Lincolnshire COUNTY COUNCIL
Working for a better future

Transport Monitoring Report

July 2023

Contents

Introduction

There is a wide range of transport statistics available at the county level from a variety of sources including:

- data collected by the various groups within Environment and Economy on a regular basis, and
- information collected by central government, both through the national census carried out every 10-years and annually by the Department for Transport (DfT).

The data collected has a wide range of uses including:

- monitoring general trends
- monitoring progress against a range of indicators and targets
- strategic planning
- identifying and justifying a range of improvement schemes
- traffic management
- road maintenance
- accident investigation
- supporting various bids for funding.

The aims of this report are

- to pull together information from the various data sources and summarise the findings,
- to compare trends in Lincolnshire with those regionally and nationally where appropriate (although some regional and national data for 2020 will not be available from DfT until later in 2021), and
- to give an indication as to the type and scope of data available and where further information can be found.

Growth of traffic

Producing a definitive single figure for the growth of traffic across a county the size of Lincolnshire, with approaching 9,000 kilometres of rural and urban highway, is fraught with difficulty. However, various types of monitoring are carried out which give an indication of traffic growth across either all or part of the network and with varying levels of statistical reliability.

Ongoing monitoring includes:

- an estimate produced by DfT of total million vehicle kilometres travelled each year across the county as a whole,
- monitoring of rural traffic flow levels at all A and B class roads crossing three screenlines (two east-west and one north-south) since 1985
- general monitoring of flows of the rural strategic road network on a five-year rota
- monitoring of traffic flows across the rail/river screenline in Lincoln since 1985, and
- monitoring of inbound traffic flows crossing a cordon in Lincoln, Boston and Grantham since 2006/07.

The results of these are outlined in the following chapters.

Countywide growth

In order to monitor traffic growth nationally, the Department for Transport (DfT) carries out a variety of traffic surveys across the country to arrive at an estimate of the number of billion vehicle kilometres travelled each year on Britain's roads. Annual traffic estimates are based on some 8,000 12-hour manual counts carried out across the network, with the most important major roads counted annually. Elsewhere, other major roads are surveyed every two-years, four-years or eight-years depending on the level of traffic and its variability. Minor roads (B class and below) are monitored using a representative sample, with some 4,500 sites surveyed each year.

In addition to the manual counts, the DfT has some 200 automatic traffic counter sites monitoring flows continuously at sites across the country. By combining the manual and automatic count data, DfT produces an estimate of annual average daily flow at each site, which, when combined with information about road lengths, gives an estimate of the total number of kilometres travelled each year.

This information is also released by DfT at local authority level. However, they do highlight issues around the reliability of the data at this level due to the relatively low levels of minor road sample points in some authorities. Hence the local authority traffic estimates are not recognised as a 'National Statistic' set.

Table 1 overleaf shows the data for Lincolnshire, the East Midlands and England, whilst Figure 1 shows the information from 1993 graphically.

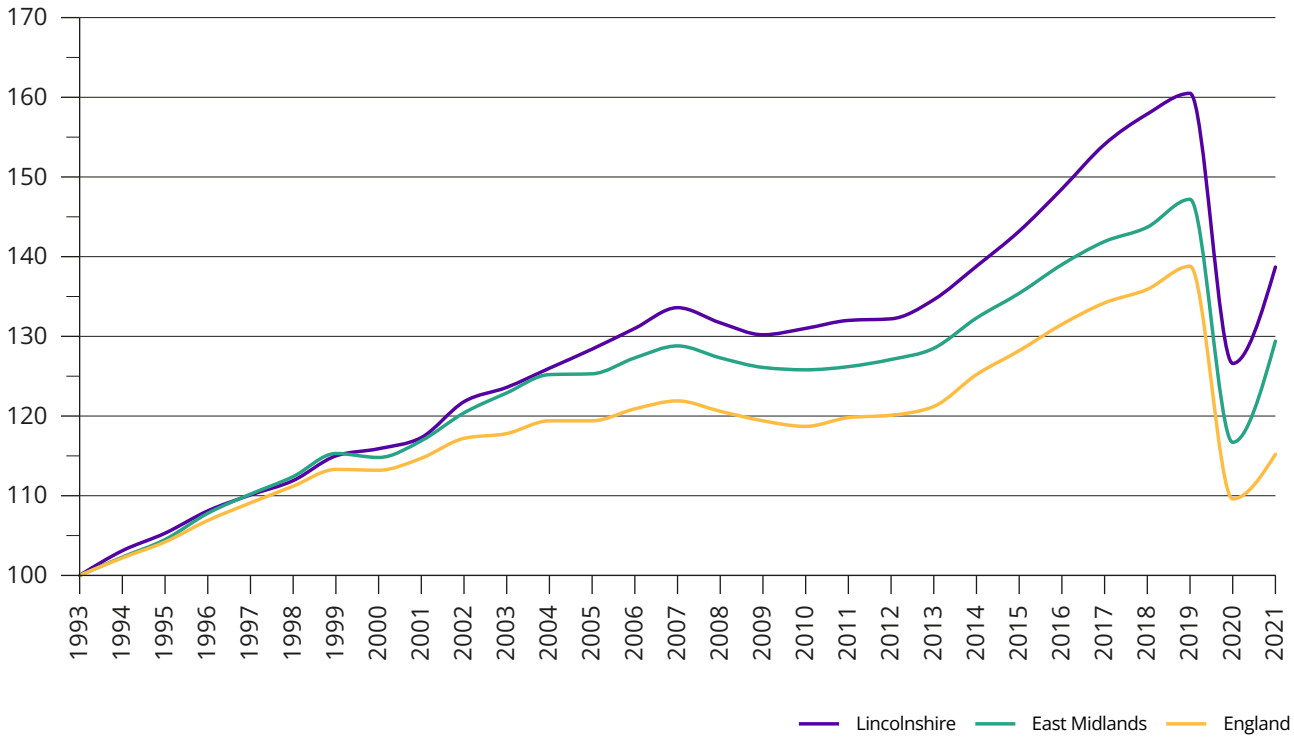
Key Points

- Over the 26-year period between 1993 and 2019, the number of vehicle kilometres travelled in Lincolnshire rose by 60.5%. This is substantially greater than that for England (38.8%) and for the East Midlands (47.2%) over that same period.
- Traffic levels grew steadily until 2007. However, between 2007 and 2012 levels flattened, reflecting the economic conditions at that time. There was a similar trend nationally and regionally.
- Since 2012, growth in vehicle kilometres travelled in Lincolnshire has resumed again with an increase of some 21.4% between 2012 and 2019. This is slightly above the corresponding national figure of 15.6%.
- As lockdown measures were introduced during 2020, there were significant decreases in travel.

Table 1 – Million vehicle kilometres travelled

	Lincolnshire	East Midlands	England
1993	4,487	32,658	355,306
1995	4,725	34,116	370,167
2000	5,199	37,477	402,031
2005	5,760	40,917	424,376
2010	5,880	41,082	421,703
2011	5,925	41,225	425,624
2012	5,932	41,512	426,710
2013	6,039	41,977	430,572
2014	6,229	43,195	444,964
2015	6,427	44,208	455,486
2016	6,665	45,407	467,144
2017	6,916	46,326	476,909
2018	7,083	46,941	483,025
2019	7,201	48,071	493,302
2020	5,681	38,103	389,543
2021	6,224	42,267	409,367

Figure 1 – Annual vehicle kilometres travelled (Index: 1993=100)



Rural traffic growth

Since 1985, rural traffic flows have been monitored annually on all A and B roads where they are crossed by three screenlines running through the county (two east–west and one north–south). The screenlines and the locations of the counts are shown in Figure 2 and listed in Table 2 below.

Each year, 12-hour (0700-1900) manual classified counts are carried out on a weekday in both a neutral month (April, May, June, September, or October) and in late July or August. The results of these surveys are then combined to give an estimate of the 24-hour Annual Average Daily Traffic (AADT) flow using the method set out in the DfT's Traffic Appraisal Manual.

The results of the screenline surveys are summarised in Table 3 and shown graphically in Figure 3.

Table 2 – Location of screenline survey sites

Site ref.	Road number	Location
East – West (Northern) screenline		
SL01	A159	Thonock
SL02	B1398	Willoughton
SL03	A15	Bishop Norton
SL04	A46	Usselby
SL05A	B1225	Bully Hill
SL05B	B1203	Bully Hill
SL06	A16	Utterby
SL07	A1031	Saltfleetby
East – West (Southern) screenline		
SL08	B6403	Colsterworth
SL09	A1	Colsterworth
SL10	B1176	Corby Glen
SL11	A15	Morton
SL12A	B1356	Surfleet
SL 12B	A16	Spalding Bypass
SL13	A17	Fosdyke Bridge

Site ref.	Road number	Location
North – South Screenline		
SL14	B1205	Waddingham
SL15	A631	Glentham
SL16	A46	Snarford
SL17	A158	Langworth
SL18	B1190	Potterhanworth
SL19	B1191	Martin
SL20	A153	Billinghay
SL21	A17	East Heckington
SL22	A52	Donington
SL23	B1397	Gosberton Clough
SL24	A151	Pinchbeck West
SL25	A1175	Deeping St Nicholas
SL26	B1166	Deeping St James

Figure 2 – Location of screenline surveys

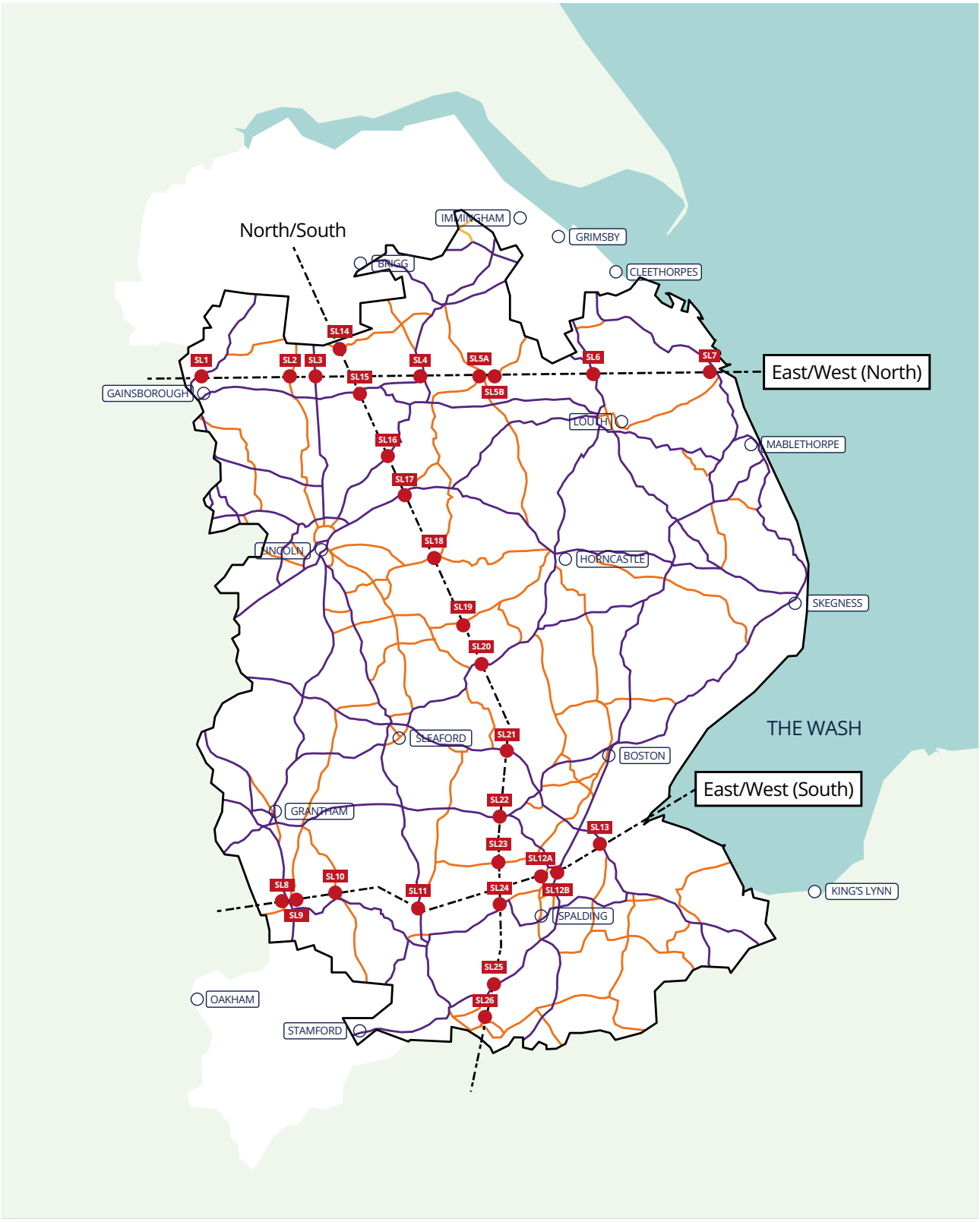
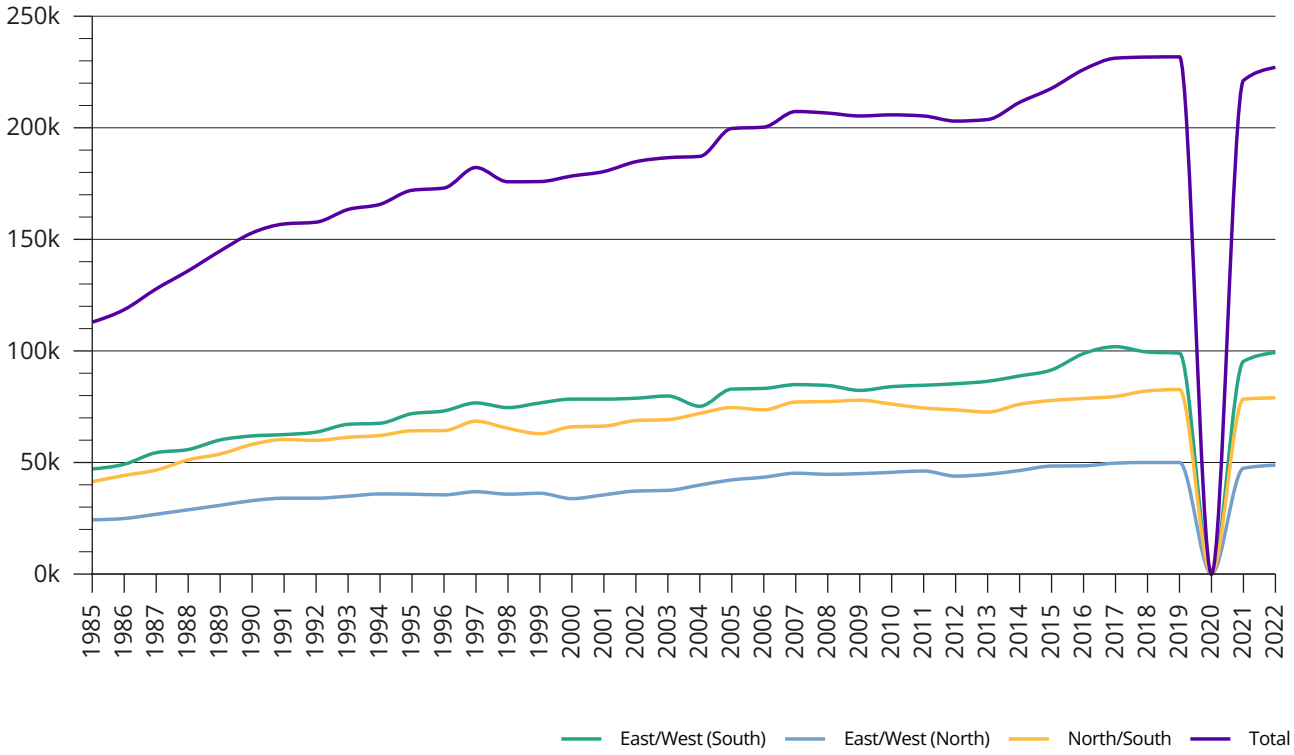


Table 3 – Screenline surveys results summary

	E-W(S)	E-W(N)	N-S	Total
1985	47,168	24,383	41,437	**112,988**
1990	61,918	32,957	58,124	**152,999**
1995	71,937	35,888	64,271	**172,096**
2000	78,483	33,885	66,096	**178,464**
2005	82,921	42,211	74,609	**199,741**
2010	84,056	45,629	76,203	**205,888**
2011	84,656	46,246	74,466	**205,368**
2012	85,389	43,979	73,671	**203,039**
2013	86,418	44,705	72,665	**203,788**
2014	88,868	46,480	76,148	**211,496**
2015	91,509	48,473	77,805	**217,787**
2016	98,830	48,559	78,725	**226,114**
2017	101,923	49,709	79,640	**231,272**
2018	99,501	50,142	82,994	**231,743**
2019	99,037	50,099	82,702	**231,838**
2020	–	–	–	**–**
2021	95,337	47,439	78,424	**221,200**
2022	99,323	48,809	79,016	**227,148**

Figures are total 24hr AADT flow across screenlines

Figure 3 – Rural screenline results



Key Points

- Total flow across the three screenlines has doubled since 1985 – up by some 105% over the 33-year period. Growth was at its highest during the late 1980s and continued through to the mid-2000s when there was a levelling off and even a slight fall. However, since 2013 flows have started to grow noticeably again.
- There is some variation in growth between the three screen lines with a 100% increase across the North-South screenline compared with 105% for the East-West (Northern) and 110% for the East-West (Southern) screenlines.
- No surveys were carried out in 2020 due to Covid lockdown restrictions, but subsequently traffic flows have returned to pre-covid levels.

Rural traffic flows

In addition to the rural screenline surveys outlined previously, routine monitoring of traffic flows on the county's strategic road network is also carried out at some 117 sites on a five-year rota. The sites are shown on Figure 4 and are a mixture of link counts and turning counts carried out over the normal 12-hour period in a neutral month and also in late July or August. Surveys at the quieter sites are carried out manually, while video surveys are used at the busier and more complex locations. As with the screenline surveys, the results are combined to produce an estimate of 24-hour Annual Average Daily Traffic (AADT) flow in line with DfT guidance.

Figure 5 shows estimated 2018 24-hour AADT flows on the county strategic road network in the form of band widths. It is based upon the results of both the surveys described above and the results of the screenline surveys.

