



UNIVERSITY OF
LINCOLN

Improvements to the Nottingham-Newark-Lincoln Rail Service

Evidence to Support a Business Case

October 2011

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REPORT SUMMARY

Population

- The Nottingham-Newark-Lincoln line runs through five local authority districts, which together account for a 720,700 resident population.
- The population of these five districts has grown by 11% over the last 20 years, compared with a rate of 8% across Great Britain.
- There has been significant population growth on the east of the line, with Lincolnshire experiencing a 20% increase during this time. The population of North Kesteven has increased by 33%.
- Nottingham, Newark and Lincoln have all been awarded Growth Point status, which means that housing growth and new job creation will be strongly promoted in these areas.
- The volume of housing in districts along the line is expected to increase by 21% in the next 15 years.

Business Growth

- The number of VAT registered businesses has increased by 22% in the districts along the line between 1994 and 2007.
- The highest growth in businesses was in Lincoln (23%); North Kesteven (22%); and Newark and Sherwood (25%).
- The number of employee jobs increased by 32% in North Kesteven and 44% in Newark and Sherwood between 1995 and 2008.
- Lincoln has the highest jobs density, or ratio of jobs per person, of any district in the East Midlands. In 2006, Lincoln replaced Nottingham as the district with the highest jobs density in the East Midlands.
- The University of Lincoln, established in 1996, has made a significant contribution to the growth of the Lincoln economy. It is estimated to make an annual £191 million contribution, equivalent to 8% of all turnover generated by enterprises in the city.
- The University is also estimated to have generated 4,496 direct and indirect jobs, equivalent to 1 in 12 jobs based in Lincoln.
- Hykeham is a key business district for the growth of Lincoln, with the development of Teal Park, Gateway Park, and Lincoln Enterprise Park. Road congestion is highlighted as a key issue for Hykeham businesses.

Commuting Flows

- There is a lack of current data on commuting flows between Nottingham and Lincoln, with the 2001 census being the most up-to-date source.
- The 2001 census showed that 126 people commuted from Lincoln to Nottingham, and 59 people from Nottingham to Lincoln.
- Nottingham and Lincoln are key commuter destinations for people in Newark; the census showed that 4,171 people commuted from Newark to Nottingham, and 641 people from Newark to Lincoln.
- Figures from the University of Lincoln show that 29 staff commute to the Brayford campus from Nottingham, 36 from Newark, and 145 from North Hykeham.
- Nottingham is the fourth most common home location for students attending the University of Lincoln, accounting for 1,090 students.
- Lincoln is the home location for 129 students attending the University of Nottingham, with Newark accounting for 147 students.
- The average wage earned in Nottinghamshire is around 10% higher than that earned in Lincolnshire.

Retail and Leisure in Lincoln

- The number of visitors to Lincolnshire has continued to grow during the recession, from 16m in 2004 to 17.2m in 2009. Visitor numbers to Nottinghamshire and the East Midlands overall have declined during this period.
- Lincoln Cathedral is the most visited tourist attraction in Lincolnshire, with up to 100,000 visitors per year. Around 21% travel from within the East Midlands.
- A planning application has been lodged for a major new retail development adjacent to Lincoln station, Lindongate, which will provide 300,000 sq feet of new retail space and a transport interchange.

Retail and Leisure in Newark

- Newark and Sherwood attracted 5.6m visitors in 2009. Antiques fairs held at Newark Showground attract thousands of visitors from around the world.
- Newark has a number of large retailers and has a developing restaurant offer around Castle Gate and Dobson's Quay.
- There are strong flows from Newark to Lincoln for retail and leisure, with Lincoln accounting for 32% of retail expenditure for residents of Newark's catchment area.

Shift of Transport Modes

- The cheapest return rail journey from Lincoln to Nottingham costs £10.60 compared with £30.60 for car travel claimed back at a 40p per mile rate.
- Travel by rail represents a 64% reduction in the volume of CO2 emissions compared with travel by car.
- One person making a return journey between Lincoln and Nottingham by rail, rather than by road, would make a carbon emissions saving of 9.9kg/CO2.
- There has been a 57% increase in the volume of traffic on the A46 Lincoln bypass, and a 31% increase on the A46 Newark bypass, over the last 10 years.

Rail Usage

- Use of stations on the Lincoln-Newark-Nottingham line has increased by 20% since 2002.
- The number of evening peak services from Nottingham to Newark and Lincoln has fallen from 5 in 2002 to 4 in 2011. The number of services from Nottingham to other nearby urban centres has increased.
- There are currently fewer Nottingham-Lincoln and Lincoln-Nottingham services than in 2002.
- Average journey times have increased on the Nottingham-Lincoln service from 59 to 64 minutes.
- The fastest journey time from Lincoln to Nottingham is 48 minutes. This has not changed since 1911, when the fastest journey time was 45 minutes.
- Demand for rail travel is expected to grow by 28% over the next 10 years throughout the East Midlands trains area.

INTRODUCTION

1.1 Background

Stakeholders have become increasingly concerned that the train service from Nottingham to Lincoln via Newark Castle does not reflect the economic importance of the railway to the area it serves. In November 2009, they formed the Nottingham – Lincoln Stakeholder Board (NLSB) to address these issues. The members of the Board include Business Groups, Local Authorities, Network Rail and East Midlands Trains (EMT), the company that operates the service. The Board is chaired by Tim Shoveller, Managing Director of EMT.

The objectives of the Board are:

- Restoration of the 2 trains per hour service from Nottingham to Newark and Lincoln with appropriate levels of service to intermediate stations;
- Faster journey times between Nottingham and Lincoln;
- Restoration of through trains from Lincoln and Newark to Derby and Birmingham;
- An improved Sunday service;
- Improvements to Newark Castle station.

The Board has identified an interim proposal for service improvements that goes some way towards meeting those objectives. This report presents a review of evidence to support a business case to for this proposal. The review has been conducted by Liz Price and Brian Milner at Lincoln Business School on behalf of the Nottingham to Lincoln Stakeholder Board.

1.2 Existing Studies

The proposed improvements are supported by a document produced by the Stakeholder Board which sets out comparisons of services between similar sized centres (e.g. Harrogate to Leeds; Worcester to Birmingham) and provides a preliminary analysis of recent growth in the population and economy of Lincoln.

Lincolnshire County Council commissioned the Centre for Economics and Business Research (cebr) to undertake a study of the wider economic benefits of rail interventions in Lincolnshire. This included a calculation of the standard journey time benefits, which showed that proposed service improvements could result in an additional 255 workers in the Nottinghamshire and Lincolnshire labour markets, and an additional £8.5 million per annum generated within the two economies.

Nottinghamshire County Council has separately commissioned a passenger demand study. Newark and Sherwood District Council are also undertaking analysis of the service.

1.3 Research Aims

The Stakeholder Board wishes to develop a detailed business case to support proposed improvements to the Lincoln to Nottingham rail service, and wishes to draw together data on:

- The economic and environmental effect of shift in traffic from road to rail;

- Current commuting flows between Lincoln and Nottingham, and to other centres in the region, e.g. Derby and Leicester;
- Business linkages and interactions between Lincoln and Nottingham and the region;
- The origin of students attending the University of Lincoln, whether Lincolnshire, elsewhere in the UK, or international;
- Trends in the resident population, labour markets and student populations in Lincoln, Newark and Nottingham;
- The implications of service improvements for: time efficiencies; participation in the labour market; direct investment; and wealth creation.

2. CURRENT AND FUTURE POPULATION

2.1 Introduction

The Nottingham to Lincoln railway line connects two Principal Urban Areas in the East Midlands. Nottingham is the largest urban area in the region, with a population of 300,800 (ONS, 2009). Lincoln's population is 88,500 (ONS, 2009), although with neighbouring North Hykeham and proximate villages, the total urban area is thought to account for almost 160,000 (Lincolnshire County Council, 2010). The line serves a number of smaller stations in Lincolnshire and Nottinghamshire. These include Newark, with a population of 26,700 (ONS, 2007), where the line crosses the East Coast Mainline. The town of Newark has a population of 26,700 (ONS, 2007), although with Balderton and Fernwood, this is nearer 45,000 (NSDC, 2011).

The Nottingham to Lincoln corridor is set for significant population growth, as the three key urban centres along the line - Nottingham, Newark and Lincoln - have all been awarded Growth Point status. This means that housing growth and new job creation will be strongly promoted in these areas.

2.2 Population of the Nottingham to Lincoln corridor

The line runs through five local authority districts: City of Lincoln; North Kesteven; Newark and Sherwood; Gedling; and Nottingham City. As Table 1 shows, these districts account for 720,700 resident population, which is 16% of the total population of the East Midlands region.

Table 1: Population of Local Authority Districts on the Nottingham to Lincoln Line

Local Authority District	Population (2009)
Lincoln	88,500
North Kesteven	105,700
Newark and Sherwood	113,000
Gedling	112,700
Nottingham	300,800
Total	720,700

Source: Annual Population Survey (2009)

2.3 Population Growth

The districts along the Nottingham to Lincoln Line have experienced significant population change over the last 20 years. Total population growth is 68,900 or an increase of 11%. This is higher than the average population growth rate across Great Britain, which is 8%.

