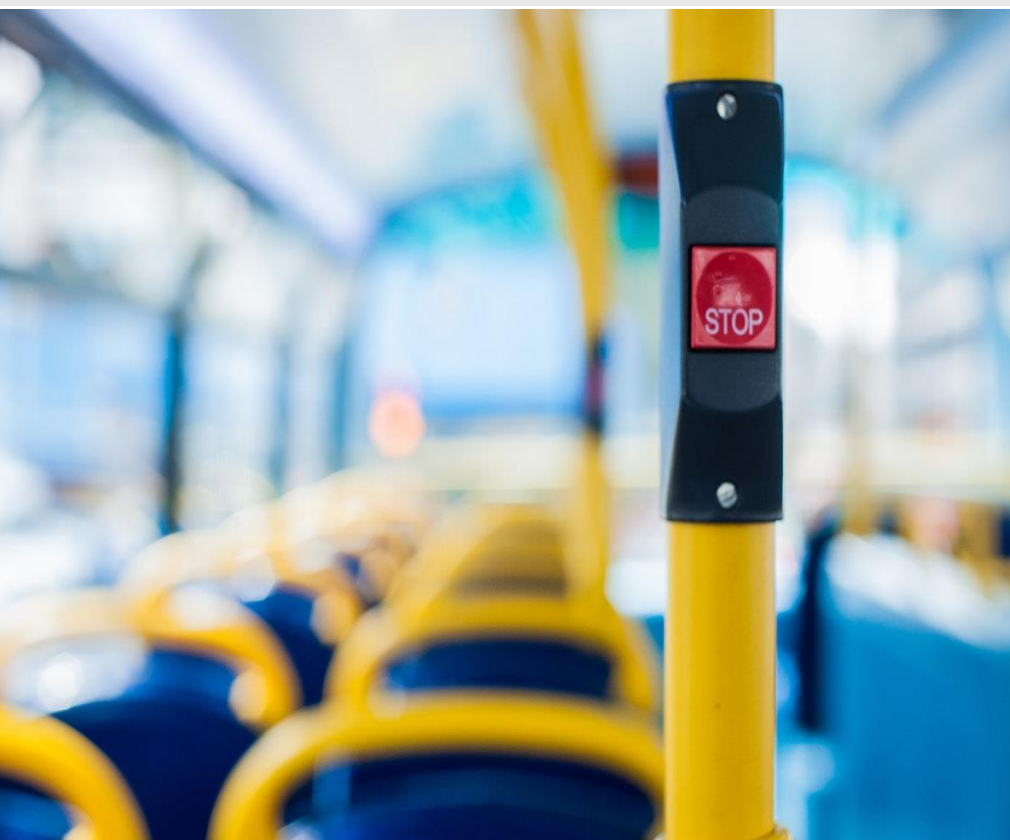


# Uttlesford Transport Study

784-B029347

UTTLESFORD STRATEGIC MODEL OUTPUTS



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# DOCUMENT CONTROL

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TETRA TECH

## 1 | BACKGROUND

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## 1.0 BACKGROUND

### 1.1 OVERVIEW

- 1.1.1 This technical note details the impacts on the transport network of the sites to be taken forward through the Uttlesford Local Plan, at a strategic, district wide level.
- 1.1.2 It focuses on how the proposed Local Plan site allocations across Uttlesford will impact travel demand on both the Strategic Road Network (SRN) managed by National Highways (notably the M11 and A120), and the local road network managed by Essex County Council.

### 1.2 DEVELOPMENT SITES

- 1.2.1 The sites proposed to be allocated in the Uttlesford Local Plan are highlighted in **Table 1-1** and **Figure 1-1**.

**Table 1-1: Location of Local Plan Growth in Uttlesford**

Location	Site address	Area (ha)	Dwellings
Great Chesterford	Land between Walden Road and Newmarket Road	30.16	200
	Land south of Ickleton Road, Great Chesterford	21.16	200
	Land west of Walden Road, Great Chesterford	10.39	200
Great Dunmow	Land off The Broadway, Great Dunmow	68.00	1,500
Newport	Land north of Wicken Road, Newport	6.43	165
	Land at Pond Cross Farm, Frambury Lane, Newport	26.18	335
Saffron Walden	Land east of Shire Hill Farm and south of Radwinter Road	30.02	1,000
	Land south of Radwinter Road, (East of Griffin Place)	17.47	
	Land north-east of Thaxted Road, Saffron Walden	4.09	
	Land to the South of Debden Road	10.91	
Stansted	Land east of High Lane, Stansted Mountfitchet	8.98	230
	Land west of Cambridge Road and north of Walpole Meadows	23.01	480
	Land east of High Lane, Stansted Mountfitchet	3.45	90
	Land east of High Lane, Stansted Mountfitchet	3.45	
Takeley	Warish Hall Farm, Takeley	87.40	1,900
	Land at Parkers Farm Takeley	11.79	
	Land at Warrens Farm, Little Canfield	19.88	
Thaxted	Land at Barnards Fields, Thaxted (2ha)	1.79	56
	Land at Barnards Fields, Thaxted (10ha)	10.41	273
	Land east of Wedow Road, off Elers Way, Thaxted	2.66	70
	Land to the east of Guelph's Lane Thaxted	1.64	52
<b>Total</b>		<b>399.27</b>	<b>6,699</b>





### 1.3 FOCUS OF ASSESSMENT

1.3.1 The assessment of the highway network was undertaken using the Uttlesford Strategic Model (USM), a bespoke spreadsheet based model which enabled a strategic, high-level insight into future travel demand and where increases in subsequent vehicle flows may exceed the design capacity of the network. It would be in these locations that congestion and delays could be expected to occur.

