



West Winch Housing Access Road

Sustainable Transport Strategy

Author: WSP

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Contents

1	Glossary of Abbreviations and Defined Terms	5
2	Sustainable Transport Strategy	8
2.1	Introduction	8
2.2	STS Vision	8
2.3	Site Location	9
2.4	DFT Requirements	12
2.5	LTN 1/20 Core Design Principles	12
2.6	Project Objectives	13
2.7	Delivering a Joined-Up Strategy	17
2.8	Levelling Up Fund	17
3	Context – Policy and Guidance Review	19
3.1	Introduction	19
3.2	Gear Change July 2021	19
3.3	LTN 1/20 – cycle Infrastructure Design 2020	20
3.4	Transport Decarbonisation Plan 2021	20
3.5	Local Transport Plan 4 (2022)	22
3.6	LTP4 Implementation Plan - 2022	22
3.7	King's Lynn Transport Strategy (Adopted spring 2020)	23
3.8	West Winch Growth Area Framework Masterplan Supplementary Planning Document	24
3.9	King's Lynn LCWIP (Local Cycling and Walking Infrastructure Plan) 2022 25	
3.10	Norfolk BSIP (Bus Service Improvement Plan) October 2021	26
3.11	King's Lynn and West Norfolk Borough Council Local Plan (Core Strategy) 2011	27
3.12	BCKLWN Climate Change Policy (October 2020)	28
3.13	North Runcton and West Winch Neighbourhood Plan (2017)	28
3.14	Policy Review Summary	29
4	Existing Conditions	30
4.1	Surrounding Road Network	30
4.2	Walking Network	31
4.3	Cycling Network	34
4.4	Bus Network	38
4.5	Rail Network	41



- 4.6 Personal Injury Collisions Overview 44
- 4.7 Non-motorised User Personal Injury Collisions 47
- 5 Development of Options..... 49
 - 5.1 Sustainable Transport Strategy Options Long List 49
 - 5.2 Bus Service Viability – New Services 51
 - 5.3 Sustainable Transport Strategy Options Short-Listing..... 53
- 6 Sustainable Transport Strategy Engagement 57
 - 6.1 Engagement Activities and Key Stakeholders 57
 - 6.2 Public Consultation Feedback..... 57
 - 6.3 STS Stakeholder Workshop 62
 - 6.4 National Highways..... 64
 - 6.5 Active Travel England 64
 - 6.6 WCHAR – Walking Cycling and Horse Riding Assessment 64
- 7 Non Motorised User Strategy (NMUs)..... 65
 - 7.1 Developing the Strategy 65
 - 7.2 Guiding Principles – NMUs..... 65
 - 7.3 Proposed NMU Opportunities..... 66
- 8 Public Transport Strategy..... 75
 - 8.1 Developing the Strategy 75
 - 8.2 Guiding Principles – Public Transport 75
 - 8.3 Proposed Options – Public Transport..... 76
- 9 Conclusion 82
 - 9.1 Summary 82
 - 9.2 Meeting WWHAR Scheme Objectives 84
 - 9.3 Meeting DfT Requirements..... 85
 - 9.4 Meeting LTN1/20 Core Design Principles..... 86
 - 9.5 Conclusion..... 88

Tables

- Table 2-1 - West Winch Housing Access Road Specific Objectives 15
- Table 4-1 West Winch Bus Services 38
- Table 4-2 Railways Stations..... 43
- Table 4-3 King's Lynn and Watlington Rail Services 43



Table 4-4 Accident Severity by Year 45

Table 4-5 Casualty Severity by Year 45

Table 5-1 Long-list intervention breakdown..... 50

Table 5-2 Shortlisted Schemes – Based on MCAF Top 20 schemes – Refer to Appendix 2 for complete MCAF 54

Table 6-1 Public and Stakeholder Engagement Timeline..... 57

Figures

Figure 2.1 - South East King’s Lynn growth area masterplan extract..... 11

Figure 2.2 - LTN1/20 Core Design Principles 13

Figure 3.1 - Map of King’s Lynn active travel network 26

Figure 4.1 - Local Road Network..... 30

Figure 4.2 - West Winch Pedestrian Network..... 32

Figure 4.3 - West Winch Development Walking Isochrones..... 33

Figure 4.4 - Local Area Cycling Infrastructure 35

Figure 4.5 - West Winch Development Cycling Isochrones..... 37

Figure 4-6 Lynx Buses King's Lynn Area Bus Routes 40

Figure 4-7 West Winch Bus Stops and Bus Routes 41

Figure 4-8 Railways and Rail Stations..... 42

Figure 4-9 5-Year Collision Data 2015-2020 46

Figure 5-1: Indicative Bus New Service Viability 53

Figure 6-1: Extent of Agreement with Potential Changes to the Existing A10 58

Figure 6-2: Factors that would Encourage People to Walk or Cycle More 59

Figure 6-3: Key Destinations Which People Would Like to Access by Bus 62

Figure 9-1: Overview Map of STS Opportunities shortlisted..... 84



1 Glossary of Abbreviations and Defined Terms

A

AADT - Annual Average Daily Traffic

AAWT – Annual Average Weekday Traffic

ATC - Automatic Traffic Count

ATE – Active Travel England

B

BR – Bridleway

BCKLWN – Borough Council of King’s Lynn and West Norfolk

BSIP – Bus Service Improvement Plan

C

CO₂e - Carbon Dioxide equivalent

CEMP – Construction Environment Management Plan

CTMP – Construction Traffic Management Plan

D

DfT - Department for Transport

DM - Do Minimum Scenario

DS - Do Something Scenario

DEFRA – Department of Environment, Food and Rural Affairs

E

EAST - Early Appraisal Sifting Tool

EqIA - Equality Impact Assessment

F

FP – Footpath



G

GIS - Geographical Information System

H

HGV – Heavy Goods Vehicle

J

JtW - Journey to Work

K

KL - King's Lynn

L

LGV – Light Goods Vehicle

LTN - Local Transport Note

M

MCC - Manual Classified Count

MP - Member of Parliament

N

NCC - Norfolk County Council

NCN - National Cycle Network

NH - National Highways

NMU - Non-Motorised User

NTS - National Travel Survey

O

OBC - Outline Business Case

ONS - Office for National Statistics

OGV – Other Goods Vehicle



P

PCT - Propensity to Cycle Tool

PCU – Passenger Car Unit

P&R - Park and Ride

PROW – Public Right of Way

PSV – Public Service Vehicle

S

SOBC - Strategic Outline Business Case

SoCI – Statement of Community Involvement

STS - Sustainable Transport Strategy

SSSI – Site of Special Scientific Interest

SRN – Strategic Road Network

SRO – Side Road Order

STARS – Sustainable Transport and Regeneration Scheme

T

TA – Transport Assessment

ToR - Terms of Reference

TRO - Traffic Regulation Order

W

WCHAR - Walking, Cycling & Horse Riding Assessment Report



2 Sustainable Transport Strategy

2.1 Introduction

2.1.1 This Sustainable Transport Strategy (STS) for the West Winch Housing Access Road (WWHAR), has been developed on behalf of Norfolk County Council.

2.1.2 The strategy aims to identify a complementary package of sustainable travel measures facilitated by the WWHAR. The WWHAR has been developed to support delivery of the 4,000 home West Winch Housing Allocation site between North Runcton and West Winch and to provide an alternative route for strategic traffic around West Winch to Major Road Network (MRN) standard.

2.1.3 The measures proposed are intended to enable the scheme to fully meet the objectives which were developed with input from key stakeholders in the early stages of the project.

2.2 STS Vision

2.2.1 The vision for the STS is essentially to enhance sustainable access for existing residents of West Winch whilst also accommodating the need of a future expanded settlement as envisaged within the Kings Lynn and West Norfolk Borough Council Local Plan. With the majority of the district's proposed housing growth being co-located alongside the WWHAR there is an opportunity to provide sustainable transport improvements for both new and existing residents to enable them to access the services that they use every day.

2.2.2 The STS will help to mitigate severance issues presented by crossing a major strategic highway and open up new options for access. The remit includes local access within West Winch to cater for new desire lines created by the development, and access in the wider local area to Kings Lynn and key destinations further afield.



- 2.2.3 The strategy considers safe, easy, green routes for people to travel: by wheelchair, on foot, by bike or on horseback. Access to bus services that are a priority, not an afterthought. Access to a mobility hub where disabled residents, electric car users, walkers and bus users can all find the facilities they need to move around West Winch not in the way they have to, but the way they wish to. Access to ways of getting to work, school and essential services that are efficient, but are also pleasant, and promote the wellbeing of users of all ages and fitness.
- 2.2.4 The Sustainable Transport Strategy lays out a set of measures that could make this vision of West Winch's future not just a possibility but a practical reality; a model of how active and sustainable travel can be integrated into a growing and vibrant community from its foundations, for the benefit of both the existing community and the new developments that will follow.

2.3 Site Location

- 2.3.1 The site location encompasses the Parishes of North Runcton and West Winch, to the south east of King's Lynn. The WWHAR includes a new proposed highway to the east of A10 and south of A47 which would provide a new single carriageway road link connecting with a new roundabout on A10 south of West Winch to a new roundabout on A47 about 800m east of Hardwick Interchange.
- 2.3.2 As part of the WWHAR, a section of A47 east of A10 will be upgraded to dual carriageway standard and the Hardwick Interchange will be remodelled with a revised signalisation scheme. The existing Constitution Hill roundabout to the east of the main gyratory would be replaced by new direct slip roads to facilitate efficient access to A47 main line which should help to reduce confusion for drivers through the Hardwick interchange. Removal of the satellite roundabout will also reduce delays to vehicles using A47 mainline.
- 2.3.3 The WWHAR would allow strategic traffic (ie vehicles travelling longer distances with origins and destinations outside of West Winch) to avoid travelling through the village via the existing section of A10, so there is an

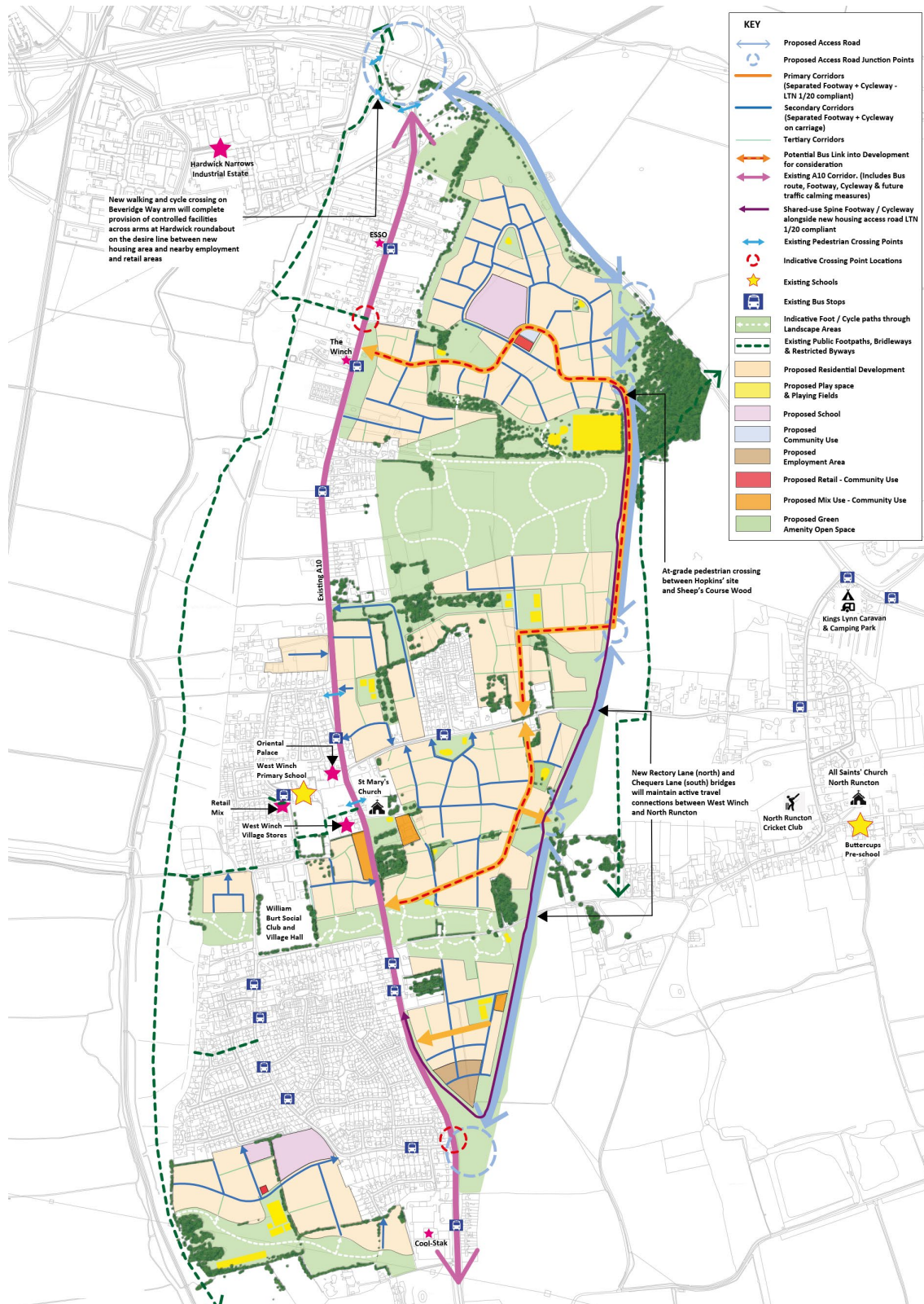


opportunity to re-purpose the existing route through the village to become a local traffic route. With increased development within West Winch as a result of the proposed housing allocations as part of the Local Plan, the former A10 would enable a change in character to a slower speed high-street with increased Non-Motorised User movements along the route and between land uses on each side of the A10.

- 2.3.4 The WWHAR scheme also includes east-west links between West Winch and North Runcton crossing the proposed new road at Rectory Lane. This would include Non-Motorised User provision and a further opportunity exists for a crossing point where Chequers Lane crosses between the two villages.
- 2.3.5 The starting point for the Sustainable Transport Strategy is the Masterplan published by the Borough Council of King's Lynn and West Norfolk in December 2022 which was subject to public consultation in summer 2022. An extract of the July 2022 masterplan consultation draft document is shown in Figure 1-1 below. This shows the indicative early alignment of the WWHAR and an illustrative concept layout for the proposed development of around 4000 dwellings. The design of the WWHAR highway scheme is being developed in parallel.



Figure 2.1 - South East King's Lynn growth area masterplan extract





2.4 DFT Requirements

2.4.1 The proposed scheme is proceeding through the Outline Business Case process under the Major Road Network (MRN) programme in accordance with DfT requirements. Aligned with this, it is important for the WWHAR scheme to consider all users, not just drivers of motorised vehicles. This STS has therefore been developed to address conditions of the SOBC approval which state:

- A Sustainable Transport Strategy is to be appended to the OBC.
- The Council confirms at OBC stage the detail of proposed public transport and active travel measures to be provided as part of the scheme and through the wider masterplanning of the new West Winch development, including information on when the latter measures will be provided and how they will be funded;
- The Council investigates further bus priority measures on the A10 approach to Hardwick roundabout; and
- The Council engages with Active Travel England as part of the OBC development work and considers the integration of LTN 1/20 guidance in the design of the footway and cycleway provisions proposed as part of the WWHAR scheme.

2.5 LTN 1/20 Core Design Principles

2.5.1 In accordance with the DfT requirements set out above, the five core design principles set out within LTN1/20 have been taken into account within the development of the STS. These are shown below in Figure 1-2.

