



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

KINGS LYNN TRANSPORT STUDY & STRATEGY

STAGE 2: Option Appraisal Report





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Lynn & West Norfolk

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STAGE 2: Option Appraisal Report

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1. INTRODUCTION AND STUDY OBJECTIVES

1.1. INTRODUCTION

- 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 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.
- 1.1.3. The Transport Study will concentrate 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).
- 1.1.4. The Transport Strategy is intended to provide assistance in joining together transport improvements already being undertaken in and around the town, as well as identifying a strategy for future medium and long-term transport infrastructure improvements, particularly with regards to:
 - § Development of allocated sites and future sites coming forward in the Council's Local Plan - Site Allocations and Development Management Policies (SADMP) to meet housing and employment growth;
 - § Regeneration of underutilised land;
 - § Car parking issues (rationalisation and capacity);
 - § Resolving air quality issues in the town; and
 - § Growing traffic congestion within the town.

1.2. STUDY AREA

- 1.2.1. The study area for the Transport Strategy is shown in Figure 1 and covers the main urban area of King's Lynn and the urban areas of North Lynn, South Lynn, South Wootton, Hardwick, Gaywood and Fairstead. Whilst the focus for the Transport Strategy is the area identified in Figure 1 below, consideration has been given to the wider local and strategic transport network that connects King's Lynn with surrounding settlements. This includes consideration of King's Lynn's bus and rail service catchment areas and the A47 and A149 corridors. It also includes a more detailed concentration spanning from the town centre and within the bounds of the A47/A149.

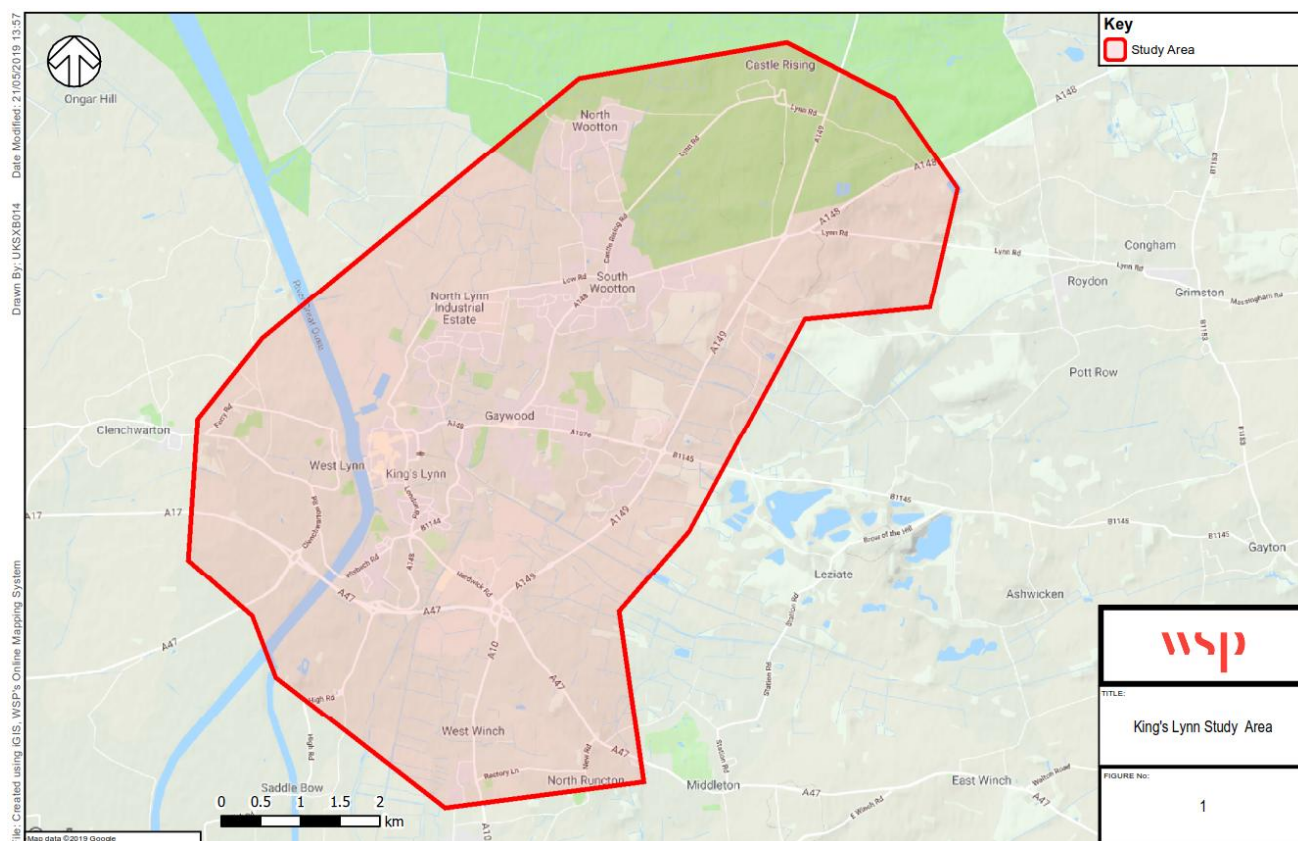


Figure 1 – Study Area

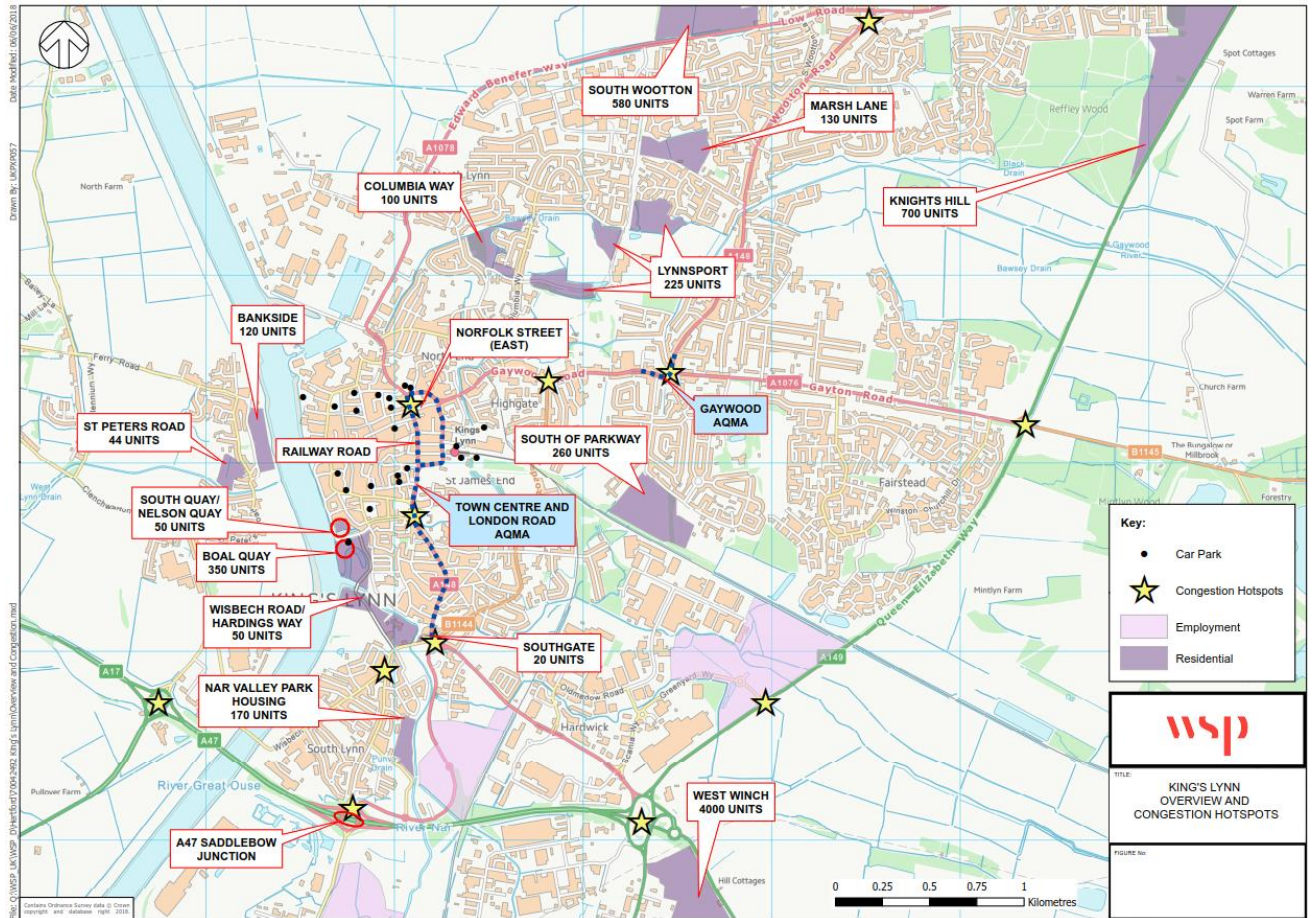


Figure 2 – Study Overview

1.3. VISION AND OBJECTIVES OF THE TRANSPORT STRATEGY

- 1.3.1. The vision and objectives of the preferred Transport Strategy have been informed by the transport issues and opportunities that emerged from the Stage 1 Issues and Opportunities Report (June 2018).
- 1.3.2. The proposed road vision and objectives of the preferred Transport Strategy are summarised below.

Vision

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

Objectives

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

1.3.3. To ensure that the vision and objectives are closely aligned with other local policy documents.

1.3.4. The vision and objectives of these local policy documents covers the following themes. This includes:

- § **Reducing the impact on the environment;**
- § **Promoting sustainable developments / growth;**
- § **Maintaining and improving King's Lynn's Infrastructure;**
- § **Promoting accessibility improvements at a local and strategic level;**
- § **Promoting a reduction in car use; and**
- § **Promoting road safety.**

1.3.5. The above themes have been compared with the proposed vision and objectives of the preferred Transport Strategy above and it is concluded that these complement the vision and objectives of these documents without any conflicts. As such, schemes promoted in the preferred Transport Strategy should align well to support / be supported by the vision and objectives of other local planning policy documents.

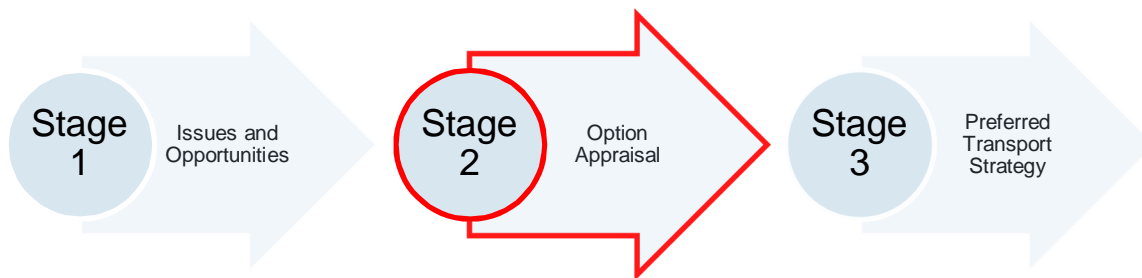
1.4. STUDY STAGES

1.4.1. This report is the second of three reports covering the Transport Strategy's study stages and discusses the appraisal of a long list of options in order to establish a package of short, medium and long-term options recommended for inclusion within the Preferred Transport Strategy (Stage 3).

1.4.2. A Stage 1 Report has already been produced and identified the existing and potential future transport issues and opportunities within the study area. This report serves as a robust evidence base for the preferred Transport Strategy and the development of the long-list of options.

1.4.3. A Summary of the three main stages is provided in Figure 2 below.

Figure 2 – Stages of Developing a Transport Strategy for King’s Lynn



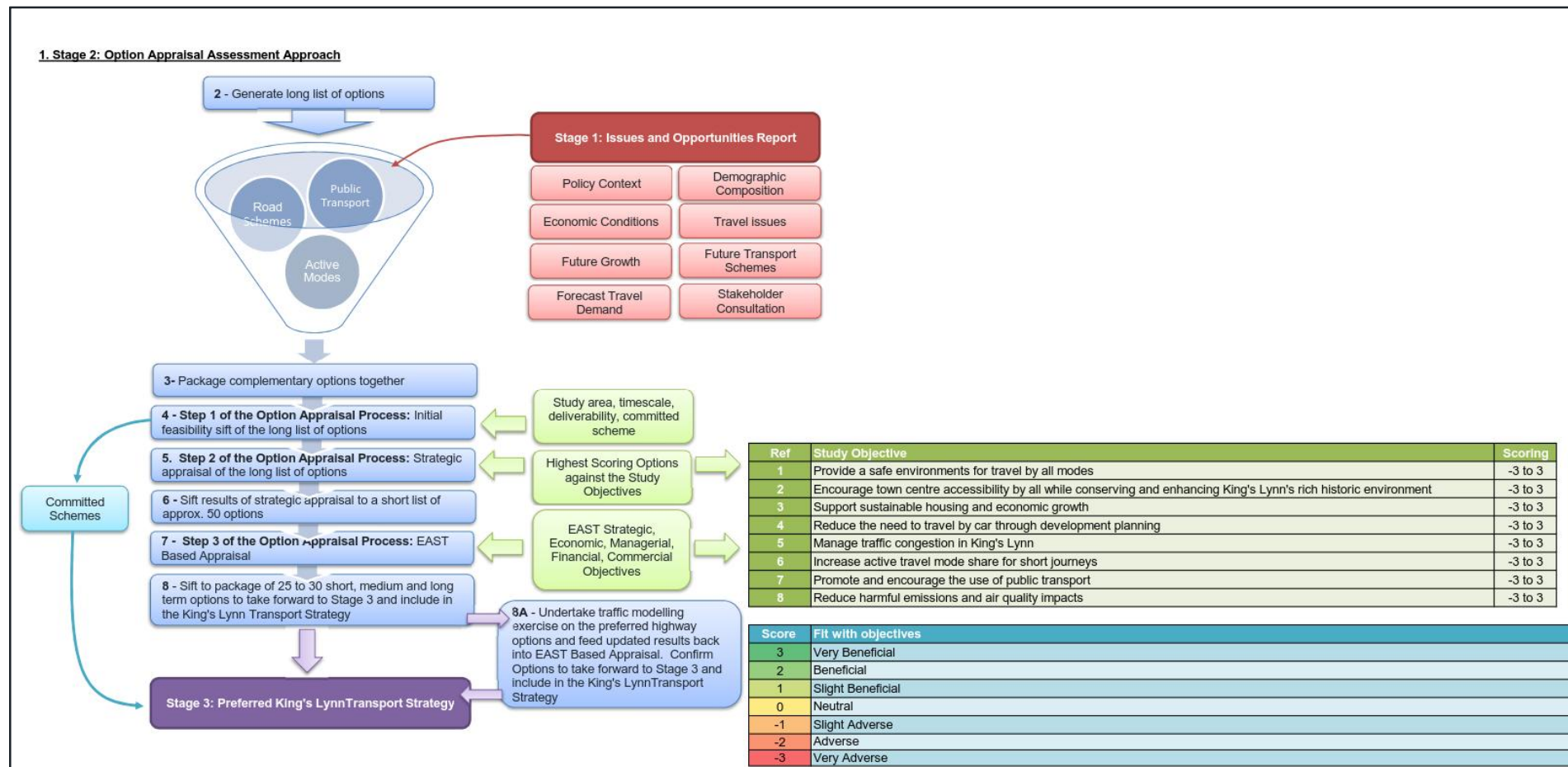
1.5. OPTION APPRAISAL ASSESSMENT APPROACH

1.5.1. The option appraisal process is broken down into three main steps:

- § **Step 1 - Initial sift:** The purpose of this sift is to discount options that are “non-runners” early on in the appraisal process. These are options that are unlikely to be delivered within the Strategy timescale and would generate a low score if a full EAST based appraisal was undertaken. Any committed schemes identified during the initial sift or schemes which can be addressed through general highway maintenance will be taken forward directly for inclusion in the King’s Lynn Transport Strategy.
- § **Step 2 – Strategic Appraisal:** The strategic appraisal scores each option against the 8 objectives of the Transport Strategy. To reflect the importance (publicly and politically) of individual objectives (e.g. reducing congestion in King’s Lynn), the objectives have different weightings. The 50 highest scoring options form a shortlist of options.
- § **Step 3 – EAST Appraisal:** The shortlist of options generated in step 2 are appraised using a methodology based on DfT’s Early Assessment Sifting Tool (EAST). This provides ranked packages of short, medium and long-term interventions. Following further assessment of some of the highway measures in the transport model, these packages of options go on to form the basis of the King’s Lynn Transport Strategy (Stage 3 of the project).

1.5.2. The flow diagram for developing and appraising the long-list of options is provided in Figure 3 below.

Figure 3 – Stage 2 Option Appraisal Assessment Approach



1.6. STRUCTURE OF REPORT

1.6.1. The remainder of this report is structured as follows:

- § Section 2 highlights the key transport issues and opportunities that emerged from the Stage 1 report;
- § Section 3 discusses the generation of the long-list of options;
- § Section 4 presents the results of the initial sift;
- § Section 5 presents the results of the strategic appraisal and discusses the development of a short-list of options;
- § Section 6 presents the results of the option appraisal (based on a methodology derived from DfT's EAST (Early Appraisal Sifting Tool));
- § Section 7 recommends a package of short, medium and long-term options for inclusion within the Transport Strategy and identifies the next steps.

2. ISSUES AND OPPORTUNITIES

2.1. STAGE 1 ISSUES AND OPPORTUNITIES REPORT

- 2.1.1. The purpose of the Stage 1 Issues and Opportunities report was to provide a robust evidence base from which to develop the Transport Strategy and help inform the development of a long-list of options. The key findings and potential opportunities for intervention are summarised below:

2.2. KEY ISSUES

DEMOGRAPHIC COMPOSITION

- § King's Lynn is the largest town in the borough of King's Lynn and West Norfolk. The 2011 census reported that the population of King's Lynn and West Norfolk was 147,451.
- § In 2008, King's Lynn was identified as the 'growth' point of the area.
- § An additional 7,000 residential units are planned up to and beyond the current development plan period (2026).

ECONOMIC CONDITIONS

- § The main employment destinations within the study area are North Lynn Industrial Estate, Bentinck Dock, Alexandra Dock, Austin Fields Industry, Rollesby / Oldmeadow Industrial Area, Horsley's Fields Industry, Wisbech Road Industry, East Coast Business Park, Saddlebow Industrial Estate, Willows Business Park, Hardwick Narrows Industrial Estate, the College of West Anglia and The Queen Elizabeth Hospital
- § King's Lynn and West Norfolk has slightly higher levels of unemployment than the average for Norfolk and England.
- § Notable additional employment areas have 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.

JOURNEYS TO WORK

- § Driving a car or van is the main mode of transport for journeys to work by residents of King's Lynn, at 61%, exceeding the national average of 54%. A large proportion of car driver trips are over a short distance and within the boundary of the town.
- § The majority of public transport journeys to work by residents of King's Lynn is by bus, at 3%. This is lower than the national average of 7%. The largest proportion of bus journeys are performed within close proximity to the origin of King's Lynn.
- § Use of the train by residents is low; only 1% of residents travel by train. The majority of trips are to Cambridge or the Cambridgeshire area, specifically Ely and Newmarket, with a proportion of trips going to Downham Market.
- § Active models (cycling and walking) account for 17% of journey to work trips, considerably higher than the national average of 8%.
- § Of the journey to work trips by residents of King's Lynn, 65% of trips are less than 15km in length, with 34% less than 10km. Of the car driver trips, 58% are less than 15km, 23% are less than 10km and 6.5% are less than 5km long.

ACTIVE MODES

- § The pedestrian network in King's Lynn is generally good, with wide pavements and streetlighting. Some general maintenance issues are present in King's Lynn, including: dirty / weathered wayfinding signs, faded surface marking, damaged guard railing, uneven surfaces and potholes.
- § 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. Protection for pedestrians crossing the gyratory where it is 4-lanes wide with no central island is lacking making it very hazardous.
- § The road network in King's Lynn at peak times is not conducive to on-road cycle usage due to high traffic flows. Cycling on the roads in King's Lynn is considered dangerous in places, due to parked cars on the road / footway; narrow roads with cars parked on both sides; potholes and drains.
- § Gaywood Clock and London Road/ Railway Road could benefit from on-road protected cycle provision where space allows. There is no safe place for cyclists to safely cross the A149 to access King's Lynn.
- § 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.
- § Hardings Way and South Quay is a very valuable asset for cyclists in King's Lynn offering a traffic-free environment.
- § There are concerns regarding the 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.
- § 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.
- § There is a lack of secure storage for bicycles in the town centre, and not all parts of the cycle network in King's Lynn are linked together.

PUBLIC TRANSPORT

- § The bus station is situated at a central location to the town, and is located in close proximity to King's Lynn Railway Station. Stagecoach have recently announced their withdrawal of services from the town. The main bus operators in the town are First, Lynx and Go to Town.
- § All bus services in King's Lynn have to travel through the central gyratory in the town centre. With the levels of peak hour congestion on the gyratory typically being high, bus service reliability can be severely affected by the operation of the 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.
- § Bus services do not use Tennyson Avenue in their routing, therefore leaving parts of the residential areas, Rollesby Road / Oldmeadow Industrial area and parts of the Pierpoint Retail Park unserved by bus.
- § 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.

- § Villages outside of King's Lynn have a relatively poor level of service, which means that buses are unattractive due to their limited frequency and/or frequency of operation.
- § 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. Most residential areas have at least 3 buses per hour.
- § Passengers travelling from north to south of the town need to change bus services via the bus station 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.
- § Whilst the network coverage of bus services in King's Lynn is good and there are some areas that have 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.
- § 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.
- § Cycle storage provision at King's Lynn Railway Station is not covered by CCTV and is therefore not attractive to use due to security issues.

PASSENGER FERRY

- § The King's Lynn Passenger Ferry provides a link between West Lynn and King's Lynn, avoiding a much longer vehicular route via Wisbech Road into King's Lynn. Free parking is available at the West Lynn terminal, but provision is currently insufficient to cater to the parking demand.
- § 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.
- § 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.

HIGHWAY NETWORK

- § The radial routes into King's Lynn converge at the central one-way gyratory. Alternative routing through the town is difficult due to the limitations of the railway line crossing points.
- § 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). These contribute to the following issues: peak hour congestion, local air quality issues, bus service reliability, compromised safety of pedestrians and cyclists.
- § During the peak hours, congestion occurs at specific locations on the routes into or through the town: Town centre gyratory; Valingers Road / London Road traffic lights; Southgate inbound from Southgate roundabout; Vancouver Avenue onto Southgate roundabout; A149 bypass; Tennyson Road / Gaywood Road, Gaywood Clock (Lynn Road / Wootton Road) including junction with Queen Mary Road; Queensway junction with A1076; A1076 Gayton Road mini

roundabout; Loke Road / John Kennedy Road; Estuary Road / Edwards Benefer Way; Low Road / Castle Rising Road / Wootton Road / Grimston Road.

PERSONAL INJURY ACCIDENTS

- § Over the five year period from January 2013 to December 2017, 280 accidents were recorded in the area. Only one fatal accident occurred over the period, and occurred when a pedestrian was hit by a vehicle which failed to stop at a red light on the gyratory.
- § The largest concentration of PIA occurred at Southgates Roundabout, on the A148 near Valingers Road and Greyfriars School, south of the College of West Anglia on Tennyson Avenue and north of the College of West Anglia on Tennyson Avenue.
- § Of the 280 accidents that took place across the area, 98 involved non-motorised users (pedestrians and cyclists). Locations with the highest levels of PIAs involving pedestrians and cyclists are: Railway Road, London Road / Valingers Road / Windsor Road, Southgate Junction and Tennyson Avenue / Lynn Road.
- § 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.

PARKING

- § 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.
- § There are approximately 3,650 car parking spaces available in King's Lynn. 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.
- § Annual usage of the car parks varies during the year, with the peak levels occurring between October and December, and usage being lowest in August and September.
- § Saturday is typically the busiest day for car park usage in King's Lynn, with Sunday having the lowest level of usage across the week.
- § Car parks in King's Lynn are connected to variable message signs (VMS), giving users an indication of the number of spaces available.
- § From Monday to Friday, Austin Street, Boal Quay, Common Staithe and Juniper car parks are typically at capacity.
- § On Saturdays, Blackfriars, St James Court, Saturday Market Place and Tuesday Market Place car parks all get close to capacity (90%+).

TAXIS

- § At present, there is an insufficient number of taxis at King's Lynn Railway Station to meet the demand from the train service.

AIR QUALITY

- § Studies have identified that King's Lynn generates unsatisfactory levels of air quality. The areas of Gaywood and Railway Road / London Road have been assigned as Air Quality Management Areas (AQMAs).

ELECTRIC VEHICLES

- § There are a very few electric vehicle charging points in the study area. Three charging points are available in St James Car Park, two are available at Sainsbury's, and one charging point is available at Hardwick Retail Park.

2.3. OPPORTUNITIES FOR INTERVENTION

PUBLIC TRANSPORT

- 2.3.1. Some general areas have been identified as potential opportunities to improve public transport usage in King's Lynn:

- § Explore bus routing alternatives;
- § Consider re-timetabling of services for business usage;
- § Explore the potential for bus priority measures to reduce journey times and encourage bus usage;
- § Consider the provision of park and ride facilities;
- § Provide additional information regarding fares, ticketing;
- § Provide additional car parking for the railway station; and
- § Consider the provision of bus rapid transit / heavy rail links.

ACTIVE MODES

- 2.3.2. Some general areas have been identified as potential opportunities to improve the pedestrian and cycle network in in King's Lynn:

- § Improved connectivity and continuity including year-round provision;
- § Provide improved connections along desire lines;
- § Ensure increased safety and security;
- § Improve walking and cycling accessibility to education and employment;
- § Bike hire scheme could be introduced to encourage cycling for short trips previously made by car and visitors to the area;
- § Further information and signage could encourage further trips.

HIGHWAY NETWORK

- 2.3.3. Some general areas have been identified as potential opportunities to improve the highway network in in King's Lynn:

- § Consider alternative network configurations to the gyratory system;
- § Simplify traffic signals on the section between London Road and Gaywood;
- § Improve management of road space to lock in capacity for other modes. This could include new bus priority measures, new walking and cycling routes (e.g. wider footways, new on road cycle lanes, provision on advance stop lines for cyclists).
- § Consider the future use of Hardings Way and management of this link;
- § Manage the impacts of traffic on the historic core;
- § Consider localised junction improvements;
- § Provide improvements at the Southgate Roundabout.

POLICY DIRECTION

- § A car parking strategy could be developed to guide and manage car parking in the town centre, including the requirements on the provision of parking and charging point for electric vehicles, and pricing.
- § Education start and finish times can have a significant impact on travel at certain times of the day, especially around Gaywood, a review of start and finish times may be helpful.
- § New developments to provide personalised travel planning to inform residents of sustainable travel options available to them. This could include a requirement to provide free bus taster tickets.
- § Consideration should be given to autonomous vehicle technology to ensure that future development takes account of this emerging technology.
- § Consideration could be given to staggering education start and finish times.
- § A strategy should be developed to capture private sector contributions to help fund transport improvements.
- § A strategy could also be developed that restricts the undertaking of highway works in and around King's Lynn during the peak holiday season to help manage congestion levels and disruption during the peak holiday season.

3. OPTION GENERATION

3.1. OVERVIEW

This section sets out how the study team has generated a long list of potential short, medium and long-term conceptual options that could address the identified transport issues and opportunities within King's Lynn and supports the vision and objectives. The identified options provide a range of benefits to residents, workers and visitors of King's Lynn, in addition to those users travelling through the town on the Local and Strategic Road Networks.

3.1. OPTION GENERATION

- 3.1.1. A wide range of short, medium and long-term road and non-road based conceptual options have been generated. To help inform the option development process a set of study specific objectives have been developed and the options have been grouped by transport theme.
- 3.1.2. The long-list has emerged from the key findings and opportunities identified in the Stage 1 report (summarised in Section 2 above), working group meetings with NCC and BCKL&WN officers and consultation with stakeholders and Members of the Councils. The process to develop the long list of options is summarised in Figure 4 below.

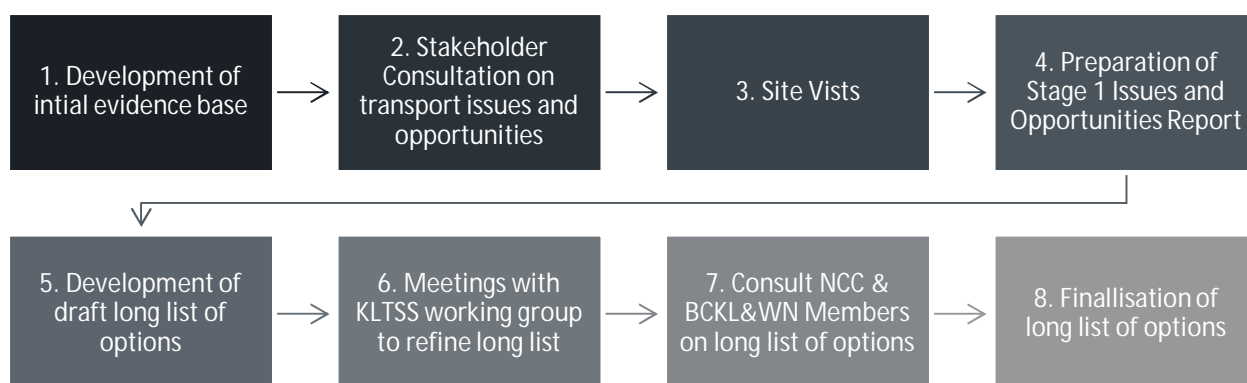


Figure 4 – Process to develop long-list of options

3.2. LONG-LIST OF OPTIONS

- 3.2.1. In total, 114 conceptual options have been identified for King's Lynn. A list of the initial long-list of options along with the transport theme is provided in Appendix A.
- 3.2.2. For each of the conceptual options listed in Appendix A, a figure showing the location of the site-specific schemes categorised by mode is provided in Appendix B.

3.3. TRANSPORT THEMES

- 3.3.1. Given the complex nature of the study area, a single option is not considered likely to be capable of solving all the identified issues in the Stage 1 report or achieve all the identified study specific objectives. Therefore, a range of transport themes that are complementary to each other have been used to address the wide range of transport issues identified. Figure 5 identifies the 11 conceptual option transport themes.



Figure 5 – Transport Themes

3.4. PACKAGING OF COMPLEMENTARY OPTIONS

- 3.4.1. Following the development of a long-list of options, complementary options have been packaged together. Options have only been packaged in cases where there is a common theme and it is likely that, if appraised individually, they would score similarly. Options have been packaged based on delivery timetable, type of intervention proposed and geographic location where feasible. Those options that have been grouped are shown in Table 3-1 that follows. This results in a reduction in the scheme long list to 100.
- 3.4.2. The long list of options with complementary measures packaged is included in Appendix C.

