



Norfolk County Council and Borough Council
of King's Lynn and West Norfolk

KING'S LYNN TRANSPORT STUDY & STRATEGY

Evidence Gathering and Analysis of Current and
Future Transport Problems and Opportunities





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Lynn and West Norfolk

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Transport Problems and Opportunities

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1 INTRODUCTION

1.1 BACKGROUND

- 1.1.1. WSP have been appointed by Norfolk County Council (NCC) to undertake a study of the transport issues and opportunities in King's Lynn and to develop a strategy for transport in the town to alleviate existing transport problems in the town whilst enabling new development opportunities and to supporting future economic growth.
- 1.1.2. The project is to understand current and future transport issues and develop a preferred strategy, including modelling of the options available, to arrive at a series of implementable scheme proposals. It will provide a focus for activities in and around the town particularly with regard to:
 - ▮ Development of allocated sites and future sites coming forward in the Local Plan review to meet housing and employment growth;
 - ▮ Regeneration of underutilised land;
 - ▮ Car parking (rationalisation and capacity);
 - ▮ Resolving air quality issues in the town; and
 - ▮ Growing traffic congestion within the town.
- 1.1.3. Centred on King's Lynn, the study is therefore intended to focus on economic growth, social inclusion, environmental improvements, reduced emissions, as well as better accessibility and connectivity for the town.
- 1.1.4. The study is intended to assist in unlocking the significant potential of King's Lynn by identifying transport barriers to growth and economic development and setting out a focus and direction for how this can be addressed. The Borough Council of King's Lynn and West Norfolk (BCKL&WN) Local Plan - Core Strategy sets out that the town has a role as a sub-regional centre. It states that it is important to strengthen the retail function alongside tourist, leisure facilities and employment development and regeneration.
- 1.1.5. Subsequent to this work, would be the development of an Implementation Plan, including further detailed scheme development and consultation, which would help to support future bids for funding and scheme implementation.

1.2 PROCESS

- 1.2.1. Figure 1 shows the overall process that has been adopted for this study and strategy development.

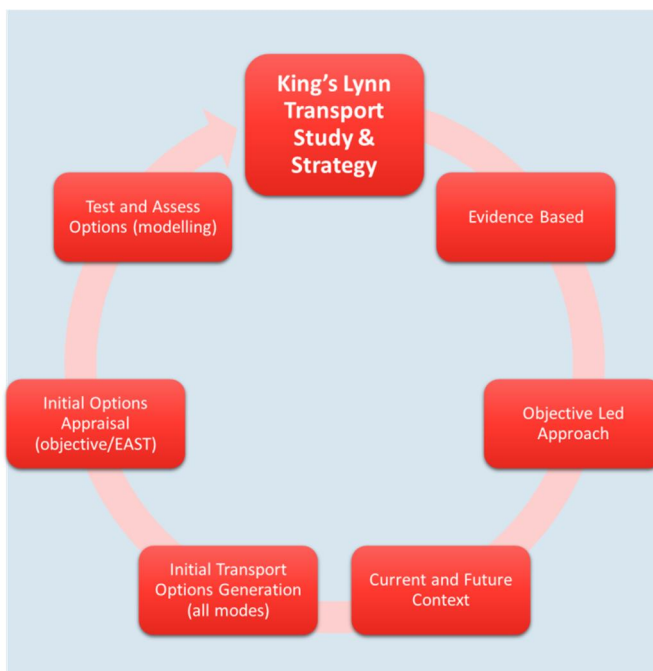


Figure 1. King's Lynn Transport Study Process

- 1.2.2. The following provides a summary of the main elements that feed into the study as a whole:
- i Evidence gathering and analysis of the current transport problems and issues in King's Lynn through a review of previous studies and a comprehensive transport and travel audit covering all modes of travel that are available in the town;
 - i Consideration of the future context of transport and travel in the town by identifying the long terms development plans and opportunities coming forward through development plans;
 - i Stakeholder engagement to feed into the identification of current travel and transport problems and to provide initial feedback on potential schemes and opportunities;
 - i Agreement of Vision and Objectives for the study and strategy;
 - i Preparation of a document to summarise the evidence gathering and analysis stage of the study for all modes of travel;
 - i Develop a specification for the transport surveys to support the evidence gathering and modelling work. Comprehensive surveys to be undertaken during June 2018 following completion of the Highways England Saddlebow highway works;
 - i Generation of a long list of potential transport measures and initiatives across all modes of travel that could assist with meeting the study vision and objectives and contribute towards addressing the current and future problems and issues with the transport and travel network within King's Lynn;
 - i Update the existing strategic SATURN model using mobile telephone data and newly collected traffic data and use this to provide forecast models and test development opportunities and potential transport schemes;
 - i Build a new micro-simulation (Paramics Discovery) transport model of the central area of King's Lynn and use this to forecast future travel problems and to test potential transport schemes and solutions;
 - i Carry out an appraisal of the long list of schemes identified to address the problems and issues. across all modes of travel, using the DfT Early Appraisal and Sifting Tool (EAST) alongside the study Vision and Objectives to create a short-list of preferred options for testing in the models and taking forward in the strategy;
 - i Undertake scheme scenario tests in the SATURN and Paramics models to understand potential implications on the highway and transport network, whilst also considering the implications of other modes of travel;
 - i Stakeholder engagement to discuss the outcomes of the scheme development and appraisal process for inclusion in the Transport Strategy for BCKL&WN and NCC to pursue for King's Lynn.

1.2.3. This report focusses on the first stage of the Transport Study which audits the available information about transport matters in the town in the context of the future potential development situation. It also provides an overview of the Stakeholder engagement event and the outcomes and ideas that were generated through this. The framework for the assessment of the potential schemes for the town is summarised alongside the Vision and Objectives and how these will be used in the following stages of the study.

1.3 PURPOSE OF REPORT

- 1.3.1. This report provides information supported by evidence to identify the current transport issues in King's Lynn and also provides an overview of future development opportunities in the town with a view to identifying how these existing issues could be exacerbated or relieved in the future. This document is structured into the following sections:
- i Section 2 provides an overview of the town and some general information around travel and landuse patterns;
 - i Section 3 sets out the overall Vision and Objectives of the Transport Strategy;
 - i Section 4 provides a summary of the document review of previous and current studies that have been carried out;
 - i Sections 5 to 7 summarise the audit that has been undertaken for each of the modes of travel available in the town and provides an overview of the notable issues for each mode, gathered either through the document review, audit or stakeholder input and views.
 - i Section 5 provides an overview of public transport (rail, bus, ferry and taxi);
 - i Section 6 discusses Active Modes (walking and cycling);
 - i Section 7 summarises the highway network including areas of traffic congestion, accidents, car parking and air quality.
 - i Section 8 considers future growth areas in the King's Lynn and the potential impacts of this growth on the transport network;



- i Section 9 details some general intervention opportunities that could be investigated further to accommodate future growth in King's Lynn. These will be set alongside the interventions that were suggested by stakeholders through the engagement process during the next stage of the study.
- i Section 10 concludes the document with a summary of the next steps in the development of the transport strategy for King's Lynn.

2 KING'S LYNN OVERVIEW

2.1 BACKGROUND

- 2.1.1. King's Lynn is the largest town in the borough of King's Lynn and West Norfolk and it provides important services and retail for its catchment. Since the rapid expansion of the town's population in the 20th century, 2011 Census data identifies the usual residents is approximately 39,110. In 2008, King's Lynn was identified as the 'growth point' of the area; moreover, the Core Strategy outlines housing, retail and employment growth strategies in the town.
- 2.1.2. The River Great Ouse is in a North/south alignment that acts as constraint to the western side of King's Lynn. Furthermore, given the location of the shoreline, large areas of undeveloped land are at risk of tidal and/or fluvial flooding. This limits the expansion options. The areas of lower flood risks are identified in the Core Strategy for potential development schemes. As this is a town of historic value, there are more than 200 listed buildings and two historic market squares. Moreover, the Area of Outstanding Natural Beauty (AONB), Reffley Wood, Gaywood Valley and the various parks and gardens throughout King's Lynn restrict development opportunities.

2.2 LANDUSE PATTERNS

- 2.2.1. Figure A1 in Appendix A provides a geographical overview of the key land uses in King's Lynn that are prominent generators of trips within the town and determine the travel patterns of the residents and visitors to the town.
- 2.2.2. Notably there are key areas of employment that are located both to the north and south of the town and highlighted on the figure. The Queen Elizabeth Hospital, located on the eastern edge of the town on the A1076 close to its junction with the A149 is a key employer in the area with around 2,400 staff and 515 beds. These employment opportunities give rise to a number of potential cross-town and inter-urban movement patterns. The hospital has a wide catchment for employment and health needs and contributes to heavy peak period traffic levels in this area of King's Lynn.
- 2.2.3. There are a number of retail and employment opportunities in the town which are located centrally and also prominently on the southern edge of the town in the Hardwick area close to the A149 / A147 junction. Leisure and recreation activities take place at various locations, with Alive Lynnsport being the largest location for these activities and serving a wide area.
- 2.2.4. Education in King's Lynn is spread throughout the town with a number of localised Primary schools serving the immediate and surrounding areas, as well as a smaller number of secondary schools serving wider catchment areas. There are three secondary schools in King's Lynn:
- ! King Edward VII Academy
 - ! Springwood High School
 - ! King's Lynn Academy
- 2.2.5. These are mainly concentrated to the east of the town centre and gyratory, with St Michael's Primary School located in the south, giving rise to a number of cross-town movements.
- 2.2.6. The College of West Anglia, King's Lynn Campus is located to the east of the town centre on Tennyson Avenue / Gaywood Road with a high concentration of public transport opportunities available in this area of King's Lynn as well as being on a highly congested corridor.
- 2.2.7. The main retail centre is in the heart of King's Lynn at the Vancouver Quarter which offers a wide range of retail choice. Tuesday is still a market day in King's Lynn with stalls in New Conduit Street and Tuesday Market Place.
- 2.2.8. Whilst there are a number of significant attractors for trips in King's Lynn, the following sections of this report provide an understanding of the mode choices available in the town and the problems and issues that arise as a result of the relatively constrained historic highway network characteristics and available routes. It is evident from some of the census analysis that typically there are a number of short trips taking place across the town that could be potentially encouraged to an alternative from private travel if sufficient provisions were made to make this an attractive option.

2.3 2011 CENSUS JOURNEY TO WORK

2.3.1. The latest available Census data (2011) provides a valuable insight into the journey to work catchment of King's Lynn as an origin and a destination alongside indicators of the primary mode of transport used for the work journey. Figure 2 below provides an overview of the mode share for the journey to work for the residents of King's Lynn.

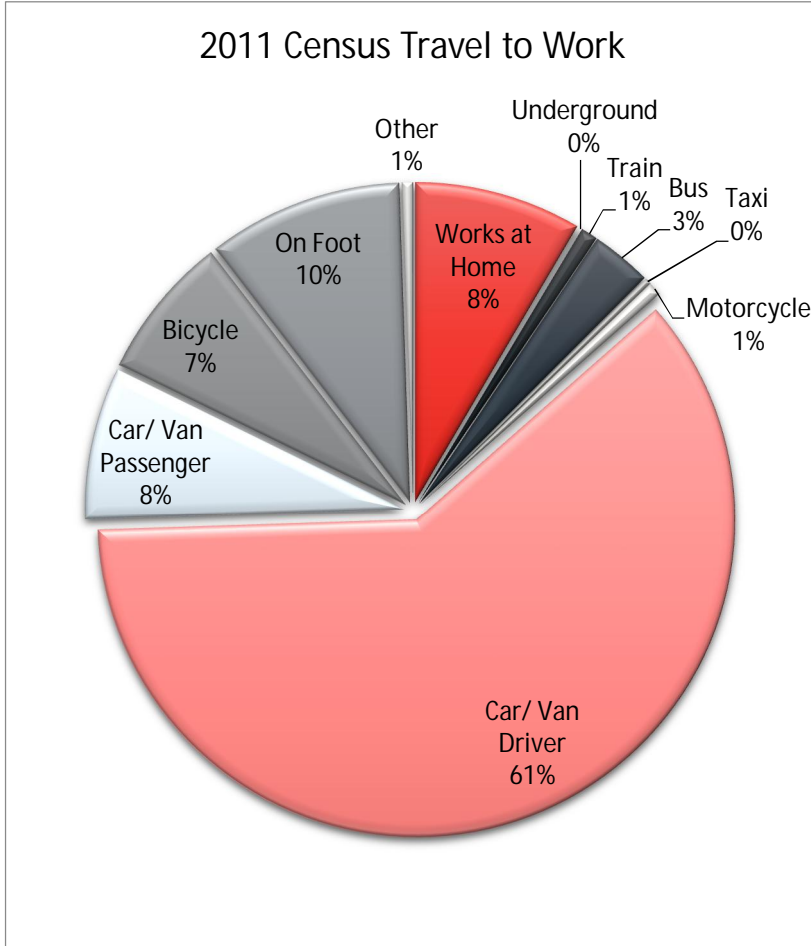


Figure 2. 2011 Journey to Work Mode Share for King's Lynn

2.3.2. This pie chart shows that active modes (cycling and walking) account for 17% of journey to work trips and 61% are car drivers. The public transport mode share is 4% (train and bus). Comparisons with the national average statistics are shown in Table 1.

Table 1. 2011 Census National Average Comparison

Travel Mode	King's Lynn	England & Wales
Active Modes	17%	8%
Bus	3%	7%
Car Driver	61%	54%

- 2.3.3. Table 1 demonstrates that King’s Lynn achieves a relatively high proportion of work trips by active modes compared with the national average and a relatively low percentage by bus. The Car driver percentage is also higher than the national average. A comparison of the 2011 Census data with 2001 data has shown that there has been negligible change in the mode shares over the intervening 10 years.
- 2.3.4. Some detailed analysis of the trip lengths by mode has been undertaken on the 2011 Census data and this has shown that 65% of all King’s Lynn journey to work trips (origins) are less than 15km in length and 34% are less than 10km in length. Of the car drivers 58% are less than 15km, 23% are less than 10km and 6.5% are less than 5km long. Further graphs and information is provided in Appendix B.
- 2.3.5. The graphs for the trip lengths for journey origins in King’s Lynn for each mode are presented in Figures 3 and 4.

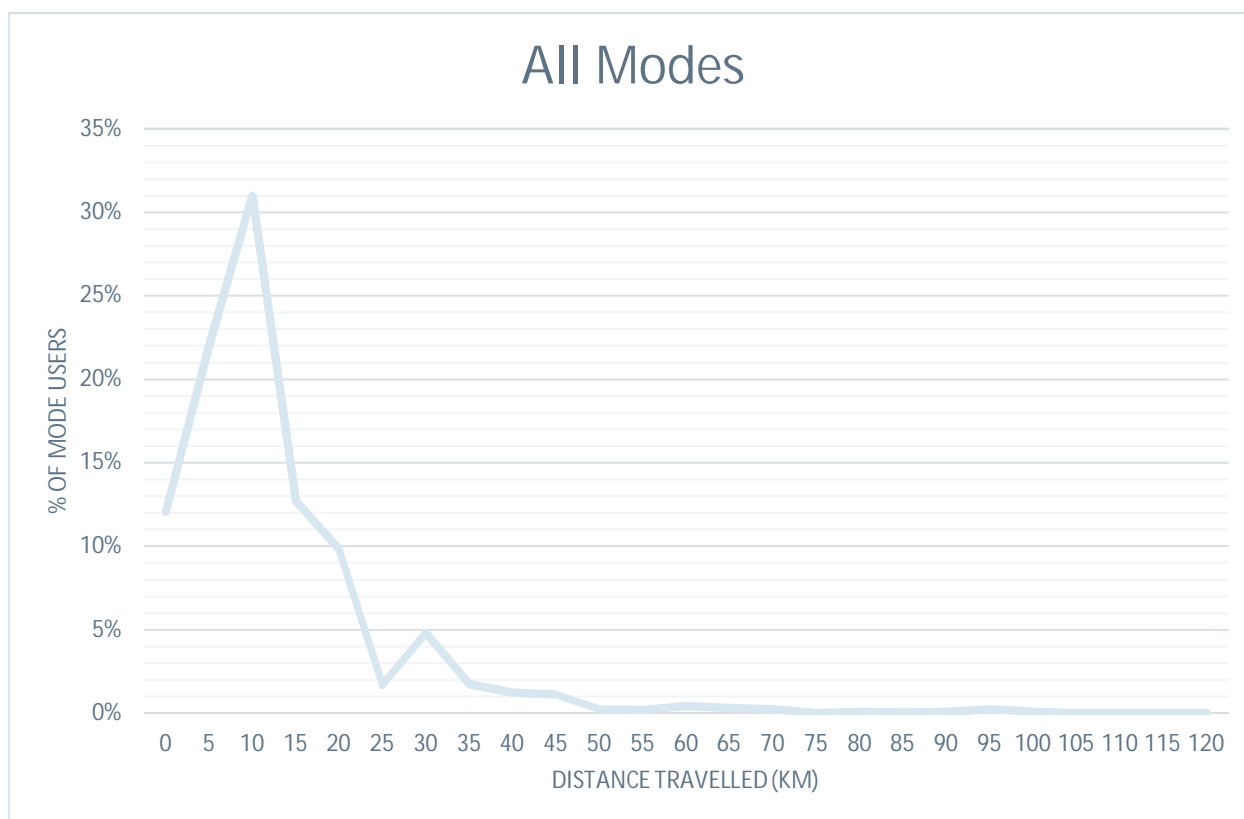


Figure 3. All Modes Trip Length (Census 2011)

- 2.3.6. The trip lengths are relatively short across all modes of travel with the majority of work trips with an origin in King’s Lynn being less than 20km in length.

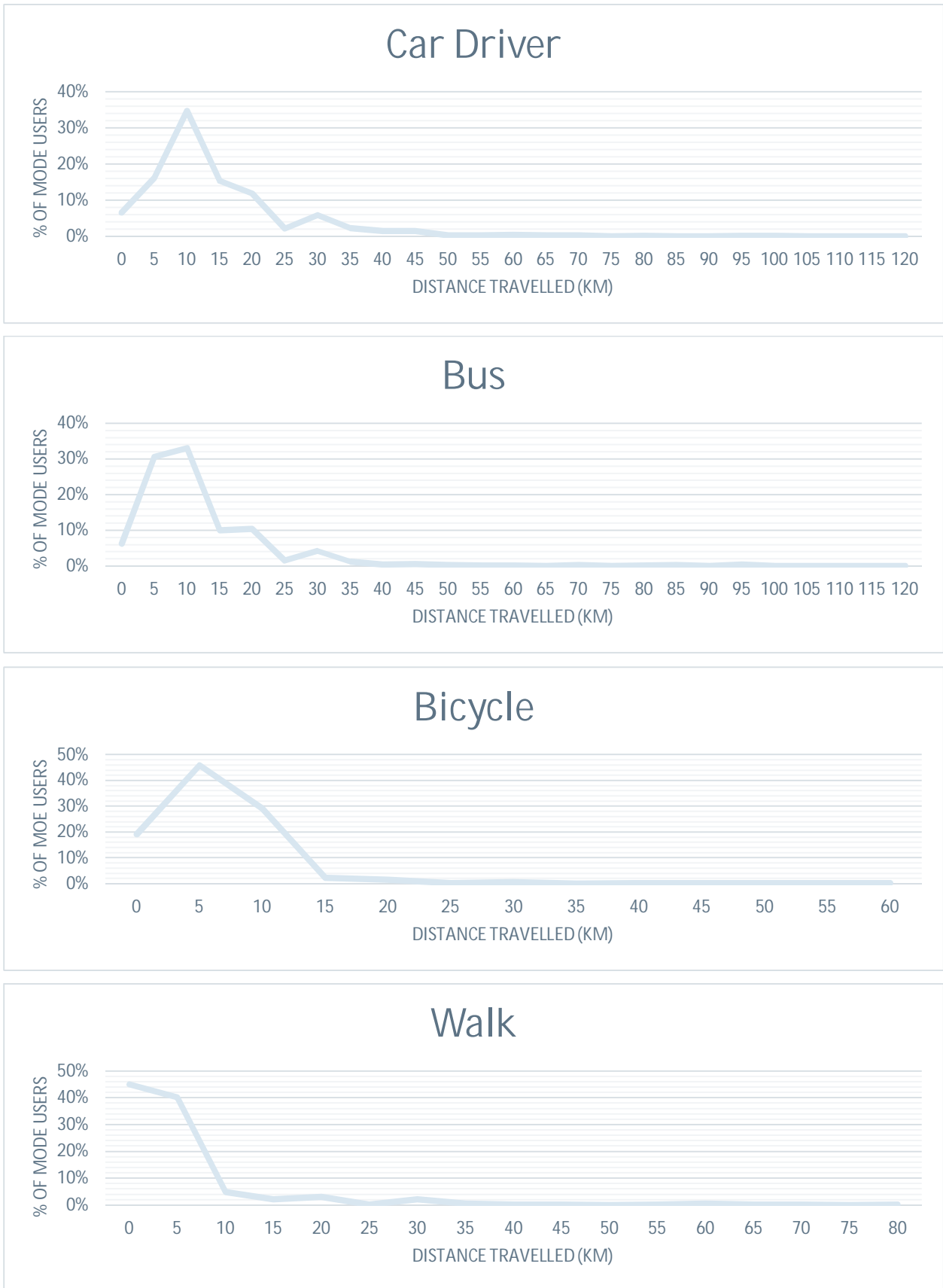


Figure 4. Car Driver, Bus, Bicycle and Walk Trip Length (2011 Census)

2.4 TRAVEL TO WORK ORIGINS AND DESTINATIONS

- 2.4.1. Further information related to the figures included in Appendix B is provided in table 2. The maps illustrate journeys to work in terms of residents of King's Lynn travelling to other destinations, and those who travel to King's Lynn from places of residence outside the boundaries of the town.
- 2.4.2. The figures display coloured lines indicating the origins and destinations for each travel mode: car drivers, car passengers, bus and train journeys. It is important to note that when examining the maps displaying *All Modes* of travel, any trips performed by less than 5 individuals has been excluded.
- 2.4.3. The figures show journeys to work by all modes, car drivers, car passengers, bus trips and train journeys. Table 2 below provides an overview of the travel destinations of King's Lynn residents followed by the origins of King's Lynn as a destination for the journey to work.