Figure 2.2 - LTN1/20 Core Design Principles

Figure 1.1: Core design principles

Accessibility for all				
Coherent	Direct	Safe	Comfortable	Attractive
				
DO Cycle networks should be planned and designed to allow people to reach their day to day destinations easily, along routes that connect, are simple to navigate and are of a consistently high quality.	DO Cycle routes should be at least as direct – and preferably more direct – than those available for private motor vehicles.	DO Not only must cycle infrastructure be safe, it should also be perceived to be safe so that more people feel able to cycle.	DO Comfortable conditions for cycling require routes with good quality, well-maintained smooth surfaces, adequate width for the volume of users, minimal stopping and starting and avoiding steep gradients.	DO Cycle infrastructure should help to deliver public spaces that are well designed and finished in attractive materials and be places that people want to spend time using.

2.6 Project Objectives

2.6.1 The overarching project objectives have been developed for the WWHAR scheme to align with the current overarching themes presented in national, regional, and local policy, as well as associated guidance.

2.6.2 The objectives are in two tiers: high-level and specific local objectives. These were developed in the earlier stages of the WWHAR project; and are shown below in Table 2-1.

2.6.3 The high-level objectives of the WWHAR reflect issues and opportunities to support the principal aims of a modern and efficient transport system, and include the need to:

- Support housing delivery and employment growth in the region to drive economic growth.
- Enhance the A10's role as a strategic link to support the wider King's Lynn economy.



- Provide a more resilient highway network to improve journey time reliability and safety for all users.
- Reduce the volume of non-local traffic through the village to improve the quality of life of residents of West Winch
- Provide better conditions in West Winch and along the A10 for travel by non-motorised modes to support healthy, inclusive, and sustainable growth.
- Seek to minimise environmental impacts of the scheme.

2.6.4 The Sustainable Transport Strategy seeks to address the non-highway orientated scheme objectives from the list below, as highlighted in bold in Table 2-1.

2.6.5 The South East King's Lynn Growth Area Masterplan also emphasises the importance of 'seeking to make the most of opportunities to create or improve habitats *and biodiversity, while minimising the environmental impacts of the scheme*'

Table 2-1 - West Winch Housing Access Road Specific Objectives

Outputs (Operational Objectives)	Outcomes (Specific or Intermediate Objectives)	Impacts (High Level or Strategic Outcomes)
Facilitate delivery of housing in the South-East King's Lynn Strategic Growth Area	Enable delivery of the West Winch Housing Allocation Increase in local and regional employment labour pool	Support housing delivery and employment growth in the region to drive economic growth
Deliver the WWHAR scheme to become an alternative to the existing route through West Winch Facilitate delivery of housing in the South-East King's Lynn Strategic Growth Area Provide the necessary infrastructure to support the use of active modes	Enable delivery of the West Winch Housing Allocation Increase in local and regional employment labour pool. Reduce congestion, queuing, and delay on the A10, A47 and Hardwick Interchange in King's Lynn and West Norfolk Remove through traffic, including HGVs, from West Winch Increase levels of cycling and walking in the local area	Support housing delivery and employment growth in the region to drive economic growth. Reduce the volume of non-local journeys through the village to improve the quality of life of residents of West Winch Provide better conditions in West Winch and along the A10 for travel by non-motorised modes to support healthy, inclusive, and sustainable growth
Deliver the WWHAR scheme to become an alternative to the existing route through West Winch Provide the necessary infrastructure to support the use of active modes	Reduce congestion, queuing, and delay on the A10, A47 and Hardwick Interchange in King's Lynn and West Norfolk Improve road safety for all road users. Increase levels of walking and cycling in the local area	Enhance the A10's role as a strategic link to support the wider King's Lynn economy. Provide a more resilient road network to improve journey time reliability and safety for all users. Provide better conditions in West Winch and along the A10 for travel by non-motorised modes to support healthy, inclusive, and sustainable growth. Seek to minimise the environmental impacts of the scheme
Deliver the WWHAR scheme to become an alternative to the existing route through West Winch Provide the necessary infrastructure to support the use of active modes	Reduce congestion, queuing, and delay on the A10, A47 and Hardwick Interchange in King's Lynn and West Norfolk Remove through traffic, including HGVs, from West Winch Improve road safety for all road users. Increase levels of walking and cycling in the local area Reduce greenhouse gas emissions in the local area, and improve air quality	Provide a more resilient road network to improve journey time reliability and safety for all users. Reduce the volume of non-local journeys through the village to improve the quality of life of residents of West Winch Provide better conditions in West Winch and along the A10 for travel by non-motorised modes to support healthy, inclusive, and sustainable growth. Seek to minimise the environmental impacts of the scheme
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Deliver the WWHAR scheme to become an alternative to the existing route through West Winch Provide the necessary infrastructure to support the use of active modes	Reduce congestion, queuing, and delay on the A10, A47 and Hardwick Interchange in King's Lynn and West Norfolk Improve road safety for all road users. Increase levels of walking and cycling in the local area	Enhance the A10's role as a strategic link to support the wider King's Lynn economy. Provide a more resilient road network to improve journey time reliability and safety for all users. Provide better conditions in West Winch and along the A10 for travel by non-motorised modes to support healthy, inclusive, and sustainable growth. Seek to minimise the environmental impacts of the scheme
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Facilitate delivery of housing in the South-East King's Lynn Strategic Growth Area Deliver the WWHAR scheme to become an alternative to the existing route through West Winch	Enable delivery of the West Winch Housing Allocation Increase the local and regional employment labour pool	Support housing delivery and employment growth in the region to drive economic growth



2.7 Delivering a Joined-Up Strategy

2.7.1 The housing access road element of the WWHAR which connects the A47 with the A10 provides an alternative route from the villages south of King's Lynn, diverting traffic away from residential dwellings and reducing severance between the existing and future communities. The scheme also addresses gaps in the network to the south east of King's Lynn for non-motorised users via this Sustainable Transport Strategy.

2.7.2 Key interfacing projects to the south of King's Lynn have also been considered as part of the project and engagement with various delivery teams have been ongoing since 2016, seeking to maximise the synergy between the proposals being brought forward in parallel. These projects included within the local plan are:

- A47/A17 Pullover Junction King's Lynn: This junction has been identified for improvements to the existing roundabout under the MRN programme. This was endorsed by Transport East as a priority on their programme of Major Road Network Schemes;
- King's Lynn's Town Centre Highway Improvements: Feasibility studies have been carried out for schemes in King's Lynn Town Centre including Southgates Roundabout and Gyratory Improvements. An improvement at these locations is being taken forward by NCC and has been allocated £24m from governments Levelling Up Fund (LUF); and
- Local Cycling and Walking Infrastructure Plan (LCWIP): An LCWIP has been devised and adopted by both NCC and the borough council and identifies priority routes and interventions to address known issues in King's Lynn and deliver improvements to encourage cycling and walking.

2.8 Levelling Up Fund

2.8.1 Norfolk County Council secured £24 million as part of the levelling up funding. This was announced on the 19th of January 2023. The UK Government



awarded this to the STARS scheme (Sustainable Transport and Regeneration Scheme) aimed at improving transport and travel links in the Southgates area of King's Lynn. This will help contribute towards a masterplan to support economic growth and improve access to the town, while protecting and enhancing important heritage assets such as the South Gate itself. This funding will specifically contribute towards the STARS project which aims to provide transport interventions to support the Southgates masterplan.

2.8.2 The STARS scheme is responding to challenges which include:

- Unwelcoming and intensely vehicle dominated areas on the gyratory (one-way system) and South Gate entry point into King's Lynn
- Poor road safety record
- Very poor pedestrian and cycle environment
- Failure to connect to active travel links and green spaces.
- Government directive that all transport schemes must have significant bus, walking and cycling measures to obtain public funding.



3 Context – Policy and Guidance Review

3.1 Introduction

3.1.1 This section explores the overarching key policies and guidance documents of relevance that provide the strategic context for the STS.

3.2 Gear Change July 2021

3.2.1 This document was published in July 2021 to help demonstrate a ‘step-change’ in the policy and thinking around walking and change in England. It states a vision which is for ‘England will be a great walking and cycling nation’.

3.2.2 The stated aim in the document is:

“Places will be truly walkable. A travel revolution in our streets, towns and communities will have made cycling a mass form of transit. Cycling and walking will be the natural first choice for many journeys with half of all journeys in towns and cities being cycled or walked by 2030.”

3.2.3 This future vision is centred around four areas:

- Healthier, happier, and greener communities
- Safer streets
- Convenient and accessible travel
- At the heart of transport decision-making

3.2.4 This strategy helps to contribute to these aims of the Gear Change policy. In conducting this Sustainable Transport Strategy, this will help to identify opportunities for walking and cycling improvements in the local area. This will in turn will assist the step change goal, aimed at within the Gear Change document.



3.3 LTN 1/20 – cycle Infrastructure Design 2020

3.3.1 This Local Transport Note provides guidance and good practice for the design of cycle infrastructure, in support of the Cycling and Walking Investment Strategy. The scope of the document is limited to design matters. In terms of design, the document states 5 core design principles:

- Coherent
- Direct
- Safe
- Comfortable
- Attractive

3.3.2 The LTN 1/20 document provides detailed and coherent design summary principles for cycling infrastructure. It states how new cycling infrastructure should be implemented and prioritised over car infrastructure.

3.3.3 This strategy is aligned with these core principles and will assess the cycling infrastructure in the local area against the core design principles and design summary principles, highlighted with LTN 1/20.

3.4 Transport Decarbonisation Plan 2021

3.4.1 This plan presents our path to net zero transport in the UK, the wider benefits it can deliver, and sets out the principles that underpin our approach to delivering it. It also sets out the government's commitments and the actions needed to decarbonise transport.

3.4.2 The summary of commitments relevant to this STS are:

- Increasing cycling and walking
 - Delivering the Prime Minister's bold vision for cycling and walking investing £2 billion over five years with the aim that half of all journeys in towns and cities will be cycled or walked by 2030.



- Delivering a world class cycling and walking network in England by 2040
- Zero emission buses and coaches
 - Delivering the National Bus Strategy's vision of a transformed bus industry and a green bus revolution.
 - Consulting on modernising the Bus Service Operators' Grant in 2021
 - Supporting delivery of 4,000 new zero emission buses and the infrastructure needed to support them.
 - Delivering the first All-Electric Bus Town or City
 - Consulting on a phase out date for the sale of new non-zero emission buses.
 - Consulting on a phase out date for the sale of new non-zero emission coaches.
- Delivering a zero-emission freight and logistics sector
 - Supporting and encourage modal shift of freight from road to more sustainable alternatives, such as rail, cargo bike and inland waterways.
 - Taking forward measures to transform 'last mile' deliveries.

3.4.3 This STS will help to assess the sustainable transport network within the local area and compare these with the commitments stated in the Decarbonising Transport document. All sustainable travel modes within this strategy will look to attempt to achieve these commitments listed above and help to expand sustainable travel and decarbonise transport.



3.5 Local Transport Plan 4 (2022)

3.5.1 The Local Transport Plan details how the county council deals with a wide range of transport matters to achieve council objectives including a strong and stable economy, the health and well-being of our residents and climate change. The plan shapes the nature of our own projects and the design and delivery of these as well as how we influence the plans and programmes of other agencies, key partners in government, communities, the commercial sector and the third sector where these are relevant to transport (such as district council growth plans or government programmes of schemes on the trunk road and rail network).

3.5.2 The LTP4 states:

“The Government’s Cycling and Walking policy has placed sustainable modes of transport and active travel at the heart of the way we design transport infrastructure”.

3.5.3 This sustainable transport strategy for the WWHAR will ensure the WWHAR contributes to the sustainable travel-based objectives of the LTP 4.

3.5.4 This STS will demonstrate the strategy to improve accessibility for all users within the local area, improve transport safety for vulnerable users and enhance the quality of life for residents through encouraging active travel.

3.5.5 The A10 West Winch Housing Access Road is noted as a priority scheme to tackle the infrastructure deficit to ensure journeys on our major road, bus and rail connections are quick and reliable. The STS will help contribute to this through incorporating active and sustainable travel within the WWHAR designs to ensure these modes see quicker and more reliable connections.

3.6 LTP4 Implementation Plan - 2022

3.6.1 The Local Transport Plan Strategy sets out Norfolk County Council’s plans, policies and programmes on transport and transport infrastructure. The Implementation Plan details our proposals for the implementation of the policies in the adopted strategy. It does not detail every scheme (a project



delivered on the ground such as a new zebra crossing) that the county council intends to carry out over the period. Rather, it sets out the measures and actions that the county council will take, with our partners, to implement the policies. Its focus is over the next five years.

3.6.2 The implementation plan states 7 objectives:

- Embracing the Future
- Delivering a Sustainable Norfolk
- Enhancing Connectivity
- Enhancing Norfolk's Quality of Life
- Increasing Accessibility
- Improving Transport Safety
- A Well Managed and Maintained Transport Network

3.6.3 The WWHAR is mentioned throughout this document as a key scheme to be implemented as the scheme is seen as crucial in reducing congestion on the A10 and improving sustainable travel on the A10 and onto the A47. This STS ensures active and sustainable travel modes are fully considered for the WWHAR scheme and sustainable travel improvements in terms of connectivity, accessibility, safety, and maintenance are included as part of the proposals.

3.7 King's Lynn Transport Strategy (Adopted spring 2020)

3.7.1 The Borough Council of King's Lynn and West Norfolk (BCKLWN) in partnership with Norfolk County Council (NCC) have created a Transport Strategy for the town. The strategy aims to support sustainable economic growth in King's Lynn by improving travel choices for all, whilst also improving air quality and protecting historic areas.

3.7.2 The Transport Strategy's full objectives are to:

- provide a safe environment for travel by all modes.



- encourage town centre accessibility by all modes, whilst conserving and enhancing King's Lynn's rich historic environment
- support sustainable housing and economic growth.
- reduce the need to travel by car through development planning.
- manage traffic congestion in King's Lynn
- increase active travel mode share for short journeys.
- promote and encourage the use of public transport.
- reduce harmful emissions and air quality impacts.

3.7.3 This WWHAR STS is fully aligned with these objectives and aims and will ensure that safe, and coherent sustainable travel infrastructure is demonstrated and incorporated into the WWHAR scheme.

3.8 West Winch Growth Area Framework Masterplan Supplementary Planning Document

3.8.1 This Spatial Planning Document (SPD) was adopted in January 2023 and will be a material consideration in the planning decision-making process. The SPD supports the planning policies of the adopted King's Lynn and West Norfolk's Core Strategy (2011) and Site Allocations and Development Management Policies document (2016). The SPD has been developed for use in relevant planning decisions where it will be a 'material consideration'..

3.8.2 The transport infrastructure requirements contained within the SPD consist of the following:

- Housing Access Road Roundabouts
- Dualling on A47 east of Hardwick
- Traffic calming in West Winch A10 (may include speed bumps, reduced speed limits, pavement build outs etc)
- Local Roads & Streets



- Sustainable Transport including bus.
- Strategy, Cycle & Shared use pathways

3.8.3 This STS will help set out what sustainable transport modes currently exist and how sustainable provision should be improved. This analysis of the existing sustainable provision and suggestions for sustainable travel improvements will contribute to these transport requirements within the SPD.

