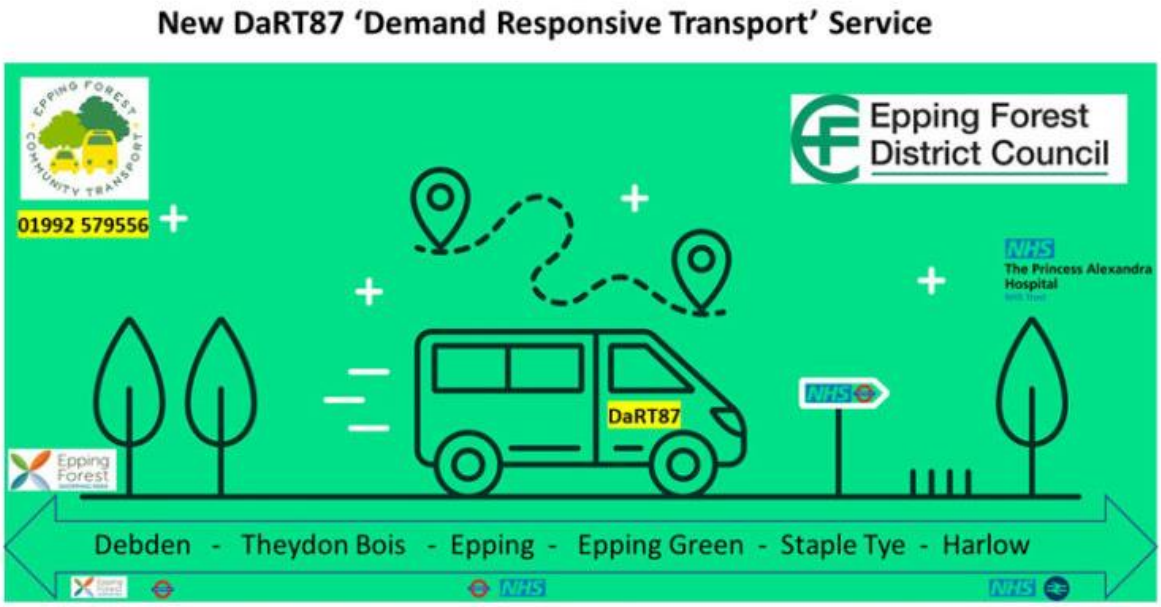

Figure 14 DaRT 87 service.

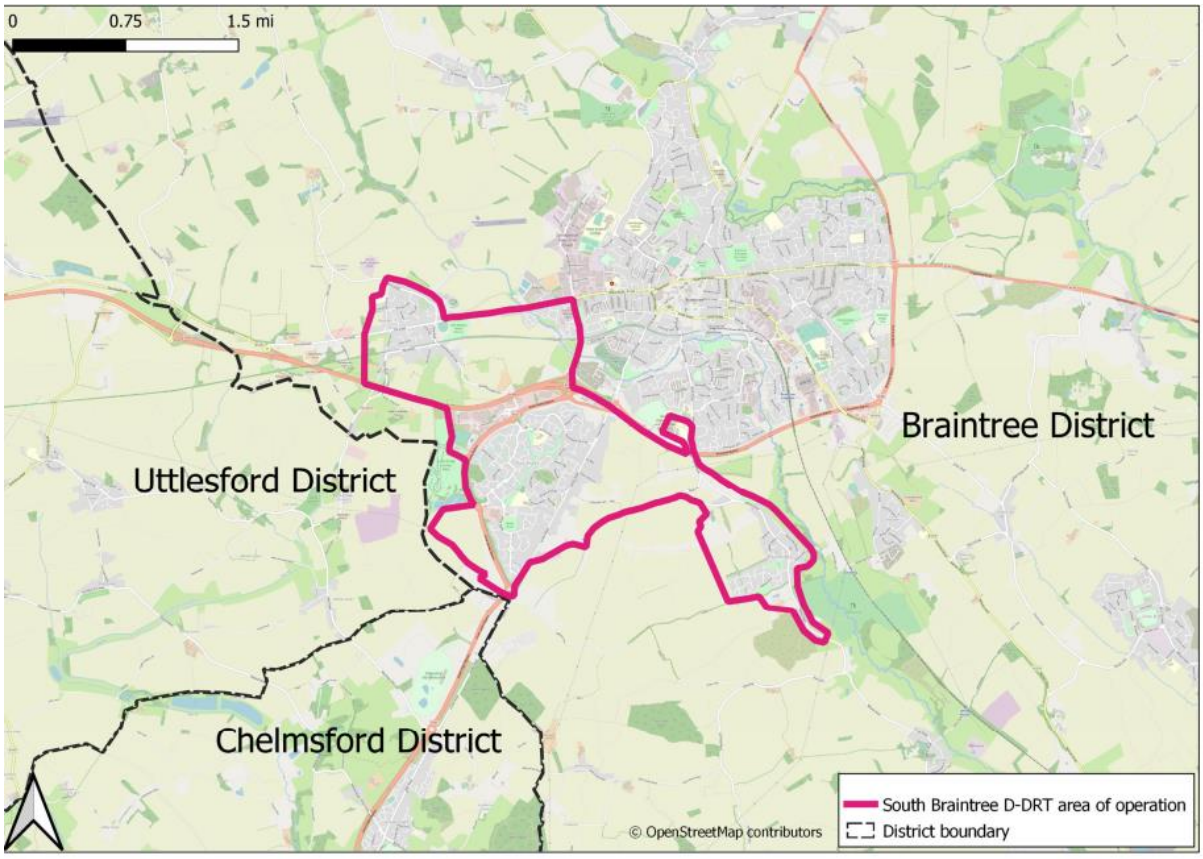

Figure 15 South Braintree operating area.

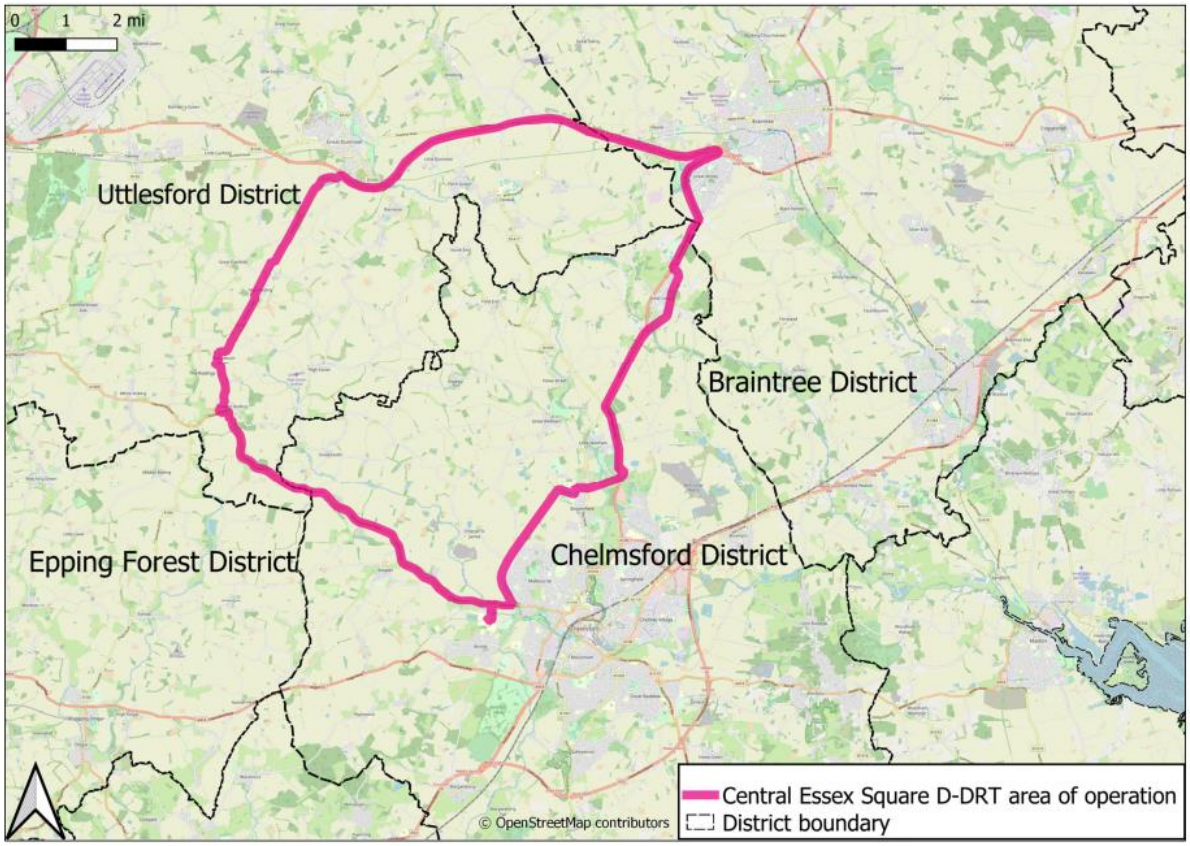

Figure 16 Central Essex DaRT area of operation.