Table 2. Origins and destinations for journeys to work (2011 Census)

Map type	Description
Travel out of King's Lynn	
Car driver	<p>The mapping shows travel destination spread over a wide area, with the majority of car journeys performed within close proximity to the origin. The popular destinations within West Norfolk include:</p> <ul style="list-style-type: none"> ▪ Terrington St Clement ▪ Sutton Bridge/ Long Sutton ▪ Hunstanton ▪ Docking/Burnham Market ▪ Gayton ▪ North/South Wootton ▪ Ashwicken ▪ Fakenham ▪ Feltwell ▪ Downham Market ▪ Wisbech <p>Other notable destinations extended to the wider area include Norwich, Peterborough and Cambridgeshire</p>
Car passenger	<p>Intuitively, car passengers follow a similar distribution of destinations as car drivers. However, the amount of trips differ, two of the greatest amount of trips for car passengers includes Fakenham and Gaywood. Popular destinations include the following:</p> <ul style="list-style-type: none"> ▪ Terrington St Clement ▪ Sutton Bridge/ Long Sutton ▪ North/South Wootton ▪ Fakenham ▪ Watton ▪ Feltwell ▪ Wisbech <p>Some trips extend to the wider area, as with <i>car driver</i>, this includes Norwich, Peterborough and Cambridgeshire.</p>
Bus	<p>From examining the spatial distribution of trips on the map, it can be seen that the largest proportion of bus journeys are performed within close proximity to the origin of King's Lynn. The most common destinations for journey to work by bus from King's Lynn include:</p> <ul style="list-style-type: none"> ▪ Terrington St Clement ▪ North/South Wootton ▪ Gaywood ▪ Hunstanton

	<ul style="list-style-type: none"> i North Runcton i Wisbech <p>Very few trips are performed outside these areas by bus; however, the small number that do tend to travel towards Peterborough and Norwich.</p>
Train	<p>The majority of trips are to Cambridge or the Cambridgeshire area, specifically Ely and Newmarket. A proportion of trips are also to Downham Market.</p> <p>The trip destinations are limited by the rail stations and services provided; therefore limiting the lines presented in the mapping.</p>
Travel into King's Lynn	
Car driver	<p>Car journeys into King's Lynn follow a similar pattern to the car journeys out of the town: however, the number of travellers differs.</p> <p>The most notable origins of travel destined for King's Lynn are in the West Norfolk area, including:</p> <ul style="list-style-type: none"> i Terrington St Clement i North/South Wootton i Gaywood i Heacham/ Ingoldisthorpe i Dersingham/ Hillington i Gayton i North Runcton i Downham Market i Upwell/ Outwell i Wisbech i Watlington/ Terrington St John/ Tilney St Lawrence i Sutton Bridge/ Long Sutton
Car passenger	<p>The origin of trips travelling into of King's Lynn as a car passenger relates closely to the car driver.</p> <p>The most common origins indicated by the maps are:</p> <ul style="list-style-type: none"> i Terrington St Clement i North/South Wootton i Gaywood i Heacham/ Ingoldisthorpe i Dersingham/ Hillington i Gayton i North Runcton i Downham Market i Wisbech i Watlington/ Terrington St John/ Tilney St Lawrence
Bus	<p>As with bus journeys out of King's Lynn, the residential origins with a work destination in King's Lynn are mostly within close proximity to the town. The other origins of travel for bus users with a destination in King's Lynn are:</p> <ul style="list-style-type: none"> i Terrington St Clement i Sutton Bridge/ Long Sutton i North/South Wootton i Dersingham/ Hillington i Gayton i North Runcton i Watlington/ Terrington St John/ Tilney St Lawrence

Train	<p>The trip origins are limited by the rail stations and services provided; therefore, few lines are presented in the mapping and the proportion of rail users is relatively low compared to the other modes.</p> <p>Interestingly, travel into King's Lynn does not extend to distances observed for outbound travel. The greatest distances travelled are Ely and London.</p> <p>The highest number of trips by rail into King's Lynn for work originate from stations at Watlington and Downham Market.</p>
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Source:

2011 Census Middle Super Output Area (MSOA)

- 2.4.4. These graphs are based on the journey origins in King's Lynn and show that the majority of trips are over a relatively short distance. The high usage of the active modes of travel (cycling and walking) is reflected in the distances that are generally travelled.
- 2.4.5. The analysis of the census data provides the following insights into King's Lynn transport:
- i Mode share by active modes (cycling and walking) is high compared with the national average, providing an indication that King's Lynn is well suited to the use of this mode and also has a good level of provision,
 - i Bus usage for the journey to work is low in King's Lynn compared with the national average, those trips that do take place by bus tend to be over a short distance and within close proximity of the town;
 - i Car driver trips are relatively high with a large proportion being over a short distance and within the boundary of the town.

3 VISION AND OBJECTIVES

3.1.1. A draft Vision statement and Objectives for the Transport Strategy were set out at the Stakeholder event in April 2018. These were subsequently updated to reflect the comments that were received:

Vision Statement:

To support sustainable economic growth in King's Lynn by facilitating journey reliability and improved travel mode choice for all, whilst contributing to improve air quality; safety; and protection of the built and historic environment.

Objectives:

- *Provide a safe environment for travel by all modes;*
- *Encourage town centre accessibility by all modes whilst conserving and enhancing King's Lynn's rich historic environment;*
- *Support sustainable housing and economic growth;*
- *Reduce the need to travel by car through development planning;*
- *Manage traffic congestion in King's Lynn;*
- *Increase active travel mode share for short journeys;*
- *Promote and encourage the use of public transport;*
- *Reduce harmful emissions and air quality impacts.*

3.1.2. A number of comments were received following the stakeholder event in relation to the timescales for the Transport Strategy. The transport scheme and strategy timescales are therefore defined as follows:

Short Term:	1 to 5 years
Medium Term:	5 to 15 years
Long Term:	15 to 25 years

3.1.3. The Transport Study and Strategy is primarily of relevance to the current time period under consideration in terms of future development in the area. It is likely that as transport and travel choices and decisions continue to evolve the strategy will need to be re-assessed and evaluated in an alternative context. This Transport Study and Strategy therefore concentrates on the Short to Medium term (5 to 15 years), whilst also identifying some long term aspirations for King's Lynn transport network (beyond 15 years).

4 DOCUMENT REVIEW

4.1 INTRODUCTION

4.1.1. Factors affecting transportation in King's Lynn are reviewed through the study of documents presented in this chapter. The following documents are evaluated to establish the current and future transport issues, as well as suggested solutions:

- Urban Development Strategy (March 2006);
- King's Lynn & West Norfolk Local Plan - Site Allocation and Development Management Policies (September 2016);
- Green Infrastructure Study: Stage Two (May 2010);
- Connecting Norfolk, Norfolk's Transport Plan for 2026 (April 2011);
- Air Quality Action Plan (2015);
- Local Plan Review, Sustainability Appraisal Scoping Report Review (2017);
- National Cycle Network NCN 1 proposed alternative route (2017);
- King's Lynn Area Transportation and Land Use Study Stage 1 Final Report (2009);
- Govia Thameslink Railway King's Lynn Station Norfolk. Station Travel Plan (2017);
- Technical Note for Junction Improvement Traffic Modelling (2017);
- Norfolk Infrastructure Plan (2016);
- King's Lynn Transport Interchange Post Project User Survey (2014);
- King's Lynn Bus Station and Train Station Pedestrian Link Improvements User Survey (2016);
- King's Lynn Area Transport Strategy (KLATS) 2. Multi Storey Car Park, Feasibility Study, August (2010);
- King's Lynn Riverfront Delivery Plan (March 2017);
- Heritage Action Zone Unlocking Brownfield Sites Plan (March 2017); and
- Connecting Norfolk Implementation Plan for 2015-2021 (2015)
- Lynn Ferry, Access Improvement Study (June 2009)

4.1.2. The following table lists the documents reviewed in this report with additional comments intended for quick referencing. These documents are arranged in order they were reviewed, which also correlates with the order presented above in this report.

Table 3. Document review summary

DOCUMENT	SUMMARY CONTENT
Urban Development Strategy (March 2006)	<p>Identifies a structure for planned urban improvements and implementation methods.</p> <p>Recognises that public transportation in the King's Lynn area is poor, stating that use of public transport is lower than the national average.</p> <p>Connectivity measures in terms of access improvements to the town centre is one of the focuses of the report.</p> <p>Cycle routes and parking are addressed in order to encourage use of this mode.</p>
KL&WN Local Plan - Site Allocation and Development Management Policies (September 2016)	<p>Provides information and guidance regarding developments in King's Lynn and West Norfolk.</p> <p>Includes policies description and their relevance to growth in the area that includes housing developments, transport strategies and mitigation schemes to reduce negative impacts of transport.</p>
Green Infrastructure Study: Stage Two (May 2010)	<p>Intended to provide a methodology in support of initiatives of projects for King's Lynn and the surrounding area.</p> <p>The document identifies gaps in the green Infrastructure provision</p>
Connecting Norfolk, Norfolk's Transport Plan for 2026 (April 2011)	<p>Sets out the strategy and policy frameworks intended to create sustainable transportation practices, such as promoting low carbon travel solutions.</p>

<p>Air Quality Action Plan (2015)</p>	<p>Included in the key strategic connections in Norfolk are the Port at King's Lynn and the rail line between King's Lynn and London.</p> <p>King's Lynn is identified as a key location for growth of housing and employment. It is realised that transportation is crucial to help fulfil economic potential.</p> <p>The Air Quality Action Plan sets out actions to achieve the air quality standards set by the National Air Quality Strategy (NAQS).</p> <p>Gaywood and the Town Centre of King's Lynn are identified as producing an annual mean of nitrogen dioxide (NO₂) that did not meet the NAQS – transportation is recognised as being a major contributor to poor air quality in the area.</p>
<p>Local Plan Review, Sustainability Appraisal Scoping Report Review (2017)</p>	<p>It is identified that BCKLWN has the third greatest increase of emissions in the UK. This study was conducted by the Department for Business, Energy and Industrial Strategy (DBEIS), the monitoring of emissions was performed between 2005 and 2013. 2016 data suggests that within Norfolk the Borough has the highest levels of CO₂ per capita emissions in Norfolk in 2016; 29% higher than the Norfolk average and 34% higher than the average across England.</p>
<p>National Cycle Network NCN 1 proposed alternative route (2017)</p>	<p>The feasibility of possible cycle route relocation options through the centre of King's Lynn are realised.</p> <p>Five proposals are included in the report, three of these proposals are reported to be strongly recommended, they are:</p> <ul style="list-style-type: none"> i Cycle dismount signs, bike racks in strategic locations and clearly marked cycle lanes; i Alternative cycle routes around the main shopping district; and i Introduce a cycle route around the Historic Quayside.
<p>King's Lynn Area Transportation and Land Use Study Stage 1 Final Report (2009)</p>	<p>Information for developments in King's Lynn to allow effective and sustainable movement of people.</p> <p>The analysis of cycle conditions were considered as two stages; firstly, a desktop study; secondly, members of the public (in King's Lynn) were interviewed. The report states that cycle safety is an issue as cyclists and other road vehicle frequently generate conflict points.</p> <p>Central vehicle parking provisions provides the public access to retail and other services. However, the traffic flow levels in the town generated/influenced by parking provisions must also be considered and balanced against the negative impacts.</p> <p>Bus movements around the town centre gyratory and the Gaywood Clock eastern approach, as well as the Urban Renaissance Study (URS) are reviewed. Congestion along key routes and their negative effects on the public transport and public realm are addressed.</p>
<p>Govia Thameslink Railway King's Lynn Station Norfolk. Station Travel Plan (2017)</p>	<p>Primary objective of the document is to determine improvements in accessibility to the station via more sustainable modes of transport to single occupancy car; such methods may include bus, walking and cycling.</p>
<p>Technical Note for Junction Improvement Traffic Modelling (2017)</p>	<p>An assessment of the existing signalised junction of Valingers Road/ London Road (during AM and PM peak travel periods) was performed through microsimulation modelling techniques using Paramics Discovery.</p> <p>Three alternative junction design options may be explored and recommendations made.</p>
<p>Norfolk Infrastructure Plan (2016)</p>	<p>Intended to identify infrastructural developments to help realise the potential for economic growth of the relative areas. This plan will aid the co-ordinate</p>

<p>King's Lynn Bus Station and Train Station Pedestrian Link Improvements User Survey (2014)</p>	<p>and implement schemes and prioritise activities in response to identified funding opportunities – focusing on road and rail.</p> <p>Results of a survey study designed to establish areas to invest funding in order to improve the bus station and pedestrian links to the rail station.</p> <p>The sample population indicated the most important user improvements to the bus station as:</p> <ul style="list-style-type: none"> i Waiting area and shelter i Seating and lighting i Toilets
<p>King's Lynn Transport Interchange Post Project User Survey (2016).</p>	<p>This follow-up report to <i>King's Lynn Transport Interchange Post Project User Survey (2014)</i> presents results of a survey study assessing the public's response to improvement works performed between January and July 2015 to the bust station.</p> <p>Generally, the improvements were seen as having a positive impact.</p>
<p>King's Lynn & West Norfolk Detailed Assessment of Air Quality (2005).</p>	<p>Document obtained. Not reviewed as the Air Quality Action Plan (2015) supersedes this.</p>
<p>King's Lynn Area Transport Strategy (KLATS) 2. Multi Storey Car Park, Feasibility Study, August (2010).</p>	<p>Examination of the issues around consolidation of car parking in King's Lynn town centre with the development of a multi-storey car park (MSCP).</p>
<p>King's Lynn Riverfront Delivery Plan (2017)</p>	<p>Delivery plan produced to address regeneration of the towns riverfront area unlocking the locations potential. The proposed development area will predominantly be residential units totalling 436 homes (over an area of 41,329m²), this is accommodated by commercial and retail developments (over an area of 7,659m²).</p>
<p>Heritage Action Zone Unlocking Brownfield Sites Plan (2017)</p>	<p>The Heritage Action Zone Plan identifies potential brownfield development sites at Kings Lynn. Six areas suitable for regeneration in the town are realised.</p>
<p>Connecting Norfolk Implementation Plan for 2015-2021 (2015).</p>	<p>This follow-up report to the implementation plan 2011-15 does not propose any changes to the overall strategy; therefore, the six strategic aims underpinning the vision for transport remain, these being: maintaining and managing the highway network; delivering sustainable growth; enhancing strategic connections; reducing emissions; improving road safety; and improving accessibility.</p>
<p>Lynn Ferry, Access Improvement Study (2009)</p>	<p>Access improvement study of jetty and landing facilities for the Lynn Ferry. Primary objective to consider options for new pedestrian access on both sides of River Great Ouse including mobility and accessibility standards. Secondary objective to consider accommodating future demand increases. Evaluated different jetty locations and approaches to access with an amalgamation of new linkspan ramps and pontoons at new locations south of the current facilities delivering optimum accessibility for passengers at every tide level.</p>

4.1.3. Shown in Table 4 is a summary of the current and potential future problems that have been identified through the document review, including the potential solutions that were identified at the time of the study.

Table 4. Document Review: Summary of transport issues by mode

DOCUMENT	ISSUES	POTENTIAL SOLUTION
Public transport		
Urban Development Strategy	Use of public transport is lower than the national average.	Studies have shown that improvement of the following influences the level of PT* patronage: <ul style="list-style-type: none"> - Comfort; - connectivity; - service frequency; - reliability; and - accessibility
	Realise relationship between bus operators and the public to increase PT* patronage.	Upgrade the vehicle stock , consequently influencing the public's travel attitudes and behaviours to encourage increased mode use with improvements to accessibility and comfort.
	Insufficient connectivity measures in terms of access improvements to the town centre.	Upgrade servicing achievable with collaboration between the local council and the service operator.
Local Plan Review, Sustainability Appraisal Scoping Report Review	Social inclusion for surrounding areas of King's Lynn.	This may include the following measures: <ul style="list-style-type: none"> - Bus routing analysis; - potential Park and Ride facilities (in the south and in the town centre); - bus shelter; - bus station improvements; and - integrated public transport fare and ticketing
	West Norfolk had been identified as having poor transport links affecting vulnerable people's ability to access health services.	
Connecting Norfolk, Norfolk's Transport Plan	Rail links between the Midlands and north of England are insufficient as a return business trip may not be possible in a day. Moreover, poor rolling stock and existing infrastructures hamper the potential for improved travel opportunities	Build strategic connections to improve journey times in and around the Norfolk area. Such actions will incorporate local agencies to collaborate efficiently .
King's Lynn Area Transportation and Land Use Study Stage 1, Final Report	Bus operations are limited in the routing of services as they are constrained by the central one-way system .	The Gaywood Clock corridor for eastbound bus and high occupancy vehicle (HOV) lanes , as well as an inbound contra flow bus lane at the gyratory
King's Lynn Bus Station and Train Station Pedestrian Link Improvements User Survey; and King's Lynn Transport	Conditions and facilities of King's Lynn Bus Station.	Section 106 funding totalling one million pounds was received by BCKLWN from Sainsbury's PLC and Tesco Stores Ltd to make the necessary improvements including the following.
	Survey studies identify that areas in need of improvement include: <ul style="list-style-type: none"> i Waiting area and shelter; i Seating and lighting; and i Toilets. 	<ul style="list-style-type: none"> i waiting areas and shelters: <ul style="list-style-type: none"> - Appealing environment to wait in an area that provides

<p>Interchange Post Project User Survey</p>	<p>Conditions of pedestrian links between bus station and Railway Station</p>	<p>shelter (from wind, rain etc.) and is well seated.</p> <ul style="list-style-type: none"> i Toilets <ul style="list-style-type: none"> - The existing 24 hour toilet facility may be converted to extend the existing waiting area, the toilets could be replaced with modern self-cleaning 'pods'. i Layout of waiting areas <ul style="list-style-type: none"> - People queueing out of the waiting area and onto the pedestrian walkways. A review of this space is intended to alleviate the localised congestion generated.
<p><i>Walking and cycling</i></p>		
<p>Urban Development Strategy</p>	<p>Road safety for cyclists and pedestrians can be improved.</p> <p>Narrow sections of the cycle network are shared spaces with pedestrians, this creates a hazardous environment for all users of the network</p> <p>The cycle path network through the town centre requires fluency as the path has areas that discontinue</p> <p>The current cycle provisions in the town centre are few and not maintained.</p> <p>Network congested by motorised vehicles increasing journey times.</p> <p>Areas are identified as generating unsatisfactory air quality levels from road vehicles.</p>	<ul style="list-style-type: none"> i Cycle routes: improvements including: <ul style="list-style-type: none"> - concise sign posting, - better connections to desirable areas including supermarkets and hospitals i Pedestrian and cycle crossings: should be strengthened to increase levels of safety and accessibility; i Cycle parking provisions: Additional parking is required in areas that reduced the chances on vandalism, theft and are in locations that allow access to desirable areas; and i Green routes: links to the river and other key points around the town should be made available via the green routes.
<p>National Cycle Network 1, proposed alternative route</p>	<p>Cycle routes through town centre incorporates a section of shared space between pedestrians and cyclists; however, trees have been planted, cafes extended the outside-seating area, and temporary market stalls established. This has reduced the available space in which to travel increasing the possibility conflicts between cyclists and pedestrians.</p>	<ul style="list-style-type: none"> i Combination of cycle dismount signs and bike racks in strategic locations at entry points to the town centre. i Alternative cycle through-route around the main shopping district of the town centre. i introduce a cycle route around the Historic Quayside
<p>King's Lynn Area Transportation and Land Use Study Stage 1, Final Report</p>	<p>Breaks in continuity of the cycle lanes that meet arterial routes into King's Lynn, as well as only pedestrian crossing over busy road and junctions is a disadvantage to the cyclist.</p>	<p>Drop kerbs, signage, crossing points and extensions to the cycle routes be applied to improve conditions</p>