3.9 King's Lynn LCWIP (Local Cycling and Walking Infrastructure Plan) 2022

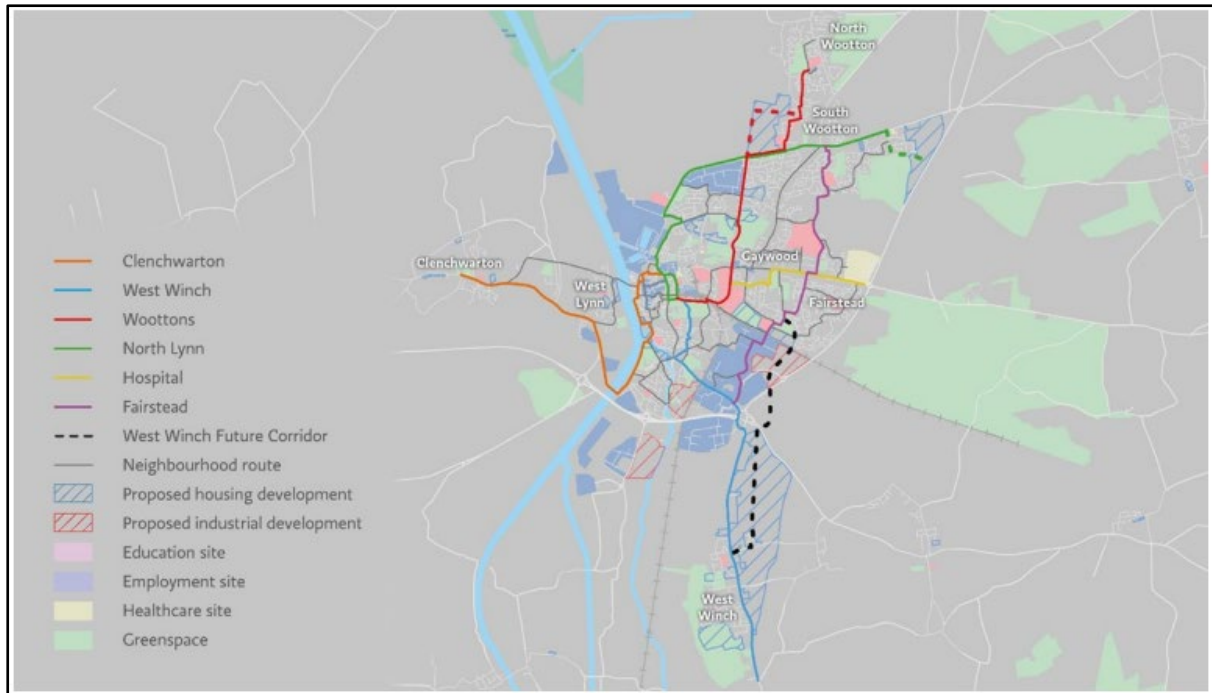
3.9.1 This report contains the detail of priority cycling and walking network improvements schemes identified by the planning process, all of which have been subject to stakeholder engagement, appraisal and prioritisation using Department for Transport's (DfT) assessment tools.

3.9.2 The aims of the King's Lynn LCWIP are to help reduce congestion, improve air quality, help combat climate change, improve physical and mental health and address inequalities within communities.

3.9.3 The development of the King's Lynn LCWIP has identified a network of key active travel routes which will enable people to make journeys across the town on foot or by cycle. This network is shown in Figure 3-1.



Figure 3.1 - Map of King's Lynn active travel network



3.9.4 This active travel network shows two key corridors relevant to this STS for the WWHAR for travel between King's Lynn and the proposed West Winch housing development. These are the existing West Winch (Blue) cycling and walking route on the A10 and the West Winch Future Corridor (dashed black).

3.10 Norfolk BSIP (Bus Service Improvement Plan) October 2021

3.10.1 The Norfolk BSIP:

- Sets out the context that currently exists in Norfolk in relation to bus services;
- Takes that context and develops clear and concise objectives and outcomes;
- Proposes an ambitious and highly deliverable programme of measures and schemes to deliver the outcomes, identifying funding streams for each element of the programme; and
- Outlines the governance and processes that will be put in place to deliver these measures and schemes once the funding is available,



based upon a county-wide Enhanced Partnership that we intend to establish for the start of April 2022 and deliver improvements over the five-year lifetime of this BSIP.

3.10.2 NCC acknowledge that in and between the smaller market towns, services are more infrequent, buses are older, and passengers do not benefit from real-time information and inviting waiting areas.

3.10.3 This STS looks to actively promote sustainable travel linked to the WWHAR. The STS is aligned with these BSIP objectives to help encourage sustainable travel, including buses, and demonstrate the local area surrounding the WWHAR will have a green and sustainable transport offer and public transport network that is the first-choice mode for most journeys, for existing and new customers.

3.10.4 'New customers' are particularly important for this STS given the scale of housing growth within the area. Any active travel focus outlined within this STS will also ensure there is access to key public transport interchanges.

3.11 King's Lynn and West Norfolk Borough Council Local Plan (Core Strategy) 2011

3.11.1 The Core Strategy sets out the spatial planning framework for the development of the borough up to 2026 and is part of King's Lynn and West Norfolk's Local Development Framework. The Core Strategy provides guidance on the scale and location of future development.

3.11.2 Within this document, West Winch is identified as an area with potential for urban expansion. It states West Winch functions as separate community with a range of facilities, but also supports the adjacent larger settlements, often through significant residential developments. These settlements benefit from public transport linkages to King's Lynn and the main towns. The proposed 4,000 dwellings will further West Winch's role in this.

3.11.3 The WWHAR is clearly supported by the local plan through the prioritisation of the West Winch development. The WWHAR is clearly an important part of



delivering the West Winch housing development. This STS helps to fulfil the Transportation - Policy CS11 in providing sustainable transport links for local residents.

3.12 BCKLWN Climate Change Policy (October 2020)

3.12.1 This policy primarily sets BCKLWN's intention for addressing our carbon footprint, whilst also noting our need to help reduce the district's carbon footprint and act as a community leader to encourage others to tackle climate change.

3.12.2 The policy states that the council will "proactively identify, understand, manage and review its level of greenhouse gas emissions to play its part in contributing towards achieving the Climate Change Act 2008 and the Paris Climate Agreement".

3.12.3 The policy noted the net zero target has now been brought forward to 2035 demonstrating our commitment to tackling climate change, in reducing our corporate emissions. This STS will help ensure that the WWHAR scheme will contribute to these actions. In particular, those actions centred around public transport and active travel.

3.13 North Runcton and West Winch Neighbourhood Plan (2017)

3.13.1 The vision for this neighbourhood plan is:

"West Winch and North Runcton will be closely linked parishes with separate communities that are popular and attractive places to live. They will remain distinct from King's Lynn characterised by a predominantly rural setting. They will have a range of excellent facilities allowing residents of all ages to live, work, play and contribute fully to the ongoing success of the communities."

3.13.2 The Transport aims seek to:

- Enable local people to go about their business in a timely manner.
- Reduce the domination of through traffic on residents' day-to-day lives.



- Provide an excellent network of road, cycle and footpaths that allow genuine choice in future transport options and mitigate against excessive road traffic and car dependency.

3.13.3 The transport objective within the plan is to "...mitigate traffic and environmental problems on the A10 encouraging a future road hierarchy that will reduce the impact of proposed development. It will encourage and support traffic calming measures. It will encourage high standards of public transport, cycle path and footpath infrastructure."

3.13.4 The Neighbourhood Plan seeks to ensure improvements to the A10 corridor environment as a priority.

3.14 Policy Review Summary

3.14.1 The STS will help meet the aims of local, regional, and national policy. The STS will ensure the WWHAR scheme will keep sustainable travel modes at the centre of the proposals making active travel the first priority. These policies show a shift in thinking locally, regionally, and nationally away from cars towards improving sustainable transport provision and encourage more use of these sustainable modes.

3.14.2 Many of these policies highlight the need to increase mode share of active and sustainable transport modes, promote active travel to improve air quality and reduce carbon emissions, reduce congestion, and encourage healthier lifestyles for local people. However, it is widely acknowledged these need to be balanced with providing the capacity for housing growth across within the local area. This STS will help the WWHAR fulfil these aims and objectives for sustainable travel in line with these policies.

3.14.3 Both levels of policy support walking and cycling as key methods of travel. The local documents stress the need to develop the area whilst preventing an increase in car development, this should be done by densifying areas rather than contributing to ribbon developments.

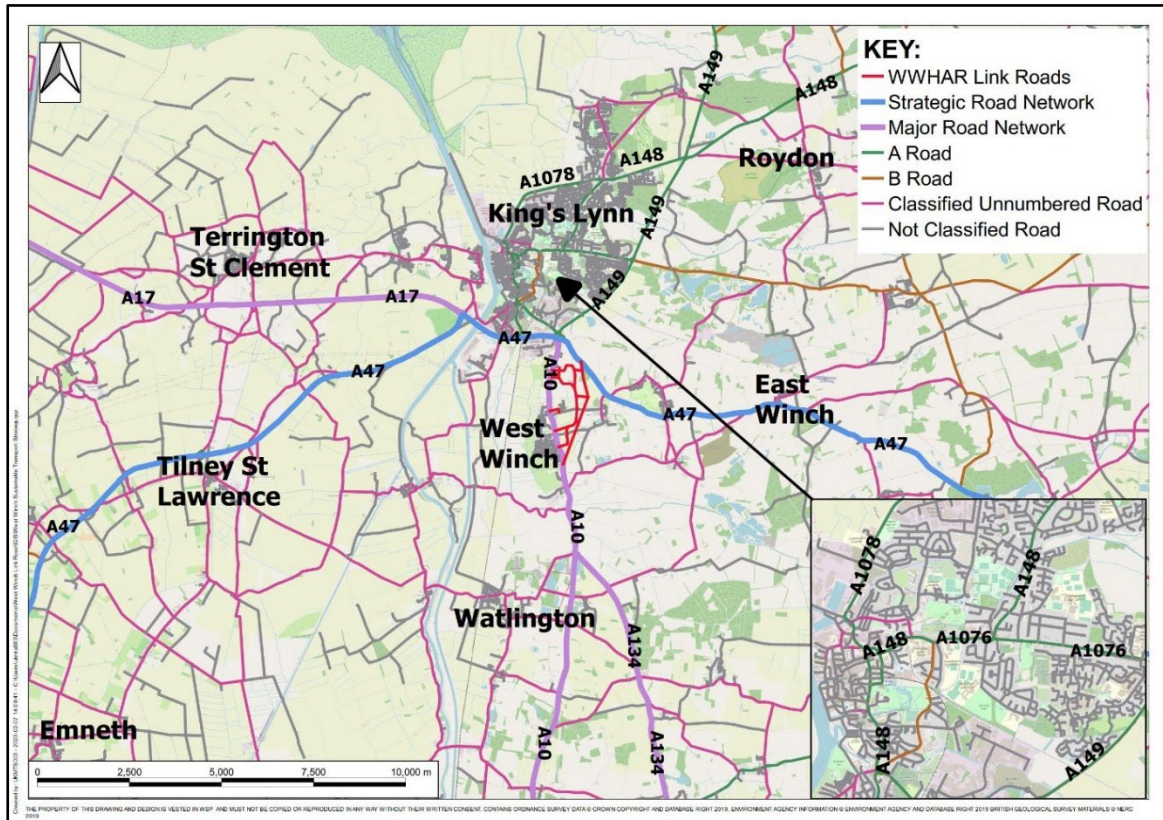


4 Existing Conditions

4.1 Surrounding Road Network

4.1.1 Figure 4-1 below shows the road network surrounding the WWHAR.

Figure 4.1 - Local Road Network



Strategic Road Network

4.1.2 West Winch has good access to a number of strategic road links including the A10 and the A47 to the east.

4.1.3 The A10 runs north to south from King's Lynn to Cambridge, providing a key connection to areas such as Downham Market, Littleport, Ely and Cambridge.

4.1.4 The A47 runs east to west from Birmingham to Lowestoft, in Norfolk and is critical for access to Norwich, King's Lynn, Swaffham, and destinations outside Norfolk such as Peterborough.



- 4.1.5 The WWHAR provides a new route to the east of the A10, reducing traffic on the old A10 through West Winch, whilst simultaneously providing additional highway capacity to accommodate the demand of 4,000 additional homes.
- 4.1.6 The WWHAR will also provide access to the A47 north for the 4,000 home West Winch Housing allocation, helping to relieve the pressure on the existing A10 result as a result of the development.

Local Road Network

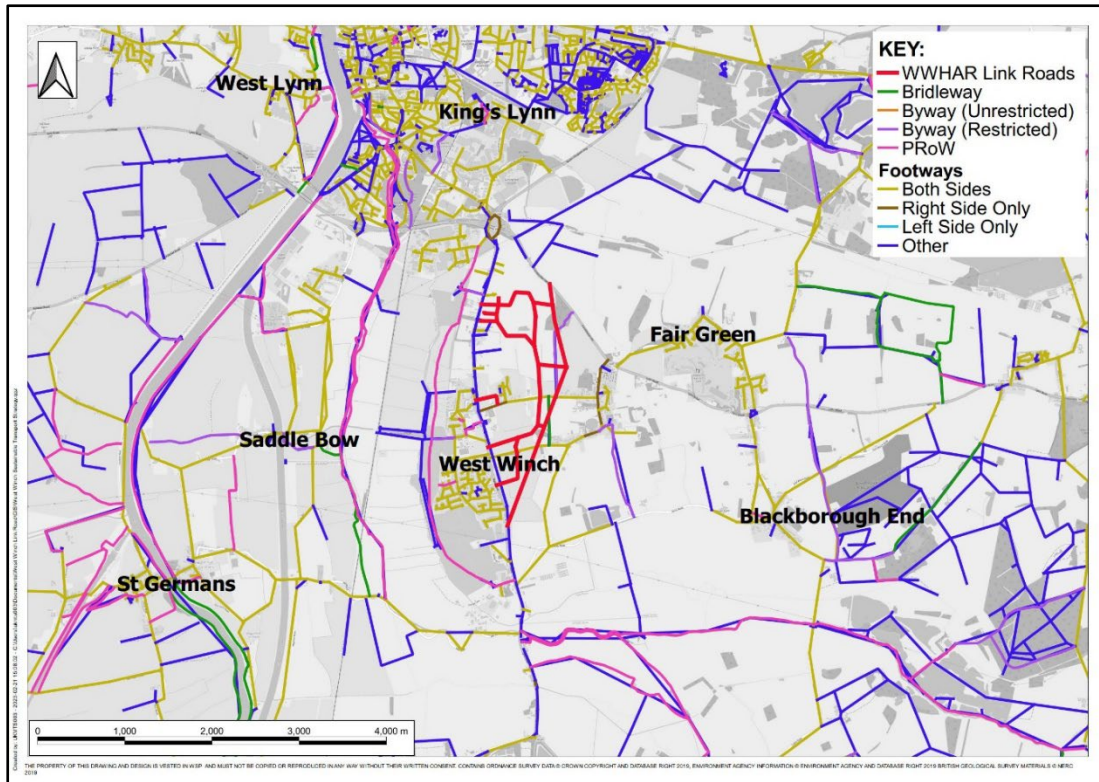
- 4.1.7 In addition to the A10 and A47, the WWHAR is also surrounded by a number of key local roads, which are subject to national speed limit.
- 4.1.8 Roads that currently cross the proposed WWHAR include Rectory Lane and Chequers Lane. Both of these local access roads provide access between West Winch and North Runcton.

4.2 Walking Network

- 4.2.1 In addition to, its surrounding road network, West Winch benefits from a shared path along the A10 which provides pedestrian access to southern King's Lynn via Hardwick Roundabout.
- 4.2.2 The Hardwick Roundabout itself has a mix of controlled and uncontrolled crossings on the southern arms allowing pedestrian access to and from King's Lynn. However, there is no pedestrian provision along the A47 and at Constitution Hill.
- 4.2.3 Figure 4-2 below shows the local pedestrian network around West Winch. There are rural single lane roads within this study area with no dedicated pedestrian facilities but many have low traffic flows. For the purpose of this figure, an indicative development layout has been shown with the assumption that there are footways on both sides.