Appendix C Accessibility Mapping to Key Service and Amenity Centres.

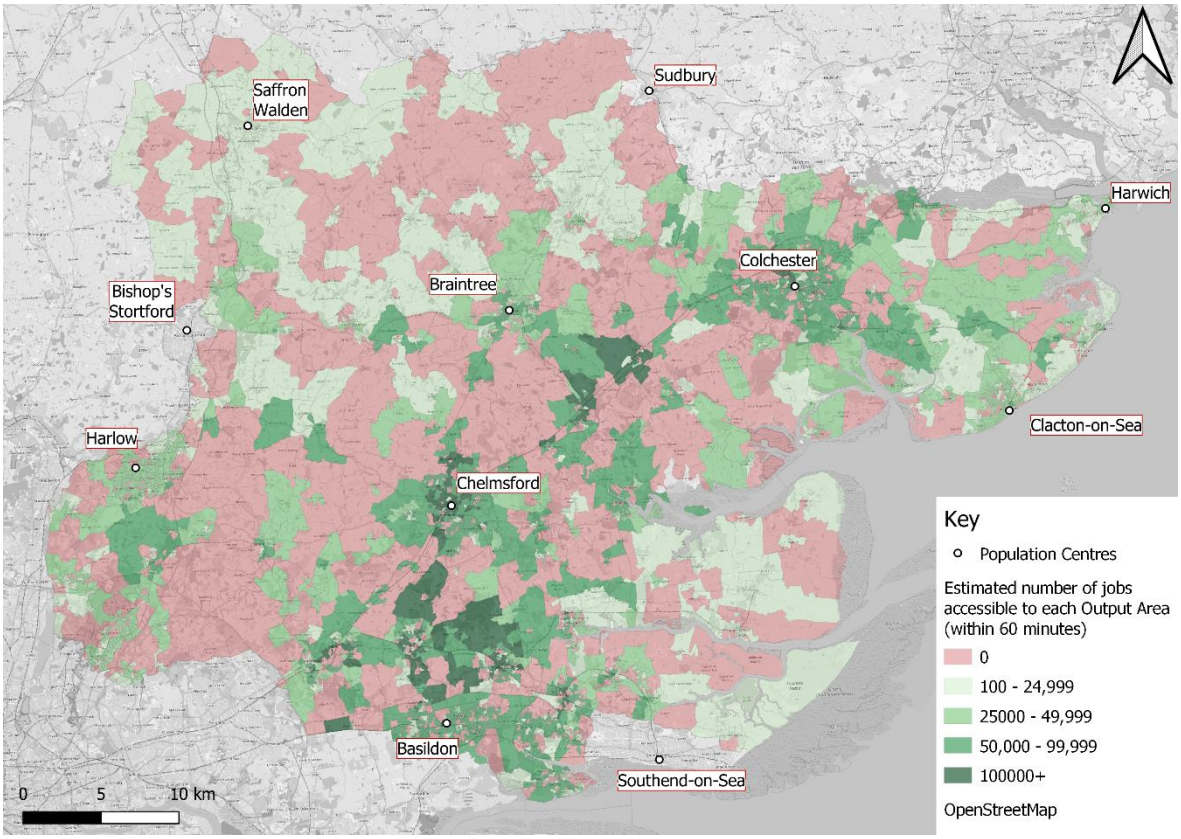

Figure 17 Employment.

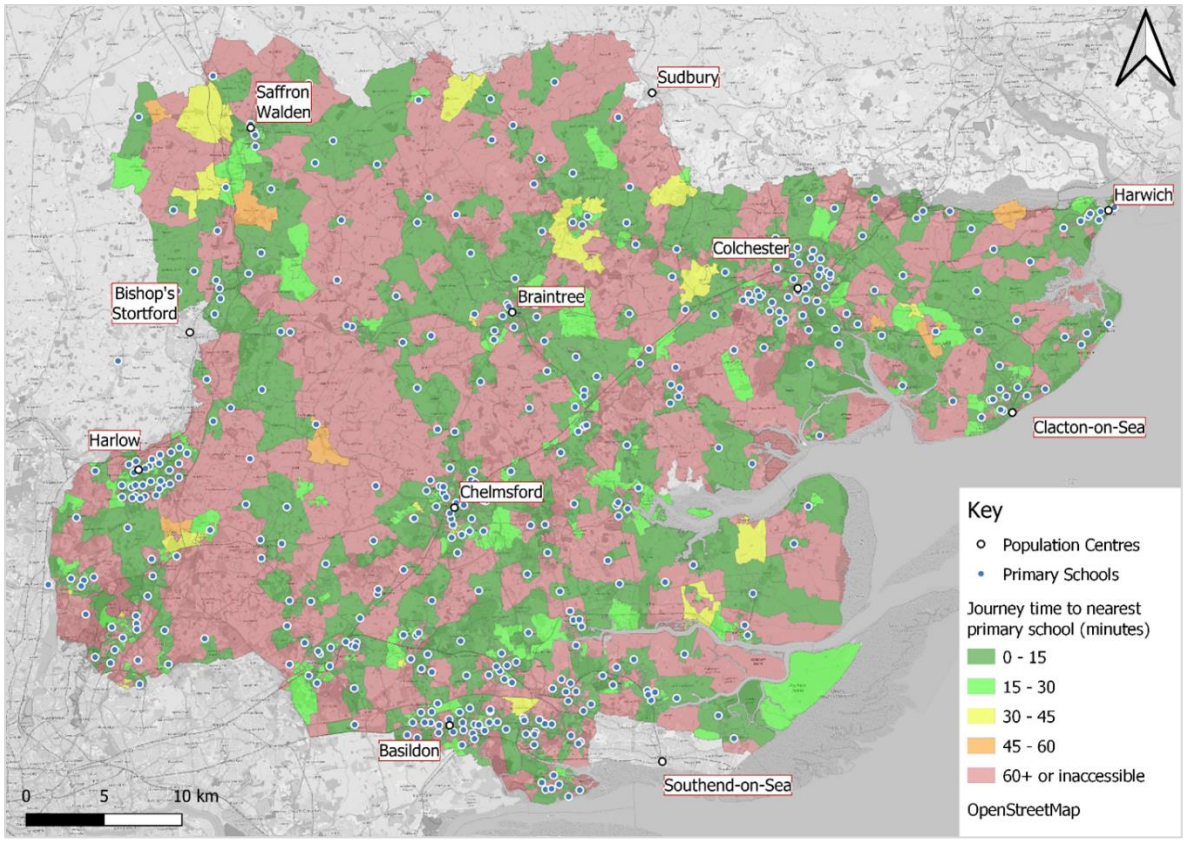

Figure 18 Primary schools.