Private transport and air quality

<p>Urban Development Strategy</p>	<p>Reliance on private car congests network and generates harmful emissions contributing to poor air quality levels.</p>	<p>Effective developments in bus operations are anticipated to reduce the reliance on private car, therefore, reducing the overall traffic flows in the area and potentially lowering pollution levels and journey times.</p>
<p>KL&WN Local Plan - Site Allocation and Development Management Policies</p>	<p>The A10 route is a heavily trafficked primary corridor providing links to Cambridge/London. Current problems:</p> <ul style="list-style-type: none"> - congestion; - noise pollution; - poor air quality; and - road safety issues. 	<ul style="list-style-type: none"> i The Hardwick interchange should be subject to capacity improvements i Introducing a relief road linking the A10 to the A47 at a new roundabout.
<p>Connecting Norfolk, Norfolk's Transport Plan</p>	<p>Anticipated future growth in King's Lynn would intuitively increase the traffic flow along links, such as the A10. The negative impacts on the surrounding environment and community should be addressed.</p> <p>Extended journey times along the A47 which aligned east/westbound and located south of King's Lynn.</p> <p>An explanation may be that heavy traffic flow is carried by a single lane (two-way) carriageway</p>	<ul style="list-style-type: none"> i Build strategic connections to improve journey times, the main areas of focus include: <ul style="list-style-type: none"> - The A10; - Connections to gateways including the port of King's Lynn; and - The A47, is part of the Trans European Network – Transport (TEN-T) and provides connections to the Midlands and the north of England.
<p>King's Lynn Area Transportation and Land Use Study Stage 1, Final Report</p>	<p>Short-stay car park users seek parking spaces adjacent to their shopping destinations, which would lead to vehicles searching for spaces in the town.</p> <p>A study of the distribution of origins indicates many of the short-stay vehicle trips could be performed by other modes.</p>	<p>Park and Ride scheme.</p> <p>This may be supported with measures including road pricing, road capacity reduction for private vehicles, raising parking charges and reducing parking provisions.</p>
<p>Govia Thameslink Railway King's Lynn Station Norfolk. Station Travel Plan</p>	<p>Car parking provisions are insufficient at King's Lynn railway station.</p> <p>Increase of Motorcycle provisions needed to meet demand.</p>	<p>Additional parking provided, located in an observable location (not remote), sheltered and deemed secure.</p>
<p>Technical Note for Junction Improvement Traffic Modelling</p>	<p>Significant queueing extending back to Valingers Road, particularly during the PM peak periods.</p> <p>Queues were recorded as extending back onto other junctions, creating further congested areas</p>	<p>London Road / Valingers Road junction would only show significant improvements if two lanes were dedicated for southbound traffic movements.</p> <p>Journey times improved with the priority junction at Valingers Road and the exclusion of traffic signals.</p>

<p>Norfolk Infrastructure Plan</p>	<p>Growth in and around King's Lynn will require significant developments to the existing transport infrastructure to accommodate the additional movement of people and goods.</p>	<ul style="list-style-type: none"> i A47/ A10 link road / West Winch relief road i A47 Wisbech bypass junctions
<p>King's Lynn Area Transport Strategy (KLATS) 2. Multi Storey Car Park, Feasibility Study</p>	<p>Consolidation of car parking in King's Lynn town centre with the development of a multi-storey car park (MSCP).</p>	<p>Three potential sites for a MSCP identified. Site 3 at Morrisons was chosen based on the following:</p> <ul style="list-style-type: none"> i potential to support economic growth; i generate good levels of connectivity and accessibility relative to desirable locations; and i improving the surrounding environment – public realm and air quality
<p>Connecting Norfolk Implementation Plan for 2015-2021</p>	<p>Transport issues were identified in the area of King's Lynn under the following topics:</p> <ul style="list-style-type: none"> i Road safety i Public satisfaction with transport i Accessibility i Air quality/ transport emissions 	<p>The following solutions are suggested.</p> <ul style="list-style-type: none"> i Road safety: <ul style="list-style-type: none"> - Speed awareness courses; - Programmes delivered to individuals with disproportionate involvement in traffic incidents; - Improvements to networks in area with high collision ratings. i Accessibility: <ul style="list-style-type: none"> - Sharing travel options such as car-sharing/ car clubs and shared booking of transport systems. i Air quality/ transport emissions: <ul style="list-style-type: none"> - Support and encourage active travel, such as walking and cycling, as well as establishing more sustainable modes of transport, including bus services.

Housing developments

<p>KL&WN Local Plan - Site Allocation and Development Management Policies</p>	<p>Town centre to be the prime focus for development schemes including a number of housing allocations in the central area alongside retail, leisure, culture, entertainment, community and professional services improvements as appropriate. Thus, increasing vehicle movements (risk of network saturation)</p> <p>Port of King's Lynn operational capacity will be protected in regards to the housing and retail development schemes.</p>	<p>Such growth requires transport infrastructural developments to ensure:</p> <ul style="list-style-type: none"> - network capacities allows efficient traffic flows, - permits desirable standards of safety; and - accommodating to all modes <p>Housing proposals should be reviewed in relation to the high industrial activity in the area. Transport infrastructure proposals should reduce risks to vulnerable road users by:</p> <ul style="list-style-type: none"> - Properly accommodating industrial vehicles;
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Connecting Norfolk, Norfolk's Transport Plan	<p>Such industrial operations could negatively impact on proposed residential settlements.</p>	<ul style="list-style-type: none"> - Incorporating appropriate pedestrian crossing provisions; and - Integrate suitable cycle lanes
	<p>Implementing appropriate short/medium term measures to sustain growth in the area.</p>	<p>All new developments will have access to a range of services minimising the need for travel; while the longer term strategies incorporate bus rapid transit.</p>
The Heritage Action Zone Plan	<p>Site (one) identified as a potential mixed-use diversion of the road around South Gate. This is a major access point from the south of the town.</p>	<p>Transport considerations be included throughout to seek the best possible solutions to current and future transport needs.</p>
<p><i>Green space</i></p>		
Green Infrastructure Study: Stage Two	<p>Gaps in the Green Infrastructure include:</p> <ul style="list-style-type: none"> - Lack of provision allowing the crossing of the A149 - Need for movement corridors that allow passing of wildlife, as well as for recreational activities; - high standards of urban landscape located in the town centre; and - Limited provision for green infrastructure in the south of the town, particularly in areas of growth and urban expansion 	<p>The green infrastructure assets that currently exist should be protected when implementing urban growth schemes, as well as identifying and implementing new green infrastructure provision extending to a more coherent network.</p>
Air Quality Action Plan	<p>The annual mean of nitrogen dioxide (NO₂) did not meet the ^ΦNAQS in Gaywood and the Town Centre of King's Lynn, resulting in them being assigned as [†]AQMAs.</p> <ul style="list-style-type: none"> - The town centre should decrease NO₂ by an approximate 12% (6µg/m³); and - 17% (8.2µg/m³) in Gaywood <p>It has been acknowledged that road transport is the major contributor to poor air quality in the study areas</p>	<p><i>Air Quality Action Plan (AQAP)</i> was published in 2015 setting out actions to achieve the air quality standards set by the NAQS. The national strategy sets an annual mean nitrogen dioxide (NO₂) objective of 40µg/m³.</p>
<p>Note: [*]PT= public transport ^ΦNAQS = National Air Quality Strategy [†]AQMAs = Air Quality Management Areas</p>		

4.2 DOCUMENT REVIEW IDENTIFIED ISSUES

4.2.1. The following table shows the most prominent issues identified through the document review alone. Where appropriate these have been verified through a recent site visit as part of the pedestrian/cycle audit work with details provided later in this document regarding the conclusions on the current identified issues.

Table 5. Document Review: Transport Concerns

ISSUE	LOCATION	COMMENTS	DOCUMENT REFERENCE
Road safety – industrial vehicle movements	Routes in close proximity to Port of King's Lynn	Road network to accommodate the Port of King's Lynn operations to reduce risks to vulnerable road users by: <ul style="list-style-type: none"> ▪ Properly accommodating industrial vehicles; ▪ Incorporating appropriate pedestrian crossing provision; and ▪ Integrate suitable cycle lanes 	Site Allocation and Development Management Policies Plan
Conflict between pedestrians and cyclists	High street – main shopping district	Trees have been planted, cafes extended the outside-seating area, and temporary market stalls established. Reduced the available space in which to travel, thus increasing the possibility of conflicts between cyclists and pedestrians.	National Cycle Network 1, alternative route, 2017
Cycle Signs Cycle racks	NCN 1 cycle route through town centre.	Combination of cycle dismount signs and bike racks in strategic locations including: <ul style="list-style-type: none"> ▪ Entry points to the town centre ▪ Pedestrianised areas All cycle routes at the main shopping areas were clearly marked.	
Cycle Signs	Southern Queen Street/ St Margaret's PI	Confusing signage existing: cycle path sign placed opposite side of road to no entry sign for cyclists)	
Cycle Signs	Entry to the Saturday Market Place/ St James Street	<i>No entry</i> sign displayed when entering Saturday Market Place. Confusing for cyclists, should include cycle dismount signs.	
Cycle lane	NCN 1 cycle route through town centre.	Alternative cycle route through town centre along Clough Lane and Regent Way (linking Blackfriars Street and Saturday Market Place)	
Cycle lane	NCN 1 cycle route through town centre.	Cycle route around the Historic Quayside proposed	
Cycle provisions	General observation in and around the town centre	Breaks in continuity of the cycle lanes that meet arterial routes into King's Lynn. No cycle crossing over busy roads and junctions, such as Tennyson Avenue. It is proposed that drop kerbs, signage, crossing points and extensions to the cycle routes.	Urban Development Strategy And King's Lynn Area Transportation and Land Use Study

		Location of bike storage areas to reduce the vandalism and theft, e.g., rail station	Stage 1, Final Report (2009)
Car parking	Inner town centre	Short-say car park users seek parking spaces adjacent to their shopping destinations.	King's Lynn Area Transportation and Land Use Study Stage 1, Final Report (2009)
Car parking	Outer town centre	Park and Ride and or road pricing schemes	
Congested roads	Gaywood Clock (northeast area of town centre)	Incorporate eastbound bus and high occupancy vehicle (HOV) lanes at the Gaywood Clock corridor.	
Bus lanes	Town centre	Inbound contra flow bus lane at the gyratory	
Car parking	King's Lynn railway station	Insufficient parking provisions (an observation by Station Manager)	Govia Thameslink Railway King's Lynn Station Norfolk. Station Travel Plan (2017)
Motorcycle parking	King's Lynn railway station	Parking spaces should be located in an observable location (not remote), sheltered and deemed secure	
Cycle parking	King's Lynn railway station	Cycle racks located on the disused station platform and outside the station accommodate demand but lack security	
Congested road	Valingers Road/ London Road junction	Junction of Valingers Road/ London Road. Queues are generated in both north and southbound directions during the AM and PM peak periods. There are proposed alterations to the automated traffic signals and the junction layout at London Road Northbound (becoming single lane).	
Bus Station provisions	King's Lynn bus station, town centre	No longer an issue as recent improvements to the bus station addressed the following: <ul style="list-style-type: none"> ❑ Cycle storage ❑ Pedestrian area between bus and rail station ❑ Access to buses ❑ Toilets – modern self-cleaning 'pods' ❑ Appropriate Signage ❑ Waiting and sheltered areas efficient (protect public from wind and rain, appropriate seating available) ❑ Review the waiting space to ensure localised congestion is alleviated. 	King's Lynn Bus Station and Train Station Pedestrian Link Improvements User Survey (2014)
Congested road	Southeast of the town centre	Capacity improvements to the Hardwick/Jubilee roundabout interchange intended to reduce congestion	Site Allocations and Development Management Policies Plan
Congested road	South of King's Lynn A47/ A10 link road / West Winch relief road	Relief road linking the A10 and A47 would distribute trips around West Winch	Norfolk Infrastructure Plan (2016) & Site Allocations and Development Management Policies Plan

5 PUBLIC TRANSPORT

INTRODUCTION

- 5.1.1. Within this section a number of transport modes are covered in terms of their application in King's Lynn. Namely these are:
- ┆ Bus
 - ┆ Passenger Ferry
 - ┆ Rail
 - ┆ Taxi
- 5.1.2. Each section is structured to provide an overview of the baseline information about the range of public transport service provided in King's Lynn, followed by specific information relating to the 2011 Census journey to work for that mode.
- 5.1.3. A summary of the main problems and issues identified through the following sources is provided with further information available in Appendix E:
- ┆ document review
 - ┆ local observations
 - ┆ officer consultations
 - ┆ stakeholder consultation held on 16th March 2018
 - ┆ BCKL&WN Research and Development Panel on 27th June 2018

5.2 BUS

- 5.2.1. King's Lynn bus station is situated off Market Street at a central location to the town (King's Lynn, PE30 1DS) and serves the surrounding villages, towns and rural areas. It is located in close proximity to the rail station which provides connections with Cambridge and London and establishes the centre of King's Lynn as a public transport hub. The current bus and rail operations have been reviewed using publicly available Travel Line information and additional sources from operator websites. The bus network in King's Lynn was reviewed prior to the recent announcement that Stagecoach are withdrawing their services from the town and a subsequent review, based on recently published information about the revised service levels has been undertaken to update this. However, it is anticipated that further changes may be made to the bus service provision in King's Lynn by the new operators in the short term. The main operators in King's Lynn are First, Lynx and Go to Town.
- 5.2.2. The bus station was refurbished in 2015 and follow-up surveys suggest that users are content with the improvements that were made. It is well connected for pedestrians with the railway station and the rest of the town centre with adequate seating and information available.
- 5.2.3. Bus routes from the south access the bus station from Railway Road via Old Market Street. Buses heading south from the bus station use Portland Street to cut across the gyratory to avoid travelling all around the northern part of the gyratory to head south. With the levels of peak hour congestion on the gyratory typically being high, bus services reliability can be severely affected by the operation of this key part of their network. Bus services from the north and the east have to travel south past the railway station along Blackfriars Road and Railway Street to access the bus station which can add delay to the journey during the peak hours.
- 5.2.4. Table 1 below summarises the bus routes and frequency of service on weekdays, Saturdays and Sundays. The information is based on the routes that serve King's Lynn and provides an overview of the places served. The tables that follow have been categorised in terms of route destinations/origin relating to King's Lynn (i.e. the route trajectories north, south, east or west of King's Lynn, or within the town centre).
- 5.2.5. There are currently four locations in King's Lynn where measures to assist the priority of buses are available:
- ┆ Bus and cycle only route on Hardings Way from the junction with Wisbech Road to Boal Quay car park including rising bollards at both ends;
 - ┆ Bus priority signals at the bus stop outside the railway station;
 - ┆ Bus lane on Stonegate Street up to the junction with Tower Place;
 - ┆ Bus lane on Millfleet up to the junction with London Road.

Table 6 provides the bus information for services within the town. The mapping *King's Lynn Bus Routes With 400m Buffer Zone* (Figure A2) of Appendix A provides an overview of the bus service route coverage. This shows that the majority of the urban area of King's Lynn is located within an accessible distance to a bus route. The bus service frequencies vary across the town with a high concentration of bus services on Gaywood Road (A148) and also the Queen Elizabeth Hospital. Most residential areas have at least 3 buses per hour including North Wootton. South Wootton has a lower bus service frequency overall at 1 to 2 buses per hour. It is notable that bus services do not use Tennyson Avenue in their routing and therefore leaving parts of the residential areas, Rollesby Road / Oldmeadow Industrial area and parts of Pierpoint Retail park unserved by bus. Education transport services do make use of Tennyson Avenue.

5.2.6. A number of local circular routes operate alongside inter-urban and connections to the rural communities outside King's Lynn. Places served include Hunstanton, Wells, Cromer and Fakenham to the east; and Wisbech and March to the south.

Table 6. Bus routes and frequency – Town Routes

Operator	Service	Route	Frequency		
			Monday-Friday	Saturday	Sunday
Go to town	2	King's Lynn – North Lynn (Circular)	30 mins From 07:38 to 17:50	30 mins From 07:45 to 17:45	30 mins From 09:40 to 17:07
Go to town	3	King's Lynn – North Wootton via Gaywood (Circular)	30 mins From 08:07 to 19:30	30 mins From 08:15 to 19:30	Hourly From 10:05 to 17:30
Go to town	4	King's Lynn – North Lynn – Grange Estate (Circular)	30 mins From 07:10 to 19:00	30 mins From 08:13 to 19:00	No Service
Go to town	5	King's Lynn – Gaywood Park (Circular)	Hourly From 09:31 to 17:10	Hourly From 09:31 to 16:00	No Service
Go to town	6	King's Lynn – Hardwick TESCO (Circular)	30 mins From 07:17 to 18:10	30 mins From 07:45 to 18:10	30 mins From 09:25 to 16:45
Go to town	21	King's Lynn – Sedgeford	6 per day From 07:45 to 17:45	2 per day From 12:35 and 16:00	No Service
		Sedgeford – King's Lynn	6 per day From 07:32 to 16:50	2 per day From 09:00 and 13:22	No Service
Go to town	22	King's Lynn - Fakenham	4 per day From 07:20 to 17:00	2 per day From 10:00 and 14:25	No Service
		Fakenham – King's Lynn	3 per day From 09:10 to 15:38	2 per day From 10:42 and 15:11	No Service

5.2.7. Below, Table 7 provides bus service information regarding routes to the north / east of King's Lynn, serving a number of smaller rural communities and urban areas and serving the north Norfolk coast.

Table 7. Bus routes and frequency – Inter-urban Routes: north / east to King’s Lynn

Operator	Service	Route	Frequency		
			Monday-Friday	Saturday	Sunday
Lynx	34	Hunstanton – Heacham – Dersingham – King’s Lynn	30 mins <i>From 07:00 to 21:35</i>	30 mins <i>From 07:50 to 21:35</i>	Hourly <i>From 08:35 to 20:35</i>
		King’s Lynn – Dersingham – Heacham – Hunstanton	30 mins <i>From 06:45 to 20:40</i>	30 mins <i>From 06:45 to 20:40</i>	Hourly <i>From 08:00 to 19:40</i>
Lynx	35	Hunstanton – Heacham – Dersingham – King’s Lynn	Hourly <i>From 07:35 to 17:05</i>	Hourly <i>From 07:35 to 17:05</i>	Hourly <i>From 10:15 to 17:15</i>
		King’s Lynn – Dersingham – Heacham – Hunstanton	Hourly <i>From 09:00 to 16:00</i>	Hourly <i>From 09:00 to 16:00</i>	Hourly <i>From 09:10 to 17:10</i>
Lynx	36	Hunstanton – Heacham – Dersingham – King’s Lynn	Hourly <i>From 06:45 to 18:35</i>	Hourly <i>From 06:45 to 18:35</i>	Hourly <i>From 08:35 to 18:35</i>
		King’s Lynn – Dersingham – Heacham – Hunstanton	Hourly <i>From 06:30 to 17:10</i>	Hourly <i>From 06:30 to 17:10</i>	Hourly <i>From 07:30 to 17:30</i>
Lynx	36	Fakenham – Wells – Hunstanton – King’s Lynn	Hourly <i>From 08:00 to 18:00</i>	Hourly <i>From 08:00 to 18:00</i>	No Service
		King’s Lynn – Hunstanton – Wells – Fakenham	Hourly <i>From 06:30 to 16:30</i>	Hourly <i>From 06:30 to 16:30</i>	No Service
Lynx	48	Grimston – Gayton – QE Hospital – King’s Lynn	Hourly <i>From 07:35 to 17:00</i>	Hourly <i>From 07:45 to 17:00</i>	No Service
		King’s Lynn – QE Hospital – Gayton – Grimston	Hourly <i>From 08:30 to 17:40</i>	Hourly <i>From 08:30 to 17:40</i>	No Service
Lynx	49	Fakenham – QE Hospital – King’s Lynn	2 hours <i>From 07:40 to 17:30</i>	2 hours <i>From 08:00 to 17:30</i>	No Service
		King’s Lynn – QE Hospital - Fakenham	2 hours <i>From 06:30 to 17:40</i>	2 hours <i>From 08:00 to 17:40</i>	No Service

5.2.8. Shown below are the details of the bus services of routes to the south / west of King’s Lynn including details of the places served.

Table 8. Bus routes and frequency – Inter-Urban Routes: south / west to King’s Lynn

Operator	Service	Route	Frequency		
			Monday-Friday	Saturday	Sunday
Coach Services	40	Thetford – King’s Lynn	4 per day From 08:20 to 16:30	1 per day At 13:30	No Service
		King’s Lynn – Thetford	4 per day From 07:10 to 15:00	1 per day At 13:30	No Service
Stagecoach	45 / 45A	King’s Lynn – Tilney – Walpole St Peter	4 per day From 12:30 to 17:45	4 per day From 12:30 to 17:45	No Service
		Walpole St Peter – Tilney – King’s Lynn	3 per day From 07:28 to 10:11	2 per day From 10:11 & 13:31	No Service
Stagecoach East	505	King’s Lynn – Long Sutton – Spalding	30 mins From 06:45 to 20:00	30 mins From 08:15 to 20:00	Hourly From 10:00 to 18:15
		Spalding – Long Sutton – King’s Lynn	Hourly From 07:52 to 20:00	Hourly From 07:57 to 19:40	Hourly From 09:45 to 17:45
First	XL	Peterborough – Norwich via King’s Lynn & Dereham	30 mins From 05:35 to 21:05	30 mins From 06:05 to 21:05	30 mins From 07:10 to 18:10
		Norwich – Peterborough via King’s Lynn & Dereham	30 mins From 05:30 to 21:35	30 mins From 06:00 to 21:25	30 mins From 08:05 to 19:05
Lynx	37	Southery – Downham Market – West Winch – King’s Lynn	Hourly From 06:55 to 15:48	Hourly From 07:15 to 15:38	No Service
		King’s Lynn – West Winch – Downham Market – Southery	Hourly From 08:55 to 17:55	Hourly From 08:55 to 17:55	No Service
Lynx	39	Marham – West Winch – Hardwick – King’s Lynn	6 per day From 07:20 to 17:18	7 per day From 07:33 to 17:18	No Service
		King’s Lynn – Hardwick – West Winch – Marham	5 per day From 08:40 to 16:30	6 per day From 08:40 to 16:30	No Service
Lynx	46	Wisbech – West Walton – St Germans – King’s Lynn	Hourly From 07:30 to 17:20	5 per day From 07:45 to 16:05	No Service
		King’s Lynn – St Germans – West Walton – Wisbech	Hourly From 09:05 to 17:20	5 per day From 09:05 to 17:20	No Service

SUMMARY OF BUS SERVICES

5.2.9. Tables 6 to 8 provide an overview of the bus services available in King’s Lynn and their frequency; the following provides a summary by area to show overall bus accessibility and connectivity levels for weekday bus services to key employment locations in the town (based on the evening peak hour – 17.00-18.00). The location of each of these areas is shown in Figure A2 in Appendix A.