Table 3-1 – Grouped Options

Theme	New Ref	Option	Description
Buses	1.10	Access for buses to bus station via Albion Street; Improved Albion Road exit for buses	Bus lane on Railway Road and bus station access via Albion Street to reduce delay and journey times for buses. Improve the road layout design to provide an improved left turn onto Railway Road from Albion Street. Current traffic light timings only lets 2 buses through (usually cars + buses to exit). More green time needed / change quicker when there are a number of vehicles waiting to exit
Buses	1.12	Town centre gyratory re-design. Various Options - Bus Lanes - Railway Rd, London Rd, Blackfriars Rd	Redesign of traffic movements around gyratory to assist with AQMA, congestion, connectivity and road safety objectives. Various schemes need developing through workshop and testing in the transport model. Investigate potential for providing bus-only lanes through Railway Road, London Road, Blackfriars Road to take out areas that generate air pollution and improve air quality with modal shift.
Buses	1.19	Reduction in outbound delays at Hansa Road, Hardwick Road junction outbound for public transport; Hansa Road yellow box improvements for traffic exiting retail park	Address traffic signal delays at the junction in the outbound direction which cause queues back to Southgate and beyond and impact on bus journey times as well as Southgates roundabout and London Road; Review yellow box usage and improvements at B&Q / Next to allow people to exit the retail park more easily
Active travel	4.13	Tennyson Avenue Pedestrian & Cycle improvements; King George V Avenue pedestrian improvements; Tennyson Road, The Walks, Tennyson Avenue pedestrian improvements; Tennyson Avenue, Gaywood Road pedestrian improvements; Review of pedestrian crossing facilities on Extons Road and Tennyson Avenue	King George V Ave: cluster of pedestrian/cycle accidents, provide improved crossing facilities to accommodate pedestrian movements. At access point to The Walks pedestrians and cyclists are not provided with crossings over B1144 except dropped kerbs and footway marking-provide improved crossing provision. Gaywood Road: cluster of pedestrian/cycle accidents, provide improved crossing facilities to accommodate pedestrian movements. Identify locations for more pedestrian crossings including signalised ones on Extons Road and Tennyson Avenue to improve road safety for pedestrians in this area.
Active travel	4.17	Way-finding & signage issues: Saturday Market Place cycle signing; Norfolk Street wayfinding signs; Hardings Way/Wisbech Road wayfinding signs;	Misleading on-street signage - sign in foreground indicates a shared use unsegregated cycle and pedestrian route while just after cycling is prohibited; no wayfinding signage available along Norfolk Street-provide signing along this link; Hardings Way/Wisbech Road no wayfinding signs available-provide signage at this location
Traffic Signals	5.1	Review traffic signal timings at various locations to optimise traffic movements	Review signal timings as stakeholders have suggested that there is too much signal green time for North Street approach / retail park traffic at Hardwick / at Estuary Road approach whenever a car is there / at Hamburg Way
Highway Network	6.9	Valingers Road improvement scheme / remove right turn into Valingers Road / 3-lanes s'bound /monitor the trial layout	Investigate providing three lanes southbound, one lane northbound between Checker Street and Valingers Road to aid traffic flow at this location. Monitor the Trial layout; Remove the right turn into Valingers Road
Highway Network	6.13	Winston Churchill Drive QEH access widening	Investigate a scheme to provide widening of the access to allow improved movement onto roundabout / improved traffic flow. Also look at widening of Winston Churchill Drive closest to Corbyn Shaw Road

Theme	Ref	New Ref	Option	Description
Buses	95	6.18	Hardwick Roundabout capacity improvements / Hardwick Interchange priority for buses	Hardwick Roundabout - options to increase capacity as part of the dualling scheme; Investigate providing solutions for delays to buses at Hardwick interchange to improve bus journey times and reliability and promote the use of the bus for journeys that start or end outside the King's Lynn urban area
Highway Network	89	6.21	A149 Dualling up to Knights Hill; Knights Hill junction capacity improvements	Dualling of the A149 / crawler lane up to Knights Hill / two lanes up to Knights Hill / mark lanes from bottom of hill / increase width / lanes at roundabout which are too narrow at the junctions onto / off the roundabout (QE to King's Lynn) - suitable for emergency services; Consider a redesign of this junction to improve traffic capacity and traffic flow to accommodate forecast traffic levels associated with development

4. STEP 1: INITIAL SIFT

4.1. OVERVIEW

- 4.1.1. An initial sift of the long list of options has been undertaken. The purpose of this sift was to discount options that are “non-runners” early on in the appraisal process, prior to a full EAST based assessment being undertaken. These are options that, based on their feasibility, are unlikely to be delivered within the Strategy period and would therefore be likely to generate a low score in the EAST based appraisal. The initial sift has also sought to discount maintenance type schemes that will be funded through maintenance budgets as quick-wins within the delivery timetable or are small-scale improvements that do not warrant a full EAST based assessment.

4.1. CRITERIA

- 4.1.1. The initial feasibility sift was based on the following criteria:
- 1 **Is the option within the Study Area?** Does the option fall within the study area of the King’s Lynn Transport Strategy or provide direct benefit to the residents, workers and visitors of the study area (e.g. along strategic transport corridors that connect to King’s Lynn)?
 - 2 **Is the option deliverable within the timescale of the Strategy?** Can the option be delivered within the timescale of the transport strategy (delivered within 2036 Local Plan period)?
 - 3 **Is the option deliverable?** Is the technology available to construct / deliver the option? Can the option be engineered without significant disruption and harm? Will there be public and political acceptability? Is the scheme likely to provide an acceptable cost-benefits?
 - 4 **Is the option a Committed Scheme or can it be classified as a maintenance scheme?** Is there a commitment to fund the scheme and a clear delivery timetable or is it a low investment general maintenance/improvement type scheme?
- 4.1.2. If the answer to any of the first three questions was ‘no’ the option has been discounted on the basis that it is not considered to be feasible and therefore not appropriate for inclusion within the Transport Strategy. None of the options are committed schemes and schemes that are noted as low-cost maintenance/improvement schemes will be included as short-term quick-wins within the Strategy.
- 4.1.3. The results of the initial sift are attached in Appendix D.

4.2. DISCOUNTED SCHEMES

- 4.2.1. A number of schemes were discounted due to their feasibility. These options did not fall within the study area, did not fit with the timescale of the Strategy and / or were not deliverable within the Strategy time period and / or would be too expensive and unlikely to generate an adequate cost benefit ratio to secure funding. Table 4-1 below summarises the schemes discounted during the initial sift. The schemes highlighted, whilst discounted as not suitable for the appraisal process, should still be given consideration for taking into the final Strategy. Table 4-2 provides a list of general maintenance locations that will be provided to the relevant personnel at the County and Borough Council for implementation. The discounted schemes for further appraisal are provided in the following table.

Table 4-1 – Initial Sift: Discounted Schemes

Reference	Option	Reason for Sifting Out
1.1	Town Circular Bus Route	Commercial bus network, influence of NCC is limited but will continue to work with bus operators to provide improvements to service reliability and routing. Land required for park and ride and public acceptability that results from associated need to increase car parking charges / reduce town centre parking availability to promote use and make successful
1.4	Bus 'hubs' for bus services around the town to alleviate need to go through the centre for all journeys	Commercial bus network, influence of NCC is limited but will continue to work with bus operators to provide improvements to service reliability and routing. Potential connection hubs could be Hospital and Retail Park - further discussion with the bus operators will be undertaken on this. Likely to have significant impact on bus service scheduling and vehicle requirements / cost of provision.
1.5	Provide through bus services across town to reduce the need to change routes in the town centre	Commercial bus operator decision and impacts on their scheduling and operations including overall costs in an already finely balanced network may make this unachievable in the current climate. Improvements to bus service reliability for cross-town movements may assist with achieving this and bus operators are keen to make provision where it will assist in making services commercial. Ultimately a bus operator decision
1.6	Rural public transport hubs with car parking to access the main public transport routes, eg A47	Land required for provision of car parking associated with a 'hub' to make it attractive. Would require management of car parking stock and/or car parking charges in the centre of the town to promote use. Unlikely to be publicly acceptable and land requirements may make this unachievable within the plan period
1.7	Shuttle buses to accommodate more employment trips	Commercial bus network and bus operators are keen to make provision where it will assist in making services commercial. Ultimately a bus operator decision
1.13	Bus journey time reliability on 505 service	Bus service operator responsibility - may be eased by some of the bus priority schemes - too specific - not appraised

1.15	Bus Rapid Transit in King's Lynn	Deliverability: the appraisal of a new rail line would have strict requirements and need significant investment, unlikely to be achievable within the plan timescale
1.16	Upgrade public transport vehicle stock	NCC can work with bus operators to influence standards in vehicle stock but it is bus operator decision to upgrade vehicle stock. Not appraised
1.17	Use smaller buses for education transport in King's Lynn	Smaller buses means more buses - unlikely to be cost effective for education transport provision or the bus operators. Not appraised
3.3	Parkway station south of King's Lynn	Deliverability: the appraisal of a new station has strict requirements, economic case unlikely to be feasible. Impact on existing rail services.
3.4	King's Lynn to Hunstanton railway link	Deliverability: the appraisal of a new rail line would have strict requirements and need significant investment, unlikely to be achievable within the plan timescale
3.5	King's Lynn to Dereham railway link	Deliverability: the appraisal of a new rail line would have strict requirements and need significant investment, unlikely to be achievable within the plan timescale
4.8	Pedestrian / cycle bridge over River Great Ouse	Unlikely to be deliverable in the plan timescale and very high cost associated with design and implementation, with limited funding sources
4.15	Underpass of the railway crossing at Tennyson Avenue to improve access to superstores	Underpass of railway unlikely to be feasible as railway owned land and also would require significant investment and land take. Not appraised
4.19	Tree & Shrub Planting in central area	Where space permits - assumed to be included in overall strategy for Norfolk CC / BCKL&WN. Not appraised
6.9	Valingers Road improvement scheme / remove right turn into Valingers Road / 3-lanes s'bound / monitor the trial layout	Trial scheme is being monitored, alternative arrangements considered as part of overall London Road improvement scheme

6.10	Additional College access	junction is already very busy so unlikely to be feasible to add more movements into the existing junction safely
6.24	Bridge for vehicular traffic over River Great Ouse	Unlikely to be deliverable in the plan timescale and very high cost associated with design and implementation, with limited funding sources
8.1	Measures to reduce car use - road pricing, car park space and charges, reduction in capacity	General policy / promotion - mainly covered by individual schemes identified, except road pricing which is likely to be beyond the plan timescale to provide the alternatives. Not appraised
8.2	Change to school start and finish times and hospital shift patterns to ease impact on peak traffic	Requires wider policy decision-making - not a transport initiative
8.3	Electric Vehicles in King's Lynn	General policy / promotion - assumed to be included in overall strategy for Norfolk CC / BCKL&WN. Not appraised
8.4	Autonomous vehicle technology	Keep under review the development of technology and application in King's Lynn

Table 4-2 – Initial Sift: Maintenance Schemes

Reference	Option	Reason for Sifting Out
1.2	Bus stop hard-standing - opposite Bepak A1078 Edward Benefer Way	Green - Quick wins / easy implementation. Not appraised - very short-term maintenance measures recommended to be implemented
4.3	Provide cycle lanes and cycle lane cameras	Green - Quick wins / easy implementation. Not appraised - short-term maintenance measures recommended to be implemented
4.4	Unified cycle signage strategy for Kings Lynn	Green - Quick wins / easy implementation. Not appraised - short-term maintenance measures recommended to be implemented
4.6	Secure cycle parking located at CCTV camera locations	Green - Quick wins / easy implementation. Not appraised - very short-term maintenance measures recommended to be implemented
4.12	Formalise pedestrian desire line between John Kennedy Road and Austin Street	Green - Quick wins / easy implementation. Not appraised - short-term maintenance measures recommended to be implemented
4.17	Way-finding & signage issues: Saturday Market Place cycle signing; Norfolk Street wayfinding signs; Hardings Way/Wisbech Road wayfinding signs;	Green - Quick wins / easy implementation. Not appraised - very short-term maintenance measures recommended to be implemented
4.20	evidence of surface wear, cracking and potholes at entrance to Austin Street West Car Park	Green - Quick wins / easy implementation. Not appraised - very short-term maintenance measures recommended to be implemented
4.21	in proximity of Priory House is worn. Wear and fading of cycle markings on southern section of John Kennedy Road - junction with Railway Road	Green - Quick wins / easy implementation. Not appraised - short-term maintenance measures recommended to be implemented
4.22	Pedestrian footway marking in car park are faded, especially around the disabled parking provision	Green - Quick wins / easy implementation. Not appraised - very short-term maintenance measures recommended to be implemented

4.23	Wear of step markings at entrance. Maintenance to footway has removed cycle route pavement markings outside the station	Green - Quick wins / easy implementation. Not appraised - short-term maintenance measures recommended to be implemented
4.24	damage to pavement slabs may create a trip hazard in the pedestrianised shopping are	Green - Quick wins / easy implementation. Not appraised - very short-term maintenance measures recommended to be implemented
4.25	faded cycle route markings at western end and footway edges cracked	Green - Quick wins / easy implementation. Not appraised - short-term maintenance measures recommended to be implemented
4.26	cycle parking racks have been damaged and need repair	Green - Quick wins / easy implementation. Not appraised - very short-term maintenance measures recommended to be implemented
4.27	Pedestrian guard railings damaged and need repair	Green - Quick wins / easy implementation. Not appraised - short-term maintenance measures recommended to be implemented
4.28	on-road cycle lane markings are faded	Green - Quick wins / easy implementation. Not appraised - very short-term maintenance measures recommended to be implemented
4.29	Weathered and obscured wayfinding signs need cleaning	Green - Quick wins / easy implementation. Not appraised - short-term maintenance measures recommended to be implemented
4.30	improvised asphalt ramp located between the footway and road to assist with transitioning between grades. Recommend incorporating dropped kerbs	Green - Quick wins / easy implementation. Not appraised - very short-term maintenance measures recommended to be implemented
4.31	Connections with villages to the east - maintain cutting back of foliage	Green - Quick wins / easy implementation. Not appraised - short-term maintenance measures recommended to be implemented

5. STEP 2: STRATEGIC APPRAISAL

5.1. OVERVIEW

- 5.1.1. A strategic appraisal of the long list of options has been undertaken following the initial sift.
- 5.1.2. The purpose of the strategic appraisal is to assess each of the feasible, non-committed schemes against the transport strategy objectives and develop a short list of options to take forward for the full EAST based appraisal.

5.2. METHODOLOGY

- 5.2.1. Each scheme has been assessed against the 8 objectives that were agreed for the Transport Strategy. A score of between -3 and +3 has been assigned against each objective. The scoring criteria is summarised in Table 5-1 below, with -3 representing a very adverse fit against the study objectives and +3 representing a very beneficial fit against the study's objective, with 0 being considered neutral.

Table 5-1 – Strategic appraisal scoring matrix

Score	Fit with objectives
+3	Very Beneficial
+2	Beneficial
+1	Slight Beneficial
0	Neutral
-1	Slight Adverse
-2	Adverse
-3	Very Adverse

- 5.2.2. To reflect the importance, both publicly and politically, of specific objectives, each objective has been assigned a weighting that has been used to inform the strategic appraisal score of each scheme. The weighting of each objective is summarised in Table 5-2 below.

Table 5-2 – Strategic Appraisal Option Weighting

Ref	Study Objective	Weighting
1	Provide a safe environment for travel by all modes	10%
2	Encourage town centre accessibility by all while conserving and enhancing King's Lynn's rich historic environment	10%
3	Support sustainable housing and economic growth	10%
4	Reduce the need to travel by car through development planning	10%
5	Manage traffic congestion in King's Lynn	30%
6	Increase active travel mode share for short journeys	13%
7	Promote and encourage the use of public transport	13%
8	Reduce harmful emissions and air quality impacts	5%

- 5.2.3. Objective 1 "manage traffic congestion in King's Lynn" has been assigned the highest weighting (30%). It is considered that exiting traffic congestion on the local and strategic network is perceived as the most important transport issue publicly and politically. Addressing traffic congestion also supports other objectives of the transport strategy. It can help support housing and economic growth, it can improve road safety and can reduce harmful emissions as a result of a reduction in vehicle

queuing and can also make active modes more attractive at some locations within the network. This would also be beneficial to public transport services within the town.

- 5.2.4. Objective 6 “Increase active travel mode share for short journeys” and Objective 7 “Promote and encourage the use of public transport” have been assigned the second highest weightings (13%). It is considered that these two objectives will help to address reducing traffic congestion whilst promoting more active lifestyles.
- 5.2.5. Objectives 1 to 4 have all been assigned a weighting of 10%, with objective 8 assigned a weighting of 5%.

5.3. RESULTS

- 5.3.1. The results of the strategic appraisal are attached in Appendix E. The top 5 highest scoring schemes were:

- § Town centre gyratory re-design – various options
- § South Gate highway capacity enhancements – large scale re-design
- § Southgates roundabout highway capacity improvement scheme – small/medium scale
- § Hardings Way opened for additional traffic
- § Hardwick roundabout capacity improvements / priority for buses

- 5.3.2. There were a number of schemes with similar scores, with the very low scores being associated with small schemes or schemes that would only provide benefit to a specific area rather than of being benefit more widely to the highway, cycle or pedestrian transport network.

- 5.3.3. The lowest 5 scoring schemes were:

- § Tuesday Market place access improvements
- § Review Railway Road parking & loading provision
- § King's Lynn Ferry signage and publicity improvements
- § King's Lynn access improvements to Ferry
- § Review of residential parking provision in terraced areas

5.4. SHORT-LIST OF OPTIONS

- 5.4.1. Following the Strategic Appraisal, a short list of options has been developed. The short-list has been informed by the results of the Strategic Appraisal and is the list of options that will be taken forward and appraised based on the DfT's EAST methodology. The short-list was limited to include the highest ranking 40 options from the Strategic Objectives appraisal.
 - 5.4.2. The short-list of options is attached in Appendix F and includes those schemes that have been excluded from being taken forward to the next stage of the Appraisal process. Generally, these are smaller schemes that achieve the lowest overall scores in the Strategic Appraisal and therefore are considered to not adequately meet the Study Objectives. The options that were discounted and their reason for exclusion is summarised in table 5-3 below.
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Table 5-3 – Options Discounted from Appraisal

Ref	Option	Weighted Average	Reason for Exclusion
4.16	Bike hire scheme in King's Lynn	0.33	weighted score is low
4.9	30mph speed limit Hardwick Bridge to Southgates	0.30	weighted score is low
6.16	North Wootton to Edward Benefer Way link road	0.30	weighted score is low
3.2	Expansion of railway station car parking	0.30	weighted score is low
1.11	Wellesley Street public transport route improvements	0.28	weighted score is low
2.4	Provide additional cycle parking and storage for the ferry	0.25	weighted score is low
1.18	Wootton Gap bus priority Low Road, Grimston Road and Edward Benefer Way	0.25	weighted score is low
3.6	Rail station to town centre public realm at Railway Road / Blackfriars Road	0.23	weighted score is low
7.3	The Friars residents parking scheme	0.23	weighted score is low
6.25	Wisbech Road 20mph zone	0.23	weighted score is low
4.5	Cycle lane on Lynn Road to Gayton Road B1145	0.20	weighted score is low
6.23	Tuesday Market Place access improvements	0.20	weighted score is low
7.4	Review of residential parking provision in terraced areas	0.00	weighted score is low
7.5	Review Railway Road parking and loading provision	0.15	weighted score is low
2.1	King's Lynn Ferry signage and publicity improvements	0.13	weighted score is low
2.2	Provide additional car parking at West Lynn for the ferry	0.23	weighted score is low
2.3	King's Lynn access improvements to Ferry to make it accessible throughout the day/year	0.13	weighted score is low

- 5.4.3. The options around the Ferry improvements did not score highly in the appraisal against the objectives but it is recognised that the ferry is an important asset to King's Lynn which could be further improved and offers wider travel choices for travel in King's Lynn. These schemes have therefore been recommended for taking forward to the Strategy stage.

6. STEP 3: OPTION APPRAISAL

6.1. OVERVIEW

- 6.1.1. The third step is a detailed appraisal of the shortlist of options using a methodology based on the Department for Transport's (DfT's) Early Assessment Sifting Tool (EAST).
- 6.1.2. The results of the EAST based assessment have been used to identify ranked packages of non-committed short, medium- and long-term options. These option packages will then form the basis of the King's Lynn Transport Strategy (Stage 3 of the project).

6.2. METHODOLOGY

- 6.2.1. The appraisal is based on the DfT's EAST. The advantages of applying this tool in this study are that it:
 - § Highlights adverse impacts;
 - § Compares options across modes / geographies and networks;
 - § Identifies trade-offs between objectives aiding package development;
 - § Discounts non-runners early on;
 - § Identifies key uncertainties and where further appraisal efforts should focus; and
 - § Has a methodology that is consistent with transport business case principles.
- 6.2.2. EAST is typically used for the high-level assessment of strategic transport infrastructure options and therefore some component of the tool is not applicable to the assessment of local scale interventions such as travel planning. For this reason, only appropriate options have been incorporated into this bespoke option appraisal methodology.
- 6.2.3. No options have been discounted following the EAST based appraisal as it is considered that all the identified options are capable of being delivered within the Study timescales, subject to the availability of funding. Options that are not considered feasible, or fit poorly with the King's Lynn Strategy objectives were discounted during the previous two steps of the appraisal process.
- 6.2.4. The 27 criteria that are considered in the appraisal are summarised in Table 6.1 below.

6.3. APPRAISAL CRITERIA

- 6.3.1. A summary of the criteria used for the option appraisal is provided below.

Table 6-1 – Appraisal Criteria

Theme	Number	Criteria
Strategic	1.1	Identified problems and objectives of the option
	1.2	Scale of impact
	1.3	Impact on other modes of transport
	1.4	Makes better use of existing infrastructure or 'does more with less'?
	1.5	Impact on other Govt policies besides transport?

	1.6	Fit with Study Objectives?
Economic	2.1	Economic Growth
	2.2	Carbon Emissions
	2.3	Socio-distributional impacts and the regions
	2.4	Local Environment
	2.5	Wellbeing
	2.6	Value for Money
Managerial	3.1	Implementation timetable
	3.2	Public acceptability
	3.3	Practical feasibility
	3.4	Quality of evidence
Financial	4.1	Affordability
	4.2	Capital Cost
Commercial	5.1	Income generated
	5.2	Funding Source

6.4. SCORING

- 6.4.1. The option appraisal is a qualitative assessment and provides a comparative assessment of each option against the other options. The DfT's EAST tool does not provide recommendations, the user of the tool makes an informed judgement based on the results of the appraisal. Therefore, to assist with the analysis of the results of the appraisal a score of -3 to +3 has been assigned against each of the criteria with -3 being a very adverse fit against the appraisal criteria and +3 being a very beneficial fit with the appraisal criteria. Whilst this differs to the scoring definitions used for EAST, the EAST user guide definitions have been referenced to help quantify what a beneficial or adverse impact would be. The adopted scoring is the same as that used for the Strategic Appraisal in Table 5-1 above.
- 6.4.2. An overall score for each option has been generated. This is the average of all the scores recorded against the study specific objectives as well as the selected EAST criteria. This helps to identify strongly performing options and helps create a ranked package of short-, medium- and long-term options for inclusion in the King's Lynn Transport Strategy (Stage 3 of this project).

6.5. OPTION APPRAISAL SUMMARY

- 6.5.1. A summary of the option appraisal is included in Appendix F.
- 6.5.2. The fit of options against the strategic, economic, managerial, financial and commercial appraisal criteria are discussed below.
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6.6. FIT WITH EAST APPRAISAL CRITERIA

- 6.6.1. The fit of the options with the strategic, economic, managerial, financial and commercial appraisal criteria are discussed below.

FIT WITH STRATEGIC OBJECTIVES

- 6.6.2. The option with the best fit against the EAST strategic appraisal criteria is opening Hardings Way for additional traffic.
- 6.6.3. The option with the poorest fit against the EAST strategic appraisal criteria is pursuing Park & Ride for King's Lynn.

FIT WITH ECONOMIC OBJECTIVES

- 6.6.4. The option with the best fit against the EAST economic appraisal criteria is A149 dualling; QEH capacity improvements; Jubilee roundabout improvements.
- 6.6.5. The option with the poorest fit against the EAST economic appraisal criteria is pursuing Park & Ride for King's Lynn.

FIT WITH MANAGERIAL OBJECTIVES

- 6.6.6. The option with the best fit against the EAST managerial criteria was Tennyson Avenue / Road pedestrian and cycle improvements and the cycle lane continuity through the town and route around the historic core.
- 6.6.7. The options with the poorest fit against the EAST managerial criteria is pursuing Park & Ride for King's Lynn.

FIT WITH FINANCIAL OBJECTIVES

- 6.6.8. The options with the best fit against the EAST financial criteria were the cycle route around the historic core and cycle lane continuity through the town
- 6.6.9. The option with the poorest fit against the EAST financial criteria is A149 dualling; QEH capacity improvements; Jubilee roundabout improvements; QEH to A149 direct access and West Winch Housing relief Road. This is due to these schemes being major schemes with a high cost and no information regarding the financial appraisal of these schemes being available to feed into this process. It is likely that subject to cost and funding these schemes would be highly beneficial to the traffic situation in King's Lynn.

FIT WITH COMMERCIAL OBJECTIVES

- 6.6.10. In terms of the the EAST commercial criteria, this covers potential income generated and also identifies a potential funding source. The income generated has not been assessed at this stage as this information is not currently available. The potential funding sources are provided.

OPTION RANKING

- 6.6.11. Of the 40 options appraised, the highest scoring option from the EAST process has been identified as providing improvements at Tennyson Avenue / Road for pedestrians and cyclists. A number of schemes are identified within this package and due to its relatively low potential cost it scores highly overall within the EAST assessment. This was closely followed by the other cycling and walking initiatives that relate to the historic quayside route and cycle continuity through the town centre.

- 6.6.12. Besides the cycle and walking initiatives, other favourable options through this assessment approach are the town centre gyratory re-design; improved right turn access at Queensway and improved access to QEH roundabout at Winston Churchill Drive; Southgate highway capacity improvements
- 6.6.13. The lowest scoring option through the EAST process was to provide a Park & Ride scheme for King's Lynn. This is mainly due to the potential public unacceptability of the associated measures that would be needed to reduce and manage town centre car parking provision, the need to provide dedicated bus lanes within a network that has limited scope for dedicated provision and without these the operations would be unlikely to be favourable due to associated reliability and journey time issues.

6.7. OPTION IMPLEMENTATION TIMESCALES

- 6.7.1. As a part of the appraisal process all non-discounted options (committed/maintenance and non-committed) have been assigned to short, medium and long-term implementation timescales. The timescales assigned to each option are based on the evidence base, likely scheme development timescales and the likely level of growth required to make each option viable. The options have been grouped into the following timescales, with a full breakdown included in Appendix H:

- § **Short:** 0 to 3 years
- § **Medium:** 3 to 10 years
- § **Long:** 10+ years

- 6.7.2. Maintenance schemes brought forward from Step 1 of the appraisal process (initial sift) have been grouped based on their implementation timetable. These options are unranked as a more detailed appraisal was not undertaken.

MAINTENANCE SCHEMES

- 6.7.3. The option appraisal process has identified a number of short-term maintenance schemes that are highlighted as needing immediate attention. Those schemes highlighted in table 4-1 and listed in table 4-2 represent the short term non-appraised schemes that could be implemented in a relatively short timescale and potentially utilising existing identified budgets where appropriate.
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APPRAISAL SCHEMES

- 6.7.4. Other schemes brought forward from Step 3 of the appraisal process have been classified into short, medium and long-term schemes. The ranking in this step has been excluded from the list as funding opportunities will largely determine the order in which the measures are delivered, and a combination of the outcomes of the Strategic Objectives appraisal and EAST process will provide a balanced package of measures for King's Lynn.

Short-Term Options

- 6.7.5. A summary of the potential short-term options is provided in Appendix H. Many of these short-term options could be "quick wins" that could be delivered through NCC and existing funding mechanisms and resources available to NCC, BCKL&WN and NALEP. It includes:
- § 3 bus specific measures
 - § 6 active travel (walk & cycle) measures
 - § 5 initiatives around traffic signals
 - § 5 measures to enhance the highway network
 - § 1 measure on car parking
- 6.7.6. Over the next three years (short-term) the option appraisal recommends prioritising the delivery of a number of public transport improvements in the town centre including access to the bus station and Albion Road as well as traffic signal priority to assist with bottlenecks that cause journey time and reliability issues for buses in King's Lynn. In addition, it highlights improvements to pedestrian and cycle access and provision at a number of locations as well as overall signal co-ordination and optimisation improvements. These options have the potential to promote economic growth through improved public transport connectivity and encourage mode shift to non-car modes of transport (bus, cycle and walking).
- 6.7.7. The appraisal also places priority on the potential for junction redesign for specific junctions. This includes small/medium scale capacity improvements at Southgates as well as improvements in South Wootton.
- 6.7.8. Other options are the development of a holistic parking strategy for King's Lynn. This will help to support other initiatives for providing access to the town centre.

Medium-Term Options

- 6.7.9. A summary of the potential medium-term options is provided in Appendix H. It is considered that these options are medium-term options as they are dependent upon further feasibility studies, scheme business case development, funding, land purchase, planning consent and detailed design and construction. Furthermore, it may only be possible to deliver some of these medium-term options as a part of wider housing or employment growth in the Study Area, particularly if the option is to work on a commercial model (e.g. shuttle bus services, increased rail services). The following types of schemes are included:
- § 3 bus-specific schemes
 - § 1 active travel scheme
 - § 11 highway network schemes (both local and wider area)
 - § 1 parking scheme

- 6.7.10. Over the next three to ten years (medium-term) the option appraisal shows benefits in providing a number of highway capacity improvements in King's Lynn focussing on improved provision for all vehicular traffic including buses to facilitate economic growth.
- 6.7.11. A number of the schemes focus on the A149 and associated junction capacity improvements to provide congestion relief to the centre of King's Lynn. Further appraisal and scheme design and testing is required to fully understand these scheme costs and benefits before implementation.
- 6.7.12. The use of Hardings Way for additional vehicular traffic may provide some relief to traffic congestion on the London Road / Hardwick / Wisbech corridor and the transport modelling work will provide further insight into this. An option to further improve the accessibility of Hardings Way for bus services could provide benefits for this public transport route and assist in promoting public transport within the town.

Long-Term Options

- 6.7.13. Four options have been classified as long-term from the option appraisal. These are detailed in Appendix H. The train frequency improvements could come forward in advance of this timescale and are already being progressed. The other options generally scored more poorly in the appraisal process and therefore may be more difficult to attract funding sources for these projects. The Park & Ride option remains at this stage as this may become more deliverable with a cohesive car parking strategy for King's Lynn and also if improvements to the strategic highway network come forward and more opportunities arise for reallocation of road space for bus use. Further feasibility studies into this would need to be undertaken.

ADDITIONAL POLICY INITIATIVES

- 6.7.14. A number of additional policy initiatives which have not been directly appraised through the process will also need to form an important part of the overall transport strategy for King's Lynn and as policy and technologies develop King's Lynn will have a developing role around these:
 - § Measures to reduce car use – road pricing, car park space and charges, reductions in vehicle capacity
 - § Change to school start and finish times and hospital shift patterns to ease impacts in the peak
 - § Electric vehicle charging points in King's Lynn and encouragement of business to utilise them
 - § The development of autonomous vehicle technology and it's applicability to King's Lynn.