Figure 4 – Rural monitoring sites

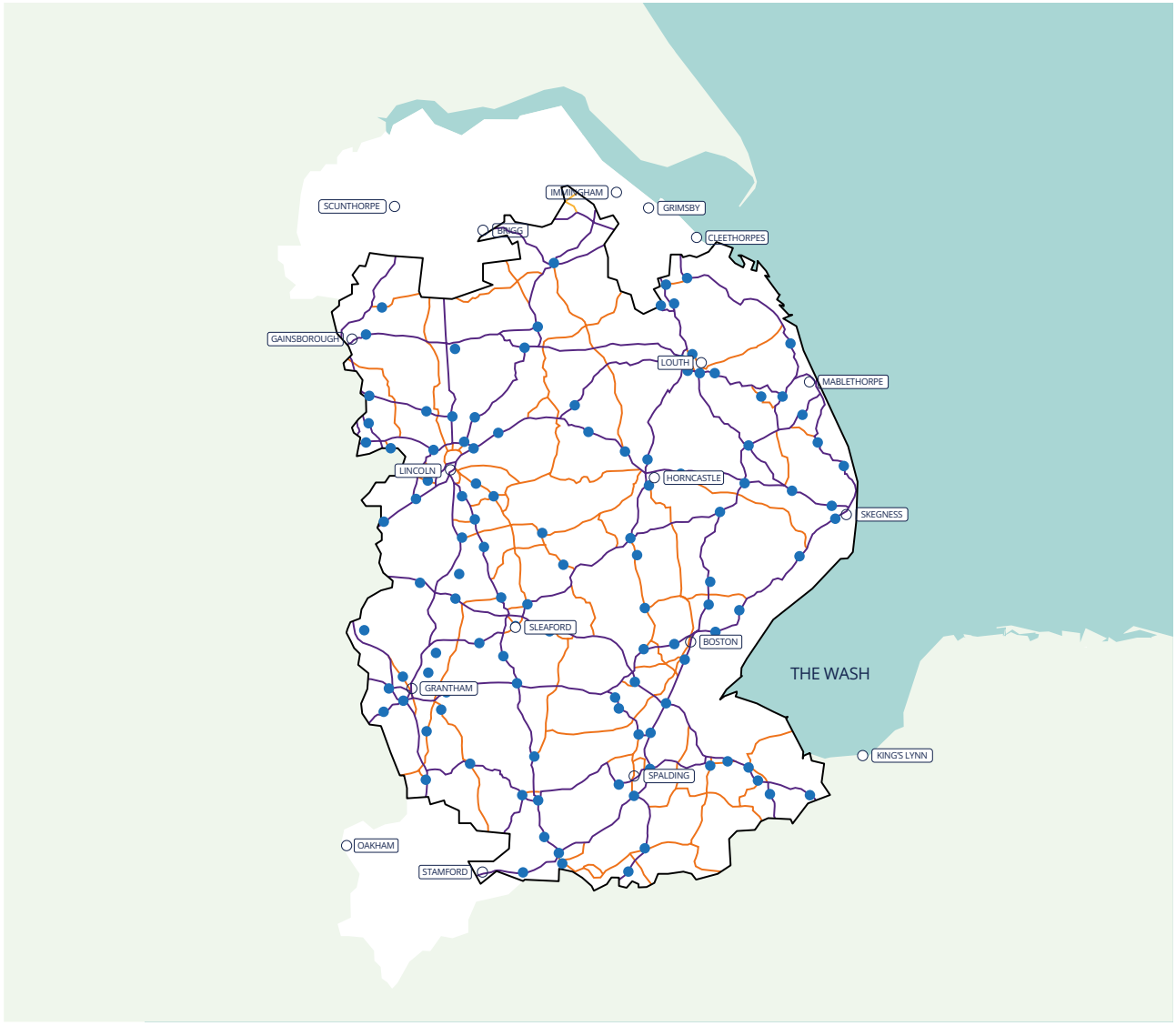
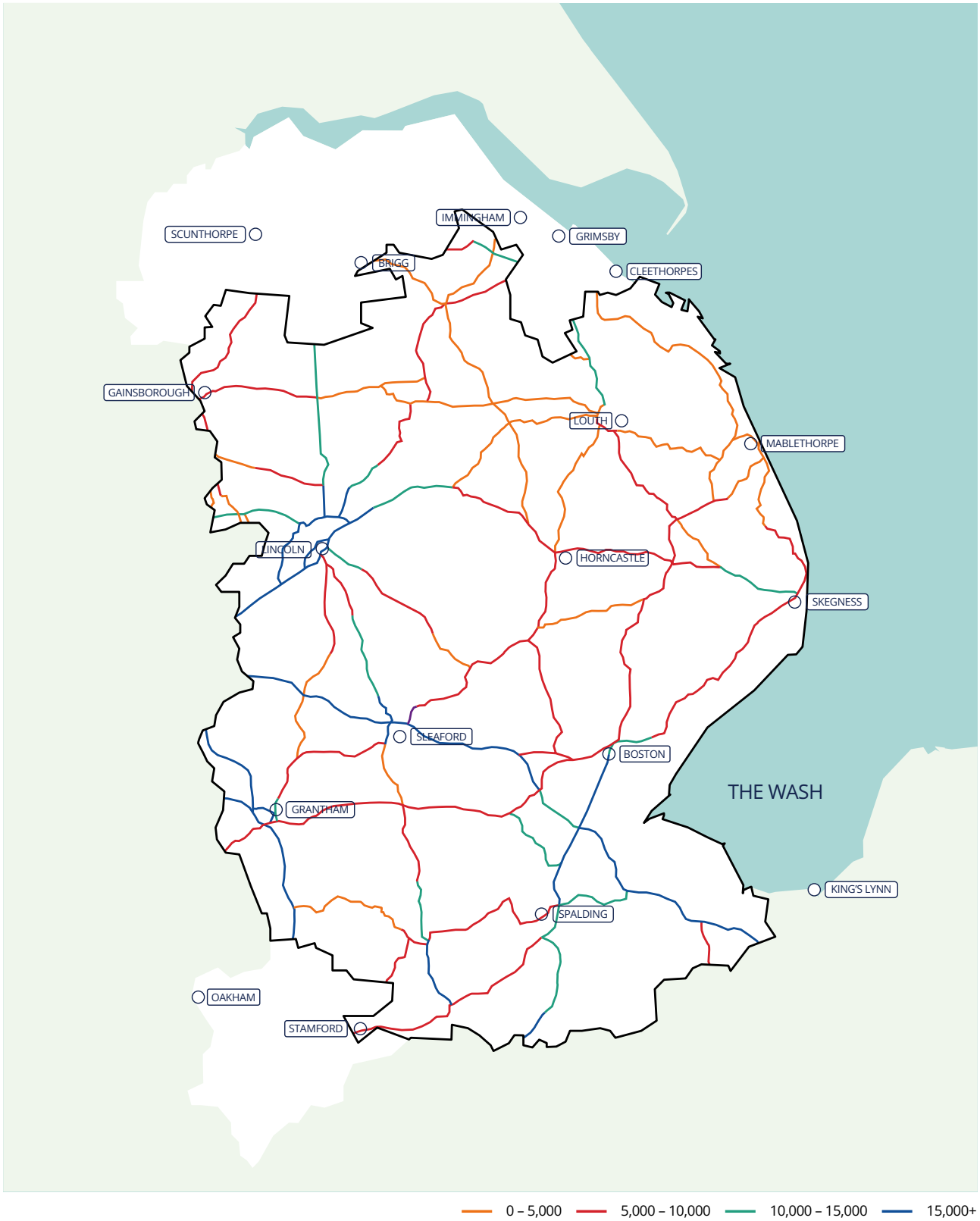


Figure 5 – Traffic flows on the strategic road network (2018 24hr AADT flow)



Lincoln screenline surveys

Since 1985, monitoring of traffic flows has been carried out across a screenline following the rail/river corridor across central Lincoln. In the first year, this comprised just Brayford Wharf East, High Street and Pelham Bridge. In 1986 the Lincoln Relief Road was added (having opened in December 1985) and in 1997, the newly constructed Brayford Way was included. The monitoring comprises a single 12-hour survey on each road carried out annually on a weekday in October.

More recently, in 2016 the monitored section of High Street was closed to traffic and pedestrianised between 10am and 4pm, and Brayford Wharf East became one-way northbound at the count site. This coincided with the opening of the new East-West Link Road. The 2017 surveys were also disrupted by the ongoing construction of the new Lincoln Transport Hub, which required the temporary closure of Norman Street and Oxford Street, which provide access to Broadgate and Pelham Bridge. In the light of this, data for 2017 should be treated with caution.

The locations of the surveys are shown in Figure 6 and the results are summarised in Table 4 and shown graphically in Figure 7.

Table 4 – Lincoln screenline survey results

Site	LS1	LS2	LS3	LS4	LS5	Total
Location	A46 Lincoln Bypass	Brayford Wharf East	High Street	A15 Pelham Bridge	Brayford Way	
1985	–	9,205	12,828	25,687	Opened in 1997	**47,720**
1990	18,943	8,440	12,376	30,933		**70,692**
1995	20,957	12,340	14,441	30,351		**78,089**
2000	22,119	4,203	9,178	31,249	17,561	**84,310**
2005	30,235	4,521	7,635	30,694	22,232	**97,322**
2010	31,670	3,740	6,015	32,457	23,101	**96,983**
2011	31,072	2,938	5,092	31,856	23,443	**94,401**
2012	30,018	3,504	5,854	31,714	22,916	**94,006**
2013	32,430	3,425	5,298	29,582	23,171	**93,906**
2014	30,569	3,117	4,845	31,154	23,231	**92,916**
2015	31,571	4,480	1,842	31,412	24,510	**93,815**
2016	32,023	1,072	Closed	24,644	25,100	**82,839**
2017	28,668	2,277	Closed	32,063	25,825	**88,833**
2018	30,634	1,683	Closed	27,491	25,411	**85,219**
2019	31,789	1,261	Closed	31,234	26,053	**90,337**
2020*	0	0	Closed	0	0	**0**
2021	30,324	260	Closed	19,680	22,407	**72,671**
2022	32,312	1,376	Closed	22,389	24,410	**80,487**

*No data collected due to Covid lockdown.

Figure 6 – Lincoln screenline surveys

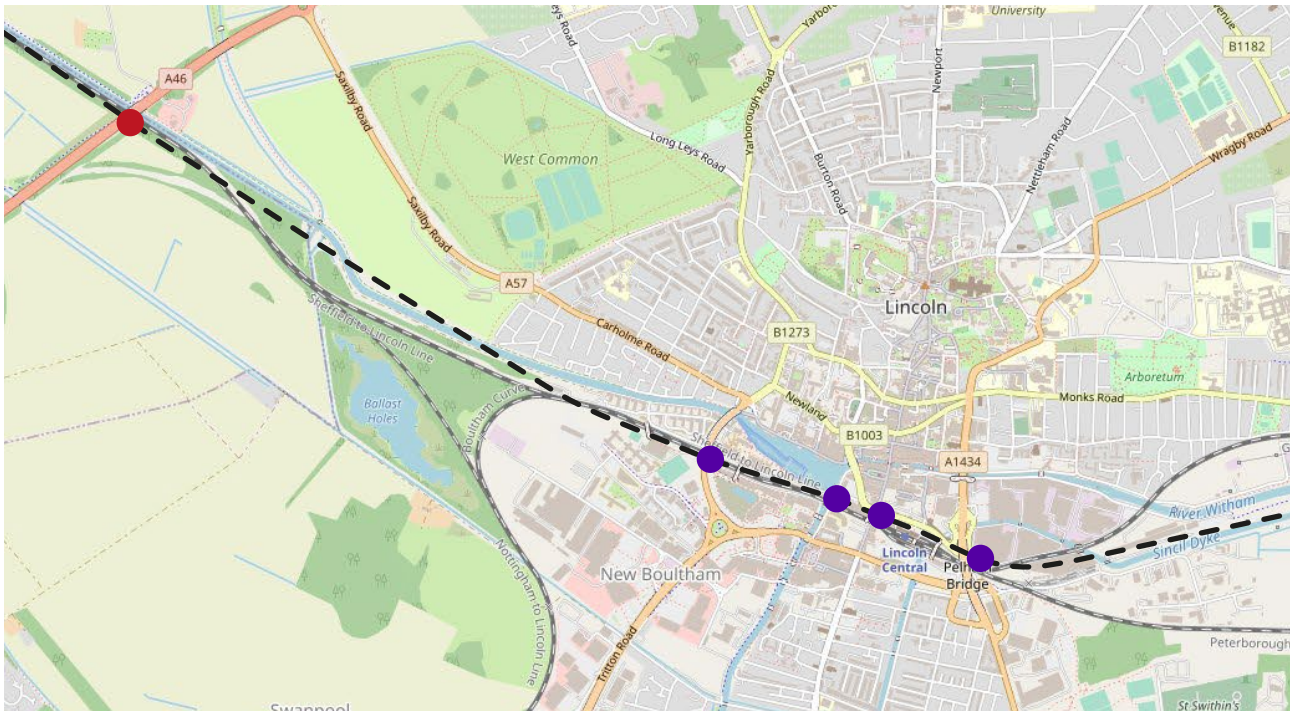
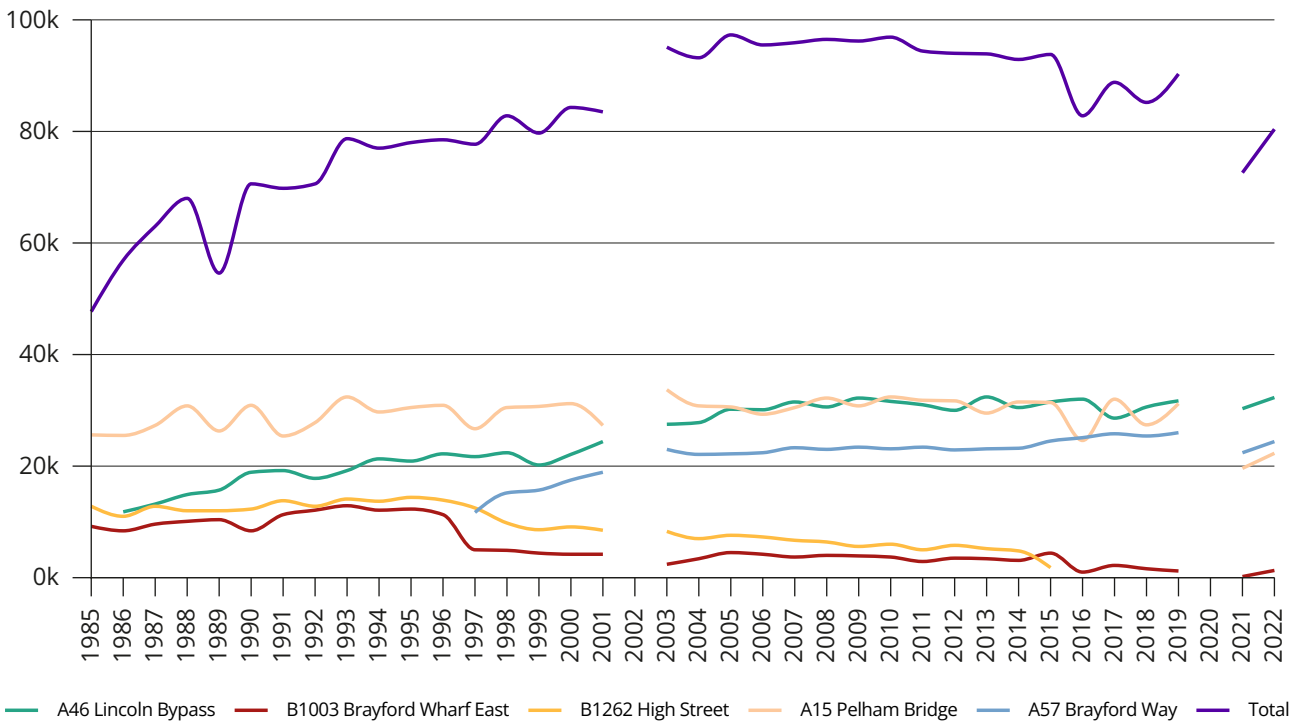


Figure 7 – Lincoln screenline results



Note: Data was not collected in 2002 due to long-term roadworks on both the A46 Lincoln Bypass and B1003 Brayford Wharf East.

Key Points

- Between 1985 and 2015, total flows across the screenline increased by some 79%. After strong growth in the earlier years, flows levelled off between 2004 and 2015.
- In recent years, monitoring has been affected by both new traffic management systems and temporary road closures as highlighted in 6.2 above. These results will be reviewed in the light of future years' data.
- Flows on the A46 Lincoln Bypass have risen from some 11,800 in 1986 to over 30,000 in recent years.
- Since its opening in 1997, flows on Brayford Way have more than doubled, up from 11,700 in 1997 to 26,000 in 2019.
- Flows on Pelham Bridge have risen from 25,700 in 1985 to over 31,000 in recent years, although again flows have been relatively constant since 2003.
- Flows on High Street peaked in 1995 at around 14,400 (before Brayford Way was opened) but have since dropped to around 4,800 in 2014. In 2015, a further reduction to 1,800 was recorded due to a one-way restriction to allow the construction of the new footbridge over the railway on Lincoln High Street. More recently, the road has been closed to traffic and pedestrianised between 10am and 4pm.
- Prior to the opening of Brayford Way in 1997, flows on Brayford Wharf East were over 12,000 vehicles a day. With the opening of the various schemes mentioned and the new one-way restriction, flows have fallen to just 1,200 in 2019.
- As can be seen in Table 4, flows along the A15 Pelham Bridge have reduced significantly, due mainly to the opening of the new Lincoln Eastern Bypass, which has reduced the need to travel into the city on this road.

Traffic growth in Lincoln, Boston and Grantham

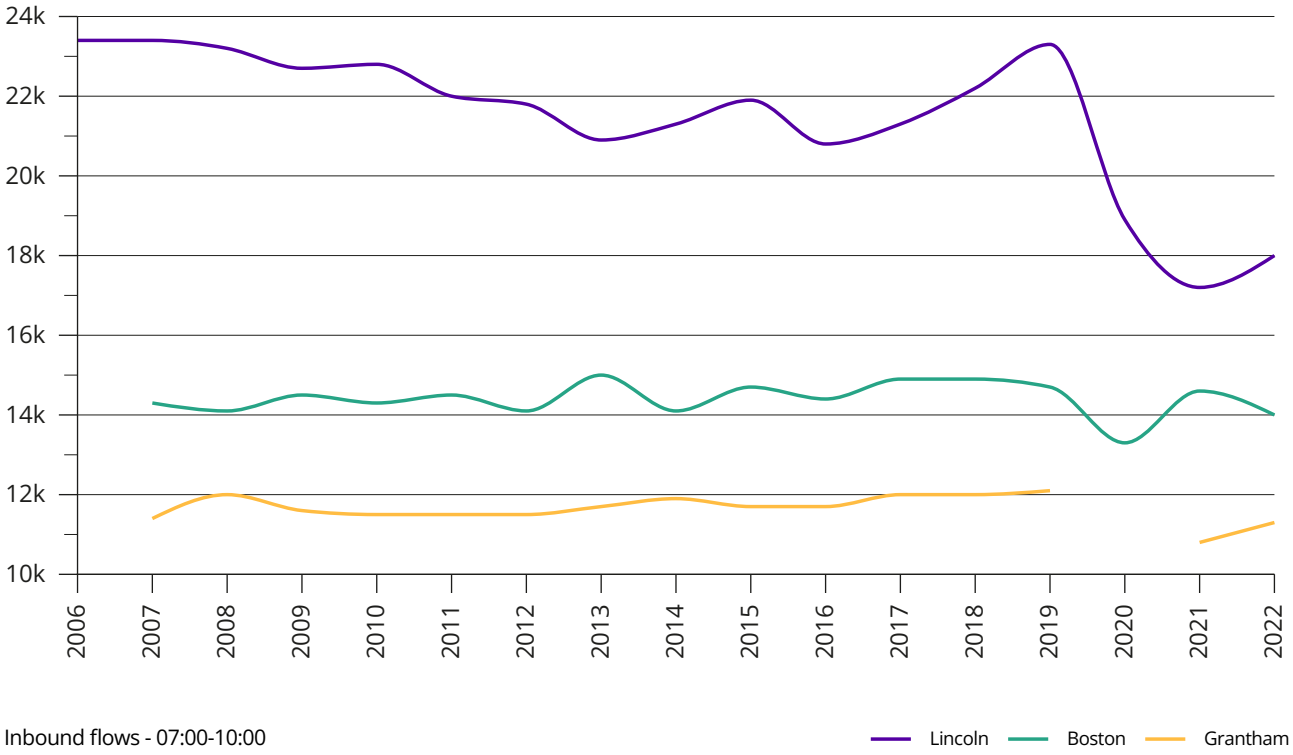
As part of the monitoring process for the 2nd Local Transport Plan, cordon counts were established in Lincoln, Boston and Grantham in line with guidance published by DfT. Although there is no longer a requirement from DfT for this monitoring, it has continued since it provides an indication of general traffic changes in these important urban areas.