Figure 4.2 - West Winch Pedestrian Network



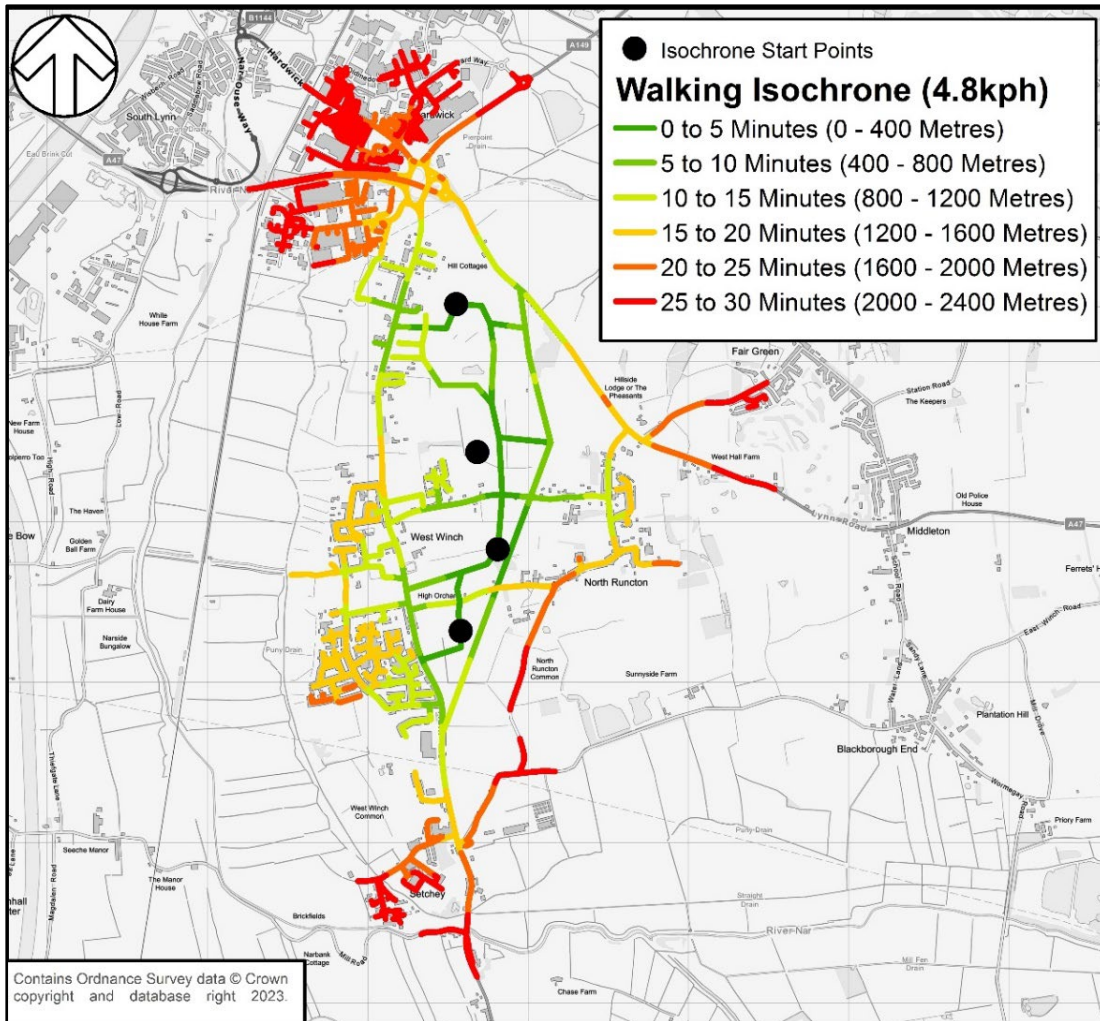
4.2.4 Using these indicative link road alignments for the West Winch Housing Development, it is possible to estimate walking distances from the development. Pedestrian isochrones are shown in Figure 4-3.

4.2.5 As stated in the business case for the WWHAR, walking and cycle facilities within the development area will tie-in to the combined footway / cycleway that will be provided along the length of the WWHAR and connect to existing facilities located in West Winch and on the A10.

4.2.6 Due to the size of the development area, multiple start points have been used to best consider the walking distances from the development.



Figure 4.3 - West Winch Development Walking Isochrones



4.2.7 As seen above, it is possible to access several different settlements from the West Winch development. The settlements which are accessible from the development within 30 minutes walk are:

- North Runcton
- Fair Green
- Setchey
- South King's Lynn

4.2.8 It is important to note some of these minor roads do not have dedicated pedestrian facilities but given these routes likely have very low motor vehicle



flows, there have been deemed to have adequate provision for the walking isochrones.

4.2.9 The pedestrian isochrones demonstrate that key services are accessible within a 30 minute walk. These include:

- Supermarkets (Including Sainsburys and Tesco Extra)
- West Winch Stores and Post Office
- West Winch Primary School
- Hardwick Industrial Estate
- Buttercups Pre-school

4.3 Cycling Network

4.3.1 The A10 through West Winch is flanked with an existing, shared footway and cycleway alongside the main carriageway. This runs from Oakwood Corner Roundabout (South of Setchey) to Hardwick Roundabout to the north of West Winch. This provides a segregated route for cyclists and pedestrians into King's Lynn and most of the way to Watlington. However, there is an existing gap in segregated provision from Oakwood Corner roundabout to Watlington village, Watlington rail station and onward routes including NCN11 which runs to the west of Watlington.

4.3.2 At the Hardwick Roundabout there are several toucan crossings which provide a walking and cycling route around the edge of the roundabout, passing under the A47 on the west side of the main gyratory to connect with Hardwick Road. The shared path continues from Hardwick Roundabout along the south side of A149 Hardwick Road towards the Southgates Roundabout and Kings Lynn town centre. This provides onward connections to other cycle tracks for destinations across King's Lynn.

4.3.3 The National Cycle Network (NCN) routes 1 and 11 are near West Winch. NCN route 1 joins NCN route 11 south west of West Winch on Mill Road, east

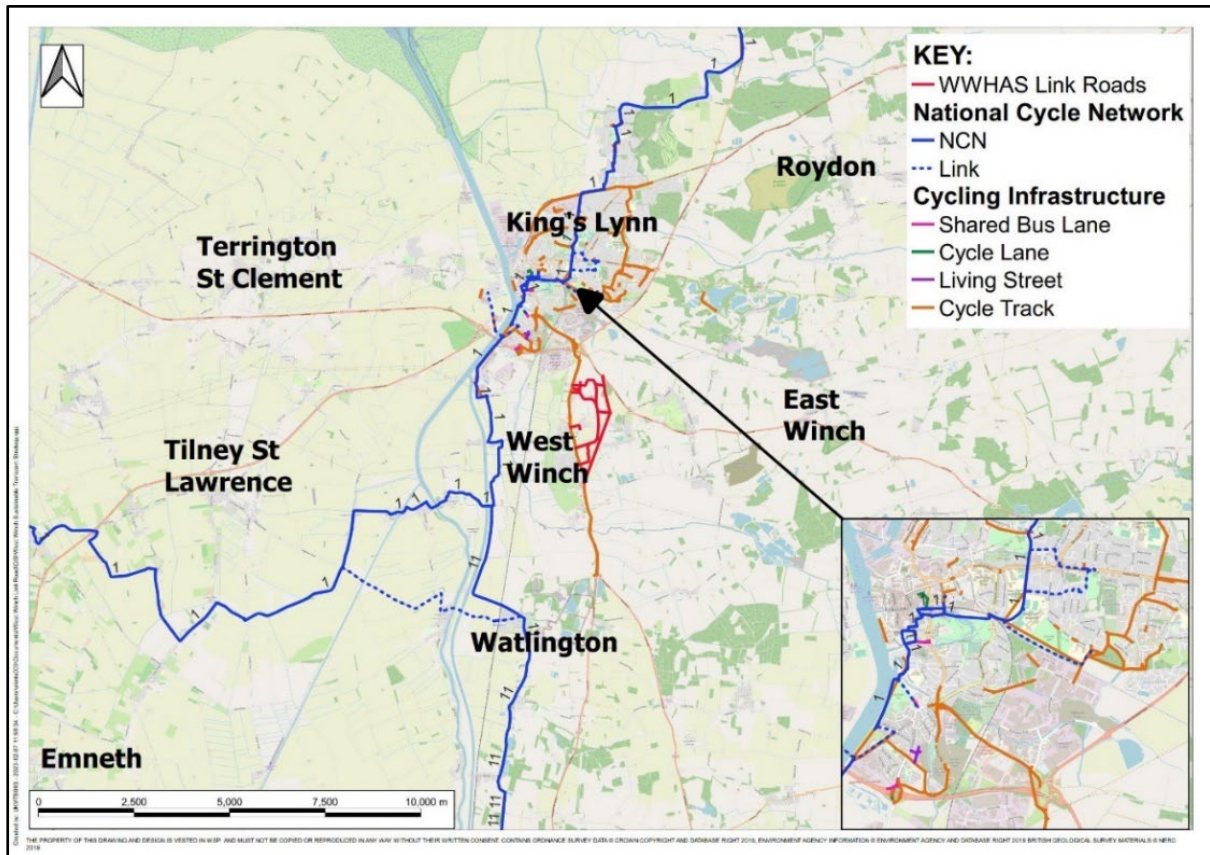


of Wiggshall. The NCN route 1 runs parallel to the A10 to the West of West Winch on the other side of the River Nar.

4.3.4 The nearest connection to NCN route 1 is in King’s Lynn just west of Southgates Roundabout (approximately 14 minutes cycle from the centre of the West Winch development). The nearest connection to NCN Route 11 is southwest of West Winch on Mill Road just east of Wiggshall (approximately 19 minutes cycle ride centre of West Winch development). In a straight line NCN 1 is only 3km away however there are no direct routes between West Winch and NCN 1, mainly due to the River Nar and the Fen Railway Line.

Cycling isochrones have been produced with multiple start points used to best consider the cycling distances from the development. Figure 4-4 shows the cycling infrastructure local to West Winch.

Figure 4.4 - Local Area Cycling Infrastructure

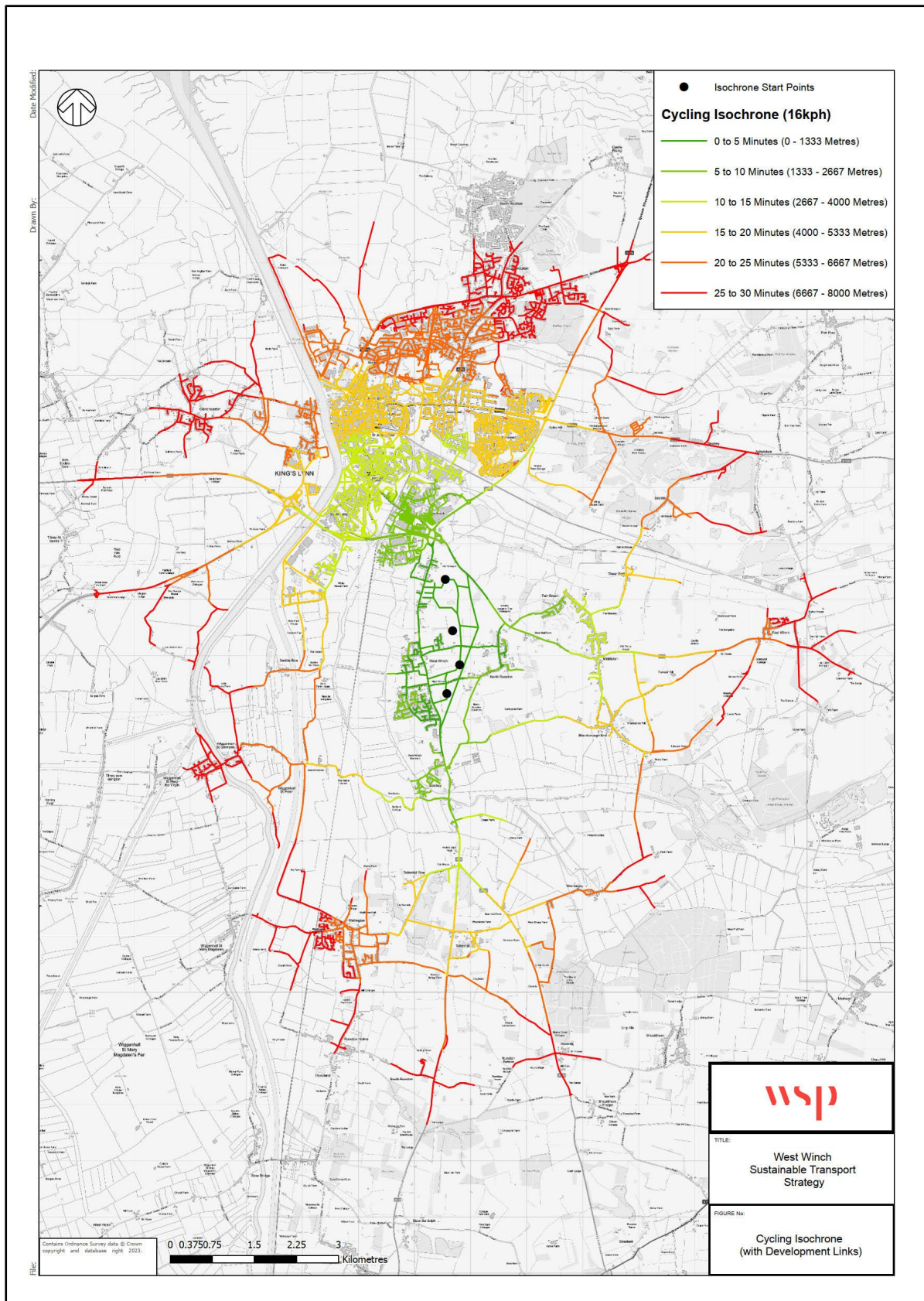




- 4.3.5 The figure above demonstrates that West Winch has a basic level of cycle infrastructure to and from King's Lynn. The new West Winch housing development access link roads will help to extend the local cycling infrastructure. In addition, many of the local side roads and lanes have very low motor vehicle traffic flows which may be attractive to some less confident cyclists.
- 4.3.6 Figure 4-5 below shows the cycling isochrones for the West Winch development. These isochrones are based on their starting locations within the West Winch housing development due to the length of the housing development. As stated in the business case for the WWHAR walking and cycle facilities within the development area will tie-in to the combined footway / cycleway that will be provided along the length of the WWHAR and also connect to existing facilities located in West Winch and on the A10.



Figure 4.5 - West Winch Development Cycling Isochrones





4.3.7 As seen above, cyclists can reach a significant number of settlements within 30 minutes of the proposed West Winch development. This puts a wide variety of services and facilities within 30 minutes bike ride of the development. All of King’s Lynn is accessible within a maximum 30-minute cycle ride.

4.4 Bus Network

4.4.1 Bus routes serving West Winch are typically on routes heading to/from King’s Lynn. The Services provided from West Winch are shown in Table 4-1.

4.4.2 Lynx Buses provides several services connecting West Winch, Middleton, Fair Green, Hardwick, Setchey, Watlington and King’s Lynn, as shown in Figure 4-6.

4.4.3 Coach Services provides a service from King’s Lynn to Thetford. This is a village stopper service which provides access to many small villages. There is a good service during school term time, however there is only 5 services per day during the school holidays.

4.4.4 Go to Town operate a service from King’s Lynn to Mileham via Swaffham. This is mostly used for school and college travel but does offer one service per day during school holidays. This service uses the A47.