Queen Elizabeth Hospital

- 5.2.10. There is a bus stop within the hospital grounds served by routes;
- ┆ 1, 21, 22 Go to Town, 34, 36 Coastliner, 48, 49, and X29.
 - ┆ Buses running in the PM peak hour; Bus 22 Go to Town at 17:00 to Rougham, Bus 48 at 17:25 to King's Lynn, Bus 48 at 17:51 to Pott Row, Bus 21 at 17:55 to Sedgeford.

King's Lynn College of West Anglia, Tennyson Avenue.

- 5.2.11. The college bus stop is served by routes;
- ┆ 39, 40, 46, 67, and X46.
 - ┆ Bus 39 departs at 16:30, the other routes depart at 16:40.
 - ┆ Destinations include; Marham, Three Holes, Thetford and Brandon.

North Lynn Industrial Area

- 5.2.12. Bus stop; Bergen Way (west bound)
- ┆ The bus stop is served by routes; 3 Go to Town, 4 Go to Town, 35, 36 Coastliner.
 - ┆ Bus running in the PM peak hour; Bus 36 Coastliner at 17:18 to King's Lynn

St Nicholas Retail Park/Bentinck Dock

- 5.2.13. Bus stop; Retail Park (south bound)
- ┆ The bus stop is served by routes 3 Go to Town, 4, 4 Go to Town, 35, 36 Coastliner.
 - ┆ Bus running in the PM peak hour; Bus 36 Coastliner at 17:21 to King's Lynn

Saddlebow Industrial Estate

- 5.2.14. Bus stop; Maple Road (north bound)
- ┆ The bus stop is served by routes; 46 and 47 Go to Town.
 - ┆ Bus running in the PM peak hour; Bus 46 at 17:50 to King's Lynn

Willows Business Park

- 5.2.15. Bus stop; Poplar Avenue (north bound)
- ┆ The bus stop is served by routes; 46 and, 47 Go to Town,
 - ┆ Bus running in the PM peak hour; Bus 46 at 17:50 to King's Lynn

Wisbech Road Industrial Estate

- 5.2.16. Bus stop: Hillen Road (north bound)
- ┆ The bus stop is served by route Interconnect 505
 - ┆ Buses running in the PM peak hour; Bus 505 Interconnect at 17:12 to King's Lynn and 505 Interconnect at 17:42 to King's Lynn

East Coast Business Park

- 5.2.17. Bus stop; Industrial Estate (south bound)
- ┆ The bus stop is served by routes; 45, 55, 55A, Interconnect 505, X55
 - ┆ Buses running in the PM peak hour; Bus 505 Interconnect at 17:11 to King's Lynn and 505 Interconnect at 17:41 to King's Lynn

Horsley's Fields Industrial Estate

- 5.2.18. Bus stop; Cemetery Lodge (north bound)
- ┆ The bus stop is served by routes; 6, 12, 18, 37, 38, 39, 40
 - ┆ Buses running in the PM peak hour; Bus 6 at 17:30 to King's Lynn and 39 at 17:50 to King's Lynn

Hardwick Industrial Estate

- 5.2.19. Bus stop; Tesco (north bound)

- i The bus stop is served by routes; 6, 12, 18, 37, 38, 39, 40, Excel
- i Buses running in the PM peak hour; Bus Excel at 17:20 to Wisbech, 6 at 17:25 to King's Lynn, 39 at 17:48 to King's Lynn, Excel at 17:50 to Peterborough, 6 at 17:59 to King's Lynn.

Hardwick Narrows

5.2.20. No service

Pierpoint Retail Park

5.2.21. Bus stop; Paxman Road (north bound)

- i The bus stop is served by route 6
- i Buses running in the PM peak hour; 2 trips

Old Meadow Industrial Area (Rollesby Road)

5.2.22. No service

Austin Fields

5.2.23. Bus stop; Austin Fields (north bound)

- i The bus stop is served by routes; 2 Go to Town, 3 Go to Town, 4 Go to Town, 36 Coastliner
- i Buses running in the PM peak hour; Bus 4 Go to Town at 17:18 to North Lynn and 2 Go to Town at 17:53 to North Lynn

Sainsbury's Hardwick Retail

5.2.24. Bus stop; Sainsbury's

- i Buses running in the PM peak hour; Bus 6 (circular) at 17:21 to King's Lynn and 17:55 to King's Lynn.

5.2.25. This shows that the bus services at some of the employment locations in King's Lynn have a limited evening service which could be leading to under-use of the buses for work purposes to these locations.

5.2.26. The approximate fare levels for buses within the town network equate to approximately £1.70 single and £2.70 return.

Summary of Issues

5.2.27. Bus journey time reliability is severely impacted on by the delays encountered on the highway network through the centre of the town. All bus services in King's Lynn have to travel through the central gyratory in the town centre.

5.2.28. Time efficient access to and from the bus station is constrained by the one-way nature of the gyratory system that provides the point of access for all bus services in King's Lynn. This means that journey time reliability is a problem in the peak hours and additional buses / reduced frequencies have to be employed on the services to accommodate this which leads to increased costs for the operators.

5.2.29. The rising costs of bus provision and the constrained nature of the bus network in King's Lynn has been contributory to recent changes to operations in the town and notably the withdrawal of Stagecoach from King's Lynn. Whilst the bus network has been taken over by other companies, this demonstrates the fragile nature of providing public transport in King's Lynn in current transport and economic conditions

5.2.30. There is very limited bus priority provision in King's Lynn and the width of the highway network is constrained to provide dedicated on-road provision for buses without severely impacting on the highway network generally.

5.2.31. The frequency of traffic signalised junctions on the bus routes impact on bus journey time and reliability as they seem to be uncoordinated with buses being stopped frequently at the traffic signalised junctions and crossings.

5.2.32. The villages outside King's Lynn have a relatively poor level of service which means the buses are unattractive to use because of their limited times and/or days of operation.

- 5.2.33. The bus services from the villages can also be unreliable for use for education or work purposes (eg, 505 service)
- 5.2.34. As well as the inherent delays in the town centre the bus services also suffer from significant levels of delay at Hardwick Interchange on their inter-urban routes.
- 5.2.35. Passengers travelling from north to south of the town need to change bus services via the bus station which does not offer an attractive option for passengers and increases the passenger journey times. Connections between QEH and Woottons also necessitates a change of service at Gaywood Clock.
- 5.2.36. Whilst the network coverage of bus services in King's Lynn is good and there are some areas that have a very high level of service frequency, the employment areas are poorly served in terms of their times of operation which often do not cover the shift times with the last service being relatively early in the evening.
- 5.2.37. Sunday bus operations also offer a relatively poor level of service.
- 5.2.38. As a result of the cumulative impacts of these issues the bus services have a relatively low mode share for the journey to work.
- 5.2.39. The bus fare levels in King's Lynn are not competitive with town centre car parking charges.
- 5.2.40. There is opportunity for improved ticketing between the operators which could offer a better public transport experience to users.
- 5.2.41. The bus services on London Road / Railway Road in congested stationary traffic conditions are considered to exacerbate the local air quality issues in the area, possibly due to the type of fuel used and the duration of the congested peak periods.
- 5.2.42. The Hardings Way bus link is under used. However, whilst it provides an excellent opportunity for traffic-free bus travel avoiding the congestion on London Road, it also takes the buses away from their potential passenger base.
- 5.2.43. Onward connections to travel to Norwich for rail services at Ely (for example) are un-coordinated and potentially discouraging use of rail for longer journeys.

5.3 PASSENGER FERRY

- 5.3.1. The King's Lynn Passenger Ferry allows transport over River Great Ouse providing a link between West Lynn and King's Lynn which avoids a much longer vehicular route via Wisbech Road into King's Lynn. It runs between the West Lynn Terminal (Ferry Square, West Lynn, PE34 3JQ) and the King's Lynn Terminal (Ferry Lane, King's Lynn, PE30 1HN). Free parking is available at the West Lynn terminal. The service is currently operated by S.N. Kingston Marine Services and has been running since 1285 in various guises, it provides a service for commuters and shoppers who wish to avoid travelling via Wisbech Road or A47 and parking in the town centre.
- 5.3.2. The capacity and demand of the ferry allows for approximately 250 passengers per day, with an average of about 60 single trips a day, six days a week. At peak times a continuous service operates at 06.45 to 09.00 and 17.00 to 18.30 on Monday to Saturday. The latest service charges are £1.10 for a single trip and £1.70 for a return trip.
- 5.3.3. Shown in Table 9 below is the frequency of the passenger ferry service.

Table 9. Frequency of passenger ferry

Day of Operation	Frequency
Monday to Saturday	Every 20 minutes
Sunday	No service
Bank Holidays	No service

Summary of Issues

- 5.3.4. The ferry service provides a valuable asset for King's Lynn and notably the residents of West Lynn, Clenchwaton, Terrington St Clement and further afield. However, it is a popular service among residents and the car parking at West Lynn is currently insufficient to cater for the demand.
- 5.3.5. Access to the ferry from the town centre is via Ferry Street and there is scarce signing and promotion of the Ferry from the town centre which could be developed to build an even greater passenger base which in turn could lead to more opportunities for investment in the boats and infrastructure in the future.
- 5.3.6. The tidal nature of the river means that the conditions are operationally difficult at low tide with a need to walk along gang-planks to access the boat. This makes it an inaccessible service for disabled users / pushchairs / elderly or very young people as there is also a stepped access to the water from the Quayside in King's Lynn.
- 5.3.7. The operation for the ferry is being offered for sale by the current owners and it is generally considered that it would be a huge loss to the town's transport system if a suitable buyer did not continue to run the service. The loss of the ferry service could prove to have detrimental impacts on the highway network that links West Lynn with King's Lynn, particularly during the peak hours when the ferry is currently well used.

5.4 RAIL

- 5.4.1. King's Lynn railway station is accessed by vehicle from Blackfriars Road where three car parks are available for station car parking, providing in the order of 300 spaces. Bus services are available outside the station with shelter provided and space for two vehicles. On Blackfriars Road there is a dedicated area for buses to stop (effectively a bus lane) with a separate signal to give priority to the bus to get it back into the traffic which works with the pedestrian crossing from the railway station into Waterloo Street to the town centre.
- 5.4.2. Cycle provision in the form of two-tier sheltered racks is also available on the rail station forecourt. Storage for other cycle equipment is not available.
- 5.4.3. Train journeys to work account for 1% mode share for travel to work (Census 2011). However it is understood that there has been an upward trend in rail usage for commuter and leisure purposes.
- 5.4.4. Table 10 below summarises the rail routes and frequency of service at King's Lynn station. Great Northern is the main operator of the rail service in King's Lynn providing an hourly service to and from London Kings Cross. This is made half hourly during the peak hours.

Table 10. Rail services and frequency

Operator	Service	Frequency		
		Monday-Friday	Saturday	Sunday
Great Northern	King's Lynn – Downham Market – Cambridge – London Kings Cross	1 hour <i>From 04:43 to 22:31</i>	1 hour <i>From 05:44 to 21:44</i>	1 hour <i>From 08:26 to 22:26</i>
	London Kings Cross – Cambridge – Downham Market – King's Lynn	1 hour <i>From 05:42 to 21:44</i>	1 hour <i>From 05:42 to 23:12</i>	1 hour <i>From 07:52 to 23:11</i>
	Cambridge – Kings Lynn	2 per day <i>From 06:14 and 07:10</i>	N/A	N/A
	King's Lynn – Cambridge	2 per day <i>From 07:07 and 22:44</i>	N/A	N/A
Greater Anglia	London Liverpool Street – King's Lynn	17:07 – 19:08 19:07 – 21:05	No service	No service
	King's Lynn – London Liverpool Street	05:17 – 07:25 06:17 – 08:25	No service	No service

- 5.4.5. The above table provides an overview of the rail service frequencies between King's Lynn and other route destinations. Moreover, the Monday to Friday services between King's Lynn and London Kings Cross increase during peak travel times to provide a service at approximately every 30 minutes, the details are given as follows.

King's Lynn – London Kings Cross (Monday – Friday)

- ┆ AM peak: 4 additional trains, at 06:10, 07:18, 08:12 and 09:10
- ┆ PM peak: 1 additional train, at 17:16

London Kings Cross – King's Lynn (Monday – Friday)

- ┆ AM peak: 1 additional train, at 07:16
- ┆ PM peak: 2 additional trains, at 18:12 and 20:12

- 5.4.6. The journey time to Ely is 30 minutes; Cambridge 50 minutes; and London 110 minutes. The rail service is therefore attractive for both commuter weekday and leisure weekend destinations.
- 5.4.7. There are two level crossings in King's Lynn at:
- ┆ Tennyson Avenue
 - ┆ Extons Road
- 5.4.8. These are activated for inbound and outbound trains to King's Lynn and therefore the barrier is down twice an hour through the day and 4 times per hour during the peak hours. On average the barrier is down for approximately 2 minutes for each train.
- 5.4.9. In terms of future provision the single track sections north of Ely restrict the frequency of service that can be provided for King's Lynn and there is an aspiration for upgrading the line to two-track between King's Lynn and Kings Cross to accommodate 12-car trains and provide a less restricted rail service frequency.

Summary of Issues

- 5.4.10. An hourly rail service is available in King's Lynn through the day and half hourly during the peak hours. This is limited by the nature of the single-track sections south of King's Lynn.
- 5.4.11. For the journey to work rail accounts for 1% of trips.
- 5.4.12. Cycle storage provision at the rail station is not covered by CCTV and is therefore not attractive to use due to security issues.
- 5.4.13. The disused railway line between King's Lynn and Hunstanton could be better utilised for pedestrian and cycle use and/or a high quality public transport corridor.

5.5 TAXI

5.5.1. Table 11 below details the taxi operations in King's Lynn, Figure A2 in Appendix A shows the locations of the taxi ranks around the main town centre area; with the number of available spaces; and the operating times provided in Table 11 below. In total there are 29 taxi spaces available in the town with 21 of these operational 24 hours a day on Monday to Sunday; 2 spaces 10pm-6am and 6 spaces 6pm-8am.

Table 11. Taxi operations in King's Lynn

Location	Nearby Premises	No. of Spaces	Operating Times
Corner of New Conduit Street / Paradise Parade	Vancouver Quarter	2	Monday to Sunday 24 hours
Blackfriars Street	Cosmopolitan (formerly Antonio's)	2	Monday to Sunday 10pm – 6am
Norfolk Street	Between Nos 27 (RSPCA) and 33 (Rowlinson's)	6	Monday to Sunday 6pm – 8am
Tuesday Market Place	Fraser Dawbarns / Globe Hotel / Prezzo's	2	Monday to Sunday 24 hours
Sainsburys Lower Level Car Park	Sainsburys	10	Monday to Sunday 24 hours
Oldsunway	Oldsunway feeder rank	7	Monday to Sunday 24 hours

Summary of Issues

- 5.5.36. Insufficient taxis at the railway station taxi rank to meet demand from the train service.
- 5.5.37. The attractiveness of the taxi rank within Sainsbury's (Old Cattle Market) car park

6 ACTIVE MODES

6.1 INTRODUCTION

6.1.1. Within this section two active transport modes are covered in terms of their application in King's Lynn. Namely these are:

- Cycling
- Walking

6.1.2. Each section is structured to provide an overview of the baseline information about the range of active mode provision in King's Lynn, followed by specific information relating to the 2011 Census journey to work for that mode.

6.1.3. A comprehensive audit of the pedestrian and cycle network has been undertaken during April and May 2018. Figure A3 in Appendix A shows the extent of the audit area. The full report on the pedestrian and cycle audit is provided in Appendix D. The key outcomes of this work are discussed in more detail in the following sections.

6.1.4. A summary of the main problems and issues identified through the following sources is provided with further information available in Appendix E:

- document review
- local observations
- officer consultations
- stakeholder consultation held on 16th March 2018
- BCKL&WN Research and Development Panel on 27th June 2018

6.2 CYCLING

6.2.1. An audit was performed to address pedestrian and cycle movements in King's Lynn, this was based on a desk study and on-site investigations carried out over April and May 2018. The report is titled *Pedestrian and Cycle Audit Report* which was produced by WSP on behalf of Norfolk County Council. This document should be referred to for further details concerning cycle provision in the study area.

6.2.2. The existing cycle network within the study area is provided in Figure A3 of Appendix A. As shown, the National Cycle Route 1 (NCR1) runs throughout the town of King's Lynn providing cyclists with a network linking South Lynn to South Wootton; with a route that is predominantly off road which provides access through the central areas of the town. Branching off this route are the National Cycle Network 1 (NCN1) and local routes (both on and off road) to form a good level of accessibility and connectivity for cyclists in the town.

6.2.3. As Figure A3 shows, the NCR1 provides cyclists with traffic-free links to desirable locations north and south of the town centre including industrial estates, business parks and retail parks. Furthermore, the NCR1 links to major transport hubs, namely King's Lynn bus and railway stations, this allows for multi modal sustainable transportation options. The local routes and NCN1 allows cyclists to access key destinations such as the Queen Elizabeth Hospital, places of education (Nursery, Primary, Secondary and Tertiary) and places of leisure activities (public parks and leisure centres).

6.2.4. Figure A5 in Appendix A of this report contains mapping of cycle isochrones identifying approximate travel time catchment from the town centre to all other destinations. The indicative isochrones span from the town centre at 1km (circa 5 minute cycle time) intervals to 5km (20-25 minutes cycle time).

6.2.5. The cycle isochrones indicate that all local facilities within a maximum cycle time of 5 minutes capture the provisions offered by the town centre such as transport hubs (bus and rail station) as well as key commercial and retail outlets.

6.2.6. Other desirable destinations and key provisions such as places of education (Nursery, Primary, Secondary and Tertiary schools), Queen Elizabeth Hospital, places of employment and services available at Riverside Industrial Estate (north), the Port of King's Lynn (north), North Lynn Industrial Estate (north), Hardwick Retail Park (southeast) and St Nicholas Retail Park (north) are accessible within approximately a 10 minute travel catchment by bicycle.

6.2.7. The wider areas within an estimated cycle time of 10 to 25 minutes include places of employment at the south namely Saddlebow Industrial Estate and Willows Business Park; moreover, transport links allow access to

areas such as West Lynn, West Winch, South Wootton and Clenchwarton. Evidently, a large proportion of the wider area is accessible by cycling over a reasonable journey time. This cycle isochrone figure provides an indication of the cycle catchment for the centre of King's Lynn, however a number of the routes included may be unsuitable for cycle use due to the nature of the road or lack of available dedicated cycle provision along the route and inherent safety issues. However, there is a high level of provision for off-road cycle routes in King's Lynn which means that cycling is an attractive mode of travel in the town.

- 6.2.8. The document review identifies the residents of King's Lynn cycle more than the national average as part of their daily commute 10 % for the journey to work – with the National Travel Survey 2016 stating the national average of cycle trips being 2%.
- 6.2.9. Appendix B shows the percentages of those travelling to work by cycling applied to mapping of the study area, based on the 2011 UK census data. The Middle Layer Super Output Area (MSOA) stratum has been used to indicate the percentage of residents commuting to work. It is evident from this study that cycling is performed most within the town. The greatest amount of cycle trips of around 10% are indicated at areas incorporating the shortest distances to provisions, desirable locations and provides the greatest network of traffic free cycle routes within the study area, that being the town centre.
- 6.2.10. Moreover, south of the town centre the National Cycle Route 1 (NCR1) continues parallel to the River Great Ouse. This is a traffic free route linking to southern locations such as Willows Business Park and Saddlebow Industrial Estate, as well as north to the town's cycle network. This area presents a good level of accessibility and connectivity to traffic free cycle routes; thus, at around 8%, the second greatest percentage of those cycling to work is associated with this area.
- 6.2.11. Intuitively, the greater the distance the lower the cycle mode share. Also, if facilities such as cycle lanes are available studies show that a greater amount cycle trips are performed hence the town centre areas are more accommodating to cycle activities than outer areas.
- 6.2.12. Levels of connectivity between the existing cycle networks could be improved. Furthermore, introducing additional cycle links could be developed to facilitate the existing cycle demand, as this would also promote and support growth in cycle usage.