The surveys comprise inbound counts carried out between 7:00 am and 10:00 am on typical weekdays. Initially, they were repeated on 10 different weekdays in line with DfT requirements. Due to budget constraints, this was reduced to 5 weekdays in 2011 and then 3 weekdays in 2016. The surveys started in 2006 in Lincoln and 2007 in Boston and Grantham. The cordons and count sites are shown in Figures 9, 10 and 11 and the results are summarised in Table 5 and Figure 8.

Table 5 – Inbound flows 0700-1000 crossing urban cordons

	Lincoln	Boston	Grantham
2006	23,411	–	–
2007	23,452	14,316	11,494
2008	23,266	14,159	12,003
2009	22,706	14,569	11,695
2010	22,824	14,389	11,570
2011	22,068	14,565	11,519
2012	21,880	14,101	11,529
2013	20,953	15,038	11,772
2014	21,331	14,104	11,918
2015	21,965	14,732	11,712
2016	20,829	14,401	11,771
2017	21,318	14,943	12,045
2018	22,292	14,963	12,061
2019	23,359	14,760	12,105
2020	18,958	13,315	n/a (Covid)
2021	17,208	14,677	10,897
2022	18,099	14,011	11,302

Figure 8 – Urban traffic growth



Inbound flows - 07:00-10:00

Key Points

- There has been no strong trend up or down in Boston or Grantham since monitoring started in 2007.
- The 2016 and 2017 monitoring in Lincoln was affected by the issues previously highlighted on page 22, in particular the opening of the East-West Link Road and road closures for the construction of the Lincoln Transport Hub. These figures will be reviewed in the light of data collected in future years.
- Following on from the completion of the East-West Link Road and the Transport Hub, construction of the new Eastern Bypass for Lincoln commenced, and the road was opened in December 2020. This has impacted on traffic flowing into the city from the south, thus reducing the overall total flows into the city.

Figure 9 – Lincoln cordon survey locations

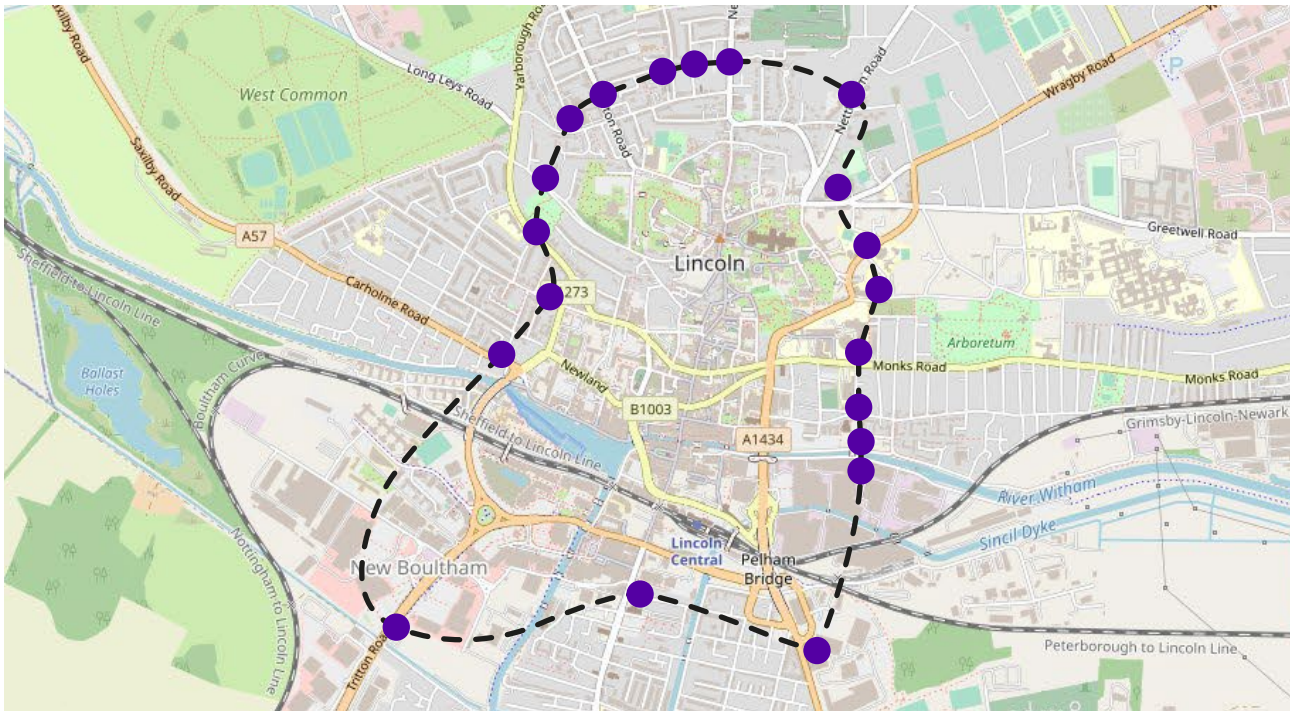


Figure 10 – Boston cordon survey locations

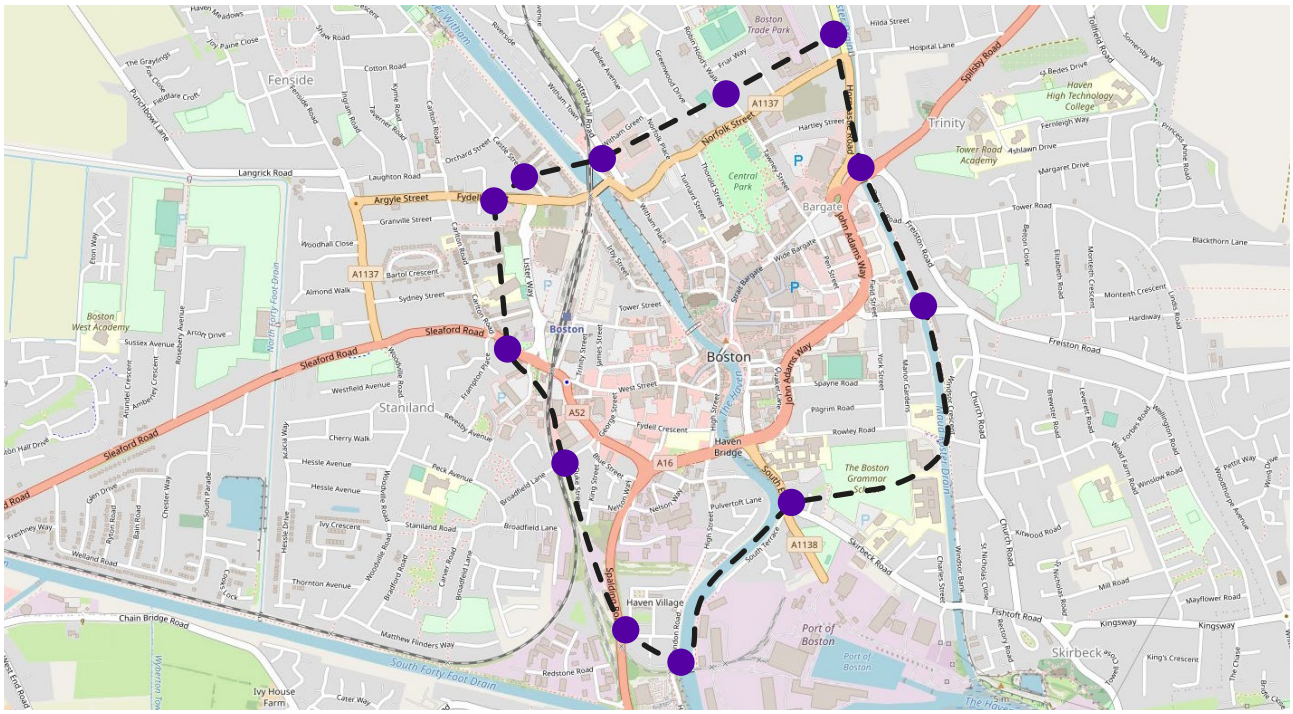
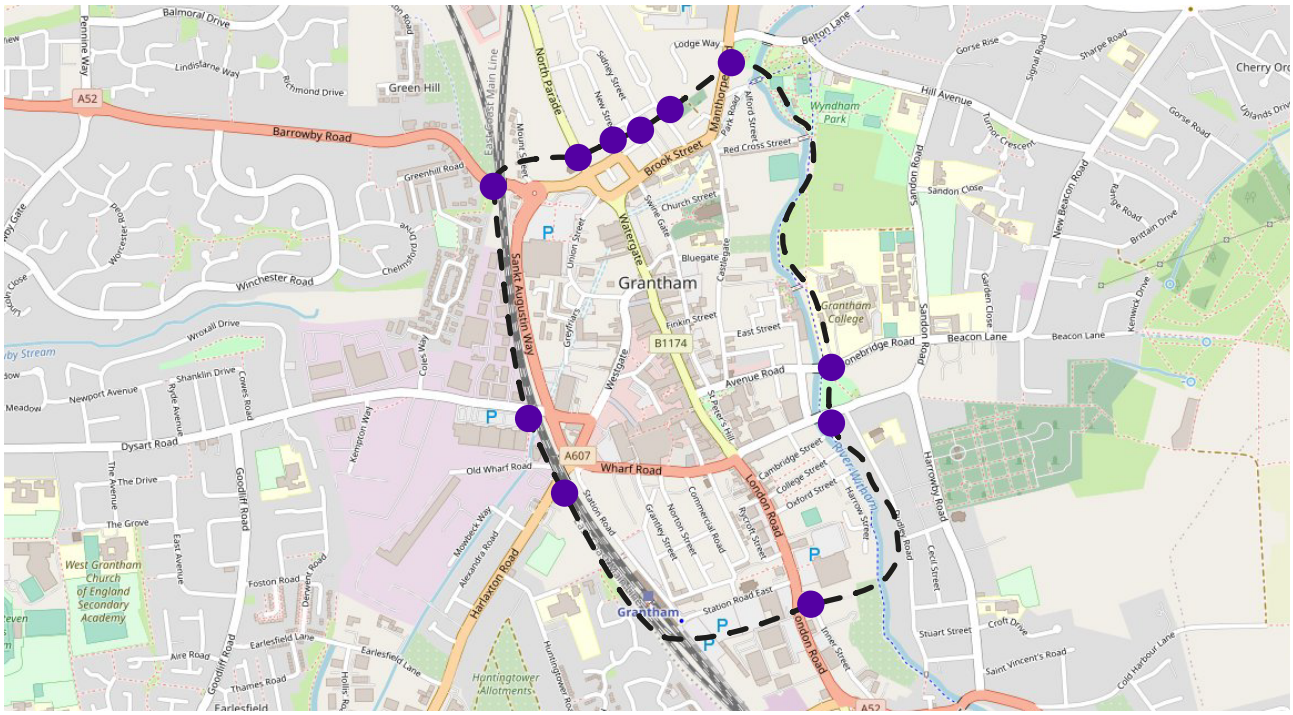


Figure 11 – Grantham cordon survey locations



Automatic traffic counters

Automatic traffic counters are used to monitor traffic flows over long periods of time. Using inductive loops cut into the road surface and connected to electronic counters in cabinets at the roadside, these sites collect data 24-hours a day, 365 days a year.

There are some 52 sites across the county currently in use, operated by both the County Council and the Lincolnshire Road Safety Partnership. Their locations are shown in Figure 15.

To highlight the type of information available, an analysis of data from May 2018 at the ATC site on the A15 south of Bracebridge Heath has been undertaken, and some examples of the results are shown below.