Table 4-1 West Winch Bus Services

Service	Route	Operator	Frequency
32	Mileham to King’s Lynn (North Runcton, Swaffham and Castle Acre)	Go to Town	3 per day (1 per day during school holidays)
37	King’s Lynn to Southery/Ten Mile Bank (Via Downham Market/Occasionally via Watlington)	Lynx Buses	1 per hour (1 per day via Watlington)

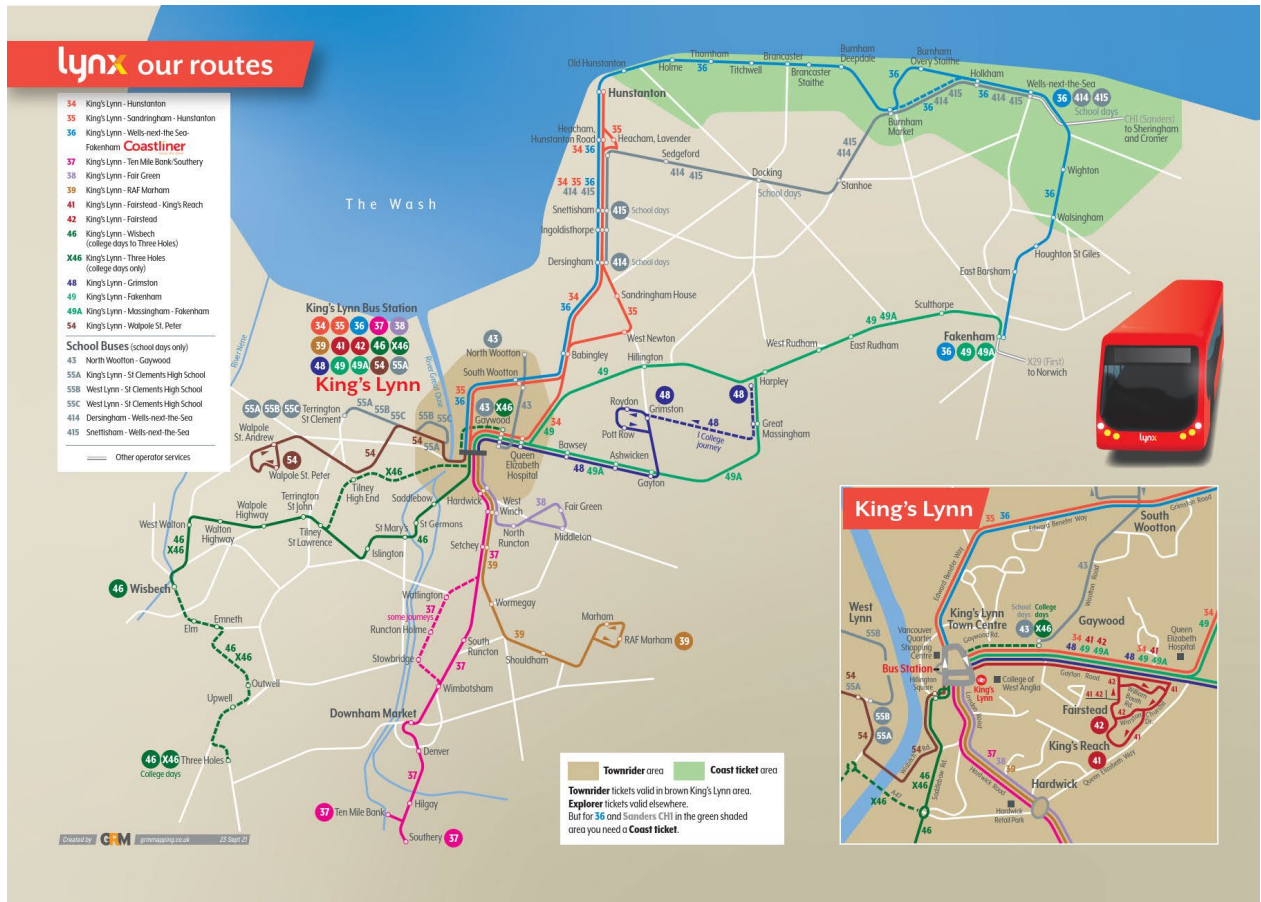


Service	Route	Operator	Frequency
38	King's Lynn to Fair Green (Via West Winch and North Runcton)	Lynx Buses	2 per day
39	King's Lynn to Upper Marham (Via West Winch, Tottenhill and Shouldham)	Lynx Buses	1 per 2 hours
40	King's Lynn to Thetford (Via West Winch, Downham Market and Brandon)	Coach Services	1 per hour (Only 5 per day on school holidays)

4.4.5 These services show there are semi-regular services into King's Lynn, Downham Market and along with several villages south on the A10. There are also less frequent services to other villages such as Fair Green, Middleton, Marham, and Watlington as well as towns such as Thetford, Swaffham, and Brandon.



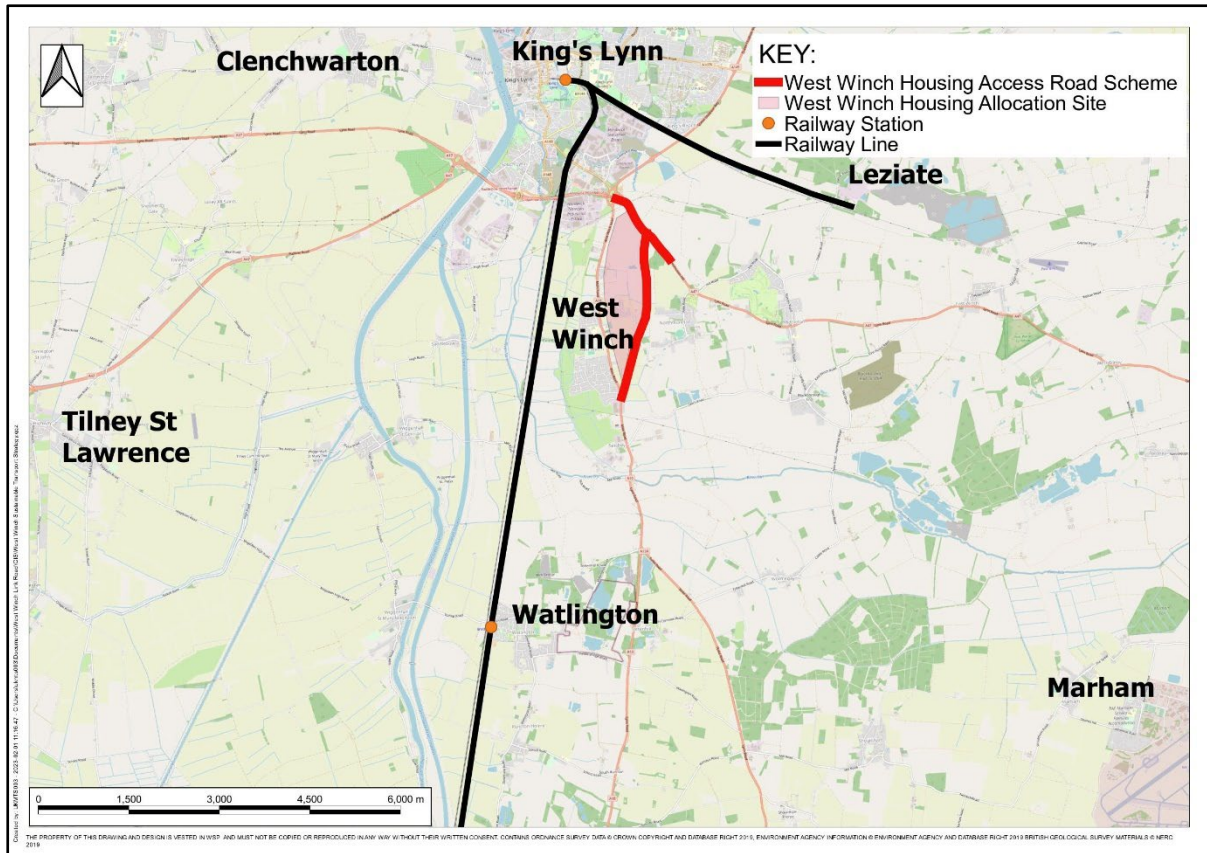
Figure 4-6 Lynx Buses King's Lynn Area Bus Routes



4.4.6 There are bus stops located on the radial routes into King's Lynn. Within West Winch there are bus stops along the A10, Rectory Lane and the A47. These are within walking distance from a small catchment of residential dwellings. There is limited pedestrian access to some bus stops, so access on foot from some hamlets and rural villages is less viable. Bus stops within close proximity of the study area and bus routes are shown in Figure 4-7.



Figure 4-8 Railways and Rail Stations



- 4.5.2 There are no direct railway services to the development site study area. The nearest railway is the Fen Line to the West of West Winch. The other rail line to the north of West Winch is freight-only line serving the quarry.
- 4.5.3 The nearest railway stations to the study area are tabulated in Table 4-2 below. Please note the distance and time starting points refer to the centre of Rectory Road.



Table 4-2 Railways Stations

Railway Station	Distance (KM)	Time to Cycle (Mins)	Facilities
King's Lynn	5.6	18	<ul style="list-style-type: none"> • 104 Bicycle Parking spaces • Station Car Park – 134 vehicle capacity • Bus service • Taxi Rank
Watlington	8	24	<ul style="list-style-type: none"> • 30 Bicycle Parking spaces • Station Car Park – 42 vehicle capacity • Bus service

4.5.4 Rail Services at these stations are summarised in Table 4-3 below.

Table 4-3 King's Lynn and Watlington Rail Services

Rail Station	Rail Service	Operator	Frequency
King's Lynn	King's Lynn to London Liverpool Street	Great Anglia	Once AM Daily
King's Lynn	King's Lynn to King's Cross	Great Northern	Hourly
Watlington	King's Lynn to London Liverpool Street	Great Anglia	Once AM Daily
Watlington	King's Lynn to King's Cross	Great Northern	Hourly



- 4.5.5 In terms of access to the stations from the West Winch area, there is a good bus service along the A10 to and from King's Lynn Station with a service every 15 minutes during the day via the 37, 39 and 40 bus services. The 38 service also offers a public transport option to King's Lynn Station in the morning and a return service in the evening.
- 4.5.6 The 37 service provides an occasional service to Watlington Station from West Winch.
- 4.5.7 In terms of cycling access to the rail stations, there is a shared path along the A10 and A149 north towards King's Lynn Rail Station and southwards towards Watlington. The second half of the route to Watlington Station requires cyclists to use the main carriageway as there is no segregated cycle route.
- 4.5.8 Pedestrians have not been considered in detail to the railway stations as a journey on foot would take over half an hour.

4.6 Personal Injury Collisions Overview

- 4.6.1 Personal injury collision (PIC) data for the A10 and A47 within the scheme extents (West Winch) has been provided and reviewed.
- 4.6.2 The data covers for the five-year period between 01 October 2015 to 30 September 2020 and indicates that there have been 89 collisions, (1 fatal, 17 serious, 71 slight) resulting in 131 casualties. These are tabulated below in Table 4-4 and Table 4-5. *Please note 2015 and 2020 are partial years. Figure 4-9 shows the location of these collisions.



Table 4-4 Accident Severity by Year

Severity	2015*	2016	2017	2018	2019	2020*	Total
Fatal	0	0	0	1	0	0	1
Serious	0	2	4	5	1	5	17
Slight	1	18	16	8	16	12	71
Total	1	20	20	14	17	17	89

Table 4-5 Casualty Severity by Year

Severity	2015*	2016	2017	2018	2019	2020*	Total
Fatal	0	0	0	2	0	0	2
Serious	0	3	4	6	1	5	19
Slight	1	23	30	15	25	16	110
Total	1	26	34	23	26	21	131

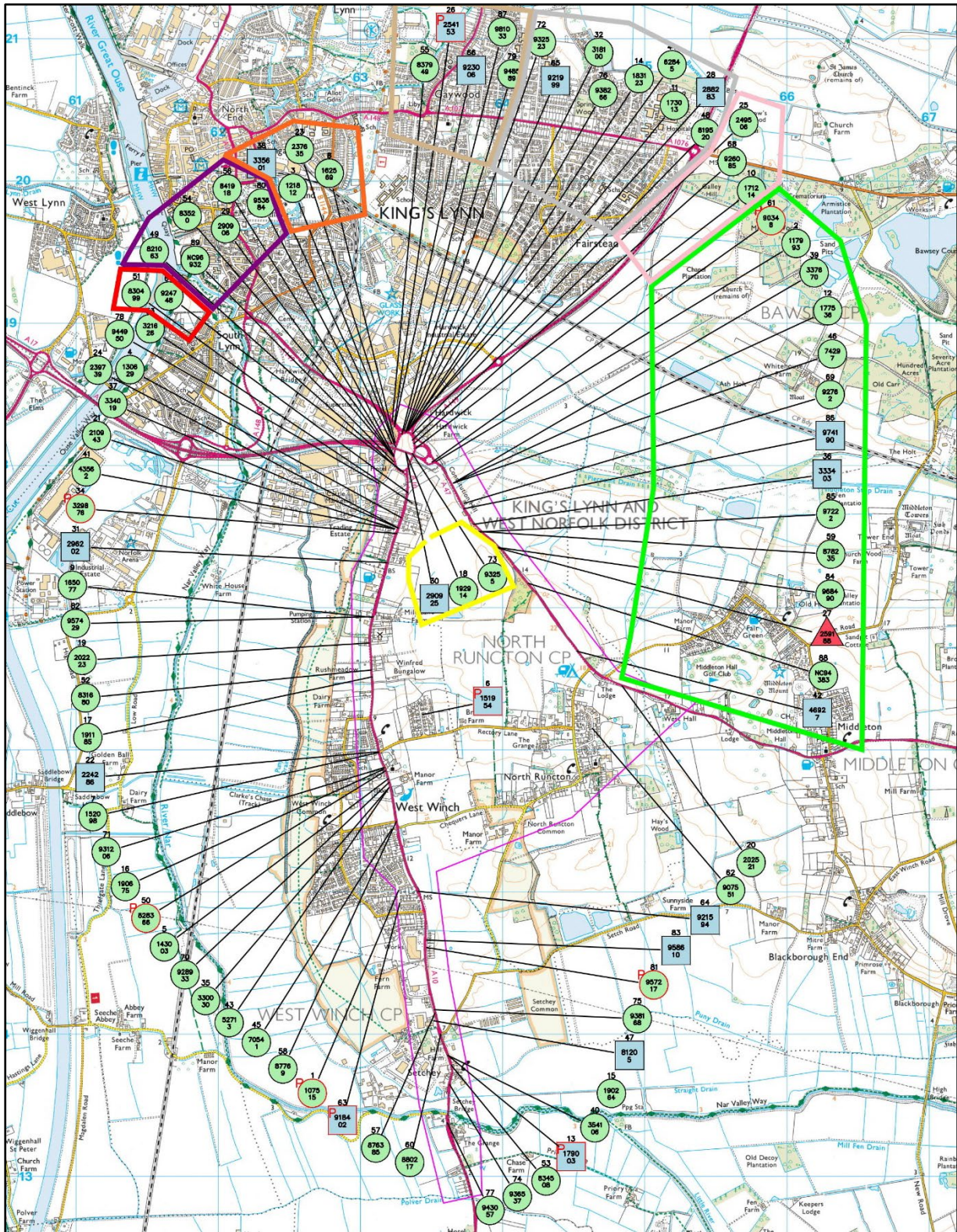
4.6.3 As seen in Table 4-4 above, the highest number of accidents occurred in both 2016 and 2017 with 20 total collisions. The lowest number of collisions for a full year occurred in 2018 with 14 total collisions. The highest number of Killed or Seriously Injured (KSI) occurred in 2018 with six, of which one was fatal and five were serious. The highest number of slight collisions occurred in 2016 with 18.

4.6.4 In terms of casualties, as shown in Table 4-5, 2017 had the highest total with 34. 2018 had the lowest number of casualties of the years with a full dataset. However, 2018 had the highest number of KSI collisions with two fatalities and six serious casualties. There were two child KSI collisions over the period with one occurring in 2016 and one in 2017.

4.6.5 As seen in the figure above, most of the collisions in the area occurred on the A10, at the Hardwick Roundabout and along the A47.