Table 2: Change in Population in Nottingham to Lincoln Line Districts

Local Authority District	Population (1989)	Population (2009)	Pop Change	% Change
Lincoln	82,600	88,500	5,900	7
North Kesteven	79,400	105,700	26,300	33
Newark and Sherwood	103,000	113,000	9,700	9
Gedling	110,900	112,700	1,800	2
Nottingham	275,600	300,800	25,200	9
Total	651,800	720,700	68,900	11

Within the counties of Lincolnshire and Nottinghamshire, there has been significant variation in the level of population change. Lincolnshire has experienced a 20% increase in population. The population of North Kesteven district in Lincolnshire has grown by a third over the last twenty years, and was reported by the Audit Commission to be the fastest growing district outside London in 2009.

Table 3: Change in Population in Lincolnshire and Nottinghamshire

County	Population (1989)	Population (2009)	Pop Change	% Change
Lincolnshire	580,700	697,900	117,200	20
Nottinghamshire	734,000	776,600	42,600	6
Total	1,314,700	1,474,500	159,800	12

Source: Census 2001 and Annual Population Survey 2009

2.4 Future Population Growth

The Nottingham to Lincoln corridor is set for significant population growth, as Nottingham, Newark and Lincoln have all been awarded Growth Point status. Growth Point status provides the opportunity for local authorities to promote housing growth, particularly affordable housing, alongside new job creation.

The volume of housing in districts along the Nottingham to Lincoln line is expected to increase by around 21% within the next 15 years. The most easterly districts are expected to experience the highest rate of growth, with Lincoln, North Kesteven and Newark and Sherwood together experiencing growth of more than 25%.

Table 4: Housing Allocations for Nottingham-Newark-Lincoln Line Districts

Area	Existing dwellings (2001)	Proposed new dwellings up to 2021	% increase
Lincoln City	36,631	8,100	22%
North Kesteven	38,870	8,000	21%
Newark and Sherwood	44,485	14,800*	33%
Gedling	47,556	8,000	17%
Nottingham City	116,112	20,000*	17%
Nottingham-Lincoln Line Total	283,654	58,900	21%

* shows allocations up to 2026

Source: Local Authority Local Plans and Local Development Frameworks

City of Lincoln and Lincoln Policy Area

The allocation of Growth Point status for the Lincoln Policy Area means that the residential population of the area is expected to grow by around 22% by 2021. Over the next 10 years and beyond, Lincoln will expand its role as the principal urban area in the county by delivering a fundamental change in the level of housing and economic growth in the city and wider area, principally through the development of a series of key sites in and around the city. The East Midlands Regional Plan (although likely to be abolished under the Localism Bill) still provides housing allocation figures for the Lincoln Policy Area and proposes that 25,170 new dwellings should be provided in the Lincoln Policy Area over the period 2006 to 2026 of which 19,800 should be provided in and adjoining the Lincoln Principal Urban Area.

The City of Lincoln has 36,643 households (census, 2001), and the increase of 8,100 houses within the city boundary alone accounts for a 22% increase. The allocation of 16,300 dwellings within the Lincoln Policy Area equates to an increase of almost a quarter, at 24%. This housing allocation to the Lincoln Policy Area is almost 30% of the allocation for the whole of Lincolnshire, which reflects Lincolnshire County Council's intention to focus new housing development in urban areas of the county.

North Kesteven

The North Kesteven District Council Local Plan provides for the development of 8,000 dwellings in the period 2001-2021. North Kesteven had 38,870 households in 2001, and the 8,000 increase represents a growth of 21%. More than half, 5,300 of these new houses, are allocated for North Hykeham.

Newark and Sherwood

The Newark and Sherwood Local Development Framework provides for the development of 14,800 new dwellings up to 2026 which, compared with the 44,485 households in the district in 2001, represents a proposed growth of 33%. 70% of this allocation falls within the Newark Urban Area, which is allocated 9,913 new dwellings. Newark Urban Area had 16,165 households at the time of the last census, so this allocation represents a proposed 61% housing increase for the town.

Gedling

The Gedling Local Development Framework provides for the development of 8,000 new homes in Gedling district, which equates to a growth rate of 17%. Development within the villages of Burton Joyce and Carlton, on the Nottingham-Lincoln line, is constrained by the Nottingham-Derby greenbelt.

Greater Nottingham

Greater Nottingham was given Growth Point Status in 2005. Nottingham City allocated 20,000 new homes by 2026 and 60,600 for the Greater Nottingham Partnership area. Nottingham City had 116,112 households in 2001, so the proposed growth represents a 17% growth in housing.

3. BUSINESS GROWTH

3.1 Business Growth

The number of VAT registered businesses has grown significantly in the local authority districts along the Nottingham to Lincoln line. The highest growth has been seen in districts towards the east of the line, in Lincoln (23%), North Kesteven (22%) and Newark and Sherwood (25%). The rate of new business creation in these districts has exceeded that for the East Midlands and Great Britain overall.

Table 5 – Growth in VAT registered businesses for Nottingham-Newark-Lincoln line local authorities

	1994	2007	Increase	Increase %
Lincoln	1,580	2,045	465	23
North Kesteven	2,650	3,390	740	22
Newark and Sherwood	3,045	4,045	1,000	25
Gedling	2,380	2,720	340	13
Nottingham	5,695	6,475	780	20
East Midlands	111,370	139,145	27,775	20
Great Britain	1,560,700	1,964,920	404,220	21

3.2 Employment Growth

The number of jobs created by firms in the local authority districts on the Nottingham-Lincoln line has increased by 15% over the last fifteen years. North Kesteven (32%) and Newark and Sherwood (44%) have seen the most significant increases. The number of jobs in the Greater Lincoln area, which incorporates North Kesteven and West Lindsey, has increased by almost a fifth (19%), which is higher than the rate for the Nottingham to Lincoln corridor overall.

Graph 1 – Growth in Employee Jobs for Nottingham-Newark-Lincoln Districts

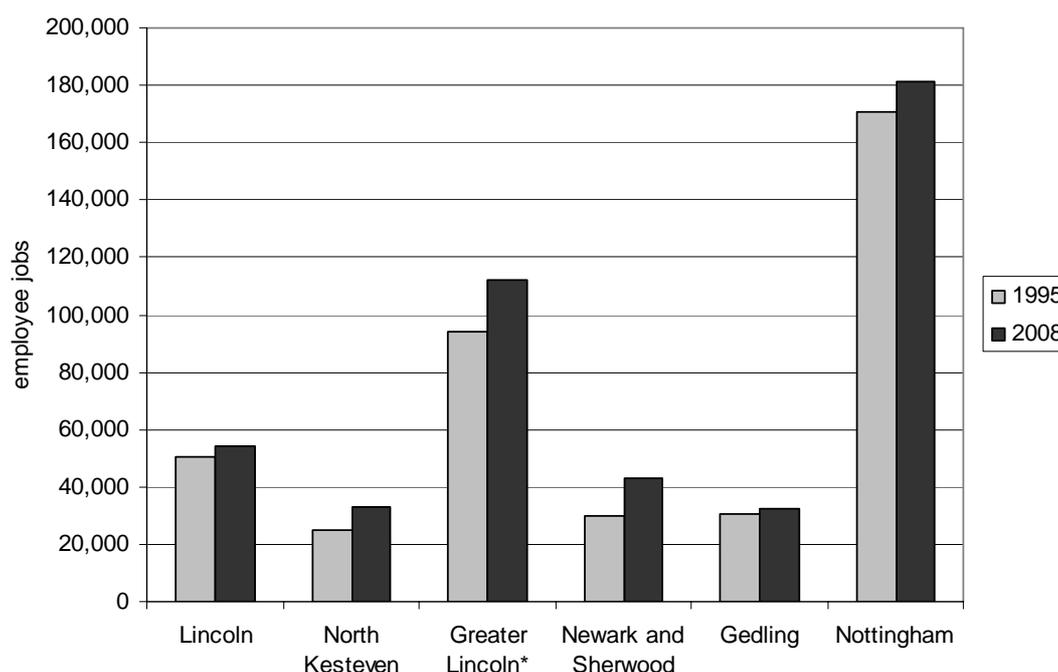


Table 6 – Growth in Employee Jobs for Nottingham-Newark-Lincoln Districts

	1995	2008	Increase	Increase %
Lincoln	50,483	54,000	3,517	7
North Kesteven	25,171	33,300	8,129	32
Greater Lincoln*	94,262	112,200	17,938	19
Newark and Sherwood	29,748	43,000	13,252	44
Gedling	30,386	32,600	2,214	7
Nottingham	170,596	181,400	10,804	6
Castle Line	419,244	481,400	62,156	15