Figure 12 – A15 South of Bracebridge Heath: combined flows daily variation

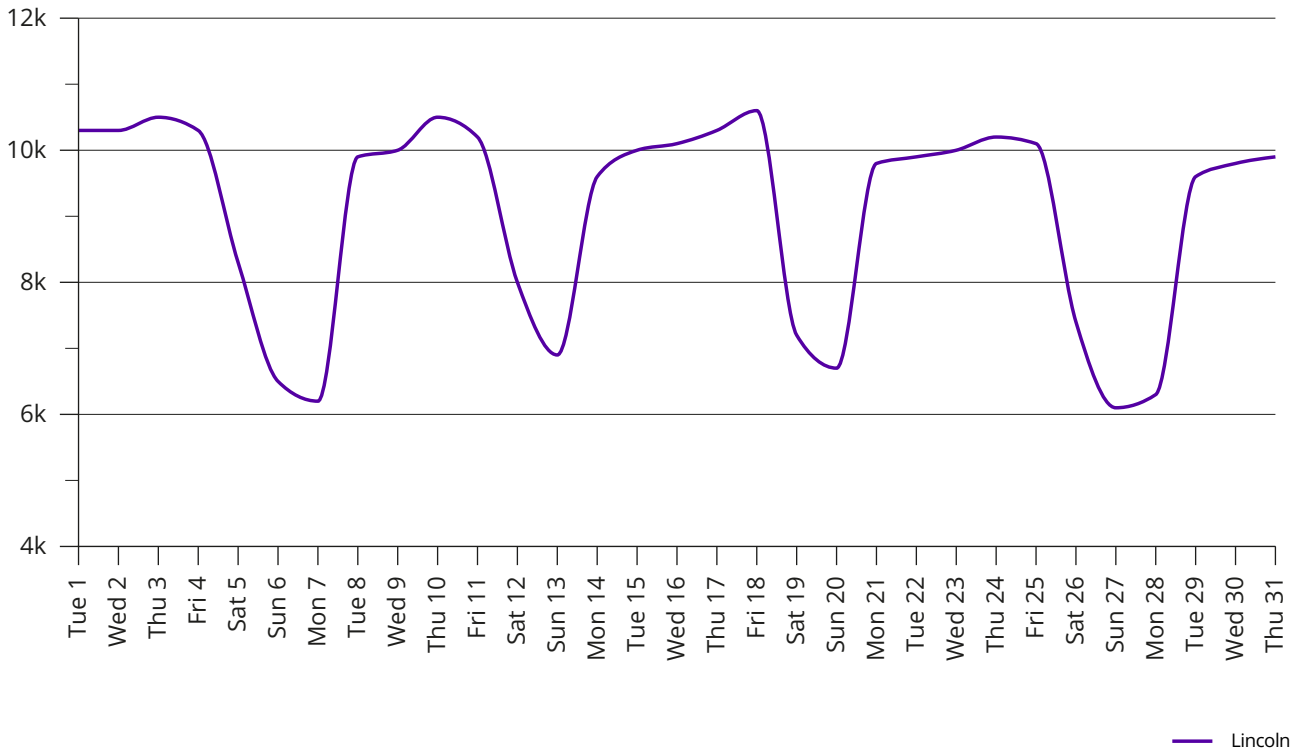


Figure 13 – A15 South of Bracebridge Heath: daily variation by direction

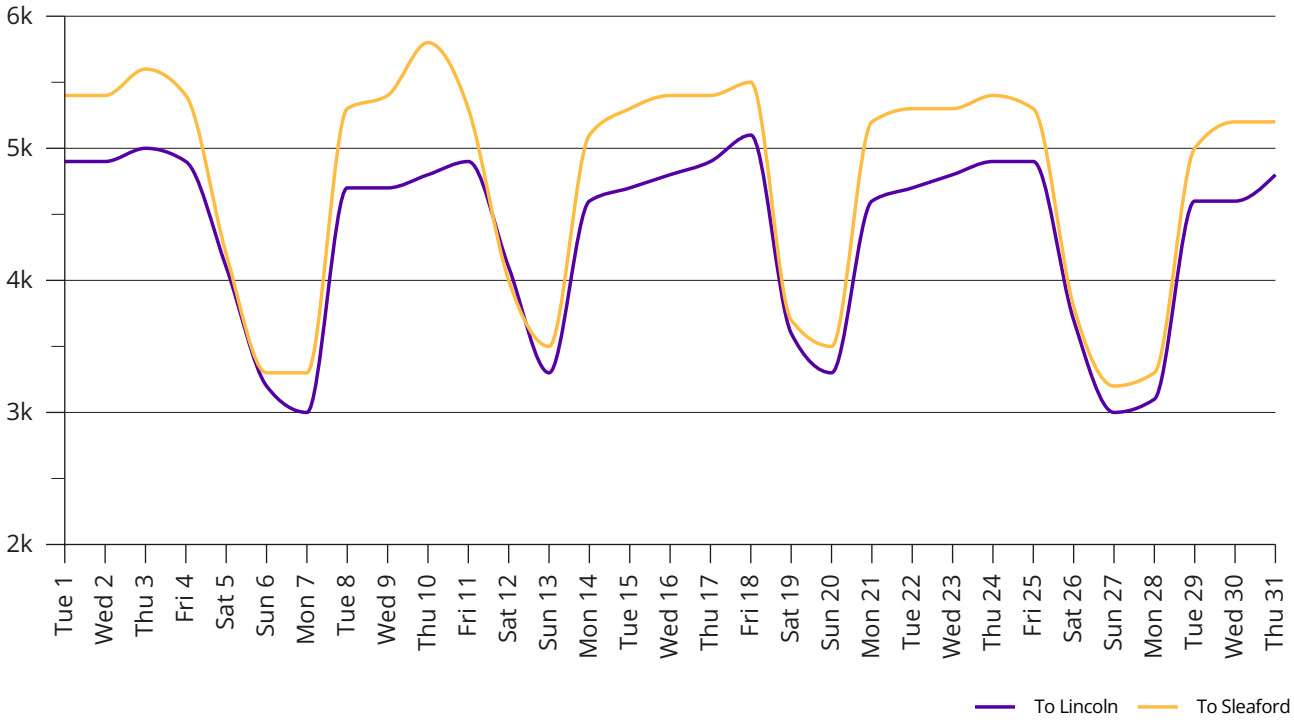


Figure 14 – A15 South of Bracebridge Heath: hourly variation by direction

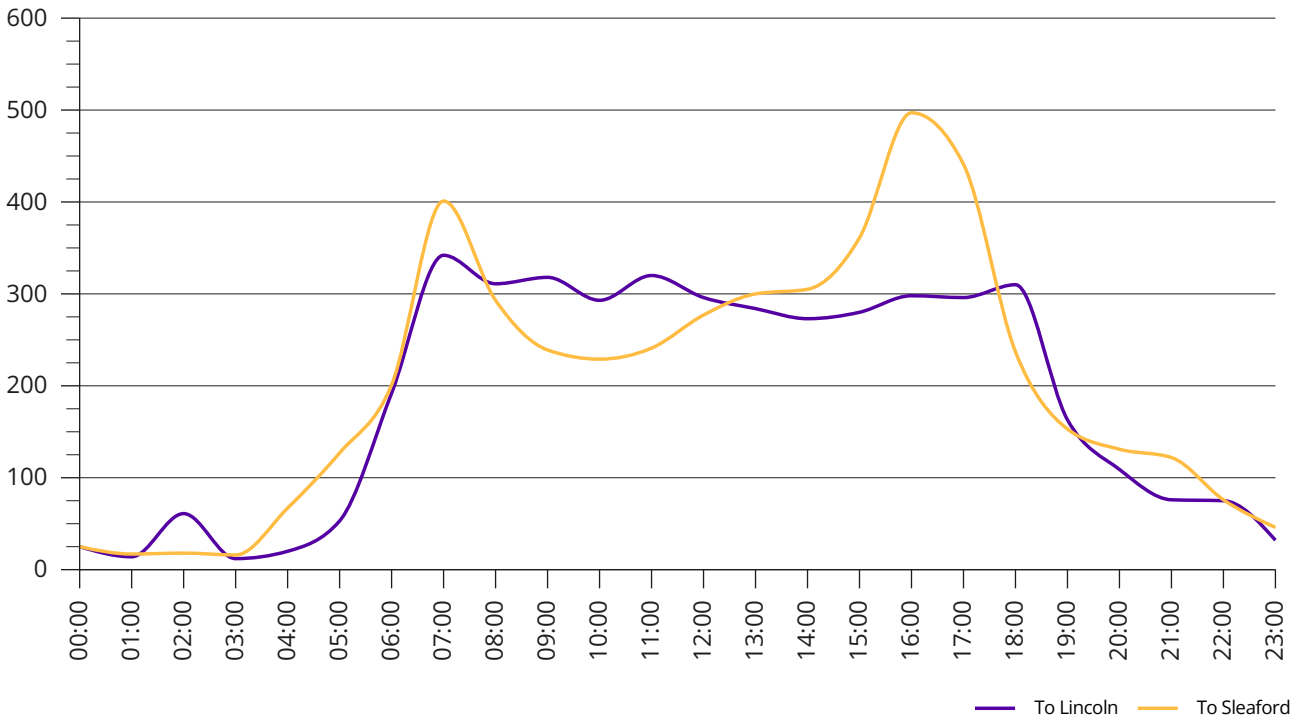
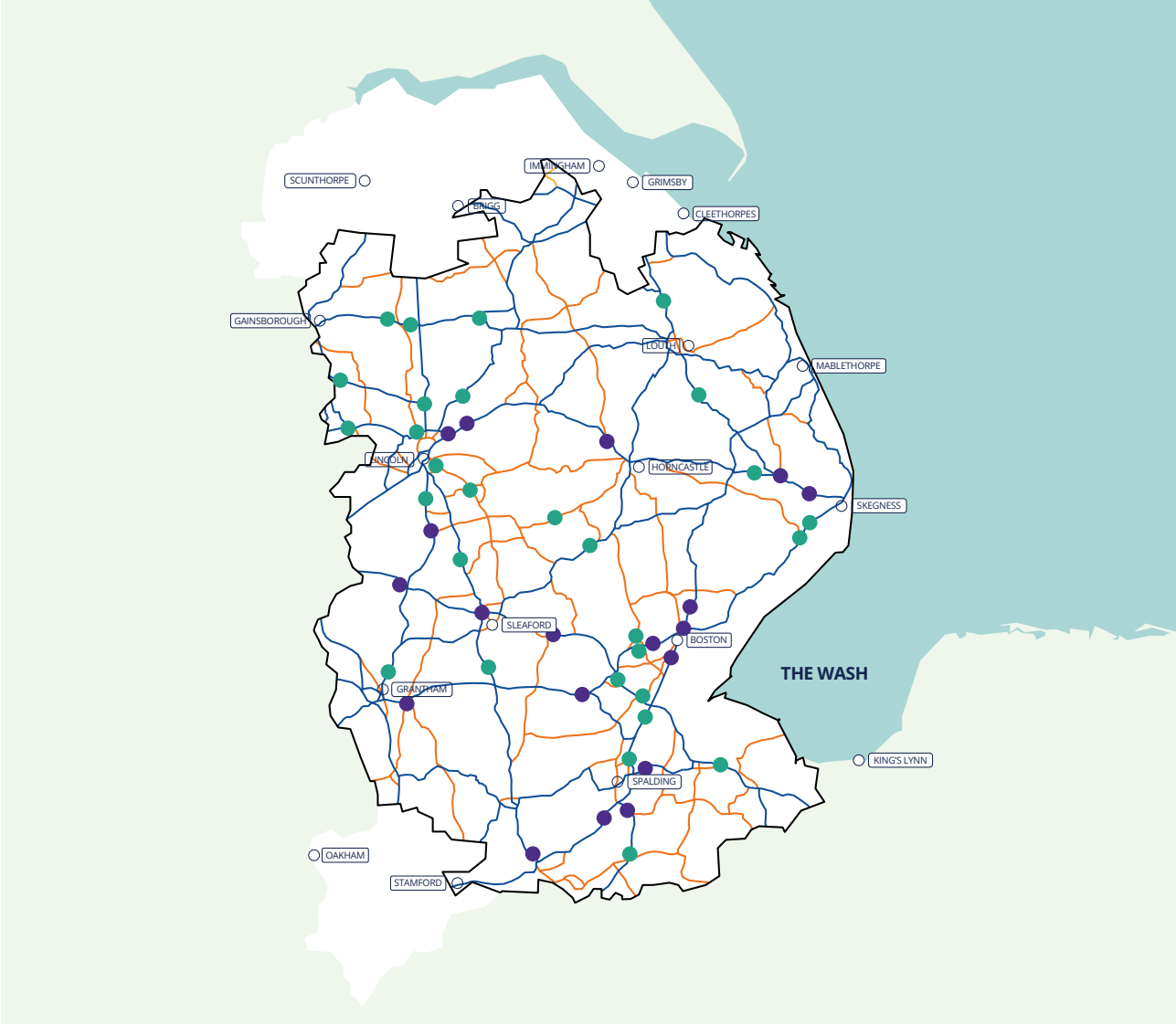


Figure 15 – ATC Locations



Key Points

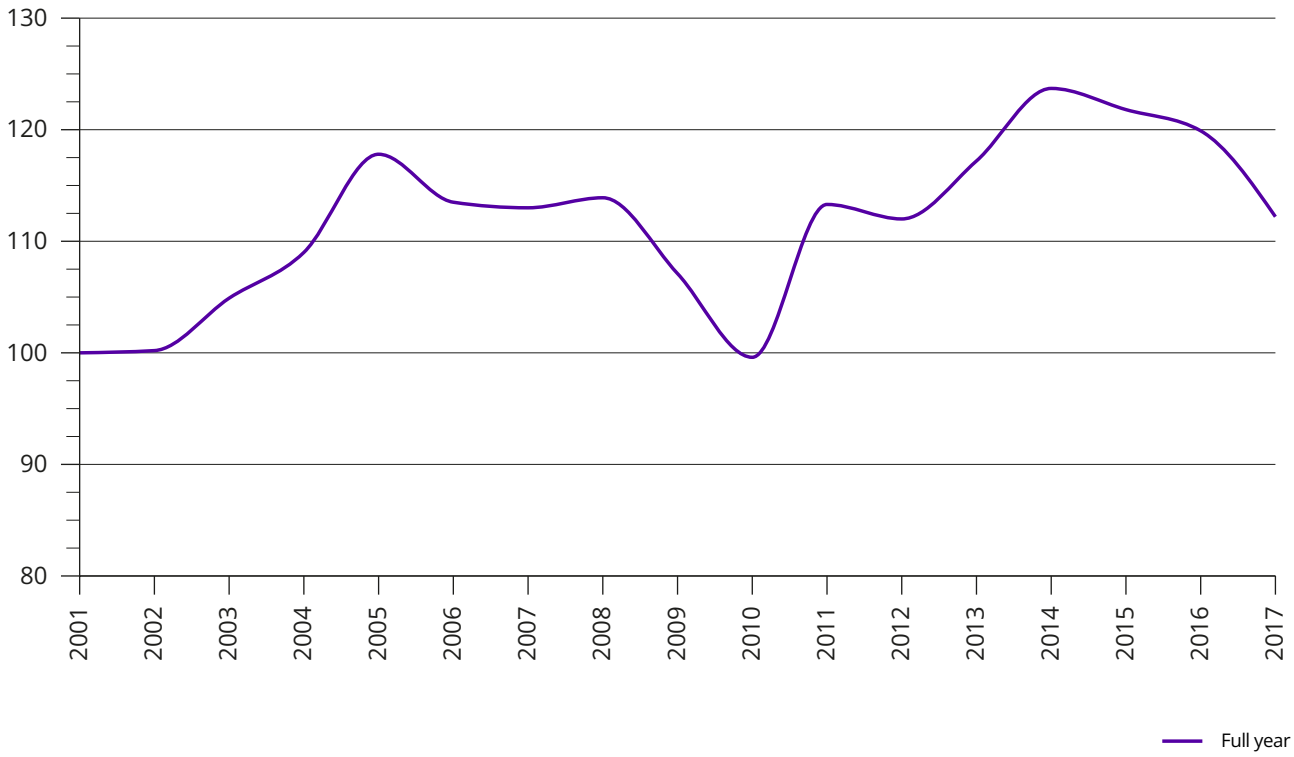
- As can be seen in Figure 12, there is a consistent weekday flow through the counter throughout the month sampled, with an expected reduction of traffic at the weekends.
- Directionally, there is a greater volume of traffic heading towards Sleaford than towards Lincoln during weekdays in May, as shown in Figure 13.
- Figure 14 shows how the traffic peaks directionally, with the normal morning and evening peak periods being more evident in the Sleaford direction than the Lincoln direction.

Cycle flow monitoring

As part of the Local Transport Plan monitoring process, some 31 automatic cycle counters have gradually been installed across the county. We generally use about 20 of these sites for our analysis. These are primarily within the larger urban areas, although there are some sites on more rural, leisure routes operated in partnership with Sustrans. They are all listed in Table 6.

Year-on-year growth is estimated by comparing a selection of those sites with the previous year. This is then converted to an index where the base year of 2001=100. The graph below shows the recorded growth.

Figure 16 – Cycling growth in Lincolnshire



Key Points

- Cycle flows across the county have risen by some 12% over the whole period. However, there has been substantial year-to-year variation.
- Consistent monitoring has proved difficult due to reliability issues with the counting equipment. These problems are being addressed on an ongoing basis, but the above data must be treated with caution.
- Due to the ongoing unreliability of the data collection, further updates will only be provided when these have been resolved.

Table 6 – Current automatic cycle counter locations

Site number	Town	Location
3	Grantham	Queen Elizabeth Park
4	Grantham	Bottom of Allotments
5	Grantham	North Parade
7	Lincoln	Witham Park – Stamp End
8	Lincoln	Riverside Walk - By Firth Road Bridge
9	Lincoln	Tritton Road – Near Chieftain Way
10	Lincoln	Doddington Road – Near Tritton Road Junction
11	Lincoln	Sustrans - Skellingthorpe
12	Boston	A52 Sleaford Road – Northside Cycleway
13	Boston	A52 Sleaford Road – Southside Cycleway
14	Spalding	Pinchbeck Road – Near West Elloe Ave Junction
15	Spalding	Riverside – Parallel to Double Street
16	Spalding	Near Balmoral Avenue
17	North Hykeham	Station Road – East
20	Sleaford	Eastgate at Cogglesford Mill – South Pavement
21	Sleaford	Eastgate at Cogglesford Mill – North Pavement
22	Sleaford	Grantham Road - Level Crossing
23	Spalding	Halmergate
24	Skegness	Burgh Road
25	Louth	New Bridge Hill
26	Lincoln	Tritton Road – Morrisons, Eastside Pavement
28	Lincoln	Brant Road – Lakeside
29	Fosdyke	Sustrans – East of Bridge
30	Washingborough	Sustrans – East of Station
31	Bardney	Sustrans – Station Road
32	Woodhall Spa	Sustrans – Kirkstead Bridge
33	Boston	Anton's Gowt Bridge
34	North Hykeham	A46 Newark Road
35	Leasingham	A15 Sleaford Bypass
36	Sleaford	Galley Hill
37	North Hykeham	Station Road – West
38	Skegness	A52 Roman Bank – near Butlin's
39	Skegness	A52 Roman Bank near Canterbury Avenue

Local area walking and cycling statistics

Since 2015/16, the Department of Transport has carried out an annual Active Lives Survey in support of the government's 'Sporting Future: A New Strategy for an Active Nation' and Sport England's 'Towards an Active Nation' strategies. This survey is aimed at measuring participation in sport and active recreation and includes questions on cycling and walking for both recreational and general travel purposes.

Data for 2015/16 to 2020/21 from the Active Lives Survey relating to the proportion of people cycling and walking once a week are shown in Figure 17 and 18 below.

Figure 17 – Cycling once per week

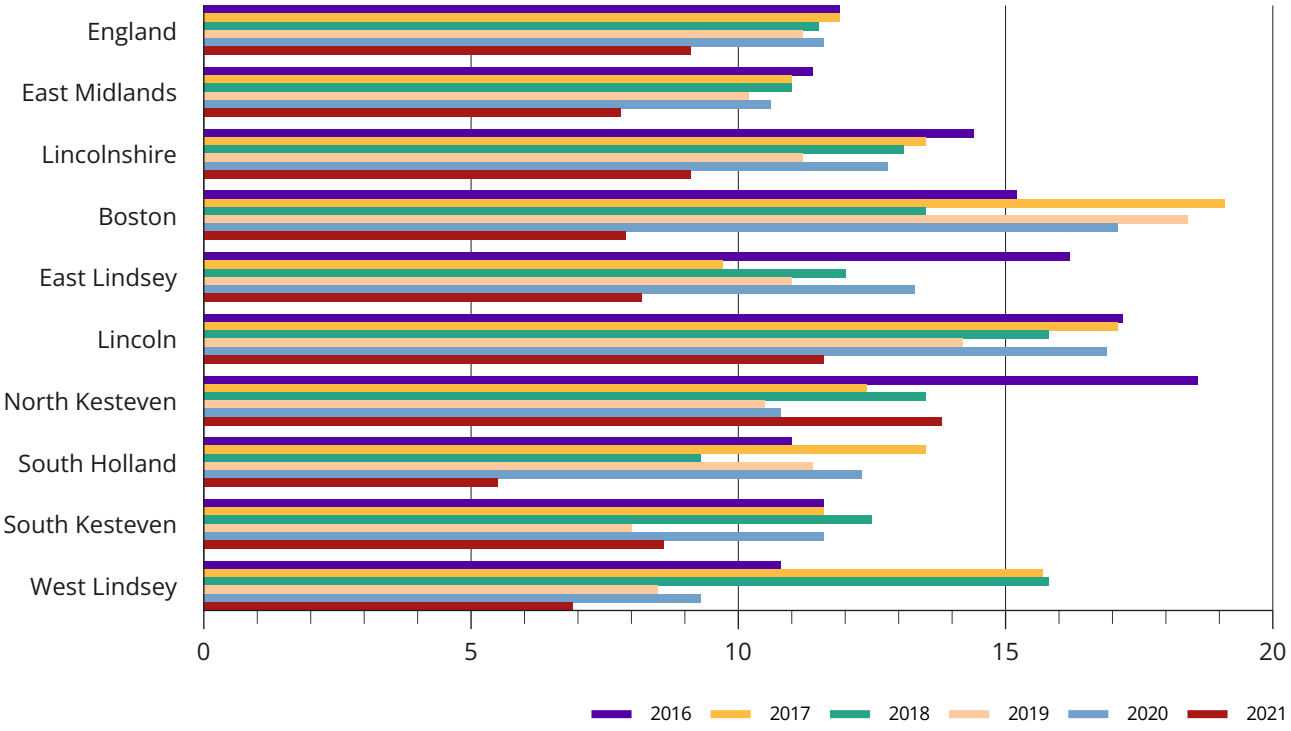
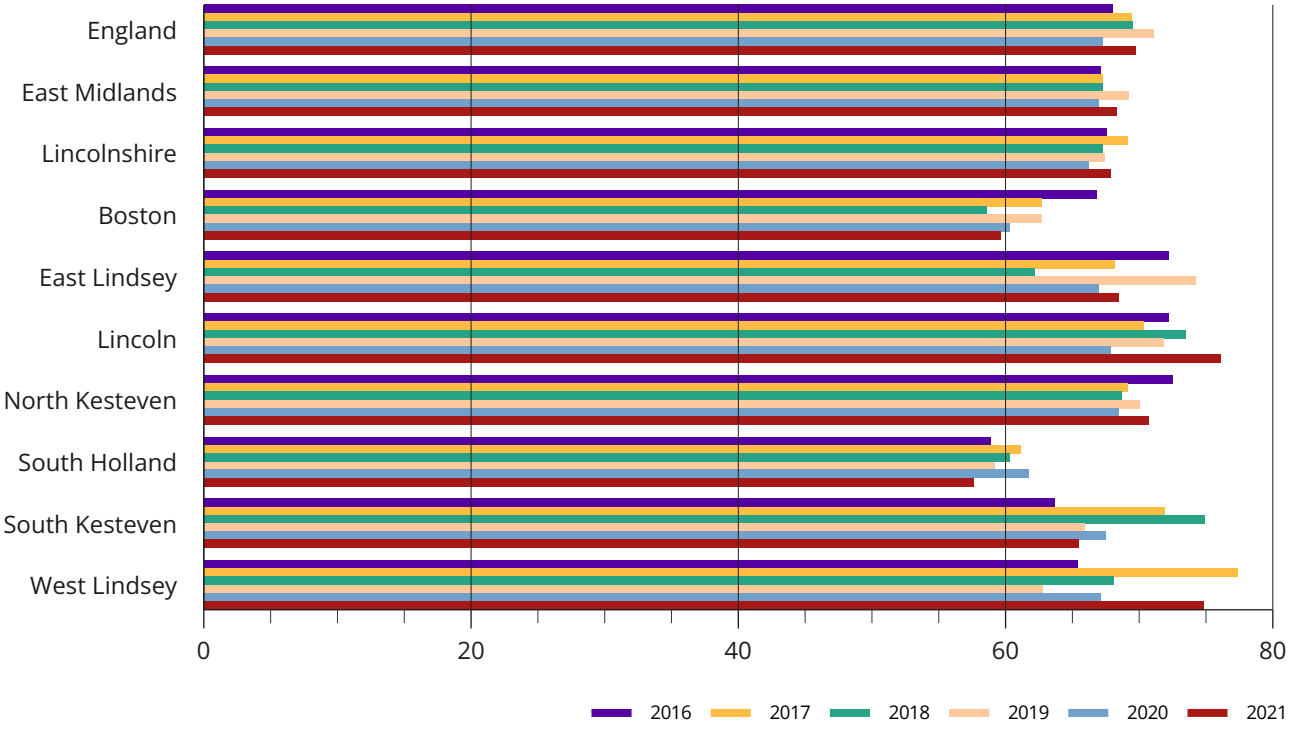


Figure 18 – Walking once per week



Key Points

- The proportion of people cycling at least once a week in Lincolnshire is slightly higher than that in the East Midlands and the same as the rest of England. There is considerable variation at the district level.
- The proportion of people making a walking trip in Lincolnshire is generally similar to that made at both the regional and national level.
- No data for 2022 are available until summer 2023.