Figure 4-9 5-Year Collision Data 2015-2020





4.7 Non-motorised User Personal Injury Collisions

4.7.1 An analysis of the collision data provided indicates that there were 11 collisions within the study area that involved pedestrians or cyclists. Of these:

- Three collisions occurred within West Winch residential roads.
 - One involved a child pedestrian stepping out into the path of a vehicle – slight injury.
 - One occurred within a car parking area and involved a child alighting a parked vehicle – serious injury.
 - One involved a vehicle turning into a junction and striking an elderly pedestrian crossing the road – serious injury.
- The remaining eight collisions are summarised as:
 - A10 – pedestrian stepped out in front of a northbound Goods Vehicle – serious injury.
 - Hardwick Interchange roundabout junction with Scania Way – pedestrian crossed away from signalised facility – serious injury.
 - A10 – pedestrian alighted a bus and proceeded to cross in front of it without looking into the path of a southbound car – slight injury.
 - A10 – pedestrian using the signalised crossing crossed whilst on green and was struck by northbound car – slight injury.
 - A47 – driver in the process of vehicular breakdown recovery ran over the passenger. No other vehicles involved – slight injury.
 - A10 – single pedestrian, no other vehicles involved, no injuries, no evidence of RTC – recorded as slight injury.
 - A10 – a vehicle exiting a driveway has collided with a cyclist on the footway – slight injury.



- A10 – a cyclist came off the adjacent kerb into the carriageway, went over the handlebars and landed in the carriageway. No other vehicle involved. Possible medical episode – serious injury

4.7.2 No collision records made mention of the involvement of horses or equestrians.



5 Development of Options

5.1 Sustainable Transport Strategy Options Long List

5.1.1 Options for improvements to support the WWHAR and national and regional policies have been developed to support delivery of the WWHAR by providing a range of active and sustainable travel choices.

5.1.2 There was a particular focus on scheme fit with the climate agenda, sustainable transport objectives and wider policy as set out earlier.

5.1.3 The option-generating process has included a review of historic schemes along with the development of new options. The main sources of information used for this were:

- Previous studies and reports; including the King's Lynn LCWIP;
- Liaison with the Norfolk County Council client team;
- WCHAR undertaken as part of project
- Internal design workshops and a client optioneering workshop;
- Stakeholder engagement workshop; and
- Internal project team discussions.

5.1.4 The option-generating process has included a review of historic schemes along with the development of new options. A range of options for improvement to the West Winch area have been identified and collated into a 'long-list'. The schemes have been broken down into the following categories:

- Active Travel
- Bus Improvement
- Traffic Calming
- Mixed-Use
- Rail Improvement



- Micro-mobility (E-bikes and E-scooter schemes such as Beryl Bikes etc)

5.1.5 **Appendix 2** (Document Reference **NCC/4.02.02/WWHAR**) provides a summary of the long-list options generated.

5.1.6 The measures identified include targeted support to encourage travel behaviour change and sustainable travel. These promote active mode and bus priority improvements with the aim to provide solutions that are future-proof in terms of our changing travel behaviours and seeking to address climate change where possible through more sustainable travel and the use of technology.

5.1.7 The long-list generation process does not consider whether there are existing collision patterns that would support the scheme, or consider cost, land constraints or likely demand. These factors have been considered as part of the initial sift described in the following section of this report.

5.1.8 The long listed interventions are broken-down in Table 5-1.

Table 5-1 Long-list intervention breakdown

Intervention Type / Sub-type	No. Interventions
Active Travel	40
Bike Storage	2
Junction Improvement	1
New NMU Crossing	6
New NMU Route	19
Upgraded Footway	4
Upgraded NMU Crossing	1
Upgraded NMU Route	6
Signage/information	1
Bus Improvement	13
Bus Priority	4



Intervention Type / Sub-type	No. Interventions
Bus Service Improvement	6
Bus Service Improvement & New Bus Stops	1
Park and Ride	1
Bus Stop Improvement	1
Micromobility	2
Micromobility charging	1
Micromobility policy	1
Mixed-Use	3
Mobility Hub	2
New dedicated Bus and Segregated Cycleway	1
Rail Improvement	2
New Rail Station	1
Rail Service Improvement	1
Traffic Calming	6
Bus Layby Removal	1
Mixed Traffic Calming	1
Modal Filter	1
Speed Limit Reduction	3
Total	66

5.2 Bus Service Viability – New Services

5.2.1 A high-level assessment of the viability of new bus services at West Winch has been undertaken.

5.2.2 The assessment is based on census journey to work data, anticipated future use of the bus, development build-out rates and new routes being provided. A summary of the assumptions is shown below:



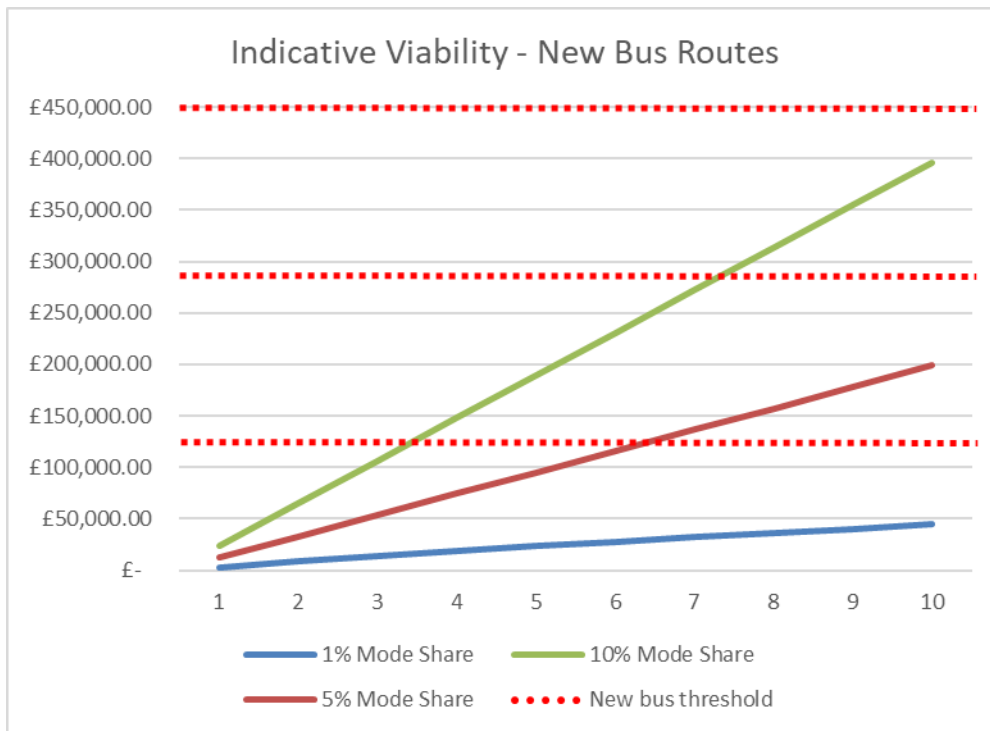
- 946 existing dwellings, 4,000 proposed within the allocated site
- Construction starting in 2026, estimated 10 year buildout, 400 dwellings per year
- Residential Daily Trip Rate (Person): 4.087
- Existing Bus Mode Share (2011 Census): 1%
- Return Ticket Price: £3.90
- Annual Cost (Per New Bus): £150,000.00

5.2.3 For the purpose of this assessment, three levels of anticipated bus mode share for the new development have been tested, 1% based on the existing census data, 5% reflecting a slight change in mode shift and 10% reflecting a greater mode shift.

5.2.4 The outcomes of the assessment are shown in Figure 5-1.



Figure 5-1: Indicative Bus New Service Viability



5.2.5 Based on the assumptions set out, a new route requiring a single bus is likely to require a subsidy well beyond the development build-out period if the existing modal split of 1% bus use is retained.

5.2.6 If modal shift was achieved to a 5% mode share for buses, a route with a single new bus is estimated to be profitable from year 6 of the development build out.

5.2.7 If modal share was increased to 10%, a single bus service would be profitable from year three and a two bus service from year seven.

5.2.8 Based on the above, a phased roll out of a new, high-frequency bus route between West Winch and King's Lynn could operate initially with a single bus, increasing to two buses or more as the development builds out.

5.3 Sustainable Transport Strategy Options Short-Listing

5.3.1 Following the long listing, all schemes were assessed using a scoring mechanism called Multi-Criteria Assessment Framework (MCAF), to help identify the schemes to be developed and assessed further.



5.3.2 The MCAF process assesses each of the shortlisted options against a number of criteria. This criterion was decided upon based on the STS objectives, current transport trends as well as discussions between the project team. These are outlined below:

- Scale of impact
- Fit with climate agenda
- Fit with Sustainable Transport Objectives
- Supporting housing/employment growth
- Improving connectivity to public transport
- Improving connectivity to active travel network
- Improving connectivity to local services
- Reducing Severance across the A10
- Encouraging modal shift
- Reducing motor vehicle demand on the existing A10
- Improved safety for NMUs
- Delivery timescale
- Public acceptability
- Deliverability
- Affordability
- Flexibility of option

5.3.3 Each criterion was assessed using a 5 point scale, ranging from 1 to 5 dependent on a negative or positive impact. All criteria were weighted equally.



- 5.3.4 The outcomes of the assessment are summarised in Table 5-2 and included in full in **Appendix 2** (Document Reference **NCC/4.02.02/WWHAR**) with the breakdown of the scores by criteria.
- 5.3.5 A total of 26 interventions to be taken forward following the MCAF exercise, equates to 15 active travel interventions, seven bus related interventions, three were traffic calming interventions and one mixed-use/multi-mode intervention. These form the basis of the options for the Sustainable Transport Strategy.

Table 5-2 Shortlisted Schemes – Based on MCAF Top 20 schemes – Refer to Appendix 2 for complete MCAF

Ref. No.	Intervention Type	Intervention Sub-type	Location	Description	Score	Rank
Ref.1	Active Travel	New NMU Crossing	Online	New Crossing points on raised tables (with 2m long ramps and 24m length raised table) with signalised crossings toucan on the A10	65	1
Ref.22	Active Travel	Upgraded NMU Crossing	Online	Raised Table and Toucan crossing at West Winch Stores (with 2m long ramps and 24m length raised table)	63	2
Ref.38	Bus Improvement	Bus Service Improvement & New Bus Stops	Offline	Re-routing of existing bus services to serve the new development including new bus stops	61	3
Ref.2	Active Travel	New NMU Route	Offline	Northern NMU connection to Hardwick via residential site behind existing housing connecting to layby and A10 arm of the junction crossing point	60	4
Ref.36	Active Travel	Upgraded NMU Route	Online	Upgrades to FP1 / RB2 including paving and widening to support cyclists	60	4
Ref.23	Traffic Calming	Mixed Traffic Calming	Online	Traffic Calming on the A10 - speed bumps, build outs, speed cushions, raised tables	59	6
Ref.25	Active Travel	New NMU Route	Online	Crossings and NMU Routes on the Southern WWHAR including connection to new school to the south west of West Winch	59	6

Ref. No.	Intervention Type	Intervention Sub-type	Location	Description	Score	Rank
Ref.3	Active Travel	New NMU Route	Offline	Northern NMU connection to Hardwick via residential site behind existing housing connecting to LCWIP route to tunnel under A47 and west to New A149 north arm junction crossing point to Hardwick Ind estate north of Hardwick Road.	59	6
Ref.34	Active Travel	Upgraded NMU Route	Online	Upgrades to FP1 / FP2 / RB2 including paving and widening to support cyclists	59	6
Ref.4	Active Travel	Upgraded NMU Route	Online	East side widening of A10 for a 3 metre NMU path	59	6
Ref.52	Traffic Calming	Speed Limit Reduction	Online	A10 speed limit reduction	58	11
Ref.39	Bus Improvement	Bus Service Improvement	Online	New fast bus services to King's Lynn / Watlington	57	12
Ref.44	Bus Improvement	Bus Stop Improvement	Online	Bus stop upgrades - shelters, real-time information, raised kerbs	57	12
Ref.5	Active Travel	Upgraded NMU Route	Online	West side widening of A10 for a 3 metre NMU path	57	12
Ref.64	Mixed-Use	Mobility Hub	Offline	Mobility hub close to Chapel Lane / heart of West Winch and West Winch Stores, served by bus services, amenities, bike storage facilities and micromobility charging	57	12
Ref.16	Active Travel	New NMU Route	Online	NMU route between A10 and WWHAR via Rectory Lane	56	16

Ref. No.	Intervention Type	Intervention Sub-type	Location	Description	Score	Rank
Ref.24	Active Travel	New NMU Route	Offline	West Winch Future Corridor - NMU route in the LCWIP from West Winch to Fairstead via tunnel under A47	56	16
Ref.40	Bus Improvement	Bus Service Improvement	Online	Changes to existing service patterns – more evening & weekend services	56	16
Ref.41	Bus Improvement	Bus Service Improvement	Online	Increased 7am-7pm frequency on existing services	56	16
Ref.26	Active Travel	New NMU Route	Offline	Northern NMU connection to Hardwick via a new route behind Hunters Rise and Willow Drive and the A10	55	20
Ref.30	Active Travel	New NMU Route	Online	NMU Route Between Oakwood Corner Roundabout and Watlington Railway Station	55	20
Ref.33	Active Travel	Upgraded Footway	Online	Upgrades to FP1 / FP2 / RB2 with paving to support more pedestrians	55	20
Ref.37	Bus Improvement	Bus Priority	Online	Bus priority on the approach to Hardwick Roundabout from A10 and Hardwick Road	55	20
Ref.43	Traffic Calming	Bus Layby Removal	Online	Convert stops in bus laybys to in-carriageway stops on A10	55	20



6 Sustainable Transport Strategy Engagement

6.1 Engagement Activities and Key Stakeholders

6.1.1 Stakeholder and local user group engagement has been a core element of the WWHAR project from conception, allowing for local residents, other interested parties, and professionals to comment on proposals and provide local insights. Stakeholder engagement was also undertaken specifically relating to the development of this STS.

6.1.2 The engagement timeline is shown in Table 6-1.

Table 6-1 Public and Stakeholder Engagement Timeline

Date	Activity
July – August 2021	WCHAR Liaison with Key Stakeholders
August 2022 – September 2022	Public consultation on West Winch Growth Area Framework Masterplan SPD
November 2022 – January 2023	Public Consultation for West Winch Housing Access Road
March 2023	STS stakeholder workshop completed

6.1.3 Additional meetings have also been held with parish councils, organisations, local user groups National Highways and NCC to discuss additional topics, outside of the planned events above.

6.2 Public Consultation Feedback

6.2.1 The public consultation carried out by Norfolk County Council in late 2022 to early 2023 on the WWHAR proposals sought feedback on the proposals for the road and also included opportunities for local residents to have their say on active travel and public transport opportunities. For further details of

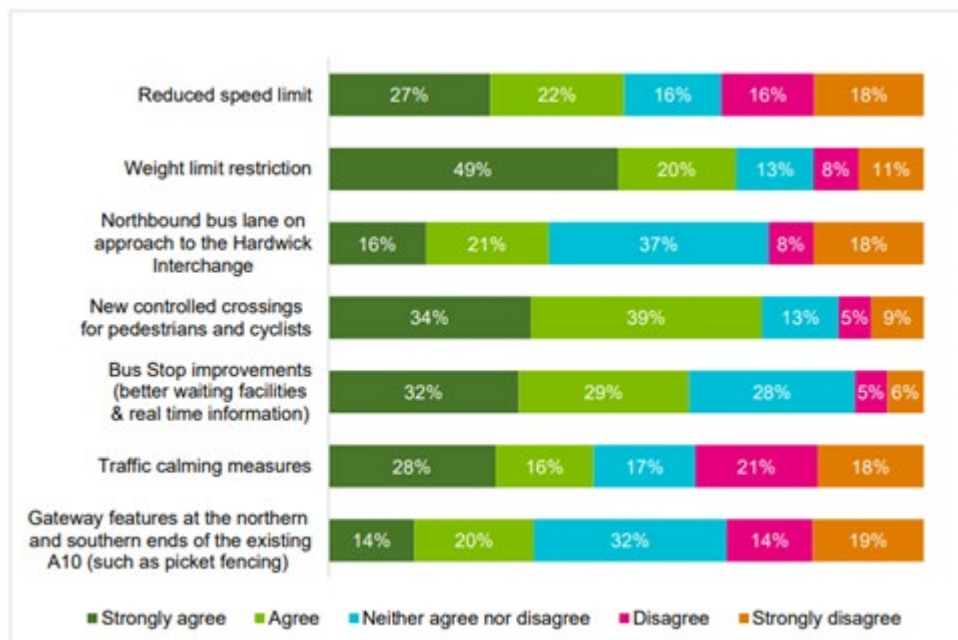


consultation carried out please refer to the **Statement of Community Involvement** (Document Reference **NCC/1.03.00/WWHAR**).