1.3.2 The scope of the highway network assessment is summarised in **Table 1-2** below.

**Table 1-2: Scope of Uttlesford Transport Model Assessment**

Does...	Doesn't...
<ul style="list-style-type: none"> <li>• Give an overview of comparative performance.</li> </ul>	<ul style="list-style-type: none"> <li>• Give a detailed assessment of highway capacity.</li> </ul>
<ul style="list-style-type: none"> <li>• Focus on general traffic.</li> </ul>	<ul style="list-style-type: none"> <li>• Examine all forms of transport.</li> </ul>
<ul style="list-style-type: none"> <li>• Assess main roads and strategic routes.</li> </ul>	<ul style="list-style-type: none"> <li>• Assess every road in the district.</li> </ul>
<ul style="list-style-type: none"> <li>• Focus on links.</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on junctions.</li> </ul>
<ul style="list-style-type: none"> <li>• Consider demand to travel.</li> </ul>	<ul style="list-style-type: none"> <li>• Consider constraints to travel.</li> </ul>
<ul style="list-style-type: none"> <li>• Quantify the volume of traffic.</li> </ul>	<ul style="list-style-type: none"> <li>• Detail levels of congestion and journey times.</li> </ul>
<ul style="list-style-type: none"> <li>• Reflect the totality of development proposed.</li> </ul>	<ul style="list-style-type: none"> <li>• Reflect detailed impacts of development sites.</li> </ul>

1.3.3 This assessment provides a high level overview of demand based upon an “all or nothing assignment of traffic”. In this respect it doesn’t take into account route choice and the factors which may influence route choice, but nonetheless provides useful insight in terms of where people want to travel.

1.3.4 The focus of the analysis is on link capacity as opposed to the performance of individual junctions. The capacity of the links was calculated by the capacity formulae within TAG Unit M3.1 Appendix D. This outlines a maximum realistic capacity in vehicles per hour per direction per lane for a single, dual carriageways and motorways in both rural and urban locations.

1.3.5 A comparison was made in terms of how the network performed in:

- The ‘Base Year’ (2021), to reflect current conditions.
- The ‘Reference Case’ (2040), to capture performance within the context of committed planning and transport schemes being delivered across the authority and in neighbouring authorities.
- The ‘Local Plan Growth Scenario’ (2040) to identify the additional impacts that are generated as a consequence of the site allocations.

1.3.6 In each instance network link performance was considered in both the AM and PM peak periods.

1.3.7 Alongside the USM outputs that are reported on here, separate more detailed modelling has been undertaken for both the A120 corridor and Saffron Walden to provide a clearer picture of the locations of the impacts and allow for detailed junctions assessments to be undertaken and the testing of mitigation measures.

## 1.4 FURTHER READING

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1.4.1 This technical note provides a strategic overview of changes in travel demand. It should be read in conjunction with more detailed analysis of the impacts of Local Plan allocations in the following technical notes:

- TN402 | Saffron Walden Model Outputs Technical Note.
- TN403 | Great Dunmow Model Outputs Technical Note.
- TN404 | Takeley Model Outputs Technical Note.
- TN405 | Stansted Mountfitchet Model Outputs Technical Note.
- TN406 | Thaxted & Newport Model Outputs Technical Note.
- TN407 | A120 Corridor Model Outputs Technical Note.

## 1.5 MORE INFORMATION

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1.5.1 For more information on the content of this report please contact:

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TETRA TECH

## 2 | DEMAND ON THE STRATEGIC ROAD NETWORK

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## 2.0 DEMAND ON THE STRATEGIC ROAD NETWORK

### 2.1 OVERVIEW

2.1.1 This chapter outlines by each of the main roads within the district the sections of each road that are predicted to have the greatest demand to capacity ratio, by direction of travel. District wide maps showing the 2021 Base, 2040 Reference Case and 2040 Preferred Option ratio of demand to capacity on the network are presented in Appendix A.

### 2.2 M11

2.2.1 In the AM peak period, demand to travel on the M11 will increase as a result of Local Plan related growth coming forward. However, the increases represent only marginal changes to the conditions forecast in 2040 before the Local Plan allocations are considered.

2.2.2 Specifically, the Reference Case suggests that in the AM peak demand on sections of the M11 between J6 to J9 (southbound) and between J6 to J7 and J8 to J9 (northbound) will near or exceed link design capacity (see **Table 2-1**). Additional demand from Local Plan development will only marginally increase the demand exceeding capacity.

2.2.3 In the PM peak period, the highest levels of demand will be for traffic travelling northbound between J6 and J7 although southbound demand between the two junctions will exceed link design capacity (see

Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
				Base Year	Ref. Case	Local Plan
M11	M11 between J6 and J7	SB	5,671	75%	140%	147%
M11	M11 between J7 and J8	SB	5,770	68%	109%	119%
M11	M11 between J6 and J7	NB	5,671	60%	100%	104%
M11	M11 between J8 and J9	SB	3,701	61%	99%	102%
M11	M11 between J8 and J9	NB	3,701	66%	99%	102%
M11	M11 between J7 and J8	NB	5,770	53%	86%	91%
M11	M11 between J10 and J11	NB	3,861	52%	86%	90%
M11	At junction 7	SB	5,781	54%	82%	89%
M11	M11 between J10 and J11	SB	3,861	35%	87%	89%
M11	Slip road from A120 and Priory Wood Rt to M11 (SB)	SB	3,918	45%	77%	87%
M11	At junction 7	NB	5,781	46%	70%	74%
M11	M11 between J9 and J10	NB	3,556	45%	70%	72%

2.2.4 **Table 2-2**). As for the AM peak the Local Plan only results in marginal increases in demand over and above the Reference Case.