Bus patronage

Between 2002/03 and 2009/10, information on passenger numbers was collected directly from all operators by the Council in line with guidance issued by DfT for monitoring the Local Transport Plan. However, since 2009/10 this has been replaced by data collected by DfT using returns from operators. Hence, longer-term comparison for this period is not possible, but the overall trends hold true. Table 7 and Figure 19 below summarise the data since 2002/03.

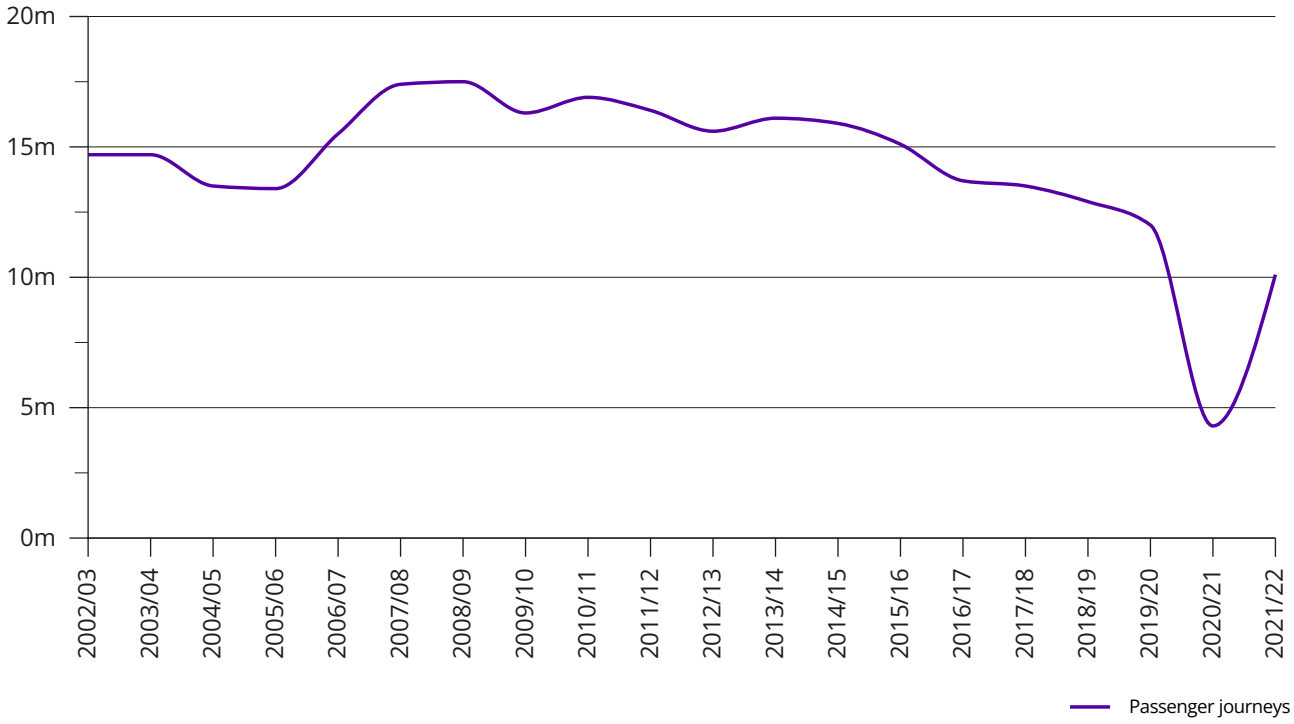
Table 7 – Bus passenger journeys in Lincolnshire

Year	Passenger Journeys
2002/03	14,746,293
2003/04	14,782,638
2004/05	13,582,018
2005/06	13,464,317
2006/07	15,578,970
2007/08	17,482,853
2008/09	17,571,978
Change in data source	
2009/10	16,300,000
2010/11	16,900,000
2011/12	16,400,000
2012/13	15,600,000
2013/14	16,100,000
2014/15	15,900,000
2015/16	15,100,000
2016/17	13,600,000
2017/18	13,500,000
2018/19	12,900,000
2019/20	12,000,000
2020/21	4,300,000
2021/22	10,100,000

Key Points

- The number of passenger journeys in Lincolnshire grew by almost 31% between 2005/06 and 2008/09. The growth in England over the same period was just 8%.
- An element of this growth was no doubt due to the introduction of the national concessionary fares scheme, but the extent of its impact is unclear.
- However, since 2010/11 there has been a 28.9% reduction in bus passenger journeys in Lincolnshire.
- Due to the restrictions placed on the movement of people during COVID, bus passenger numbers collapsed nationally, and this can be seen in Lincolnshire as well. Although there has been some recovery after the lockdown, passenger numbers are still well below pre-COVID levels.

Figure 19 – Bus passenger journeys in Lincolnshire

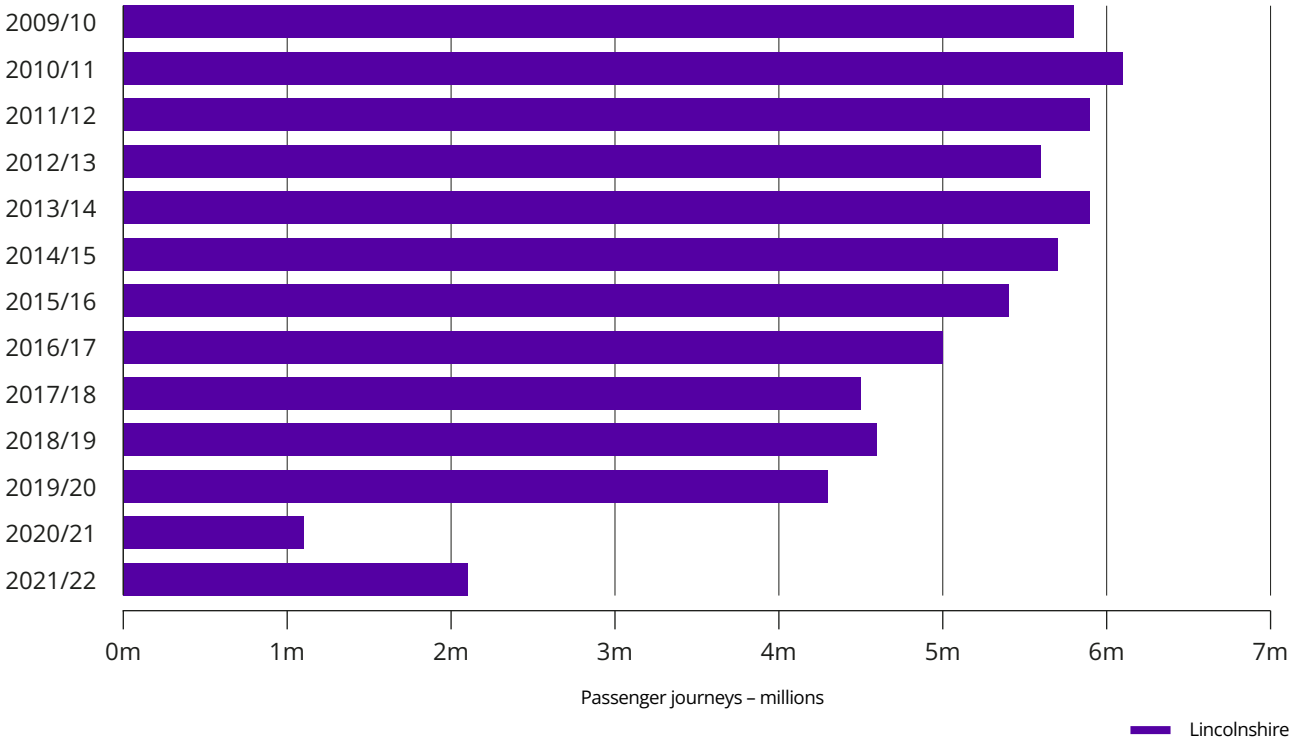


Concessionary bus travel

The English National Concessionary Bus Travel Scheme is a national scheme managed by the Department for Transport in conjunction with local authorities across England. Anyone reaching the State Pension age or having a relevant disability is eligible for free bus travel within Lincolnshire on the production of a valid pass; no restrictions are currently put on the time of travel.

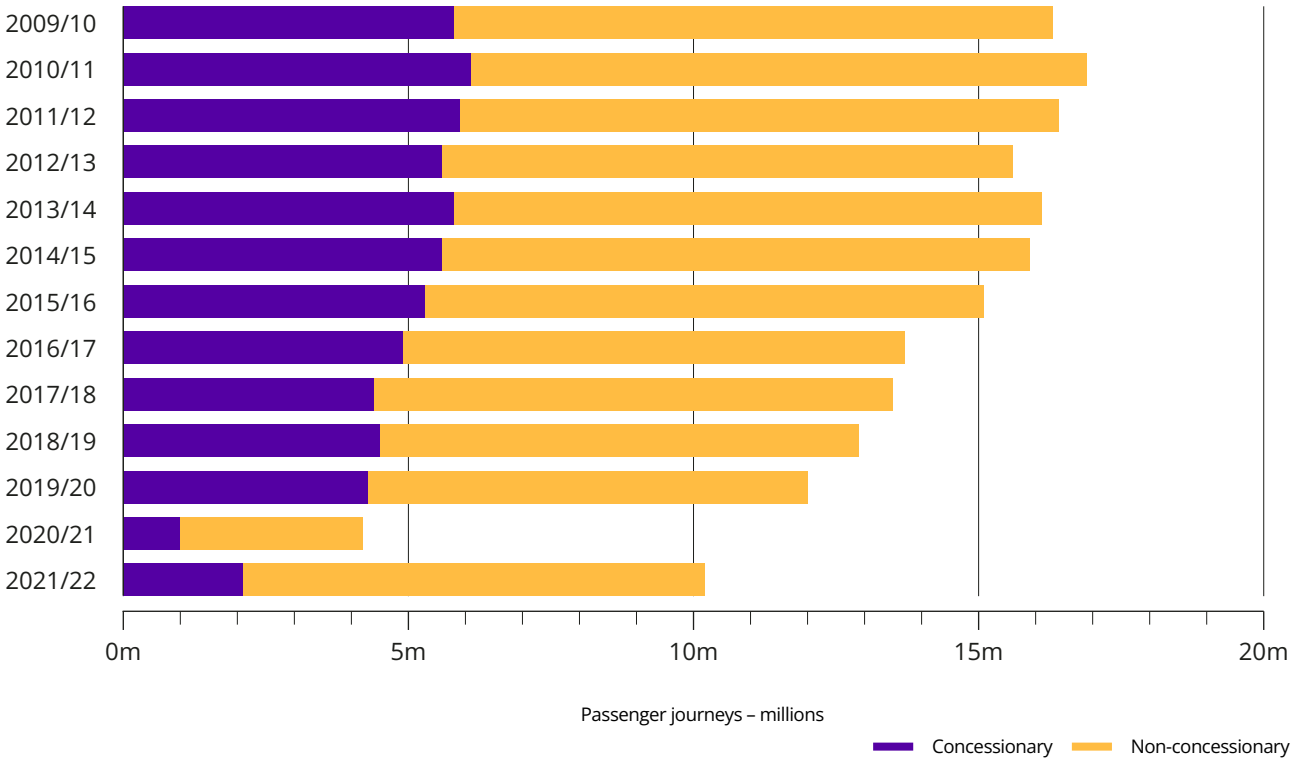
On 1st April 2011, Lincolnshire County Council took over the administration of the National Concessionary Travel Scheme across Lincolnshire from the district councils. Annual statistics on the use of the scheme are published each year by the DfT. Figure 20 below shows the number of journeys completed in Lincolnshire over recent years.

Figure 20 – Concessionary bus journeys in Lincolnshire



The split between non-concessionary and concessionary journeys in Lincolnshire is shown in Figure 21.

Figure 21 – Bus journey breakdown



Key Points

- For the first four-years of the scheme, the number of concessionary journeys remained fairly constant at around 5.7 million. Since 2014/15, however, the numbers have reduced each year to 4.3 million in 2019/20, a reduction of just over 1.4 million passenger journeys in six years.
- It is worth noting, however, that the eligibility for the scheme has changed, bringing it in line with the state pension age for women, meaning fewer people will be eligible.
- Concessionary fare journeys represent approximately 35.8% of all bus journeys in the county.
- During the COVID-19 pandemic public transport usage collapsed, and this affected concessionary travellers badly. Post-pandemic, bus usage has staged a partial recovery, and usage by travel passholders has recovered somewhat, but still only to about 50% of pre-pandemic figures.

Passenger rail usage

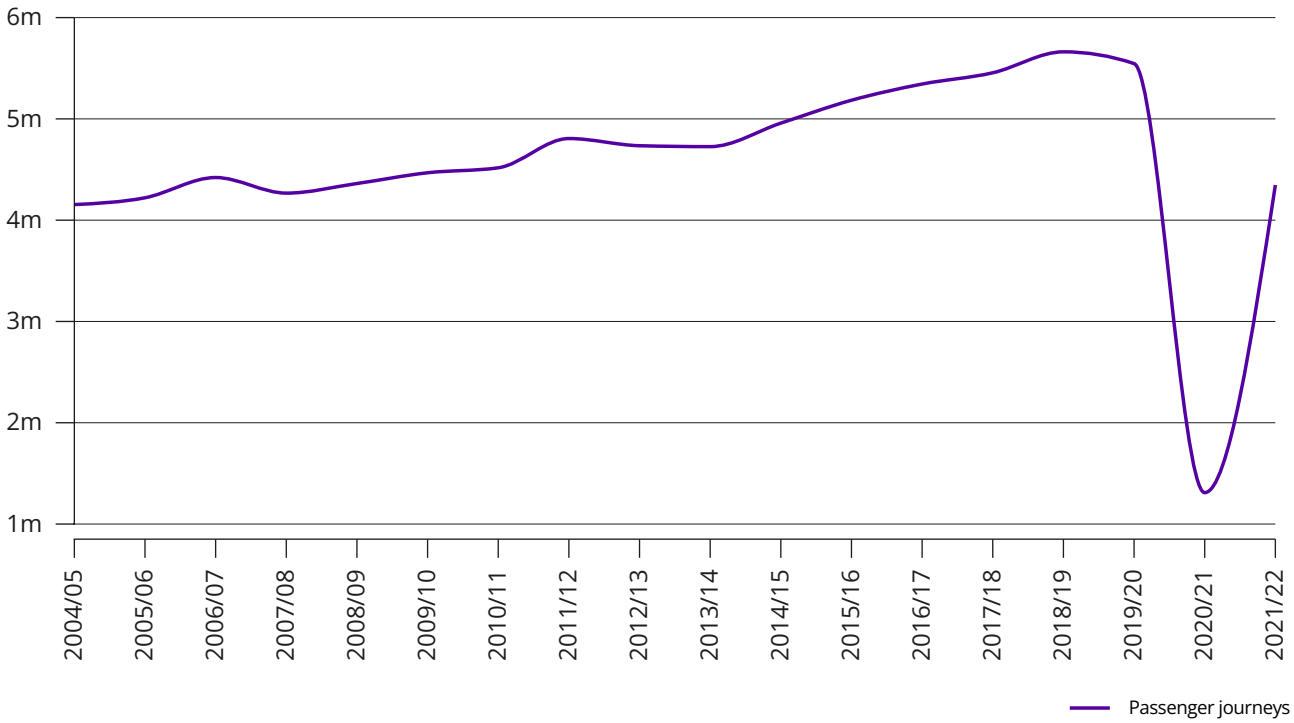
Information relating to the number of people using stations in Lincolnshire is produced annually (by financial year) by the Office of Rail and Road (ORR). Table 8 below shows the figures since 2015/16.

Table 8 – Usage of Lincolnshire rail stations

Lincoln Central	1,753,856	1,816,018	1,864,830	1,963,938	1,966,100	430,900	1,500,924
Grantham	1,308,536	1,369,610	1,364,650	1,413,006	1,390,648	348,058	1,191,658
Skegness	354,070	349,008	357,428	350,864	323,202	112,520	308,608
Stamford	355,880	355,532	375,616	384,560	366,652	49,894	227,100
Sleaford	321,288	316,570	309,326	310,906	298,572	76,590	224,066
Boston	207,368	211,824	217,872	226,940	210,854	59,220	170,976
Gainsborough Lea Road	153,286	156,776	159,670	164,188	174,122	42,386	145,840
Spalding	185,396	189,884	188,596	193,034	176,342	44,986	134,834
Hykeham	71,056	107,614	143,482	176,244	183,026	31,522	102,206
Saxilby	61,920	64,358	67,130	75,172	75,654	20,848	69,026
Metheringham	106,248	99,704	99,490	101,878	95,698	27,000	64,858
Ruskington	87,328	91,016	89,726	82,020	78,110	18,652	59,662
Market Rasen	62,908	66,398	64,264	69,840	69,008	14,846	51,298
Heckington	70,940	64,624	66,576	66,494	60,788	12,436	37,834
Wainfleet	53,838	46,326	47,216	42,160	38,752	10,440	32,612
Swinderby	11,034	14,462	17,616	18,026	17,912	3,700	10,862
Ancaster	7,356	7,162	6,572	5,904	5,006	1,798	6,160
Rauceby	5,584	10,948	9,714	10,256	9,234	2,586	4,298
Gainsborough Central	1,352	996	970	1,494	2,384	616	1,830
Swineshead	3,800	3,686	3,406	3,508	2,648	748	1,300
Thorpe Culvert	286	210	148	258	140	32	580
Hubberts Bridge	520	1,182	1,412	1,262	1,252	180	470
Havenhouse	162	106	172	158	84	162	380
Total	**5,184,012**	**5,344,014**	**5,455,882**	**5,662,110**	**5,546,188**	**1,310,120**	**4,347,382**

The above data from the ORR is based primarily on ticket sales. Some care is needed when looking at trends at individual smaller stations as there are believed to be some issues relating to "ticket splitting", where users purchase two tickets for their journey rather than one, since this can work out cheaper (e.g. Nottingham – Swinderby and Swinderby – Lincoln rather than Nottingham – Lincoln). However, county-wide the total journeys at the affected stations represent a very small proportion of all journeys, so will have minimal effect on the overall trend as shown in Figure 22 below.

Figure 22 – Rail usage across Lincolnshire (entries and exits)



Key Points

- The trend in the number of people using Lincolnshire's rail stations over recent years has been generally upwards.
- Based on the data available, passenger rail usage grew by some 36.3% between 2004/05 and 2018/19. However, the picture varies widely at individual stations as can be seen from Table 8.
- There has been a slight dip in the figures for 2019/20, largely due to the start of lockdown policies surrounding the COVID-19 outbreak, where use of public transport was massively reduced.
- Due to the restrictions placed on movement of people during COVID rail passenger numbers collapsed nationally, and this can be seen in Lincolnshire as well. Although there has been some recovery after the lockdown, passenger numbers are still well below pre-COVID levels.

Port tonnages

Lincolnshire has the only ports in the East Midlands – the Port of Boston and Port Sutton Bridge. Information on the volume and type of cargo and number of vessels handled by the ports is published annually by DfT. The table and graphs below show recent trends at the two Lincolnshire ports.