Summary of Issues

- 6.2.13. Cycling on the roads is considered dangerous around King's Lynn due to the following: parked cars on the road / footway; narrow roads with cars parked on both sides; potholes and drains.
- 6.2.14. Notable areas include Gaywood Clock and London Road/ Railway Road which could benefit from on-road protected cycle provision where space allows.
- 6.2.15. There is no safe place for cyclists to safely cross the A149 to access King's Lynn which limits opportunities for cycle trips from here.
- 6.2.16. Awareness and enforcement of cycling on the footways is a grey area which needs to be dealt with through education and policy.
- 6.2.17. The road network in King's Lynn at peak times is not conducive to on-road cycle usage and cyclists should make themselves visible to other road users at all times to assist with their safety.
- 6.2.18. Cycle provision from the villages outside King's Lynn urban area is limited and could be improved to encourage increased cycle trips from these neighbouring areas.
- 6.2.19. Hardings Way and South Quay is a very valuable asset for cyclists in King's Lynn offering a traffic-free environment, there is a fear that this would be lost if Hardings Way was used for additional traffic to provide relief to other congested parts of the town centre. This is an important leisure and tourism route for cyclists.
- 6.2.20. Safety of crossing B1144-Tennyson Avenue. Areas of concern include the junction with Gaywood Road, as well as the junction at King George V Avenue. Notable areas either side of the railway level crossing on Tennyson Avenue. Considering the NCN1 runs through The Walks park and continues over this road the safe passage of cyclists and pedestrians should be facilitated – assessments of collision data, desirable locations and related desire-lines further support these recommendations.
- 6.2.21. Overall, wayfinding signs and road markings were observed as acceptable and consistent. General maintenance to ensure information displayed to pedestrians and cyclists is clearly presented is necessary.

- 6.2.22. Observable pavement defects did not indicate major structural issues such as subgrade failures; rather, assessment of the area realised faults with surface/binder layers that require general localised maintenance.
- 6.2.23. The relationship of cycling and other modes is a general issue in King's Lynn, cycles on trains and buses could be beneficial to overall transport mode share and making these modes more attractive to users.
- 6.2.24. More journeys associated with education could be provided for by bicycle if safe routes and crossings could be provided along with improved secure storage.
- 6.2.25. Lack of secure storage for bicycles in the town centre.
- 6.2.26. Not all parts of the cycle network in King's Lynn are linked together.

6.3 WALKING

- 6.3.1. A pedestrian audit was undertaken to assess accessibility, connectivity and safety of pedestrian and cycle movements in King's Lynn. The report *Pedestrian and Cycle Audit Report* should be referred to for further details concerning pedestrian provision.
- 6.3.2. As part of this on-site investigation and desk study the availability of wayfinding signs has been examined at a high level to assess directional signing for pedestrians and cyclists. Table 12 provides descriptions of locations that do not incorporate wayfinding signs at key locations, as well as suggestions for improvements. The locations discussed are presented on mapping found in Figure A8 in Appendix A of this report.

Table 12. Absence of wayfinding signs for pedestrians and cyclists at key locations

Location	Comments	Conclusion
Town centre		
Norfolk Street	No wayfinding signage available along the route. This link incorporates retail and food outlets/ cafes; also, the link is partially pedestrianised.	Given the nature and location of the link, wayfinding signs maybe advisable.
Austin Street	Wayfinding signs are available and provide a good level of information. The sign is positioned in Chapel Street Car Park, set off the walkway. Vegetation partially obstructs the view of the sign.	Visibility of the sign could be improved with relocation. The sign provides a good level of information at appropriate joining links.
Market Lane	No wayfinding signs are available along Market Lane. This is a narrow route with low pedestrian movements that links Chapel Street and High Street. Wayfinding signs are available on High Street.	Acceptable given the information in the immediate surrounding links.
King Street/ Ferry Lane	Wayfinding signs are positioned where Ferry Lane and King Street meet. A good level of information is presented giving clear direction. The ferry crossing is accessible via Ferry Lane, which is a narrow pedestrianised link. The visibility and signposting to the ferry crossing could be improved.	Presentation of the direction to the ferry crossing could be improved.
Boal Street	No wayfinding signs at the western section of the route, linking to South Quay; however, at the eastern end of Boal Street, at the Bridge Street roundabout, wayfinding signs are presented with a good level of information.	As there are wayfinding signs at the eastern point of the route, the level of information available to pedestrians is acceptable.
Purfleet Place	No wayfinding signs located along Purfleet Place. However, the positioning of this link is between South Quay and King Street, both routes provide signs with information.	Wayfinding signs at South Quay and King Street provide a good level of information; therefore, signs not necessary on Purfleet Place.
Tuesday Market Place	There are no wayfinding signs; however, there are signs on High Street presenting a good level of information. Due to route alignment to High Street, this level of information is acceptable; although, additional wayfinding signs at Tuesday Market Place/ King Street may be advisable.	The lack of wayfinding signs are addressed by the signage on the High Street, additional signage could be provided at King Street.

Waterloo Street	No wayfinding signs available along the street. Wayfinding signs present at Blackfriars Road aligned parallel to Waterloo Street.	Acceptable given the information in the immediate surrounding links
Portland Street	No wayfinding signs available along the street. Wayfinding signs present at Blackfriars Road aligned parallel to Waterloo Street.	Acceptable given the information in the immediate surrounding links
Wellesley Street	No wayfinding signs available along the street. Wayfinding signs present at Blackfriars Road aligned parallel to Waterloo Street.	Acceptable given the information in the immediate surrounding links
Regent Way/ Clough Lane	There are no wayfinding signs at the eastern junction of Regent Way/ Clough Lane (there is also a western junction). There is signposting providing information at the western junction of Regent Way/ Clough Lane, and at the northern point of Clough Lane (onto Blackfriars Street).	The wayfinding signs presented are sufficient in consideration to the most likely movement paths.
St Nicholas Street	No wayfinding signs along the length of the street; however, signage is presented at the link with High Street (west). Furthermore, signs are also located in Chapel Street Car Park, towards Austin Street.	Acceptable given the information in the immediate surrounding links
Wider area		
London Road/ Hardwick Road roundabout	This is one of the main routes into the town centre, allowing access from the south. No wayfinding signs.	As this heavily trafficked area joins main links to the town, it is advisable to incorporate wayfinding signs.
Hardings Way/ Wisbech Road	No wayfinding signs available at this point of the route (south). Hardings Way provides pedestrian/ cycle access to the town and bypassing alternative heavily trafficked routes from the south.	Given the purpose and alignment of the route, it is advisable to incorporate signage at this point.

- 6.3.3. Appendix A shows indicative walking isochrones from the site, based on an average walking speed of 80m per minute (circa 4.8kmph), up to a maximum walking distance of 2km (20-25 minute walk) from the town centre. The walking isochrones demonstrate that all local facilities in the town centre are within easy walking distances.
- 6.3.4. Health care facilities such as the Southgates Medical Centre and St Augustine's Surgery, as well as places of education (Nursery, Primary, Secondary and Tertiary schools) are accessible with a maximum walking time of 5 to 15 minutes from the town centre.
- 6.3.5. Within 15 to 25 minutes travel on foot it is estimated that desirable destination over the wider area are achievable, this captures places of employment and services at Riverside Industrial Estate (north), the Port of King's Lynn (north), North Lynn Industrial Estate (north), Hardwick Retail Park (southeast) and St Nicholas Retail Park (north).
- 6.3.6. Walking is estimated to be performed by around 17% to 22% of the residents within the town centre and North Lynn area; moreover, approximately 14% to 17% of residents in areas immediately around the town centre travel to work on foot; specifically, South Lynn areas between the town centre and the A47 (around the South Gate), as well as parts of Gaywood. This behaviour is linked to travel distances between origins (homes) and destinations (work place). It is intuitive that over shorter distances the likelihood of walking trips being performed increases – where an acceptable standard of provision and access for pedestrians is provided. Appendix A provides further geographical evidence of this.

- 6.3.7. This demonstrates that travel on foot is currently accommodated by existing infrastructures. As stated, the document *Pedestrian and Cycle Audit Report* identifies issues concerning pedestrian accessibility, connectivity and safety levels. Furthermore, studies have shown that aesthetically pleasing public spaces, pedestrianised locations and areas not infringing on safety do encourage individuals to undertake more walking trips. Further improvement to the pedestrian environment should be encouraged to maintain the high mode share.
- 6.3.8. Natural England is engaged in a project to investigate how to improve coastal access in the East of England (part of the England Coast Path) and this includes a 53km stretch of coastline between Hunstanton and Sutton Bridge, which is expected to be completed in 2020.

Summary of Issues

- 6.3.9. King's Lynn has a high level of walking within the town. Due to the layout of the road network it is often quicker to get around by walking and routes which provide important cross-town connections should be encouraged.
- 6.3.10. Footway maintenance is important to ensure people are able to safely continue to walk within the town.
- 6.3.11. Provision needs to be made for pedestrians on desire lines to enable them to access their destination as easily as possible within a safe environment. A number of locations have been identified where accident clusters have occurred during a five year period and improvements to provision at these locations should be considered.
- 6.3.12. Hardings Way and South Quay provide an important route for pedestrians wishing to avoid London Road to access the town centre and education in the Friars area.
- 6.3.13. There are some areas where improved way-marking for pedestrians would be beneficial, such wayfinding signs were observed to be weathered/dirty which obstructs the displayed information at the footway between Blackfriars Road to Lynn Road.
- 6.3.14. The road width is very wide with 3-4 lanes of traffic at the pedestrian crossings on Railway Road with no central island for protection in instances when the traffic lights change before walking all the way across causing a serious hazard for pedestrians and vulnerable road users in particular.
- 6.3.15. Protection for pedestrians crossing the gyratory where it is 4-lanes wide with no central island is lacking making it very hazardous.
- 6.3.16. During the pedestrian and cycle audit it was observed that vehicles were forced to mount footways at Friars Street as drivers negotiated around parked vehicles which could compromise pedestrian safety.
- 6.3.17. General maintenance issues were also observed during the pedestrian and cycle audit that may improve safety standards if addressed. These include re-painting of surface marking (for example, to indicate cycle lanes), replace or repair guard rail at Blackfriars Road and address parked vehicles mounting footways obstructing pedestrian movements.

7 HIGHWAY NETWORK

7.1 INTRODUCTION

7.1.1. Within this section a number of areas of private travel and transport are covered in terms of their application in King's Lynn. Namely these are:

- Roads
- Accidents
- Congestion hotspots
- Car parks
- Access and loading

7.1.2. Each section is structured to provide an overview of the baseline information about the range of service provided for private travel in King's Lynn, followed by specific information relating to the 2011 Census journey to work for that mode.

7.1.3. A summary of the main problems and issues identified through the following sources is provided with further information available in Appendix E:

- document review
- local observations
- officer consultations
- stakeholder consultation held on 16th March 2018
- BCKL&WN Research and Development Panel on 27th June 2018

7.2 ROADS

7.2.1. The A47 trunk road is managed by Highways England on behalf of the Government and links Peterborough in the west with Lowestoft in the east, via King's Lynn, Norwich and Great Yarmouth. The A17 from Newark-on-Trent also runs to the south west of King's Lynn and joins with the A47 south of West Lynn. The A10 from the south joins the A47 and the A149 at Hardwick to the south of King's Lynn. From here the A149 skirts around the south eastern edge of the town providing links to the north with Dersingham, Snettisham and Hunstanton. To the north east the A148 links the A47 south of King's Lynn with Fakenham and Cromer via Gaywood and South Wootton.

7.2.2. The radial routes into King's Lynn converge at the central one-way gyratory, comprising Blackfriars Road, Railway Road and Austin Street: with John Kennedy Road from the north; Gaywood Road from the east and London Road from the south. Alternative routing through the town is difficult due to the limitations of the railway line crossing points for both vehicular and active modes of travel. Tennyson Avenue / Vancouver Avenue is an alternative route for some east to south movements and crosses the railway line, joining the junction at Hardwick Road / Wisbech Road.

7.2.3. In January 2017 a new link road (Lynnport Way) was opened to serve proposed new housing development and also to provide a more direct vehicular route between the Woottons and Lynnport. It links the A1078 Edward Benefer Way (connecting with Spenser Road via Hamburg Way) alongside the North Lynn industrial estate to Lynnport to connect with Reid Way.

7.2.4. In April 2018 a trial which changed the operation of the traffic signals at the junction of Valingers Road with London Road was implemented to help to tackle traffic congestion in this area. The scheme was primarily designed to address outbound evening peak traffic congestion and will be monitored during the development of this Transport Strategy. The scheme involves the removal of the traffic lights at the junction alongside lane changes including a right turn lane into Valingers Road and two lanes southbound, with a reduction to 1 lane for in-bound traffic.

7.2.5. Traffic signal junctions and traffic signal crossings are commonly used on radial routes. Traffic signal systems are used because they control traffic as well as providing opportunity for pedestrians, cyclists and vulnerable road users to cross roads with high volumes of traffic in a manner that is safe and convenient. They provide a method of control where space is at a premium, however these junction layouts are limited in providing sufficient capacity due to levels of delay that are inherent in a signalised junction layout.

7.2.6. In King's Lynn the traffic signal junctions are managed under an Urban Traffic Control (UTC) system (SCOOT) which is a responsive system that monitors traffic levels through CCTV and provides some control over the

traffic signals to optimise their operation and maintain linking of junctions where feasible to reduce delay along a route. Figure A9 in Appendix A provides an overview of the traffic management and signalised junctions and crossings in King's Lynn. Notably there are a large number of signalised junctions and crossings on London Road from Southgate roundabout through Railway Road and the gyratory (approximately 15 signalised junctions). This level of traffic signal provisions serves to contribute to the following issues in King's Lynn:

- i Peak hour congestion levels
- i Local air quality problems where traffic is stationary on Railway Road/ London Road and at Gaywood Clock
- i Bus service reliability and delay including implications on service scheduling and cost of provision to accommodate the delays
- i Safety of cyclists in high levels of congestion where there is a need to weave through stationary traffic
- i Safety of pedestrians in stationary traffic and use of formal crossing points.

- 7.2.7. Figure A9 also shows the location of additional crossing points for pedestrians/cyclists (signalised and zebra crossings) and locations of gates and bollards to restrict traffic movements through the historic town and enforce the use of Hardings Way for buses and cyclists only.
- 7.2.8. The historic narrow street network in the centre of King's Lynn is protected from ad-hoc on-street car parking through the use of bollards and dedicated laybys for short stay car parking at limited locations. The very nature of the narrow, low speed street network also naturally discourages through-traffic use. Access to the car parks is well signed and combined with the pedestrianised High Street and associated shopping area through traffic movements would have no benefit in using this town centre network during normal traffic conditions.
- 7.2.9. The Friars area, located immediately to the south of the town centre and to the west of London Road, consists of a narrow street network with on street car parking encroaching on the footways. Whitefriars Primary school is located on Whitefriars Road and access for vehicles is constrained via Southgate Street, Valingers Road and inbound only via Checker Street. The changes to the junction arrangement at Valingers Road that were introduced in April 2018 are being monitored in terms of provision for the Friars residents and will be considered further as part of the overall study.
- 7.2.10. There are a number of formalised locations for pedestrians / cyclists to cross London Road however between the South Gate and north of Guanock Place there is no formal provision between the Park area and Southgate Street and the proximity of the Gate structure restricts the view at this location for crossing London Road.

7.3 CONGESTION HOTSPOTS

- 7.3.1. During the peak hours in King's Lynn traffic congestion occurs at specific locations on the routes into or through the town. A high level assessment of these locations has been undertaken to date using information gathered on typical daily traffic conditions through Google Maps and local intelligence. Further detailed analysis will follow during the model building exercise to verify these locations and to quantify the level of delay that is typically experienced. The newly collected traffic survey data on traffic flows and queues (June 2018) will be used for this more detailed assessment.
- 7.3.2. Figure A10 in Appendix A identifies and summarises the areas where congestion typically occurs within the highway network in King's Lynn during the morning and evening peak hours (08.00-09.00 and 17.00-18.00) sourced from Google Maps. The reference numbers shown on Figure A10 in Appendix A correlate to those shown in Table 13 below, which includes a description of the location alongside details of the traffic conditions that are typically experienced in terms of direction of travel and severity of the traffic flow conditions.
- 7.3.3. Further locations have been identified through local intelligence as follows and marked on Figure A10:
- i Town centre gyratory
 - i Valingers Road / London Road traffic lights
 - i Southgate inbound from Southgates roundabout
 - i Vancouver Avenue onto Southgates roundabout
 - i A149 bypass (three roundabouts): Hardwick Road (A149); Gayton Road (A1076); Grimston Road (A148)
 - i Tennyson Avenue / Gaywood Road
 - i Loke Road / Gaywood Road
 - i Gaywood Clock (Lynn Road / Wootton Road) including junction with Queen Mary Road
 - i Queensway junction with A1076 especially right turn off A1076 into Queensway
 - i A1076 Gayton Road mini roundabout Winston Churchill Drive and QE hospital

- ┆ Loke Road / John Kennedy Road junction
- ┆ Estuary Road / Edward Benefer Way
- ┆ Low Road / Castle Rising Road / Wootton Road / Grimston Road cross roads

Table 13. Congestion Hotspots (sourced from typical traffic conditions in Google maps)

PLAN REF NUMBER	LOCATION	JOURNEY PERIOD <i>AM peak: 8:00–9:00</i> <i>PM peak: 17:00–18:00</i>	DESCRIPTION
1	<ul style="list-style-type: none"> ┆ A148/B1144 roundabout. ┆ At southern outskirts of town centre 	┆ AM peak	<ul style="list-style-type: none"> ┆ Hardwick Road. <ul style="list-style-type: none"> • <i>Northwest-bound traffic:</i> <ul style="list-style-type: none"> - Heavily congested - Extending back approx. 515m from roundabout to Pierpoint Drain - Returning to free-flow at approx. 790m back. ┆ A148-Nar Ouse Way. <ul style="list-style-type: none"> • <i>Northbound traffic:</i> <ul style="list-style-type: none"> - Heavily congested - Extending back approx. 170m from roundabout - Free-flow speeds before that. • <i>Southbound traffic:</i> <ul style="list-style-type: none"> - Slightly congested conditions when leaving the roundabout for approx. 111m ┆ Wisbech Road. <ul style="list-style-type: none"> • <i>Eastbound traffic:</i> <ul style="list-style-type: none"> - Heavily congested - Extending back approx. 318m from roundabout to Wisbech/Saddlebow Road mini roundabout - Returning free-flow speeds after approx. 1.2km at River Great Ouse ┆ A148-London Road. <ul style="list-style-type: none"> • <i>Northbound traffic:</i> <ul style="list-style-type: none"> - Heavily congested - Extending from roundabout approx. 130m to Southgate Street - Traffic speed slightly affected after that
		┆ PM peak	<ul style="list-style-type: none"> ┆ A148-London Road. <ul style="list-style-type: none"> • <i>Southbound traffic:</i> <ul style="list-style-type: none"> - Heavily congested - Extending from roundabout along length of route ┆ B1144-Vancouver Avenue. <ul style="list-style-type: none"> • <i>Southwest-bound traffic:</i> <ul style="list-style-type: none"> - Heavily congested - Extending approx. 410m to Chase Avenue from roundabout - Free-flow speeds after Extons Road
2	<ul style="list-style-type: none"> ┆ A47/A148 grade-separated junction ┆ At south-eastern outskirts of town centre 	<ul style="list-style-type: none"> ┆ AM peak; ┆ and ┆ PM peak 	<ul style="list-style-type: none"> ┆ A10-Westwinch Road. <ul style="list-style-type: none"> • <i>North and southbound traffic:</i> <ul style="list-style-type: none"> - Slightly congested - Extending from roundabout along length of route, past Regents Avenue ┆ A1496-Queen Elizabeth Way. <ul style="list-style-type: none"> • <i>Northeast-bound, and southwest-bound traffic:</i> <ul style="list-style-type: none"> - Slightly congested