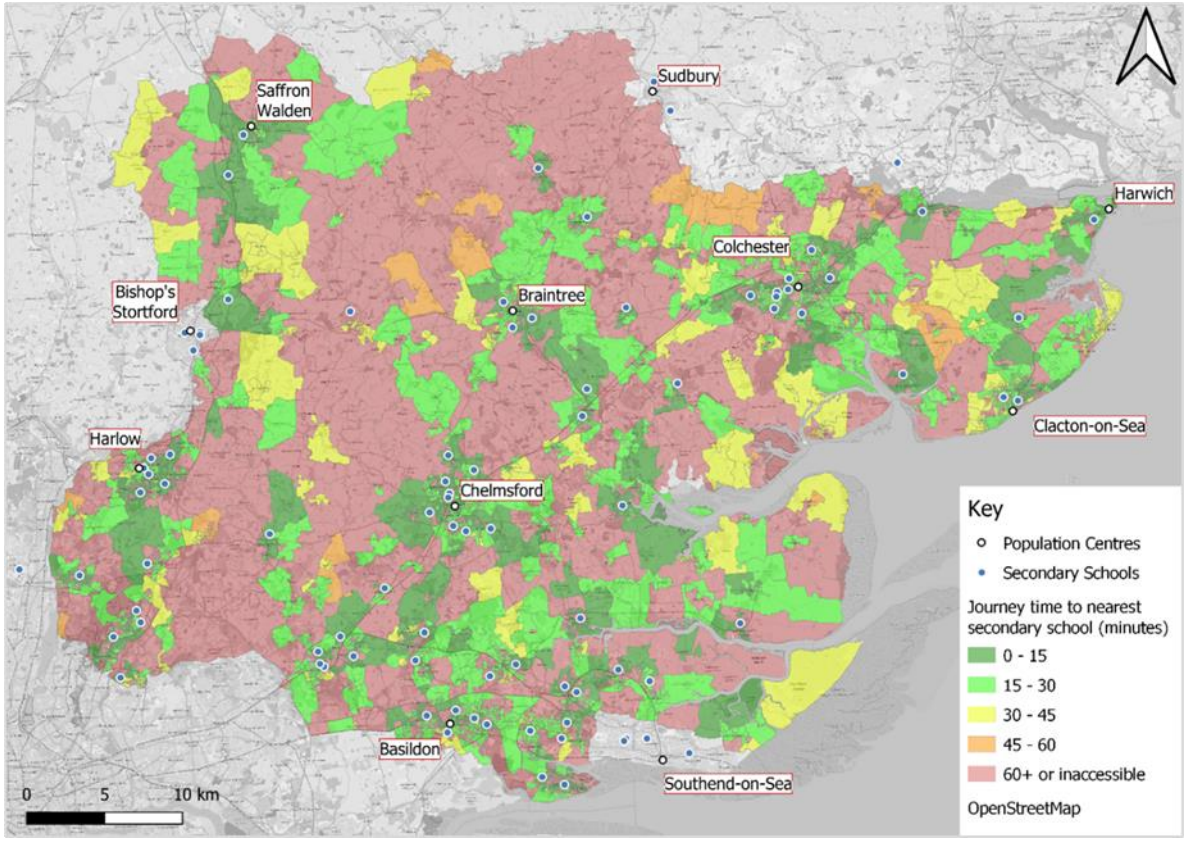

Figure 19 Secondary schools.

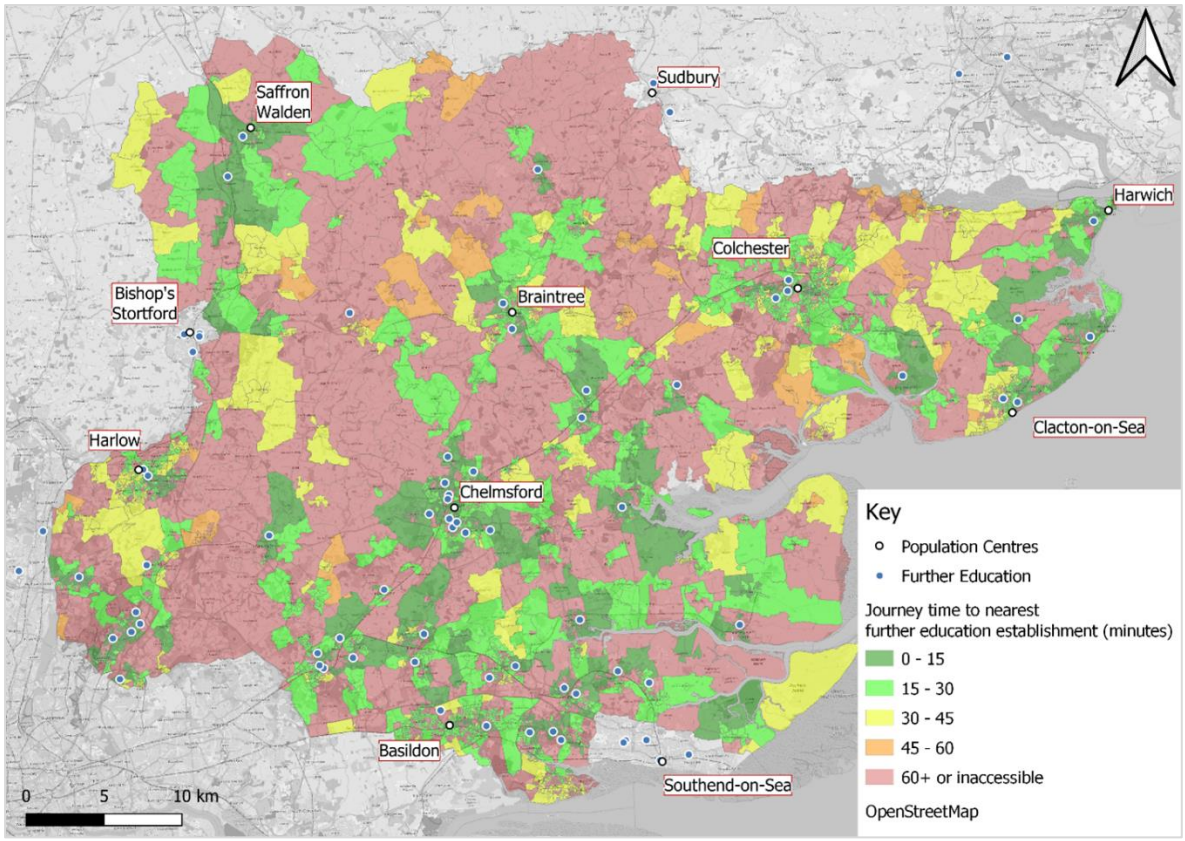

Figure 20 Further education.

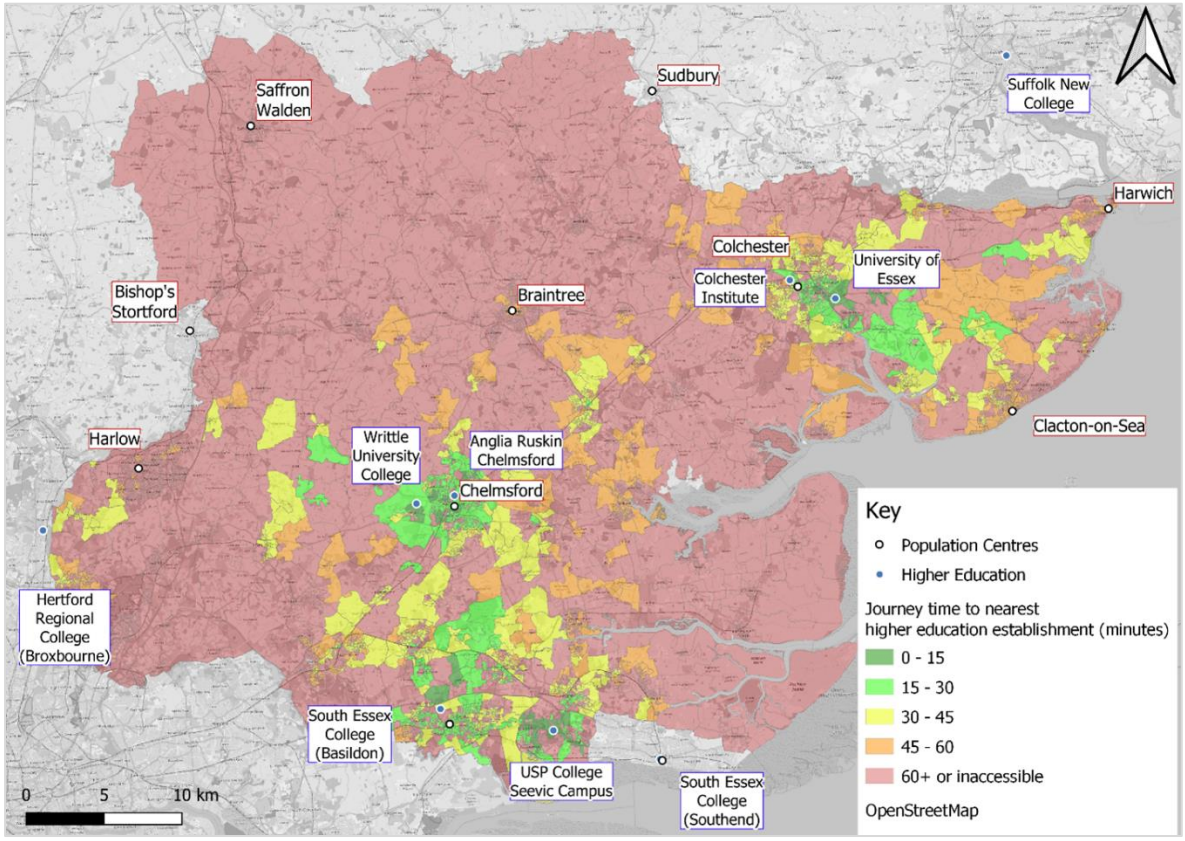

Figure 21 Higher education.