6.8. EXECUTIVE SUMMARY

- 6.8.1. An executive summary of the option appraisal process is provided in Table 6-2 which summarises the results of the three-stage appraisal process (initial sift, strategic appraisal and EAST based assessment).
 - 6.8.2. It shows the options that have been taken forward for inclusion in the King's Lynn Transport Strategy and the stage that discounted options were discarded.
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Table 6-2 – Option Appraisal Executive Summary

Ref	Option	Description	Delivery timescale	Option Appraisal Process		Included in KLTS?	Comment
				Step 1: Initial Sift	Step 2: Strategic Appraisal		
1.1	Town Circular Bus Route	Investigate providing a circular-route Lynn Express Bus, Lynn Super Tram or Lynn Nifty Bus, running every 15 minutes from Park-and-Ride points along a 30mph Hardwick Road - at the Hardwick Retail Park, Horsley's Fields, Nar Ouse Way - on a network of new bus-only lanes, to run in a clockwise direction around the town - hop on, hop off - filtering out traffic before the traffic reaches the South Gate, delivering employees, shoppers and tourists through Hardings Way bus-only link rapidly into the town centre.	Medium	Discounted		No	Commercial bus network, influence of NCC is limited but will continue to work with bus operators to provide improvements to service reliability and routing. Land required for park and ride and public acceptability that results from associated need to increase car parking charges / reduce town centre parking availability to promote use and make successful
1.2	Bus stop hard-standing - opposite Bepak A1078 Edward Benefer Way	Hardstanding for bus stop opposite Bepak (A1078 Edward Benefer Way)	Short	Discounted		No	Green - Quick wins / easy implementation. Not appraised - very short-term maintenance measures recommended to be implemented
1.3	Increased use of Harding's Way for buses - address issues at Millfleet and Wisbech Road to Hardwick Road to make ore advantageous for buses	Harding's Way as a bus only route to accommodate an increase in buses and bus usage with buses also continuing to serve London Road. A combination of routes is required. Retain Hardings Way as traffic-free except buses. Encourage more buses to make use of the route and the potential reliability/journey time benefits. Retain high level of provision for pedestrians / cyclists and especially vulnerable road users and mobility scooters	Medium	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
1.4	Bus 'hubs' for bus services around the town to alleviate need to go through the centre for all journeys	Investigate establishing 'connection hubs' for bus services around the town so you don't have to go through the centre for all journeys	Medium	Discounted		No	Commercial bus network, influence of NCC is limited but will continue to work with bus operators to provide improvements to service reliability and routing. Potential connection hubs could be Hospital and Retail Park - further discussion with the bus operators will be undertaken on this. Likely to have significant impact on bus service scheduling and vehicle requirements /

							cost of provision.
1.5	Provide through bus services across town to reduce the need to change routes in the town centre	Investigate with bus operators whether through bus services could be provided in King's Lynn to avoid the need to change buses in the town centre	Medium	Discounted		No	Commercial bus operator decision and impacts on their scheduling and operations including overall costs in an already finely balanced network may make this unachievable in the current climate. Improvements to bus service reliability for cross-town movements may assist with achieving this and bus operators are keen to make provision where it will assist in making services commercial. Ultimately a bus operator decision
1.6	Rural public transport hubs with car parking to access the main public transport routes, eg A47	Investigate providing rural public transport hubs with car parking to feed the main public transport routes from outside King's Lynn, eg X1 service on A47	Long	Discounted		No	Land required for provision of car parking associated with a 'hub' to make it attractive. Would require management of car parking stock and/or car parking charges in the centre of the town to promote use. Unlikely to be publicly acceptable and land requirements may make this un achievable within the plan period
1.7	Shuttle buses to accommodate more employment trips	Investigate with the bus operators and employment estates whether Shuttle buses could be provided to better accommodate employment trips by bus	Medium	Discounted		No	Commercial bus network and bus operators are keen to make provision where it will assist in making services commercial. Ultimately a bus operator decision
1.8	Improve bus service offer in King's Lynn on evenings, Sunday and Bank Holiday	Provide earlier and evening weekday buses for King's Lynn as well as Sunday and Bank Holiday service to relieve traffic congestion to access employment and address social inclusion	Short	Taken forward to Step 2		Yes	Included in KLTS (Further Funding Sources with NCC)
1.9	Multi-operator ticketing on bus services	Investigate with the bus operators measures to improve multi-operator ticketing including rail services	Short	Taken forward to Step 2		Yes	Included in KLTS (Further Funding Sources with NCC)

1.10	Access for buses to bus station via Albion Street; Improved Albion Road exit for buses	Bus lane on Railway Road and bus station access via Albion Street to reduce delay and journey times for buses. Improve the road layout design to provide an improved left turn onto Railway Road from Albion Street. Current traffic light timings only lets 2 buses through (usually cars + buses to exit). More green time needed / change quicker when there are a number of vehicles waiting to exit	Short	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
1.11	Wellesley Street public transport route improvements	Utilise the nearside traffic lanes as a bus lane with a bus stop at the eastern end serving the rail station and supermarket, straight on into bus station at Railway Road via Albion Street	Medium	Taken forward to Step 2	Discounted	No	weighted score is low
1.12	Town centre gyratory re-design. Various Options - Bus Lanes - Railway Rd, London Rd, Blackfriars Rd	Redesign of traffic movements around gyratory to assist with AQMA, congestion, connectivity and road safety objectives. Various schemes need developing through workshop and testing in the transport model. Investigate potential for providing bus-only lanes through Railway Road, London Road, Blackfriars Road to take out areas that generate air pollution and improve air quality with modal shift.	Medium	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
1.13	Bus journey time reliability on 505 service	Investigate means of improving the very unreliable service timing on the 505 bus service	Short	Discounted		No	bus service operator responsibility - may be eased by some of the bus priority schemes - too specific - not appraised
1.14	Bus priority at traffic signals using bus detector equipment	A 6 month trial that fitted the buses in King's Lynn with detector equipment for the traffic signals to address reliability and journey time issues leading ultimately to reductions in costs and improvements to the attractiveness and reliability of bus services in King's Lynn	Short	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
1.15	Bus Rapid Transit in King's Lynn	Partial BRT on the corridor to provide: BRT from train station via former Docks line to John Kennedy Road / BRT from Bentinck Dock to Low Road at North Wootton / Wootton Gap re-design to provide priority for buses / BRT to bypass Knights Hill roundabout / BRT on Snettisham bypass / BRT to bypass Heacham Lavender junction	Long	Discounted		No	Deliverability: the appraisal of a new rail line would have strict requirements and need significant investment, unlikely to be achievable within the plan timescale
1.16	Upgrade public transport vehicle stock	Upgrade the vehicle stock to make use of LPG vehicles / cleaner diesel on the buses in King's Lynn, consequently influencing travel attitudes and behaviours to encourage increased mode use with improvements to accessibility and comfort.	Short	Discounted		No	NCC can work with bus operators to influence standards in vehicle stock but it is bus operator decision to upgrade vehicle stock. Not appraised

1.17	Use smaller buses for education transport in King's Lynn	Investigate the potential to use smaller buses for education in King's Lynn	Short	Discounted		No	smaller buses means more buses - unlikely to be cost effective for education transport provision. Not appraised
1.18	Wootton Gap bus priority Low Road, Grimston Road and Edward Benefer Way	Provide bus priority across the junction between Low Road and Grimston Road. between Knights Hill and the town centre using dedicated roads parallel to Grimston Road. Low Road and Edward Benefer Way	Medium	Taken forward to Step 2	Discounted	No	weighted score is low
1.19	Reduction in outbound delays at Hansa Road, Hardwick Road junction outbound for public transport; Hansa Road yellow box improvements for traffic exiting retail park	Address traffic signal delays at the junction in the outbound direction which cause queues back to Southgate and beyond and impact on bus journey times as well as Southgates roundabout and London Road; Review yellow box usage and improvements at B&Q / Next to allow people to exit the retail park more easily	Short	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
1.20	Investigate Park & Ride Scheme for King's Lynn	Investigate whether Park and Ride is a suitable measure for King's Lynn. Potential sites on other side of the river - Clenchwarton Road (Mc Donalds), West Lynn with a bridge. Also consider sites on Hardwick Road and close to QEH. Impacts on town centre car parking and revenues alongside town centre car park charging will be required if a Park and Ride is to be successful.	Long	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS. Rank
2.1	King's Lynn Ferry signage and publicity improvements	Develop a scheme that provides better access and signage for the ferry at King's Lynn and also West Lynn	Short	Taken forward to Step 2	Discounted	No	weighted score is low
2.2	Provide additional car parking at West Lynn for the ferry	Consider how additional car parking could be provided at West Lynn to service the ferry	Short	Taken forward to Step 2	Discounted	No	weighted score is low
2.3	King's Lynn access improvements to Ferry to make it accessible throughout the day/year	Consider improvements in accessibility of the ferry throughout the day to provide an improved more widely usable service for all, possibly utilising the previous location?	Short	Taken forward to Step 2	Discounted	No	weighted score is low
2.4	Provide additional cycle parking and storage for the ferry	Provide secure cycle parking / storage associated with the ferry crossing in King's Lynn and West Lynn	Short	Taken forward to Step 2	Discounted	No	weighted score is low
3.1	Train frequency improvements	Implementation of Ely Area Enhancement Scheme to deliver doubling of train frequency to half-hourly (2025-2030). Improve rail links to Cambridge and London. Improve connecting services - connections to Norwich from Ely. King's Lynn 8 Car Project will increase train capacity from 4 Car trains between King's Lynn, Cambridge and London by December 2020.	Long	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS

3.2	Expansion of railway station car parking	Investigate potential for expansion of the car parking for the rail station in King's Lynn including taxis and motorcycle spaces to meet demand	Medium	Taken forward to Step 2	Discounted	No	weighted score is low
3.3	Parkway station south of King's Lynn	Investigate providing a Parkway station to capture people coming into the town from the south	Long	Discounted		No	Deliverability: the appraisal of a new station has strict requirements, economic case unlikely to be feasible. Impact on existing rail services.
3.4	King's Lynn to Hunstanton railway link	Reinstatement of railway link	Long	Discounted		No	Deliverability: the appraisal of a new rail line would have strict requirements and need significant investment, unlikely to be achievable within the plan timescale
3.5	King's Lynn to Dereham railway link	Reinstatement of railway link	Long	Discounted		No	Deliverability: the appraisal of a new rail line would have strict requirements and need significant investment, unlikely to be achievable within the plan timescale
3.6	Rail station to town centre public realm at Railway Road / Blackfriars Road	Provide further enhancements to the permeability and legibility of routes between the rail station and town centre by reducing the impact of the Railway Road / Blackfriars Road gyratory and further improving public realm	Short	Taken forward to Step 2	Discounted	No	weighted score is low
4.1	Cycle Route around historic quayside	Provide a combination of cycle dismount signs and bike storage in strategic locations at entry points to the town centre. Alternative cycle through-route around the main shopping district of the town centre. Introduce a cycle route around the Historic Quayside	Short	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
4.2	Cycle lane continuity through town	Develop a scheme to improve the breaks in continuity of the cycle lanes that meet arterial routes into King's Lynn, including improved provision for cyclists at pedestrian crossing over busy road and junctions where Toucan crossings are not already provided.	Short	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
4.3	Provide cycle lanes and cycle lane cameras	Provide more on-road space for cyclists and cycle lane cameras for safety	Short	Taken forward and directly included in KLTS		Yes	Included in KLTS (space availability for cycle lanes with traffic being considered in highway schemes, cameras relates to funding availability)
4.4	Unified cycle signage strategy for Kings Lynn	Cycle paths, cycle hire docking stations, signage, etc. needs a unified public realm strategy to aid brand identity for King's Lynn and provide further enhancement	Short	Taken forward and directly included in KLTS		Yes	Included in KLTS (to be included in the strategy)
4.5	Cycle lane on Lynn Road to Gayton Road B1145	Consider the availability of road space to provide a cycle lane on the Lynn to Gayton Road (B1145)	Medium	Taken forward to Step 2	Discounted	No	weighted score is low

4.6	Secure cycle parking located at CCTV camera locations	Secure cycle parking located near CCTV cameras is required throughout the town and notably at the rail station.	Short	Taken forward and directly included in KLTS		Yes	Included in KLTS (to be included in the strategy)
4.7	Work with schools and education in King's Lynn to provide safe alternatives to private car for school children	Develop a campaign for King's Lynn to encourage parents not to drive children to school. Work with the schools to develop safer routes to school, walking buses, safe cycle routes, provision for secure cycle storage at the schools and provide the schools with the tools they need to improve localised parking issues around schools and the impacts on the town. Address air quality impacts on Wisbech Road at the schools.	Short	Taken forward to Step 2		Yes	Included in KLTS (to be included in the Strategy)
4.8	Pedestrian / cycle bridge over River Great Ouse	Consider providing a pedestrian / cycle bridge over the river which could be used throughout the year and improve the accessibility of King's Lynn for West Lynn residents who are currently unable to use the ferry. Investigate a location south of the entrance to Alexandra and Bentinck dock	Long	Discounted		No	Unlikely to be deliverable in the plan timescale and very high cost associated with design and implementation, with limited funding sources
4.9	30mph speed limit Hardwick Bridge to Southgates	Investigate the implementation of a speed limit of 30mph on Hardwick Road between Hardwick Bridge and Southgates roundabout to assist with pedestrians crossings the road and may also improve traffic flows up to Hansa Road	Short	Taken forward to Step 2	Discounted	No	weighted score is low
4.10	Port of King's Lynn highway design access improvements including pedestrians and cyclists	In the vicinity of the Port of King's Lynn improve operations to reduce risks to vulnerable road users through better provision for industrial vehicles, incorporating appropriate pedestrian crossings and cycle lanes.	Short	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
4.11	Queen Mary Road, Fairstead, Hardwick improvements in linkages for pedestrians and cyclists	Investigate how best to provide access across the railway line and around the town for modes other than private car to relieve some of the congestion pressure in Gaywood area. Fairstead Road / Queen Mary Road / Hardwick link road to enable trips to be undertaken without travelling through Gaywood Clock and the town centre gyratory	Medium	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
4.12	Formalise pedestrian desire line between John Kennedy Road and Austin Street	Provide for the desire line (between John Kennedy Road and Austin Street over the Norfolk County Council grounds of Priory House) in the street design or take measures to encourage pedestrians to use the existing footway	Short	Taken forward and directly included in KLTS		Yes	Included in KLTS (included in Strategy)

4.13	Tennyson Avenue Pedestrian & Cycle improvements: King George V Avenue pedestrian improvements; Tennyson Road, The Walks, Tennyson Avenue pedestrian improvements; Tennyson Avenue, Gaywood Road pedestrian improvements; Review of pedestrian crossing facilities on Extons Road and Tennyson Avenue	King George V Ave: cluster of pedestrian/cycle accidents, provide improved crossing facilities to accommodate pedestrian movements. At access point to The Walks pedestrians and cyclists are not provided with crossings over B1144 except dropped kerbs and footway marking-provide improved crossing provision. Gaywood Road: cluster of pedestrian/cycle accidents, provide improved crossing facilities to accommodate pedestrian movements. Identify locations for more pedestrian crossings including signalised ones on Extons Road and Tennyson Avenue to improve road safety for pedestrians in this area.	Short	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
4.14	Review pedestrian crossing provision on London Road	Cluster of pedestrian/cycle accidents identified a lack of provision for access from residential areas to the west across London Road. Review crossing locations and facilities on London Road	Short	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
4.15	Underpass of the railway crossing at Tennyson Avenue to improve access to superstores	Investigate the provision of an underpass under the railway at Tennyson Avenue to provide quick cycling / walking links to Morrisons and reduce car trips	Short	Discounted		No	underpass of railway unlikely to be feasible as railway owned land and also would require significant investment and land take. Not appraised
4.16	Bike hire scheme in King's Lynn	Investigate provision of ofo bikes at various locations in King's Lynn - provision for up to 50 bikes (10 at station), subject to available space. If ofo find a business case for provision they provide at no cost. Would require a promotional programme and suitable space would need to be identified.	Short	Taken forward to Step 2	Discounted	No	weighted score is low

4.17	Way-finding & signage issues: Saturday Market Place cycle signing; Norfolk Street wayfinding signs; Hardings Way/Wisbech Road wayfinding signs;	Misleading on-street signage - sign in foreground indicates a shared use unsegregated cycle and pedestrian route while just after cycling is prohibited; no wayfinding signage available along Norfolk Street-provide signing along this link; Hardings Way/Wisbech Road no wayfinding signs available-provide signage at this location	Short	Taken forward and directly included in KLTS		Yes	Included in KLTS (Quick Win)
4.18	South Lynn to Hardwick Road pedestrian crossing review	Investigate whether some of the signalised pedestrian crossings between South Lynn and Hardwick Road could be removed and alternative provision made that provides improves the traffic flow	Short	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
4.19	Tree & Shrub Planting in central area	Tree and shrub planting in poor air quality areas could assist in reducing levels of poor air quality	Short	Taken forward and directly included in KLTS		Yes	Included in KLTS (maintenance)
4.20	Various locations for repair, repainting and cleaning	evidence of surface wear, cracking and potholes at entrance to Austin Street West Car Park	Short	Taken forward and directly included in KLTS		Yes	Included in KLTS (maintenance)
4.21	Various locations for repair, repainting and cleaning	in proximity of Priory House is worn. Wear and fading of cycle markings on southern section of John Kennedy Road - junction with Railway Road	Short	Taken forward and directly included in KLTS		Yes	Included in KLTS (maintenance)
4.22	Various locations for repair, repainting and cleaning	Pedestrian footway marking in car park are faded, especially around the disabled parking provision	Short	Taken forward and directly included in KLTS		Yes	Included in KLTS (maintenance)
4.23	Various locations for repair, repainting and cleaning	Wear of step markings at entrance. Maintenance to footway has removed cycle route pavement markings outside the station	Short	Taken forward and directly included in KLTS		Yes	Included in KLTS (maintenance)
4.24	Various locations for repair, repainting and cleaning	damage to pavement slabs may create a trip hazard in the pedestrianised shopping area	Short	Taken forward and directly included in KLTS		Yes	Included in KLTS (maintenance)

4.25	Various locations for repair, repainting and cleaning	faded cycle route markings at western end and footway edges cracked	Short	Taken forward and directly included in KLTS		Yes	Included in KLTS (maintenance)
4.26	Various locations for repair, repainting and cleaning	cycle parking racks have been damaged and need repair	Short	Taken forward and directly included in KLTS		Yes	Included in KLTS (maintenance)
4.27	Various locations for repair, repainting and cleaning	Pedestrian guard railings damaged and need repair	Short	Taken forward and directly included in KLTS		Yes	Included in KLTS (maintenance)
4.28	Various locations for repair, repainting and cleaning	on-road cycle lane markings are faded	Short	Taken forward and directly included in KLTS		Yes	Included in KLTS (maintenance)
4.29	Various locations for repair, repainting and cleaning	Weathered and obscured wayfinding signs need cleaning	Short	Taken forward and directly included in KLTS		Yes	Included in KLTS (maintenance)
4.30	Various locations for repair, repainting and cleaning	improvised asphalt ramp located between the footway and road to assist with transitioning between grades. Recommend incorporating dropped kerbs	Short	Taken forward and directly included in KLTS		Yes	Included in KLTS (maintenance)
4.31	Various locations for repair, repainting and cleaning	Connections with villages to the east - maintain cutting back of foliage	Short	Taken forward and directly included in KLTS		Yes	Included in KLTS (maintenance)

5.1	Review traffic signal timings at various locations to optimise traffic movements	Review signal timings as stakeholders have suggested that there is too much signal green time for North Street approach / retail park traffic at Hardwick / at Estuary Road approach whenever a car is there / at Hamburg Way	Short	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
5.2	Linked and co-ordinated traffic signals	Co-ordinated traffic signals would help with bus scheduling and reliability as currently the traffic signals don't appear to be linked together which means very stop/start and slow journeys for buses	Short	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
5.3	Gaywood Clock / Queen Mary Road traffic light improvements and junction redesign	Consider improvements to the traffic light phasing at Gaywood Clock/Queen Mary Road and junction redesign	Short	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
5.4	Loke Road John Kennedy Road traffic signal optimisation or junction redesign	Phasing issue between lights needs to be addressed to link the phasing together / check phasing to let traffic out for a shorter period. Options also to be developed to provide an alternative junction arrangement to assist with traffic flow at this location	Short	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
5.5	Traffic signal optimisation and right turn arrow into Millfleet from London Road	Painted arrow on road to indicate right turn and stage in signals for right turning traffic	Short	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
6.1	Railway station bus layby re-design	Consider re-design for the layby outside the rail station to prevent cars stopping in the layby and also address issues with getting the bus on the loop in the road to activate the traffic lights to change to let them out	Short	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
6.2	Hardings Way opened for additional traffic	Investigate options to allow additional traffic to use Hardings Way to alleviate the congestion on London Road and assist with air quality management. This could include specific additional vehicle types being permitted to use the route; open only at specified times of the day; as an emergency measure to assist with incident management; directional to provide alternative routes for inbound traffic in the AM peak and outbound traffic in the PM peak; or to provide access to specific parts of the town centre only. Mitigation measures would be needed to ensure there are no impacts on the historic core.	Medium	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
6.3	Traffic management associated with A47 congestion	Address issues with seasonal traffic and congestion on A47 and provide management initiatives so it doesn't impact on the town centre	Medium	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
6.4	Hospital to A149 direct access link	Provide an additional exit onto A149 for exiting traffic from the hospital to ease local congestion issues around the hospital	Long	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS

6.5	Southgates roundabout highway capacity improvement scheme - small-medium scale	Undertake a review of lane marking and usage at Southgates roundabout to provide improvements in traffic flow. Also undertake a review of the traffic signal operation to optimise the traffic flow at this key junction that provides access to King's Lynn. Enhance crossing provision for cyclists and pedestrians at the South Gate alongside highway improvement measures to improve traffic flow	Short	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
6.6	South Gate highway capacity enhancements - providing two lanes in both directions / large scale redesign	Make Southgates an island bypass it with two lanes north/south using park for extra lane (based on previous proposal for CIF)	Medium	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
6.7	Vancouver Avenue - improved lane management	Vancouver Avenue - investigate improved lane management - left lane = straight and left / right lane = right - to ease traffic congestion, also provide a longer left filter lane / increase length of the left turn lane to ease traffic congestion on this approach. Also consider provision of a left filter lane with give-way onto Hardwick Road to ease the traffic using the roundabout and provide potential for improvement to traffic signal operation.	short	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
6.8	Wisbech Road to Nar Ouse Way link Road	Investigate the potential for providing a highway link between Wisbech Road and Nar Ouse Way to assist in alleviating Southgates roundabout	Long	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
6.9	Valingers Road improvement scheme / remove right turn into Valingers Road / 3-lanes s'bound / monitor the trial layout	Investigate providing three lanes southbound, one lane northbound between Checker Street and Valingers Road to aid traffic flow at this location. Monitor the Trial layout; Remove the right turn into Valingers Road	short	Discounted		No	Trial scheme is being monitored, alternative arrangements considered as part of overall London Road improvement scheme
6.10	Additional College access	Investigate providing a new access from the College at the existing T-junction	Short	Discounted		No	junction is already very busy so unlikely to be feasible to add more movements into the existing junction safely
6.11	A1076 provide new right turn lane into Queensway	To assist the right turn from A1076 into Queensway - create an additional queuing lane to reduce the impact on other traffic	Medium	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS

6.12	Queen Mary Road link to Fairstead	Link to development land at Parkway with potential link to Fairstead - traffic to go through Fairstead / route coming out of Fairstead and along Sand line / bridge over Sand train line / road alongside railway line / park and ride	Medium	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
6.13	Winston Churchill Drive QEH access widening	Investigate a scheme to provide widening of the access to allow improved movement onto roundabout / improved traffic flow. Also look at widening of Winston Churchill Drive closest to Corbyn Shaw Road	Medium	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
6.14	Estuary Road Edward Benefer Way junction improvements	New junction arrangements have been submitted to planning - phasing of traffic lights with alternative priorities / take out private access and make two-lanes over the traffic lights / remove left turn from traffic lights	Short	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
6.15	Gaywood Road bus priority and HOV lanes and junction redesign at Loke Road	The Gaywood Road corridor for eastbound bus and high occupancy vehicle (HOV) lanes, as well as an inbound contra flow bus lane at the gyratory. Make amendments to the existing arrangement to widen and use existing left turn lane to also accommodate the straight ahead bus movement and move the stopline for the right turn out of Loke Road to accommodate this. Junction redesign at Loke Road.	Medium	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
6.16	North Wootton to Edward Benefer Way link road	Provide a new link from North Wootton to connect with Edward Benefer Way opposite Bergen Way to eliminate or reduce the right turn from Castle Rising Road	Long	Taken forward to Step 2	Discounted	No	weighted score is low
6.17	Low Road Castle Rising Road Wootton Road Grimston Road junction improvements	New junction arrangements have been submitted to planning - phasing of traffic lights with alternative priorities / take out private access and make two-lanes over the traffic lights / remove left turn from traffic lights	Short	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
6.18	Hardwick Roundabout capacity improvements / Hardwick Interchange priority for buses	Hardwick Roundabout - options to increase capacity as part of the dualling scheme; Investigate providing solutions for delays to buses at Hardwick interchange to improve bus journey times and reliability and promote the use of the bus for journeys that start or end outside the King's Lynn urban area	Medium	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
6.19	Jubilee roundabout capacity improvements	Jubilee roundabout improvements to improve traffic flow and accommodate future growth	Medium	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
6.20	QEH roundabout capacity improvements	The slip road onto A149 northbound needs improvement and the roundabout needs to be able to accommodate forecast traffic levels	Medium	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS

6.21	A149 Dualling up to Knights Hill; Knights Hill junction capacity improvements	Dualling of the A149 / crawler lane up to Knights Hill / two lanes up to Knights Hill / mark lanes from bottom of hill / increase width / lanes at roundabout which are too narrow at the junctions onto / off the roundabout (QE to King's Lynn) - suitable for emergency services; Consider a redesign of this junction to improve traffic capacity and traffic flow to accommodate forecast traffic levels associated with development	Medium	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
6.22	West Winch Housing Access Road	Highway improvement access road to enable the housing growth at West Winch and to provide some relief to the A10	Medium	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
6.23	Tuesday Market Place access improvements	Provide a one way entrance through the narrow access road with relocation of the pedestrian crossing with a barrier railing across the end of the paved area to eradicate a blind spot for drivers. Or, one way exit just into Page Stair Lane on land at the rear of the north side of the Market Place to be purchased to allow the exit road to continue back to St. Nicholas Street, focused upon the church as a "round about option," opening up land yet to be available for development including multi storey car parks.	Medium	Taken forward to Step 2	Discounted	No	weighted score is low
6.24	Bridge for vehicular traffic over River Great Ouse	Revive The River Great Ouse attractions and access. A hump back river crossing first in the vicinity of Millfeet to arrive at a link with an improved St. Peter's Road West Lynn for local population, pedestrians, (reducing traffic movements on other highways), cyclists & more. An alternative through highway with a potential esplanade/hotel from the hump back bridge to another crossing as a sea barrier with locks for ships further north to join with the A 149 to provide a ring road around the town with The River Great Ouse and historic assets as a focus.	Long	Discounted		No	Unlikely to be deliverable in the plan timescale and very high cost associated with design and implementation, with limited funding sources
6.25	Wisbech Road 20mph zone	Implement a 20mph zone on Wisbech Road to discourage through traffic use (without speed humps if appropriate) and provide better walking and cycling facilities along Wisbech Road	Medium	Taken forward to Step 2	Discounted	No	weighted score is low
7.1	VMS improvements for car parking	VMS improvements to capture location of driver decision-making and improve town circulation of vehicles searching for car parking	Medium	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS
7.2	Car Parking Strategy for King's Lynn including forecast growth and increased parking charges	Increase the cost of town centre car parking to reduce number of car trips in King's Lynn. Consider parking quantum required to cater for new / planned growth in residential development	Short	Taken forward to Step 2	Taken forward to Step 3	Yes	Included in KLTS

7.3	The Friars residents parking scheme	Consider the implementation of a residents parking scheme in this area of King's Lynn. Bridhe St/All Saints St - Poor vehicle parking provision; vehicles partially mount the eastern footway obstructing pedestrian movements. Road markings also faded. Undertake study of residential parking demands and address parking issues. Repainting of road markings. Friars Street - Vehicle forced to mount the footway to pass parked vehicles - review available space and design	Short	Taken forward to Step 2	Discounted	No	weighted score is low
7.4	Review of residential parking provision in terraced areas	Improved parking provision in areas with terraced housing to accommodate current need, eg, like the one provided behind the houses at Vancouver Avenue	Medium	Taken forward to Step 2	Discounted	No	weighted score is low
7.5	Review Railway Road parking and loading provision	At southern end of Railway Road vans mount the footway suggesting available space may not be adequate. Review the available space and design / enforcement	Short	Taken forward to Step 2	Discounted	No	weighted score is low
8.1	Measures to reduce car use - road pricing, car park space and charges, reduction in capacity	Investigate additional measures to promote the use of alternative modes of travel including road pricing, road capacity reduction for private vehicles, raising parking charges in the town centre and reducing parking provision	Short	Discounted		No	General policy / promotion - mainly covered by individual schemes identified above, except road pricing which is likely to be beyond the plan timescale to provide the alternatives. Not appraised
8.2	Change to school start and finish times and hospital shift patterns to ease impact on peak traffic	Encourage schools and hospitals to alter shift patterns to spread peak periods	Short	Discounted		No	require wider policy decision-making - not a transport initiative
8.3	Electric Vehicles in King's Lynn	Promote and encourage use of electric vehicles for pool cars to businesses in King's Lynn to address local air quality issues. Investigate application in King's Lynn	Short	Discounted		No	General policy / promotion - assumed to be included in overall strategy for Norfolk CC / BCKL&WN. Not appraised
8.4	Keep under review the development of autonomous vehicle technology	Review the development of autonomous vehicle technology, such as that currently underway in Milton Keynes, and their future applicability for King's Lynn.	Long	Discounted		No	developing technology

7. SUMMARY AND NEXT STEPS

7.1. SUMMARY

- 7.1.1. This report has provided details of the process that has been followed to identify the most promising schemes to take forward for inclusion in the overall Transport Strategy for King's Lynn. A number of steps have been followed and a number of appraisal outcomes have been demonstrated. Some transport modelling work has been running alongside this work to understand the implications of the potential town centre highway network changes and the results will need to feed into the development of the preferred strategy for King's Lynn.
- 7.1.2. A full summary of the resulting preferred measures based on the scheme appraisal process discussed in this document is provided in Appendix H.