**Table 2-1: Demand on the M11 (AM Peak)**

Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
				Base Year	Ref. Case	Local Plan
M11	M11 between J6 and J7	SB	5,671	75%	140%	147%
M11	M11 between J7 and J8	SB	5,770	68%	109%	119%
M11	M11 between J6 and J7	NB	5,671	60%	100%	104%
M11	M11 between J8 and J9	SB	3,701	61%	99%	102%
M11	M11 between J8 and J9	NB	3,701	66%	99%	102%
M11	M11 between J7 and J8	NB	5,770	53%	86%	91%
M11	M11 between J10 and J11	NB	3,861	52%	86%	90%
M11	At junction 7	SB	5,781	54%	82%	89%

M11	M11 between J10 and J11	SB	3,861	35%	87%	89%
M11	Slip road from A120 and Priory Wood Rt to M11 (SB)	SB	3,918	45%	77%	87%
M11	At junction 7	NB	5,781	46%	70%	74%
M11	M11 between J9 and J10	NB	3,556	45%	70%	72%

**Table 2-2: Demand on the M11 (PM Peak)**

Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
				Base Year	Ref. Case	Local Plan
M11	M11 between J6 and J7	NB	5,671	72%	141%	148%
M11	M11 between J7 and J8	NB	5,770	67%	115%	124%
M11	M11 between J6 and J7	SB	5,671	64%	115%	120%
M11	M11 between J8 and J9	SB	3,701	76%	115%	118%
M11	M11 between J8 and J9	NB	3,701	65%	107%	110%
M11	M11 between J7 and J8	SB	5,770	61%	100%	106%
M11	At junction 7	NB	5,781	58%	99%	105%
M11	M11 between J10 and J11	NB	3,861	41%	96%	99%
M11	Slip road from M11 to A120 and Priory Wood Rt (EB)	NB	3,996	45%	87%	95%
M11	M11 between J10 and J11	SB	3,861	51%	89%	92%
M11	At junction 7	SB	5,781	48%	76%	80%
M11	M11 between J9 and J10	SB	3,556	45%	75%	77%

## 2.3 A120

2.3.1 In the AM peak, demand on the A120 will be greatest travelling westbound towards the M11, particularly south of Stansted Airport. Whilst Local Plan growth will result in a 9% increase in demand above the Reference Case demand, it will not make a material difference to the operation of the link which is already forecast to be over capacity in the 2040 Reference Case, as illustrated in **Table 2-3**. In the PM peak (see

2.3.2	Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
					Base Year	Ref. Case	Local Plan
	A120	East of Priory Wood Roundabout	WB	4,008	80%	138%	151%
	A120	Between Stansted Airport and B1256	WB	3,591	72%	125%	135%
	A120	Between Bassingbourn Rbt Slip Roads	WB	3,696	78%	122%	131%
	A120	East of Braintree	WB	1,239	87%	126%	129%
	A120	SW of Great Dunmow	WB	3,720	75%	117%	120%
	A120	East of Priory Wood Roundabout	EB	4,008	51%	105%	110%
	A120	East of Braintree	EB	1,239	69%	105%	110%
	A120	South of Great Dunmow	WB	3,568	46%	91%	94%
	A120	A120 over Priory Wood Rt	WB	3,730	45%	80%	89%
	A120	South of Braintree	WB	3,573	49%	87%	89%
	A120	East of Great Dunmow	WB	3,605	55%	86%	88%
	A120	South of Great Dunmow	WB	3,605	55%	86%	88%

2.3.3 **Table 2-4**), the tidality of the corridor is reflected by most of the busiest sections being in the opposite direction to the AM. Issues will continue to be experienced on the corridor south of the airport, but again these are anticipated to be experienced even without the Local Plan coming forward.

**Table 2-3: Demand on the A120 (AM Peak) - SRN**

Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
				Base Year	Ref. Case	Local Plan
A120	East of Priory Wood Roundabout	WB	4,008	80%	138%	151%

A120	Between Stansted Airport and B1256	WB	3,591	72%	125%	135%
A120	Between Bassingbourn Rbt Slip Roads	WB	3,696	78%	122%	131%
A120	East of Braintree	WB	1,239	87%	126%	129%
A120	SW of Great Dunmow	WB	3,720	75%	117%	120%
A120	East of Priory Wood Roundabout	EB	4,008	51%	105%	110%
A120	East of Braintree	EB	1,239	69%	105%	110%
A120	South of Great Dunmow	WB	3,568	46%	91%	94%
A120	A120 over Priory Wood Rt	WB	3,730	45%	80%	89%
A120	South of Braintree	WB	3,573	49%	87%	89%
A120	East of Great Dunmow	WB	3,605	55%	86%	88%
A120	South of Great Dunmow	WB	3,605	55%	86%	88%

**Table 2-4: Demand on the A120 (PM Peak) - SRN**

Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
				Base Year	Ref. Case	Local Plan
A120	East of Priory Wood Roundabout	EB	4,008	89%	162%	173%
A120	East of Priory Wood Roundabout	WB	4,008	58%	125%	131%
A120	East of Braintree	EB	1,239	84%	126%	130%
A120	Between Stansted Airport and B1256	EB	3,591	66%	119%	127%
A120	East of Braintree	WB	1,239	74%	115%	119%
A120	SW of Great Dunmow	EB	3,720	72%	114%	117%
A120	Between Bassingbourn Rbt Slip Roads	EB	3,696	54%	96%	104%
A120	South of Great Dunmow	EB	3,568	42%	85%	89%
A120	A120 over Priory Wood Rt	EB	3,730	31%	75%	83%
A120	Between Stansted Airport and B1256	WB	3,591	38%	73%	77%
A120	East of Great Dunmow	EB	3,605	47%	75%	77%
A120	South of Great Dunmow	EB	3,605	47%	75%	77%