Table 9 – Port Tonnages (thousand tonnes)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Port of Boston	838	829	724	824	852	850	738	711	821	761	842
Port Sutton Bridge	430	415	449	402	391	374	371	322	210	195	109

Figure 23 – Lincolnshire port tonnages (thousand tonnes)

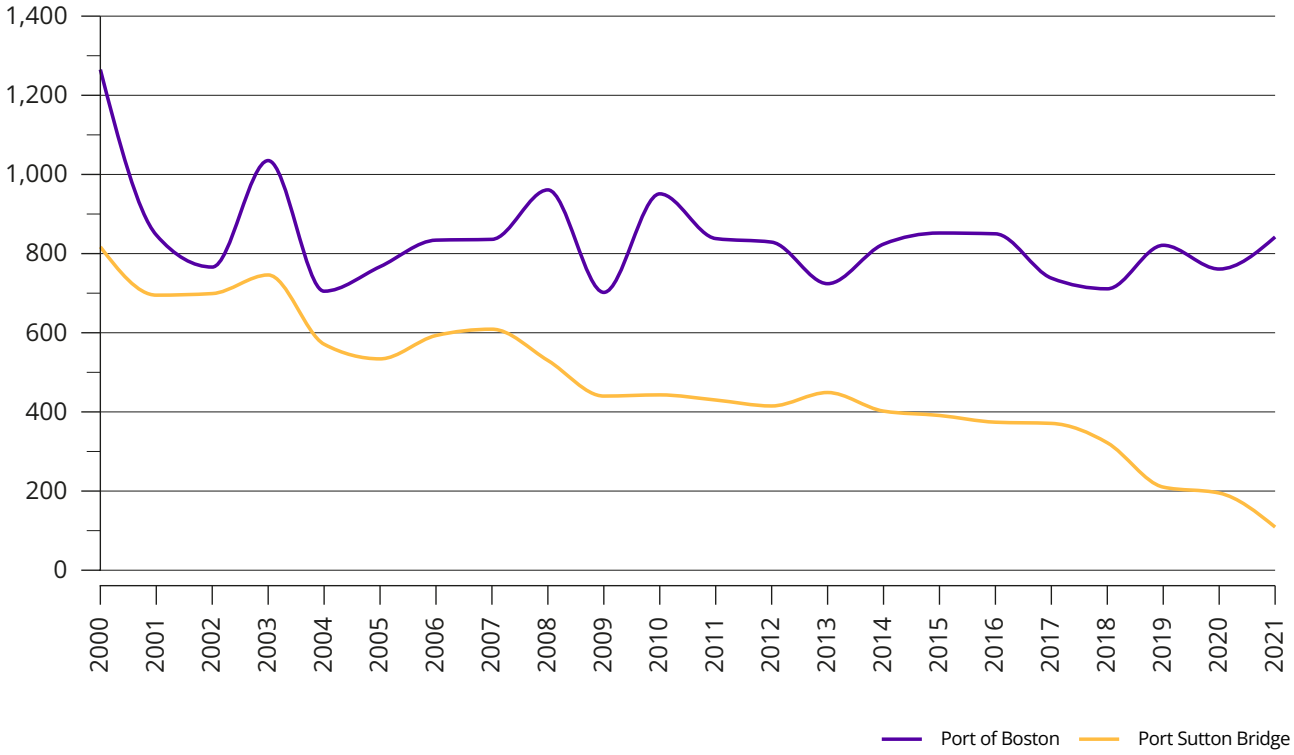
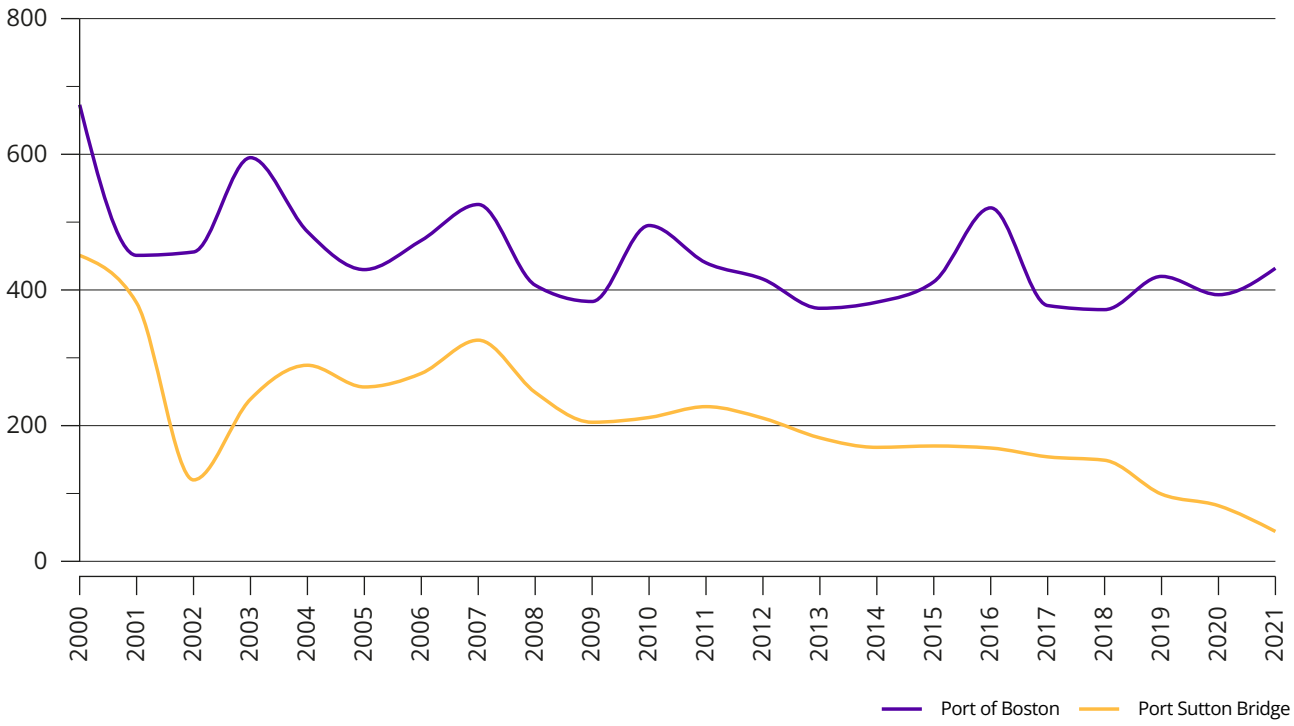


Table 10 – Port usage vessels

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Port of Boston	440	416	373	382	412	521	377	371	420	393	432
Port Sutton Bridge	228	211	182	168	170	167	154	149	99	82	44

Figure 24 – Port usage vessels (number of vessels - yearly)



Key Points

- The tonnages handled at both ports have generally fallen since 2000.
- At the Port of Boston during 2021, a total of 760,000 tons were imported and 81,000 tons were exported, with the port handling a total of 432 vessels.
- In 2019, the majority of products imported into Boston port were iron and steel (512,000 tonnes mainly from EU countries), and forestry products (147,000 tonnes from EU countries and Russia).
- As Port Sutton Bridge is classed as a minor port, this level of data isn't available.
- While the figures vary from year to year, both ports have seen a general decline in business in the last 21 years.
- Provisional figures are published quarterly, and final annual statistics are published in August.

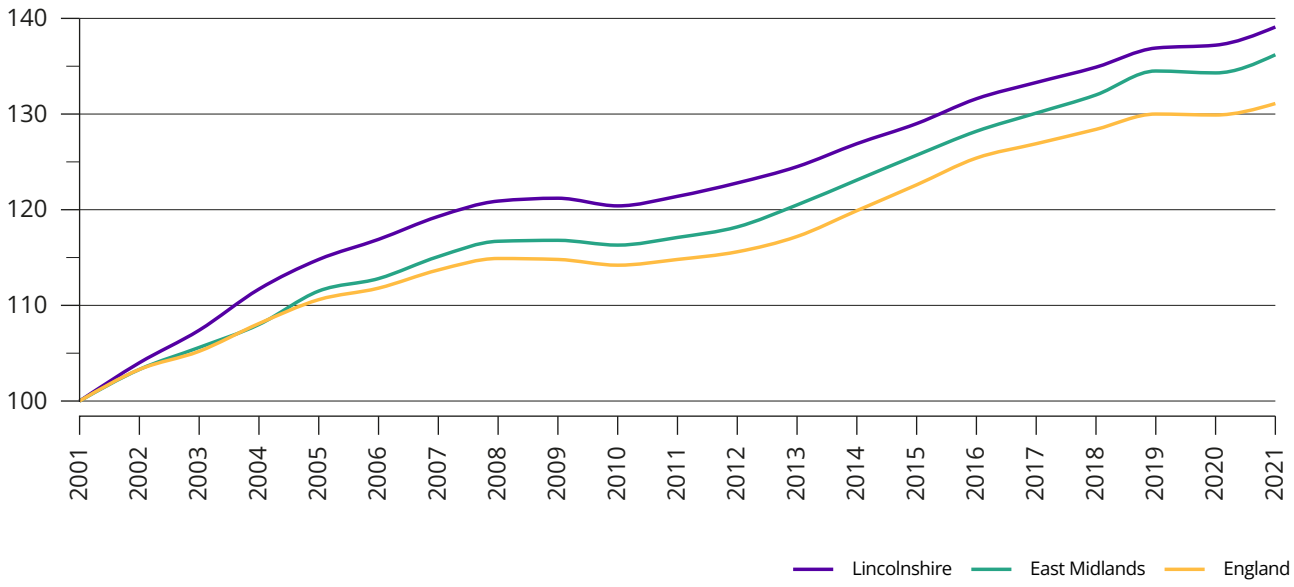
Vehicles licensed

Annual statistics on the number of vehicles licensed at the county level are produced by the Department for Transport. The following table and graph show the recent trend in Lincolnshire.

Table 11 – Vehicles licensed (000's)

	2001	2005	2010	2015	2016	2017	2018	2019	2020	2021
Lincolnshire	375	431	452	484	494	500	507	514	515	522
East Midlands	2,274	2,534	2,645	2,859	2,916	2,958	3,002	3,058	3,053	3,098
England	25,332	28,022	28,939	31,047	31,763	32,153	32,530	32,942	32,905	33,214

Figure 25 – Vehicles licensed (Index: 2001=100)



Key Points

- Following a slight fall in the number of vehicles licensed in the county during 2010, strong growth has resumed in recent years.
- The number of vehicles licensed in the county has grown by 39.2% between 2001 and 2021. This is higher than that both nationally (31.1%) and in the East Midlands (36.2%).
- The next annual figures will be published in May 2023.

Licenced ULEVs and electric cars

Transport accounts for around a quarter of UK greenhouse gas emissions and affects air quality at the roadside. To combat this Government promotes the use of cleaner and low carbon vehicles. Recent Government Initiatives have promoted the use of fully electric or hybrid vehicles (part fuel/part electric) through the plug-in car or van grant. While still in its very early days, there have been increases in the purchase and use of these types of vehicle.

Statistics on the number of plug-in vehicles licensed are produced by DfT. The location of the registered keeper is based on the contact address held by DVLA and may not necessarily reflect where the vehicle is kept. Data relating to the ownership of this type of vehicle in Lincolnshire are shown below.

ULEVs are currently defined as having less than 75 grams of CO_2 per kilometre (g/km) from the tailpipe. Pure electric vehicles, and other plug-in electric vehicles when driving in the electric mode, produce no tailpipe CO_2 or pollution.

Figure 26 – Number of ULEVs/electric vehicles in Lincolnshire

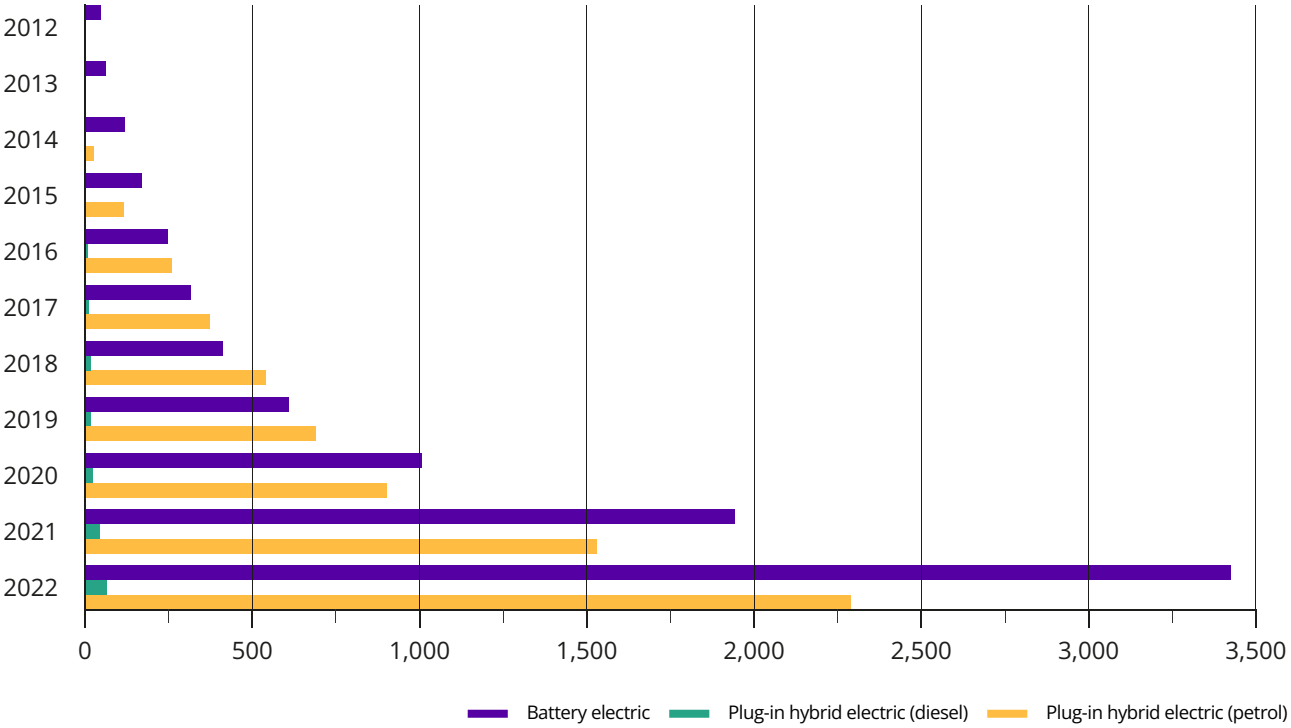


Figure 27 – Number of electric vehicles by district council

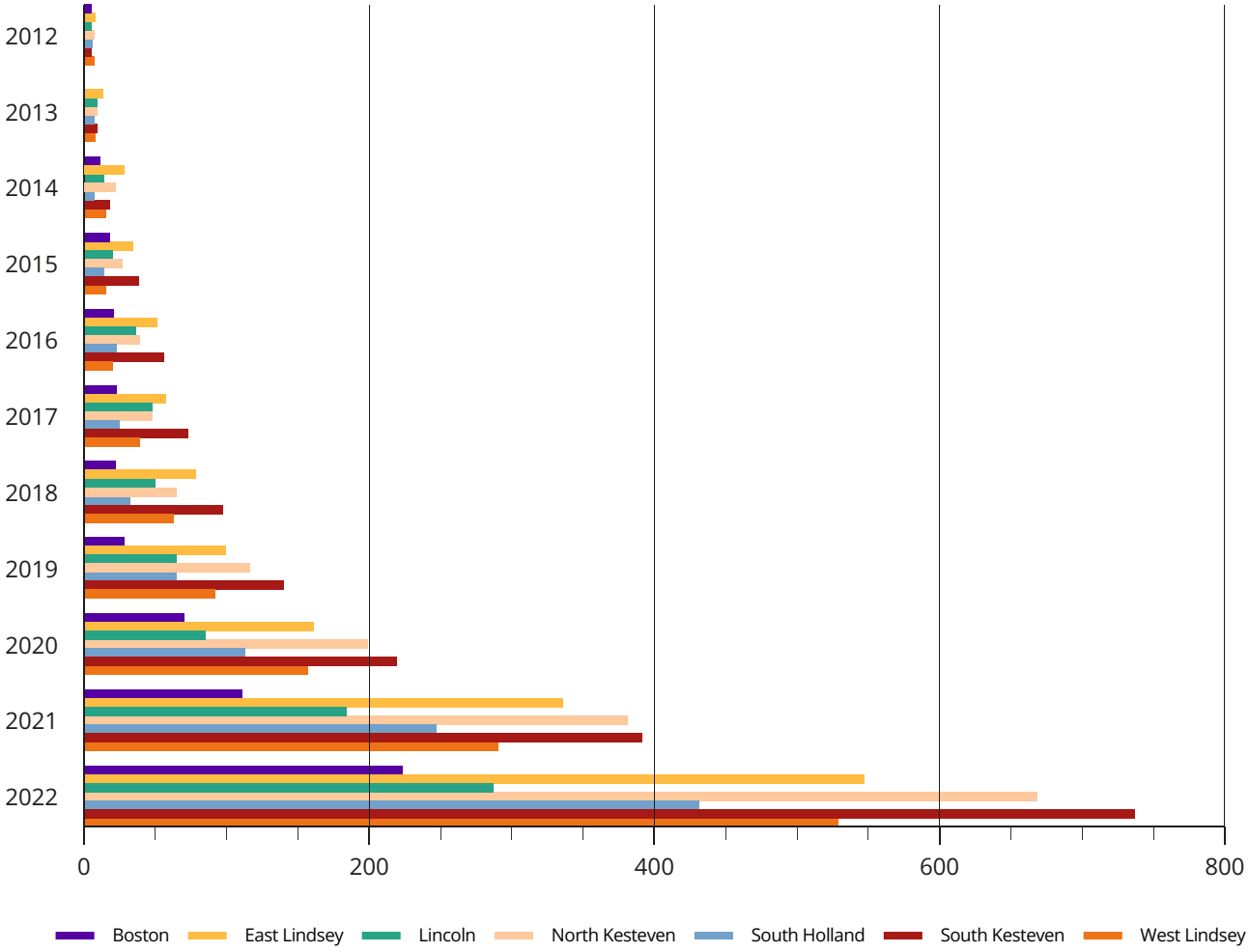


Table 12 – Number of ULEVs/electric vehicles across Lincolnshire

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
	Q3	Q3	Q3	Q3	Q3	Q3	Q3	Q3	Q3	Q3	Q3
Boston	5	–	12	27	45	67	82	98	150	237	396
East Lindsey	9	14	35	57	98	129	171	222	330	610	962
Lincoln	7	10	18	38	65	86	103	135	175	316	476
North Kesteven	8	10	31	48	111	124	174	271	399	702	1,148
South Holland	6	8	16	33	62	82	109	164	230	455	728
South Kesteven	7	12	27	65	111	166	233	307	436	768	1,285
West Lindsey	8	12	20	34	58	114	175	222	316	555	920
Total	**50**	**66**	**159**	**302**	**550**	**768**	**1,047**	**1,419**	**2,036**	**3,643**	**5,915**

Key Points

- There have been significant increases in the purchase of plug-in/hybrid-style vehicles over the last two-years.
- However, this still represents a very small proportion of the total cars/vans licensed in the county (at around 0.7%).

Electric charging points

Alongside the increase in electric/hybrid vehicles is the need for the charging infrastructure to service that increase.

A charging device is a unit capable of charging the batteries of plug-in electric vehicles. Devices are classified by their power output, and each device may offer one or more connecting points. The term 'chargepoint' is also sometimes used, including in previous statistical publications from DfT. This may refer to either a single device or a number of connectors on a device which can be used simultaneously.