3			<ul style="list-style-type: none"> - During AM, congestions extending >800m past A149/Hardwick Ind. Est. roundabout - During PM, congestion over short distance <ul style="list-style-type: none"> Roundabout positioned southeast of grade separation. <ul style="list-style-type: none"> <i>Southeast-bound traffic:</i> <ul style="list-style-type: none"> - Slight congestion for short distance when approaching roundabout. All other areas of the junctions operating at an optimal level.
	<ul style="list-style-type: none"> A47/A17/Clenchwarton Road junction At south-western outskirts of town centre 	<ul style="list-style-type: none"> AM peak 	<ul style="list-style-type: none"> A17 <ul style="list-style-type: none"> <i>Eastbound traffic:</i> <ul style="list-style-type: none"> - Very heavily congested - Extending from roundabout for approx. 1.4km, lightly congested after that Clenchwarton Road. <ul style="list-style-type: none"> <i>Southbound traffic:</i> <ul style="list-style-type: none"> - Very heavily congested - Extending from roundabout approx. 930m to St Peters Road
		<ul style="list-style-type: none"> PM peak 	<ul style="list-style-type: none"> A47 <ul style="list-style-type: none"> <i>Westbound traffic:</i> <ul style="list-style-type: none"> - Heavily congested - Extending approx. 1km from roundabout to A47/A148 junction Slightly congested at all other approaching routes and at junction.
4	<ul style="list-style-type: none"> A1076/A149-Queen Elizabeth Road roundabout East of King's Lynn 	<ul style="list-style-type: none"> AM peak; and PM peak 	<ul style="list-style-type: none"> AM peak. <ul style="list-style-type: none"> - Northern arm of the roundabout operating at optimal capacity. - All other approaches slightly/heavily congested for significant lengths of the link PM peak: <ul style="list-style-type: none"> - All approaching routes slightly congested - South and western arms exiting the roundabout slightly congested for significant proportion of the road.
5	<ul style="list-style-type: none"> A148/Blackfriars Road/Austin Street junction Located at northern part of town centre 	<ul style="list-style-type: none"> AM peak; and PM peak 	<ul style="list-style-type: none"> All areas of junction and length of routes are slightly/heavily congested during all peak travel times in all directions.
6	<ul style="list-style-type: none"> Tennyson Avenue/A148 priority T-junction Situated at eastern part of town centre 	<ul style="list-style-type: none"> AM peak; and PM peak 	<ul style="list-style-type: none"> All areas of junction and length of routes are slightly/heavily congested during all peak travel times in all directions.
7	<ul style="list-style-type: none"> Lynn Road/A1076 priority T-junction Located at eastern part of town centre 	<ul style="list-style-type: none"> AM peak; and PM peak 	<ul style="list-style-type: none"> All areas of junction and length of routes are slightly/heavily congested during all peak travel times in all directions.
8	<ul style="list-style-type: none"> London Road, leading to 	<ul style="list-style-type: none"> AM peak 	<ul style="list-style-type: none"> London Road and Railway Road <ul style="list-style-type: none"> <i>Northbound</i>

9	<ul style="list-style-type: none"> ↓ ↓ Railway Road and John Kennedy Road Town centre	<ul style="list-style-type: none"> ↓ PM peak	<ul style="list-style-type: none"> ↓ • Slightly congested over partial length of roads • John Kennedy Road <ul style="list-style-type: none"> • <i>Southbound</i> • Slightly congested approx. 275m between Austin Street and Hextable Road
		<ul style="list-style-type: none"> ↓ PM peak	<ul style="list-style-type: none"> ↓ • London Road <ul style="list-style-type: none"> • <i>Southbound</i> • Very heavily or heavily congested along length of road between • Blackfriars Road and A148/B1144 roundabout. ↓ • London Road/ Railway Road/ John Kennedy Road <ul style="list-style-type: none"> • <i>Northbound</i> • Slightly congested over relative length of the roads
10	<ul style="list-style-type: none"> ↓ ↓ Valingers Road South of town centre	<ul style="list-style-type: none"> ↓ PM peak	<ul style="list-style-type: none"> ↓ • Valingers Road onto London Road <ul style="list-style-type: none"> • Eastbound, turning (right) southbound onto London Road • Heavily congested along relative length of the road
		<ul style="list-style-type: none"> ↓ AM peak	<ul style="list-style-type: none"> ↓ • Hardings Way onto Wisbech Road <ul style="list-style-type: none"> • <i>Southeast-bound, turning (left) eastbound onto Wisbech Road</i> • Heavily congested along relative length of road
11	<ul style="list-style-type: none"> ↓ ↓ Loke Road/ Gaywood Road priority junction Northeast of town centre	<ul style="list-style-type: none"> ↓ AM peak; and	<ul style="list-style-type: none"> ↓ • Loke Road <ul style="list-style-type: none"> • <i>All lanes at junction (north/southbound)</i> • Slightly congested along length of road between Gaywood Road and Loke Road/ Columbia Way roundabout ↓ • Gaywood Road <ul style="list-style-type: none"> • <i>All lanes at junction (east/westbound)</i> • Slightly congested along relative length of the road
		<ul style="list-style-type: none"> ↓ PM peak	
12	<ul style="list-style-type: none"> ↓ ↓ Queensway/ Gayton Road priority junction East of town centre	<ul style="list-style-type: none"> ↓ AM peak; and	<ul style="list-style-type: none"> ↓ • Queensway onto Gayton Road <ul style="list-style-type: none"> • <i>Southbound turning (left) eastbound onto Gayton Road</i> • Slightly congested along length of road • Better conditions during PM, returning to free flow towards end of PM peak hour ↓ • Queensway onto Gayton Road <ul style="list-style-type: none"> • <i>Southbound turning (right) westbound onto Gayton Road</i> • Slightly congested along relative length of road
		<ul style="list-style-type: none"> ↓ PM peak	

13	<ul style="list-style-type: none"> i Mini roundabout at Winston Churchill Drive, and road into Queen Elizabeth Hospital i East, edge of town 	i AM peak	<ul style="list-style-type: none"> i Winston Churchill Drive <ul style="list-style-type: none"> · <i>Northbound traffic</i> <ul style="list-style-type: none"> - Heavily congested between roundabouts in south joining to William Booth Road roundabout in north joining to A1076-Gayton Road · <i>Southbound traffic</i> <ul style="list-style-type: none"> - Free flow conditions i A1076-Gayton Road <ul style="list-style-type: none"> · <i>All lanes in east/west directions</i> <ul style="list-style-type: none"> - Heavily or slightly congested traffic conditions - Worst around hospital entrance for eastbound traffic
		i PM peak	<ul style="list-style-type: none"> i Winston Churchill Drive <ul style="list-style-type: none"> · <i>Northbound traffic</i> <ul style="list-style-type: none"> - slightly when approaching roundabout to A1076-Gayton Road · <i>Southbound traffic</i> <ul style="list-style-type: none"> - Free flow conditions i A1076-Gayton Road <ul style="list-style-type: none"> · <i>All lanes in east/west directions</i> <ul style="list-style-type: none"> - Heavily or slightly congested traffic conditions - Worst for eastbound traffic approaching A1076/A149-Queen Elisabeth Road roundabout
14	<ul style="list-style-type: none"> i Castle Rising Road/ Wootton Road i Northeast, edge of town 	<ul style="list-style-type: none"> i AM peak; and i PM peak 	<ul style="list-style-type: none"> i Castle Rising Road <ul style="list-style-type: none"> · <i>Northbound traffic</i> <ul style="list-style-type: none"> - Traffic is slightly congested when entering the road, condition improving further northbound · <i>Southbound traffic</i> <ul style="list-style-type: none"> - Slightly congested in the AM peak - During PM peak, heavily congested when approaching the junction i Low Road <ul style="list-style-type: none"> · <i>Eastbound traffic</i> <ul style="list-style-type: none"> - Road congestion slowing traffic slightly i Grimston Road <ul style="list-style-type: none"> · <i>Eastbound traffic</i> <ul style="list-style-type: none"> - slightly slow traffic speeds in close proximity to junction · <i>Westbound traffic</i> <ul style="list-style-type: none"> - Slightly congested during the AM peak - Heavily congested traffic conditions during the PM peak over relative length of route

7.3.4. Due to the restricted nature of the highway network within King's Lynn and the limited alternative routes available, when incidents occur, either within the town or on the strategic network (A47 and A149), traffic congestion levels can be very limiting for the town. In these circumstances the traffic signals can compound the problems and their optimisation through SCOOT can be challenging.

7.3.5. Besides the conditions during the AM and PM peak hours it is also recognised that there can also be issues on the highway network as a result of leisure and tourism traffic wishing to access the north Norfolk coastline and nearby towns to the north of King's Lynn. It is understood that the congested A47/A149 results in trips diverting through King's Lynn during seasonal peaks in leisure and tourism.

7.4 CAR PARKING

7.4.1. King's Lynn has a number of car parks available in the town centre serving a mixture of purposes, some are privately operated and some are owned and operated by the council. Figure A11 in Appendix A provides an overview of the available public car parking in the town centre including a mixture of short stay and long stay options with the private car parks also being identifiable. Car parks are a key destination for trips to the central area of King's Lynn and access to them needs to be easy to ensure additional trips are not put through the

historic central core. Sign-posting for the car parking is comprehensively provided at the entry points to the town centre including some information on space availability through VMS (variable message signs) on London Road, Edward Benefer Way and Gaywood Road.

7.4.2. The total stock of car parking spaces in car parks in the centre of King's Lynn is provided in Table 14, and can be broadly summarised as follows:

- i 1,100+ short stay public parking spaces
- i 1,450+ long stay public parking spaces
- i 1,050+ private retail / rail station spaces
- i 3,650+ car parking spaces available in King's Lynn.

7.4.3. The typical cost of car parking is in a range of £1.80 to £4.70 for between 1 to 5 hours for the Council owned car parks. The cost of the supermarket (free) and rail station car parks is separately managed. The above numbers exclude on-street parking provision.

7.4.4. The table that follows identifies the car parks in King's Lynn and provides details concerning arrangements and restrictions of the individual locations. Except where stated in Table 14 the car parks are operated as follows:

- i open 24 hours a day, 7 days a week
- i pay and display surface car park with payment accepted by mobile phone
- i no height restrictions
- i no electric charging points

Table 14. King's Lynn Town Centre Car Parks

LOCATION / NAME	TYPE	SPACES	DISABLE D SPACE	SUMMARY CHARGES	COMMENTS
Albert Street	Short term	126	5	1 hour: £1.80 3 hours: £2.80 5 hours: £4.70	4 bays, free parking for 20mins
Austin Fields (Coach)	Long term	6	N/A	<10am: £2.80 >10am: £3.60	Coaches and motorhomes only
Austin Street (East)	Long term	123	3	<10am: £2.80 >10am: £3.60	Season tickets/permits
Austin Street (West)	Long term	107	6	<10am: £2.80 >10am: £3.60	Season tickets/permits
Baker Lane	Short term	85	5	1 hour: £1.80 3 hours: £2.80 5 hours: £4.70	3 bays, free parking for 20mins
Blackfriars Street	Short term	31	2	1 hour: £1.80 3 hours: £2.80 5 hours: £4.70	
Boal Quay	Long term	356	1	All day: £2.70	Height restriction 1.8m Season tickets/permits
Chapel Street	Short term	80	3	1 hour: £1.80 3 hours: £2.80 5 hours: £4.70	
Common Staithe Quay	Long term	152	2	<10am: £2.80 >10am: £3.60	Season tickets/permits
Juniper	Long term	49	2	<10am: £2.80 >10am: £3.60	Season tickets/permits
Saturday Market Place	Short term	30	2	1 hour: £1.80 3 hours: £2.80 5 hours: £4.70	3 bays, free parking for 20mins
South Quay	Short term	46	0	< 1 hr: no charge 2 hrs: £2.50 2 ½ hrs: £3.00 3 hrs: £3.50	Restricted Zone Parking
St James Court	Short term	58	3	1 hour: £1.80 3 hours: £2.80 5 hours: £4.70	
St James Multi Storey	24 hours maximum stay	645	5	1 hour: £1.80 3 hours: £2.80 4 hours: £4 5 hours: £4.70 +£1.20 per extra hour	Pay on foot multi-story Closed from 11:30pm to 7am Height restriction 2.2m

St James Multi Storey – blue badge holders only (outside)	24 hours maximum stay	0	28	Lost ticket: £12.00 30mins: £1.10 1 hour: £1.80 3 hours: £2.80 5 hours: £4.70	6 electric charging points
	Surrey Street	Short term	37	3	1 hour: £1.80 3 hours: £2.80 5 hours: £4.70
Tuesday Market Place	Short term	210	14	1 hour: £1.80 3 hours: £2.80 5 hours: £4.70	21 bays, free parking for 20mins (2 reserved for blue badge holders)
Vancouver (Sainsbury's)	Short term	397	14	1 hour: £1.80 3 hours: £2.80 5 hours: £4.70	Height restriction 1.8m
Lidl Morrisons Church Street	Short term	68	3	Free	Surface carpark
	Short term	440	11	Free	Surface carpark
	24 hours maximum stay	243	8	1 hour: £1 2 hours: £2 3 hours: £3 4 hours: £4 24 hours: £6 Early-bird: £2.40	Season tickets/permits Operated by NCP
King's Lynn Station (southern) Napier	Long term	98	0	>10am: £3.50 >5pm: £2.60 Day: £5.50	Height restriction 2m Season tickets/permits
King's Lynn Station (northern) Blackfriars Road	Long term	90	6	>10am: £3.50 >5pm: £2.60 Day: £5.50	Height restriction 2m Season tickets/permits
King's Lynn Station (northern) Coburg Street	Long term	100	6	>10am: £3.50 >5pm: £2.60 Day: £5.50	Height restriction 2m Season tickets/permits

- 7.4.5. The information presented in Table 14 and Figure A11 identifies that parking facilities are arranged primarily in the centre of the town, with private car parking associated with business and retail also being available close to the town centre. Further from the town centre, but nonetheless a generator of trips throughout the day, is the Lynnsport leisure and athletic complex, Alive Leisure on Lynnsport Way, which is accessible from Greenpark Avenue and includes parking for around 500 spaces. The QEH is also a key generator of vehicular trips throughout the day as well as concentrations during the peak hours. Whilst a good level of bus provision is available serving the hospital, there is also on-site staff and visitor car parking. The food retail (Tesco and Aldi) and leisure landuses that are available around Gaywood Clock also make provision for car parking which are key generators of local vehicular trips in King's Lynn.
- 7.4.6. The out-of-town retail area at Hardwick also provides King's Lynn residents and the wider area with an array of retail, leisure and commercial provisions with significant associated car parking available.

CAR PARKING ANALYSIS

- 7.4.7. KL&WNBC have provided WSP with data collected through their ticket machines and barrier controls at the majority of car parks in King's Lynn town centre. The data provided was for 12 months (October 2016 to September 2017) and provides information on the daily ticket sales including the time of the ticket purchase and the approximate length of stay. The following car parks have been included in the initial assessment of car park usage in King's Lynn:

- ┆ Vancouver
- ┆ St James Multi Story
- ┆ Tuesday Market Place (TMP)
- ┆ Surrey Street
- ┆ St James Court
- ┆ Saturday Market Place (SMP)
- ┆ Chapel Street
- ┆ Baker Lane
- ┆ Blackfriars
- ┆ Albert St
- ┆ South Quay
- ┆ Juniper *

- i Common Staithe Quay *
- i Boal Quay *
- i Austin Street *

7.4.8. WSP have undertaken a high-level review of the car park data to establish the differences in the levels of car park usage in King's Lynn over the course of a year and to identify which car parks reach or get close to their capacity on a typical day. A number of assumptions about the data have been made (to group and manage it) as follows:

- i only includes the Council operated car parks where data was made available (see list above), excludes any other car parks and on-street car parking;
- i the arrival times were grouped into 15 minute time bands so there will be some variability in the reported and actual car park occupancy levels (ie, all arrivals within a 15 minute time period have been allocated the same entry time and their exit time worked from that);
- i No account has been taken of any spaces that are already occupied at the start of the day from the previous day;
- i Season tickets are valid across the following long-term car parks (and Vancouver short-term) and can be purchased annually or monthly. There are 767 valid season tickets currently in use. No account has been taken of these users in the analysis that follows since the car park used is unknown:
 - i Boal Quay
 - i Austin Street (East and West)
 - i Common Staithe Quay
 - i Juniper
- i Permits are also available for use across any car park and 289 valid permits are currently in use. No account has been taken of these users in the analysis that follows.
- i The analysis is based on approximate duration of stay at those car parks where ticket sales do not give any information on the expected departure time (at the locations marked as * in the list above). The approximate duration of stay in these cases is based on average times from the other car parks for weekday and weekend (ignoring values for vehicles that stayed into the following day). The average duration of stay is therefore applied to all vehicles.

7.4.9. The outputs from this data therefore provide a guide on the relative use of car parks throughout the town, the actual numbers of car parking spaces in use at a single point in time will vary due to the assumptions made in this assessment.

7.4.10. Annual usage of the car parks varies during the year with the peak levels of car park occupancy being from October to December. The highest car park usage in King's Lynn, as with most urban centres across the country, is in the lead up to Christmas. The lowest level of usage for the car parks where data is available in King's Lynn occurs during August and September.

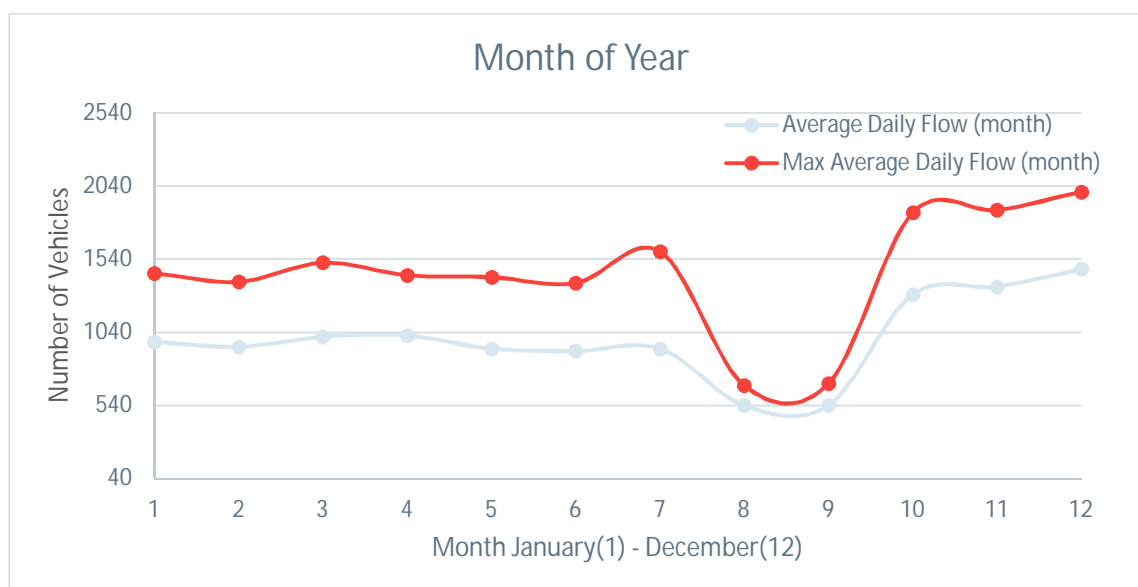


Figure 5. Monthly Average Maximum Car Park Usage

7.4.11. The typical daily car park usage has been derived from the average data from each month of the year and is compared in the graph below against the maximum for each day of the week across the year.

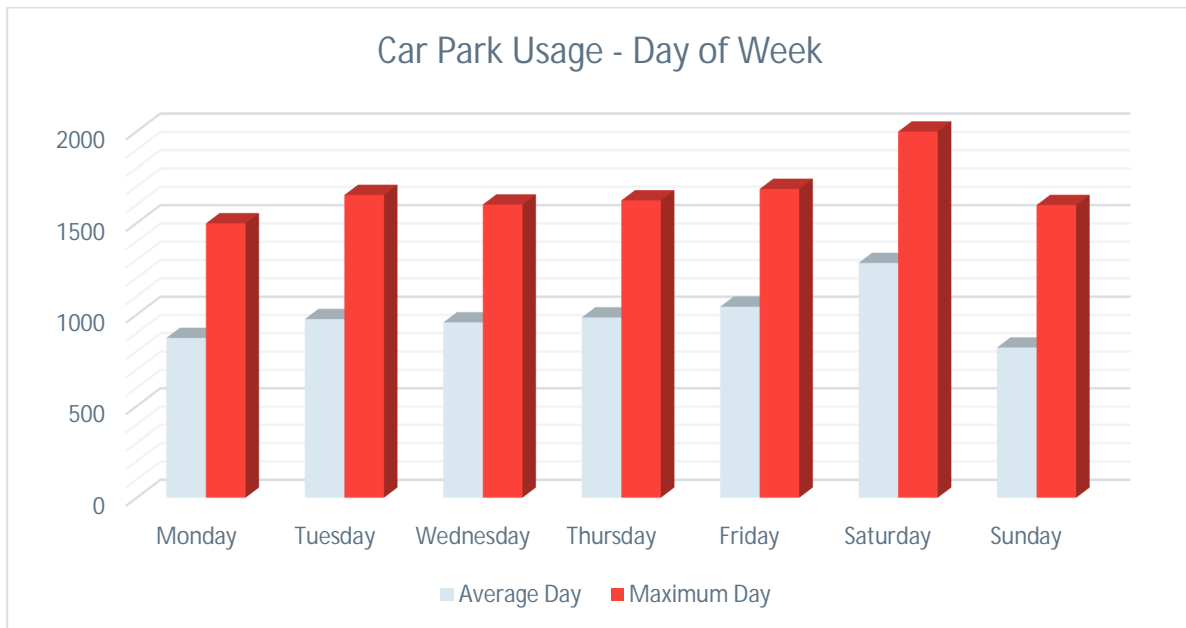


Figure 6. Weekly Maximum and Average Car Park Usage

7.4.12. Typically Saturday is the busiest day for car park usage in King’s Lynn and Sunday has the lowest level of usage across the week. Monday typically has a lower level of usage than Friday.