## 2.4 SUMMARY

- 2.4.1 By 2040 there will be a significant increase in travel demand on the SRN in the Reference Case due to committed planning and transport proposals coming forward within the district and beyond, including the expansion of Stansted Airport. This is reflected in the increase in demand on the A120 in particular.
- 2.4.2 The additional impacts of Local Plan related growth are very modest by comparison. In a number of instances, it will add to the demand on links that will already be under pressure but not be the critical factor in the network's performance.
- 2.4.3 These findings should be viewed in context because the nature of the assessment doesn't take into account:
- The potential for traffic to re-route on the network.
  - The potential for modal shift or peak spreading to reduce peak demands on the road network.
  - The potential for home working / home shopping.
- 2.4.4 The A120 and Saffron Walen VISUM Models provide more insight into the performance of the network can as such this technical note should be read in conjunction with:
- TN402 | Saffron Walden Model Outputs Technical Note.
  - TN403 | Takeley Model Outputs Technical Note.
  - TN404 | Great Dunmow Model Outputs Technical Note.
  - TN405 | Stansted Mountfitchet Model Outputs Technical Note.





TETRA TECH

### 3 | DEMAND ON THE LOCAL ROAD NETWORK

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### 3.0 DEMAND ON THE LOCAL ROAD NETWORK

#### 3.1 A120

3.1.1 In the AM peak, the A120 within the district which is not managed by National Highways (i.e. the section to the west of the M11), are forecast to have demand exceeding capacity by 2040 in the Reference Case. Growth in demand associated with the Local Plan will increase pressure on this section of the A120 which forms a bypass to the north of Bishop’s Stortford (see **Table 3-1**).

3.1.2 The picture is mirrored in the PM peak (see

3.1.3	Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
					Base Year	Ref. Case	Local Plan
	A120	NE part of Bishop's Stortford ring road	EB	1,309	88%	145%	162%
	A120	NE part of Bishop's Stortford ring road	WB	1,309	84%	133%	147%
	A120	NW part of Bishop's Stortford ring road	WB	1,256	65%	112%	126%
	A120	West of Bishop's Stortford ring road to Little Hadnam Bypass	EB	1,216	63%	118%	121%
	A120	West of Bishop's Stortford ring road to Little Hadnam Bypass	WB	1,216	53%	103%	110%
	A120	NW part of Bishop's Stortford ring road	EB	1,256	60%	102%	107%

3.1.4 **Table 3-2**) with both directions experiencing demand over capacity by 2040 in the Reference Case and traffic associated with the Local Plan increasing pressure on this section of the A120.

**Table 3-1: Demand on the A120 (AM Peak) – Non SRN.**

Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
				Base Year	Ref. Case	Local Plan
A120	NE part of Bishop's Stortford ring road	EB	1,309	88%	145%	162%
A120	NE part of Bishop's Stortford ring road	WB	1,309	84%	133%	147%
A120	NW part of Bishop's Stortford ring road	WB	1,256	65%	112%	126%
A120	West of Bishop's Stortford ring road to Little Hadnam Bypass	EB	1,216	63%	118%	121%
A120	West of Bishop's Stortford ring road to Little Hadnam Bypass	WB	1,216	53%	103%	110%
A120	NW part of Bishop's Stortford ring road	EB	1,256	60%	102%	107%

**Table 3-2: Demand on the A120 (PM Peak) – Non SRN.**

Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
				Base Year	Ref. Case	Local Plan
A120	NE part of Bishop's Stortford ring road	WB	1,309	81%	142%	157%
A120	NE part of Bishop's Stortford ring road	EB	1,309	81%	133%	148%
A120	NW part of Bishop's Stortford ring road	WB	1,256	68%	118%	125%
A120	NW part of Bishop's Stortford ring road	EB	1,256	64%	109%	120%
A120	West of Bishop's Stortford ring road to Little Hadnam Bypass	EB	1,216	54%	111%	117%
A120	West of Bishop's Stortford ring road to Little Hadnam Bypass	WB	1,216	54%	112%	115%

#### 3.2 B184

3.2.1 Local Plan related growth will impact on several sections of the B184 corridor in the AM peak (see **Table 3-3**). North of Saffron Walden, the increase in demand for traffic travelling north and westbound towards Cambridge and the M11 due to the Local Plan results in sections of the B184 exceeding link capacity by 2040.

3.2.2 Within Saffron Walden, sections of High Street will also be approaching link capacity and therefore more susceptible to congestion in the morning peak (see TN402 – Saffron Walden Model Outputs, for more detail).

3.2.3 In the PM peak, the increases in demand are not forecast to be as pronounced (see

3.2.4	Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
					Base Year	Ref. Case	Local Plan
	B184	M11 J9 Underpass	WB	1,388	59%	113%	133%
	B184	NW of Saffron Walden	NW	1,010	62%	96%	111%
	B184	North of Little Chesterford (nr M11 J9)	NB	1,200	42%	81%	100%
	B184	High Street N, Saffron Walden	NB	1,200	54%	82%	95%
	B184	High Street S, Saffron Walden	NB	1,200	65%	79%	89%
	B184	M11 J9 Underpass	EB	1,388	64%	81%	87%
	B184	North of Little Chesterford (nr M11 J9)	SB	1,200	38%	64%	73%
	B184	NW of Saffron Walden	SE	1,010	45%	60%	69%

3.2.5 **Table 3-4).** However, traffic heading southeast towards Saffron Walden from the M11 and Cambridge result in this section of the B184 slightly exceeding link design capacity northwest of the town.