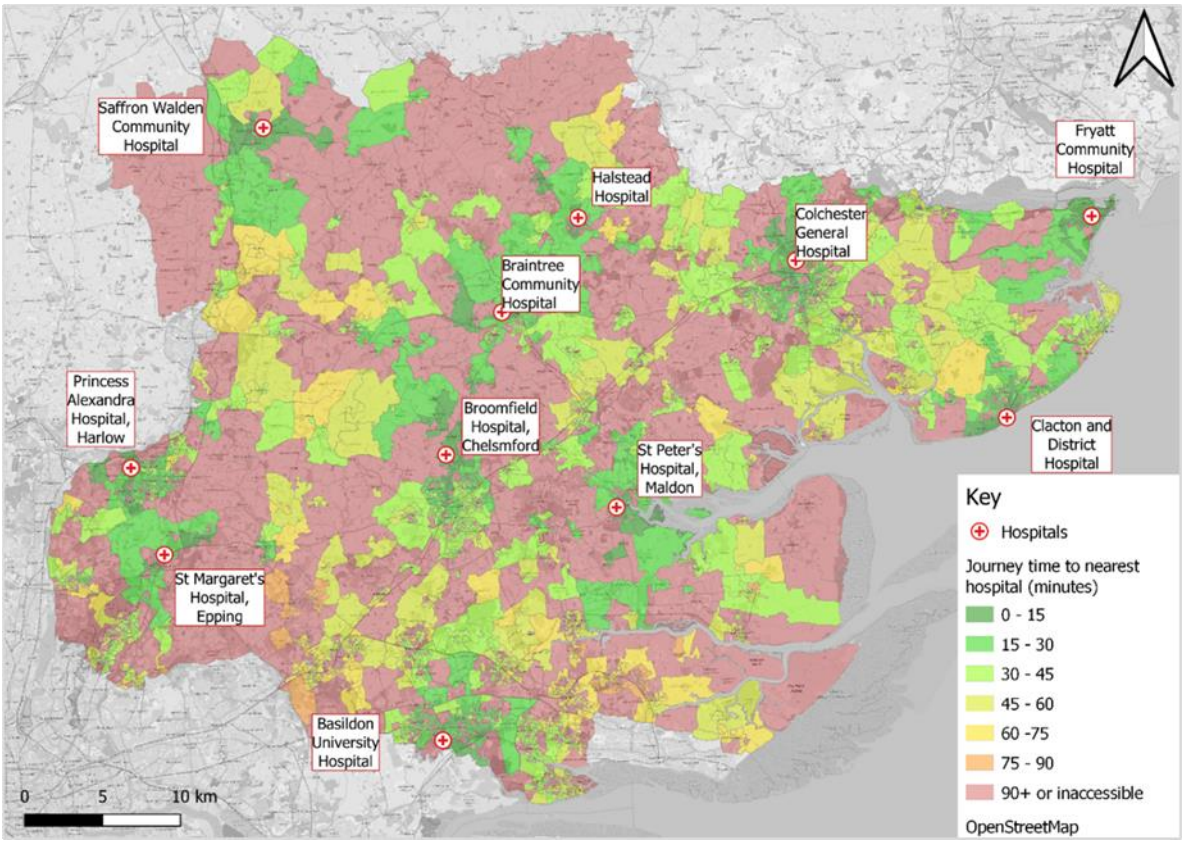

Figure 22 Hospitals.

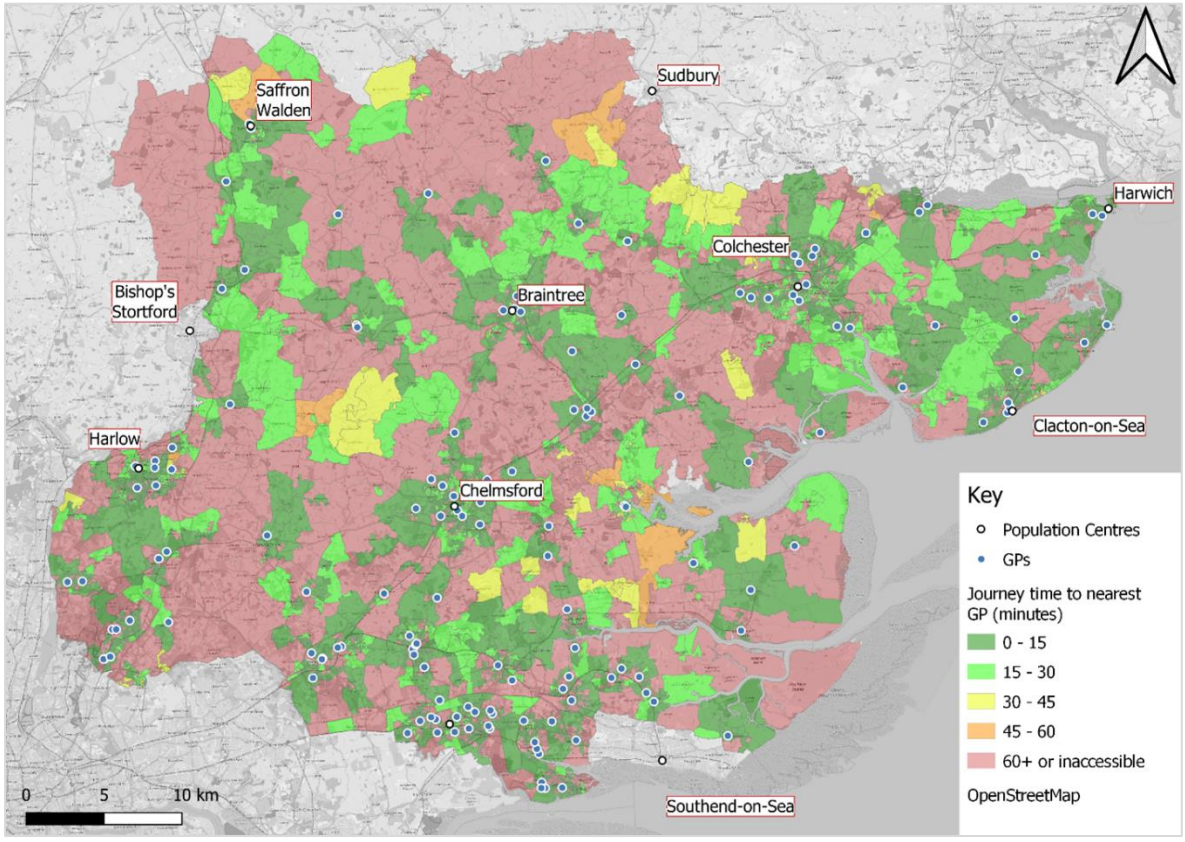

Figure 23 GP Surgeries.