Source: ONS annual business inquiry employee analysis

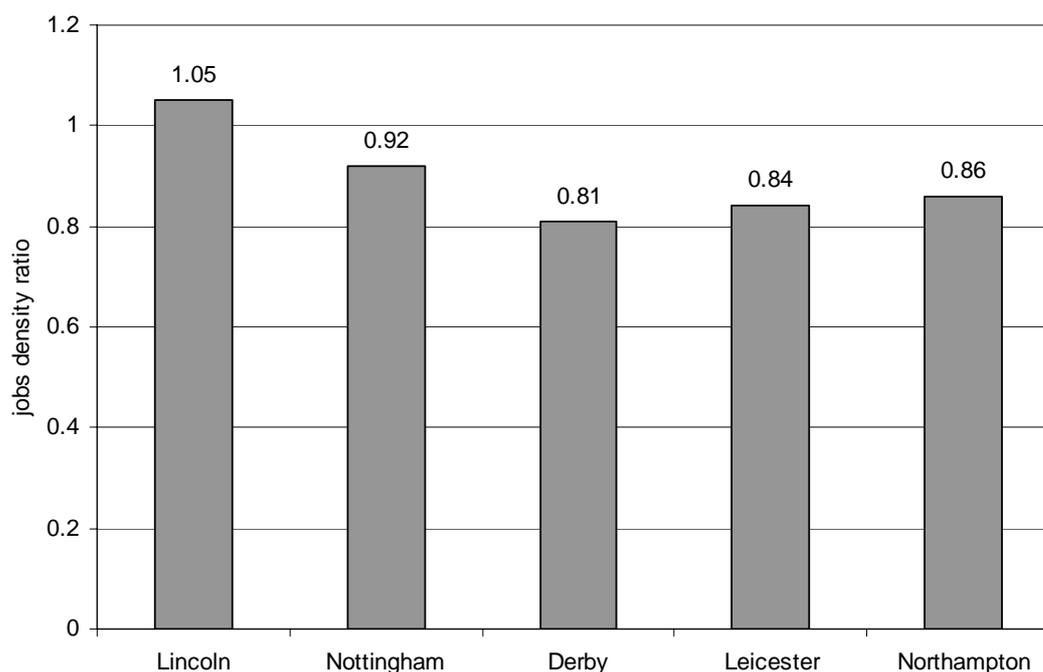
*Greater Lincoln includes North Kesteven and West Lindsey districts

Great Britain 17%

3.3 Jobs Density

Lincoln has the highest jobs density, or ratio of jobs per person of working age, of any district in the East Midlands. This means that there are more jobs than working age people in Lincoln, which means it is a net attractor of workers. This rate is higher than any other Principal Urban Area in the East Midlands, which underlines Lincoln's role as a sub-regional centre for services and employment.

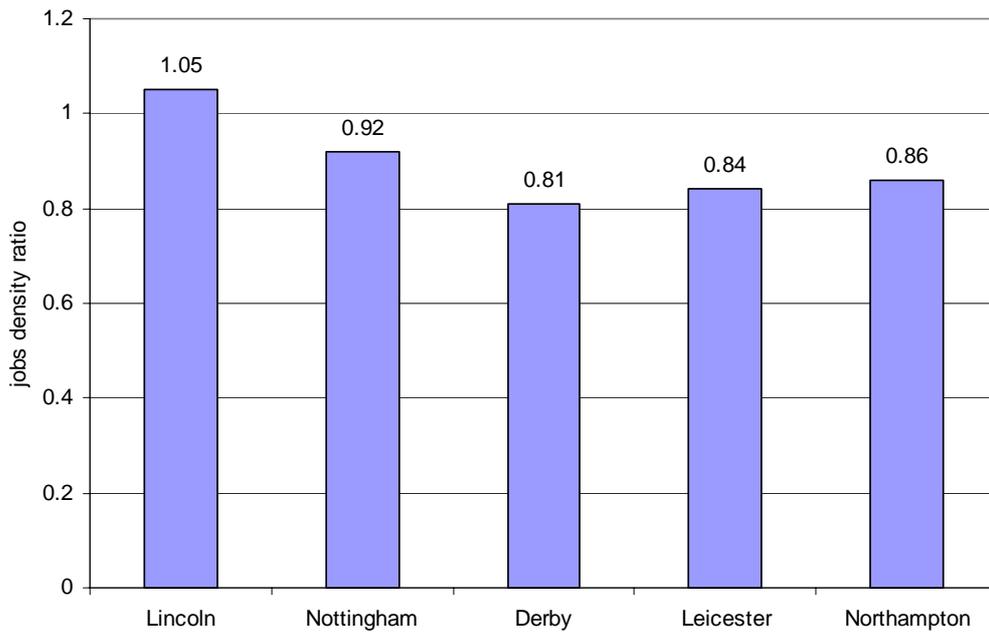
Graph 2 – Jobs Density for Nottingham-Newark-Lincoln Line Districts



The density figures represent the ratio of total jobs to population aged 16-64

Source: ONS

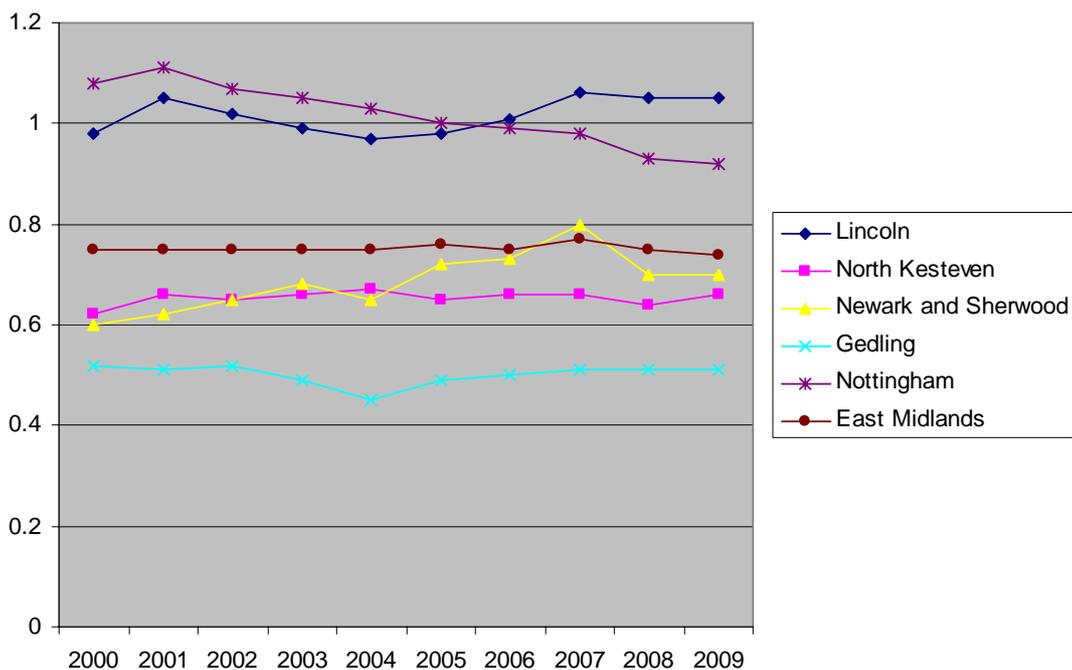
Graph 3 – Jobs Density for East Midlands Principal Urban Areas



*The density figures represent the ratio of total jobs to population aged 16-64
Source: ONS*

In 2006, Lincoln replaced Nottingham as the district with the greatest jobs density in the East Midlands. Graph 4 shows that the jobs density ratio has increased in Lincoln, Newark and Sherwood, and North Kesteven, the three districts at the eastern end of the line, since 2000. This is despite significant population growth in these districts which might otherwise be expected to reduce the jobs density ratio.

Graph 4 – Change in Jobs Density for Nottingham-Newark-Lincoln Line Districts



4. COMMUTING FLOWS

4.1 Commuting Flows between Nottingham and Lincoln

Analysis of commuting data for Lincoln and Nottingham suggests that, at the time of the 2001 census, there were limited flows between the two cities. Nottingham was the tenth most popular commuting destination for Lincoln residents. 126 people commuted from Lincoln to Nottingham, by any mode of transport, accounting for 0.4% of Lincoln commuters. Lincoln did not appear as a top 10 commuting destination from Nottingham, with just 59 or 0.06% of Nottingham residents commuting to Lincoln.

For residents of Newark, both Nottingham and Lincoln are important commuter destinations. In 2001, Nottingham was the second most popular commuting destination, accounting for more than 4,000 or 9% of workers in Newark and Sherwood. Lincoln also attracted a substantial number, at 641 commuters.

Providing an accurate analysis of commuting flows between Nottingham and Lincoln is hampered by a lack of current data. There is evidence to suggest that the volume of commuters has increase significantly since 2001, as set out in 4.2 below.