**Table 3-3: Demand on the B184 (AM Peak)**

Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
				Base Year	Ref. Case	Local Plan
B184	M11 J9 Underpass	WB	1,388	59%	113%	133%
B184	NW of Saffron Walden	NW	1,010	62%	96%	111%
B184	North of Little Chesterford (nr M11 J9)	NB	1,200	42%	81%	100%
B184	High Street N, Saffron Walden	NB	1,200	54%	82%	95%
B184	High Street S, Saffron Walden	NB	1,200	65%	79%	89%
B184	M11 J9 Underpass	EB	1,388	64%	81%	87%
B184	North of Little Chesterford (nr M11 J9)	SB	1,200	38%	64%	73%
B184	NW of Saffron Walden	SE	1,010	45%	60%	69%

**Table 3-4: Demand on the B184 (PM Peak)**

Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
				Base Year	Ref. Case	Local Plan
B184	NW of Saffron Walden	SE	1,010	58%	90%	104%
B184	M11 J9 Underpass	EB	1,388	51%	83%	97%
B184	North of Little Chesterford (nr M11 J9)	SB	1,200	32%	67%	86%
B184	High Street S, Saffron Walden	NB	1,200	71%	78%	83%
B184	M11 J9 Underpass	WB	1,388	41%	67%	77%
B184	NW of Saffron Walden	NW	1,010	44%	61%	71%
B184	East St, Saffron Walden	EB	1,200	40%	57%	70%
B184	High Street N, Saffron Walden	SB	1,200	32%	58%	69%

### 3.3 B1383

3.3.1 In the AM peak demand on the from the A120 to the Pines Hill section of the B1383 through Stansted Mountfitchet is expected to exceed link capacity by 2040 in the Reference Case and the growth in demand associated with the Local Plan will further increase pressure on this section of the B1383 (see **Table 3-5**).

- 3.3.2 Increases in demand are forecast throughout the village, and further north in Newport, although not to the extent that the performance of the network will be adversely impacted.
- 3.3.3 In the PM peak the picture is similar, with both north and southbound demand from the A120 junction to Pines Hill in Stansted Mountfitchet exceeding link capacity (see

Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
				Base Year	Ref. Case	Local Plan
B1383	Pines Hill, Stansted Mountfitchet (south)	SB	1,200	86%	152%	181%
B1383	North of r/bt with A120	SB	1,291	68%	127%	152%
B1383	Pines Hill, Stansted Mountfitchet (south)	NB	1,200	50%	92%	102%
B1383	North of B1051, Chapel Hill	SB	1,200	51%	66%	94%
B1383	Between Wendens Ambo and Newport	NB	1,200	63%	80%	92%
B1383	North of r/bt with A120	NB	1,291	49%	82%	92%
B1383	Stansted Mountfitchet, south of Alsa Road	SB	1,200	48%	63%	91%
B1383	Road between Quendon & Newport	SB	1,138	47%	70%	84%
B1383	Newport - High street north of Wicken Rd	NB	1,200	46%	68%	84%

3.3.4 **Table 3-6).**

**Table 3-5: Demand on the B1383 (AM Peak)**

Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
				Base Year	Ref. Case	Local Plan
B1383	Pines Hill, Stansted Mountfitchet (south)	SB	1,200	86%	152%	181%
B1383	North of r/bt with A120	SB	1,291	68%	127%	152%
B1383	Pines Hill, Stansted Mountfitchet (south)	NB	1,200	50%	92%	102%
B1383	North of B1051, Chapel Hill	SB	1,200	51%	66%	94%
B1383	Between Wendens Ambo and Newport	NB	1,200	63%	80%	92%
B1383	North of r/bt with A120	NB	1,291	49%	82%	92%
B1383	Stansted Mountfitchet, south of Alsa Road	SB	1,200	48%	63%	91%
B1383	Road between Quendon & Newport	SB	1,138	47%	70%	84%
B1383	Newport - High street north of Wicken Rd	NB	1,200	46%	68%	84%

**Table 3-6: Demand on the B1383 (PM Peak)**

Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
				Base Year	Ref. Case	Local Plan
B1383	Pines Hill, Stansted Mountfitchet (south)	NB	1,200	72%	135%	160%
B1383	North of r/bt with A120	NB	1,291	65%	119%	141%
B1383	Pines Hill, Stansted Mountfitchet (south)	SB	1,200	60%	107%	121%
B1383	North of r/bt with A120	SB	1,291	61%	103%	115%
B1383	Between Wendens Ambo and Newport	SB	1,200	65%	83%	94%
B1383	Newport - High street north of Wicken Rd	SB	1,200	48%	72%	87%
B1383	B1383 running past Wendens Ambo	NB	1,200	56%	74%	84%
B1383	Road between Quendon & Newport	NB	1,138	44%	66%	79%

### 3.4 B1256

- 3.4.1 In the AM peak there are anticipated to be increases in demand on the B1256 due to the Local Plan in the Great Dunmow area that will result in link capacity being exceed by demand by 2040, particularly for westbound traffic heading towards the A120 (see **Table 3-7**).

- 3.4.2 Pod’s Brook Road in Braintree is forecast to have demand nearing capacity southbound and exceeding capacity northbound in the 2040 Reference Case with a small additional increase in demand resulting from the Local Plan growth.
- 3.4.3 East of Takeley demand from the Local Plan growth is forecast to bring the link near to capacity in the AM peak travelling westbound. Elsewhere, whilst the level of demand on the B1256 will increase, there is still enough capacity to accommodate the extra traffic without compromising the network performance.
- 3.4.4 In the PM peak the B1256 in the Great Dunmow area is forecast to exceed link capacity by 2040 in the Reference Case without the Local Plan. The growth in demand associated with the Local Plan will increase pressure on this section of the B1256 to the west of the town (see

3.4.5	Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
					Base Year	Ref. Case	Local Plan
	B1256	Stortford Rd, West of Woodside Way	WB	1,200	46%	102%	127%
	B1256	Pod's Brook Rd in Braintree	NB	1,200	63%	121%	123%
	B1256	East of Woodside Way	WB	1,200	52%	93%	119%
	B1256	East of Takeley	WB	1,028	42%	90%	99%
	B1256	Pod's Brook Rd in Braintree	SB	1,200	59%	97%	98%
	B1256	East of Woodside Way	EB	1,200	49%	77%	88%
	B1256	Just east of M11 J8	WB	1,119	57%	67%	86%
	B1256	South of A120, west of Great Dunmow	WB	1,177	37%	79%	86%
	B1256	East of Takeley	EB	1,028	45%	71%	84%
	B1256	Little Canfield, Stortford Rd	WB	1,200	27%	63%	78%

3.4.6 **Table 3-8).**

3.4.7 Pod's Brook Road in Braintree is forecast to have demand exceeding capacity in both directions during the PM peak when the Local Plan growth is included. Changes in demand due to the Local Plan on the B1256 further west towards Takeley and the M11 will see notable increases but remain within the available capacity of the link.