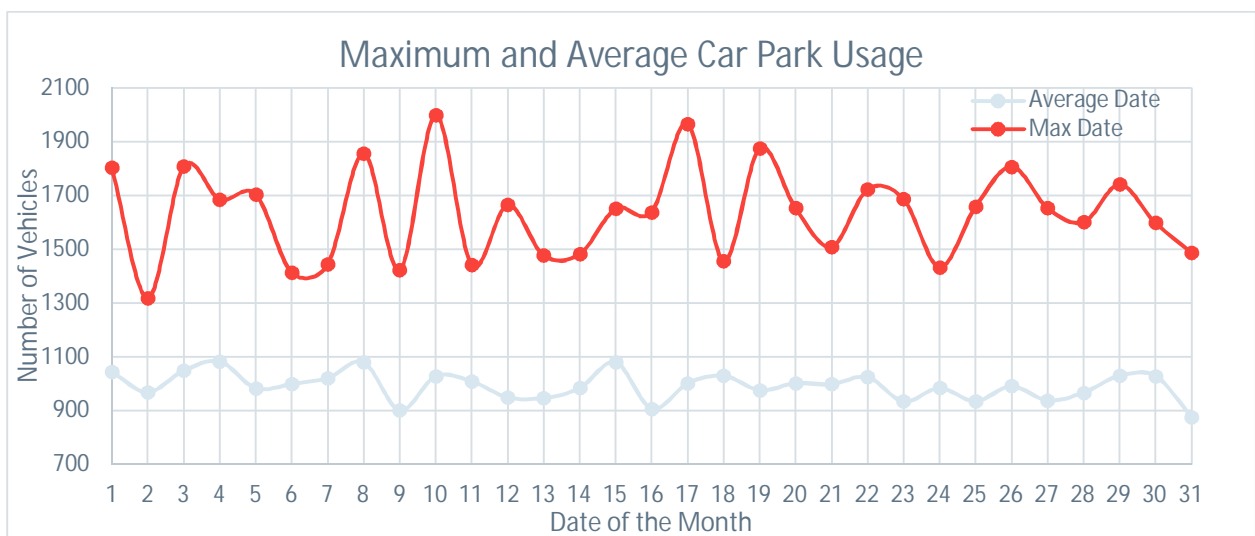


Figure 7. Maximum and Average Car Park Usage (month average)

7.4.13. The car parks in King’s Lynn are connected to variable message signs (VMS) that gives users an indication of space availability to assist in their decision-making about which car park to use. The CCTV system is monitored throughout the day to provide up-to date information for users. Summary information from this demonstrates that in 2017 the car parks were marked as ‘Full’ for the purposes of the VMS a number of times during the year. There may have been more than one instances during the day when the car park was full and these would not all have occurred at the same time/day. However this does indicate the car parks which frequently experience potential capacity issues and notably: Austin Street; Blackfriars, Common Staithe Quay, Tuesday Market Place and Saturday Market Place.

Car Park	Number of Days when car park was Full
Austin Street East	220
Albert Street	12
Austin Street West	237
Blackfriars Street	215
Baker Lane	137
Boal Quay	65
Common Staithe Quay	242
Vancouver Car Park	8
Saturday Market Place	195
Tuesday Market Place	202

Table 15 – Number of Days in 2016 when Car Park was Full

7.4.14. Using the available data the busiest car park day has been identified as Saturday 10th December 2016. Figure 8 below shows the maximum occupancy of each of the car parks during the day based on the number of spaces available in the car parks. This analysis does not account for the 767 permit holders, who are likely to be mainly weekday users (many associated with the council) but could also visit the car parks at the weekend. Those car parks that show a negative number of spaces remaining are full and over-capacity, whilst those with a positive value for spaces remaining do have some capacity remaining at the peak time.

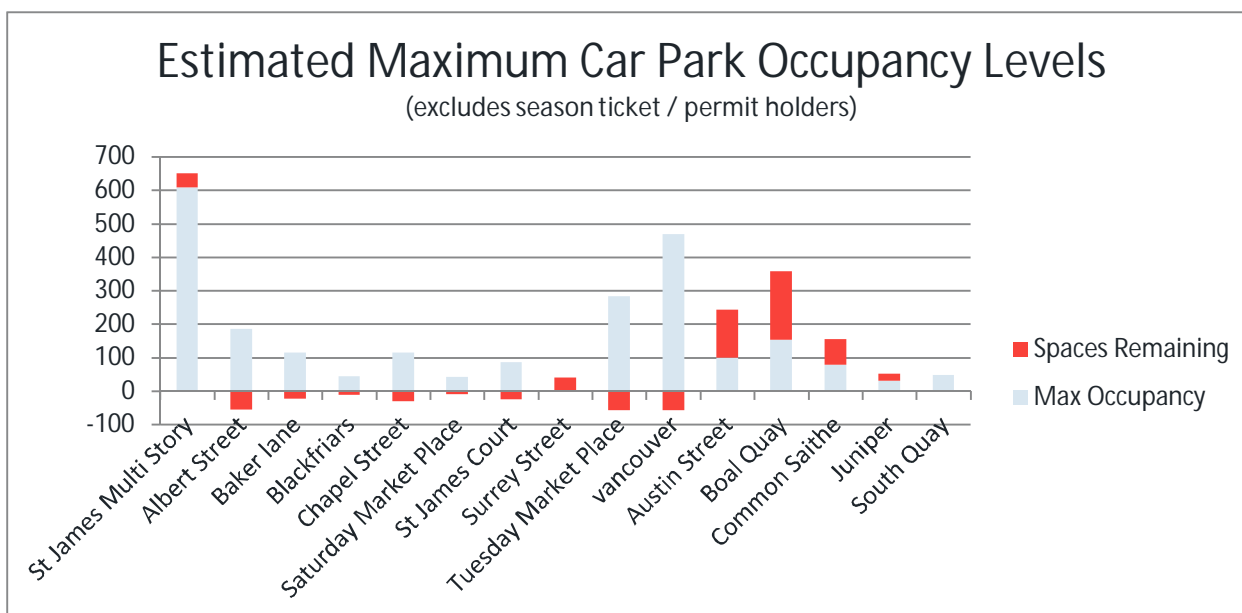


Figure 8. Estimated Maximum Car Park Occupancy (Saturday 10th December 2016)

7.4.15. This analysis demonstrates the variability in car park usage across the town centre car parks that are operated by the Borough Council. There are a number of popular car parks which are over-capacity during the busiest day of the year (Saturday 10th December) and others that do have available capacity, including St James multi-storey, Austin Street, Boal Quay, Common Staithe and Juniper car parks. However on Monday to Friday Austin Street, Boal Quay, Common Staithe and Juniper car parks are typically at capacity.

7.4.16. Overall the analysis indicates that of the 2,560 spaces that are available at these car parks, there is a demand for 2,306 spaces at the busiest time of the year. However, permit usage for the long-term car parks (and

Vancouver short-term) as well as the permits that have been issued for use in any car park which amounts to 1,065 permits that are currently valid for use in King's Lynn car parks needs to be taken into account. The addition of these users would mean there is less capacity in Austin Street / Boal Quay / Common Staithe, Juniper and Vancouver than is shown in the graphs above. Permit holders account for a potential additional 1,065 users and their impact on these figures would depend on the time of day they park and whether this impacts on the peak occupancy levels shown.

- 7.4.17. Further analysis of a single day of car park usage for a weekday and weekend is provided in Figures A12 and A13 in Appendix A. The figures show an estimate of the maximum car park usage during the day in terms of the occupied capacity at the peak time for Friday 14th October and Saturday 15th October. The highest usage is around 12.30 on the Friday and 13.30 on the Saturday.
- 7.4.18. On Friday the car park that gets close to capacity (90%+) is Blackfriars with St James Court, Saturday Market Place, Baker Lane, Tuesday Market Place and Surrey Street all reaching between 60% and 90% of their capacity. The other car parks have spare capacity with less than 60% of spaces occupied. This analysis excludes the 697 permit holders and local intelligence suggests that Austin Street, Boal Quay, Common Staithe and Juniper car parks also reach capacity on a typical weekday.
- 7.4.19. On Saturday the car parks that get close to capacity (90%+) are Blackfriars, St James Court, Saturday Market Place and Tuesday Market Place. Those that have more than 60% of their spaces occupied are Chapel Street, Surrey Street, Albert Street, Vancouver and St James Multi-storey car park. This excludes any permit holders.
- 7.4.20. As identified in paragraph 7.4.14 and the assumptions made, the actual occupancy and remaining capacity of the car parks would be impacted by the permit holder car park usage and it is noted that the car parks can be full on a number of days during the year at certain locations.
- 7.4.21. There are currently four established residents parking zones in King's Lynn, which restrict parking in these areas to residents and their visitors only at certain times of the day. The areas included are:
 - i South Quay and King's Staithe Square (South Quay and College Lane)
 - i Portland Street and Waterloo Street
 - i Highgate and Eastgate area (Kettlewell Lane, Eastgate Street, Archdale Street, Highgate, Littleport Terrace, parts of Gaywood Road)
 - i Springwood (parts of Elvington and Langland, Rodinghead, Horton Road, Sawston)

7.5 LOADING / ACCESS

- 7.5.1. Vancouver Centre is the central shopping district to King's Lynn providing major services and outlets to the public. While areas are under redevelopment, the key access areas are presumed to remain. Access for loading to the Vancouver Centre is provided from a subsequent network of minor roads branching off Railway Road; therefore, depending on the location of the loading area, Vancouver Centre is directly accessible via Blackfriars Street, Paradise Parade, Oldsunway and Norfolk Street. Moreover, Railway Road is a one-way (northbound) system forming part of the inner gyratory road with Austin Street and Blackfriars Road, which links to the key transport routes of the A148 as well as John Kennedy Road.
- 7.5.2. Elsewhere in the town centre access for loading is available via the local network. WSP have not been made aware of any areas where loading/unloading provides conflict with general traffic flow and exacerbates congestion in the town.
- 7.5.3. There are a number of routes through the town where vehicle weight restrictions are in operation, the most recent restrictions were applied to the B1144 which runs along Vancouver Avenue, Tennyson Road and Tennyson Avenue limiting the vehicle weight to 7.5 tonnes due to local concern about the use of this route. Other routes within the study area enforcing vehicle weight limits to a maximum of 7.5 tonnes include Loke Road – except for access; Wisbech Road – except for loading; and Gaywood Road and Lynn Road – except for loading. The residential areas of Queen Mary Road and Wisbech Road also have weight restrictions in place. There is a height restriction at Southgate of 4.1m and on Tennyson Road where the road meets the railway of 5m. A width restriction of 2m is in place on Priory Lane.

7.6 ACCIDENTS

7.6.1. Accident plots and supporting accident information for the 5 years from January 2013 to December 2017 have been supplied by NCC to assist in identifying accident cluster areas in King's Lynn including cases where cyclists or pedestrians were involved. The following analysis provides an overview of the accident statistics for King's Lynn and Figures A14 and A15 in Appendix A show the accident locations geographically.

7.6.2. There were 280 accidents recorded in the area over the 5 year period: 57 in 2013, 58 in 2014, 39 in 2015, 53 in 2016 and 73 in 2017. This is based on all recorded collisions.

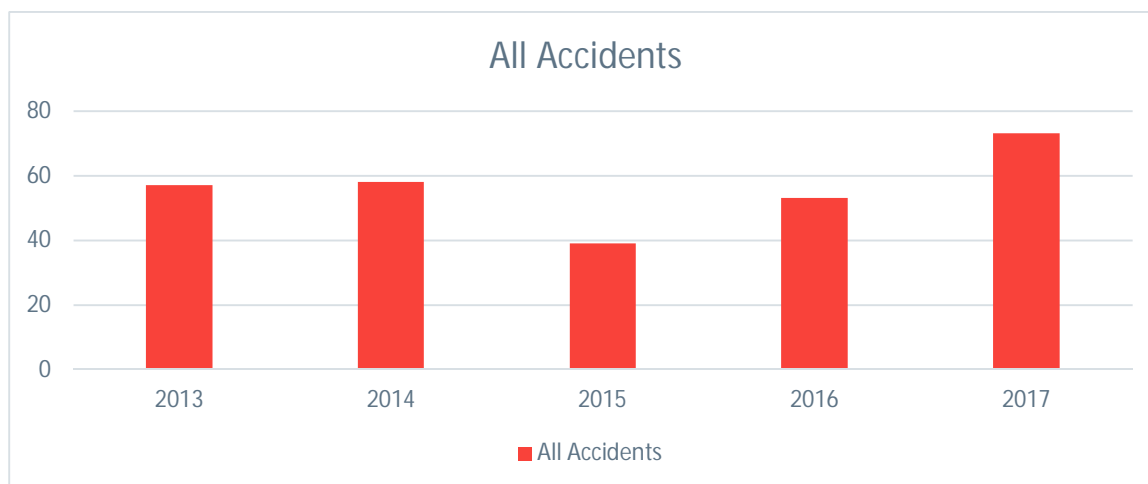


Figure 9. All Collisions (five years January 2013 to December 2017)

(Note; 16 accident data records are incomplete)

7.6.3. In terms of severity the fatal accidents comprised the following

- | Fatal; 1 x fatal accident
 - | At the A148 Railway Road/Norfolk Street junction, a pedestrian was hit by a vehicle which had failed to stop at a red light on a signalised crossing, the road is one way, three/four lanes.

7.6.4. The serious accidents comprised the following:

- | Serious; 37 serious accidents
 - | All accidents occurred on single carriageway or one-way streets except 3 accidents on roundabouts and 2 accidents on dual carriageways.
 - | 13 accidents occurred in darkness, 24 in daylight.
 - | All serious accidents occurred in fine weather without winds except 3 listed under weather conditions of 1 'unknown', 1 'other' and 1 raining without winds'.
 - | The road surface condition for all serious accidents break down to; 'Dry conditions' 23 accidents and 'Wet/damp conditions' 14 accidents.

7.6.5. The remainder of accidents were slight in nature.

7.6.6. In terms of cluster locations for serious accidents there are 2 areas identified as clusters for serious accidents:

- | 5 serious accidents at Southgates Roundabout and 3 arms of the roundabout within 120m (30mph speed limit).
- | 5 serious accidents on Hardwick Road between Hardwick Roundabout and Hanse Road (40mph speed limit)

7.6.7. The cluster locations for slight and serious recorded accidents, show there are 4 areas of note:

- | Southgates Roundabout Area
 - 19 slight/serious accidents

- The accidents predominantly related to contributory factors ‘disobeyed signals’ and ‘failed to look properly at this location’.
- i A148 near Valingers Road and Greyfriars School Area
 - 4 accidents near Valingers Road are attributed to;
 - ‘Careless/ reckless’, caused vehicle shunt, ‘failed to look properly (pedestrian)’, caused injury to pedestrian, ‘failed to look properly’, caused a bus and vehicle collision and ‘exceeding speed limit’ caused vehicle to lose control.
- i South of College of West Anglia, Tennyson Avenue
 - 5 slight accidents
 - The contributory factors in these accidents were; ‘failed to judge other persons path or speed’, ‘failed to look properly’, ‘dazzling sun’, inexperienced/learner’ and ‘failed to look properly (pedestrian)’.
- i North of College of West Anglia, Tennyson Avenue
 - 6 slight accidents
 - The majority of accidents were caused by ‘disobeyed signals’ and ‘failed to judge other persons path or speed’

- 7.6.8. Collisions involving cyclists and pedestrians over the same 5 year period (January 2013 – December 2017) have been considered separately to identify areas where improvements may be required.
- 7.6.9. 98 accidents involving either pedestrians or cyclists were recorded over the 5 year period out of the total 280 accidents.

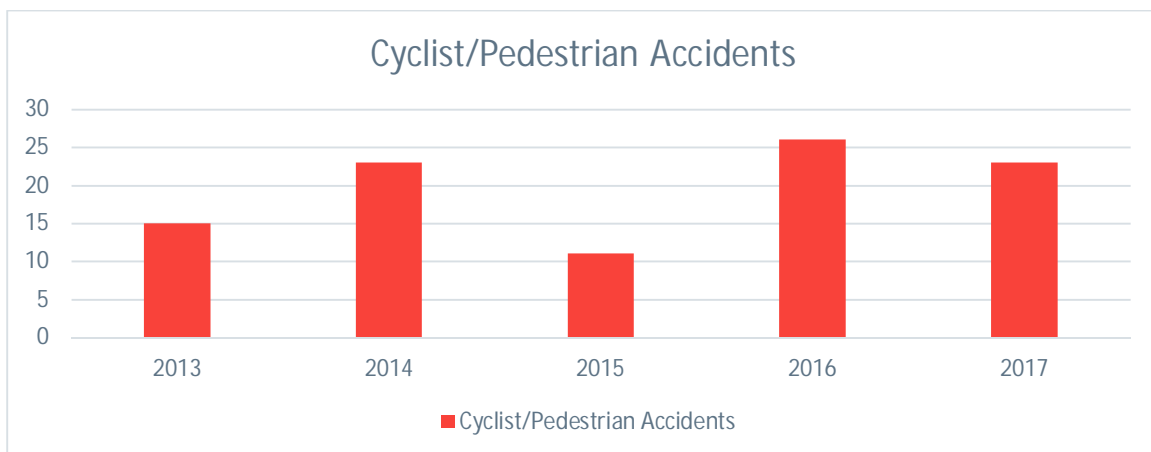


Figure 10. Pedestrian and Cyclist Collisions (five years January 2013 to December 2017)

(Note; 3 accident data records are incomplete)

- 7.6.10. In terms of severity a fatal accident was recorded as follows:
- i Fatal; 1 accident (already described in All Collisions)
- 7.6.11. Serious accident summary information shows the following:
- i 16 serious accidents
 - i 4 accidents occurred at a non-junction pedestrian light crossing, e.g. pelican/puffin/toucan or similar crossing
 - i 2 accidents were listed as deliberate acts (aggressive driving) injuring a pedestrian in one incident and a cyclist in another
 - i 5 accidents have a contributory factor of ‘failed to look properly (pedestrian)’

- 7.6.12. For the accident clusters involving pedestrians and cyclists, the following locations are notable:
- College of West Anglia, Tennyson Road from A148 to King George V Avenue
 - 2 slight accidents, 1 serious accidents
 - The serious accident at this location states ‘pedestrian walking along Tennyson Avenue when V1 hit them and drove off. Possible CCTV’
 - A148 London Road between Hospital Walk and N Everard Street
 - 7 slight accidents, 2 serious accidents.
 - The serious accidents at this location state contributory factors as ‘crossing masked by a stationary vehicle’ and ‘failed to look properly ‘pedestrian’.
- 7.6.13. This analysis of accidents demonstrates an upward trend in total collisions over the last 2 years and with an increased number of collisions involving pedestrians and cyclists during the last year. This has highlighted the following locations where additional mitigation and road safety/design measures may be beneficial given the potential for continued increases in the attractiveness of walking and cycling in King’s Lynn allied to policy decisions to further promote these active travel modes.
- 7.6.14. For pedestrians and cyclists the main areas are:
- Railway Road
 - London Road / Valingers Road / Windsor Road
 - Southgate
 - Tennyson Avenue / Lynn Road
 - Southgate junction
- 7.6.15. For all modes the main areas are:
- Hardwick Road
 - A47 / A149 at Hardwick
 - A149 Hardwick Industrial Estate

7.7 AIR QUALITY

- 7.7.1. Studies have identified King’s Lynn generating unsatisfactory levels of air quality, these assessments are in accordance with the *National Air Quality Strategy* (NAQS).
- 7.7.2. As a result, areas of Gaywood and Railway Road/London Road were assigned as *Air Quality Management Areas* (AQMA). The annual mean of nitrogen dioxide (NO₂) did not meet the NAQS in Gaywood and the Town Centre of King’s Lynn, resulting in issuing of *Air Quality Management Plans* (AQMPs). This highlights that road transport is the major contributor to poor air quality - background pollution levels are also a significant contributor.
- 7.7.3. The 2008 *Assessment of Air Quality* (with use of 2007 data) Ambient concentration of NO₂ in the town centre of King’s Lynn should decrease by an approximate 12% to meet the annual mean concentration levels. This can also be considered as an estimated 20% reduction of nitrogen oxide (NO_x), as NO_x is a formation of NO₂ and nitric oxide (NO).
- 7.7.4. Moreover, the 2010 *Further Assessment of the Gaywood AQMA* states that if Gaywood is to adhere to the NAQS, a 26% reduction of NO_x is necessary. This is the equivalent to approximately 17% of NO₂. This is based on data from years 2007-2009.

Summary of Issues

- 7.7.5. The traffic signals in King’s Lynn are perceived to not always cope with the congested traffic situation in King’s Lynn in the most effective way, which is considered partly a result of the control room monitoring not being full-time. There are also instances where the traffic lights appear to have long pauses.
- 7.7.6. The traffic lights on Hardwick Road outbound after the railway bridge at Hansa Road cause queueing back to Southgate roundabout causing issues for buses and other vehicular traffic.
- 7.7.7. Gayton Road / Gaywood Road is a major route for all the residential estates to access central King’s Lynn with no alternative route available for vehicular traffic. It is also where three high schools and colleges are located.

Air quality issues are present in the Gaywood Clock area and with proposed levels of growth in the town this is likely to get worse.