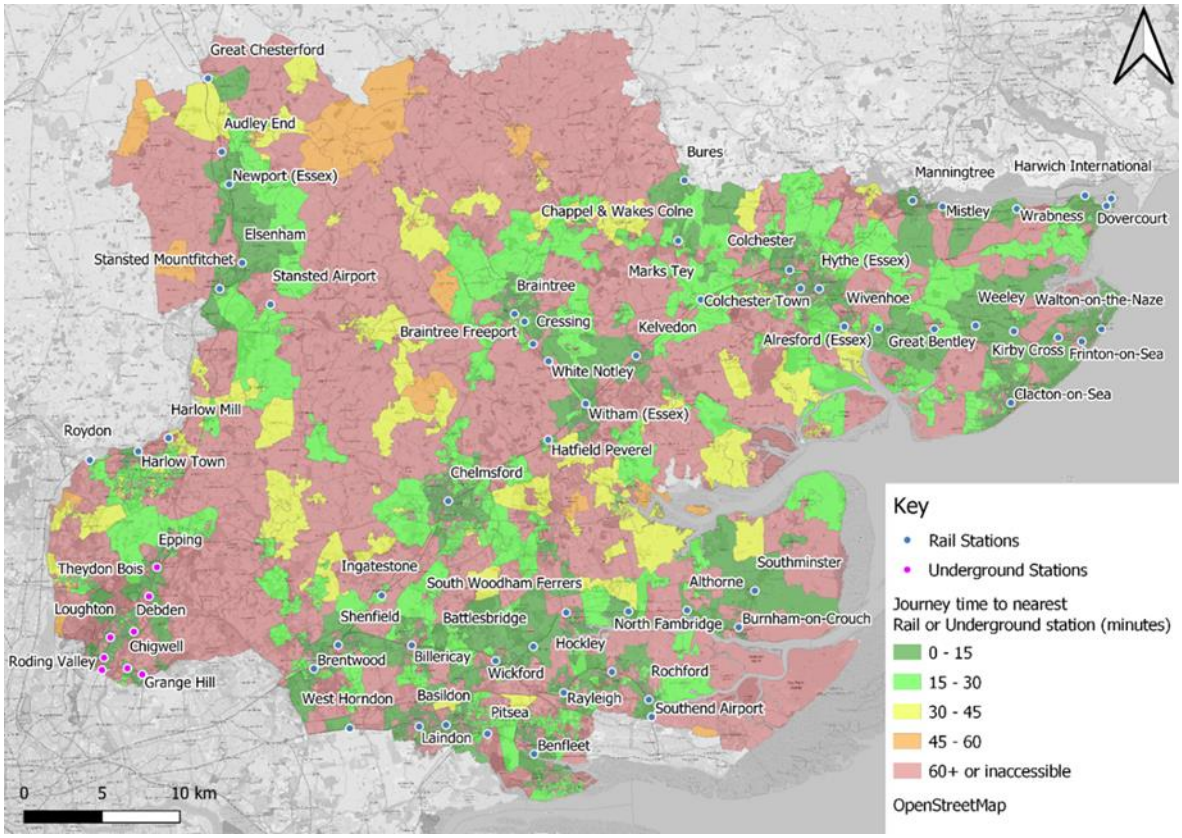

Figure 24 Rail and Underground Stations.

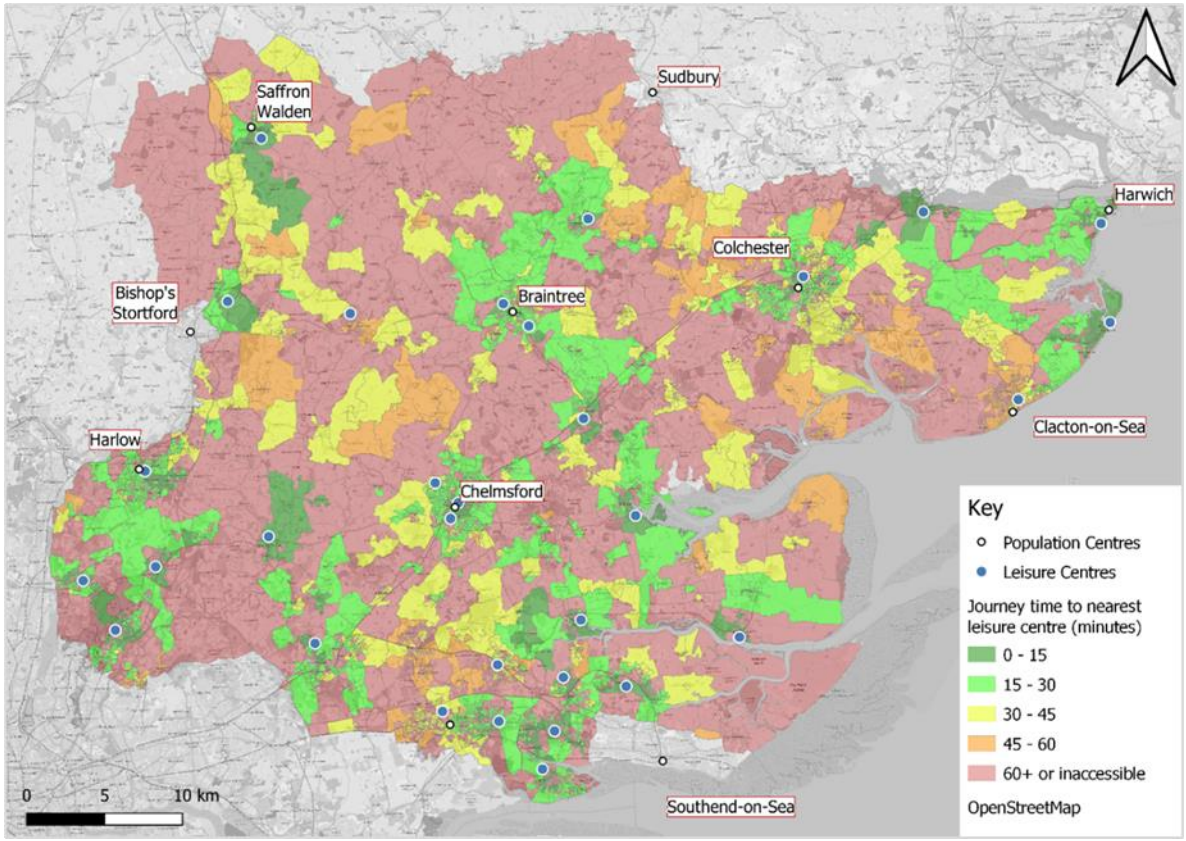

Figure 25 Leisure Centres.

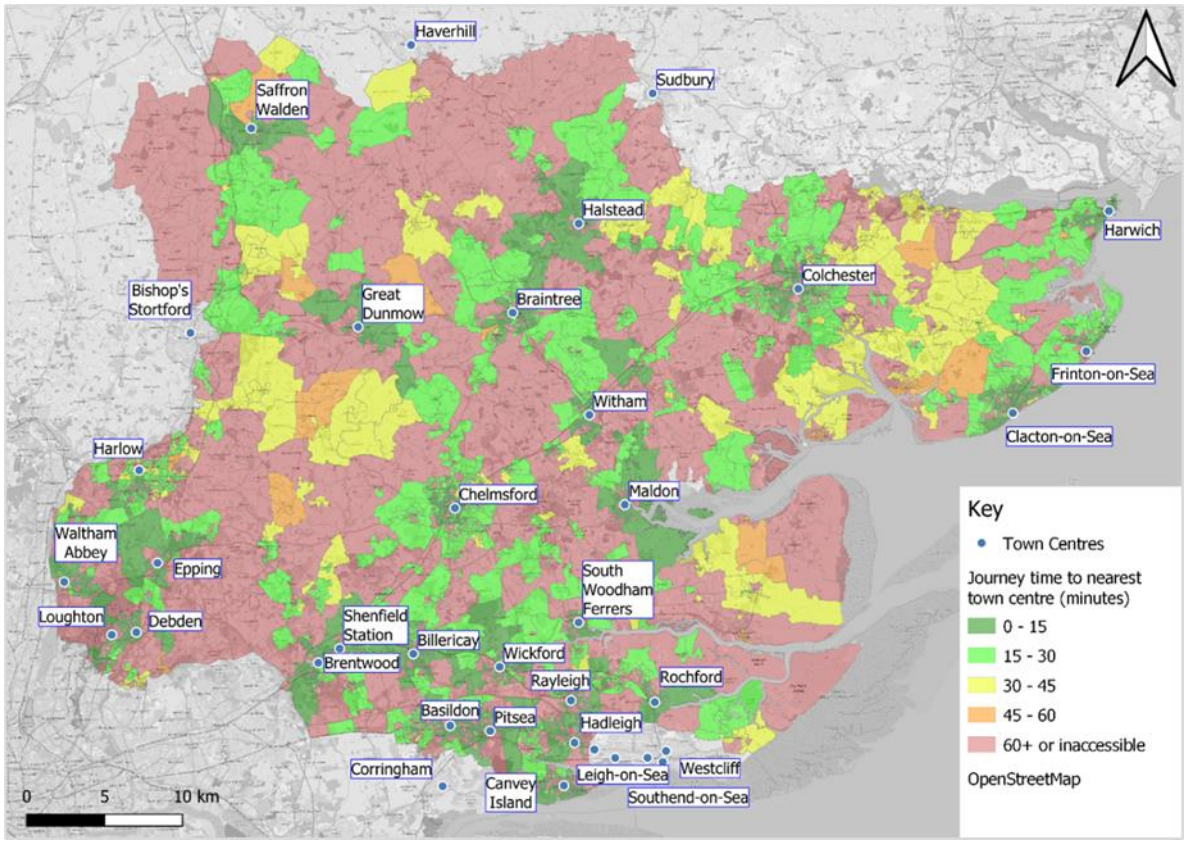

Figure 26 Town Centres.