**Table 3-7: Demand on the B1256 (AM Peak)**

Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
				Base Year	Ref. Case	Local Plan
B1256	Stortford Rd, West of Woodside Way	WB	1,200	46%	102%	127%
B1256	Pod's Brook Rd in Braintree	NB	1,200	63%	121%	123%
B1256	East of Woodside Way	WB	1,200	52%	93%	119%
B1256	East of Takeley	WB	1,028	42%	90%	99%
B1256	Pod's Brook Rd in Braintree	SB	1,200	59%	97%	98%
B1256	East of Woodside Way	EB	1,200	49%	77%	88%
B1256	Just east of M11 J8	WB	1,119	57%	67%	86%
B1256	South of A120, west of Great Dunmow	WB	1,177	37%	79%	86%
B1256	East of Takeley	EB	1,028	45%	71%	84%
B1256	Little Canfield, Stortford Rd	WB	1,200	27%	63%	78%

**Table 3-8: Demand on the B1256 (PM Peak)**

Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
				Base Year	Ref. Case	Local Plan
B1256	Stortford Rd, West of Woodside Way	EB	1,200	50%	102%	124%
B1256	Pod's Brook Rd in Braintree	NB	1,200	44%	116%	117%
B1256	East of Woodside Way	EB	1,200	54%	86%	107%
B1256	East of Woodside Way	WB	1,200	49%	90%	105%
B1256	Pod's Brook Rd in Braintree	SB	1,200	54%	98%	100%
B1256	East of Takeley	EB	1,028	40%	84%	93%
B1256	South of A120, west of Great Dunmow	EB	1,177	43%	81%	88%
B1256	Stortford Rd, West of Woodside Way	WB	1,200	33%	74%	88%
B1256	North of A120	EB	1,200	59%	82%	85%
B1256	East of Takeley	WB	1,028	34%	66%	80%

### 3.5 REST OF THE NETWORK

3.5.1 The impact of Local Plan growth elsewhere on the modelled network has also been assessed. **Table 3-9** and

3.5.2	Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
					Base Year	Ref. Case	Local Plan
	A1301	North of M11 J9	WB	975	50%	124%	140%
	B1008	South of North End	SE	904	68%	115%	130%
	B1008	Chelmsford Rd - South of A120 junction	NB	971	53%	117%	124%
	B1008	South of North End	NW	904	59%	116%	122%
	B1008	North of Sheepcotes Roundabout	SB	1,118	60%	102%	114%
	B1008	North of Sheepcotes Roundabout	NB	1,118	58%	104%	109%
	B1008	Chelmsford Rd - South of A120 junction	SB	971	40%	91%	107%
	B1008	South of Barnston	SE	1,155	53%	90%	102%
	B1008	South of Barnston	NW	1,155	46%	91%	96%

3.5.3 In the PM peak period, the picture is similar with capacity issues forecast in the 2040 Reference Case on the B1008 and A1301 being exacerbated by Local Plan growth.

3.5.4 **Table 3-10** highlight those links where the forecast demand is expected to exceed or be approaching their link capacity in the Local Plan Growth scenario.

3.5.5 Several sections of the network will be subject to significantly higher demand than their current level of demand but will still be well within the available capacity of the link, these have not been reported here as this technical note seeks to focus on the areas of greatest impact in terms of the forecast demand nearing or exceeding the capacity.

3.5.6 In the AM peak period, the A1301 north of the M11 J9 (Stumps Cross) and the B1008 Chelmsford Road between the A120 and A131 exhibit the highest ratio of demand to link capacity. However, both links are forecast to exceed link capacity by 2040 in the Reference Case before Local Plan growth is taken into account.

3.5.7 On the A1301 north of M11J9, the Reference Case includes development at the Wellcome Genome Campus, highway improvements will come forward as part of the development that are not reflected in the link capacity calculation and will therefore reduce the level of impact shown.



**Table 3-9: Demand on the Wider Network (AM Peak)**

Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
				Base Year	Ref. Case	Local Plan
A1301	North of M11 J9	WB	975	50%	124%	140%
B1008	South of North End	SE	904	68%	115%	130%
B1008	Chelmsford Rd - South of A120 junction	NB	971	53%	117%	124%
B1008	South of North End	NW	904	59%	116%	122%
B1008	North of Sheepcotes Roundabout	SB	1,118	60%	102%	114%
B1008	North of Sheepcotes Roundabout	NB	1,118	58%	104%	109%
B1008	Chelmsford Rd - South of A120 junction	SB	971	40%	91%	107%
B1008	South of Barnston	SE	1,155	53%	90%	102%
B1008	South of Barnston	NW	1,155	46%	91%	96%

3.5.8 In the PM peak period, the picture is similar with capacity issues forecast in the 2040 Reference Case on the B1008 and A1301 being exacerbated by Local Plan growth.