Table 7: Commuting Flows between Nottingham and key urban centres in the East Midlands

	To Nottingham	From Nottingham	Net Flow to Nottingham
Chesterfield	306	105	201
Derby	2401	1294	1107
Leicester	577	507	70
Mansfield	2,372	606	1766
Northampton	36	58	-22
Lincoln	126	59	67

Source: Census 2001

Table 8: Top 10 commuter destinations in the East Midlands from Nottingham

Workplace	Number of Commuters	%
Nottingham	74,190	75.7
Gedling	5,177	5.2
Rushcliffe	4,959	5.1
Broxtowe	3,975	4.1
Ashfield	1,792	1.8
Erewash	1,464	1.5
Derby	1,294	1.3
Charnwood	638	0.7
Mansfield	606	0.6
Amber Valley	585	0.6
(Newark and Sherwood)	583	0.6
(Lincoln)	(59)	(0.06)

Source: Census 2001

Table 9: Top 10 commuter destinations in the East Midlands from Lincoln

Workplace	Number of Commuters	%
Lincoln	25,754	72.2
North Kesteven	5,756	16.1
West Lindsey	1,854	5.2
East Lindsey	413	1.2
South Kesteven	397	1.1
Newark and Sherwood	392	1.1
Bassetlaw	213	0.6
South Holland	212	0.6
Boston	155	0.4
Nottingham	126	0.4

Source: Census 2001

Table 10: Top 10 commuter destinations in the East Midlands from Newark

Workplace	Number of Commuters	%
Newark and Sherwood	28,099	61.9
Nottingham	4,171	9.2
Bassetlaw	1,611	3.6
Ashfield	1,512	3.3
Gedling	1,402	3.1
Rushcliffe	1,036	2.3
South Kesteven	886	2.0
North Kesteven	702	1.5
Lincoln	641	1.4
Broxtowe	318	0.7

Source: Census 2001

4.2 Home Locations of Staff and Students at the University of Lincoln

There is evidence to suggest that the number of people commuting between Nottingham and Lincoln has increased significantly since 2001. This is partly attributed to a general increase in the distances that commuters travel across the country (Experian, 2007), and also to specific developments such as the growth of the University of Lincoln.

Analysis of the place of residence of University of Lincoln staff shows that:

- 29 commute from Nottingham
- 36 commute from Newark
- 8 commute from other areas of Nottinghamshire
- 145 commute from North Hykeham

Fifty nine people were shown to commute from Nottingham to Lincoln in 2001. The 29 people commuting from Nottingham specifically to work for the University of Lincoln suggests that the overall number of Nottingham-Lincoln commuters is likely to have increased significantly in the ten years since 2001.

The development of the University is also likely to have brought about an increase in the flow of students travelling between Nottingham and Lincoln. The latest data shows that there are currently 11,861 students studying at the University of Lincoln's Brayford and Risehome campuses and that, of these, 1,090 or 9.2% have their family home in or near Nottingham. Given that the total student cohort has grown by more

than five times from a small base of 2,000 since 2002, the number of students travelling between Nottingham and Lincoln is likely to have increased by many hundreds during this time.

Many of these students are likely to use the Nottingham-Lincoln service for visits home and, with the forthcoming increase in tuition fees, there may be an increase in the number of students wishing to live at home and commute to university.

Table 11: Top 10 Home Locations of University of Lincoln students (Brayford and Riseholme campuses) 2010/11

Post Town	No of Students	% Total
Lincoln	2192	18.5
Doncaster	1130	9.5
Peterborough	1096	9.2
Nottingham	1090	9.2
Sheffield	549	4.6
Leicester	422	3.6
Norwich	353	3.0
Ipswich	261	2.2
Derby	196	1.7
York	167	1.4

Source: University of Lincoln

Data from the University of Nottingham shows that, during 2010/11, Lincoln and the surrounding area was the location of the family home for **129** students, and Newark for **147** students.

4.3 Employment Income Flows

Analysis undertaken by Experian (2007) shows that, among the cities in the East Midlands, Nottingham generates the highest level of workplace earnings. The value of earnings generated within Nottingham is around £3,721 million.

Nottingham makes the strongest contribution to wealth beyond its boundaries out of the East Midlands cities, with £2,215 million or 60% of its workplace earnings flowing out to other districts in the region through commuting. Just £1,472 million (40%) of income from employment at Nottingham workplaces flows to Nottingham residents, and this explains the relatively low level of wages earned by those living in the city.

Table 12: Employment Income Flows from Workplaces in East Midlands Cities

CITY	Workplace Earnings	Earnings Out-Flow	% Earnings Out-Flow
Nottingham	£3,721 million	£2,215 million	60%
Leicester	£3,239 million	£1,608 million	50%
Derby	£2,381 million	£923 million	39%
Northampton	£2,356 million	£861 million	37%

Source: Experian based on Census 2001 & ASHE 2006

More than a third (35%) of the income flows from Nottingham workplaces are to the districts immediately surrounding Nottingham, including Gedling, Rushcliffe, and

Broxtowe. More than 90% of this income flow is retained in Nottinghamshire and Derbyshire, which suggested that there is a limited trickle down into Lincolnshire.

Table 13: Employment Income flows from Nottingham Workplaces

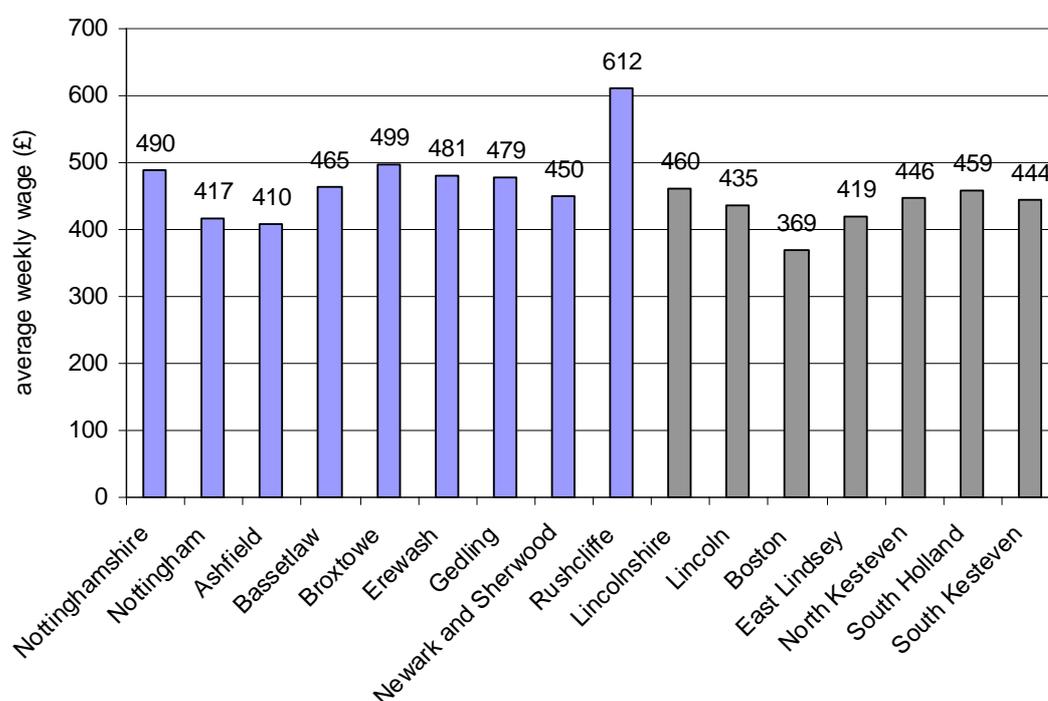
	£ million	%
Nottingham	1,472	39.6
Gedling	490	13.2
Rushcliffe	437	11.7
Broxtowe	382	10.3
Erewash	161	4.3
Ashfield	159	4.3
Newark & Sherwood	103	2.8
Derby	62	1.7
Mansfield	54	1.5
Amber Valley	54	1.4
Rest of East Midlands	233	6
Other Regions	123	3.3
TOTAL	3,721	100

Source: Experian based on Census 2001 & ASHE 2006

4.4 Comparison of Wages

The average wage earned in Nottinghamshire is around 10% greater than that earned in Lincolnshire. This means that a worker in Lincolnshire earning £20,000 could potentially earn around £22,000 in Nottinghamshire. Graph 6 shows the average weekly wage for residents in Nottinghamshire and Lincolnshire districts. Improved transport links to employers in Nottinghamshire could provide the opportunity for workers in Lincolnshire to access better paid jobs.