There are three main types of EV charging – rapid, fast, and slow. These represent the power outputs, and therefore charging speeds, available to charge an EV. Note that power is measured in kilowatts (kW).

Rapid chargers are the fastest way to charge an EV, and predominantly cover DC charging. This can be split into two categories – ultra-rapid and rapid. Ultra-rapid points can charge at 100+ kW – often 150 kW – and up to 350 kW, and are DC only. Conventional rapid points make up the majority of the UK's rapid charging infrastructure and charge at 50 kW DC, with 43 kW AC rapid charging often also available.

Fast chargers include those which provide power from 7 kW to 22 kW, which typically fully charge an EV in 3-4 hours. The most common public charge point found in the UK is a 7 kW untethered Type 2 inlet, though tethered connectors are available too for both Type 1 and Type 2.

Slow units (up to 3 kW) are best used for overnight charging and usually take between 6- and 12-hours for a pureEV, or 2 – 4-hours for a PHEV. EVs charge on slow devices using a cable which connects the vehicle to a 3-pin or Type 2 socket.

At the moment only experimental statistics on the number of public charging devices are publicly available, and these are collected through the electric vehicle charging point platform Zapmap.

At 1st April 2023, there were 40,150 public electric vehicle charging devices available in the UK. Of these, 7,647 were rapid devices.

See below a representative graph and a chart highlighting the national picture and details of the number of units in Lincolnshire.

Figure 28 – Charging devices in Lincolnshire

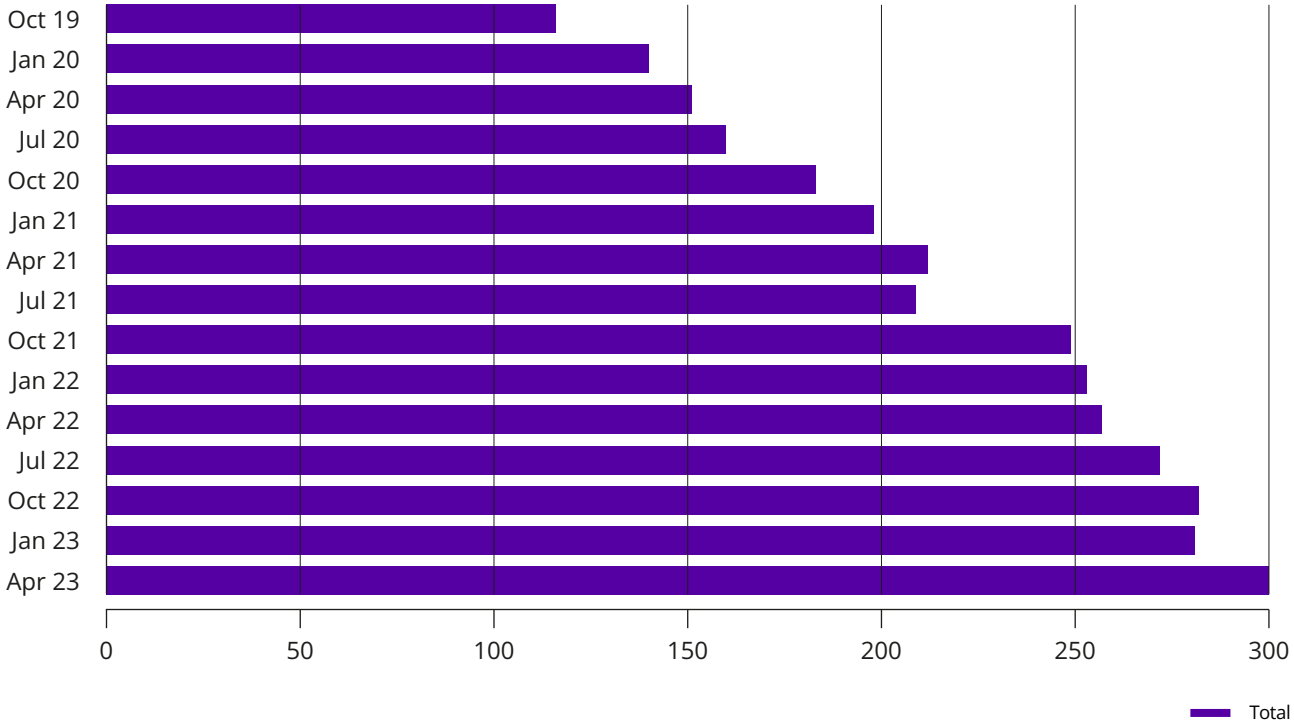


Table 13 – Lincolnshire charging devices April 2023

	Total devices	per 100,000 population	Rapid devices	per 100,000 population
Lincolnshire	300	39.0	97	12.6
Boston	38	53.7	12	16.9
East Lindsey	63	44.1	8	5.6
Lincoln	74	72.3	16	15.6
North Kesteven	17	14.3	6	5.1
South Holland	33	34.6	8	8.4
South Kesteven	50	34.8	33	23.0
West Lindsey	25	26.2	14	14.6

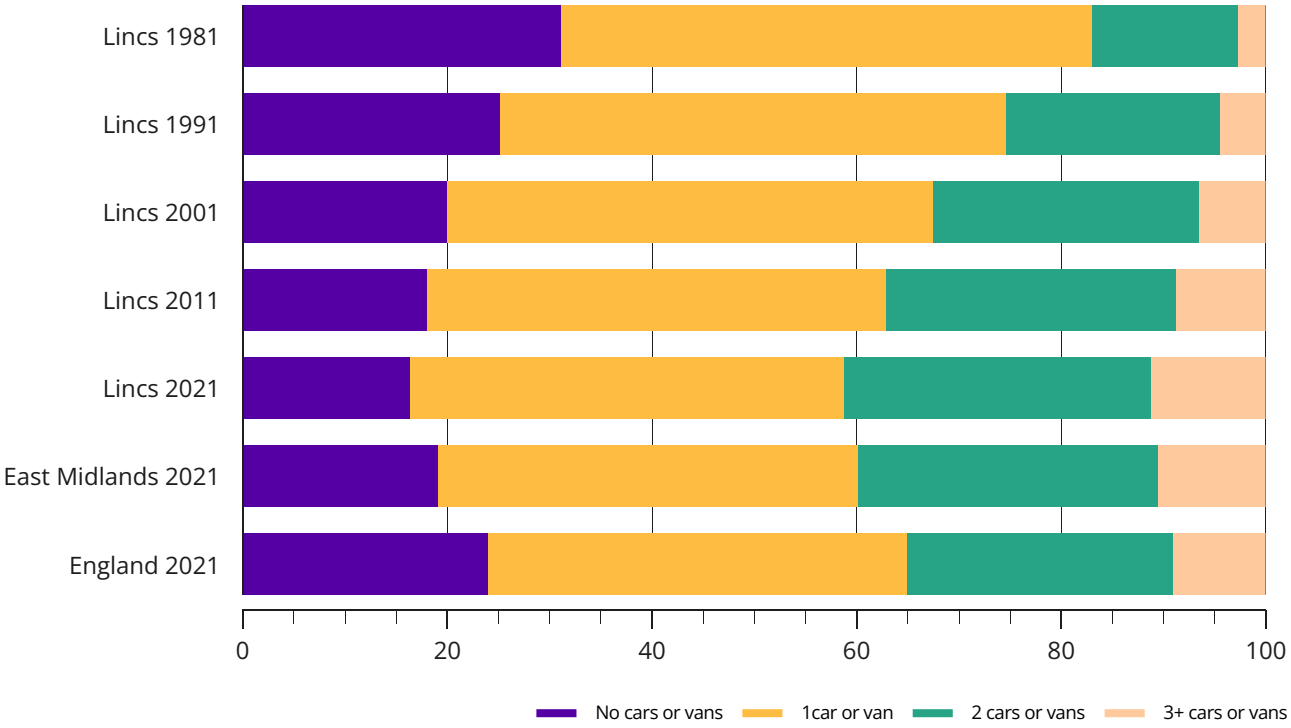
Car ownership

Information on car ownership rates is collected every 10-years by the Office of National Statistics as part of the National Census. The table and graph below summarise the data from the 1981, 1991, 2001 and 2011 censuses for Lincolnshire and the most recent data for the East Midlands and England.

Table 14 – Lincolnshire car ownership rates

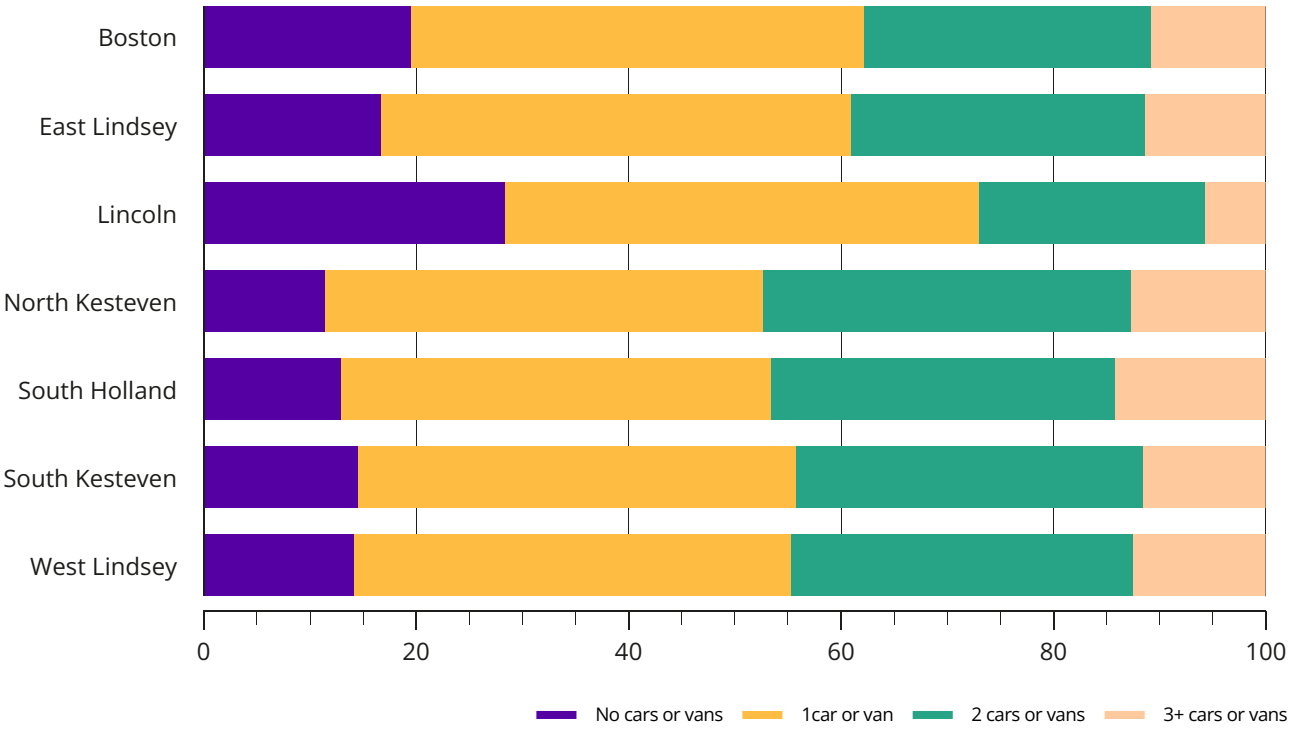
	Lincs 1981	Lincs 1991	Lincs 2001	Lincs 2011	Lincs 2021	E Mids 2021	England 2021
No cars or vans	31.1%	25.1%	20.0%	18.0%	16.0%	19.1%	24.0%
1 car or van	51.9%	49.5%	47.5%	44.8%	42.3%	41.0%	41.0%
2 cars or vans	14.3%	20.9%	26.0%	28.4%	30.0%	29.4%	26.0%
3 or more cars or vans	2.7%	4.4%	6.5%	8.7%	11.2%	10.5%	9.0%

Figure 29 – Lincolnshire car ownership rates



Information is also made available at the district level and data for 2021 are shown below.

Figure 30 – Car ownership by district



Key Points

- The proportion of households in Lincolnshire without a car has fallen steadily from 31.1% in 1981 to 16.4% in 2021, with the proportion of one car households also falling from 51.9% to 41%.
- Over the same period, the proportion of households in the county with two cars has more than doubled from 14.3% to 30%, while households with three or more cars rose from 2.7% to 11.2%.
- In 2011, the proportion of non-car households in Lincolnshire (16.4%) was lower than that in both the East Midlands (19.1%) and England (24%).
- The City of Lincoln has the highest proportion of non-car owning households at 28.3%, substantially higher than the average of 16.8%.
- The proportion of households with access to a single car is fairly constant, lying between 42% and 44%.

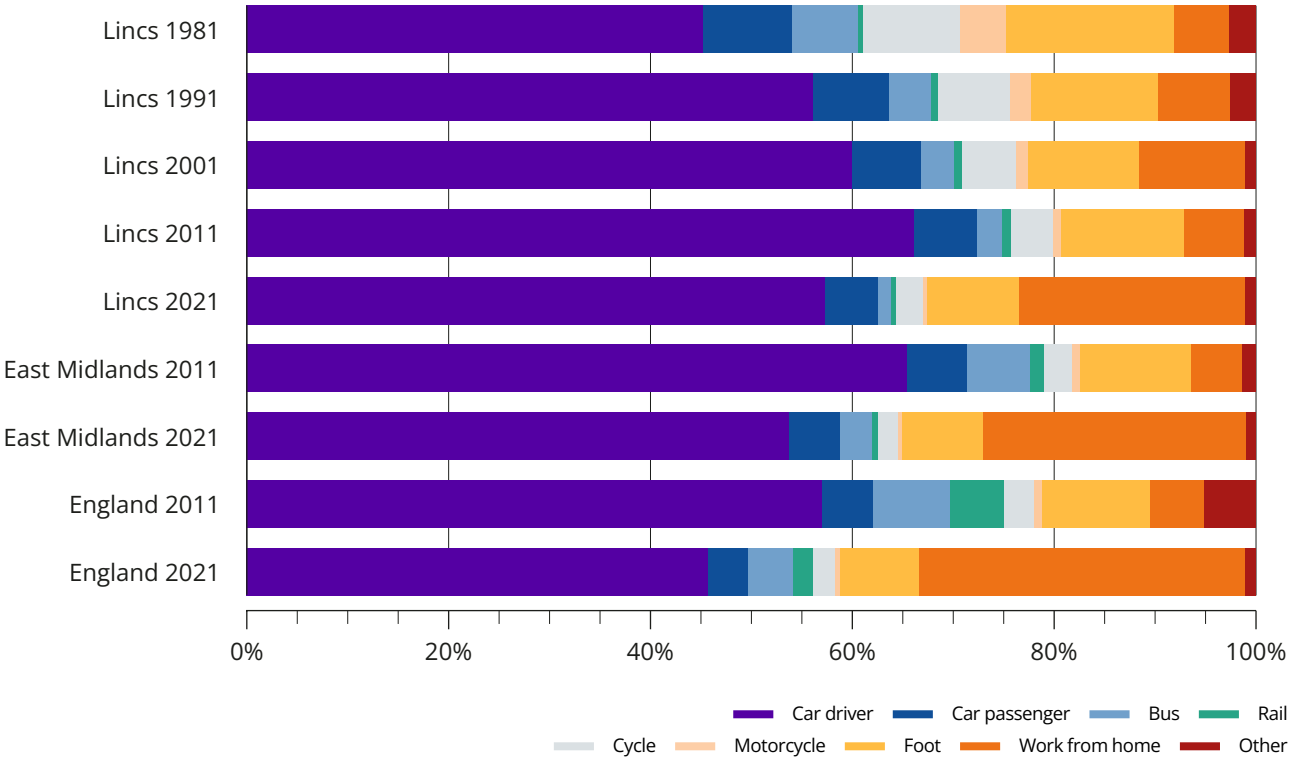
Mode of travel to work

Information on the normal mode of travel to work is also collected every 10 years by the Office for National Statistics as part of the National Census. The table and graph below show the data from the last four censuses for Lincolnshire as a whole, compared with the most recent regional and national data.

Table 15 – Mode of travel to work in Lincolnshire (%)

	Lincs 1981	Lincs 1991	Lincs 2001	Lincs 2011	Lincs 2021	E Mids 2011	E Mids 2021	England 2011	England 2021
Car Driver	45.2	56.1	60.0	66.1	57.0	65.4	53.2	57.0	44.5
Car Passenger	8.8	7.6	6.8	6.3	5.3	6.0	5.0	5.1	3.9
Bus	6.6	4.1	3.3	2.5	1.3	6.2	3.2	7.6	4.3
Rail	0.5	0.7	0.8	0.9	0.4	1.4	0.5	5.4	2.0
Cycle	9.6	7.2	5.4	4.1	2.7	2.8	2.0	2.9	2.1
Motorcycle	4.5	2.0	1.2	0.8	0.4	0.8	0.4	0.8	0.5
Foot	16.7	12.6	10.9	12.2	9.1	11.0	8.0	10.7	7.6
Work from Home	5.5	7.2	10.6	6.0	22.3	5.1	25.8	5.4	31.5
Other	2.6	2.5	1.0	1.1	1.0	1.3	0.9	5.1	1.0

Figure 31 – Mode of travel to work in Lincolnshire

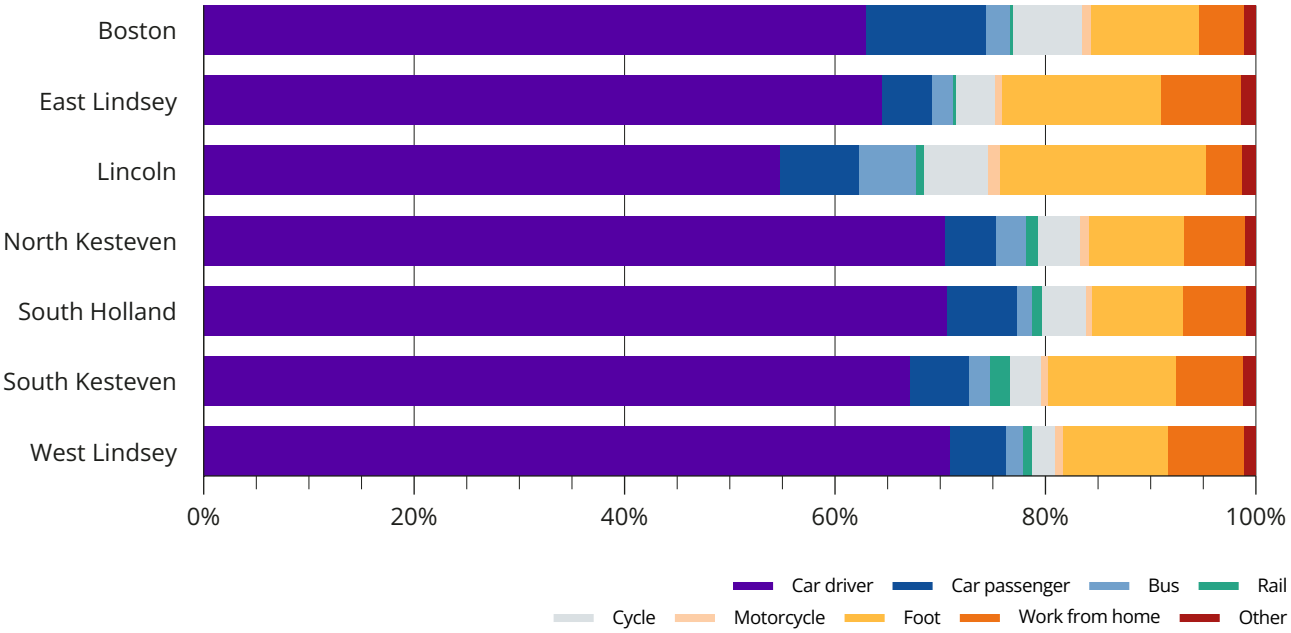


Key Points

- The proportion of people travelling to work by car (either as a driver or passenger) in Lincolnshire has risen from 54.0% in 1981 to 72.4% in 2011. This is slightly higher than the figure for the East Midlands (71.4%) and substantially above the national figure (62.1%).
- At the same time, the percentage of people walking to work has fallen from 16.7% to 12.2% (although this latter figure is up slightly on the 2001 figure of 10.9%) and those cycling have fallen from 9.6% to 4.1%. Bus use has also declined steadily (from 6.6% to 2.5%).