**Table 3-10: Demand on the Wider Network (PM Peak)**

Road	Location notes	Dir.	One-Way Link Capacity	Ratio Demand/Capacity		
				Base Year	Ref. Case	Local Plan
B1008	Chelmsford Rd - South of A120 junction	SB	971	56%	124%	132%
B1008	South of North End	NW	904	62%	119%	132%
A1301	North of M11 J9	EB	975	38%	106%	121%
B1008	Chelmsford Rd - South of A120 junction	NB	971	43%	104%	118%
B1008	South of North End	SE	904	49%	110%	118%
B1008	South of Barnston	NW	1,155	49%	93%	103%
B1008	North of Sheepcotes Roundabout	SB	1,118	46%	97%	103%
B1008	North of Sheepcotes Roundabout	NB	1,118	44%	92%	103%
Unclss.	Thremhall Avenue, North of Bassingbourn Roundabout	SB	1,200	61%	92%	100%
Unclss.	East Street, North of Audley Road	EB	1,200	64%	82%	94%
B1008	South of Barnston	SE	1,155	39%	87%	92%
Unclss.	Thremhall Avenue, North of Bassingbourn Roundabout	NB	1,200	48%	77%	91%

### 3.6 SUMMARY

3.6.1 As with the SRN, by 2040 there will be a significant increase in travel demand on the local road network due to committed planning and transport proposals coming forward within the district and beyond as part of the Reference Case. However, the impacts of the Local Plan related growth are more pronounced on the local road network and the increases in demand exceed link capacity on some routes.

3.6.2 In various locations this will potentially require some form of mitigation to both reduce demand and increase capacity, but it must also be reiterated that the findings should be viewed in context because the assessment doesn't take into account:

- The potential for traffic to re-route on the network.
- The potential for modal shift or peak spreading to reduce peak demands on the road network.
- The potential for home working / home shopping.

3.6.3 The A120 and Saffron Walen VISUM Models provide more insight into the performance of the network can as such this technical note should be read in conjunction with:

- TN402 | Saffron Walden Model Outputs Technical Note.

- TN403 | Takeley Model Outputs Technical Note.
- TN404 | Great Dunmow Model Outputs Technical Note.
- TN405 | Stansted Mountfitchet Model Outputs Technical Note.



TETRA TECH

## Appendix A | DEMAND CAPACITY RATIO PLOTS










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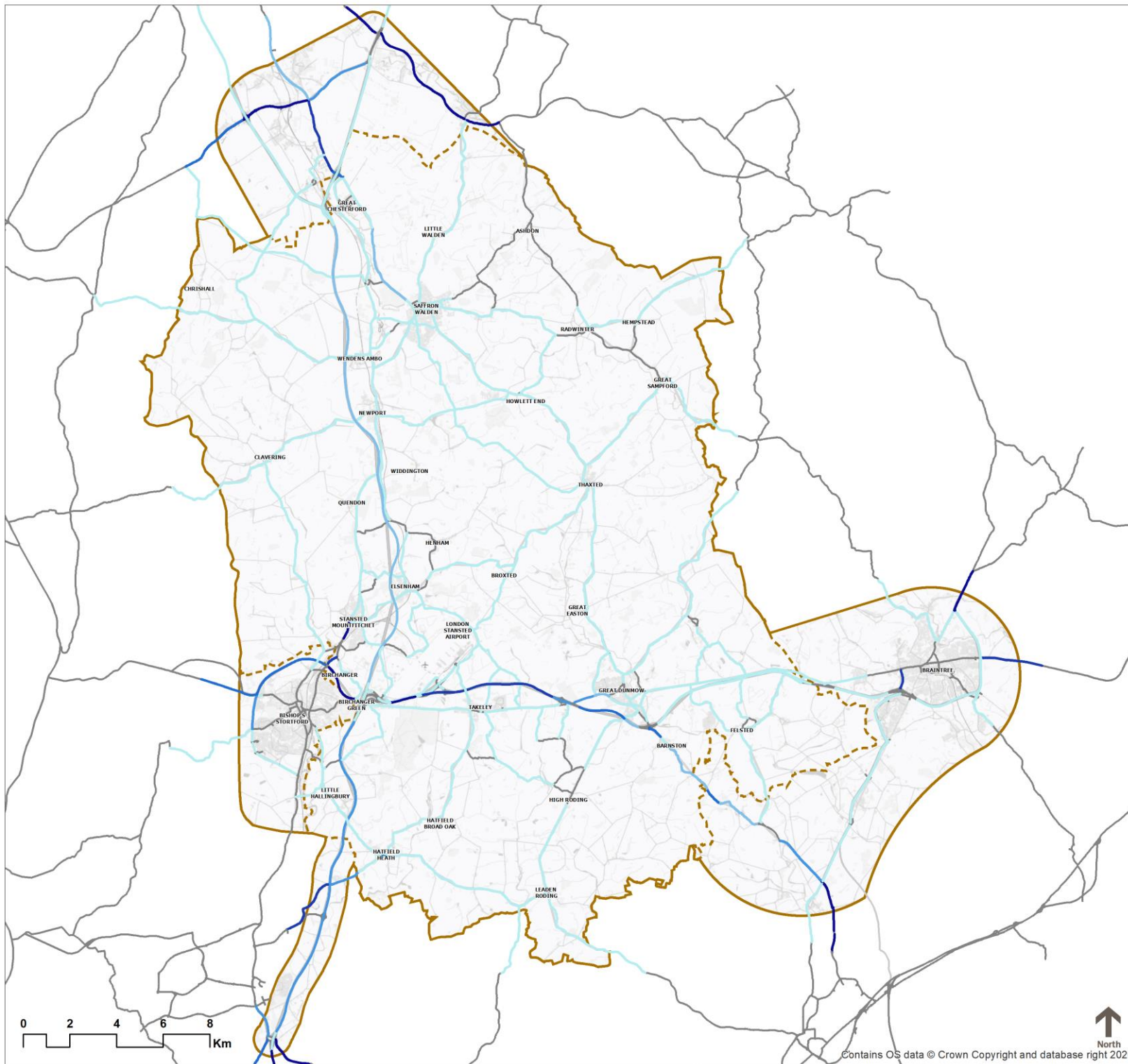