7.2. NEXT STEPS

- 7.2.1. The next step in the Study is to complete the transport modelling exercise to understand the implications of the potential highway network changes to the gyratory using a number of scenarios, and also to understand the potential implications on traffic flows of the opening of Hardings Way for additional traffic. A modelling report and summary will be prepared before making further recommendations on the merits of including these schemes within the Transport Strategy.
- 7.2.2. Once the modelling work has been concluded, the King's Lynn Transport Strategy (Stage 3) document will be prepared. This will be a summary document that sets out the key findings of the Stage 1 (issues and opportunities report) and the identified list of short, medium- and long-term conceptual options along with a Strategic Action Plan for taking the options forward.
- 7.2.3. The final King's Lynn Transport Strategy document will be a reader friendly document aimed at being accessible to a wide range of Stakeholders. During Stage 3 the short-list of options will be critically reviewed to identify if there could be any further merit in combining any of the schemes. A strategic action plan setting out the initial actions required to progress the development of each option on the short list will also be provided.

Appendix A

LONG LIST OF OPTIONS



2. Long List of Options

Theme	Ref	Option	Description
Buses	4	Town Circular Bus Route	Investigate providing a circular-route Lynn Express Bus, Lynn Super Tram or Lynn Nifty Bus, running every 15 minutes from Park-and-Ride points along a 30mph Hardwick Road - at the Hardwick Retail Park, Horsley's Fields, Nar Ouse Way - on a network of new bus-only lanes, to run in a clockwise direction around the town - hop on, hop off - filtering out traffic before the traffic reaches the South Gate, delivering employees, shoppers and tourists through Hardings Way bus-only link rapidly into the town centre
Buses	5	Bus Lanes - Railway Rd, London Rd, Blackfriars Rd, Guanock Terrace	Investigate potential for providing bus-only lanes through Railway Road, London Road, Blackfriars Road and Guanock Terrace? to take out areas that generate air pollution and improve air quality with modal shift.
Buses	6	Bus stop hard-standing - opposite Bepak A1078 Edward Benefer Way	Hardstanding for bus stop opposite Bepak (A1078 Edward Benefer Way)
Buses	7	Increased use of Harding's Way for buses - address issues at Millfleet and Wisbech Road to Hardwick Road to make ore advantageous for buses	Harding's Way as a bus only route to accommodate an increase in buses and bus usage with buses also continuing to serve London Road. A combination of routes is required. Retain Hardings Way as traffic-free except buses. Encourage more buses to make use of the route and the potential reliability/journey time benefits. Retain high level of provision for pedestrians / cyclists and especially vulnerable road users and mobility scooters
Buses	8	Bus 'hubs' for bus services around the town to alleviate need to go through the centre for all journeys	Investigate establishing 'connection hubs' for bus services around the town so you don't have to go through the centre for all journeys
Buses	9	Multi-operator ticketing on bus services	Investigate with the bus operators measures to improve multi-operator ticketing including rail services
Buses	10	Shuttle buses to accommodate more employment trips	Investigate with the bus operators and employment estates whether Shuttle buses could be provided to better accommodate employment trips by bus
Buses	11	Rural public transport hubs with car parking to access the main public transport routes, eg A47	Investigate providing rural public transport hubs with car parking to feed the main public transport routes from outside King's Lynn, eg X1 service on A47
Buses	12	Provide through bus services across town to reduce the need to change routes in the town centre	Investigate with bus operators whether through bus services could be provided in King's Lynn to avoid the need to change buses in the town centre
Buses	13	Access for buses to bus station via Albion Street	Bus lane on Railway Road and bus station access via Albion Street to reduce delay and journey times for buses
Buses	18	Bus journey time reliability	Investigate means of improving the very unreliable service timing on the 505 bus service
Buses	19	Improve bus service offer in King's Lynn on evenings, Sunday and Bank Holiday	Provide earlier and evening weekday buses for King's Lynn as well as Sunday and Bank Holiday service to relieve traffic congestion to access employment and address social inclusion
Buses	20	Upgrade public transport vehicle stock	Upgrade the vehicle stock to make use of LPG vehicles / cleaner diesel on the buses in King's Lynn, consequently influencing travel attitudes and behaviours to encourage increased mode use with improvements to accessibility and comfort
Buses	26	Improved Albion Road exit for buses	Improve the road layout design to provide an improved left turn onto Railway Road from Albion Street. Current traffic light timings only lets 2 buses through (usually cars + buses to exit). More green time needed / change quicker when there are a number of vehicles waiting to exit
Buses	29	Bus priority at traffic signals using bus detector equipment	A 6 month trial that fitted the buses in King's Lynn with detector equipment for the traffic signals to address reliability and journey time issues leading ultimately to reductions in costs and improvements to the attractiveness and reliability of bus services in King's Lynn
Buses	30	Bus Rapid Transit in King's Lynn	Partial BRT on the corridor to provide: BRT from train station via former Docks line to John Kennedy Road / BRT from Bentinck Dock to Low Road at North Wootton / Wootton Gap re-design to provide priority for buses / BRT to bypass Knights Hill roundabout / BRT on Snettisham bypass / BRT to bypass Heacham Lavender junction
Buses	49	Use smaller buses for education transport in King's Lynn	Investigate the potential to use smaller buses for education in King's Lynn
Buses	95	Hardwick Interchange priority for buses	Investigate providing solutions for delays to buses at Hardwick interchange to improve bus journey times and reliability and promote the use of the bus for journeys that start or end outside the King's Lynn urban area
Buses	96	Wellesley Street public transport route improvements	Utilise the nearside traffic lanes as a bus lane with a bus stop at the eastern end serving the rail station and supermarket, straight on into bus station at Railway Road via Albion Street

Theme	Ref	Option	Description
Buses	98	Wootton Gap bus priority Low Road, Grimston Road and Edward Benefer Way	Provide bus priority across the junction between Low Road and Grimston Road. between Knights Hill and the town centre using dedicated roads parallel to Grimston Road. Low Road and Edward Benefer Way
Buses	108	Reduction in outbound delays at Hansa Road, Hardwick Road junction outbound for public transport	Address traffic signal delays at the junction in the outbound direction which cause queues back to Southgate and beyond and impact on bus journey times as well as Southgates roundabout and London Road
Buses	119	Investigate Park & Ride Scheme for King's Lynn	Investigate whether Park and Ride is a suitable measure for King's Lynn. Potential sites on other side of the river - Clenchwarton Road (Mc Donalds), West Lynn with a bridge. Also consider sites on Hardwick Road and close to QEH. Impacts on town centre car parking and revenues alongside town centre car park charging will be required if a Park and Ride is to be successful
Ferry Service	51	King's Lynn Ferry signage and publicity improvements	Develop a scheme that provides better access and signage for the ferry at King's Lynn and also West Lynn
Ferry Service	52	Provide additional car parking at West Lynn for the ferry	Consider how additional car parking could be provided at West Lynn to service the ferry
Ferry Service	53	King's Lynn access improvements	Consider improvements in accessibility of the ferry throughout the day to provide an improved more widely usable service for all, possibly utilising the previous location?
Ferry Service	55	Provide additional cycle parking and storage for the ferry	Provide secure cycle parking / storage associated with the ferry crossing in King's Lynn and West Lynn
Rail	140	Train frequency improvements	Implementation of Ely Area Enhancement Scheme to deliver doubling of train frequency to half-hourly (2025-2030). Improve rail links to Cambridge and London. Improve connecting services - connections to Norwich from Ely. King's Lynn 8 Car Project will increase train capacity from 4 Car trains between King's Lynn, Cambridge and London by December 2020
Rail	142	Parkway station south of King's Lynn	Investigate providing a Parkway station to capture people coming into the town from the south
Rail	143	King's Lynn to Hunstanton railway link	Reinstatement of railway link
Rail	144	King's Lynn to Dereham railway link	Reinstatement of railway link
Active travel	31	Cycle Route around historic quayside	Provide a combination of cycle dismount signs and bike storage in strategic locations at entry points to the town centre. Alternative cycle through-route around the main shopping district of the town centre. Introduce a cycle route around the Historic Quayside
Active travel	32	Cycle lane continuity through town	Develop a scheme to improve the breaks in continuity of the cycle lanes that meet arterial routes into King's Lynn, including improved provision for cyclists at pedestrian crossing over busy road and junctions where Toucan crossings are not already provided.
Active travel	33	Cycle lane on Lynn Road to Gayton Road B1145	Consider the availability of road space to provide a cycle lane on the Lynn to Gayton Road (B1145)
Active travel	34	Secure cycle parking located at CCTV camera locations	Secure cycle parking located near CCTV cameras is required throughout the town and notably at the rail station.
Active travel	37	Provide cycle lanes and cycle lane cameras	Provide more on-road space for cyclists and cycle lane cameras for safety
Active travel	42	Unified cycle signage strategy for Kings Lynn	Cycle paths, cycle hire docking stations, signage, etc. needs a unified public realm strategy to aid brand identity for King's Lynn and provide further enhancement
Active travel	45	Work with schools and education in King's Lynn to provide safe alternatives to private car for school children	Develop a campaign for King's Lynn to encourage parents not to drive children to school. Work with the schools to develop safer routes to school, walking buses, safe cycle routes, provision for secure cycle storage at the schools and provide the schools with the tools they need to improve localised parking issues around schools and the impacts on the town. Address air quality impacts on Wisbech Road at the schools.
Active travel	54	Pedestrian / cycle bridge over River Great Ouse	Consider providing a pedestrian / cycle bridge over the river which could be used throughout the year and improve the accessibility of King's Lynn for West Lynn residents who are currently unable to use the ferry. Investigate a location south of the entrance to Alexandra and Buntingford dock
Active travel	59	30mph speed limit Hardwick Bridge to Southgates	Investigate the implementation of a speed limit of 30mph on Hardwick Road between Hardwick Bridge and Southgates roundabout to assist with pedestrians crossings the road and may also improve traffic flows up to Hansa Road
Active travel	104	Port of King's Lynn highway design access improvements including pedestrians and cyclists	In the vicinity of the Port of King's Lynn improve operations to reduce risks to vulnerable road users through better provision for industrial vehicles, incorporating appropriate pedestrian crossings and cycle lanes.

Theme	Ref	Option	Description
Active travel	106	Queen Mary Road, Fairstead, Hardwick improvements in linkages for pedestrians and cyclists	Investigate how best to provide access across the railway line and around the town for modes other than private car to relieve some of the congestion pressure in Gaywood area. Fairstead Road / Queen Mary Road / Hardwick link road to enable trips to be undertaken without travelling through Gaywood Clock and the town centre gyratory
Active travel	128	Review of pedestrian crossing facilities on Extons Road and Tennyson Avenue	Identify locations for more pedestrian crossings including signalised ones on Extons Road and Tennyson Avenue to improve road safety for pedestrians in this area.
Active travel	130	Formalise pedestrian desire line between John Kennedy Road and Austin Street	Provide for the desire line (between John Kennedy Road and Austin Street over the Norfolk County Council grounds of Priory House) in the street design or take measures to encourage pedestrians to use the existing footway
Active travel	134	Tennyson Avenue, King George V Avenue pedestrian improvements	cluster of pedestrian/cycle accidents, provide improved crossing facilities to accommodate pedestrian movements
Active travel	135	Tennyson Road, The Walks, Tennyson Avenue pedestrian improvements	At access point to The Walks pedestrians and cyclists are not provided with crossings over B1144 except dropped kerbs and footway marking. Provide improved crossing provision.
Active travel	136	Tennyson Avenue, Gaywood Road pedestrian improvements	cluster of pedestrian/cycle accidents, provide improved crossing facilities to accommodate pedestrian movements
Active travel	137	Review pedestrian crossing provision on London Road	Cluster of pedestrian/cycle accidents identified a lack of provision for access from residential areas to the west across London Road. Review crossing locations and facilities on London Road
Active travel	138	Underpass of the railway crossing at Tennyson Avenue to improve access to superstores	Investigate the provision of an underpass under the railway at Tennyson Avenue to provide quick cycling / walking links to Morrisons and reduce car trips
Active travel	145	Ofo bike scheme in King's Lynn	Investigate provision of ofo bikes at various locations in King's Lynn - provision for up to 50 bikes (10 at station), subject to available space. If ofo find a business case for provision they provide at no cost. Would require a promotional programme and suitable space would need to be identified
Active travel	109	Various locations for repair, repainting and cleaning	evidence of surface wear, cracking and potholes at entrance to Austin Street West Car Park
Active travel	110		in proximity of Priory House is worn. Wear and fading of cycle markings on southern section of John Kennedy Road - junction with Railway Road
Active travel	111		Pedestrian footway marking in car park are faded, especially around the disabled parking provision
Active travel	112		Wear of step markings at entrance. Maintenance to footway has removed cycle route pavement markings outside the station
Active travel	113		damage to pavement slabs may create a trip hazard in the pedestrianised shopping area
Active travel	114		faded cycle route markings at western end and footway edges cracked
Active travel	115		cycle parking racks have been damaged and need repair
Active travel	116		Pedestrian guard railings damaged and need repair
Active travel	117		on-road cycle lane markings are faded
Active travel	118		Weathered and obscured wayfinding signs need cleaning
Active travel	133		improvised asphalt ramp located between the footway and road to assist with transitioning between grades. Recommend incorporating dropped kerbs
Active travel	127		Connections with villages to the east - maintain cutting back of foliage
Active travel	38	Saturday Market Place cycle signing	Misleading on-street signage - sign in foreground indicates a shared use unsegregated cycle and pedestrian route while just after cycling is prohibited
Active travel	43	Norfolk Street wayfinding signs	no wayfinding signage available along Norfolk Street. Provide signing along this link
Active travel	44	Hardings Way/Wisbech Road wayfinding signs	no wayfinding signs available. Provide signage at this location
Public realm	3	Tree & Shrub Planting in central area	Tree and shrub planting in poor air quality areas could assist in reducing levels of poor air quality
Public realm	41	Rail station to town centre public realm at Railway Road / Blackfriars Road	Provide further enhancements to the permeability and legibility of routes between the rail station and town centre by reducing the impact of the Railway Road / Blackfriars Road gyratory and further improving public realm
Traffic Signals	22	Review traffic signal timings at various locations to optimise traffic movements	Review signal timings as stakeholders have suggested that there is too much signal green time for North Street approach
Traffic Signals	23		Review signal timings as stakeholders have suggested that there is too much signal green time for retail park traffic?
Traffic Signals	24		Review signal timings as stakeholders have suggested that there is too much signal green time for Estuary Road approach whenever a car is there

Theme	Ref	Option	Description
Traffic Signals	25		Review signal timings as stakeholders have suggested that there is too much signal green time for Hamburg Way
Traffic Signals	28	Linked and co-ordinated traffic signals	Co-ordinated traffic signals would help with bus scheduling and reliability as currently the traffic signals don't appear to be linked together which means very stop/start and slow journeys for buses
Traffic Signals	75	Gaywood Clock / Queen Mary Road traffic light improvements and junction redesign	Consider improvements to the traffic light phasing at Gaywood Clock/Queen Mary Road and junction redesign
Traffic Signals	79	Loke Road John Kennedy Road traffic signal optimisation or junction redesign	Phasing issue between lights needs to be addressed to link the phasing together / check phasing to let traffic out for a shorter period. Options also to be developed to provide an alternative junction arrangement to assist with traffic flow at this location
Traffic Signals		Traffic signal optimisation and right turn arrow into Millfleet from London Road	painted arrow on road to indicate right turn and stage in signals for right turning traffic
Highway Network	57	Town centre gyratory re-design	Redesign of traffic movements around gyratory to assist with AQMA, congestion, connectivity and road safety objectives. Various schemes need developing through workshop and testing in the transport model
Highway Network	27	Railway station bus layby re-design	Consider re-design for the layby outside the rail station to prevent cars stopping in the layby and also address issues with getting the bus on the loop in the road to activate the traffic lights to change to let them out
Highway Network	60	Hardings Way opened for additional traffic	Investigate options to allow additional traffic to use Hardings Way to alleviate the congestion on London Road and assist with air quality management. This could include specific additional vehicle types being permitted to use the route; open only at specified times of the day; as an emergency measure to assist with incident management; directional to provide alternative routes for inbound traffic in the AM peak and outbound traffic in the PM peak; or to provide access to specific parts of the town centre only. Mitigation measures would be needed to ensure there are no impacts on the historic core.
Strategic Highway Network	62	Traffic management associated with A47 congestion	Address issues with seasonal traffic and congestion on A47 and provide management initiatives so it doesn't impact on the town centre
Highway Network	63	Hospital to A149 direct access link	Provide an additional exit onto A149 for exiting traffic from the hospital to ease local congestion issues around the hospital
Highway Network	64	Road widening Winston Churchill Drive	Widening of part of Winston Churchill Drive closest to Corbyn Shaw Road
Highway Network	66	Southgates roundabout highway capacity improvement	Undertake a review of lane marking and usage at Southgates roundabout to provide improvements in traffic flow. Also undertake a review of the traffic signal operation to optimise the traffic flow at this key junction that provides access to King's Lynn. Enhance crossing provision for cyclists and pedestrians at the South Gate alongside highway improvement measures to improve traffic flow
Highway Network	69	Valingers Road improvement scheme	Investigate providing three lanes southbound, one lane northbound between Checker Street and Valingers Road to aid traffic flow at this location. Monitor the Trial layout
Highway Network	70	South Gate highway capacity enhancements - providing two lanes in both directions	Make Southgates an island bypass it with two lanes north/south using park for extra lane (based on previous proposal for CIF)
Highway Network	71	Vancouver Avenue - improved lane management	Vancouver Avenue - investigate improved lane management - left lane = straight and left / right lane = right - to ease traffic congestion, also provide a longer left filter lane / increase length of the left turn lane to ease traffic congestion on this approach. Also consider provision of a left filter lane with give-way onto Hardwick Road to ease the traffic using the roundabout and provide potential for improvement to traffic signal operation
Highway Network	72	Hansa Road yellow box improvements for traffic exiting retail park	Review yellow box usage and improvements at B&Q / Next to allow people to exit the retail park more easily
Strategic Highway Network	73	A149 Dualling up to Knights Hill	Dualling of the A149 / crawler lane up to Knights Hill / two lanes up to Knights Hill / mark lanes from bottom of hill / increase width / lanes at roundabout which are too narrow at the junctions onto / off the roundabout (QE to King's Lynn) - suitable for emergency services
Highway Network	74	Alternative College Access	Investigate providing a new access from the College at the existing T-junction
Highway Network	76	A1076 provide new right turn lane into Queensway	To assist the right turn from A1076 into Queensway - create an additional queuing lane to reduce the impact on other traffic

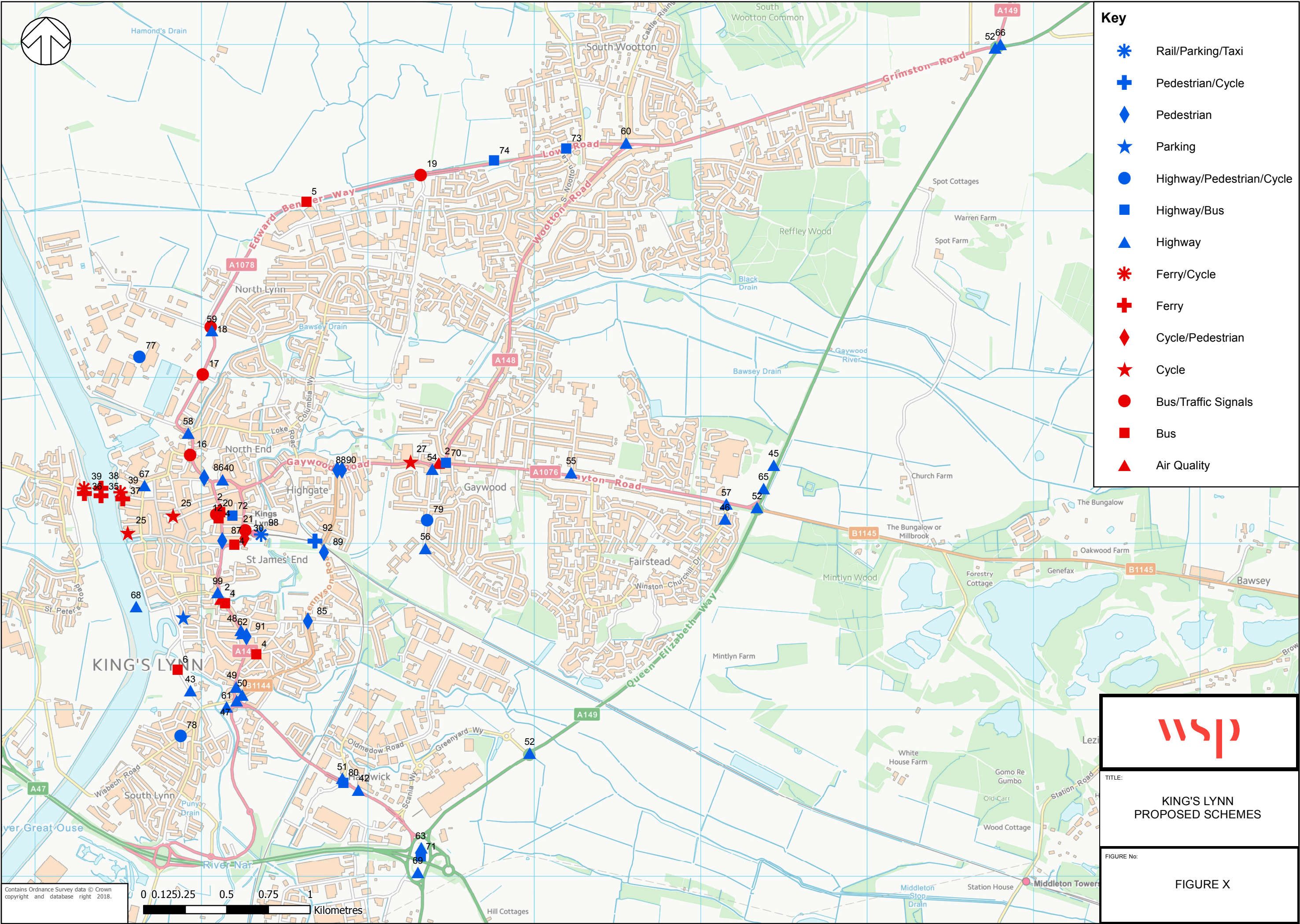
Theme	Ref	Option	Description
Highway Network	77	Queen Mary Road link to Fairstead	Link to development land at Parkway with potential link to Fairstead - traffic to go through Fairsted / route coming out of Fairstead and along Sand line / bridge over Sand train line / road alongside railway line / park and ride
Highway Network	78	Winston Churchill Drive QEH access widening	Investigate a scheme to provide widening of the access to allow improved movement onto roundabout / improved traffic flow
Highway Network	80	Estuary Road Edward Benefer Way junction improvements	New junction arrangements have been submitted to planning - phasing of traffic lights with alternative priorities / take out private access and make two-lanes over the traffic lights / remove left turn from traffic lights
Highway Network	81	Low Road Castle Rising Road Wootton Road Grimston Road junction improvements	New junction arrangements have been submitted to planning - phasing of traffic lights with alternative priorities / take out private access and make two-lanes over the traffic lights / remove left turn from traffic lights
Highway Network	84	Wisbech Road to Nar Ouse Way link Road	Investigate the potential for providing a highway link between Wisbech Road and Nar Ouse Way to assist in alleviating Southgates roundabout
Highway Network	85	Valingers Road right turn removed	Remove the right turn into Valingers Road
Highway Network	86	Hardwick Roundabout capacity improvements	Hardwick Roundabout - options to increase capacity as part of the dualling scheme
Highway Network	87	Jubilee roundabout capacity improvements	Jubilee roundabout improvements to improve traffic flow and accommodate future growth
Highway Network	88	QEH roundabout capacity improvements	The slip road onto A149 northbound needs improvement and the roundabout needs to be able to accommodate forecast traffic levels
Highway Network	89	Knights Hill junction capacity improvements	Consider a redesign of this junction to improve traffic capacity and traffic flow to accommodate forecast traffic levels associated with development
Highway Network	90	Tuesday Market Place access improvements	Provide a one way entrance through the narrow access road with relocation of the pedestrian crossing with a barrier railing across the end of the paved area to eradicate a blind spot for drivers. Or, one way exit just into Page Stair Lane on land at the rear of the north side of the Market Place to be purchased to allow the exit road to continue back to St. Nicholas Street, focused upon the church as a "round about option," opening up land yet to be available for development including multi storey car parks
Highway Network	91	Bridge for vehicular traffic over River Great Ouse	Revive The River Great Ouse attractions and access. A hump back river crossing first in the vicinity of Millfeet to arrive at a link with an improved St. Peter's Road West Lynn for local population, pedestrians, (reducing traffic movements on other highways), cyclists & more. An alternative through highway with a potential esplanade/hotel from the hump back bridge to another crossing as a sea barrier with locks for ships further north to join with the A 149 to provide a ring road around the town with The River Great Ouse and historic assets as a focus
Strategic Highway Network	92		
Highway Network	94	Gaywood Road bus priority and HOV lanes and junction redesign at Loke Road	The Gaywood Road corridor for eastbound bus and high occupancy vehicle (HOV) lanes, as well as an inbound contra flow bus lane at the gyratory. Make amendments to the existing arrangement to widen and use existing left turn lane to also accommodate the straight ahead bus movement and move the stopline for the right turn out of Loke Road to accommodate this. Junction redesign at Loke Road.
Highway Network	99	North Wootton to Edward Benefer Way link road	Provide a new link from North Wootton to connect with Edward Benefer Way opposite Bergen Way to eliminate or reduce the right turn from Castle Rising Road
Highway Network	103	South Lynn to Hardwick Road pedestrian crossing review	Investigate whether some of the signalised pedestrian crossings between South Lynn and Hardwick Road could be removed and alternative provision made that provides improves the traffic flow
Highway Network	105	Wisbech Road 20mph zone	Implement a 20mph zone on Wisbech Road to discourage through traffic use (without speed humps if appropriate) and provide better walking and cycling facilities along Wisbech Road
Parking	102	VMS improvements for car parking	VMS improvements to capture location of driver decision-making and improve town circulation of vehicles searching for car parking
Parking	123	Car Parking Strategy for King's Lynn including forecast growth and increased parking charges	Increase the cost of town centre car parking to reduce number of car trips in King's Lynn. Consider parking quantum required to cater for new / planned growth in residential development

Theme	Ref	Option	Description
Parking	124	The Friars residents parking scheme	Consider the implementation of a residents parking scheme in this area of King's Lynn. Bridhe St/All Saints St - Poor vehicle parking provision; vehicles partially mount the eastern footway obstructing pedestrian movements. Road markings also faded. Undertake study of residential parking demands and address parking issues. Repainting of road markings. Friars Street - Vehicle forced to mount the footway to pass parked vehicles - review available space and design
Parking	126	Review of residential parking provision in terraced areas	Improved parking provision in areas with terraced housing to accommodate current need, eg, like the one provided behind the houses at Vancouver Avenue
Parking	131	Review Railway Road parking and loading provision	At southern end of Railway Road vans mount the footway suggesting available space may not be adequate. Review the available space and design / enforcement
Parking	146	Expansion of railway station car parking	Investigate potential for expansion of the car parking for the rail station in King's Lynn including taxis and motorcycle spaces to meet demand
Other	58	Measures to reduce car use - road pricing, car park space and charges, reduction in capacity	Investigate additional measures to promote the use of alternative modes of travel including road pricing, road capacity reduction for private vehicles, raising parking charges in the town centre and reducing parking provision
Other	48	Change to school start and finish times and hospital shift patterns to ease impact on peak traffic	Encourage schools and hospitals to alter shift patterns to spread peak periods
Electric vehicles	1	Electric Vehicles in King's Lynn	Promote and encourage use of electric vehicles for pool cars to businesses in King's Lynn to address local air quality issues. Investigate application in King's Lynn
Autonomous Vehicles	114	Keep under review the development of autonomous vehicle technology	Review the development of autonomous vehicle technology, such as that currently underway in Milton Keynes, and their future applicability for King's Lynn.