Graph 5 – Comparison of Wages



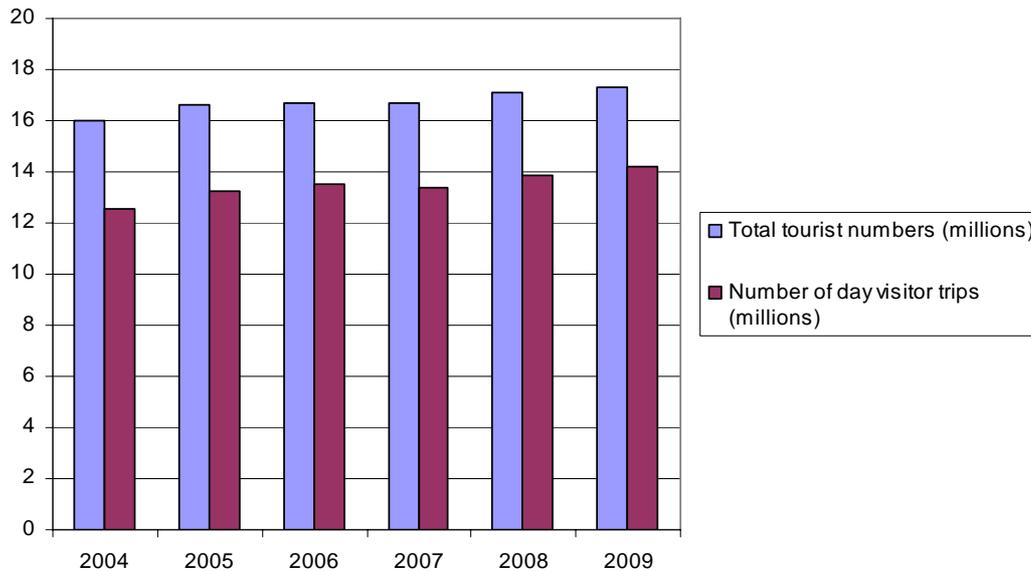
Source: Annual Survey of Hours and Earnings (ASHE)

5. THE IMPORTANCE OF THE NOTTINGHAM-LINCOLN LINE FOR LINCOLN

5.1 Lincoln as a Visitor Destination

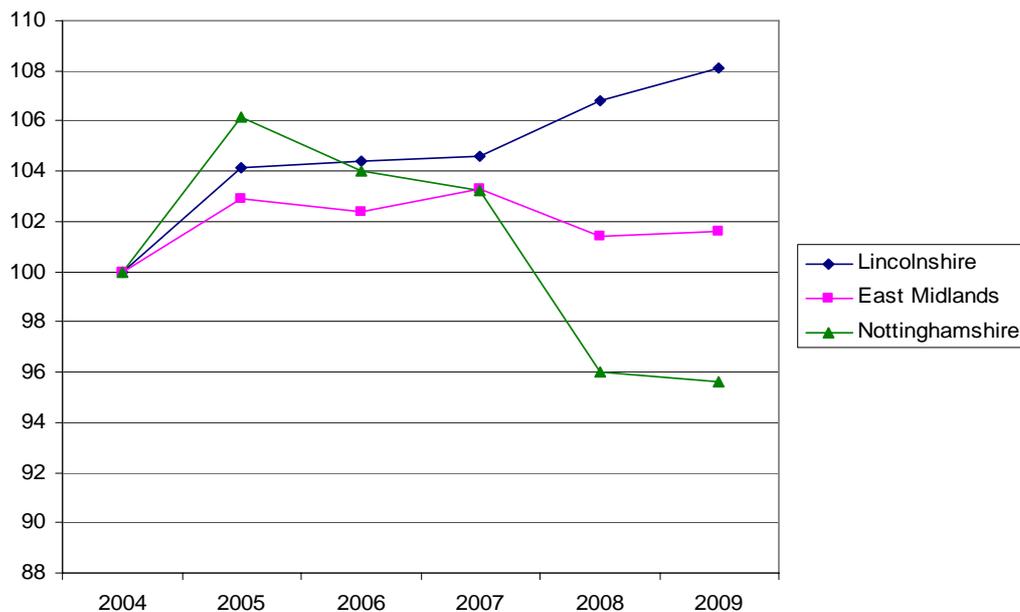
Tourism is the second most important industry for the Lincolnshire economy (after agriculture) and is worth £927 m and 17,175 jobs (EM Tourism, 2009). Lincolnshire is a growing tourism destination. The number of tourists visiting Lincolnshire has increased from 16 m in 2004 to 17.2 m in 2009. Furthermore, the number of visitors to Lincolnshire has continued to grow during the recession, while visitor numbers have declined in Nottinghamshire and the East Midlands.

Graph 6 – Tourist numbers and day visitor trips to Lincolnshire 2004-09



Source: Steam Data 2009

Graph 7 – Total Tourist Numbers (millions), 2004-09 - Indexed (2004 = 100)



Source: Steam Data 2009

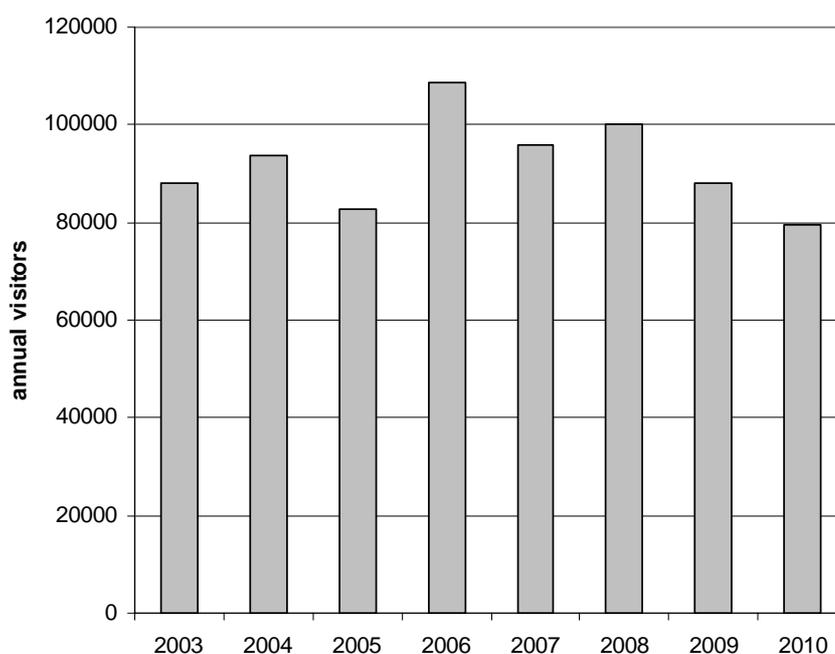
5.2 The Economic Impact of Lincoln Cathedral

Lincoln Cathedral is country's third largest cathedral, after St Paul's and York, and the most visited tourist attraction in Lincolnshire. A report by Rose Regeneration in 2008 showed that Lincoln Cathedral makes an economic contribution to the city that compares to the six most internationally significant cathedrals of St Paul's, Canterbury, York, Salisbury, Winchester and Durham. The total employment supported by Lincoln Cathedral is 649, which is equivalent to 7% of all jobs in the heritage tourism sector in the East Midlands.

The Cathedral attracts between 80,000 and 100,000 visitors a year. Around 21% travel from within the East Midlands, 51% from elsewhere in the UK, and 27% from outside the UK.

The profile of the Cathedral has been raised significantly by its use as a location for two films, the Da Vinci Code in 2005 and Young Victoria in 2007. The Da Vinci Code has generated particular media interest, and more than 100 journalists and broadcasters from around the world. Visitor numbers to the cathedral increased by 20% in 2006.

Graph 8 – Visitors per year to Lincoln Cathedral



Source: Lincoln Cathedral

2015 will be the 800th anniversary of the Magna Carta, the charter which sets out the rights of English citizens and the requirements for monarchs to abide by national law. One of the four original Magna Carta documents is housed in Lincoln Castle. Lincolnshire County Council is bringing forward a major restoration to provide an international visitor attraction to display of Lincoln's copy of the Magna Carta.

5.3 Development of Lincoln City Centre

A Masterplan has been adopted to guide the development and regeneration of the city centre over the next 15 years, Lincoln Central Station is located in the heart of the city centre with major development opportunities located adjacent to it.

Immediately north of the station a planning application has been lodged for a major regeneration scheme, the Lindogate Development. The scheme comprises 300,000sqft of new retail space including a department store, 875 city centre car parking spaces, new riverside restaurants and apartments, a modern transport interchange incorporating a new bus station next to the railway station, and a high quality footbridge link connecting the city centre to the land south of the railway.

South of the railway line the County Council and the City Council are working together to deliver a new East-West link road which will improve accessibility to the railway station, transport interchange and car parks. The local authorities are also working with private land owners to bring forward significant mixed use development south of the railway.

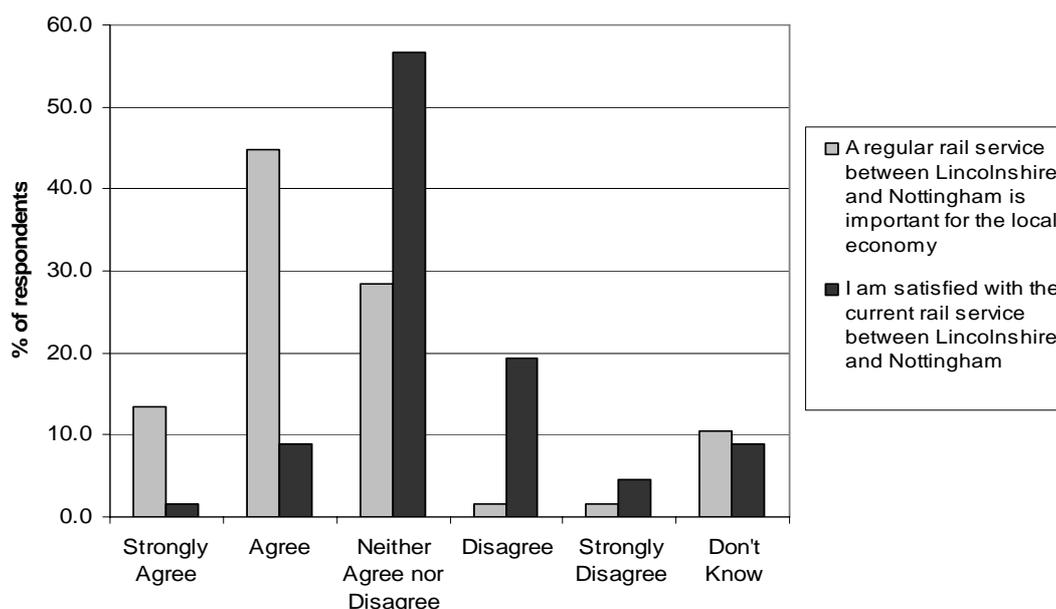
To the west of the railway station is Lincoln's Brayford Pool providing a spectacular setting for the location of the University, boating and leisure and commercial development, a new Hilton Hotel is currently under construction.