**Key**

-  Uttlesford District
-  Study Area
- % of Typical Link Capacity**
-  90% or less
-  91% - 100%
-  101% - 110%
-  111% - 120%
-  121% - 130%
-  Greater than 130%
-  No count data



## PRELIMINARY ISSUE

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Rev	Description	Date	Dwn	Chk	App

### Uttlesford Transport Study Uttlesford District Council

### Peak Flow as % of Capacity (Highest directional value) 2040 Reference Case AM

TTE Proj No	Drwn by	Date	Ch'ked by	Date	App'd by	Date	Scale @ A3	Suitability
B029347	JJC	Sep 23	BK	Sep 23	ASG	Sep 23	n/a	S1
Client Proj No	Origin	Vol/System	Level/Location	Type/Code	Role	Drawing No	Revision	
-	TTE	00	XX	MP	O	097-1	-	

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









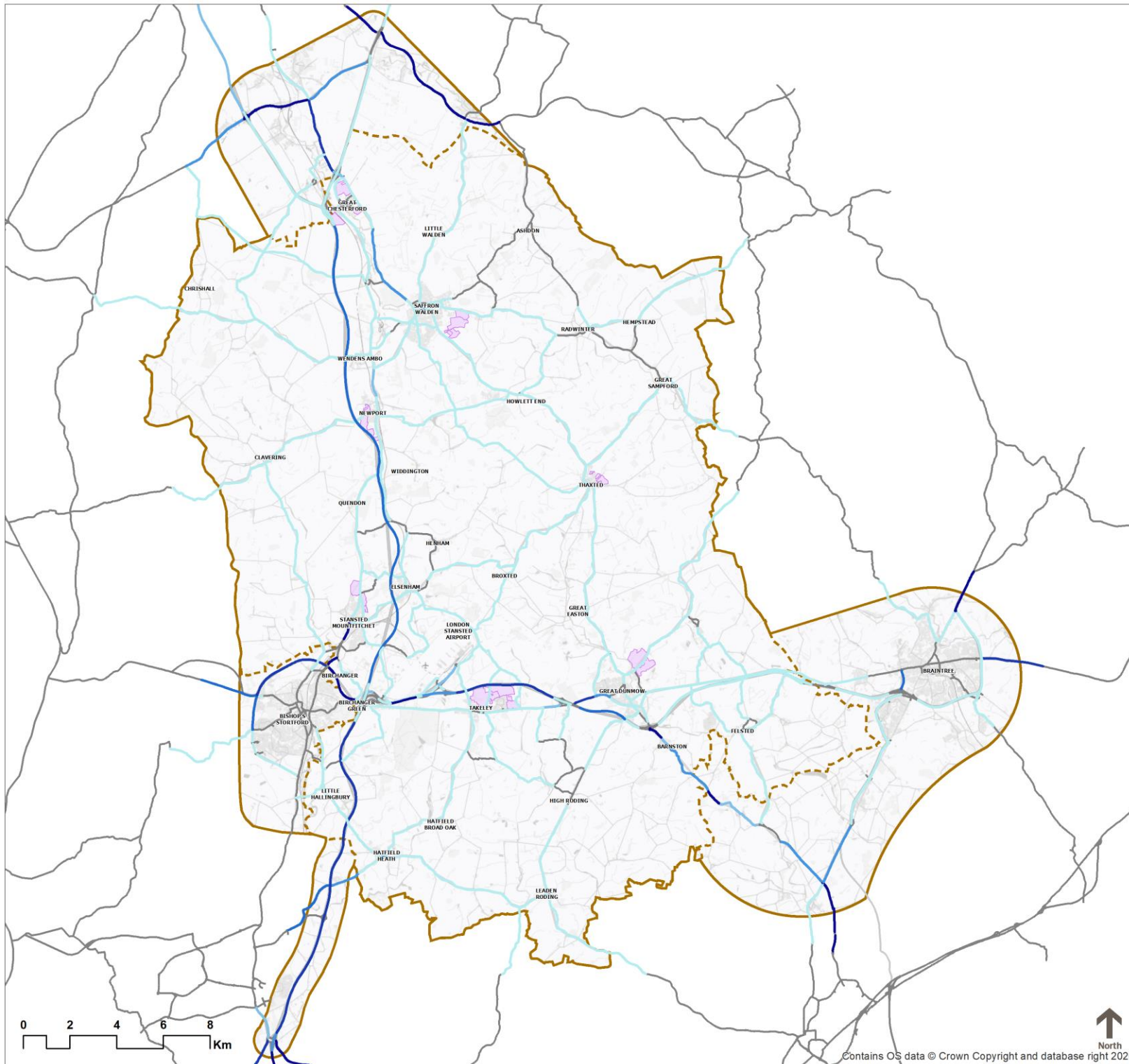






**Key**

-  Uttlesford District
  -  Study Area
  -  Preferred Option Sites
- % of Typical Link Capacity**
-  90% or less
  -  91% - 100%
  -  101% - 110%
  -  111% - 120%
  -  121% - 130%
  -  Greater than 130%
  -  No count data



## PRELIMINARY ISSUE

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Rev	Description	Date	Dwn	Chk	App

**Uttlesford Transport Study**  
Uttlesford District Council

**Peak Flow as % of Capacity (Highest directional value)  
2040 Preferred Option PM**

TTE Proj No	Drwn by	Date	Ch'ked by	Date	App'd by	Date	Scale @ A3	Suitability
B029347	JJC	Sep 23	BK	Sep 23	ASG	Sep 23	n/a	S1
Client Proj No	Origin	Vol/System	Level/Location	Type/Code	Role	Drawing No	Revision	
-	TTE	00	XX	MP	O	097-4	-	

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