Appendix B

LOCATIONS OF SCHEMES





Appendix C

LONG LIST OF OPTIONS
(PACKAGED)



3. Packaged Long List of Options

Assessment Notes

1 Complimentary Schemes have been packaged together to reduce the number of individual

Theme	Ref	New Ref	Option	Description
Buses	4	1.1	Town Circular Bus Route	Investigate providing a circular-route Lynn Express Bus, Lynn Super Tram or Lynn Nifty Bus, running every 15 minutes from Park-and-Ride points along a 30mph Hardwick Road - at the Hardwick Retail Park, Horsley's Fields, Nar Ouse Way - on a network of new bus-only lanes, to run in a clockwise direction around the town - hop on, hop off - filtering out traffic before the traffic reaches the South Gate, delivering employees, shoppers and tourists through Hardings Way bus-only link rapidly into the town centre.
Buses	6	1.2	Bus stop hard-standing - opposite Bepak A1078 Edward Benefer Way	Hardstanding for bus stop opposite Bepak (A1078 Edward Benefer Way)
Buses	7	1.3	Increased use of Harding's Way for buses - address issues at Millfleet and Wisbech Road to Hardwick Road to make ore advantageous for buses	Harding's Way as a bus only route to accommodate an increase in buses and bus usage with buses also continuing to serve London Road. A combination of routes is required. Retain Hardings Way as traffic-free except buses. Encourage more buses to make use of the route and the potential reliability/journey time benefits. Retain high level of provision for pedestrians / cyclists and especially vulnerable road users and mobility scooters
Buses	8	1.4	Bus 'hubs' for bus services around the town to alleviate need to go through the centre for all journeys	Investigate establishing 'connection hubs' for bus services around the town so you don't have to go through the centre for all journeys
Buses	12	1.5	Provide through bus services across town to reduce the need to change routes in the town centre	Investigate with bus operators whether through bus services could be provided in King's Lynn to avoid the need to change buses in the town centre
Buses	11	1.6	Rural public transport hubs with car parking to access the main public transport routes, eg A47	Investigate providing rural public transport hubs with car parking to feed the main public transport routes from outside King's Lynn, eg X1 service on A47
Buses	10	1.7	Shuttle buses to accommodate more employment trips	Investigate with the bus operators and employment estates whether Shuttle buses could be provided to better accommodate employment trips by bus
Buses	19	1.8	Improve bus service offer in King's Lynn on evenings, Sunday and Bank Holiday	Provide earlier and evening weekday buses for King's Lynn as well as Sunday and Bank Holiday service to relieve traffic congestion to access employment and address social inclusion
Buses	9	1.9	Multi-operator ticketing on bus services	Investigate with the bus operators measures to improve multi-operator ticketing including rail services
Buses	13	1.10	Access for buses to bus station via Albion Street; Improved Albion Road exit for buses	Bus lane on Railway Road and bus station access via Albion Street to reduce delay and journey times for buses. Improve the road layout design to provide an improved left turn onto Railway Road from Albion Street. Current traffic light timings only lets 2 buses through (usually cars + buses to exit). More green time needed / change quicker when there are a number of vehicles waiting to exit
Buses	96	1.11	Wellesley Street public transport route improvements	Utilise the nearside traffic lanes as a bus lane with a bus stop at the eastern end serving the rail station and supermarket, straight on into bus station at Railway Road via Albion Street
Buses	5	1.12	Town centre gyratory re-design. Various Options - Bus Lanes - Railway Rd, London Rd, Blackfriars Rd	Redesign of traffic movements around gyratory to assist with AQMA, congestion, connectivity and road safety objectives. Various schemes need developing through workshop and testing in the transport model. Investigate potential for providing bus-only lanes through Railway Road, London Road, Blackfriars Road to take out areas that generate air pollution and improve air quality with modal shift.
Buses	18	1.13	Bus journey time reliability on 505 service	Investigate means of improving the very unreliable service timing on the 505 bus service

Theme	Ref	New Ref	Option	Description
Buses	29	1.14	Bus priority at traffic signals using bus detector equipment	A 6 month trial that fitted the buses in King's Lynn with detector equipment for the traffic signals to address reliability and journey time issues leading ultimately to reductions in costs and improvements to the attractiveness and reliability of bus services in King's Lynn
Buses	30	1.15	Bus Rapid Transit in King's Lynn	Partial BRT on the corridor to provide: BRT from train station via former Docks line to John Kennedy Road / BRT from Bentinck Dock to Low Road at North Wootton / Wootton Gap re-design to provide priority for buses / BRT to bypass Knights Hill roundabout / BRT on Snettisham bypass / BRT to bypass Heacham Lavender junction
Buses	20	1.16	Upgrade public transport vehicle stock	Upgrade the vehicle stock to make use of LPG vehicles / cleaner diesel on the buses in King's Lynn, consequently influencing travel attitudes and behaviours to encourage increased mode use with improvements to accessibility and comfort
Buses	49	1.17	Use smaller buses for education transport in King's Lynn	Investigate the potential to use smaller buses for education in King's Lynn
Buses	98	1.18	Wootton Gap bus priority Low Road, Grimston Road and Edward Benefer Way	Provide bus priority across the junction between Low Road and Grimston Road. between Knights Hill and the town centre using dedicated roads parallel to Grimston Road. Low Road and Edward Benefer Way
Buses	108	1.19	Reduction in outbound delays at Hansa Road, Hardwick Road junction outbound for public transport; Hansa Road yellow box improvements for traffic exiting retail park	Address traffic signal delays at the junction in the outbound direction which cause queues back to Southgate and beyond and impact on bus journey times as well as Southgates roundabout and London Road; Review yellow box usage and improvements at B&Q / Next to allow people to exit the retail park more easily
Buses	119	1.20	Investigate Park & Ride Scheme for King's Lynn	Investigate whether Park and Ride is a suitable measure for King's Lynn. Potential sites on other side of the river - Clenchwarton Road (Mc Donalds), West Lynn with a bridge. Also consider sites on Hardwick Road and close to QEH. Impacts on town centre car parking and revenues alongside town centre car park charging will be required if a Park and Ride is to be successful.
Ferry Service	51	2.1	King's Lynn Ferry signage and publicity improvements	Develop a scheme that provides better access and signage for the ferry at King's Lynn and also West Lynn
Ferry Service	52	2.2	Provide additional car parking at West Lynn for the ferry	Consider how additional car parking could be provided at West Lynn to service the ferry
Ferry Service	53	2.3	King's Lynn access improvements to Ferry to make it accessible throughout the day/year	Consider improvements in accessibility of the ferry throughout the day to provide an improved more widely usable service for all, possibly utilising the previous location?
Ferry Service	55	2.4	Provide additional cycle parking and storage for the ferry	Provide secure cycle parking / storage associated with the ferry crossing in King's Lynn and West Lynn
Rail	140	3.1	Train frequency improvements	Implementation of Ely Area Enhancement Scheme to deliver doubling of train frequency to half-hourly (2025-2030). Improve rail links to Cambridge and London. Improve connecting services - connections to Norwich from Ely. King's Lynn 8 Car Project will increase train capacity from 4 Car trains between King's Lynn, Cambridge and London by December 2020.
Parking	146	3.2	Expansion of railway station car parking	Investigate potential for expansion of the car parking for the rail station in King's Lynn including taxis and motorcycle spaces to meet demand
Rail	142	3.3	Parkway station south of King's Lynn	Investigate providing a Parkway station to capture people coming into the town from the south
Rail	143	3.4	King's Lynn to Hunstanton railway link	Reinstatement of railway link
Rail	144	3.5	King's Lynn to Dereham railway link	Reinstatement of railway link
Public realm	41	3.6	Rail station to town centre public realm at Railway Road / Blackfriars Road	Provide further enhancements to the permeability and legibility of routes between the rail station and town centre by reducing the impact of the Railway Road / Blackfriars Road gyratory and further improving public realm

Theme	Ref	New Ref	Option	Description
Active travel	31	4.1	Cycle Route around historic quayside	Provide a combination of cycle dismount signs and bike storage in strategic locations at entry points to the town centre. Alternative cycle through-route around the main shopping district of the town centre. Introduce a cycle route around the Historic Quayside
Active travel	32	4.2	Cycle lane continuity through town	Develop a scheme to improve the breaks in continuity of the cycle lanes that meet arterial routes into King's Lynn, including improved provision for cyclists at pedestrian crossing over busy road and junctions where Toucan crossings are not already provided.
Active travel	37	4.3	Provide cycle lanes and cycle lane cameras	Provide more on-road space for cyclists and cycle lane cameras for safety
Active travel	42	4.4	Unified cycle signage strategy for Kings Lynn	Cycle paths, cycle hire docking stations, signage, etc. needs a unified public realm strategy to aid brand identity for King's Lynn and provide further enhancement
Active travel	33	4.5	Cycle lane on Lynn Road to Gayton Road B1145	Consider the availability of road space to provide a cycle lane on the Lynn to Gayton Road (B1145)
Active travel	34	4.6	Secure cycle parking located at CCTV camera locations	Secure cycle parking located near CCTV cameras is required throughout the town and notably at the rail station.
Active travel	45	4.7	Work with schools and education in King's Lynn to provide safe alternatives to private car for school children	Develop a campaign for King's Lynn to encourage parents not to drive children to school. Work with the schools to develop safer routes to school, walking buses, safe cycle routes, provision for secure cycle storage at the schools and provide the schools with the tools they need to improve localised parking issues around schools and the impacts on the town. Address air quality impacts on Wisbech Road at the schools.
Active travel	54	4.8	Pedestrian / cycle bridge over River Great Ouse	Consider providing a pedestrian / cycle bridge over the river which could be used throughout the year and improve the accessibility of King's Lynn for West Lynn residents who are currently unable to use the ferry. Investigate a location south of the entrance to Alexandra and Bentinck dock
Active travel	59	4.9	30mph speed limit Hardwick Bridge to Southgates	Investigate the implementation of a speed limit of 30mph on Hardwick Road between Hardwick Bridge and Southgates roundabout to assist with pedestrians crossings the road and may also improve traffic flows up to Hansa Road
Active travel	104	4.10	Port of King's Lynn highway design access improvements including pedestrians and cyclists	In the vicinity of the Port of King's Lynn improve operations to reduce risks to vulnerable road users through better provision for industrial vehicles, incorporating appropriate pedestrian crossings and cycle lanes.
Active travel	106	4.11	Queen Mary Road, Fairstead, Hardwick improvements in linkages for pedestrians and cyclists	Investigate how best to provide access across the railway line and around the town for modes other than private car to relieve some of the congestion pressure in Gaywood area. Fairstead Road / Queen Mary Road / Hardwick link road to enable trips to be undertaken without travelling through Gaywood Clock and the town centre gyratory
Active travel	130	4.12	Formalise pedestrian desire line between John Kennedy Road and Austin Street	Provide for the desire line (between John Kennedy Road and Austin Street over the Norfolk County Council grounds of Priory House) in the street design or take measures to encourage pedestrians to use the existing footway
Active travel	134	4.13	Tennyson Avenue Pedestrian & Cycle improvements: King George V Avenue pedestrian improvements; Tennyson Road, The Walks, Tennyson Avenue pedestrian improvements; Tennyson Avenue, Gaywood Road pedestrian improvements; Review of pedestrian crossing facilities on Extons Road and Tennyson Avenue	King George V Ave: cluster of pedestrian/cycle accidents, provide improved crossing facilities to accommodate pedestrian movements. At access point to The Walks pedestrians and cyclists are not provided with crossings over B1144 except dropped kerbs and footway marking-provide improved crossing provision. Gaywood Road: cluster of pedestrian/cycle accidents, provide improved crossing facilities to accommodate pedestrian movements. Identify locations for more pedestrian crossings including signalised ones on Extons Road and Tennyson Avenue to improve road safety for pedestrians in this area.

Theme	Ref	New Ref	Option	Description
Active travel	137	4.14	Review pedestrian crossing provision on London Road	Cluster of pedestrian/cycle accidents identified a lack of provision for access from residential areas to the west across London Road. Review crossing locations and facilities on London Road
Active travel	138	4.15	Underpass of the railway crossing at Tennyson Avenue to improve access to superstores	Investigate the provision of an underpass under the railway at Tennyson Avenue to provide quick cycling / walking links to Morrisons and reduce car trips
Active travel	145	4.16	Bike hire scheme in King's Lynn	Investigate provision of ofo bikes at various locations in King's Lynn - provision for up to 50 bikes (10 at station), subject to available space. If ofo find a business case for provision they provide at no cost. Would require a promotional programme and suitable space would need to be identified
Active travel	38	4.17	Way-finding & signage issues: Saturday Market Place cycle signing; Norfolk Street wayfinding signs; Hardings Way/Wisbech Road wayfinding signs;	Misleading on-street signage - sign in foreground indicates a shared use unsegregated cycle and pedestrian route while just after cycling is prohibited; no wayfinding signage available along Norfolk Street-provide signing along this link; Hardings Way/Wisbech Road no wayfinding signs available-provide signage at this location
Active travel	103	4.18	South Lynn to Hardwick Road pedestrian crossing review	Investigate whether some of the signalised pedestrian crossings between South Lynn and Hardwick Road could be removed and alternative provision made that provides improves the traffic flow
Public realm	3	4.19	Tree & Shrub Planting in central area	Tree and shrub planting in poor air quality areas could assist in reducing levels of poor air quality
Active travel	109	4.20	Various locations for repair, repainting and cleaning	evidence of surface wear, cracking and potholes at entrance to Austin Street West Car Park
Active travel	110	4.21	Various locations for repair, repainting and cleaning	in proximity of Priory House is worn. Wear and fading of cycle markings on southern section of John Kennedy Road - junction with Railway Road
Active travel	111	4.22	Various locations for repair, repainting and cleaning	Pedestrian footway marking in car park are faded, especially around the disabled parking provision
Active travel	112	4.23	Various locations for repair, repainting and cleaning	Wear of step markings at entrance. Maintenance to footway has removed cycle route pavement markings outside the station
Active travel	113	4.24	Various locations for repair, repainting and cleaning	damage to pavement slabs may create a trip hazard in the pedestrianised shopping area
Active travel	114	4.25	Various locations for repair, repainting and cleaning	faded cycle route markings at western end and footway edges cracked
Active travel	115	4.26	Various locations for repair, repainting and cleaning	cycle parking racks have been damaged and need repair
Active travel	116	4.27	Various locations for repair, repainting and cleaning	Pedestrian guard railings damaged and need repair
Active travel	117	4.28	Various locations for repair, repainting and cleaning	on-road cycle lane markings are faded
Active travel	118	4.29	Various locations for repair, repainting and cleaning	Weathered and obscured wayfinding signs need cleaning
Active travel	133	4.30	Various locations for repair, repainting and cleaning	improvised asphalt ramp located between the footway and road to assist with transitioning between grades. Recommend incorporating dropped kerbs
Active travel	127	4.31	Various locations for repair, repainting and cleaning	Connections with villages to the east - maintain cutting back of foliage
Traffic Signals	22	5.1	Review traffic signal timings at various locations to optimise traffic movements	Review signal timings as stakeholders have suggested that there is too much signal green time for North Street approach / retail park traffic at Hardwick / at Estuary Road approach whenever a car is there / at Hamburg Way
Traffic Signals	28	5.2	Linked and co-ordinated traffic signals	Co-ordinated traffic signals would help with bus scheduling and reliability as currently the traffic signals don't appear to be linked together which means very stop/start and slow journeys for buses
Traffic Signals	75	5.3	Gaywood Clock / Queen Mary Road traffic light improvements and junction redesign	Consider improvements to the traffic light phasing at Gaywood Clock/Queen Mary Road and junction redesign
Traffic Signals	79	5.4	Loke Road John Kennedy Road traffic signal optimisation or junction redesign	Phasing issue between lights needs to be addressed to link the phasing together / check phasing to let traffic out for a shorter period. Options also to be developed to provide an alternative junction arrangement to assist with traffic flow at this location

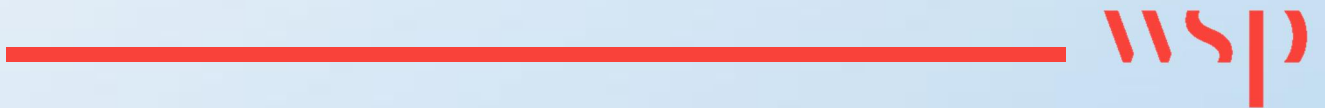
Theme	Ref	New Ref	Option	Description
Traffic Signals		5.5	Traffic signal optimisation and right turn arrow into Millfleet from London Road	Painted arrow on road to indicate right turn and stage in signals for right turning traffic
Highway Network	27	6.1	Railway station bus layby re-design	Consider re-design for the layby outside the rail station to prevent cars stopping in the layby and also address issues with getting the bus on the loop in the road to activate the traffic lights to change to let them out
Highway Network	60	6.2	Hardings Way opened for additional traffic	Investigate options to allow additional traffic to use Hardings Way to alleviate the congestion on London Road and assist with air quality management. This could include specific additional vehicle types being permitted to use the route; open only at specified times of the day; as an emergency measure to assist with incident management; directional to provide alternative routes for inbound traffic in the AM peak and outbound traffic in the PM peak; or to provide access to specific parts of the town centre only. Mitigation measures would be needed to ensure there are no impacts on the historic core.
Highway Network	62	6.3	Traffic management associated with A47 congestion	Address issues with seasonal traffic and congestion on A47 and provide management initiatives so it doesn't impact on the town centre
Highway Network	63	6.4	Hospital to A149 direct access link	Provide an additional exit onto A149 for exiting traffic from the hospital to ease local congestion issues around the hospital
Highway Network	66	6.5	Southgates roundabout highway capacity improvement scheme - small-medium scale	Undertake a review of lane marking and usage at Southgates roundabout to provide improvements in traffic flow. Also undertake a review of the traffic signal operation to optimise the traffic flow at this key junction that provides access to King's Lynn. Enhance crossing provision for cyclists and pedestrians at the South Gate alongside highway improvement measures to improve traffic flow
Highway Network	70	6.6	South Gate highway capacity enhancements - providing two lanes in both directions / large scale redesign	Make Southgates an island bypass it with two lanes north/south using park for extra lane (based on previous proposal for CIF)
Highway Network	71	6.7	Vancouver Avenue - improved lane management	Vancouver Avenue - investigate improved lane management - left lane = straight and left / right lane = right - to ease traffic congestion, also provide a longer left filter lane / increase length of the left turn lane to ease traffic congestion on this approach. Also consider provision of a left filter lane with give-way onto Hardwick Road to ease the traffic using the roundabout and provide potential for improvement to traffic signal operation.
Highway Network	84	6.8	Wisbech Road to Nar Ouse Way link Road	Investigate the potential for providing a highway link between Wisbech Road and Nar Ouse Way to assist in alleviating Southgates roundabout
Highway Network	69	6.9	Valingers Road improvement scheme / remove right turn into Valingers Road / 3-lanes s'bound / monitor the trial layout	Investigate providing three lanes southbound, one lane northbound between Checker Street and Valingers Road to aid traffic flow at this location. Monitor the Trial layout; Remove the right turn into Valingers Road
Highway Network	74	6.10	Additional College access	Investigate providing a new access from the College at the existing T-junction
Highway Network	76	6.11	A1076 provide new right turn lane into Queensway	To assist the right turn from A1076 into Queensway - create an additional queuing lane to reduce the impact on other traffic
Highway Network	77	6.12	Queen Mary Road link to Fairstead	Link to development land at Parkway with potential link to Fairstead - traffic to go through Fairstead / route coming out of Fairstead and along Sand line / bridge over Sand train line / road alongside railway line / park and ride
Highway Network	64	6.13	Winston Churchill Drive QEH access widening	Investigate a scheme to provide widening of the access to allow improved movement onto roundabout / improved traffic flow. Also look at widening of Winston Churchill Drive closest to Corbyn Shaw Road
Highway Network	80	6.14	Estuary Road Edward Benefer Way junction improvements	New junction arrangements have been submitted to planning - phasing of traffic lights with alternative priorities / take out private access and make two-lanes over the traffic lights / remove left turn from traffic lights

Theme	Ref	New Ref	Option	Description
Highway Network	94	6.15	Gaywood Road bus priority and HOV lanes and junction redesign at Loke Road	The Gaywood Road corridor for eastbound bus and high occupancy vehicle (HOV) lanes, as well as an inbound contra flow bus lane at the gyratory. Make amendments to the existing arrangement to widen and use existing left turn lane to also accommodate the straight ahead bus movement and move the stopline for the right turn out of Loke Road to accommodate this. Junction redesign at Loke Road.
Highway Network	99	6.16	North Wootton to Edward Benefer Way link road	Provide a new link from North Wootton to connect with Edward Benefer Way opposite Bergen Way to eliminate or reduce the right turn from Castle Rising Road
Highway Network	81	6.17	Low Road Castle Rising Road Wootton Road Grimston Road junction improvements	New junction arrangements have been submitted to planning - phasing of traffic lights with alternative priorities / take out private access and make two-lanes over the traffic lights / remove left turn from traffic lights
Buses	95	6.18	Hardwick Roundabout capacity improvements / Hardwick Interchange priority for buses	Hardwick Roundabout - options to increase capacity as part of the dualling scheme; Investigate providing solutions for delays to buses at Hardwick interchange to improve bus journey times and reliability and promote the use of the bus for journeys that start or end outside the King's Lynn urban area
Highway Network	87	6.19	Jubilee roundabout capacity improvements	Jubilee roundabout improvements to improve traffic flow and accommodate future growth
Highway Network	88	6.20	QEH roundabout capacity improvements	The slip road onto A149 northbound needs improvement and the roundabout needs to be able to accommodate forecast traffic levels
Highway Network	89	6.21	A149 Dualling up to Knights Hill; Knights Hill junction capacity improvements	Dualling of the A149 / crawler lane up to Knights Hill / two lanes up to Knights Hill / mark lanes from bottom of hill / increase width / lanes at roundabout which are too narrow at the junctions onto / off the roundabout (QE to King's Lynn) - suitable for emergency services; Consider a redesign of this junction to improve traffic capacity and traffic flow to accommodate forecast traffic levels associated with development
Highway Network	92	6.22	West Winch Housing Access Road	Highway improvement access road to enable the housing growth at West Winch and to provide some relief to the A10
Highway Network	90	6.23	Tuesday Market Place access improvements	Provide a one way entrance through the narrow access road with relocation of the pedestrian crossing with a barrier railing across the end of the paved area to eradicate a blind spot for drivers. Or, one way exit just into Page Stair Lane on land at the rear of the north side of the Market Place to be purchased to allow the exit road to continue back to St. Nicholas Street, focused upon the church as a "round about option," opening up land yet to be available for development including multi storey car parks.
Highway Network	91	6.24	Bridge for vehicular traffic over River Great Ouse	Revive The River Great Ouse attractions and access. A hump back river crossing first in the vicinity of Millfeet to arrive at a link with an improved St. Peter's Road West Lynn for local population, pedestrians, (reducing traffic movements on other highways), cyclists & more. An alternative through highway with a potential esplanade/hotel from the hump back bridge to another crossing as a sea barrier with locks for ships further north to join with the A 149 to provide a ring road around the town with The River Great Ouse and historic assets as a focus.
Highway Network	105	6.25	Wisbech Road 20mph zone	Implement a 20mph zone on Wisbech Road to discourage through traffic use (without speed humps if appropriate) and provide better walking and cycling facilities along Wisbech Road
Parking	102	7.1	VMS improvements for car parking	VMS improvements to capture location of driver decision-making and improve town circulation of vehicles searching for car parking

Theme	Ref	New Ref	Option	Description
Parking	123	7.2	Car Parking Strategy for King's Lynn including forecast growth and increased parking charges	Increase the cost of town centre car parking to reduce number of car trips in King's Lynn. Consider parking quantum required to cater for new / planned growth in residential development
Parking	124	7.3	The Friars residents parking scheme	Consider the implementation of a residents parking scheme in this area of King's Lynn. Bridhe St/All Saints St - Poor vehicle parking provision; vehicles partially mount the eastern footway obstructing pedestrian movements. Road markings also faded. Undertake study of residential parking demands and address parking issues. Repainting of road markings. Friars Street - Vehicle forced to mount the footway to pass parked vehicles - review available space and design
Parking	126	7.4	Review of residential parking provision in terraced areas	Improved parking provision in areas with terraced housing to accommodate current need, eg, like the one provided behind the houses at Vancouver Avenue
Parking	131	7.5	Review Railway Road parking and loading provision	At southern end of Railway Road vans mount the footway suggesting available space may not be adequate. Review the available space and design / enforcement
Other	58	8.1	Measures to reduce car use - road pricing, car park space and charges, reduction in capacity	Investigate additional measures to promote the use of alternative modes of travel including road pricing, road capacity reduction for private vehicles, raising parking charges in the town centre and reducing parking provision
Other	48	8.2	Change to school start and finish times and hospital shift patterns to ease impact on peak traffic	Encourage schools and hospitals to alter shift patterns to spread peak periods
Electric vehicles	1	8.3	Electric Vehicles in King's Lynn	Promote and encourage use of electric vehicles for pool cars to businesses in King's Lynn to address local air quality issues. Investigate application in King's Lynn
Autonomous Vehicles	114	8.4	Keep under review the development of autonomous vehicle technology	Review the development of autonomous vehicle technology, such as that currently underway in Milton Keynes, and their future applicability for King's Lynn.

Appendix D

INITIAL SIFT – SCHEMES
DISCOUNTED FROM APPRAISAL



4.1. Discounted / Maintenance Schemes from Initial Sift

This is a list of Discounted / Committed Schemes identified from the initial feasibility sift. The Quick Win schemes will be taken forward directly to Stage 3 and inclusion within the King's Lynn Transport Strategy.

The reasoning for this is that these schemes are minor, short term and should be mainly funded through maintenance budgets. Appraisal of these options is therefore not necessary. Some of the options overlap with other initiatives that have been taken forward for appraisal or will need to be led mainly by other parties (eg, bus operators). Some of these aspirational initiatives can still be listed in the Strategy where there is a willingness for the other parties to take them forward.

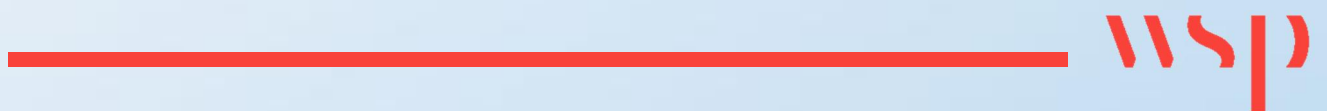
Discounted Schemes

Ref	Option	Description	Reason for Sift Out of Further Appraisal
1.1	Town Circular Bus Route	Investigate providing a circular-route Lynn Express Bus, Lynn Super Tram or Lynn Nifty Bus, running every 15 minutes from Park-and-Ride points along a 30mph Hardwick Road - at the Hardwick Retail Park, Horsley's Fields, Nar Ouse Way - on a network of new bus-only lanes, to run in a clockwise direction around the town - hop on, hop off - filtering out traffic before the traffic reaches the South Gate, delivering employees, shoppers and tourists through Hardings Way bus-only link rapidly into the town centre.	Commercial bus network, influence of NCC is limited but will continue to work with bus operators to provide improvements to service reliability and routing. Land required for park and ride and public acceptability that results from associated need to increase car parking charges / reduce town centre parking availability to promote use and make successful
1.2	Bus stop hard-standing - opposite Bepak A1078 Edward Benefer Way	Hardstanding for bus stop opposite Bepak (A1078 Edward Benefer Way)	Green - Quick wins / easy implementation. Not appraised - very short-term maintenance measures recommended to be implemented
1.4	Bus 'hubs' for bus services around the town to alleviate need to go through the centre for all journeys	Investigate establishing 'connection hubs' for bus services around the town so you don't have to go through the centre for all journeys	Commercial bus network, influence of NCC is limited but will continue to work with bus operators to provide improvements to service reliability and routing. Potential connection hubs could be Hospital and Retail Park - further discussion with the bus operators will be undertaken on this. Likely to have significant impact on bus service scheduling and vehicle requirements / cost of provision.
1.5	Provide through bus services across town to reduce the need to change routes in the town centre	Investigate with bus operators whether through bus services could be provided in King's Lynn to avoid the need to change buses in the town centre	Commercial bus operator decision and impacts on their scheduling and operations including overall costs in an already finely balanced network may make this unachievable in the current climate. Improvements to bus service reliability for cross-town movements may assist with achieving this and bus operators are keen to make provision where it will assist in making services commercial. Ultimately a bus operator decision
1.6	Rural public transport hubs with car parking to access the main public transport routes, eg A47	Investigate providing rural public transport hubs with car parking to feed the main public transport routes from outside King's Lynn, eg X1 service on A47	Land required for provision of car parking associated with a 'hub' to make it attractive. Would require management of car parking stock and/or car parking charges in the centre of the town to promote use. Unlikely to be publically acceptable and land requirements may make this unachievable within the plan period
1.7	Shuttle buses to accommodate more employment trips	Investigate with the bus operators and employment estates whether Shuttle buses could be provided to better accommodate employment trips by bus	Commercial bus network and bus operators are keen to make provision where it will assist in making services commercial. Ultimately a bus operator decision
1.13	Bus journey time reliability on 505 service	Investigate means of improving the very unreliable service timing on the 505 bus service	bus service operator responsibility - may be eased by some of the bus priority schemes - too specific - not appraised
1.15	Bus Rapid Transit in King's Lynn	Partial BRT on the corridor to provide: BRT from train station via former Docks line to John Kennedy Road / BRT from Bentinck Dock to Low Road at North Wootton / Wootton Gap re-design to provide priority for buses / BRT to bypass Knights Hill roundabout / BRT on Snettisham bypass / BRT to bypass Heacham Lavender junction	Deliverability: the appraisal of a new rail line would have strict requirements and need significant investment, unlikely to be achievable within the plan timescale
1.16	Upgrade public transport vehicle stock	Upgrade the vehicle stock to make use of LPG vehicles / cleaner diesel on the buses in King's Lynn, consequently influencing travel attitudes and behaviours to encourage increased mode use with improvements to accessibility and comfort.	NCC can work with bus operators to influence standards in vehicle stock but it is bus operator decision to upgrade vehicle stock. Not appraised
1.17	Use smaller buses for education transport in King's Lynn	Investigate the potential to use smaller buses for education in King's Lynn	smaller buses means more buses - unlikely to be cost effective for education transport provision. Not appraised
3.3	Parkway station south of King's Lynn	Investigate providing a Parkway station to capture people coming into the town from the south	Deliverability: the appraisal of a new station has strict requirements, economic case unlikely to be feasible. Impact on existing rail services.
3.4	King's Lynn to Hunstanton railway link	Reinstatement of railway link	Deliverability: the appraisal of a new rail line would have strict requirements and need significant investment, unlikely to be achievable within the plan timescale
3.5	King's Lynn to Dereham railway link	Reinstatement of railway link	Deliverability: the appraisal of a new rail line would have strict requirements and need significant investment, unlikely to be achievable within the plan timescale
4.8	Pedestrian / cycle bridge over River Great Ouse	Consider providing a pedestrian / cycle bridge over the river which could be used throughout the year and improve the accessibility of King's Lynn for West Lynn residents who are currently unable to use the ferry. Investigate a location south of the entrance to Alexandra and Bentinck dock	Unlikely to be deliverable in the plan timescale and very high cost associated with design and implementation, with limited funding sources
4.15	Underpass of the railway crossing at Tennyson Avenue to improve access to superstores	Investigate the provision of an underpass under the railway at Tennyson Avenue to provide quick cycling / walking links to Morrisons and reduce car trips	underpass of railway unlikely to be feasible as railway owned land and also would require significant investment and land take. Not appraised
6.10	Additional College access	Investigate providing a new access from the College at the existing T-junction	junction is already very busy so unlikely to be feasible to add more movements into the existing junction safely
6.24	Bridge for vehicular traffic over River Great Ouse	Revive The River Great Ouse attractions and access. A hump back river crossing first in the vicinity of Millfeet to arrive at a link with an improved St. Peter's Road West Lynn for local population, pedestrians, (reducing traffic movements on other highways), cyclists & more. An alternative through highway with a potential esplanade/hotel from the hump back bridge to another crossing as a sea barrier with locks for ships further north to join with the A 149 to provide a ring road around the town with The River Great Ouse and historic assets as a focus.	Unlikely to be deliverable in the plan timescale and very high cost associated with design and implementation, with limited funding sources