5.4 Views of Businesses in Lincoln

A number of surveys in the Lincoln area suggest that many businesses would like to see better transport connections. For example, a survey of businesses in the Greater Lincoln area found that businesses wanted better local transport links, and felt they would benefit from better links to local supplier networks (GLP, 2011).

A recent survey undertaken by the University shows that the Nottingham to Lincoln service is considered important by local businesses, but that there are low levels of satisfaction with the service. 58% agreed that a regular rail service to Nottingham was important for the local economy. Just over 10% felt satisfied with the rail service to Nottingham, however. A large number, 57%, neither agreed nor disagreed, which also suggests a lack of knowledge of or use of the service.

Graph 9: Views on rail services to Nottingham by Lincolnshire businesses



Source: Local Economic Snapshot Survey, May 2011

Comments made by respondents about the service include:

“The service is too slow and the ‘branch line effect’ negative affects Lincoln”

“I don’t use rail very much, but anything that enhances transport in and out of Lincoln can only benefit the economy”

“It is most bizarre that there are 2 hour gaps between the Lincoln to Nottingham trains. It puts a lot of people off as they feel trapped. The total lack of Sunday morning services has had a detrimental effect on both our work and our desire to want to live in Lincoln. It’s a frustrating place if you don’t drive, personally and professionally”

Businesses are also concerned about wider rail connections from Lincoln. The survey showed broad dissatisfaction with rail services from Lincolnshire to London among local businesses. Travelwatch East Midlands has identified that Lincoln is currently the largest centre within 100 miles of Birmingham without through trains to the city.

6. THE ECONOMIC IMPACT OF THE UNIVERSITY OF LINCOLN

6.1 The Economic Contribution of the University

The University was established in 1996 and was the first new city centre university campus to be built in the UK in 25 years. The University of Lincoln has made a significant contribution to the economy of Lincoln, through employment creation, direct and indirect expenditure, and the attraction of students who use local services and infrastructure.

More than £100 million has been invested in the University of Lincoln's city centre campus over the last ten years. The student cohort has grown from 2,000 in 2002 to almost 10,000 in 2008. Staff numbers have tripled during this time, and the University now employs more than 2,000 staff. The University has five faculties which encompass a range of subject areas, and has recently announced the creation of a new School of Engineering, which will be delivered via a partnership of the University of Lincoln and Siemens.

In 2008/09 the University generated income worth more than £80 million. Using a multiplier developed by Universities UK, it is estimated to have generated more than £110 million in other sectors of the economy, resulting in an overall contribution of £191 million to the Greater Lincoln economy.

Table 14: Economic Contribution of the University

University of Lincoln Total Income 2008/09	Gain for Other Sectors of the Economy	Total Economic Contribution of the University
£80,275,000	£110,779,500	£191,054,500

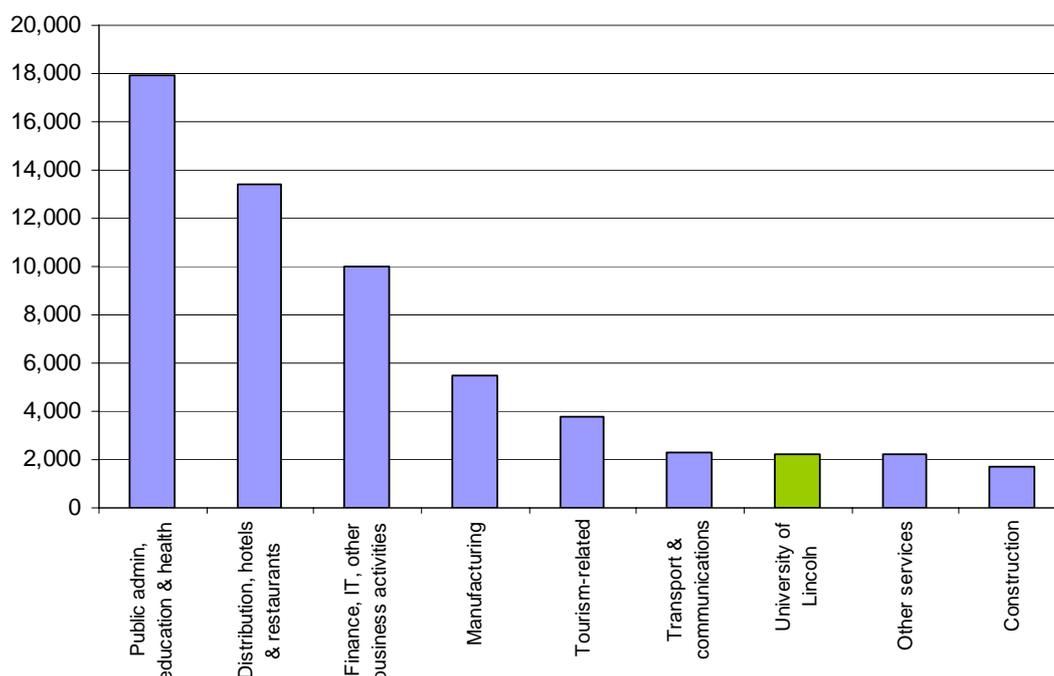
Source: HEFCE and Universities UK

Enterprises based in Lincoln had a total turnover of £2.67 billion in 2009 (IDBR, 2009). Using a multiplier developed by UUK, it is estimated that the income generated by the University contributes to an additional 8% income for the economy of Lincoln.

6.2 Impact of the University on Job Creation

In 2008/09, the University of Lincoln directly employed 2,215 staff. This is similar to number of people employed by the transport and communication sector in Lincoln, and greater than the employment of the construction sector. Graph 10 shows employment provided by key sectors in Lincoln, and at the University of Lincoln for comparison.

Graph 10: Jobs generated by all Lincoln-based Enterprises and the University of Lincoln, 2008/09



Source: IDBR and University of Lincoln

Using the UUK multiplier, we can show that an additional 2,281 jobs are created by other employers through university and staff expenditure. In total, the University is estimated to have generated 4,496 direct and indirect jobs within the local economy.

Table 15: Employment Contribution of the University

University of Lincoln Total Staff 2008/09	Additional Jobs created by other Employers	Total Direct and Indirect Jobs created by the University
2,215	2,281	4,496

Data from the Annual Business Inquiry shows that enterprises in Lincoln employed 54,000 staff in 2008. The University of Lincoln accounts for 8.3% or 1 in 12 jobs based in Lincoln, through the creation of direct and indirect employment opportunities.

In addition to economic impact, the University has contributed to the socio-cultural assets of Lincoln with the construction of two major performance venues; facilities that are used by both students and local residents.

7. THE IMPORTANCE OF THE SERVICE FOR NEWARK AND NORTH HYKEHAM

7.1 Newark as a Retail and Leisure Destination

Newark is identified as a sub-regional centre for the district of Newark and Sherwood and is located mid-way between the principal urban centres of Lincoln and Nottingham. Newark is strategically positioned, with good access to the A1, A46 and A17. The town has north-south rail links, via the East Coast Main Line at Newark Northgate station, which provides access to London within 90 minutes. Newark is located on the Nottingham to Lincoln line, with services from Newark Castle station.

Newark is an important retail and leisure destination. Newark and Sherwood district attracted £5.6 million visitors in 2009 (STEAM report, 2009). Antiques fairs are held up to six times a year at the Newark and Nottinghamshire showground which attract thousands of visitors from around the world and make a significant contribution to the economy (GVA Grimley, 2010). The shopping area in Newark is centred on a Georgian market square, with many older buildings around the square converted to retail use. Newark is identified by the Council for British Archaeology as one of 51 towns of national importance (NSDC, 2011).

The town offers a number of large retailers, such as Marks and Spencers, Waitrose, and Next, and a variety of small and independent retailers. Over the last few years, there have been a number of investments in town centre, including a new 5 screen cinema, a ten pin bowling and bingo centre. Newark has a developing restaurant offer, which is focused around Castle Gate and Dobson's Quay, within short walking distance of Newark Castle station. Newark Castle, which dates from the 12th century and played an important role in the English civil war, is a key attraction and amenity. New proposals for the town centre include a hotel, a museum and art space, and the development of a supermarket, bus station, shops and health care facilities.