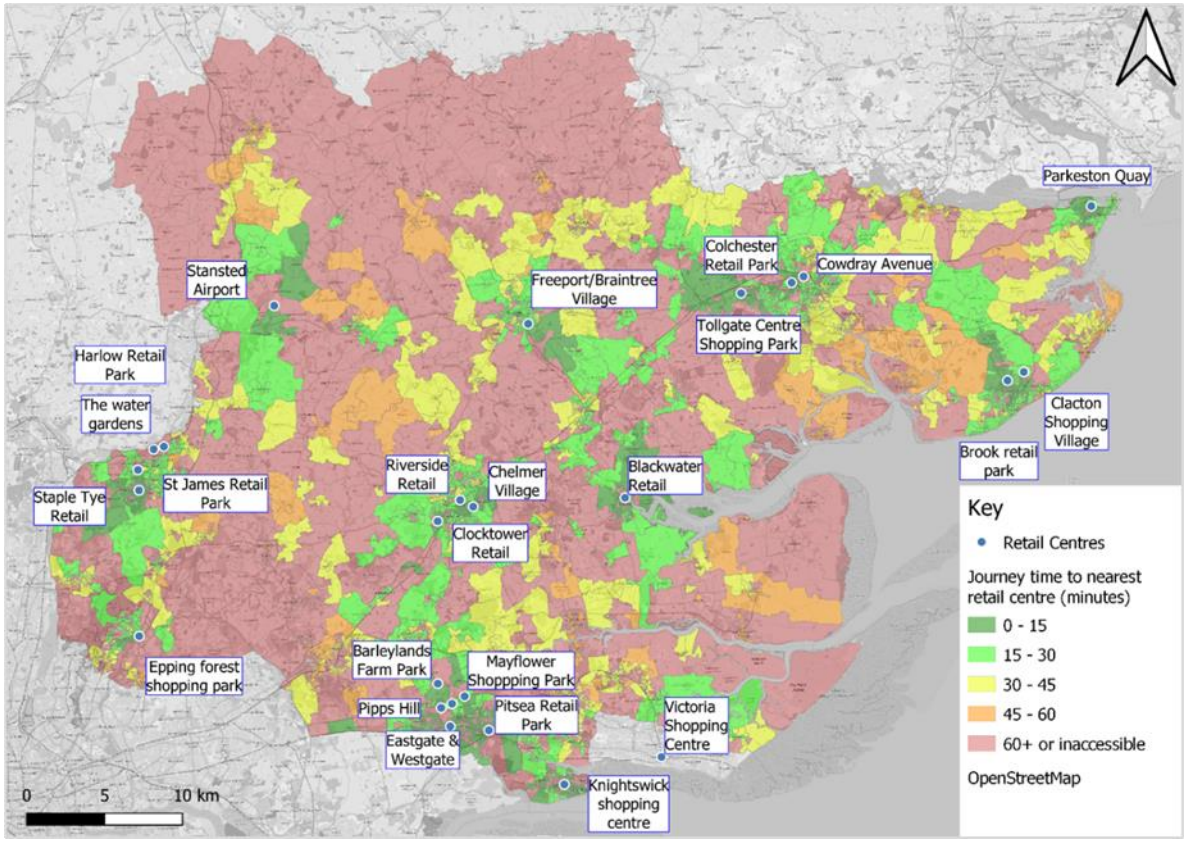

Figure 27 Retail Centres.

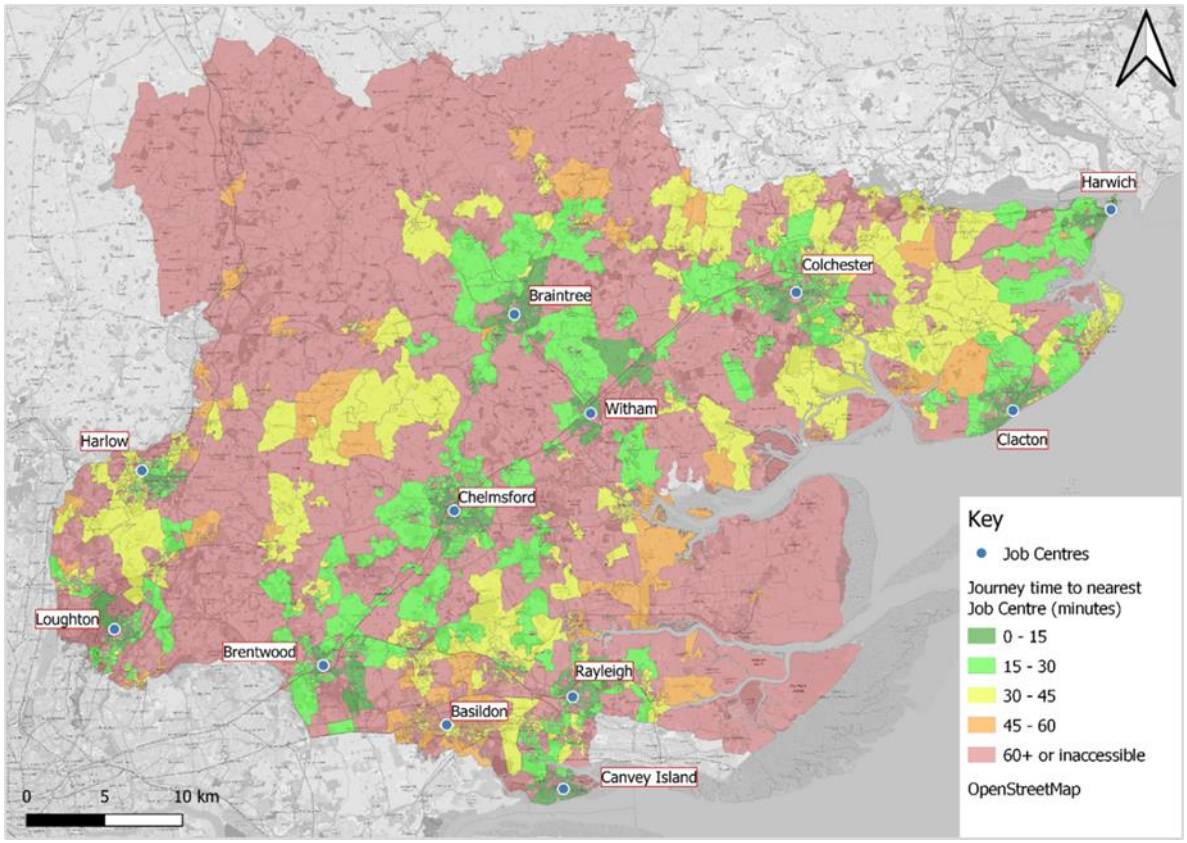

Figure 28 Job Centres.

Appendix D Bus Stations in Essex

Bus Stations are divided onto **Major Interchanges (MI)** acting as foci for local urban/rural networks, cross Essex Inter-urban and long-distance networks (including coach services), **Local Interchanges (LI)**, acting as foci for town and Essex interurban networks and **Local Bus Stations (LBS)**, smaller stations acting largely as foci for the local bus network.

Notes on known issues, site capacity and passenger facility quality are also attached.