Ref	Option	Description	Reason for Sift Out of Further Appraisal
Maintenance Schemes / Quick Wins (not for Appraisal but to be taken forward in the Strategy)			
4.3	Provide cycle lanes and cycle lane cameras	Provide more on-road space for cyclists and cycle lane cameras for safety	Green - Quick wins / easy implemtation. Not appraised - short-term maintenance measures recommended to be implemented
4.4	Unified cycle signage strategy for Kings Lynn	Cycle paths, cycle hire docking stations, signage, etc. needs a unified public realm strategy to aid brand identity for King's Lynn and provide further enhancement	Green - Quick wins / easy implemtation. Not appraised - short-term maintenance measures recommended to be implemented
4.6	Secure cycle parking located at CCTV camera locations	Secure cycle parking located near CCTV cameras is required throughout the town and notably at the rail station.	Green - Quick wins / easy implemtation. Not appraised - very short-term maintenance measures recommended to be implemented
4.12	Formalise pedestrian desire line between John Kennedy Road and Austin Street	Provide for the desire line (between John Kennedy Road and Austin Street over the Norfolk County Council grounds of Priory House) in the street design or take measures to encourage pedestrians to use the existing footway	Green - Quick wins / easy implemtation. Not appraised - short-term maintenance measures recommended to be implemented
4.17	Way-finding & signage issues: Saturday Market Place cycle signing; Norfolk Street wayfinding signs; Hardings Way/Wisbech Road wayfinding signs;	Milsleading on-street signage - sign in foreground indicates a shared use unsegregated cycle and pedestrian route while just afetr cycling is prohibited; no wayfinding signage available along Norfolk Street-provide signing along this link; Hardings Way/Wisbech Road no wayfinding signs available-provide signage at this location	Green - Quick wins / easy implemtation. Not appraised - very short-term maintenance measures recommended to be implemented
4.19	Tree & Shrub Planting in central area	Tree and shrub planting in poor air quality areas could assist in reducing levels of poor air quality	Where space permits - assumed to be included in overall strategy for Norfolk CC / BCKL&WN. Not appraised
4.20	Various locations for repair, repainting and cleaning	evidence of surface wear, cracking and potholes at entrance to Austin Street West Car Park	Green - Quick wins / easy implemtation. Not appraised - very short-term maintenance measures recommended to be implemented
4.21	Various locations for repair, repainting and cleaning	in proximity of Priory House is worn. Wear and fading of cycle markings on southern section of John Kennedy Road - junction with Railway Road	Green - Quick wins / easy implemtation. Not appraised - short-term maintenance measures recommended to be implemented
4.22	Various locations for repair, repainting and cleaning	Pedestrian footway marking in car park are faded, especially around the disabled parking provision	Green - Quick wins / easy implemtation. Not appraised - very short-term maintenance measures recommended to be implemented
4.23	Various locations for repair, repainting and cleaning	Wear of step markings at entrance. Maintenance to footway has removed cycle route pavement markings outside the station	Green - Quick wins / easy implemtation. Not appraised - short-term maintenance measures recommended to be implemented
4.24	Various locations for repair, repainting and cleaning	damage to pavement slabs may create a trip hazard in the pedestrianised shopping are	Green - Quick wins / easy implemtation. Not appraised - very short-term maintenance measures recommended to be implemented
4.25	Various locations for repair, repainting and cleaning	faded cycle route markings at western end and footway edges cracked	Green - Quick wins / easy implemtation. Not appraised - short-term maintenance measures recommended to be implemented
4.26	Various locations for repair, repainting and cleaning	cycle parking racks have been damaged and need repair	Green - Quick wins / easy implemtation. Not appraised - very short-term maintenance measures recommended to be implemented
4.27	Various locations for repair, repainting and cleaning	Pedestrain guard railings damaged and need repair	Green - Quick wins / easy implemtation. Not appraised - short-term maintenance measures recommended to be implemented
4.28	Various locations for repair, repainting and cleaning	on-road cycle lane markings are faded	Green - Quick wins / easy implemtation. Not appraised - very short-term maintenance measures recommended to be implemented
4.29	Various locations for repair, repainting and cleaning	Weathered and obscured wayfinding signs need cleaning	Green - Quick wins / easy implemtation. Not appraised - short-term maintenance measures recommended to be implemented
4.30	Various locations for repair, repainting and cleaning	improvised asphalt ramp located between the footway and road to assist with transitioning between grades. Recommend incorporating dropped kerbs	Green - Quick wins / easy implemtation. Not appraised - very short-term maintenance measures recommended to be implemented
4.31	Various locations for repair, repainting and cleaning	Connections with villages to the east - maintain cutting back of foliage	Green - Quick wins / easy implemtation. Not appraised - short-term maintenance measures recommended to be implemented
6.9	Valingers Road improvement scheme / remove right turn into Valingers Road / 3-lanes s'bound /monitor the trial layout	Investigate providing thee lanes southbound, one lane northbound between Checker Street and Valingers Road to aid traffic flow at this location. Monitor the Trial layout; Remove the right turn into Valingers Road	Trial scheme is being monitored, alternative arrangements considered as part of overall London Road improvement scheme
Policy Dependent (not Appraised but include as appropriate in Strategy)			
8.1	Measures to reduce car use - road pricing, car park space and charges, reduction in capacity	Investigate additional measures to promote the use of alternative modes of travel including road pricing, road capacity reduction for private vehicles, raising parking charges in the town centre and reducing parking provision	General policy / promotion - mainly covered by individual schemes identified above, except road pricing which is likely to be beyond the plan timescale to provide the alternatives. Not appraised
8.2	Change to school start and finish times and hospital shift patterns to ease impact on peak traffic	Encourage schools and hospitals to alter shift patterns to spread peak periods	require wider policy decision-making - not a transport initiative
8.3	Electric Vehicles in King's Lynn	Promote and encourage use of electric vehicles for pool cars to businesses in King's Lynn to address local air quality issues. Investigate application in King's Lynn	General policy / promotion - assumed to be included in overall strategy for Norfolk CC / BCKL&WN. Not appraised
8.4	Keep under review the development of autonomous vehicle technology	Review the development of autonomous vehicle technology, such as that currently underway in Milton Keynes, and their future applicability for King's Lynn.	developing technology

Appendix E

STRATEGIC APPRAISAL SCORING



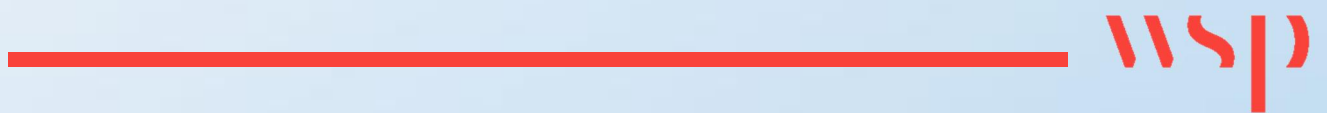
5. Step 2 of the Option Appraisal Process - Strategic Appraisal

		Ref	Option	Description	1. Provide a safe environments for travel by all modes	2. Encourage town centre accessibility by all while conserving and	3. Support sustainable housing and economic growth	4. Reduce the need to travel by car through development	5. Manage traffic congestion in King's Lynn	6. Increase active travel mode share for short journeys	7. Promote and encourage the use of public transport	8. Reduce harmful emissions and air quality impacts	Average	Average Rank	Weighted Average	Weighted Average Rank	Comment on fit with objectives
		1.12	Town centre gyratory re-design. Various Options - Bus Lanes - Railway Rd, London Rd, Blackfriars Rd	Redesign of traffic movements around gyratory to assist with AQMA, congestion, connectivity and road safety objectives. Various schemes need developing through workshop and testing in the transport model. Investigate potential for providing bus-only lanes through Railway Road, London Road, Blackfriars Road to take out areas that generate air pollution and improve air quality with modal shift.	1	1	0	0	2	1	1	1	0.88	1	1.10	1	Helps manage traffic congestion, supports sustainable housing growth, provides a safe environment for travel by all modes and likely to reduce harmful air quality emissions. May provide advantages for improving opportunities for using sustainable modes of transport and increasing active travel mode share for short journeys.
		6.6	South Gate highway capacity enhancements - providing two lanes in both directions / large scale redesign	Make Southgates an island bypass it with two lanes north/south using park for extra lane (based on previous proposal for CIF)	2	0	1	0	2	0	1	1	0.88	1	1.08	2	Helps manage traffic congestion, supports sustainable housing growth, can be designed to combine with providing a safe environment for travel by all modes and could have a slight beneficial impact on harmful air quality emissions. May have a positive impact on public transport journey times and attractiveness.
		6.5	Southgates roundabout highway capacity improvement scheme - small-medium scale	Undertake a review of lane marking and usage at Southgates roundabout to provide improvements in traffic flow. Also undertake a review of the traffic signal operation to optimise the traffic flow at this key junction that provides access to King's Lynn. Enhance crossing provision for cyclists and pedestrians at the South Gate alongside highway improvement measures to improve traffic flow	1	0	1	0	2	1	1	0	0.75	3	1.05	3	Helps manage traffic congestion, supports sustainable housing growth, can be designed to combine with providing a safe environment for travel by all modes and could have a positive impact on public transport journey times and attractiveness.
		6.2	Hardings Way opened for additional traffic	Investigate options to allow additional traffic to use Hardings Way to alleviate the congestion on London Road and assist with air quality management. This could include specific additional vehicle types being permitted to use the route; open only at specified times of the day; as an emergency measure to assist with incident management; directional to provide alternative routes for inbound traffic in the AM peak and outbound traffic in the PM peak; or to provide access to specific parts of the town centre only. Mitigation measures would be needed to ensure there are no impacts on the historic core.	0	1	1	0	2	0	1	1	0.75	3	0.98	4	encourages town centre accessibility by all modes and provides potential for alleviation of traffic congestion on London Road and associated AQMA benefits as well as improvements to the environment for pedestrians and cyclists on London Road, however, this is potentially cancelled out by the negative impacts on the cyclists and pedestrians that already use Hardings Way with benefits for public transport bus journey times. Potential for incident management.
		6.18	Hardwick Roundabout capacity improvements / Hardwick Interchange priority for buses	Hardwick Roundabout - options to increase capacity as part of the dualling scheme; Investigate providing solutions for delays to buses at Hardwick interchange to improve bus journey times and reliability and promote the use of the bus for journeys that start or end outside the King's Lynn urban area	0	0	0	0	2	0	1	1	0.50	7	0.78	5	significant potential improvements to localised traffic congestion and local air quality in this area as well as potential for improvements to bus journey times and reliability
		5.2	Linked and co-ordinated traffic signals	Co-ordinated traffic signals would help with bus scheduling and reliability as currently the traffic signals don't appear to be linked together which means very stop/start and slow journeys for buses	0	0	1	0	2	-1	1	1	0.50	7	0.75	6	Helps manage traffic congestion and support housing and economic growth. Positive effect on town centre emissions with lower levels of standing traffic. May have negative effect on opportunities to use sustainable modes and use of active travel modes for shorter journeys.
		1.3	Increased use of Harding's Way for buses - address issues at Millfleet and Wisbech Road to Hardwick Road to make ore advantageous for buses	Harding's Way as a bus only route to accommodate an increase in buses and bus usage with buses also continuing to serve London Road. A combination of routes is required. Retain Hardings Way as traffic-free except buses. Encourage more buses to make use of the route and the potential reliability/journey time benefits. Retain high level of provision for pedestrians / cyclists and especially vulnerable road users and mobility scooters	0	1	1	0	1	0	1	1	0.63	5	0.68	7	provides additional benefit to bus journey times but may have disbenefits to patronage, supports improved town centre accessibility and maintains provision for existing users of Hardings Way. Less potential for incident management
		4.11	Queen Mary Road, Fairstead, Hardwick improvements in linkages for pedestrians and cyclists	Investigate how best to provide access across the railway line and around the town for modes other than private car to relieve some of the congestion pressure in Gaywood area. Fairstead Road / Queen Mary Road / Hardwick link road to enable trips to be undertaken without travelling through Gaywood Clock and the town centre gyratory	1	0	1	0	1	1	0	1	0.63	5	0.68	7	potential to support sustainable economic growth by providing linkages for pedestrians and cyclists that avoids travelling through the gyratory. Beneficial to AQMA and active travel usage.
		3.1	Train frequency improvements	Implementation of Ely Area Enhancement Scheme to deliver doubling of train frequency to half-hourly (2025-2030). Improve rail links to Cambridge and London. Improve connecting services - connections to Norwich from Ely. King's Lynn 8 Car Project will increase train capacity from 4 Car trains between King's Lynn, Cambridge and London by December 2020.	0	0	1	0	1	0	2	0	0.50	7	0.65	9	may assist with managing traffic congestion associated with longer trips but could increase localised trips on the gyratory. Would contribute towards increase mode share for journey to work by public transport
		1.14	Bus priority at traffic signals using bus detector equipment	A 6 month trial that fitted the buses in King's Lynn with detector equipment for the traffic signals to address reliability and journey time issues leading ultimately to reductions in costs and improvements to the attractiveness and reliability of bus services in King's Lynn	0	1	1	0	1	-1	1	1	0.50	7	0.55	10	Helps manage traffic congestion and support housing and economic growth. Positive effect on town centre emissions with lower levels of standing traffic. May have negative effect on opportunities to use sustainable modes and use of active travel modes for shorter journeys.
		5.3	Gaywood Clock / Queen Mary Road traffic light improvements and junction redesign	Consider improvements to the traffic light phasing at Gaywood Clock/Queen Mary Road and junction redesign	0	0	0	0	1	0	1	2	0.50	7	0.53	11	Potential to support improved traffic flow and bus journey time reliability, may have adverse impacts on pedestrians and cyclists, but would need to be considered further in the scheme design.
		1.19	Reduction in outbound delays at Hansa Road, Hardwick Road junction outbound for public transport; Hansa Road yellow box improvements for traffic exiting retail park	Address traffic signal delays at the junction in the outbound direction which cause queues back to Southgate and beyond and impact on bus journey times as well as Southgates roundabout and London Road; Review yellow box usage and improvements at B&Q / Next to allow people to exit the retail park more easily	0	0	0	0	1	0	1	1	0.38	15	0.48	12	Helps manage traffic congestion for exiting traffic from the retail park. Linked to traffic signals on Hardwick Road, more time for the side roads would lead to a negative impact on overall traffic congestion in King's Lynn
		5.4	Loke Road John Kennedy Road traffic signal optimisation or junction redesign	Phasing issue between lights needs to be addressed to link the phasing together / check phasing to let traffic out for a shorter period. Options also to be developed to provide an alternative junction arrangement to assist with traffic flow at this location	0	0	0	0	1	0	1	1	0.38	15	0.48	12	potential improvements for public transport journey times and benefits for overall traffic flow
		6.3	Traffic management associated with A47 congestion	Address issues with seasonal traffic and congestion on A47 and provide management initiatives so it doesn't impact on the town centre	0	0	0	0	1	0	1	1	0.38	15	0.48	12	Potential to provide improved incident management and positive benefits to town centre congestion levels and public transport journey times and reliability at times of high traffic levels
		6.17	Low Road Castle Rising Road Wootton Road Grimston Road junction improvements	New junction arrangements have been submitted to planning - phasing of traffic lights with alternative priorities / take out private access and make two-lanes over the traffic lights / remove left turn from traffic lights	0	0	1	0	1	0	0	1	0.38	15	0.45	15	provides localised improvement to traffic flow and potential improvements to local air quality and public transport journey times and reliability
		6.19	Jubilee roundabout capacity improvements	Jubilee roundabout improvements to improve traffic flow and accommodate future growth	0	0	1	0	1	0	0	1	0.38	15	0.45	15	support the management of localised traffic congestion and provides improved accessibility to King's Lynn with associated benefits to air quality and supports economic growth
		6.20	QEH roundabout capacity improvements	The slip road onto A149 northbound needs improvement and the roundabout needs to be able to accommodate forecast traffic levels	0	0	1	0	1	0	0	1	0.38	15	0.45	15	support the management of localised traffic congestion and provides improved accessibility to King's Lynn with associated benefits to air quality and supports economic growth
		6.21	A149 Dualling up to Knights Hill; Knights Hill junction capacity improvements	Dualling of the A149 / crawler lane up to Knights Hill / two lanes up to Knights Hill / mark lanes from bottom of hill / increase width / lanes at roundabout which are too narrow at the junctions onto / off the roundabout (QE to King's Lynn) - suitable for emergency services; Consider a redesign of this junction to improve traffic capacity and traffic flow to accommodate forecast traffic levels associated with development	0	0	1	0	1	0	0	1	0.38	15	0.45	15	support the management of localised traffic congestion and provides improved accessibility to King's Lynn with associated benefits to air quality and supports economic growth
		6.21	A149 Dualling up to Knights Hill; Knights Hill junction capacity improvements	Dualling of the A149 / crawler lane up to Knights Hill / two lanes up to Knights Hill / mark lanes from bottom of hill / increase width / lanes at roundabout which are too narrow at the junctions onto / off the roundabout (QE to King's Lynn) - suitable for emergency services; Consider a redesign of this junction to improve traffic capacity and traffic flow to accommodate forecast traffic levels associated with development	0	0	1	0	1	0	0	1	0.38	15	0.45	15	support the management of localised traffic congestion and provides improved accessibility to King's Lynn with associated benefits to air quality and supports economic growth
		6.4	Hospital to A149 direct access link	Provide an additional exit onto A149 for exiting traffic from the hospital to ease local congestion issues around the hospital	1	0	0	0	1	0	0	1	0.38	15	0.45	15	potential to provide benefits to localised traffic congestion whilst also improving bus service reliability and journey times, could have benefits on local safety
		6.22	West Winch Housing Access Road	Highway improvement access road to enable the housing growth at West Winch and to provide some relief to the A10	0	0	1	0	1	0	0	1	0.38	15	0.45	15	potential to support economic and housing growth whilst managing traffic congestion levels in King's Lynn, positive impact on localised air quality
		4.1	Cycle Route around historic quayside	Provide a combination of cycle dismount signs and bike storage in strategic locations at entry points to the town centre. Alternative cycle through-route around the main shopping district of the town centre. Introduce a cycle route around the Historic Quayside	1	2	0	0	0	1	0	0	0.50	7	0.43	22	Improved safety for cyclists providing improved accessibility to certain parts of the town, potential to increase active travel mode share
		4.13	Tennyson Avenue Pedestrian & Cycle improvements: King George V Avenue pedestrian improvements; Tennyson Road. The Walks, Tennyson Avenue pedestrian improvements; Tennyson Avenue, Gaywood Road pedestrian improvements; Review of pedestrian crossing facilities on Extons Road and Tennyson Avenue	King George V Ave; cluster of pedestrian/cycle accidents, provide improved crossing facilities to accommodate pedestrian movements. At access point to The Walks pedestrians and cyclists are not provided with crossings over B1144 except dropped kerbs and footway marking-provide improved crossing provision. Gaywood Road; cluster of pedestrian/cycle accidents, provide improved crossing facilities to accommodate pedestrian movements. Identify locations for more pedestrian crossings including signalised ones on Extons Road and Tennyson Avenue to improve road safety for pedestrians in this area.	2	1	0	0	0	1	0	0	0.50	7	0.43	22	contributes to improvements in active mode share and provides improved accessibility for pedestrians and cyclists
		4.14	Review pedestrian crossing provision on London Road	Cluster of pedestrian/cycle accidents identified a lack of provision for access from residential areas to the west across London Road. Review crossing locations and facilities on London Road	2	1	0	0	0	1	0	0	0.50	7	0.43	22	provides benefits to safety for pedestrians and cyclists whilst encouraging town center accessibility and potential to increase active mode share. May have adverse impacts on traffic flow
		5.1	Review traffic signal timings at various locations to optimise traffic movements	Review signal timings as stakeholders have suggested that there is too much signal green time for North Street approach / retail park traffic at Hardwick / at Estuary Road approach whenever a car is there / at Hamburg Way	0	1	1	0	1	-1	0	1	0.38	15	0.43	25	Helps manage traffic congestion and support housing and economic growth. Positive effect on town centre emissions with lower levels of standing traffic. May have negative effect on opportunities to use sustainable modes and use of active travel modes for shorter journeys.
		1.10	Access for buses to bus station via Albion Street; Improved Albion Road exit for buses	Bus lane on Railway Road and bus station access via Albion Street to reduce delay and journey times for buses. Improve the road layout design to provide an improved left turn onto Railway Road from Albion Street. Current traffic light timings only lets 2 buses through (usually cars + buses to exit). More green time needed / change quicker when there are a number of vehicles waiting to exit	0	1	1	0	1	-1	0	1	0.38	15	0.43	25	Helps manage traffic congestion and support housing and economic growth. Positive effect on town centre emissions with lower levels of standing traffic. May have negative effect on opportunities to use sustainable modes and use of active travel modes for shorter journeys.
		6.1	Railway station bus layby re-design	Consider re-design for the layby outside the rail station to prevent cars stopping in the layby and also address issues with getting the bus on the loop in the road to activate the traffic lights to change to let them out	0	0	0	0	1	0	1	0	0.25	34	0.43	25	Positive impact on managing traffic congestion, particularly for buses
		6.12	Queen Mary Road link to Fairstead	Link to development land at Parkway with potential link to Fairstead - traffic to go through Fairsted / route coming out of Fairstead and along Sand line / bridge over Sand train line / road alongside railway line / park and ride	0	0	0	0	1	0	1	0	0.25	34	0.43	25	potential benefits to traffic flow and public transport accessibility for development.
		6.11	A1076 provide new right turn lane into Queensway	To assist the right turn from A1076 into Queensway - create an additional queuing lane to reduce the impact on other traffic	0	0	0	0	1	0	1	0	0.25	34	0.43	25	potential to provide improvements in bus journey times and reliability by relieving localised traffic congestion.
		6.13	Winston Churchill Drive QEH access widening	Investigate a scheme to provide widening of the access to allow improved movement onto roundabout / improved traffic flow. Also look at widening of Winston Churchill Drive closest to Corbyn Shaw Road	0	0	0	0	1	0	1	0	0.25	34	0.43	25	Potential to relieve localised traffic congestion and improve bus journey times and reliability
		7.1	VMS improvements for car parking	VMS improvements to capture location of driver decision-making and improve town circulation of vehicles searching for car parking	0	0	0	0	1	0	1	0	0.25	34	0.43	25	Potential to provide improvements to traffic flow and to improve the journey time and reliability of public transport services
		6.8	Wisbech Road to Nar Ouse Way link Road	Investigate the potential for providing a highway link between Wisbech Road and Nar Ouse Way to assist in alleviating Southgates roundabout	0	0	0	0	1	0	1	0	0.25	34	0.43	25	may contribute towards localised traffic congestion as part of Southgates roundabout improvements. Potential improvements to bus journey times and service reliability if congestion relief is achieved
		5.5	Traffic signal optimisation and right turn arrow into Millfleet from London Road	Painted arrow on road to indicate right turn and stage in signals for right turning traffic	0	0	0	0	1	0	0	1	0.25	34	0.35	33	positive impact on managing traffic congestion at this location and potential positive impacts on local air quality
		6.7	Vancouver Avenue - improved lane management	Vancouver Avenue - investigate improved lane management - left lane = straight and left / right lane = right - to ease traffic congestion, also provide a longer left filter lane / increase length of the left turn lane to ease traffic congestion on this approach. Also consider provision of a left filter lane with give-way onto Hardwick Road to ease the traffic using the roundabout and provide potential for improvement to traffic signal operation.	0	0	0	0	1	0	0	1	0.25	34	0.35	33	Helps manage traffic congestion and provide a positive impact on air quality.
		6.15	Gaywood Road bus priority and HOV lanes and junction redesign at Loke Road	The Gaywood Road corridor for eastbound bus and high occupancy vehicle (HOV) lanes, as well as an inbound contra flow bus lane at the gyratory. Make amendments to the existing arrangement to widen and use existing left turn lane to also accommodate the straight ahead bus movement and move the stopline for the right turn out of Loke Road to accommodate this. Junction redesign at Loke Road.	0	0	0	0	1	-1	1	1	0.25	34	0.35	33	Space provision for this means that the benefits for bus travel have to be offset against the potential impacts on cycling and walking in the area. Also may be a local impact on on-street car parking. Further design initiatives need to be considered to maximise potential for improvement to AQMA

		Ref	Option	Description	1. Provide a safe environments for travel by all modes	2. Encourage town centre accessibility by all while conserving and	3. Support sustainable housing and economic growth	4. Reduce the need to travel by car through development	5. Manage traffic congestion in King's Lynn	6. Increase active travel mode share for short journeys	7. Promote and encourage the use of public transport	8. Reduce harmful emissions and air quality impacts	Average	Average Rank	Weighted Average	Weighted Average Rank	Comment on fit with objectives
		6.14	Estuary Road Edward Benefer Way junction improvements	New junction arrangements have been submitted to planning - phasing of traffic lights with alternative priorities / take out private access and make two-lanes over the traffic lights / remove left turn from traffic lights	0	0	0	0	1	0	0	1	0.25	34	0.35	33	provides localised improvement to traffic flow and potential improvements to local air quality
		1.20	Investigate Park & Ride Scheme for King's Lynn	Investigate whether Park and Ride is a suitable measure for King's Lynn. Potential sites on other side of the river - Clenchwarton Road (Mc Donalds), West Lynn with a bridge. Also consider sites on Hardwick Road and close to QEH. Impacts on town centre car parking and revenues alongside town centre car park charging will be required if a Park and Ride is to be successful.	0	0	1	0	0	0	2	0	0.38	15	0.35	33	Park & Ride in King's Lynn would need to be combined with a restrictive approach to town centre car parking in terms of parking stock and pricing. Public transport improvements would be also needed to make it successful to provide a reliable public transport service
		7.2	Car Parking Strategy for King's Lynn including forecast growth and increased parking charges	Increase the cost of town centre car parking to reduce number of car trips in King's Lynn. Consider parking quantum required to cater for new / planned growth in residential development	0	0	0	0	1	0	0	1	0.25	34	0.35	33	supports management of traffic congestion in King's Lynn with potential for positive impacts on local air quality
		4.2	Cycle lane continuity through town	Develop a scheme to improve the breaks in continuity of the cycle lanes that meet arterial routes into King's Lynn, including improved provision for cyclists at pedestrian crossing over busy road and junctions where Toucan crossings are not already provided.	1	1	0	0	0	1	0	0	0.38	15	0.33	39	positive impacts on safety and town centre accessibility for cyclists and potential to increase active travel for short journeys
		4.10	Port of King's Lynn highway design access improvements including pedestrians and cyclists	In the vicinity of the Port of King's Lynn improve operations to reduce risks to vulnerable road users through better provision for industrial vehicles, incorporating appropriate pedestrian crossings and cycle lanes.	2	0	0	0	0	1	0	0	0.38	15	0.33	39	provides safety improvements and localised improvements for active modes
		4.18	South Lynn to Hardwick Road pedestrian crossing review	Investigate whether some of the signalised pedestrian crossings between South Lynn and Hardwick Road could be removed and alternative provision made that provides improves the traffic flow	2	0	0	0	0	1	0	0	0.38	15	0.33	39	provides improvements for pedestrians and cyclists and promotes journeys by active travel modes
		4.16	Bike hire scheme in King's Lynn	Investigate provision of ofo bikes at various locations in King's Lynn - provision for up to 50 bikes (10 at station), subject to available space. If ofo find a business case for provision they provide at no cost. Would require a promotional programme and suitable space would need to be identified.	0	1	0	1	0	1	0	0	0.38	15	0.33	39	contributes to improvements in active mode share and provides improved accessibility for pedestrians and cyclists
		4.9	30mph speed limit Hardwick Bridge to Southgates	Investigate the implementation of a speed limit of 30mph on Hardwick Road between Hardwick Bridge and Southgates roundabout to assist with pedestrians crossings the road and may also improve traffic flows up to Hansa Road	1	2	0	0	0	0	0	0	0.38	15	0.30	43	potential benefits to road safety
		6.16	North Wootton to Edward Benefer Way link road	Provide a new link from North Wootton to connect with Edward Benefer Way opposite Bergen Way to eliminate or reduce the right turn from Castle Rising Road	0	0	0	0	1	0	0	0	0.13	54	0.30	44	provides localised traffic flow improvements
		3.2	Expansion of railway station car parking	Investigate potential for expansion of the car parking for the rail station in King's Lynn including taxis and motorcycle spaces to meet demand	0	0	0	0	1	0	0	0	0.13	54	0.30	44	may assist with managing traffic congestion associated with longer trips but could increase localised trips on the gyratory
		1.11	Wellesley Street public transport route improvements	Utilise the nearside traffic lanes as a bus lane with a bus stop at the eastern end serving the rail station and supermarket, straight on into bus station at Railway Road via Albion Street	1	0	0	0	0	0	1	1	0.38	15	0.28	46	Helps manage traffic congestion, providing a safer environment for all modes of travel and improvements to delay for public transport
		2.4	Provide additional cycle parking and storage for the ferry	Provide secure cycle parking / storage associated with the ferry crossing in King's Lynn and West Lynn	0	0	0	0	0	1	1	0	0.25	34	0.25	47	Car park expansion will help with promotion of the ferry and may assist with public transport use
		1.18	Wootton Gap bus priority Low Road, Grimston Road and Edward Benefer Way	Provide bus priority across the junction between Low Road and Grimston Road. between Knights Hill and the town centre using dedicated roads parallel to Grimston Road. Low Road and Edward Benefer Way	0	0	0	0	0	0	2	0	0.25	34	0.25	47	provides improvements to bus journey times and reliability, would also assist with localised traffic flow - land for delivery if this may not be available
		3.6	Rail station to town centre public realm at Railway Road / Blackfriars Road	Provide further enhancements to the permeability and legibility of routes between the rail station and town centre by reducing the impact of the Railway Road / Blackfriars Road gyratory and further improving public realm	1	0	0	0	0	1	0	0	0.25	34	0.23	49	Potential improvements in safety and public realm in this area
		2.2	Provide additional car parking at West Lynn for the ferry	Consider how additional car parking could be provided at West Lynn to service the ferry	0	0	1	0	0	0	1	0	0.25	34	0.23	49	Car park expansion will help with promotion of the ferry and may assist with public transport use and supporting sustainable housing
		7.3	The Friars residents parking scheme	Consider the implementation of a residents parking scheme in this area of King's Lynn. Bridhe St/All Saints St - Poor vehicle parking provision; vehicles partially mount the eastern footway obstructing pedestrian movements. Road markings also faded. Undertake study of residential parking demands and address parking issues. Repainting of road markings. Friars Street - Vehicle forced to mount the footway to pass parked vehicles - review available space and design	1	0	0	0	0	1	0	0	0.25	34	0.23	49	may increase travel mode share for short journeys if free on-street parking in this area is unavailable. Potential to provide a better environment for active mode travel
		6.25	Wisbech Road 20mph zone	Implement a 20mph zone on Wisbech Road to discourage through traffic use (without speed humps if appropriate) and provide better walking and cycling facilities along Wisbech Road	1	0	0	0	0	1	0	0	0.25	34	0.23	49	may contribute towards providing a safe environment for active travel modes and promote and encourage their use
		4.5	Cycle lane on Lynn Road to Gayton Road B1145	Consider the availability of road space to provide a cycle lane on the Lynn to Gayton Road (B1145)	1	1	0	0	0	1	-1	0	0.25	34	0.20	53	Operational feasibility needs to be considered, likely to have a negative impact on potential additional provision for public transport at this location and on-street car parking
		6.23	Tuesday Market Place access improvements	Provide a one way entrance through the narrow access road with relocation of the pedestrian crossing with a barrier railing across the end of the paved area to eradicate a blind spot for drivers. Or, one way exit just into Page Stair Lane on land at the rear of the north side of the Market Place to be purchased to allow the exit road to continue back to St. Nicholas Street, focused upon the church as a "round about option," opening up land yet to be available for development including multi storey car parks.	1	1	0	0	0	0	0	0	0.25	34	0.20	53	contribution towards localised safety
		7.5	Review Railway Road parking and loading provision	At southern end of Railway Road vans mount the footway suggesting available space may not be adequate. Review the available space and design / enforcement	1	0	0	0	0	0	0	1	0.25	34	0.15	55	Helps manage intermittent congestion and safety as well as potential emissions in the AQMA
		2.1	King's Lynn Ferry signage and publicity improvements	Develop a scheme that provides better access and signage for the ferry at King's Lynn and also West Lynn	0	0	0	0	0	0	1	0	0.13	54	0.13	56	promotion of the ferry may assist with public transport use
		2.3	King's Lynn access improvements to Ferry to make it accessible throughout the day/year	Consider improvements in accessibility of the ferry throughout the day to provide an improved more widely usable service for all, possibly utilising the previous location?	0	0	0	0	0	0	1	0	0.13	54	0.13	56	Relates to access improvements for Ferry throughout the day and potential for alternative location for landing to provide a more widely accessible service
		7.4	Review of residential parking provision in terraced areas	Improved parking provision in areas with terraced housing to accommodate current need, eg. like the one provided behind the houses at Vancouver Avenue	0	0	0	0	0	0	0	0	0.00	58	0.00	58	localised scheme that may assist with alleviating localised congestion, but may require additional land allocation to accommodate the additional parking demand. Does not contribute towards sustainable transport objectives of the study

Appendix F

STRATEGIC APPRAISAL WEIGHTED



6. Shortlist of Options to take forward to Step 3 of the Option Appraisal Process

This sheet summarises the results of the strategic appraisal and identifies a shortlist of options to take forward and appraise using an EAST based methodology. The shortlist is comprised of the highest scoring options from the strategic appraisal.