7.2 Employment and Housing Growth in Newark

Newark has recently experienced increasing levels of occupancy in its industrial areas. The decision of Dixons Group to locate its national distribution centre at Newark has created 600 jobs, and reflects the advantage of Newark's location close to the A1. A new business centre, Newark 'Beacon' Business Innovation Centre, opened in 2007 and provides office and workshop space for start-up businesses.

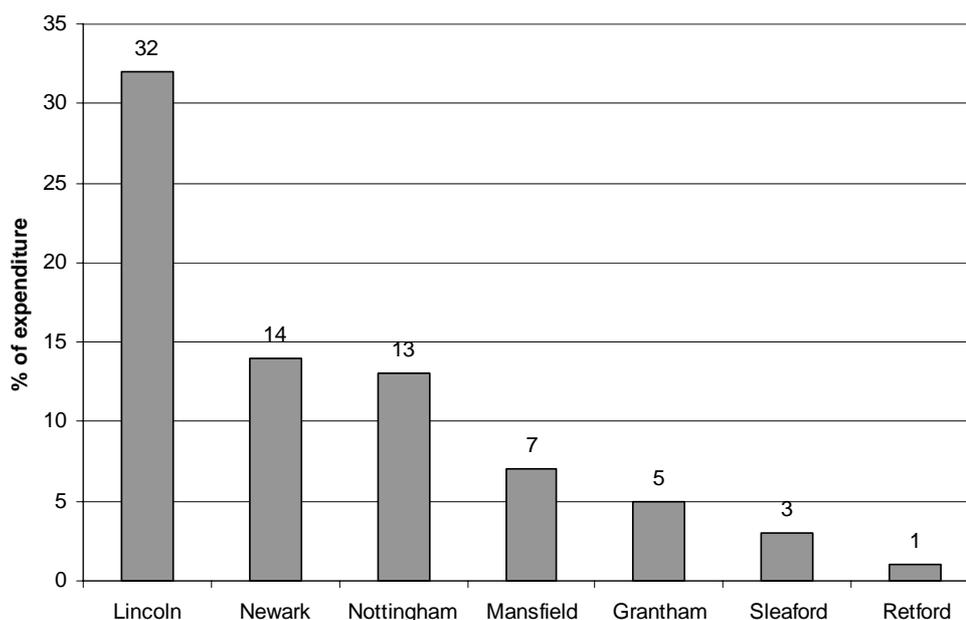
Newark and Sherwood Core Strategy sets out plans for significant development at land south of Newark, east of Newark, and at Fernwood. These include 3,100 homes and 38 acres of employment land south of Newark, 1,600 dwellings east of Newark, and 2,800 homes at Fernwood.

7.3 Retail and Leisure Flows to Lincoln and Nottingham

There are strong flows from Newark to Lincoln for retail and leisure activities. A recent study by GVA Grimley shows that Lincoln accounts for the largest volume (32%) of retail expenditure for residents of Newark's catchment area. Newark accounts for 14% and Nottingham 13% of expenditure.

The same study showed that the most popular cinema for people living in Newark's catchment is the Odeon at Lincoln, which is used by 38% of people in the area who visit a cinema. Lincoln is the top destination for residents from the district who go ten-pin bowling, and also for those playing bingo.

Graph 11: Retail expenditure leaked to centres outside Newark catchment area



Source: GVA Grimley, 2010

7.4 North Hykeham

North Hykeham has experienced significant growth over the last 20 years, with its resident population growing by 20% between 1981 and 2001. The town is largely a suburb of Lincoln, although is located in a different local authority district. The growth of North Hykeham is thought to be driven by the economic growth of Lincoln, and also by the opportunity it provides for relatively unconstrained housing and employment land development.

North Hykeham has strong commuting flows both in and out, at 5,455 in-commuters and 4,284 out-commuters. There are shown to be strong flows between North Hykeham and Lincoln, with Lincoln accounting for more than 60% of out-commuters from North Hykeham and 50% of North Hykeham workers travelling from Lincoln.

A recent scoping study conducted by genecon (2011) states that Hykeham is a key 'business district' for the growth of Lincoln, and provides further economic development potential associated with the development of Teal Park, and Gateway Park and Lincoln Enterprise Park in Hykeham. It stresses, however, the need to address current movement and accessibility issues as a priority to help reconnect the town and encourage more sustainable forms of transport.

Traffic problems are highlighted as a major concern for the business community. These are regarded as a barrier to additional economic investment. The need to enhance the Hykeham rail link to provide an effective commuter service to Newark and Lincoln is emphasised, together with the need to develop cycleways to connect residential areas with employment sites. The reports states that the journey time from Hykeham to Lincoln is just 6 minutes, which *if the frequency of services and the park and ride is improved* could help to alleviate issues of road congestion.

The report states that it is challenging to see how real efforts to improve North Hykeham as a sustainable community can progress without reducing vehicle usage in the area.

8. RAIL USAGE

8.1 Station Usage

The only data on the number of passengers using the Nottingham-Newark-Lincoln line are Station Usage statistics issued by the Office of Rail Regulation. These show an overall increase in use of stations on the route of around 20%. However, as the figures for the main stations at Nottingham and Lincoln are not shown on a route by route basis, they are of limited value for this study.

There is therefore a need to find more accurate information on the use of the line to support the business case for improvements to the frequency of the service.

8.2 Frequency of Service

The number of evening peak services from Nottingham to Newark and Lincoln has fallen from 5 in 2002 to 4 in 2011. This is in contrast to other services from Nottingham to nearby urban centres, which have all increased with the exception of Leicester.

The frequency of the service to Newark and Lincoln is shown to be lower than for services to Sheffield, Derby, Leicester, Worksop and Peterborough. The Rail Utilisation Strategy shows that the same number of trains (four) will depart Nottingham for Lincoln during the three-hour peak in 2019/20, which suggests no planned change to the service over the next ten years.

Table 16 – Services from Nottingham during three-hour evening peak

Destination	Number of trains	
	2002	2011
Derby	9	10
Leicester	12	9
Sheffield	3	6
Mansfield	5	5
Peterborough via Grantham	4	5
Newark and Lincoln	5	4

Source: *East Midlands Rail Utilisation Strategy*

There are currently fewer Nottingham-Lincoln and Lincoln-Nottingham services than in 2002, as tables 17 and 18 show. The number of Nottingham-Lincoln services has decreased from 24 to 16, and the Lincoln-Nottingham service from 25 to 17 a day.

Journey times have increased on the Nottingham to Lincoln service, from an average of 59 minutes to 64 minutes. They have remained similar on the Lincoln to Nottingham service, at 58 minutes. *Travelwatch East Midlands* has identified that in 1911, the fastest journey from Lincoln to Nottingham was 45-48 minutes.

Table 17 - Number and Speed of Services from Nottingham to Lincoln

	2002	2011
Trains	24	16
Fastest time (minutes)	43	53
Average time (minutes)	59.3	63.6

Source: *Office of Rail Regulation*

Table 18- Number and Speed of Services from Lincoln to Nottingham

	2002	2011
Trains	25	17
Fastest time (minutes)	48	48
Average time (minutes)	59.6	57.9

Source: Office of Rail Regulation

Tables 19 and 20 show that there has been a decrease in the number of Lincoln-Nottingham trains calling at intermediate stations since 2002. The number calling at Newark Castle has dropped from 25 in 2002 to 17 in 2011. The table does not include Lincoln to Newark Northgate services. Similarly, fewer Nottingham-Lincoln services now call at intermediate stations, including Newark Castle, than in 2002.

Table 19 - Number of Lincoln to Nottingham trains calling at:

	2002	2011
Hykeham	13	9
Swinderby	13	9
Colingham	12	11
Newark Castle	25	17
Rolleston	13	6
Fiskerton	12	7
Bleasby	12	7
Thurgarton	10	6
Lowdham	13	16
Burton Joyce	13	6
Carlton	13	9

Source: Office of Rail Regulation

Table 20 - Number of Nottingham to Lincoln trains calling at:

	2002	2011
Carlton	12	11
Burton Joyce	12	9
Lowdham	12	16
Thurgarton	8	8
Bleasby	11	9
Fiskerton	11	9
Rolleston	12	8
Newark Castle	24	16
Colingham	10	12
Swinderby	10	8
Hykeham	10	8

Source: Office of Rail Regulation

8.3 Commuting Speeds

Research undertaken by the cebr concludes that “the current service provision on the Nottingham to Lincoln railway line falls below national and regional benchmarks relative to the economic importance of the flows served by the railway”. On commuting, the report goes on to say “Potentially the most important flow for Lincolnshire is Lincoln – Nottingham. In addition, if transport links permitted Lincoln – Derby and Lincoln – Leicester could all be important”.