6.2.2 Question 10 asked ‘To what extent to you agree or disagree with the following potential types of measures to improve the existing A10 through West Winch and encourage traffic to use the access road?’

6.2.3 A total of 147 respondents answered this question, with a high proportion, 73% (107 respondents) agreeing with new controlled crossings for pedestrians and cyclists (34%, 50 respondents strongly agreed and 39%, 57 respondents agreed), closely followed by weight limit restrictions (49%, 71 respondents strongly agreed and 20%, 29 respondents agreed). On the other hand, 39% of respondents (56 respondents) disagreed with introducing traffic calming measures (21%, 30 respondents disagreed and 18%, 26 respondents strongly disagreed). Figure 5-1 below shows the results.

Figure 6-1: Extent of Agreement with Potential Changes to the Existing A10



Base: all those who provided a response (N: 147)

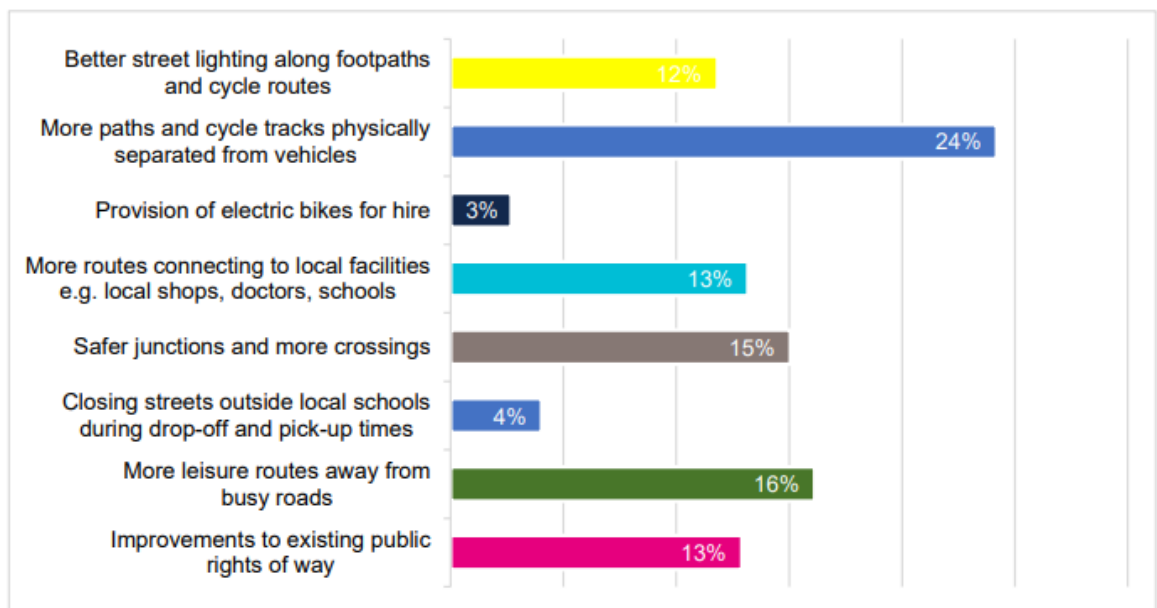
6.2.4 Question 11 asked ‘Thinking about your travel habits, what forms of transport do you currently use when travelling in the local area?’. Respondents were able to select all that applied. The highest number of responses was received



for car as a driver (547 responses), with respondents indicating they use the car for all activities when travelling in the local area (20%, 107 respondents for leisure; 19%, 105 respondents for food shopping). This was followed by car as a passenger (282 responses). The lowest number of responses was received for taxi (27 responses). The analysis of respondents' travel habits indicates high car usage and low usages of public transport.

6.2.5 Question 12 asked 'Please select the top three factors that would encourage you to cycle or walk more in general'. A total of 372 responses were received for this question, with respondents indicating that more paths and cycle tracks physically separated from vehicles would be the most important factor that would encourage them to cycle or walk more (24%, 90 responses). This was followed by more leisure routes away from busy roads (16%, 60 responses) and safer junctions and more crossings (15%, 56 responses). The least important factors were the provision of electric bikes for hire (3%, 10 responses) and closing streets outside local schools during drop-off and pick-up times (4%, 15 responses). The results are shown in Figure 5-2 below.

Figure 6-2: Factors that would Encourage People to Walk or Cycle More



Base: all responses received (N: 372)



- 6.2.6 Question 13 asked ‘We are proposing to include a walking and cycling link parallel with the access road to ensure there is a high-quality connection between the new and existing communities. To what extent do you agree or disagree with this proposal?’ A total of 148 respondents answered this question. More than half of respondents (62%, 89 respondents) stated that they supported to some extent the proposed walking and cycling link parallel to the access road (30%, 43 respondents strongly agreed and 32%, 46 respondents agreed) whilst 13% disagreed to some extent (3%, 5 respondents disagreed and 10%, 14 respondents strongly disagreed).
- 6.2.7 Question 14 asked ‘There are existing walking and cycling facilities around the western edge of the Hardwick junction, that connect West Winch to the Hardwick Road and the centre of King’s Lynn. We would like your views on these facilities to inform wider transport measures and opportunities. Have you used these routes as a pedestrian or cyclist?’ A total of 145 respondents answered this question, with more than half, 56% (81 respondents) advising that they had not used the walking or cycling routes and 44% (64 respondents) advising that they had.
- 6.2.8 Question 15 asked ‘If yes, what would improve the existing pedestrian and cycle route around the western edge of the roundabout?’. Respondents were able to select all that applied. A total of 185 responses were received for this question. The top three options respondents chose included better separation from traffic movements (24%, 45 responses), a more direct pedestrian and cycle route to Hardwick Road (21%, 38 responses) and wider cycle and pedestrian paths (20%, 37 responses). For those who chose other, the most common response received was for better priority at crossings for pedestrians and cyclists; other responses included the need for better surfaces and maintenance.
- 6.2.9 Question 16 asked ‘If no, why not?’. A total of 114 responses were received for this question, with the highest proportion of responses (41%, 31 responses) indicating that it does not feel safe.



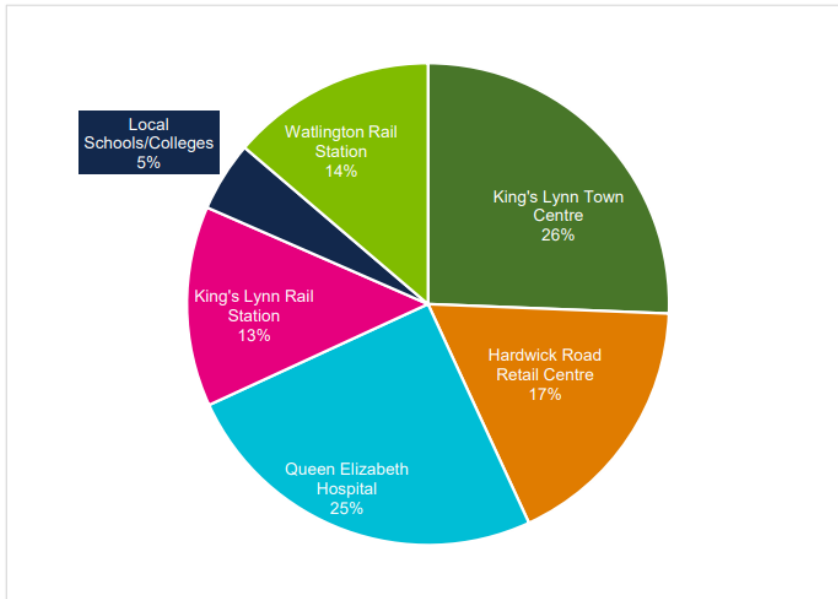
6.2.10 Question 17 asked respondents for any other comments related to walking and cycling in the local area. A total of 73 respondents provided their comments, which resulted in a total of 97 coded comments. Respondents used the opportunity to voice their concerns over the existing and proposed safety of those cycling and walking in the area (30%, 29 mentions). Some respondents provided suggestions for the active travel proposals, including locations for new pedestrian crossings, how to improve existing routes in the area as well as improvements such as lighting (26%, 25 mentions). Some respondents stated that they had no further comments (13%, 13 mentions). Other respondents requested that the designs were reconsidered (7%, 7 mentions) whilst other opposed the proposed active travel plans (6%, 6 mentions).

6.2.11 Question 18 asked 'Please select the top three measures that would encourage you to use public transport more'. A total of 307 responses were received for this question. The most popular option chosen was for more frequent buses (24%, 75 responses), followed by more services running later in the evening (19% 58 responses) and more services running earlier in the morning (15%, 45 responses).

6.2.12 Question 19 asked 'Which of the following local destinations would you like to be able to access by bus?'. Respondents were told to tick their top three local destinations. A total of 320 responses were received for this question. King's Lynn Town Centre and Queen Elizabeth Hospital were the top local destinations that respondents would like to be able to access by bus (26%, 82 responses and 25%, 80 responses), followed by Hardwick Road Retail Centre (18%, 56 responses). Figure 5-3 summarises the results.



Figure 6-3: Key Destinations Which People Would Like to Access by Bus



Base: all responses received (N: 320)

6.3 STS Stakeholder Workshop

6.3.1 An online workshop was held with local transport stakeholders on 24 March 2023 14:00-15:30 relevant to the West Winch Housing Access Road Sustainable Transport Strategy. Invitees to the workshop included representatives of:

- Norfolk County Council officers
- King's Lynn and West Norfolk Borough Council officers
- National Highways
- Norfolk Ramblers
- Sustrans
- Local Access Forum
- Royal National Institution for the Blind
- Pathmakers
- British Carriage Drivers Society



- British Horse Society
- U3A

6.3.2 The aim of this workshop was to provide a forum for stakeholders to voice issues and opportunities associated with sustainable transport for the West Winch Housing Access Road. This was to gain an understanding of the issues and challenges for sustainable travel in the area local to West Winch and with the proposed development.

6.3.3 Attendees were asked to provide feedback on current conditions, future opportunities, and options for enhancement. A total of 16 interactive questions were asked however one question was removed due to time constraints during the event.

6.3.4 A summary of the outcomes from the engagement is included below. Actual responses/comments from the engagement are included in **Appendix 1** (Document Reference **NCC/4.02.01/WWHAR**).

6.3.5 Stakeholder feedback identified that the existing issues and barriers to active and sustainable transport choices are the lack of active travel facilities, severance caused by large traffic volumes, the need for higher frequency and better timings offering bus services, affordability, and perceived car domination of travel.

6.3.6 Going forward, stakeholders highlighted several key themes which could improve sustainable travel in West Winch. These themes include better active travel facilities, new links to key services and destinations, reduced traffic volumes on the A10 and reduced A10 speed limits. New key destinations for sustainable travel were noted as schools, hospitals, leisure facilities and employment sites to the north.

6.3.7 The stakeholder responses indicated that the identified NMU routes/proposals were appropriate and aligned with the safety, comfort, and coherency objectives for NMU routes. Directness was identified as being the worst fit,



this was anticipated due to the limited scope to provide safe and accessible routes on the existing A10.

6.4 National Highways

6.4.1 As part of the WWHAR scheme includes changes to the A47, there has been ongoing discussion with National Highways (NH) via monthly meetings with NH and through Transport Assessment scoping discussions. Active travel was added to the agenda for these monthly meetings and NH representatives were invited to the stakeholder workshop which was carried out to help shape the development of this STS.

6.5 Active Travel England

6.5.1 From June 2023, Active Travel England became a statutory consultee for major planning applications. The STS document was reviewed by Active Travel England (ATE) in Autumn 2023 and the proposals were discussed with representatives from ATE and DfT (Department for Transport) in November 2023. Comments received from Active Travel England focussed on the form and locations of Non-Motorised User crossings on A10 and at Chequers Lane, plus dimensions of shared use provision.

6.6 WCHAR – Walking Cycling and Horse Riding Assessment

6.6.1 In accordance with the DMRB guidance GG142, a draft WCHAR assessment report was produced at an early stage in the design to review existing provision and identify gaps in the local network around the scheme. This identified opportunities for enhancement of connectivity and accessibility for non-car users. The WCHAR has been used to inform the development of this STS and the measures considered as set out above.

6.6.2 The original WCHAR report version was produced during COVID-19 pandemic when UK Government travel restrictions were in place, so any surveys carried out at that time may have been unrepresentative. The WCHAR Assessment Report is therefore currently being updated with new Non-Motorised User survey data captured in 2023.



7 Non Motorised User Strategy (NMUs)

7.1 Developing the Strategy

7.1.1 The intention of the STS is to offer increased opportunities for walking, cycling and horse riding in the immediate vicinity of the WWHAR route, as well as improving connectivity of existing Public Rights of Way and encouraging healthy and active travel by non-car modes, particularly for shorter trips of 2km and below.

7.1.2 This strategy has been developed based on existing policy/guidance, engagement with local communities and stakeholders, and opportunities identified through work completed to date. These have been used to frame the Guiding Principles set out in Section 7.2.

7.1.3 The Option Development process identified a shortlist of opportunities for improving connectivity and quality of existing Public Rights of Way in the vicinity of the scheme. The current provision is fragmented and does not function as a coherent network.

7.1.4 The STS aims to connect up existing routes, make them more usable through infrastructure enhancements and mitigate potential severance issues caused by the provision the new WWHAR.

7.2 Guiding Principles – NMUs

7.2.1 Through previous engagement, examination of policy and the use of appropriate design standards/guidance, a set of guiding principles were developed to guide the development of the NMU proposals. These were:

- Aim to retain and enhance PROWs where possible;
- Diversion routes to be kept at a reasonable length and development in accordance with the DfT guidance [CD143];
- Seek to improve surfacing and accessibility, especially for wheelchair users where possible aligned with Sustrans and British Horse Society guidance. Where possible the Sustrans Traffic-free routes and



greenways design guidance (November 2019) should be used to inform design for shared-used cyclists, pedestrian, and equestrian facilities;

- Avoid or minimise disturbance to adjacent landowners and farm operations;
- Proposed maintenance tracks can be utilised as new links between PROWs and local roads;
- Around the Hardwick roundabout, the design and development of NMU routes should be coordinated with National Highways to create a joined-up strategy;
- Landscaping proposals will consider security of footpath users, particularly in remote rural areas, promoting enjoyment of routes where possible with appropriate landscape mitigation where routes pass close to noisy edges of the project, A47 or A10 routes; and
- Wayfinding and signage should be provided in accordance with Sustrans guidance.
- Any lighting proposed would need to be minimised to comply with the NCC Dark Skies policy applicable to the local area. Lighting is only installed in Norfolk where necessary in the interests of highway safety and general street lights are typically switched off in the early hours when in low utilisation to save energy.

7.3 Proposed NMU Opportunities

7.3.1 The proposed Strategy includes a mix of active travel infrastructure improvements in order to improve active travel network connectivity and to provide improved crossings across the A10 and across the new scheme. It is also aimed to enable the PROW network to be preserved and enhanced as part of the scheme.



7.3.2 The proposed NMU routes are shown in **Appendix 4** (Document Reference **NCC/4.02.04/WWHAR**) and set out in more detail below.