Location	Type	Notes
Chelmsford Bus Station	MI	Town centre site, modern design Fair to good passenger facilities Co-located with Chelmsford Railway Station. Operating over service capacity and more demand expected Owned by ECC but technically leased to First Only 3 layover bays – inadequate Scope to expand footprint and improve.
Basildon Bus Station	MI	Town centre site, Fair to poor passenger facilities Located near Railway Station. Older design as part of town shopping centre. Operating over-service capacity more demand expected. Owned by a property management company and leased to First No layover bays and recent on street provision removed by recent town centre scheme Scope to improve through improved layout plus possible to expand footprint
Harlow Bus Station	MI	Town centre site, Fair to poor passenger facilities Poor modal interchange options. Newer bespoke design but has aged poorly Operating within current service capacity but more demand expected. Subject of Town Centre Renewal bid to government completely rebuild Also seen as terminus/interchange for new Harlow Sustainable Travel Corridor BRT service Enclosed passenger waiting area is claustrophobic and uninviting. Air quality issue. Owned by Harlow District Council Limited layover bays Scope to expand footprint
Colchester ‘Bus Station’	LI	On road bus terminus in Osborne/Stanwell Street. Design poor ad-hoc to fit pre-existing street scape Passenger facilities poor. Located at bottom of a hill, so problematic for mobility impaired access to/from town centre Modal interchange poor. Operating chronically above capacity. Long distance services use other locations across town. Vehicles frequently displaced from allocated stands -insufficient layover bays for key interurban bus station Only scope for expansion is by use of land designated for neighbouring development. Air quality issues

		No room for expansion Reasonably close to Colchester Town Station Operated by CBC but on Highway's land
Braintree Bus Station	LI	Town centre site bespoke bus station Modern design, - due to re-open November 2021 Passenger facilities fair Modal interchange poor, some distance from Rail station, limited cycle storage. Low level of layover bays provided Operating within capacity, some future proofing built into new layout, limited room for expansion (which is expected) Wider town road layout makes access for buses complex Owned by Braintree District Council Limited scope to expand
Harwich Bus Station	LI	Rail Interchange Site Non town centre location Passenger facilities poor Operating within capacity Owned by Greater Anglia Sufficient layover provision Scope to re plan, but not needed yet
Clacton Pier Avenue Interchange	LI	On road bus terminus - a town centre cluster of stops Passenger facilities poor Some distance from Rail Station-interchange poor Operating within capacity Located on public highway Insufficient layover provision Expanded facilities could be provided – could be better to reuse former bus station site
Colchester General Hospital Interchange	LBS	Modern design Passenger facilities modernised but limited Recently rebuilt Operating over capacity – northbound services cannot serve the site Almost entirely served by Colchester town services Owned by North Essex and Suffolk Hospital Trust No layover provision for buses or drivers. Low scope for expansion unless car park used
Witham Rail Station	LI	Rail Interchange Site Out of town location Good interchange with rail service Served by interurban and local services Poor quality infrastructure Passenger facilities poor Small cluster of stops adjacent to station On highway location No layover provision for buses or drivers Could expand on street provision
Halstead, Butler Road	LBS	Town edge town location Not served by any commercial bus services (services using it are ECC contracted services) Very poor level of passenger facilities Commercial services serve High Street stops instead Ownership unclear Limited layover provision for buses and drivers Scope to make more useful facility
Broomfield Hospital Interchange	LBS	Modern design but makes poor use of available space Needs redesign to enable it to cope with growing needs Some modal conflict with non-emergency ambulance services and patient drop off

		Mainly served by Chelmsford City services, but also has interurban services to Stansted/Braintree/Colchester Owned by Mid and south Essex NHS trust Limited layover provision No scope for expansion, but could improve layout on existing footprint Passenger facilities (inside hospital) fair to good.
Stansted Airport	MI	Rail/Air Interchange Site Was designated as a Regional Interchange Centre Extensive open bus area Bus turning area has is open concrete- unattractive for passengers Limited capacity of undercover passenger facilities Large range of facilities available from main airport concourse Operating within capacity Major location for coach services and interurban bus services. Good connectivity with rail and air networks. Owned by MAG group Sufficient layover provision Some scope for expansion, but needs better designed
Brentwood Rail Station	LI	Rail/bus interchange site Interchange point for the Crossrail rail line But only 3 on-street stops, with very limited passenger waiting facilities and congestion issues. Operating significantly over capacity and expected to get worse as demand grows due to housing and cross rail. Most Brentwood services operate to or past the station No layover provision Scope to build better facility adjacent to platform 4
Epping LUL Station	LI	Underground/Interchange Site TfL Owned interchange Poor level of facilities Operating significantly over capacity Dated design Significant modal conflict on forecourt area Vehicle access very poor for larger buses that must shunt to get around turning point Good access to TfL Central Line Served by both local and interurban services No layover provision. Scope to expand within car park, should be requirement when TfL seek permission to sell some land
Loughton LUL Station	LI	Underground/Rail Interchange Site Good access to TfL Central Line Modern design Operating within capacity at present Local and interurban services operate on high frequencies. TfL Owned facility Adequate layover provision Footprint sufficient Parking issues around site
Billericay Rail Station	LI	Rail Interchange Site Good access to rail network Cluster of stops on Rail Station forecourt ECC are Working with Greater Anglia to provide modal separation and introduce safety features within station rebuild project Located some distance from town centre Likely to need increased capacity in future, satisfactory at present

		Hub for several interurban services in all directions Greater Anglia have franchise for station No Layover provision No scope to expand footprint
South Benfleet Station	LI	Stops either side of wide road Severe disruption caused by cars dropping off passengers Busy location as located on entrance to Canvey Island and provides link to rail network Poor level of passenger facilities Good interchange with Rail Network Services largely within Southend conurbation C2C have franchise for station No layover provision. Could re purpose adjacent land / highway to provide better facility
Wickford Rail Station/Wickford 'Swans' bus stop cluster	LI	Rail Interchange Site Recently refurbished Out of town location. Good interchange with rail network Low level of passenger facilities Most services in town don't serve station but use stop cluster at Wickford Swans due to bus access issues. Some passengers also a walk from town centre facilities Rail Station operating within capacity, Wickford Swans cluster operating over capacity Greater Anglia have franchise for station Limited layover provision No scope to expand
Rayleigh Rail Station	LBS	Rail Interchange Site Out of town location Operating over capacity Local and interurban services use the interchange Forecourt requires redesign to incorporate modal separation and improve operational soundness Low level of passenger facilities Greater Anglia have franchise for station No layover provision Limited scope to expand, but existing forecourt could be better designed
Basildon Hospital Interchange (on Hospital grounds)	LI	Old fashioned and tired design – due to be refurbished but with no extra capacity built in Serves local and interurban services Poor level of passenger facilities Out of town location, but suitable for accessing edge of hospital building complex Operating over capacity Owned by Mid and south Essex NHS trust Inadequate layover provision No scope to expand yet – but may be able to in future
Chelmsford Retail Market	LBS	Sub Station to Min Chelmsford station nearer town centre underneath multi storey car park. Operating over capacity Well located for access to Chelmsford Retail core Very poor facilities and design that provides issues related to personal safety Only accommodates buses operating in one direction Compact design under multi storey car park limits scope for expansion. Owned by Chelmsford City Council No layover provision

		No scope to expand
Audley End Station	LBS	Rail Interchange Site Out of town site. On road stops serve main 'town' services Audley End is the rail station for Saffron Walden – good access to rail network Low level passenger facilities Operating within capacity at present, but will need to expand for new network planned Mostly interurban market town services Greater Anglia have franchise for station Limited layover provision Scope to expand
Harlow Town Rail Station	LBS	Rail Interchange Site Good interchange with rail network Low level of passenger facilities Tired, old, unwelcoming structure, Poor layout Lightly served by local services throughout the day, some additional trips in peak times. Operating under capacity at present, but likely to struggle to cope with future expansion of HGGT and bus network Greater Anglia have franchise for station Layover provision as stands under utilised Limited scope to expand, but better operational efficiency can come from redesign
Colchester Mainline Station	LBS	Rail Interchange Site Good access to rail network Outdated and tired looking passenger facilities, mainly for rail users. Bus passenger facilities poor. Only served by 'terminating' services (ones that end at the station) due to congestion levels on station forecourt Most other buses serve stops on North Station Road a short walk away, but poor signage and information Station related stops as a whole operating over capacity and this will get worse as the town bus network grows Some interurban services but mostly Colchester town bus services Greater Anglia have franchise for station No layover provision Possible scope to expand by removing other modes from forecourt
Manningtree Rail Station	LI	Rail Interchange Site Very compact station forecourt Inadequate bus turning facility made worse by modal conflict Poor level of facilities Access road layout makes serving the station difficult Excellent access to rail network Only currently served by 2 infrequent bus services Greater Anglia have franchise for station No layover provisions Limited scope to expand, but forecourt needs complete redesign.

Table 64 Essex bus stations.