Table 21: How Commuting Flows to/from Lincoln measure up against benchmark East Midlands generalised speeds

Origin	Destination	Flow importance	Generalised speed (km/h)	Benchmark speed (km/h)	Distance (km/h)
Lincoln	Nottingham	31.3	30.7	37.8	-7.1
Lincoln	Leicester	16.1	36.1	42.5	-6.4
Lincoln	Derby	15.2	28.4	29.7	-1.3
Nottingham	Lincoln	13.2	30.7	29.7	1.0
Derby	Lincoln	12.6	29.7	29.7	-1.3
Leicester	Lincoln	12.3	36.1	42.5	-6.4
Newark	Lincoln	7.2	26.6	22.3	4.4

Source: *cebr*

Analysis of the economic benefits of improving the Nottingham to Lincoln rail service to two trains per hour – one fast, one slow – suggests that this could increase the available labour force by around 255 workers. This translates into a potential labour market benefit of around £8.6 million per annum.

Table 22: Estimates of the Benefits of Increases in Train Frequency for the Lincoln to Nottingham line

	2007 annual (000s)	30 yr NPV 2010 – 2039 (000s)
Increase in potential labour force (# workers)	255	
Labour market benefits	£8,603	£157,887
Multiplier effects	£162	£4,285
'National' benefits	£854	£22,632
Potential Total Wider Benefits	£9,619	£184,308

Source: *cebr*

8.4 Transport Modes

There are significant economic and environmental savings associated with modal shift from road to rail travel. The cheapest return rail journey from Lincoln to Nottingham costs £10.60 compared with £30.60 for car travel claimed back at a 40p per mile rate. Travel by rail also represents a 64% reduction in the volume of CO2 emissions compared with travel by car.

One person making a return journey between Lincoln and Nottingham by rail, rather than road, would make a carbon emissions saving of 9.9kg/CO2. For the return journey between Lincoln and Newark, the shift of one journey from road to rail would result in a saving of 4.7kg/CO2. The shift of one return journey from road to rail between Lincoln and Nottingham would result in a saving of 5.2kg/CO2.

Table 23: Transport Modes - Nottingham to Lincoln return journeys

Mode	Average Return Journey Time	Kilometres	Cost	Grams CO2 per passenger km*	CO2 Emissions
Car	110 mins	123	£30.60	125	15.4kg/CO2
Rail	90 mins	109	£10.60	50	5.5kg/CO2

Source: *travelfootprint.org*, *AA routefinder*, *East Midlands Trains*

Table 24: Transport Modes - Lincoln to Newark return journeys

Mode	Average Return Journey Time	Kilometres	Cost	Grams CO2 per passenger km*	CO2 Emissions
Car	60 mins	58	£14.40	125	7.4kg/CO2
Rail	48 mins	53	£4.90	50	2.7kg/CO2

Source: *travelfootprint.org*, *AA routefinder*, *East Midlands Trains*

Table 25: Transport Modes - Newark to Nottingham return journeys

Mode	Average Return Journey Time	Kilometres	Cost	Grams CO2 per passenger km*	CO2 Emissions
Car	64 mins	64	£16.00	125	8.0kg/CO2
Rail	54 mins	55	£5.30	50	2.8kg/CO2

Source: *travelfootprint.org*, *AA routefinder*, *East Midlands Trains*

*grams CO2 per passenger km calculated for car with an average load of 1.6 persons and diesel train at 50% passenger capacity

8.5 Traffic Flows

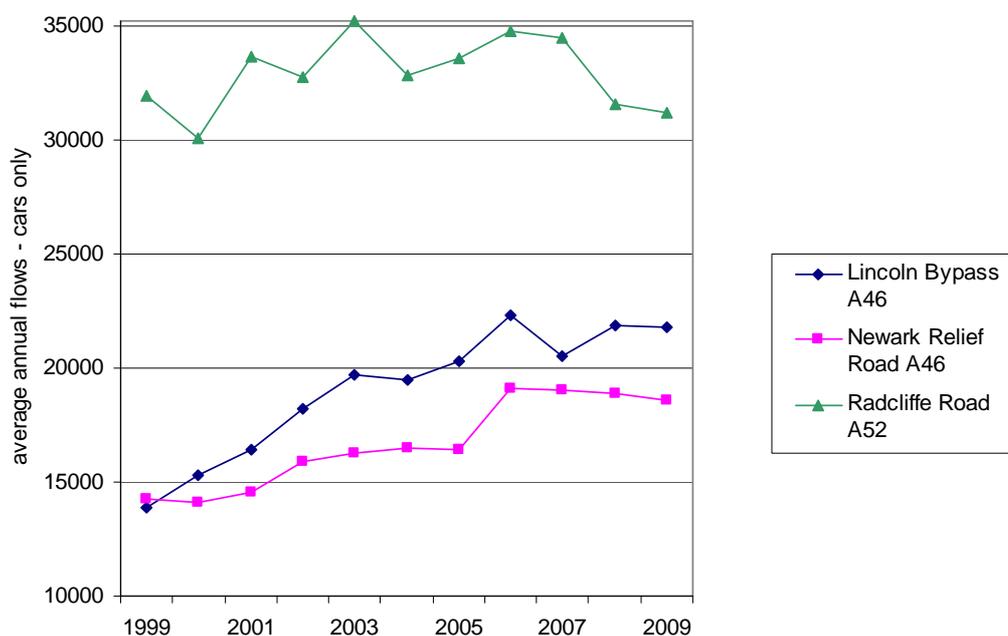
The volume of traffic travelling on roads between Lincoln and Nottingham has increased dramatically over the last 10 years. In particular, traffic on the A46 Lincoln bypass has increased by more than half, at 57%. The volume of traffic on the Newark relief road has also increased by almost a third during this time. This demonstrates the increase in traffic movements around and between the three urban centres of Lincoln, Newark, and Nottingham.

Table 26: Average Annual Flows for Key Roads between Nottingham and Lincoln – cars only

	1999	2009	% change
Lincoln Bypass A46	13,893	21,775	57
Newark Relief Road A46	14,255	18,611	31
Radcliffe Road A52	31,900	31,141	-2

Source: *GB National Road Traffic Survey*, *DfT*

Graph 12: Average Annual Flows for Key Roads between Nottingham and Lincoln – cars only



Source: GB National Road Traffic Survey, DfT

8.6 Proposals set out in the Rail Utilisation Strategy

The East Midlands Rail Utilisation Strategy shows that demand for rail travel is expected to grow by 28% over the next 10 years to 2019/20, at an average 2.5% per annum throughout the East Midlands trains area. It also states that the effect of the recession on passenger demand has not had a depressive effect in the East Midlands trains area.

The Strategy identifies the Nottingham to Lincoln service as a number of journeys that have been appraised and identified as benefitting from improvements in journey time. It is believed that this will promote even greater rail travel between the centres, as rail would become more competitive with road.

The Strategy sets out a number of ways in which the journey time between Nottingham and Lincoln could be reduced:

- Option a – line speed improvements along the route
- Option b – provision of faster rolling stock with increased acceleration
- Option c – improving the journey time between Nottingham and Lincoln through provision of a fast hourly service and an additional slow hourly service between Nottingham and Newark Castle
- Option d – increasing the frequency of trains by providing an additional fast hourly service between Nottingham and Lincoln

The Strategy identifies option d as having the best business case, and Stakeholders strongly support this. However, it is dependent on the line-speed improvement scheme which is subject to on-going discussions between Nottinghamshire County Council and Network Rail. The Stakeholder Board believes that this would reduce journey times and significantly improve rolling stock utilisation.

The Nottingham to Lincoln Stakeholder Board recognise that the line-speed improvements will not be delivered during CP4 and consider that option c provides an excellent interim solution as it can be implemented without any infrastructure changes.

The appraisal for improvements to the Nottingham to Lincoln service is based on the PDFH methodology. However, the RUS states that this method underestimates the benefits associated with the additional hourly service between Nottingham and Lincoln which represents a significant step change from current service provision.

Annexes

Annex 1: References

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Annex 2: Housing Growth Tables

City of Lincoln and Lincoln Policy Area

Area	Existing dwellings (2001)	Proposed new dwellings 2001- 2021	% increase
City of Lincoln	36,631	8,100	22%
North Kesteven (parts of policy area)		5,300	
West Lindsey (parts of policy area)		2,900	
Policy Area Total	68,000	16,300	24%

North Kesteven

Area	Existing dwellings (2001)	Proposed new dwellings 2001- 2021	% increase
Lincoln Policy Area – North Hykeham		5,300	
Sleaford		1,700	
Rest of District		1,000	
North Kesteven Total	38,870	8,000	21%

Newark and Sherwood

Area	Existing dwellings (2001)	Proposed new dwellings 2001- 2026	% increase
Newark and Balderton	16,165	9,913	61%
(Collingham)	1,288	132	10%
(Lowdham)	970	71	7%
Newark and Sherwood Total	44,485	14,800	33%

Gedling

Area	Existing dwellings (2001)	Proposed new dwellings 2001- 2021	% increase
Burton Joyce	1,517		
Carlton	3,179		
Gedling Total	47,556	8,000	17%

Greater Nottingham

Area	Existing dwellings (2001)	Proposed new dwellings 2001- 2026	% increase
Nottingham City	116,112	20,000	17%
Greater Nottingham		60,600	