Worksheet reads from "5. Step 4 - Strategic Appraisal"

Rank	Ref	Option	Description	Weighted Average Score	Included in Shortlist?	Reason for exclusion
1	1.12	Town centre gyratory re-design. Various Options - Bus Lanes - Railway Rd, London Rd, Blackfriars Rd	Redesign of traffic movements around gyratory to assist with AQMA, congestion, connectivity and road safety objectives. Various schemes need developing through workshop and testing in the transport model. Investigate potential for providing bus-only lanes through Railway Road, London Road, Blackfriars Road to take out areas that generate air pollution and improve air quality with modal shift.	1.10	Yes	
2	6.6	South Gate highway capacity enhancements - providing two lanes in both directions / large scale redesign	Make Southgates an island bypass it with two lanes north/south using park for extra lane (based on previous proposal for CIF)	1.08	Yes	
3	6.5	Southgates roundabout highway capacity improvement scheme - small-medium scale	Undertake a review of lane marking and usage at Southgates roundabout to provide improvements in traffic flow. Also undertake a review of the traffic signal operation to optimise the traffic flow at this key junction that provides access to King's Lynn. Enhance crossing provision for cyclists and pedestrians at the South Gate alongside highway improvement measures to improve traffic flow	1.05	Yes	
4	6.2	Hardings Way opened for additional traffic	Investigate options to allow additional traffic to use Hardings Way to alleviate the congestion on London Road and assist with air quality management. This could include specific additional vehicle types being permitted to use the route; open only at specified times of the day; as an emergency measure to assist with incident management; directional to provide alternative routes for inbound traffic in the AM peak and outbound traffic in the PM peak; or to provide access to specific parts of the town centre only. Mitigation measures would be needed to ensure there are no impacts on the historic core.	0.98	Yes	
5	6.18	Hardwick Roundabout capacity improvements / Hardwick Interchange priority for buses	Hardwick Roundabout - options to increase capacity as part of the dualling scheme; Investigate providing solutions for delays to buses at Hardwick interchange to improve bus journey times and reliability and promote the use of the bus for journeys that start or end outside the King's Lynn urban area	0.78	Yes	
6	5.2	Linked and co-ordinated traffic signals	Co-ordinated traffic signals would help with bus scheduling and reliability as currently the traffic signals don't appear to be linked together which means very stop/start and slow journeys for buses	0.75	Yes	
7	1.3	Increased use of Harding's Way for buses - address issues at Millfleet and Wisbech Road to Hardwick Road to make ore advantageous for buses	Harding's Way as a bus only route to accommodate an increase in buses and bus usage with buses also continuing to serve London Road. A combination of routes is required. Retain Hardings Way as traffic-free except buses. Encourage more buses to make use of the route and the potential reliability/journey time benefits. Retain high level of provision for pedestrians / cyclists and especially vulnerable road users and mobility scooters	0.68	Yes	
7	4.11	Queen Mary Road, Fairstead, Hardwick improvements in linkages for pedestrians and cyclists	Investigate how best to provide access across the railway line and around the town for modes other than private car to relieve some of the congestion pressure in Gaywood area. Fairstead Road / Queen Mary Road / Hardwick link road to enable trips to be undertaken without travelling through Gaywood Clock and the town centre gyratory	0.68	Yes	
9	3.1	Train frequency improvements	Implementation of Ely Area Enhancement Scheme to deliver doubling of train frequency to half-hourly (2025-2030). Improve rail links to Cambridge and London. Improve connecting services - connections to Norwich from Ely. King's Lynn 8 Car Project will increase train capacity from 4 Car trains between King's Lynn, Cambridge and London by December 2020.	0.65	Yes	
10	1.14	Bus priority at traffic signals using bus detector equipment	A 6 month trial that fitted the buses in King's Lynn with detector equipment for the traffic signals to address reliability and journey time issues leading ultimately to reductions in costs and improvements to the attractiveness and reliability of bus services in King's Lynn	0.55	Yes	
11	5.3	Gaywood Clock / Queen Mary Road traffic light improvements and junction redesign	Consider improvements to the traffic light phasing at Gaywood Clock/Queen Mary Road and junction redesign	0.53	Yes	
12	1.19	Reduction in outbound delays at Hansa Road, Hardwick Road junction outbound for public transport; Hansa Road yellow box improvements for traffic exiting retail park	Address traffic signal delays at the junction in the outbound direction which cause queues back to Southgate and beyond and impact on bus journey times as well as Southgates roundabout and London Road; Review yellow box usage and improvements at B&Q / Next to allow people to exit the retail park more easily	0.48	Yes	
12	5.4	Loke Road John Kennedy Road traffic signal optimisation or junction redesign	Phasing issue between lights needs to be addressed to link the phasing together / check phasing to let traffic out for a shorter period. Options also to be developed to provide an alternative junction arrangement to assist with traffic flow at this location	0.48	Yes	
12	6.3	Traffic management associated with A47 congestion	Address issues with seasonal traffic and congestion on A47 and provide management initiatives so it doesn't impact on the town centre	0.48	Yes	
15	6.17	Low Road Castle Rising Road Wootton Road Grimston Road junction improvements	New junction arrangements have been submitted to planning - phasing of traffic lights with alternative priorities / take out private access and make two-lanes over the traffic lights / remove left turn from traffic lights	0.45	Yes	
15	6.19	Jubilee roundabout capacity improvements	Jubilee roundabout improvements to improve traffic flow and accommodate future growth	0.45	Yes	
15	6.20	QEH roundabout capacity improvements	The slip road onto A149 northbound needs improvement and the roundabout needs to be able to accommodate forecast traffic levels	0.45	Yes	
15	6.21	A149 Dualling up to Knights Hill; Knights Hill junction capacity improvements	Dualling of the A149 / crawler lane up to Knights Hill / two lanes up to Knights Hill / mark lanes from bottom of hill / increase width / lanes at roundabout which are too narrow at the junctions onto / off the roundabout (QE to King's Lynn) - suitable for emergency services; Consider a redesign of this junction to improve traffic capacity and traffic flow to accommodate forecast traffic levels associated with development	0.45	Yes	
15	6.21	A149 Dualling up to Knights Hill; Knights Hill junction capacity improvements	Dualling of the A149 / crawler lane up to Knights Hill / two lanes up to Knights Hill / mark lanes from bottom of hill / increase width / lanes at roundabout which are too narrow at the junctions onto / off the roundabout (QE to King's Lynn) - suitable for emergency services; Consider a redesign of this junction to improve traffic capacity and traffic flow to accommodate forecast traffic levels associated with development	0.45	Yes	
15	6.4	Hospital to A149 direct access link	Provide an additional exit onto A149 for exiting traffic from the hospital to ease local congestion issues around the hospital	0.45	Yes	
15	6.22	West Winch Housing Access Road	Highway improvement access road to enable the housing growth at West Winch and to provide some relief to the A10	0.45	Yes	
22	4.1	Cycle Route around historic quayside	Provide a combination of cycle dismount signs and bike storage in strategic locations at entry points to the town centre. Alternative cycle through-route around the main shopping district of the town centre. Introduce a cycle route around the Historic Quayside	0.43	Yes	
22	4.13	Tennyson Avenue Pedestrian & Cycle improvements: King George V Avenue pedestrian improvements; Tennyson Road, The Walks, Tennyson Avenue pedestrian improvements; Tennyson Avenue, Gaywood Road pedestrian improvements; Review of pedestrian crossing facilities on Extons Road and Tennyson Avenue	King George V Ave: cluster of pedestrian/cycle accidents, provide improved crossing facilities to accommodate pedestrian movements. At access point to The Walks pedestrians and cyclists are not provided with crossings over B1144 except dropped kerbs and footway marking-provide improved crossing provision. Gaywood Road: cluster of pedestrian/cycle accidents, provide improved crossing facilities to accommodate pedestrian movements. Identify locations for more pedestrian crossings including signalised ones on Extons Road and Tennyson Avenue to improve road safety for pedestrians in this area.	0.43	Yes	
22	4.14	Review pedestrian crossing provision on London Road	Cluster of pedestrian/cycle accidents identified a lack of provision for access from residential areas to the west across London Road. Review crossing locations and facilities on London Road	0.43	Yes	
25	5.1	Review traffic signal timings at various locations to optimise traffic movements	Review signal timings as stakeholders have suggested that there is too much signal green time for North Street approach / retail park traffic at Hardwick / at Estuary Road approach whenever a car is there / at Hamburg Way	0.43	Yes	

Rank	Ref	Option	Description	Weighted Average Score	Included in Shortlist?	Reason for exclusion
25	1.10	Access for buses to bus station via Albion Street; Improved Albion Road exit for buses	Bus lane on Railway Road and bus station access via Albion Street to reduce delay and journey times for buses. Improve the road layout design to provide an improved left turn onto Railway Road from Albion Street. Current traffic light timings only lets 2 buses through (usually cars + buses to exit). More green time needed / change quicker when there are a number of vehicles waiting to exit	0.43	Yes	
25	6.1	Railway station bus layby re-design	Consider re-design for the layby outside the rail station to prevent cars stopping in the layby and also address issues with getting the bus on the loop in the road to activate the traffic lights to change to let them out	0.43	Yes	
25	6.12	Queen Mary Road link to Fairstead	Link to development land at Parkway with potential link to Fairstead - traffic to go through Fairsted / route coming out of Fairstead and along Sand line / bridge over Sand train line / road alongside railway line / park and ride	0.43	Yes	
25	6.11	A1076 provide new right turn lane into Queensway	To assist the right turn from A1076 into Queensway - create an additional queuing lane to reduce the impact on other traffic	0.43	Yes	
25	6.13	Winston Churchill Drive QEH access widening	Investigate a scheme to provide widening of the access to allow improved movement onto roundabout / improved traffic flow. Also look at widening of Winston Churchill Drive closest to Corbyn Shaw Road	0.43	Yes	
25	7.1	VMS improvements for car parking	VMS improvements to capture location of driver decision-making and improve town circulation of vehicles searching for car parking	0.43	Yes	
25	6.8	Wisbech Road to Nar Ouse Way link Road	Investigate the potential for providing a highway link between Wisbech Road and Nar Ouse Way to assist in alleviating Southgates roundabout	0.43	Yes	
33	5.5	Traffic signal optimisation and right turn arrow into Millfleet from London Road	Painted arrow on road to indicate right turn and stage in signals for right turning traffic	0.35	Yes	
33	6.7	Vancouver Avenue - improved lane management	Vancouver Avenue - investigate improved lane management - left lane = straight and left / right lane = right - to ease traffic congestion, also provide a longer left filter lane / increase length of the left turn lane to ease traffic congestion on this approach. Also consider provision of a left filter lane with give-way onto Hardwick Road to ease the traffic using the roundabout and provide potential for improvement to traffic signal operation.	0.35	Yes	
33	6.15	Gaywood Road bus priority and HOV lanes and junction redesign at Loke Road	The Gaywood Road corridor for eastbound bus and high occupancy vehicle (HOV) lanes, as well as an inbound contra flow bus lane at the gyratory. Make amendments to the existing arrangement to widen and use existing left turn lane to also accommodate the straight ahead bus movement and move the stopline for the right turn out of Loke Road to accommodate this. Junction redesign at Loke Road.	0.35	Yes	
33	6.14	Estuary Road Edward Benefer Way junction improvements	New junction arrangements have been submitted to planning - phasing of traffic lights with alternative priorities / take out private access and make two-lanes over the traffic lights / remove left turn from traffic lights	0.35	Yes	
33	1.20	Investigate Park & Ride Scheme for King's Lynn	Investigate whether Park and Ride is a suitable measure for King's Lynn. Potential sites on other side of the river - Clenchwarton Road (Mc Donalds), West Lynn with a bridge. Also consider sites on Hardwick Road and close to QEH. Impacts on town centre car parking and revenues alongside town centre car park charging will be required if a Park and Ride is to be successful.	0.35	Yes	
33	7.2	Car Parking Strategy for King's Lynn including forecast growth and increased parking charges	Increase the cost of town centre car parking to reduce number of car trips in King's Lynn. Consider parking quantum required to cater for new / planned growth in residential development	0.35	Yes	
39	4.2	Cycle lane continuity through town	Develop a scheme to improve the breaks in continuity of the cycle lanes that meet arterial routes into King's Lynn, including improved provision for cyclists at pedestrian crossing over busy road and junctions where Toucan crossings are not already provided.	0.33	Yes	
39	4.10	Port of King's Lynn highway design access improvements including pedestrians and cyclists	In the vicinity of the Port of King's Lynn improve operations to reduce risks to vulnerable road users through better provision for industrial vehicles, incorporating appropriate pedestrian crossings and cycle lanes.	0.33	Yes	
39	4.18	South Lynn to Hardwick Road pedestrian crossing review	Investigate whether some of the signalised pedestrian crossings between South Lynn and Hardwick Road could be removed and alternative provision made that provides improved traffic flow	0.33	Yes	
39	4.16	Bike hire scheme in King's Lynn	Investigate provision of o-bikes at various locations in King's Lynn - provision for up to 50 bikes (10 at station), subject to available space. If o-bike find a business case for provision they provide at no cost. Would require a promotional programme and suitable space would need to be identified.	0.33	No	weighted score is low
43	4.9	30mph speed limit Hardwick Bridge to Southgates	Investigate the implementation of a speed limit of 30mph on Hardwick Road between Hardwick Bridge and Southgates roundabout to assist with pedestrians crossings the road and may also improve traffic flows up to Hansa Road	0.30	No	weighted score is low
44	6.16	North Wootton to Edward Benefer Way link road	Provide a new link from North Wootton to connect with Edward Benefer Way opposite Bergen Way to eliminate or reduce the right turn from Castle Rising Road	0.30	No	weighted score is low
44	3.2	Expansion of railway station car parking	Investigate potential for expansion of the car parking for the rail station in King's Lynn including taxis and motorcycle spaces to meet demand	0.30	No	weighted score is low
46	1.11	Wellesley Street public transport route improvements	Utilise the nearside traffic lanes as a bus lane with a bus stop at the eastern end serving the rail station and supermarket, straight on into bus station at Railway Road via Albion Street	0.28	No	weighted score is low
47	2.4	Provide additional cycle parking and storage for the ferry	Provide secure cycle parking / storage associated with the ferry crossing in King's Lynn and West Lynn	0.25	No	weighted score is low
47	1.18	Wootton Gap bus priority Low Road, Grimston Road and Edward Benefer Way	Provide bus priority across the junction between Low Road and Grimston Road. between Knights Hill and the town centre using dedicated roads parallel to Grimston Road. Low Road and Edward Benefer Way	0.25	No	weighted score is low
49	3.6	Rail station to town centre public realm at Railway Road / Blackfriars Road	Provide further enhancements to the permeability and legibility of routes between the rail station and town centre by reducing the impact of the Railway Road / Blackfriars Road gyratory and further improving public realm	0.23	No	weighted score is low
49	2.2	Provide additional car parking at West Lynn for the ferry	Consider how additional car parking could be provided at West Lynn to service the ferry	0.23	No	weighted score is low
49	7.3	The Friars residents parking scheme	Consider the implementation of a residents parking scheme in this area of King's Lynn. Bridhe St/All Saints St - Poor vehicle parking provision; vehicles partially mount the eastern footway obstructing pedestrian movements. Road markings also faded. Undertake study of residential parking demands and address parking issues. Repainting of road markings. Friars Street - Vehicle forced to mount the footway to pass parked vehicles - review available space and design	0.23	No	weighted score is low
49	6.25	Wisbech Road 20mph zone	Implement a 20mph zone on Wisbech Road to discourage through traffic use (without speed humps if appropriate) and provide better walking and cycling facilities along Wisbech Road	0.23	No	weighted score is low
53	4.5	Cycle lane on Lynn Road to Gayton Road B1145	Consider the availability of road space to provide a cycle lane on the Lynn to Gayton Road (B1145)	0.20	No	weighted score is low
53	6.23	Tuesday Market Place access improvements	Provide a one way entrance through the narrow access road with relocation of the pedestrian crossing with a barrier railing across the end of the paved area to eradicate a blind spot for drivers. Or, one way exit just into Page Stair Lane on land at the rear of the north side of the Market Place to be purchased to allow the exit road to continue back to St. Nicholas Street, focused upon the church as a "round about option," opening up land yet to be available for development including multi storey car parks.	0.20	No	weighted score is low
55	7.5	Review Railway Road parking and loading provision	At southern end of Railway Road vans mount the footway suggesting available space may not be adequate. Review the available space and design / enforcement	0.15	No	weighted score is low
56	2.1	King's Lynn Ferry signage and publicity improvements	Develop a scheme that provides better access and signage for the ferry at King's Lynn and also West Lynn	0.13	No	weighted score is low
56	2.3	King's Lynn access improvements to Ferry to make it accessible throughout the day/year	Consider improvements in accessibility of the ferry throughout the day to provide an improved more widely usable service for all, possibly utilising the previous location?	0.13	No	weighted score is low
58	7.4	Review of residential parking provision in terraced areas	Improved parking provision in areas with terraced housing to accommodate current need, eg, like the one provided behind the houses at Vancouver Avenue	0.00	No	weighted score is low

Appendix G

EAST APPRAISAL SUMMARY



8. Summary of EAST

This sheet is a summary of the results from the EAST based appraisal.

Option Number	Option	Option Description	STRATEGIC							ECONOMIC							MANAGERIAL					FINANCIAL			COMMERCIAL		AVERAGE SCORE	RANK	
			Identified problems and objectives of the option	Scale of Impact	Impact on other modes of transport	Makes better use of existing infrastructure or 'does more with less'	Impact on other Govt policies besides transport?	Fit with Study Objectives?	AVERAGE SCORE	Economic Growth	Carbon Emissions	Socio-distributional impacts on the regions	Local Environment	Wellbeing	Value for Money	AVERAGE SCORE	Implementation timetable		Public acceptability	Practical feasibility	Quality of evidence	AVERAGE SCORE	Affordability	Capital Cost	AVERAGE SCORE	Income generated			Funding Source
																	1.1	1.2											
4.13	Tennyson Avenue Pedestrian & Cycle improvements: King Geroge V Avenue pedestrian improvements; Tennyson Road, The Walks, Tennyson Avenue pedestrian improvements; Tennyson Avenue, Gaywood Road pedestrian improvements; Review of pedestrian crossing facilities on Extons Road and Tennyson Avenue	King George V Ave: cluster of pedestrian/cycle accidents, provide improved crossing facilities to accommodate pedestrian movements. At access point to The Walks pedestrians and cyclists are not provided with crossings over B1144 except dropped kerbs and footway marking- provide improved crossing provision. Gaywood Road: cluster of pedestrian/cycle accidents, provide improved crossing facilities to accommodate pedestrian movements. Identify locations for more pedestrian crossings including signalised ones on Extons Road and Tennyson Avenue to improve road safety for pedestrians in this area.	Improve pedestrian provision and safety	1.00	0.00	3.00	1.00	0.43	1.09	0.00	0.00	1.00	0.00	2.00	0.00	0.50	2.00	Short	3.00	3.00	2.00	2.50	1.00	2.00	1.50	0.00	BCKL&WN / Norfolk County Council / New Anglia Local Enterprise Partnership / Developer s106	1.19	1
4.10	Port of King's Lynn highway design access improvements including pedestrians and cyclists	In the vicinity of the Port of King's Lynn improve operations to reduce risks to vulnerable road users through better provision for industrial vehicles, incorporating appropriate pedestrian crossings and cycle lanes.	Increase capacity and optimise operation of junction to benefit all traffic including buses	1.00	-1.00	1.00	1.00	0.33	0.49	1.00	1.00	0.00	1.00	1.00	0.00	0.67	2.00	Short	2.00	2.00	1.00	1.75	1.00	1.00	1.00	0.00	Likely to be developer funded	0.85	14
4.18	South Lynn to Hardwick Road pedestrian crossing review	Investigate whether some of the signalised pedestrian crossings between South Lynn and Hardwick Road could be removed and alternative provision made that provides improves the traffic flow	Improve pedestrian provision and safety	1.00	0.00	1.00	1.00	0.33	0.75	1.00	1.00	1.00	1.00	1.00	0.00	0.83	2.00	Short	2.00	0.00	1.00	1.25	-1.00	-1.00	-1.00	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.63	30
4.1	Cycle Route around historic quayside	Provide a combination of cycle dismount signs and bike storage in strategic locations at entry points to the town centre. Alternative cycle through-route around the main shopping district of the town centre. Introduce a cycle route around the Historic Quayside	Improve cycle connectivity through and around the town centre to provide permeability	0.00	0.00	3.00	1.00	0.43	0.89	0.00	0.00	0.00	1.00	1.00	0.00	0.33	2.00	Short	3.00	3.00	2.00	2.50	2.00	2.00	2.00	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership / Section 106 developer contributions	1.13	2
7.2	Car Parking Strategy for King's Lynn including forecast growth and increased parking charges	Increase the cost of town centre car parking to reduce number of car trips in King's Lynn. Consider parking quantum required to cater for new / planned growth in residential development	Encourage use of NMUs and buses for short trips to and within the town centre. Problems with public acceptability and perceived impact on economic viability of town centre	1.00	0.00	0.00	1.00	0.35	0.47	1.00	1.00	0.00	1.00	1.00	0.00	0.67	2.00	Short	-3.00	-2.00	1.00	-0.50	0.00	2.00	1.00	0.00	BCKL&WN / Norfolk County Council	0.35	38
1.12	Town centre gyratory re-design. Various Options - Bus Lanes - Railway Rd, London Rd, Blackfriars Rd	Redesign of traffic movements around gyratory to assist with AQMA, congestion, connectivity and road safety objectives. Various schemes need developing through workshop and testing in the transport model. Investigate potential for providing bus-only lanes through Railway Road, London Road, Blackfriars Road to take out areas that generate air pollution and improve air quality with modal shift.	Increase junction capacity with positive impacts for buses and potential to improve movement through the junction for non-motorised users. Positive impact on AQMA	3.00	1.00	1.00	1.00	1.10	1.42	2.00	1.00	1.00	2.00	1.00	0.00	1.17	0.00	Medium	3.00	2.00	2.00	1.75	-1.00	-1.00	-1.00	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	1.06	4
6.12	Queen Mary Road link to Fairstead	Link to development land at Parkway with potential link to Fairstead - traffic to go through Fairsted / route coming out of Fairstead and along Sand line / bridge over Sand train line / road alongside railway line / park and ride	improve bus and car permeability of the area with potential relief to traffic congestion on A1076 Gayton Road	1.00	0.00	-2.00	1.00	0.43	1.01	1.00	1.00	1.00	1.00	1.00	0.00	0.83	0.00	Medium	2.00	0.00	2.00	1.50	-1.00	-1.00	-0.50	0.00	Developer s106 / Norfolk County Council / New Anglia Local Enterprise Partnership	0.41	37
6.11	A1076 provide new right turn lane into Queensway	To assist the right turn from A1076 into Queensway - create an additional queuing lane to reduce the impact on other traffic	alleviate localised congestion on A1076 Gayton Road	0.00	0.00	1.00	1.00	0.43	1.01	1.00	1.00	1.00	1.00	1.00	0.00	0.83	0.00	Medium	2.00	2.00	2.00	1.50	1.00	3.00	-0.50	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.97	5
6.6	South Gate highway capacity enhancements - providing two lanes in both directions / large scale redesign	Make Southgates an island bypass it with two lanes north/south using park for extra lane (based on previous proposal for CIF)	Increase junction capacity with positive impacts on buses. May create opportunity for positive impact on NMUs	2.00	1.00	1.00	1.00	1.08	1.22	2.00	1.00	1.00	2.00	1.00	0.00	1.17	0.00	Medium	2.00	2.00	2.00	1.50	-1.00	-1.00	-1.00	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.95	7
6.5	Southgates roundabout highway capacity improvement scheme - small-medium scale	Undertake a review of lane marking and usage at Southgates roundabout to provide improvements in traffic flow. Also undertake a review of the traffic signal operation to optimise the traffic flow at this key junction that provides access to King's Lynn. Enhance crossing provision for cyclists and pedestrians at the South Gate alongside highway improvement measures to improve traffic flow	Increase junction capacity with positive impacts on buses, may have adverse impact on NMUs	2.00	0.00	1.00	1.00	1.05	1.01	1.00	1.00	1.00	1.00	1.00	0.00	0.83	2.00	Short	2.00	2.00	2.00	2.00	-1.00	0.00	-0.50	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.95	8
1.14	Bus priority at traffic signals using bus detector equipment	A 6 month trial that fitted the buses in King's Lynn with detector equipment for the traffic signals to address reliability and journey time issues leading ultimately to reductions in costs and improvements to the attractiveness and reliability of bus services in King's Lynn	improvements in bus journey times and reliability,potential negative impact on other vehcular traffic	1.00	-1.00	1.00	1.00	0.55	0.51	1.00	1.00	1.00	1.00	1.00	0.00	0.83	2.00	Short	2.00	1.00	2.00	1.75	0.00	1.00	0.50	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.86	9
5.3	Gaywood Clock / Queen Mary Road traffic light improvements and junction redesign	Consider improvements to the traffic light phasing at Gaywood Clock/Queen Mary Road and junction redesign	Increase junction capacity and improve movement through the junction for non-motorised users.	1.00	-1.00	1.00	1.00	0.53	0.51	2.00	1.00	1.00	1.00	1.00	0.00	1.00	2.00	Short	2.00	1.00	2.00	1.75	0.00	0.00	0.00	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.86	10
6.17	Low Road Castle Rising Road Wootton Road Grimston Road junction improvements	New junction arrangements have been submitted to planning - phasing of traffic lights with alternative priorities / take out private access and make two-lanes over the traffic lights / remove left turn from traffic lights	Increase capacity and optimise operation of junction to benefit all traffic including buses	1.00	-1.00	1.00	1.00	0.45	0.49	1.00	1.00	0.00	1.00	1.00	0.00	0.67	2.00	Short	2.00	2.00	1.00	1.75	1.00	1.00	1.00	0.00	Likely to be developer funded	0.86	11
5.5	Traffic signal optimisation and right turn arrow into Millfleet from London Road	Painted arrow on road to indicate right turn and stage in signals for right turning traffic	Increase junction capacity.	1.00	-1.00	2.00	1.00	0.35	0.75	1.00	1.00	1.00	1.00	1.00	0.00	0.83	2.00	Short	2.00	0.00	1.00	1.25	-1.00	-1.00	-1.00	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.63	29
6.15	Gaywood Road bus priority and HOV lanes and junction resesign at Loke Road	The Gaywood Road corridor for eastbound bus and high occupancy vehicle (HOV) lanes, as well as an inbound contra flow bus lane at the gyratory. Make amendments to the existing arrangement to widen and use existing left turn lane to also accommodate the straight ahead bus movement and move the stopline for the right turn out of Loke Road to accommodate this. Junction redesign at Loke Road.	improvements in public transport reliability and image leading to growth. Adverse impacts on other vehicular traffic.	1.00	-1.00	1.00	1.00	0.35	0.56	1.00	1.00	1.00	1.00	1.00	0.00	0.83	0.00	Medium	2.00	0.00	1.00	0.75	-1.00	-1.00	-1.00	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.46	36
4.2	Cycle lane continuity through town	Develop a scheme to improve the breaks in continuity of the cycle lanes that meet arterial routes into King's Lynn, including improved provision for cyclists at pedestrian crossing over busy road and junctions where Toucan crossings are not already provided.	Improve cycle connectivity through and around the town centre to provide permeability	0.00	0.00	2.00	1.00	0.33	1.09	0.00	0.00	0.00	1.00	2.00	0.00	0.50	2.00	Short	3.00	3.00	2.00	2.50	2.00	2.00	2.00	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership / Section 106 developer contributions	1.13	3
6.2	Hardings Way opened for additional traffic	Investigate options to allow additional traffic to use Hardings Way to alleviate the congestion on London Road and assist with air quality management. This could include specific additional vehicle types being permitted to use the route; open only at specified times of the day; as an emergency measure to assist with incident management; directional to provide alternative routes for inbound traffic in the AM peak and outbound traffic in the PM peak; or to provide access to specific parts of the town centre only. Mitigation measures would be needed to ensure there are no impacts on the historic core.	Provide improvements to traffic capacity, flow and AQMA on London Road	2.00	1.00	3.00	1.00	0.98	1.60	1.00	1.00	1.00	1.00	1.00	0.00	0.83	0.00	Medium	-1.00	2.00	2.00	0.75	-1.00	0.00	-0.50	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.83	15
5.4	Loke Road John Kennedy Road traffic signal optimisation or junction redesign	Phasing issue between lights needs to be addressed to link the phasing together / check phasing to let traffic out for a shorter period. Options also to be developed to provide an alternative junction arrangement to assist with traffic flow at this location	Increase capacity of junction and potential to provide relief for gyratory	1.00	-1.00	1.00	2.00	0.48	0.70	1.00	1.00	1.00	1.00	1.00	0.00	0.83	2.00	Short	1.00	1.00	1.00	1.25	-1.00	1.00	0.00	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.75	16
6.20	QEH roundabout capacity improvements	The slip road onto A149 northbound needs improvement and the roundabout needs to be able to accommodate forecast traffic levels	Reduce traffic congestion in King's Lynn by keeping through traffic on the SRN / during summer peak period.	2.00	-1.00	1.00	2.00	0.45	0.89	3.00	1.00	2.00	1.00	1.00	0.00	1.33	0.00	Medium	3.00	1.00	1.00	1.25	-1.00	-3.00	-2.00	0.00	Highways England	0.75	17
1.10	Access for buses to bus station via Albion Street; Improved Albion Road exit for buses	Bus lane on Railway Road and bus station access via Albion Street to reduce delay and journey times for buses. Improve the road layout design to provide an improved left turn onto Railway Road from Albion Street. Current traffic light timings only lets 2 buses through (usually cars + buses to exit). More green time needed / change quicker when there are a number of vehicles waiting to exit	improvements in journey times and reliability	0.00	-1.00	1.00	1.00	0.43	0.29	1.00	1.00	1.00	1.00	1.00	0.00	0.83	2.00	Short	2.00	1.00	2.00	1.75	-1.00	1.00	0.00	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.75	18
5.1	Review traffic signal timings at various locations to optimise traffic movements	Review signal timings as stakeholders have suggested that there is too much signal green time for North Street approach / retail park traffic at Hardwick / at Estuary Road approach whenever a car is there / at Hamburg Way	Increase junction capacity.	1.00	-1.00	2.00	1.00	0.43	0.75	1.00	1.00	1.00	1.00	1.00	0.00	0.83	2.00	Short	2.00	0.00	1.00	1.25	-1.00	-1.00	-1.00	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.63	27
6.13	Winston Churchill Drive QEH access widening	Investigate a scheme to provide widening of the access to allow improved movement onto roundabout / improved traffic flow. Also look at widening of Winston Churchill Drive closest to Corbyn Shaw Road	Improve cycling routes in Gorleston-on-Sea and encourage cycling for shorter journeys.	1.00	0.00	1.00	1.00	0.43	1.01	1.00	1.00	1.00	1.00	1.00	0.00	0.83	0.00	Medium	2.00	2.00	2.00	1.50	1.00	2.00	-0.50	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.97	5
6.19	Jubilee roundabout capacity improvements	Jubilee roundabout improvements to improve traffic flow and accommodate future growth	Reduce traffic congestion in King's Lynn by keeping through trafic on the SRN moving / during summer peak period.	2.00	-1.00	1.00	2.00	0.45	0.89	3.00	1.00	2.00	1.00	1.00	0.00	1.33	0.00	Medium	2.00	1.00	1.00	1.00	-1.00	-3.00	-2.00	0.00	Highways England	0.69	21
6.18	Hardwick Roundabout capacity improvements / Hardwick Interchange priority for buses	Hardwick Roundabout - options to increase capacity as part of the dualing scheme; Investigate providing solutions for delays to buses at Hardwick interchange to improve bus journey times and reliability and promote the use of the bus for journeys that start or end outside the King's Lynn urban area	Increase junction capacity and bus priority.	2.00	-1.00	1.00	1.00	0.78	0.76	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	Medium	2.00	0.00	2.00	1.00	-1.00	-1.00	-1.00	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.65	23
5.2	Linked and co-ordinated traffic signals	Co-ordinated traffic signals would help with bus scheduling and reliability as currently the traffic signals don't appear to be linked together which means very stop/start and slow journeys for buses	Increase junction capacity.	1.00	-1.00	2.00	1.00	0.75	0.75	1.00	1.00	1.00	1.00	1.00	0.00	0.83	2.00	Short	2.00	0.00	1.00	1.25	-1.00	-1.00	-1.00	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.65	24
1.19	Reduction in outbound delays at Hansa Road, Hardwick Road junction outbound for public transport; Hansa Road yellow box improvements for traffic exiting retail park	Address traffic signal delays at the junction in the outbound direction which cause queues back to Southgate and beyond and impact on bus journey times as well as Southgates roundabout and London Road; Review yellow box usage and improvements at B&Q / Next to allow people to exit the retail park more easily	Reduce traffic congestion outbound at junction with Hansa Road. Potential lane usage issue. May have impacts on side roads if alleviated through traffic signals	1.00	-1.00	-1.00	0.00	0.48	-0.11	1.00	1.00	1.00	1.00	-1.00	0.00	0.50	2.00	Short	2.00	2.00	1.00	1.75	1.00	1.00	1.00	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.64	25