Data are also available at the district level. The results for 2021 are summarised in Figure 32 below.

Figure 32 – Mode of travel to work by district



Key Points

- Not surprisingly, the City of Lincoln shows the lowest car use at 47% compared with the county average of 57.4%. It also has the highest proportion of people walking to work (14.7%).
- As the Census was taken during COVID-19 lockdown periods the results show a marked increase in the numbers of people working from home in Lincolnshire (22.3%), East Midlands (25.8%) and England (31.1%).
- Also, as a consequence of lockdown, public transport use collapsed, and is only starting to make some recovery in 2023.
- Car/Passenger travel remained by far the highest mode of transport, although, again due to lockdown the numbers did reduce in 2021.

Average vehicle speeds and delays on 'A' roads

In recent years, the Department for Transport has produced data relating to the average vehicle speeds and journey times on the highway network. The data are based upon information provided by in-vehicle global positioning systems (GPS) installed in a fleet of some 70,000 vehicles nationally.

These data are used to estimate speed/journey times both on the trunk road network and on A roads that are managed by local authorities. It is currently reported for the morning peak hour (defined as 07:00 am –10:00 am) over an academic year (September – July) excluding all school holidays. It is also weighted by flow using the traffic data highlighted in Chapter 3.

The relevance of a single figure representing the average vehicle speed on A roads within a large and varied county such as Lincolnshire is questionable. Traffic conditions vary considerably from highly congested stretches in the larger urban areas (such as the A15 through Lincoln, the A52/A607 through Grantham and the A16/A52 through Boston) to quieter, more free-flowing sections on rural parts of the network. **Hence the data that follow below (although of some general interest) must be treated with caution.**

Table 16 below shows the average vehicle speeds recorded over the last 10-years for Lincolnshire, the East Midlands and England.

Table 16 – Average speed on 'A' roads (miles per Hour)

	England	East Midlands	Lincolnshire
2008	24.6	28.8	36.0
2009	24.9	28.9	35.7
2010	25.1	29.0	35.8
2011	25.0	28.8	35.2
2012	25.4	29.4	36.1
2013	25.0	28.8	35.8
2014	24.6	28.5	35.6
2015	25.5	29.8	36.7
2016	25.2	29.5	36.5
2017	25.2	29.3	36.2
2018	24.9	28.9	35.7
2019	25.3	29.1	35.8
2020	27.3	31.1	37.3
2021	24.1	28.2	34.7
2022	23.7	27.7	34.7

Data from the same source are also analysed by DfT to give an estimate of the average delay on the A road network. This average delay is expressed as 'spvpm' (seconds per vehicle per minute).The most recent data for Lincolnshire compared to the East Midlands and England are displayed below.

Table 17 – Average delay on local 'A' roads (seconds per vehicle per minute)

	England	East Midlands	Lincolnshire
2015	44.6	31.4	20.0
2016	45.9	32.1	20.2
2017	46.9	33.7	20.7
2018	47.3	34.6	21.4
2019	44.0	32.1	20.5
2020	35.3	26.0	17.6
2021	46.1	32.5	21.3
2022	45.5	33.2	21.1

Key Points

- As can be seen from the data, traffic speeds during the peak hours in Lincolnshire are somewhat higher than in the East Midlands and England, reflecting the predominantly rural nature of much of the A road network.
- In general, average speeds have shown little change over the eight-year period at the county, regional and national levels.
- Similarly, average delays on Lincolnshire's A roads are considerably lower than those regionally and nationally. Again, this is due to the primarily rural nature of these roads across the county.
- Generally, average delays have shown a slight increase at the local, regional and national levels.

Journey times and speeds

Through the development of new technologies, mapping of a vehicle's journey time has become more sophisticated. The use of Global Positioning System satellites and their ability to communicate with Sat-Navs and mobile phones has enabled data to be made available that can be interrogated to estimate journey times on most of the road network.

The Department for Transport has a contract with Trafficmaster to supply journey time data across England. The data are GPS-sourced and centrally purchased by the Department for Transport. They contain millions of GPS links broken down into 15 minute segments throughout the day. Trafficmaster data are made up of a mixture of vehicles with over 135,000 polled every 1 – 10 seconds, giving an extremely accurate dataset.

In order to analyse these data, LCC has purchased licences for the Highways Analyst software system developed by Basemap. This enables the average, minimum and maximum journey times (and hence speeds) to be calculated on almost all of the major routes across the county.

As a simple example, data for the A15 north of Lincoln through to the M180 junction have been analysed for the period of 07:00 am – 09:00 am covering June 6th – 10th, 2016. The results are shown in the table below:

Table 18 – Average journey times on A15 north of Lincoln (07:00 – 09:00 on June 6th – 10th, 2016)

	Southbound	Northbound
Length (miles)	20.4	20.4
Average Speed (mph)	42.5	43.6
Average Time (mins)	27.3	25.5
Time assumed driving at speed limits (mins)	21.6	21.6

Transport related carbon emissions

Since 2005, the Department of Energy and Climate Change (DECC) has produced estimates of carbon dioxide (CO_2) emissions at a local authority level. These include an estimate of emissions due to road transport in the area.

Table 19 below shows DECC estimates of CO_2 emissions for Lincolnshire since 2005, broken down into general categories. Figure 33 shows the same data graphically.

Table 19 – Estimated CO_2 emissions for Lincolnshire (tonnes per capita)

	Industry	Commercial	Public sector	Domestic	Transport
2005	1.34	0.93	0.36	2.65	2.23
2006	1.33	0.94	0.35	2.66	2.19
2007	1.26	0.88	0.32	2.54	2.24
2008	1.22	0.87	0.32	2.51	2.12
2009	1.07	0.75	0.28	2.28	2.00
2010	1.14	0.76	0.30	2.46	1.99
2011	1.02	0.70	0.27	2.13	1.98
2012	1.11	0.78	0.29	2.25	1.95
2013	1.09	0.75	0.29	2.18	1.93
2014	1.02	0.64	0.25	1.84	1.93
2015	0.91	0.55	0.22	1.76	1.98
2016	0.81	0.47	0.19	1.65	2.00
2017	0.76	0.42	0.19	1.55	2.04
2018	0.78	0.39	0.19	1.51	2.02
2019	0.65	0.34	0.17	1.44	1.98
2020	0.56	0.28	0.15	1.42	1.60

Figure 33 – Estimated CO_2 emissions for Lincolnshire (tonnes per capita)

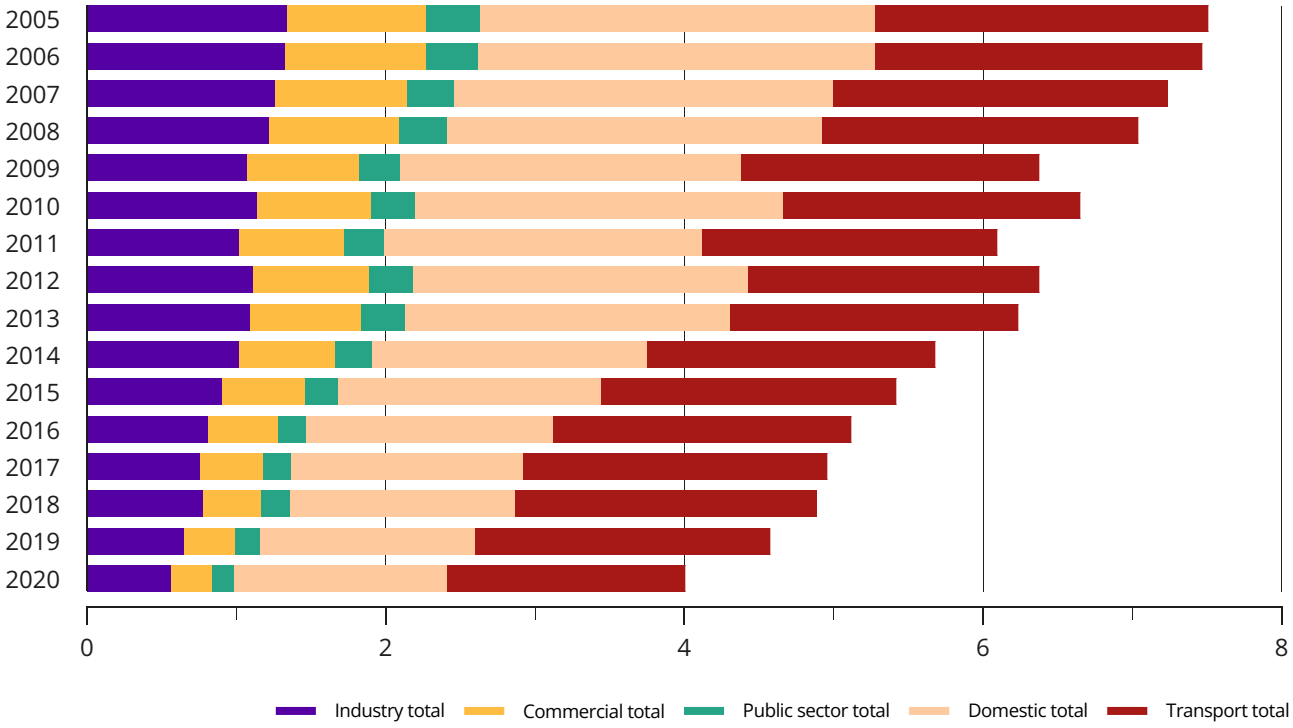
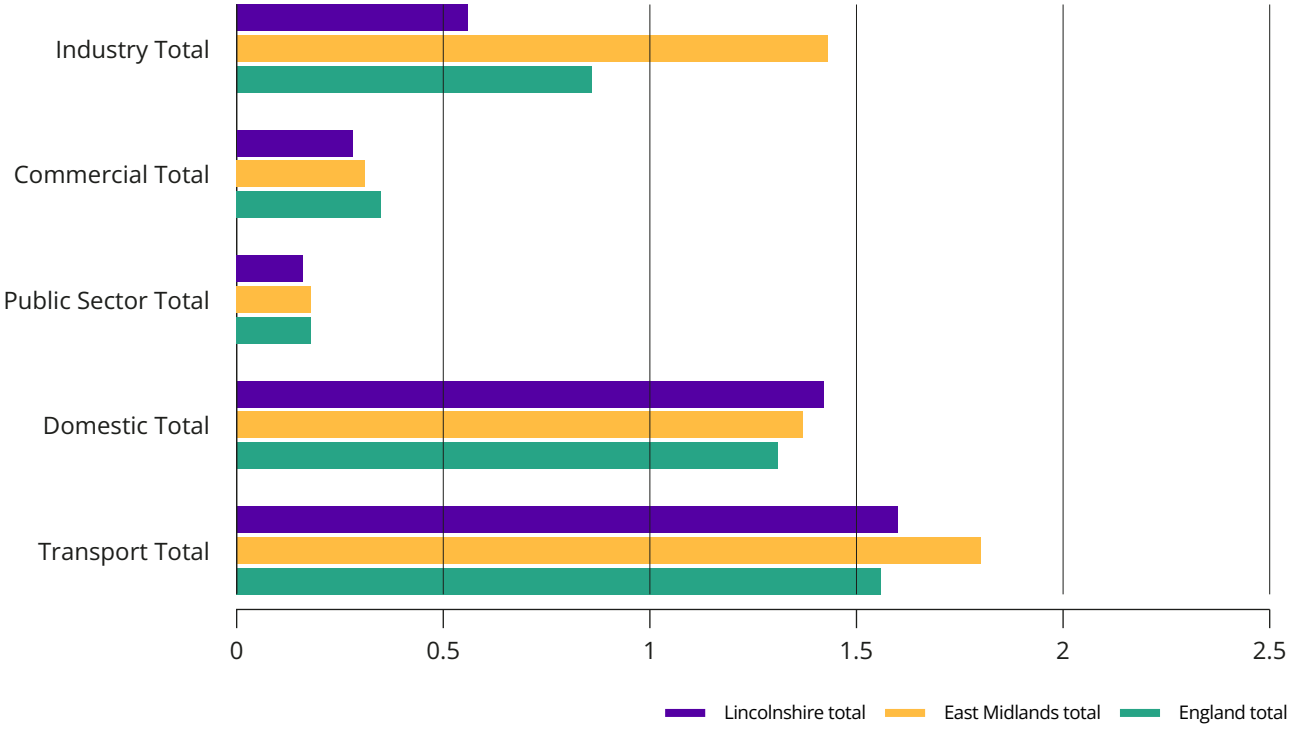


Figure 34 below compares 2020 CO_2 emissions or Lincolnshire with those for the East Midlands and nationally.

Figure 34 – Comparison of 2020 CO_2 emissions (tonnes per capita)



Key Points

- Road transport emissions in Lincolnshire (per capita) have fallen slightly since 2005, mirroring the picture for total emissions.
- Transport emissions per capita in Lincolnshire (1.60 tonnes) are lower than those in the East Midlands (1.80) and are slightly higher than nationally (1.56).
- Data surrounding this theme are usually published in July, and these are the latest data available.

Road safety

The number of road traffic casualties on Lincolnshire's roads is monitored by the Lincolnshire Road Safety Partnership and is a key part of their road safety role.

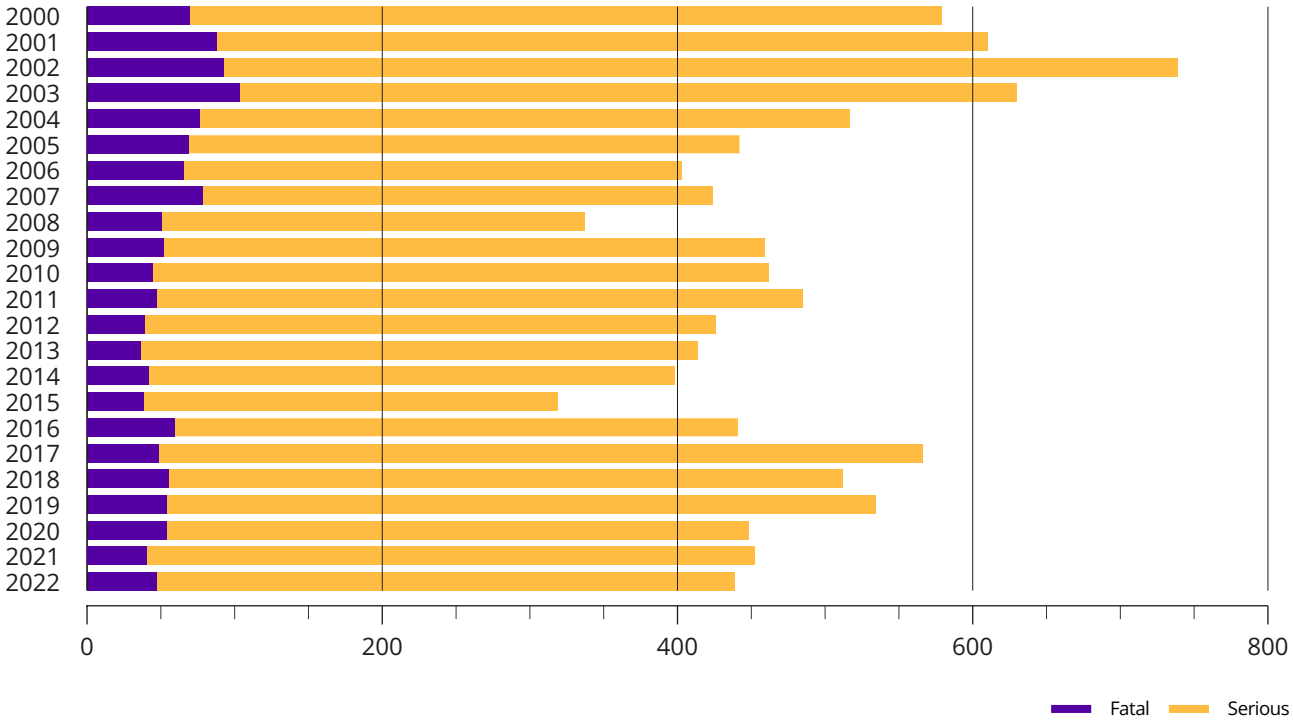
Table 20 below shows the data since 2000 broken down into fatal and serious casualties, while Figure 35 shows the number of fatal and serious casualties graphically.

Table 20 – Road traffic casualties in Lincolnshire

Year	Fatal	Serious
2000	70	509
2001	88	522
2002	93	646
2003	104	526
2004	77	440
2005	69	373
2006	66	337
2007	79	345
2008	51	286
2009	52	407
2010	45	417

Year	Fatal	Serious
2011	47	438
2012	39	387
2013	36	378
2014	42	356
2015	39	280
2016	59	382
2017	49	519
2018	56	456
2019	54	479
2020	54	394
2021	40	412
2022	48	391

Figure 35 – Fatal and serious casualties in Lincolnshire



Key Points

- Since 2003, when 104 people died on Lincolnshire roads, there has been a generally downward trend in the number of fatalities.
- 2017 saw a large rise in the number of serious casualties, although the overall number of casualties fell to just under 2,600, the lowest on record.
- 2020 saw a reduction in the overall number of serious/fatal incidents from the previous three years, possibly due to the reduction in vehicular movement seen during the lockdown period.

Other useful information

Table 21 – Population and Area (Census 2021)

District	Resident population 2001	Resident population 2011	Resident population 2021	Percentage change, 2011 – 2021	Population density (sq.k) 2021
Boston	55,800	64,637	70,500	9.1	194
East Lindsey	130,600	136,401	142,300	4.3	81
Lincoln	85,600	93,541	103,900	11.1	2,911
North Kesteven	94,400	107,766	118,000	9.5	128
South Holland	76,700	88,270	95,100	7.7	127
South Kesteven	124,900	133,788	143,400	7.2	152
West Lindsey	79,600	89,250	95,200	6.7	82
Lincolnshire	647,600	713,653	768,400	7.7	130

Table 22 – Road Lengths (at June 2023)

Road type	Rural Length (kms)	Urban Length (kms)	Total (kms)
A Class	818.068	271.893	**1,089.961**
B Class	517.149	264.94	**782.089**
C Class	2,298.445	616.265	**2,914.71**
Other	0.027	0.742	**0.769**
Unclassified	2,149.895	1,938.451	**4,088.346**
Total			**7,785.145**

Contacts

Traffic Flow Information

For information on traffic flows, please contact LincsLab Data Collection Team on:

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Other Information and Analysis

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COUNTY COUNCIL
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