- 7.7.8. Congestion on the A10 through West Winch is also problematic during the peak hours.
- 7.7.9. Car parking in the town consists mainly of surface level car parking and analysis has shown that a number of these car parks reach capacity on an average weekday and weekend, and particularly during the pre-Christmas period. The analysis has also highlighted the car parks that have available capacity and management of space availability that if utilised could benefit traffic flow in the town.
- 7.7.10. With additional development the car parks will reach capacity and additional provision will be required.
- 7.7.11. The traffic associated with the Hospital and traffic from the adjacent residential area (Bishops Park) causes peak hour congestion problems.
- 7.7.12. The Southgate and London Road experiences high levels of congestion in the peak hours and increased journey times.
- 7.7.13. The central gyratory in the town centre experiences air quality issues, particularly on Railway Road and London Road.
- 7.7.14. A number of locations where traffic congestion typically occurs have been identified.
- 7.7.15. Car parking is relatively cheap in the town centre and buses sit in the general traffic making the bus unattractive for people who have a car.
- 7.7.16. Increased development is going to give rise to more travel and trips in the town exacerbating existing issues. Investment in the transport infrastructure to support the additional development is required.
- 7.7.17. With the revised road layout it is perceived that it is more difficult for vehicles to exit from Valingers Road to London Road during the peak hours.
- 7.7.18. When incidents occur on the highway network either within King's Lynn or on the surrounding strategic highway network (A149/A47) there is no alternative routing to deal with this and the existing highway network is unable to cope.

8 FUTURE GROWTH

8.1 INTRODUCTION

- 8.1.1. King's Lynn has been identified as an area for growth in the council's development plan documents. It is identified as a sub-regional centre and a number of development sites have been identified within the plan period up to 2026. Figure A16 in Appendix A provides an overview of the potential development locations in King's Lynn. Geographically these are in the north, centre, east and south of the town with a small number of sites in West Lynn. Sites for both employment and residential use have been identified.
- 8.1.2. The figures show in the region of 7,000 additional residential units in King's Lynn up to and beyond the current development plan period. With the current traffic and travel problems that have been identified in King's Lynn it will be important that the development contributes to improvements in transport infrastructure for all modes of travel to accommodate the level of additional trips that could result from the prospective residential development.
- 8.1.3. Notable additional employment areas have also been identified to the south of the town: east of Hardwick next to the A149; and to the south of Saddlebow. An enterprise zone (Nar Ouse Business Park) has been identified in the Nar-Ouse regeneration area.

8.2 EXISTING STUDIES

- 8.2.1. The following studies and initiatives have been specifically identified within the brief provided for inclusion within the forecasting assessments that will be undertaken during the development of the Transport Strategy.

KING'S LYNN RIVERFRONT REGENERATION – NELSON QUAY

- 8.2.2. The Borough Council has undertaken extensive masterplanning work to develop regeneration proposals for the underutilised land at Boal Quay and South Quay. The masterplan for the scheme shows predominantly residential development with an element of retail and commercial development, including a boutique hotel. In total 41,329sqm (436 homes) and 7,659 sqm of commercial space have been outlined within the masterplan. This development will complement existing quayside attractions which include pleasure-boat moorings on the pontoons, a series of bars and restaurants, a hotel, and the iconic Custom House. Key issues arising from this are access to the regeneration site and dealing with possible displaced public car parking. Some ideas for accessing the site have been suggested in the overarching masterplanning document and these will be investigated further and tested as part of the development of the Transport Strategy for King's Lynn.

HERITAGE ACTION ZONE

- 8.2.3. King's Lynn was 1 of 10 locations to be designated Heritage Action Zone (HAZ) status by Historic England in March 2017. The key aims of the HAZ are to:
- ┆ Stimulate local economic growth
 - ┆ Maximise the economic potential of heritage assets
 - ┆ Strengthen the character of King's Lynn conservation areas
 - ┆ Improve King's Lynn's Town Centre's competitiveness as a sub-regional centre
- 8.2.4. The HAZ Partnership Board has agreed a 5-year Delivery Plan setting out a number of interventions to deliver against the HAZ aims including identification of 7 brownfield town centre sites (including 4 existing surface car parks) for redevelopment. A town wide Transportation Strategy is required to understand the impact of these collective developments on the network, and identify solutions including suitable locations for alternative car parking provision to enable these sites to be unlocked.

LOCAL PLAN REVIEW

- 8.2.5. The BCKL&WN Local Plan is currently under review and will seek to identify how further growth can be accommodated in the borough. This will cover the period up to 2036 and the Transport Study and Strategy will need to consider the emerging proposals from this work within the forecasting work and in the development of appropriate potential mitigation and/or enabling schemes to accommodate the development and growth potential of King's Lynn.

8.3 POTENTIAL ISSUES

- 8.3.1. There have been a number of local congestion issues already identified within this document as well as limiting issues with all modes of travel. A holistic approach to addressing these alongside each other will be required to accommodate the level of growth that is currently planned for King's Lynn. This Transport Study has identified where problems and issues currently exist in the town and the development of the Transport Strategy will aim to consider how existing issues can be addressed alongside forecasting for future travel needs to identify and develop measures that could enable the planned levels of development to stimulate local economic growth.
- 8.3.2. Of particular importance in the future growth of King's Lynn will be the potential worsening of current congestion areas in the town centre during weekday peak hours and also for accessing the leisure and tourism in the nearby coastal towns:
- Central gyratory / London Road / Gaywood Road / Lynn Road
 - A47 / A149 junctions to the south and east
 - A10 corridor
 - Southgate / Hardwick and Wisbech Road junctions
 - South Wootton A148 / Castle Rising Road
- 8.3.3. It will be imperative that walking and cycling modes of travel are developed and supported to promote and encourage continued growth in these modes that already provide a valuable contribution to supporting King's Lynn as a sustainable urban centre.

8.4 CHANGE IN TRANSPORT AND TRAVEL

- 8.4.1. It is very evident that expected changes in the way people and goods move could impact significantly on the way our towns and cities look in the future. Whilst we are on the cusp of potential significant change it will be difficult to predict exactly how these changes in technology, behaviour and movement could impact on the transport and travel in King's Lynn in detail. However, the Transport Study and Strategy will need to acknowledge that these potential changes in transport provision are on the horizon and seek to accommodate the potential implications during the study development.

9 POTENTIAL INTERVENTION

9.1 INTRODUCTION

- 9.1.1. This section aims to set out a number of areas of potential interventions that could help to alleviate some of the problems and issues that have been identified in King's Lynn in the preceding sections of this document. These are set out as general opportunities for change that could be investigated further to develop the long-list of potential schemes for evaluation in relation to the transport strategy as well as setting out ideas for each mode that have been gathered to date through stakeholders and interested parties. Each mode of travel is then discussed in turn.
- 9.1.2. The areas that contribute towards addressing the transport problems and issues in King's Lynn can be broadly classified into three elements: social, environmental and economic. Figure 11 below shows the relationship between these three factors and their potential application to King's Lynn development schemes. This does not include a comprehensive set of solutions that are available for King's Lynn but demonstrates the inter-relationship of these three elements that impact on or are impacted by transport.

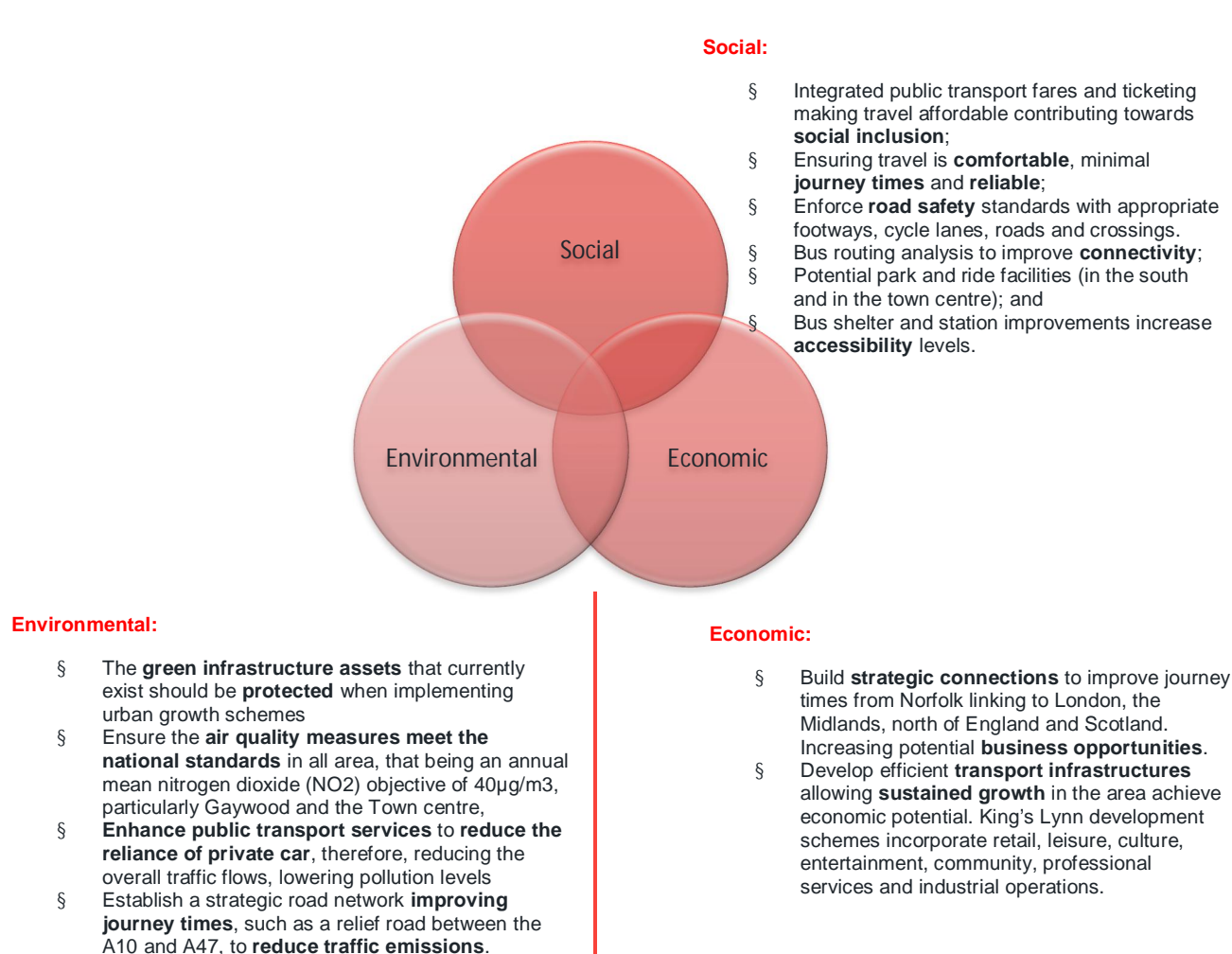


Figure 11. Contributing Factors to Transport in King's Lynn

9.2 PUBLIC TRANSPORT

9.2.1. Some general areas that have been identified as potential constraints on public transport usage in King's Lynn are as follows:

- ┆ Bus routing alternatives
- ┆ Timetabling for business usage
- ┆ Bus priority
- ┆ Park and Ride
- ┆ Fares, ticketing and information / publicity
- ┆ Car parking for the railway station
- ┆ Bus rapid transit / heavy rail links

9.2.2. Stakeholder inputs through the event and other correspondence has provided a list of potential intervention measures for public transport that will be considered during the next stages of the study.

9.3 HIGHWAY NETWORK

9.3.1. Some general areas that have been identified as potential constraints on the highway network in King's Lynn are as follows:

- ┆ Gyratory configuration alternatives
- ┆ Simplify traffic signals – London Road to Gaywood
- ┆ Manage road space (bus priority, high occupancy vehicle (hov) lanes)
- ┆ Use of Hardings Way and management of this link
- ┆ Management of impacts on the historic core
- ┆ Localised junction improvements
- ┆ Hardwick interchange and strategic road improvements
- ┆ Southgate Roundabout improvements

9.3.2. Stakeholder inputs through the event and other correspondence has provided a list of potential intervention measures for the highway network that will be considered during the next stages of the study.

9.4 ACTIVE MODES

9.4.1. Some general areas that have been identified as areas where improvements could be beneficial to the pedestrian and cycle network in King's Lynn are as follows:

- ┆ Improved connectivity and continuity including year round provision
- ┆ Follow desire lines
- ┆ Safety and security
- ┆ Access to education and employment
- ┆ Bike hire scheme
- ┆ Information and signing

9.4.2. Stakeholder inputs through the event and other correspondence has provided a list of potential intervention measures for active modes that will be considered during the next stages of the study.

9.5 POLICY DIRECTION

9.5.1. Alongside interventions to promote and encourage the use of public transport and active modes of travel alongside alleviating congestion in the town there are a number of policy initiatives that could influence travel decisions within King's Lynn and the wider area which could have an impact on travel decisions in the future:

- ┆ Car parking strategy and pricing
- ┆ Development strategy to direct resource towards future transport provision
- ┆ Staggered education start and finish times
- ┆ Future technology and mobility – electric and autonomous
- ┆ Personalised Travel Planning for new development

10 SUMMARY AND NEXT STEPS

10.1 INTRODUCTION

- 10.1.1. This document has gathered information and data from various sources to establish the existing transport and travel situation in King's Lynn and to begin to develop ideas for future intervention that could be taken forward through the next stages of the transport study. This section provides a summary of the main transport and travel issues that have been identified and describes the next stages feeding into the overall transport strategy for King's Lynn.

10.2 PROBLEMS, ISSUES & OPPORTUNITIES

Public Transport

- 10.2.1. The recent changes to the bus operations in King's Lynn provide an indication of the current difficulties faced by bus operations in the area. The bus service network and frequencies are currently limited by the congestion and traffic levels in the town centre which mean bus service operations are expensive and liable to delay. Reliability of bus services is generally considered a key factor in their use, alongside convenience and accessibility.
- 10.2.2. The geography of the town and the nature of the highway connections means that walking and cycling are attractive and popular modes of travel in King's Lynn, which may be a reason why bus usage in King's Lynn is relatively low compared with national statistics. However, there are still opportunities for increased bus usage in the town to assist with congestion levels and potential development, however the infrastructure needs to be put in place to support this as an alternative to private car travel.
- 10.2.3. The ferry connection to West Lynn is a valuable asset to the town and further support and investment in this could prove very beneficial for King's Lynn's transport system in the future. With the service being limited by the infrastructure, availability of car parking and information/publicity, further support and investment in the service could improve its use.
- 10.2.4. The rail service in King's Lynn is currently limited by the single track sections to the south of the town. The only way of improving the service frequency is through addressing this constraint. Rail use generally makes up a relatively small proportion of commuter trips and there may be potential for new trips to be transferred to rail. Access to the railway station is limited by its location on the central gyratory and the availability of car parking and reliable bus services.

Active Modes

- 10.2.5. The audit and assessment of active modes (cycling and walking) has identified a number of areas where further improvements to pedestrian and cycle access could be made. King's Lynn has a high mode share of cycling and walking trips and this is largely influenced by the geography and highway network, which assists with this. Short journeys to education could be targeted to assist with peak hour traffic levels through the encouragement of active modes and provision of the necessary infrastructure to make this a safe and attractive alternative.

Private Vehicular Travel

- 10.2.6. The highway network in King's Lynn is restricted in a number of areas of the town but most notably at the access points to King's Lynn from the strategic highway network, and also accessing the town centre at Southgate, London Road, central gyratory, Gaywood / Lynn Road. Traffic congestion at these locations adds to local air quality exceedances in the town, and occurs in the weekday peak hours as well as during the weekend. The operation of the strategic highway network around King's Lynn strongly influences the use of the local road network in the centre of King's Lynn and vice versa.
- 10.2.7. Car parking in the centre of King's Lynn consists mainly of surface car parks and is generally well-used. At its busiest there is likely to be only a small amount of spare capacity and at these times searching for car parking spaces can add to traffic congestion levels within the historic street network of the town centre. Analysis of the available data on car parking has shown that there are some car parks that are more popular than others and these tend to be the most centrally located.

10.3 VISION AND OBJECTIVES

- 10.3.1. The Vision and Objectives for the Transport Strategy were set out at the Stakeholder event in April 2018. These have been agreed as follows:

Vision Statement

- 10.3.2. To support sustainable economic growth in King's Lynn by facilitating journey reliability and improved travel mode choice for all, whilst contributing to improve air quality; safety; and protection of the built and historic environment.

Objectives

- ┆ Provide a safe environment for travel by all modes;
 - ┆ Encourage town centre accessibility by all modes whilst conserving and enhancing King's Lynn's rich historic environment;
 - ┆ Support sustainable housing and economic growth;
 - ┆ Reduce the need to travel by car through development planning;
 - ┆ Manage traffic congestion in King's Lynn;
 - ┆ Increase active travel mode share for short journeys;
 - ┆ Promote and encourage the use of public transport;
 - ┆ Reduce harmful emissions and air quality impacts.
- 10.3.3. The Transport Study and Strategy is relevant to the current time period under consideration in terms of future development in the area. It is likely that as transport and travel choices and decisions continue to evolve the strategy will need to be re-assessed and evaluated in an alternative context. This Transport Study and Strategy therefore concentrates on the Short to Medium term (5 to 15 years), whilst also including some long term aspirations for King's Lynn transport network (beyond 15 years).

10.4 ONGOING WORK AND NEXT STEPS

Transport Surveys

- 10.4.1. The transport surveys have been commissioned and traffic data collection specialists "Intelligent Data" will be undertaking various surveys in King's Lynn from the week commencing 18th June. Various types of survey will be undertaken, some will cover a single day and others will cover 14 days.
- ┆ Automatic Traffic Count (ATC) – 14 days
 - ┆ Manual Classified Counts (MCC) also including pedestrian and cyclist counts at some locations – 1 to 3 days
 - ┆ Automatic Number Plate Recognition (ANPR) – 1 to 2 days

Transport Modelling

- 10.4.2. The existing strategic highway model (using SATURN software) is being updated using mobile telephone network data for the matrix development and also making relevant updates to the highway network.
- 10.4.3. Alongside this work a micro-simulation Paramics Discovery model focussed on the central area of King's Lynn is being developed. This will use data from the SATURN model to inform the matrix development and will utilise the newly collected survey data.

Option Development

- 10.4.4. Optioneering on potential transport improvements for King's Lynn has already started, as detailed in the earlier sections of this report through the ideas gathered from the document review and stakeholder views that have already been gathered across all modes of travel. This will continue to be developed and considered over the coming months to develop a long list of potential transport improvement schemes. Where appropriate outline schemes will be prepared for testing in the models.

Option Appraisal

- 10.4.5. The long list of schemes will be initially appraised against the Vision and Objectives for the study, as detailed in Section 10.3. The appraisal will use the DfT Early Assessment and Sifting Tool (EAST) method as appropriate to identify key schemes which will be taken forward for further design and testing. Schemes across all modes of travel will be covered in this to prepare a short-list of potential schemes for the Strategy which can be easily categorised as short, medium and long-term schemes and provide improvements in

transport in King's Lynn and help to address the main problems and issues, helping to unlock growth and the economic prosperity of the town.

Option Modelling

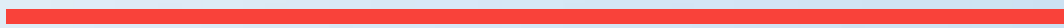
- 10.4.6. A short-list of schemes will be tested in the transport models (both Strategic and Local as appropriate to the scheme). Building on the 2018 Base model that will already have been prepared, forecasting models which include assumptions about the trips associated with prospective developments will also be prepared. The models will be able to evaluate the highway impacts alongside public transport implications of specific measures, however, impacts on active modes and potential other public transport / highway benefits and dis-benefits will also be evaluated alongside the transport modelling results.
- 10.4.7. The evaluation of schemes collectively in the models and alongside the overall initial appraisal will assist in identifying a preferred transport strategy for King's Lynn.

Stakeholder Engagement

- 10.4.8. A further round of Stakeholder engagement will occur once the modelling results and scheme evaluation has been undertaken. This will aim to provide data on the emerging Transport Strategy in the context of the results of the appraisal and scheme evaluation that has been undertaken.
- 10.4.9. It is currently expected that the Draft King's Lynn Transport Strategy will be available early in 2019 once the above work has been completed.

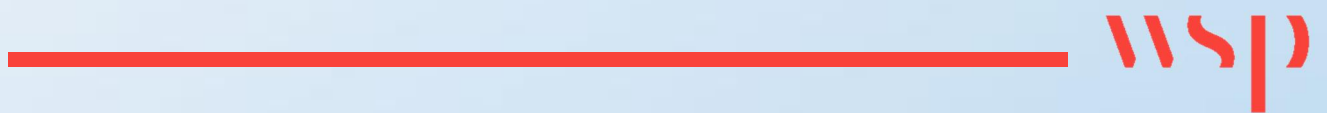
Appendix A

FIGURES



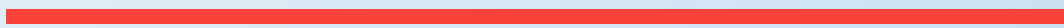
Appendix B

2011 CENSUS DATA ANALYSIS



Appendix C

DOCUMENT REVIEW



Appendix D

PEDESTRIAN AND CYCLE AUDIT



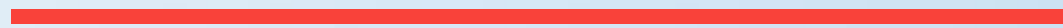
Figure showing Audit Area

Audit Report

[AVAILABLE ON REQUEST]

Appendix E

WORKSHOP EVENT – 16/04/2018



Invited and Attendee List

Summarised Notes

BCLK&WN Regeneration and Development Panel – 27/06/2018



Unit 9, The Chase
John Tate Road, Foxholes Business Park
Hertford
SG13 7NN

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