Option Number	Option	Option Description	STRATEGIC							ECONOMIC							MANAGERIAL					FINANCIAL			COMMERCIAL		AVERAGE SCORE	RANK	
			Identified problems and objectives of the option	Scale of Impact	Impact on other modes of transport	Makes better use of existing infrastructure or 'does more with less'	Impact on other Govt policies besides transport?	Fit with Study Objectives?	AVERAGE SCORE	Economic Growth	Carbon Emissions	Socio-distributional impacts and the regions	Local Environment	Wellbeing	Value for Money	AVERAGE SCORE	Implementation timetable		Public acceptability	Practical feasibility	Quality of evidence	AVERAGE SCORE	Affordability	Capital Cost	AVERAGE SCORE	Income generated			Funding Source
1.1	1.2	1.3	1.4	1.5	1.6		2.1	2.2	2.3	2.4	2.5	2.6		3.1	3.2	3.3	3.4		4.1	4.2		5.1	5.2						
6.3	Traffic management associated with A47 congestion	Address issues with seasonal traffic and congestion on A47 and provide management initiatives so it doesn't impact on the town centre	Reduce traffic congestion in King's Lynn by keeping through traffic on the SRN / during summer peak period.	2.00	-1.00	1.00	2.00	0.48	0.90	2.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	Medium	2.00	1.00	1.00	1.00	-1.00	-2.00	-1.50	0.00	Highways England	0.64	25
4.14	Review pedestrian crossing provision on London Road	Cluster of pedestrian/cycle accidents identified a lack of provision for access from residential areas to the west across London Road. Review crossing locations and facilities on London Road	Increase junction capacity.	1.00	1.00	1.00	1.00	0.43	0.75	1.00	1.00	1.00	1.00	1.00	0.00	0.83	2.00	Short	2.00	0.00	1.00	1.25	-1.00	-1.00	-1.00	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.69	22
7.1	VMS improvements for car parking	VMS improvements to capture location of driver decision-making and improve town circulation of vehicles searching for car parking	Provide wider and improved information on VMS about traffic conditions as well as car parking	1.00	-1.00	0.00	1.00	0.43	0.29	1.00	1.00	1.00	1.00	1.00	0.00	0.83	0.00	Medium	2.00	1.00	2.00	1.25	1.00	1.00	1.00	0.00	Norfolk County Council / New Anglia Enterprise Partnership	0.75	18
6.8	Wisbech Road to Nar Ouse Way link Road	Investigate the potential for providing a highway link between Wisbech Road and Nar Ouse Way to assist in alleviating Southgates roundabout	Investigate opportunities as part of bigger scheme for Southgates roundabout improvements to tie in with a wider scheme to improve capacity and reduce delay at this location. May have adverse impact on NMUs	1.00	0.00	1.00	1.00	0.43	1.01	1.00	1.00	1.00	1.00	0.00	0.83	-2.00	Long	2.00	2.00	2.00	1.50	-1.00	0.00	-0.50	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.63	27	
1.3	Increased use of Harding's Way for buses - address issues at Millfleet and Wisbech Road to Hardwick Road to make ore advantageous for buses	Harding's Way as a bus only route to accommodate an increase in buses and bus usage with buses also continuing to serve London Road. A combination of routes is required. Retain Hardings Way as traffic-free except buses. Encourage more buses to make use of the route and the potential reliability/journey time benefits. Retain high level of provision for pedestrians / cyclists and especially vulnerable road users and mobility scooters	improvements to pubic transport journey times, possible adverse impact on routing and passengers	1.00	-1.00	2.00	1.00	0.68	0.74	1.00	1.00	1.00	1.00	0.00	0.83	0.00	Medium	2.00	0.00	2.00	1.00	-1.00	-1.00	-1.00	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.59	31	
4.11	Queen Mary Road, Fairstead, Hardwick improvements in linkages for pedestrians and cyclists	Investigate how best to provide access across the railway line and around the town for modes other than private car to relieve some of the congestion pressure in Gaywood area. Fairstead Road / Queen Mary Road / Hardwick link road to enable trips to be undertaken without travelling through Gaywood Clock and the town centre gyratory	Increase in permeability for NMUs. Potential positive impacts on traffic congestion	1.00	0.00	0.00	1.00	0.68	0.54	1.00	1.00	1.00	0.00	1.00	0.67	0.00	Medium	2.00	0.00	2.00	1.00	-1.00	1.00	0.00	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.59	31	
6.21	A149 Dualling up to Knights Hill; Knights Hill junction capacity improvements	Dualling of the A149 / crawler lane up to Knights Hill / two lanes up to Knights Hill / mark lanes from bottom of hill / increase width / lanes at roundabout which are too narrow at the junctions onto / off the roundabout (QE to King's Lynn) - suitable for emergency services; Consider a redesign of this junction to improve traffic capacity and traffic flow to accommodate forecast traffic levels associated with development	Reduce traffic congestion in King's Lynn by keeping through traffic on the SRN / during summer peak period.	2.00	-1.00	-1.00	2.00	0.45	0.49	3.00	1.00	2.00	1.00	1.00	0.00	1.33	0.00	Medium	2.00	1.00	1.00	1.00	-1.00	-3.00	-2.00	0.00	Highways England	0.58	33
6.4	Hospital to A149 direct access link	Provide an additional ext onto A149 for exiting traffic from the hospital to ease local congestion issues around the hospital	Increase junction capacity.	2.00	-1.00	-1.00	2.00	0.45	0.49	2.00	1.00	2.00	1.00	1.00	0.00	1.17	-2.00	Long	2.00	2.00	1.00	0.75	-1.00	-3.00	-2.00	0.00	Highways England	0.47	35
6.22	West Winch Housing Access Road	Highway improvement access road to enable the housing growth at West Winch and to provide some relief to the A10	Increase capacity of strategic network and improve resilience of local own centre network	2.00	-1.00	-1.00	2.00	0.45	0.49	2.00	1.00	2.00	1.00	1.00	0.00	1.17	0.00	Medium	2.00	2.00	1.00	1.25	-1.00	-3.00	-2.00	0.00	Highways England	0.58	33
6.7	Vancouver Avenue - improved lane management	Vancouver Avenue - investigate improved lane management - left lane = straight and left / right lane = right - to ease traffic congestion, also provide a longer left filter lane / increase length of the left turn lane to ease traffic congestion on this approach. Also consider provision of a left filter lane with give-way onto Hardwick Road to ease the traffic using the roundabout and provide potential for improvement to traffic signal operation.	Investigate opportunities as part of Southgates roundabout improvements to tie in with a wider scheme to improve capacity and reduce delay at this location. May have adverse impact on NMUs	1.00	0.00	1.00	1.00	0.35	1.01	1.00	1.00	1.00	1.00	0.00	0.83	2.00	short	2.00	2.00	2.00	1.50	-1.00	0.00	-0.50	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.85	12	
6.1	Railway station bus layby re-design	Consider re-design for the layby outside the rail station to prevent cars stopping in the layby and also address issues with getting the bus on the loop in the road to activate the traffic lights to change to let them out	improvements in journey times and bus reliability	0.00	-1.00	1.00	1.00	0.43	0.32	1.00	1.00	1.00	1.00	0.00	0.83	2.00	Short	2.00	1.00	2.00	1.25	-1.00	1.00	0.00	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.75	18	
1.20	Investigate Park & Ride Scheme for King's Lynn	Investigate whether Park and Ride is a suitable measure for King's Lynn. Potential sites on other side of the river - Clenchwarton Road (Mc Donakss), West Lynn with a bridge. Also consider sites on Hardwick Road and close to QE4. Impacts on town centre car parking and revenues alongside town centre car park charging will be required if a Park and Ride is to be successful.	Park&Ride typically suited to larger towns/cities. May be potential for some seasonal sites to be identified. Associated higher town centre parking charges and reductions in parking stock not likely to be publically acceptable	0.00	0.00	-3.00	0.00	0.35	-0.53	1.00	1.00	0.00	1.00	0.00	-2.00	0.17	-2.00	Long	0.00	-2.00	0.00	-1.00	-1.00	-1.00	0.00	Bus Operators / Norfolk County Council / New Anglia Enterprise Partnership	-0.43	40	
3.1	Train frequency improvements	Implementation of Ely Area Enhancement Scheme to deliver doubling of train frequency to half-hourly (2025-2030). Improve rail links to Cambridge and London. Improve connecting services - connections to Norwich from Ely. King's Lynn 8 Car Project will increase train capacity from 4 Car trains between King's Lynn, Cambridge and London by December 2020.	Increase in attractiveness of rail service. May take some vehicular trips off the strategic highway and local highway network	2.00	-1.00	-3.00	1.00	0.65	-0.07	2.00	1.00	1.00	1.00	0.00	1.00	-2.00	Long	3.00	0.00	2.00	0.75	-2.00	-2.00	-2.00	0.00	Norfolk County Council / New Anglia Local Enterprise Partnership	0.26	39	
6.14	Estuary Road Edward Benefer Way junction improvements	New junction arrangements have been submitted to planning - phasing of traffic lights with alternative priorities / take out private access and make two-lanes over the traffic lights / remove left turn from traffic lights	Increase capacity and optimise operation of junction to benefit all traffic including buses	1.00	-1.00	1.00	1.00	0.35	0.49	1.00	1.00	0.00	1.00	0.00	0.67	2.00	Short	2.00	2.00	1.00	1.75	1.00	1.00	1.00	0.00	Likely to be developer funded	0.85	13	

Appendix H

RESULTING SCHEME LIST



10. KLTS Package of Measures

This sheet is a summary of the package of short, medium and long term options to be taken forward firstly through some forecasting and scenario testing in the transport models, before being further assessed and included in the

Non Appraised Schemes (unranked)

Ref	Theme	Timescale	Option	Description
Short Term (0 to 3 years)				
1.2	Buses	Short	Bus stop hard-standing - opposite Bepak A1078 Edward Benefer Way	Hardstanding for bus stop opposite Bepak (A1078 Edward Benefer Way)
1.8	Buses	Short	Improve bus service offer in King's Lynn on evenings, Sunday and Bank Holiday	Provide earlier and evening weekday buses for King's Lynn as well as Sunday and Bank Holiday service to relieve traffic congestion to access employment and address social inclusion
1.9	Buses	Short	Multi-operator ticketing on bus services	Investigate with the bus operators measures to improve multi-operator ticketing including rail services
4.3	Active Travel	Short	Provide cycle lanes and cycle lane cameras	Provide more on-road space for cyclists and cycle lane cameras for safety
4.4	Active Travel	Short	Unified cycle signage strategy for Kings Lynn	Cycle paths, cycle hire docking stations, signage, etc. needs a unified public realm strategy to aid brand identity for King's Lynn and provide further enhancement
4.6	Active Travel	Short	Secure cycle parking located at CCTV camera locations	Secure cycle parking located near CCTV cameras is required throughout the town and notably at the rail station.
4.7	Other	Short	Work with schools and education in King's Lynn to provide safe alternatives to private car for school children	Develop a campaign for King's Lynn to encourage parents not to drive children to school. Work with the schools to develop safer routes to school, walking buses, safe cycle routes, provision for secure cycle storage at the schools and provide the schools with the tools they need to improve localised parking issues around schools and the impacts on the town. Address air quality impacts on Wisbech Road at the schools.
4.12	Active Travel	Short	Formalise pedestrian desire line between John Kennedy Road and Austin Street	Provide for the desire line (between John Kennedy Road and Austin Street over the Norfolk County Council grounds of Priory House) in the street design or take measures to encourage pedestrians to use the existing footway
4.17	Active Travel	Short	Way-finding & signage issues: Saturday Market Place cycle signing; Norfolk Street wayfinding signs; Hardings Way/Wisbech Road wayfinding signs;	Misleading on-street signage - sign in foreground indicates a shared use unsegregated cycle and pedestrian route while just after cycling is prohibited; no wayfinding signage available along Norfolk Street-provide signing along this link; Hardings Way/Wisbech Road no wayfinding signs available-provide signage at this location
4.19	Public Realm	Short	Tree & Shrub Planting in central area	Tree and shrub planting in poor air quality areas could assist in reducing levels of poor air quality
4.20	Active Travel	Short	Various locations for repair, repainting and cleaning	evidence of surface wear, cracking and potholes at entrance to Austin Street West Car Park
4.21	Active Travel	Short	Various locations for repair, repainting and cleaning	in proximity of Priory House is worn. Wear and fading of cycle markings on southern section of John Kennedy Road - junction with Railway Road
4.22	Active Travel	Short	Various locations for repair, repainting and cleaning	Pedestrian footway marking in car park are faded, especially around the disabled parking provision
4.23	Active Travel	Short	Various locations for repair, repainting and cleaning	Wear of step markings at entrance. Maintenance to footway has removed cycle route pavement markings outside the station
4.24	Active Travel	Short	Various locations for repair, repainting and cleaning	damage to pavement slabs may create a trip hazard in the pedestrianised shopping area
4.25	Active Travel	Short	Various locations for repair, repainting and cleaning	faded cycle route markings at western end and footway edges cracked
4.26	Active Travel	Short	Various locations for repair, repainting and cleaning	cycle parking racks have been damaged and need repair
4.27	Active Travel	Short	Various locations for repair, repainting and cleaning	Pedestrian guard railings damaged and need repair
4.28	Active Travel	Short	Various locations for repair, repainting and cleaning	on-road cycle lane markings are faded
4.29	Active Travel	Short	Various locations for repair, repainting and cleaning	Weathered and obscured wayfinding signs need cleaning
4.30	Active Travel	Short	Various locations for repair, repainting and cleaning	improvised asphalt ramp located between the footway and road to assist with transitioning between grades. Recommend incorporating dropped kerbs
4.31	Active Travel	Short	Various locations for repair, repainting and cleaning	Connections with villages to the east - maintain cutting back of foliage

6.9	Active Travel	short	Valingers Road improvement scheme / remove right turn into Valingers Road / 3-lanes s'bound /monitor the trial layout	Investigate providing thee lanes southbound, one lane northbound between Checker Street and Valingers Road to aid traffic flow at this location. Monitor the Trial layout; Remove the right turn into Valingers Road
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EAST Appraised Schemes (unranked)

Ref	Theme	Timescale	Option	Description
No	Short Term (0 to 3 years)			
1.10	Buses	Short	Access for buses to bus station via Albion Street; Improved Albion Road exit for buses	Bus lane on Railway Road and bus station access via Albion Street to reduce delay and journey times for buses. Improve the road layout design to provide an improved left turn onto Railway Road from Albion Street. Current traffic light timings only lets 2 buses through (usually cars + buses to exit). More green time needed / change quicker when there are a number of vehicles waiting to exit
1.14	Buses	Short	Bus priority at traffic signals using bus detector equipment	A 6 month trial that fitted the buses in King's Lynn with detector equipment for the traffic signals to address reliability and journey time issues leading ultimately to reductions in costs and improvements to the attractiveness and reliability of bus services in King's Lynn
1.19	Buses	Short	Reduction in outbound delays at Hansa Road, Hardwick Road junction outbound for public transport; Hansa Road yellow box improvements for traffic exiting retail park	Address traffic signal delays at the junction in the outbound direction which cause queues back to Southgate and beyond and impact on bus journey times as well as Southgates roundabout and London Road; Review yellow box usage and improvements at B&Q / Next to allow people to exit the retail park more easily
4.1	Active Travel	Short	Cycle Route around historic quayside	Provide a combination of cycle dismount signs and bike storage in strategic locations at entry points to the town centre. Alternative cycle through-route around the main shopping district of the town centre. Introduce a cycle route around the Historic Quayside
4.2	Active Travel	Short	Cycle lane continuity through town	Develop a scheme to improve the breaks in continuity of the cycle lanes that meet arterial routes into King's Lynn, including improved provision for cyclists at pedestrian crossing over busy road and junctions where Toucan crossings are not already provided.
4.10	Active Travel	Short	Port of King's Lynn highway design access improvements including pedestrians and cyclists	In the vicinity of the Port of King's Lynn improve operations to reduce risks to vulnerable road users through better provision for industrial vehicles, incorporating appropriate pedestrian crossings and cycle lanes.
4.13	Active Travel	Short	Tennyson Avenue Pedestrian & Cycle improvements: King George V Avenue pedestrian improvements; Tennyson Road, The Walks, Tennyson Avenue pedestrian improvements; Tennyson Avenue, Gaywood Road pedestrian improvements; Review of pedestrian crossing facilities on Extons Road and Tennyson Avenue	King George V Ave: cluster of pedestrian/cycle accidents, provide improved crossing facilities to accommodate pedestrian movements. At access point to The Walks pedestrians and cyclists are not provided with crossings over B1144 except dropped kerbs and footway marking-provide improved crossing provision. Gaywood Road: cluster of pedestrian/cycle accidents, provide improved crossing facilities to accommodate pedestrian movements. Identify locations for more pedestrian crossings including signalised ones on Extons Road and Tennyson Avenue to improve road safety for pedestrians in this area.
4.14	Active Travel	Short	Review pedestrian crossing provision on London Road	Cluster of pedestrian/cycle accidents identified a lack of provision for access from residential areas to the west across London Road. Review crossing locations and facilities on London Road
4.18	Active Travel	Short	South Lynn to Hardwick Road pedestrian crossing review	Investigate whether some of the signalised pedestrian crossings between South Lynn and Hardwick Road could be removed and alternative provision made that provides improves the traffic flow
5.1	Traffic Signals	Short	Review traffic signal timings at various locations to optimise traffic movements	Review signal timings as stakeholders have suggested that there is too much signal green time for North Street approach / retail park traffic at Hardwick / at Estuary Road approach whenever a car is there / at Hamburg Way
5.2	Traffic Signals	Short	Linked and co-ordinated traffic signals	Co-ordinated traffic signals would help with bus scheduling and reliability as currently the traffic signals don't appear to be linked together which means very stop/start and slow journeys for buses
5.3	Traffic Signals	Short	Gaywood Clock / Queen Mary Road traffic light improvements and junction redesign	Consider improvements to the traffic light phasing at Gaywood Clock/Queen Mary Road and junction redesign
5.4	Traffic Signals	Short	Loke Road John Kennedy Road traffic signal optimisation or junction redesign	Phasing issue between lights needs to be addressed to link the phasing together / check phasing to let traffic out for a shorter period. Options also to be developed to provide an alternative junction arrangement to assist with traffic flow at this location
5.5	Traffic Signals	Short	Traffic signal optimisation and right turn arrow into Millfleet from London Road	Painted arrow on road to indicate right turn and stage in signals for right turning traffic

6.1	Highway Network	Short	Railway station bus layby re-design	Consider re-design for the layby outside the rail station to prevent cars stopping in the layby and also address issues with getting the bus on the loop in the road to activate the traffic lights to change to let them out
6.5	Highway Network	Short	Southgates roundabout highway capacity improvement scheme - small-medium scale	Undertake a review of lane marking and usage at Southgates roundabout to provide improvements in traffic flow. Also undertake a review of the traffic signal operation to optimise the traffic flow at this key junction that provides access to King's Lynn. Enhance crossing provision for cyclists and pedestrians at the South Gate alongside highway improvement measures to improve traffic flow
6.7	Highway Network	short	Vancouver Avenue - improved lane management	Vancouver Avenue - investigate improved lane management - left lane = straight and left / right lane = right - to ease traffic congestion, also provide a longer left filter lane / increase length of the left turn lane to ease traffic congestion on this approach. Also consider provision of a left filter lane with give-way onto Hardwick Road to ease the traffic using the roundabout and provide potential for improvement to traffic signal operation.
6.14	Highway Network	Short	Estuary Road Edward Benefer Way junction improvements	New junction arrangements have been submitted to planning - phasing of traffic lights with alternative priorities / take out private access and make two-lanes over the traffic lights / remove left turn from traffic lights
6.17	Highway Network	Short	Low Road Castle Rising Road Wootton Road Grimston Road junction improvements	New junction arrangements have been submitted to planning - phasing of traffic lights with alternative priorities / take out private access and make two-lanes over the traffic lights / remove left turn from traffic lights
7.2	Parking	Short	Car Parking Strategy for King's Lynn including forecast growth and increased parking charges	Increase the cost of town centre car parking to reduce number of car trips in King's Lynn. Consider parking quantum required to cater for new / planned growth in residential development

Ref	Theme	Timescale	Option	Description
No	Medium Term (3 to 10 years)			
1.3	Buses	Medium	Increased use of Harding's Way for buses - address issues at Millfleet and Wisbech Road to Hardwick Road to make ore advantageous for buses	Harding's Way as a bus only route to accommodate an increase in buses and bus usage with buses also continuing to serve London Road. A combination of routes is required. Retain Hardings Way as traffic-free except buses. Encourage more buses to make use of the route and the potential reliability/journey time benefits. Retain high level of provision for pedestrians / cyclists and especially vulnerable road users and mobility scooters
1.12	Buses	Medium	Town centre gyratory re-design. Various Options - Bus Lanes - Railway Rd, London Rd, Blackfriars Rd	Redesign of traffic movements around gyratory to assist with AQMA, congestion, connectivity and road safety objectives. Various schemes need developing through workshop and testing in the transport model. Investigate potential for providing bus-only lanes through Railway Road, London Road, Blackfriars Road to take out areas that generate air pollution and improve air quality with modal shift.
4.11	Active Modes	Medium	Queen Mary Road, Fairstead, Hardwick improvements in linkages for pedestrians and cyclists	Investigate how best to provide access across the railway line and around the town for modes other than private car to relieve some of the congestion pressure in Gaywood area. Fairstead Road / Queen Mary Road / Hardwick link road to enable trips to be undertaken without travelling through Gaywood Clock and the town centre gyratory
6.2	Highway Network	Medium	Hardings Way opened for additional traffic	Investigate options to allow additional traffic to use Hardings Way to alleviate the congestion on London Road and assist with air quality management. This could include specific additional vehicle types being permitted to use the route; open only at specified times of the day; as an emergency measure to assist with incident management; directional to provide alternative routes for inbound traffic in the AM peak and outbound traffic in the PM peak; or to provide access to specific parts of the town centre only. Mitigation measures would be needed to ensure there are no impacts on the historic core.
6.3	Highway Network	Medium	Traffic management associated with A47 congestion	Address issues with seasonal traffic and congestion on A47 and provide management initiatives so it doesn't impact on the town centre
6.6	Highway Network	Medium	South Gate highway capacity enhancements - providing two lanes in both directions / large scale redesign	Make Southgates an island bypass it with two lanes north/south using park for extra lane (based on previous proposal for ClF)
6.11	Highway Network	Medium	A1076 provide new right turn lane into Queensway	To assist the right turn from A1076 into Queensway - create an additional queuing lane to reduce the impact on other traffic
6.12	Highway Network	Medium	Queen Mary Road link to Fairstead	Link to development land at Parkway with potential link to Fairstead - traffic to go through Fairsted / route coming out of Fairstead and along Sand line / bridge over Sand train line / road alongside railway line / park and ride
6.13	Highway Network	Medium	Winston Churchill Drive QEH access widening	Investigate a scheme to provide widening of the access to allow improved movement onto roundabout / improved traffic flow. Also look at widening of Winston Churchill Drive closest to Corbyn Shaw Road
6.15	Highway Network	Medium	Gaywood Road bus priority and HOV lanes and junction redesign at Loke Road	The Gaywood Road corridor for eastbound bus and high occupancy vehicle (HOV) lanes, as well as an inbound contra flow bus lane at the gyratory. Make amendments to the existing arrangement to widen and use existing left turn lane to also accommodate the straight ahead bus movement and move the stopline for the right turn out of Loke Road to accommodate this. Junction redesign at Loke Road.
6.18	Buses	Medium	Hardwick Roundabout capacity improvements / Hardwick Interchange priority for buses	Hardwick Roundabout - options to increase capacity as part of the dualling scheme; Investigate providing solutions for delays to buses at Hardwick interchange to improve bus journey times and reliability and promote the use of the bus for journeys that start or end outside the King's Lynn urban area
6.19	Highway Network	Medium	Jubilee roundabout capacity improvements	Jubilee roundabout improvements to improve traffic flow and accommodate future growth
6.20	Highway Network	Medium	QEH roundabout capacity improvements	The slip road onto A149 northbound needs improvement and the roundabout needs to be able to accommodate forecast traffic levels

6.21	Highway Network	Medium	A149 Dualling up to Knights Hill; Knights Hill junction capacity improvements	Dualling of the A149 / crawler lane up to Knights Hill / two lanes up to Knights Hill / mark lanes from bottom of hill / increase width / lanes at roundabout which are too narrow at the junctions onto / off the roundabout (QE to King's Lynn) - suitable for emergency services; Consider a redesign of this junction to improve traffic capacity and traffic flow to accommodate forecast traffic levels associated with development
6.22	Highway Network	Medium	West Winch Housing Access Road	Highway improvement access road to enable the housing growth at West Winch and to provide some relief to the A10
7.1	Parking	Medium	VMS improvements for car parking	VMS improvements to capture location of driver decision-making and improve town circulation of vehicles searching for car parking

Ref	Theme	Timescale	Option	Description
No	Long Term (10 to 15 years)			
1.20	Buses	Long	Investigate Park & Ride Scheme for King's Lynn	Investigate whether Park and Ride is a suitable measure for King's Lynn. Potential sites on other side of the river - Clenchwarton Road (Mc Donalds), West Lynn with a bridge. Also consider sites on Hardwick Road and close to QEH. Impacts on town centre car parking and revenues alongside town centre car park charging will be required if a Park and Ride is to be successful.
3.1	Trains	Long	Train frequency improvements	Implementation of Ely Area Enhancement Scheme to deliver doubling of train frequency to half-hourly (2025-2030). Improve rail links to Cambridge and London. Improve connecting services - connections to Norwich from Ely. King's Lynn 8 Car Project will increase train capacity from 4 Car trains between King's Lynn, Cambridge and London by December 2020.
6.4	Highway Network	Long	Hospital to A149 direct access link	Provide an additional exit onto A149 for exiting traffic from the hospital to ease local congestion issues around the hospital
6.8	Highway Network	Long	Wisbech Road to Nar Ouse Way link Road	Investigate the potential for providing a highway link between Wisbech Road and Nar Ouse Way to assist in alleviating Southgates roundabout

ADDITIONAL POLICY INITIATIVES FOR POTENTIAL INCLUSION

Ref	Option	Description
1.16	Work with bus operators to provide the best possible vehicle stock in King's Lynn	Upgrade the vehicle stock to make use of LPG vehicles / cleaner diesel on the buses in King's Lynn, consequently influencing travel attitudes and behaviours to encourage increased mode use with improvements to accessibility and comfort.
6.9	Valingers Road improvement scheme / remove right turn into Valingers Road / 3-lanes s'bound /monitor the trial layout	Investigate providing three lanes southbound, one lane northbound between Checker Street and Valingers Road to aid traffic flow at this location. Monitor the Trial layout; Remove the right turn into Valingers Road
8.1	Measures to reduce car use - road pricing, car park space and charges, reduction in capacity	Investigate additional measures to promote the use of alternative modes of travel including road pricing, road capacity reduction for private vehicles, raising parking charges in the town centre and reducing parking provision
8.2	Change to school start and finish times and hospital shift patterns to ease impact on peak traffic	Encourage schools and hospitals to alter shift patterns to spread peak periods
8.3	Promote provision for Electric Vehicles in King's Lynn through engagement with employers and infrastructure provision	Promote and encourage use of electric vehicles for pool cars to businesses in King's Lynn to address local air quality issues. Investigate application in King's Lynn
8.4	Keep under review the development of autonomous vehicle technology and its application in King's Lynn, particularly in respect of scheme implementation and Future-ready	Review the development of autonomous vehicle technology, such as that currently underway in Milton Keynes, and their future applicability for King's Lynn.
	Work with schools and education in King's Lynn to provide safe alternatives to private car for school children	Develop a campaign for King's Lynn to encourage parents not to drive children to school. Work with the schools to develop safer routes to school, walking buses, safe cycle routes, provision for secure cycle storage at the schools and provide the schools with the tools they need to improve localised parking issues around schools and the impacts on the town. Address air quality impacts on Wisbech Road at the schools.
	Work with bus operators to provide multi-operator ticketing on bus services and take advantage of new technologies for ticketing	Investigate with the bus operators measures to improve multi-operator ticketing including rail services
	Work with bus operators to improve bus service offer in King's Lynn on evenings, Sunday and Bank Holiday where feasible	Provide earlier and evening weekday buses for King's Lynn as well as Sunday and Bank Holiday service to relieve traffic congestion to access employment and address social inclusion



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