Appendix E Glossary

Air Quality Management Area (AQMA) means that, within that area, the levels of a certain pollutant are above those required by legislation for health reasons.

Bus Open Data System (BODS) is a service that will provide bus timetable, vehicle location and fares data for every local bus service in England.

Bus Rapid Transit (BRT) is also called a busway or transitway, is a bus-based public transport system designed to have better capacity and reliability than a conventional bus system.

A **Bus Service Improvement Plan (BSIP)** sets out how Local Transport Authorities, working closely with their local bus operators and local communities will set out a vision for delivering the step-change in bus services that is required by the National Strategy. In simple terms the BSIP sets out how Essex County Council will increase the number of people travelling by bus and how they will make buses more attractive than the car for more people.

Bus Service Operators Grant (BSOG) is a grant paid to operators of eligible bus services and community transport organisations to help them recover some of their fuel costs. It is a rebate on Fuel Excise Duty paid. The amount each bus operator receives is based on their annual fuel consumption.

COVID-19 Bus Service Support Grant (CBSSG) is the initial DfT payment set up to support commercial bus operators in England in recognition of the impacts of the pandemic on their revenue due to reduced patronage.

COVID-19 Bus Service Support Grant Restart (CBSSGR) The second round of grant funding paid by the DfT to bus operators to help them deal with the impact of the pandemic.

Community Infrastructure Levy (CIL) is a charge that local authorities can choose to set on new developments to help fund infrastructure requirements.

Competition and Markets Authority (CMA) is the competition regulator in United Kingdom. It is a non-ministerial government department in the United Kingdom, responsible for strengthening business competition and preventing and reducing anti-competitive activities.

Community Transport (CT) are not for profit organisations that provide flexible and accessible community-led solutions in response to unmet local transport needs, and often represents the only means of transport for many vulnerable and isolated people, often older people, or people with disabilities. They are the voluntary sector transport providers.

Department for Transport (DfT) is a government department responsible for managing, developing, and delivering all types of transport in the UK

District Network Review (DNR) is a review of the bus network (both services and infrastructure) to be undertaken for each district area in Essex.

Demand Responsive Transport (DRT) is shared transport that responds to demand. It is usually provided by smaller minibus vehicles, better suited to rural roads. DRT differs from a traditional local bus service; in that they are flexible and can divert on and off route to collect and drop off passengers within their operating area. The service is usually booked in advance.

Digital Demand Responsive Transport (D-DRT) is the combination of the above with a single on-line system to allow journey planning, service booking, payment, and communication.

Driver Certificate of Professional Competence (CPC) is a qualification for professional bus, coach and lorry drivers introduced across Europe to improve road safety and maintain high driving standards.

Driver Certificate of Professional Competence (CPC) is a qualification for professional bus, coach and lorry drivers introduced across Europe to improve road safety and maintain high driving standards.

Essex Bus Strategy Board (EBSB) is an executive board with representatives from groups that have roles in improving the bus network. It will not have any formal decision-making powers but will produce an annual statement for ECC cabinet outlining progress and make recommendations for policy.

Essex Bus Strategy Forum (EBSF) is advisory body that will bring together stakeholders each year to review progress of the BSIP. It will not have any formal decision-making powers but will feed its recommendations into the EBSB.

Essex Climate Action Commission (ECAC) is a body set up by ECC to advise on tackling climate change and helping to reach carbon zero targets.

English National Concessionary Transport Scheme (ENCTS) is a free travel bus pass scheme for people over state pension age and people with an eligible disability on all eligible local bus services anywhere in England from 0930 until 2300 on weekdays and all day at weekends and on Bank Holidays. In Essex this has been extended to allow free travel from 0900.

Enhanced Partnership (EP) is a legally enforceable agreement between local transport authorities and bus operators whereby both sides agree to introduce a series of measures designed to improve bus services in the area covered by the EP. Each LTA is required to, as a minimum, introduce an EP by the national bus strategy, Bus Back Better.

Enhanced Partnership Management Board (EPMB) the committee comprised of representatives from the Local Transport Authority, bus operators and other stakeholder groups.

Essex County Council (ECC) is the upper tier local authority responsible for the administrative County of Essex.

Future Bus Network (FBN) sets out preferred service levels for each district for each of the three service categories (key bus corridors, the wider supporting bus network and low accessibility services).

Getting to School (G2S) is a behavioural change campaign aimed at families and young people encouraging travellers to welk, cycle, scoot and use Park and Ride to schools.

Indices of Multiple Deprivation (IMD) statistical tables produced by the Office of National Statistics that set out levels of deprivation across the UK, based on a range of measured factors.

Integrated Passenger Transport Unit (IPTU) is the Essex County Council team responsible for managing its passenger transport responsibilities.

Local Authority District (LAD) is the area covered by a lower tier local authority (i.e., Boroughs, Cities or Districts).

Local Authority Designated Officer (LADO) a local authority officer who is responsible for co-ordinating the response to concerns that an adult who works with children may have caused them or could cause them harm.

Local Bus Stations (LBS) are dedicated sites acting as arrival and departure points for multiple bus services, usually including bus and passenger supporting infrastructure.

Local Interchanges (LI) smaller bus stations with limited scale and infrastructure.

Local Transport Authorities (LTAs) is the local authority responsible for managing, developing, and delivering transport for a designated area. For Essex, this is Essex County Council.

Local Transport Plan (LTP) is a statutorily required plan setting the LTAs strategies, policies, and proposals for the transport network in its area.

Major Interchanges (MI) are major bus stations usually sited in larger towns with a high level of infrastructure supporting passengers and buses.

National Bus Strategy (NBS) refers to the UK Government's publication of 'Bus Back Better' in March 2021.

National Trip End Model (NTEM) is a model that forecasts the growth in trip origin-destinations (or productions-attractions) up to 2051 for use in transport modelling.

National Travel Survey (NTS) is a household survey undertaken by the government, designed to monitor long-term trends in personal travel and to inform the development of policy. It is the primary source of data on personal travel patterns by residents of England within Great Britain

Output Area (OA) is the smallest area for which census data is collected by the government, usually comprising around 500 households.

Office for National Statistics (ONS) is the Government body charged with collecting, collating, and publishing statistics for the UK.

Park and Ride (P&R) is a car park at the edge of an urban centre with a high quality, frequent bus service into the city or town centre and it is there to reduce the number of cars travelling into the urban centres, thus reducing congestion.

Personal Protective Equipment (PPE) is protective clothing or equipment designed to protect the user's body from harm.

Priority 1 road (PR1) is a road classification for a strategic county route which carries high volumes of traffic including commerce, goods and people.

Real Time Passenger Information (RTPI) is electronic information collected from buses and collated by computer to allow people to see where their bus is either using personal IT devices or via large electronic information boards at bus stops and stations.

Rapid Transit System (RTS) also known as heavy rail, metro, subway, tube, U-Bahn, T-Bane, metropolitana or underground, is a type of high-capacity public transport generally found in urban areas. The bus-based variant is generally referred to as Bus Rapid Transit (BRT).

Rural Mobility Fund (RMF) is a fund set up by the Department of Transport to improve service provision to rural areas.

Safer Greener Healthier (SGH) is Essex County Council's vision for travel across Essex.

Section 106 (S106) is funding required by developers, through the Town and Country Planning Act 1990, to make contributions towards the costs of providing community and social infrastructure.

Special Educational Needs and Disabilities (SEND) refers to different types of needs or disability that may require extra support of special provision.

Stop.Swap.*GO!* (SSG) is Essex County Councils behavioural change campaign to nudge residents into changing their travel modes by developing a better understanding of the barriers and cognitive load involved and offering better information and operator funded incentives for doing so**.**

Service Intervention Point (SIP) is the level of bus service frequency for an area as set out in its Local Bus Service Priority Policy 2015 to 2022, below which ECC will normally consider if it needs to pay for additional levels of service.

Small and Medium-sized Enterprises (SME) businesses with a workforce of less than 250 and a turnover of less than £50m Euros (or £ equivalent).

Transport for London (TfL) is the public body responsible for delivering the strategy, policy, and operation of all public transport services in Greater London.

Traffic Regulation Orders (TROs) are legal documents that restrict or prohibit the use of the highway network, in line with The Road Traffic Regulation Act 1984.

Transit Signal Priority (TSP) is a general term for a set of operational improvements that use technology to reduce dwell time at traffic signals for transit vehicles by holding green lights longer or shortening red lights.

END