Opportunity 1: New Raised Table and Crossing Near West Winch Stores

7.3.3 Improved signalised crossing facilities on the existing A10 close to West Winch Stores. An improved crossing across the A10 would allow for better access to the West Winch Stores between the existing homes and proposed development on the east side of West Winch and the existing facilities, services, and residential areas in the west.

7.3.4 A raised table (an elevated crossing point at the same height as the footway) may also help to encourage lower speeds and encourage through-traffic to re-route via the WWHAR rather than using the existing A10, reducing demand and the perceived severance between both sides of the A10. The raised table would also help to encourage lower speeds and support the implementation of a 20mph speed limit through this section. This could be positioned slightly north of the West Winch stores away from dwellings to avoid vibration effects. Desire lines from surveys carried out in summer 2023 indicate that this would still intercept the majority of trips seeking to cross in this location. Desire Lines are shown in **Appendix 3** (Document Reference **NCC/4.02.03/WWHAR**).

Opportunity 1A: New Raised Table and Crossing Close to West Winch Stores

7.3.5 Due to concerns with the deliverability and suitability of Option 1, an alternative opportunity has been identified, where new crossing facilities and a raised table across the A10 are proposed close to West Winch Stores.

7.3.6 The improved crossing across the A10 would allow for better access to the West Winch Stores between the existing homes and proposed development on the east side of West Winch and the existing facilities, services, and residential areas in the west. The raised tables may also help to encourage lower speeds and encourage through-traffic to re-route via the WWHAR rather than using the existing A10, reducing demand and the perceived severance between both sides of the A10.



7.3.7 The raised table would also help to encourage lower speeds and support the implementation of a 20mph speed limit through this section.

Opportunity 2: A10 Raised Tables and Crossing Facilities

7.3.8 Additional controlled and uncontrolled crossing facilities are proposed along the existing A10. Raised tables could be considered at all controlled crossing points.

7.3.9 New crossing facilities would help to improve pedestrian and cycle accessibility across the A10 and connect local services and residential areas along the existing A10 between Hardwick Roundabout and the WWHAR. During stakeholder events and previous public consultation, traffic speeds and volume on the existing A10, limited NMU segregation from traffic and safety concerns have been identified as barriers to active travel.

7.3.10 The proposed crossings have been located at/close to existing PRowS and proposed West Winch development site accesses. The increased number of crossings and raised tables would also help to encourage lower speeds on the existing A10.

Opportunity 3: Shared Use Route along the WWHAR

7.3.11 It is proposed to provide a pedestrian and cycle route alongside the proposed WWHAR route. This would provide a more direct route away from the development area where crossing and junction conflicts between vehicles and pedestrians/cyclists are reduced. The shared route would connect with the existing route on the A10 in the south, Chequers Lane and Rectory Lane via Opportunity 6.

7.3.12 The connection to Chequers Lane would also improve connectivity between West Winch, King's Lynn and North Runcton.

Opportunity 4: New Non-Motorised User Route to Hardwick Industrial Estate

7.3.13 Analysis of existing routes and connections in the wider area, has highlighted there is no direct connection between West Winch and the Hardwick Industrial Estate. NMUs are required to continue up to Hardwick Roundabout, cross and



use the northern footway on Beveridge Way. Cyclists have to cycle on the Beveridge Way carriageway.

7.3.14 There is an opportunity to provide a more direct NMU route from West Winch to Hardwick Industrial Estate by undertaking improvements to the PRow's that run parallel to the A10 such as FP1, RB2 and FP2. These routes are currently hard to follow, have poor signage, are subject to flooding, and often have locked gates prevented movement.

7.3.15 An alternative route could be provided between the A10 in West Winch and Hardwick Industrial Estate via the existing route opposite Babingley Place, to the rear of properties connecting with Hardwick Narrows.

7.3.16 Improved connectivity could also be provided along the southern side of Beveridge Way, where there is no existing provision.

7.3.17 These opportunities would provide a connection between the large employment area to the west and a number of local services and the existing residential areas as well as the proposed new developments east of A10.

Opportunity 5: New Non-Motorised User Routes between West Winch Development and the A10

7.3.18 The proposed development at West Winch, particularly to the east of the A10 provides an opportunity to provide new, segregated links for walkers and wheelers between the main development areas and the existing crossing facilities and routes to local services.

7.3.19 Based on the current development masterplan, a number of opportunities have been identified to fill in the gaps in the routes proposed as part of the development. These are new routes between the northern extent of the development and the existing shared route on the A10, the existing crossings at the Hardwick Roundabout and the proposed crossings identified within the STS.

7.3.20 The potential routes include passing directly across the area to the north-west of the development site, joining the A10 at the existing layby or by passing



behind the existing development on Hunters Rise, joining the A10 opposite Regent Avenue.

Opportunity 6: New NMU Green Links Between Rectory Lane and WWHAR

7.3.21 The proposed WWHAR and adjoining shared use route (Opportunity 3) are anticipated to intersect Rectory Lane and Chequers Lane. At Rectory Lane, an overbridge is proposed to maintain connectivity across the WWHAR.

Crossing facilities connecting with Chequers Lane, for non-motorised users are also proposed.

7.3.22 Based on the current proposals, there is no connection between Rectory Lane and the WWHAR shared route. Connections between the WWHAR shared route and Rectory Lane would enable pedestrians and cyclists to switch between the shared route and the quiet routes that lead into existing and proposed development.

7.3.23 A connection at Rectory Lane would help to provide grade separated connectivity between West Winch and North Runcton, similarly, a crossing facility for NMUs is needed to retain connectivity at Chequers Lane to minimise the need for travel by vehicle.

7.3.24 Improved connectivity between areas of the development and with local services would help encourage greater active travel and help to resolve some of the severance and connectivity issues currently experienced by the local population.

Opportunity 7: Crossings and NMU Routes on the Southern WWHAR

7.3.25 The proposed development in the southern part of West Winch is on both sides of the A10, this includes a new primary school. New crossing facilities and new/improved routes that connect between the proposed development, the existing A10, the proposed WWHAR shared use route and local facilities could be provided. This would provide safe active travel routes between the main West Winch development area, existing residential areas, and local services.



Opportunity 8: Non-Motorised User Connections to Watlington

7.3.26 There is an existing shared surface cycleway/footway along the eastern verge of A10 continuing south of West Winch, passing through Setchey and connecting to the Watlington roundabout. There are at grade crossing facilities at the roundabout enabling NMUs to access Watlington Road but the existing route currently terminates at the north edge of Watlington Road and whilst users can continue on carriageway towards Watlington there is an opportunity for improving the quality of connections to Watlington, the rail station and the NCN11 route on the west side of the village. One option would be to remove traffic in one direction from Watlington Road, allowing roadspace to be reallocated to NMUs.

Opportunity 9: West Winch Mobility Hub

7.3.27 The proposed housing development in the area combined with the existing communities in the area provide an opportunity to provide a mobility hub in the West Winch area. The mobility hub (enhanced bus stop with additional facilities) would incorporate local amenities, such as bike storage facilities, e-scooter hire, bus stop, EV parking, disabled parking bays and micro-mobility charging facilities. This would be located in the centre of the community, close to existing and new residents and crossing facilities as well as West Winch Stores. This would embed micro-mobility and sustainable transport choices at the heart of the community and improve opportunities for local interchange. There is potentially space to achieve this within the existing public highway extents close to the junction of Chapel Lane with A10.

Opportunity 10: Existing A10 Traffic Management

7.3.28 HGVs on the existing A10 were also noted as a concern for local residents in the public consultation feedback. With the new WWHAR in place there is an opportunity to remove HGVs from the village. A weight restriction (except for those accessing destinations within West Winch) is therefore proposed along a section of the existing A10 to minimise HGV movement and improve residential amenity.



7.3.29 A traffic management opportunity has been identified to support the delivery of the NMU and public transport opportunities identified within the STS. This includes reduced speed limits on the A10, including a 20mph speed limit through the core of the village. The purpose of these measures will be to support delivery of the NMU and public transport opportunities in the area, improve safety and encourage strategic / through traffic to use the Highway Access Road rather than the existing A10.

Aspiration 1: New West Winch Active Travel Northern Corridor

7.3.30 The King's Lynn LCWIP identifies a long-term aspirational route to the north of the West Winch development plan. Potential connections to this future route are proposed within the STS given the desire to provide a route.

7.3.31 A segregated active travel route to King's Lynn via the old railway alignment, could be provided. There are a number of opportunities to connect with the LCWIP route, this includes at grade routes around Hardwick Roundabout, or alternative routes across, under or over the A47.

7.3.32 There is also potential for onward connectivity to Hardwick Road employment area and Bawsey Country Park.

7.3.33 These routes would provide traffic-free NMU routes between West Winch and King's Lynn, removing the existing barriers to active travel in the area.

Aspiration 2: West Winch to Nar Valley Way Active Travel Route

7.3.34 The Nar Valley Way is a signed PRow following the River Nar. Improvements to the route to support use by all pedestrian user groups and cyclists could help to provide improved connectivity for all NMUs. The existing route is a high quality surface to the north of the A47 and at Lings Lynn Innovation Centre.

7.3.35 Improved connectivity with and along the Nar Valley Way open up an NMU-only route between West Winch and Southern King's Lynn.



Aspiration 3: New Active Travel Route Between Oakwood Corner Roundabout and Watlington Railway Station

7.3.36 There is an existing shared route alongside the A10 between the Hardwick Roundabout and the Oakwood Corner Roundabout. Signs indicate that the cycle route to Watlington Station continues along Watlington Road. There is no formal provision for cyclists.

7.3.37 A new route or improved/increased signage advising of cyclists using this route could help encourage increased cycling to the railway station. This may help remove some of the barriers to active travel choices when travelling to/from Watlington.

Opportunities Considered but not taken forward

7.3.38 Opportunities to provide a new segregated cycle route on the western side of the A10 to compliment the route on the eastern side were considered. However geometric constraints affect the feasibility of this. It was therefore concluded that it is not possible to maintain a sufficient carriageway width for buses/local HGV access as well as providing a suitable cycle facility, that would meet the requirements of LTN 1/20 – safe, direct, and consistent in provision.

7.3.39 Therefore, this option has not been included in the overall strategy, and the opportunities identified seek to improve connectivity away from the A10, whilst providing crossing facilities on the existing A10 to enable east-west movement with the proposed housing in place.

7.3.40 There is an existing underpass under the A47 to the north-east of the development site. An alternative traffic-free route between the development area and the Hardwick Road could be provided via the underpass and existing farm access close to the A47. A new crossing on the A149 could also be provided at the Hardwick Roundabout, enabling a connection with the existing shared routes on Hardwick Road, Sainsburys and the industrial areas to the northern side of Hardwick Road. However, there are ecology constraints which may affect the delivery of a new route via the underpass as



part of the WWHAR scheme, therefore connections to the future LCWIP route to the north east have been considered within the proposed STS scheme but not taken forward.



8 Public Transport Strategy

8.1 Developing the Strategy

8.1.1 The commercial viability of bus services was noted as a key factor in identifying new and improved bus services within an area. The proposed level of development within the West Winch area combined with nearby employment sites and proximity to King's Lynn are seen to provide opportunities to improve bus service provision within the West Winch area. Proximity to key routes such as the A10, A47 and the proposed WWHAR would support the delivery of new through-services, subject to demand.

8.1.2 This strategy has been developed based on existing policy/guidance, engagement with local communities and stakeholders, and opportunities identified through work completed to date.

8.1.3 The purpose of the bus improvements would be to support mode shift predominantly targeting car users travelling from West Winch into King's Lynn. The strategy aims to increase priority for bus to make sustainable options more attractive and visible to encourage uptake.

8.1.4 The proposed developments at West Winch would substantially increase the bus catchment and make services more viable. However, due to the scale of development proposed it is likely to take a number of years to build out all of the housing. Development phasing is anticipated to be key to understanding the viability of new/revised bus routes and to achieving mode shift.

8.2 Guiding Principles – Public Transport

8.2.1 The LTP identifies a number of improvements to public transport within Norfolk. These have been used to form the basis of the guiding design principles in developing the public transport elements of the strategy. These are:

- Where possible, providing dedicated, segregated lanes for public transport and / or cycling on certain corridors in urban areas.



- Favour improving conditions for public transport through the implementation of measures such as bus priority lanes, giving priority to buses at traffic signals and restrictions of general traffic.
- Growing encouragement for the usage of public transport, cycling, walking and electric vehicles (EVs).
- To make public transport more reliable and possibly change people's perceptions of public transport, prompting greater uptake in its usage.
- Making sure road and rail capacity can cope with growth and that public transport options are available.
- Priority to reducing emissions through public transport and active travel.
- To improve public transport services in rural areas and barriers to improving these services.
- Ensure access by sustainable modes (public transport, walking and cycling) is considered as part of any new housing developments.
- The need to better integrate public transport with school transport and provide travel training so more young people can access this.

8.3 Proposed Options – Public Transport

8.3.1 The proposed strategy for public transport includes a mix of public transport infrastructure improvements and new public transport services. The combination of new / improved routes, infrastructure improvements and bus prioritisation measures are anticipated to help achieve mode shift and improve connectivity.

8.3.2 The identified public transport improvements are shown in **Appendix 4** (Document Reference **NCC/4.02.04/WWHAR**) and set out in more detail below.



Opportunity 1: Convert A10 Bus stops in bus laybys to on-carriageway stops

- 8.3.3 The existing A10 is a busy strategic route and suffers from high flows and congestion, a number of bus stop laybys are provided for buses to stop in, maintaining traffic flow.
- 8.3.4 To provide increased bus priority, reduce the strategic route feeling of the A10 following implementation of the WWHAR and improve connectivity, accessibility, and bus journey reliability, it is proposed to remove the existing bus laybys and provide facilities for buses to stop within the live traffic lane. This will show clear priority to bus as cars will need to wait whilst buses stop to pick up passengers. This will also offer a change of character along the existing A10 once the WWHAR is in place.
- 8.3.5 This will remove the difficulty that buses currently face when trying to pull back out into traffic and reduce delays to bus services as well as enhancing journey reliability. It would also make the route less desirable for car users, slowing traffic and encouraging through-traffic to use the new WWHAR route. The space currently provided by the laybys could be used to improve facilities at the bus stops or widen footways, this could also make more space for improved bus shelters, with sustainable design, real-time information screens, seating and accessible bus stop facilities.

Opportunity 2: Rerouting Bus Services to serve the development

- 8.3.6 The proposed changes to the highway network in delivering the WWHAR may result in changes being needed to the existing bus services in West Winch. The delivery of 4,000 houses may also increase the demand for bus travel within West Winch.
- 8.3.7 Changes to the existing bus service routes to serve the new development could be considered given the new demand potential. The changes to Rectory Lane necessitate a change in route, this could use the WWHAR and/or serve the new development.
- 8.3.8 There would also be opportunities to improve bus services to/from North Runcton, that connect with the new development and re-routed services.



Opportunity 3: New Bus Services / Increased service frequency between West Winch and King's Lynn

- 8.3.9 The proposed level of development within the West Winch area is likely to result in a significant increase in the local population. Due to its location, it is anticipated that there is likely to be demand between West Winch and King's Lynn for commuting, leisure and onward travel needs. This provides opportunities to provide new dedicated, direct bus services between West Winch and King's Lynn.
- 8.3.10 Changes to the service frequency and times of operation, giving increased peak time and weekend coverage would also help residents to use public transport for travel to King's Lynn.
- 8.3.11 There would also be opportunities to improve bus services to/from North Runcton, that connect with the new development and the high-frequency services proposed here.
- 8.3.12 It is noted the potential demand will be based on delivery and build-out of the development site. This is not currently known. A slower or delayed delivery may result in less sustainable travel choices being adopted before the sustainable measures being implemented.

Opportunity 4: Regular Bus service Between West Winch and Watlington

- 8.3.13 Currently there is only a daily service (service 37) between West Winch and Watlington. As a result, there is limited sustainable travel choices between West Winch and Watlington and limited connectivity with rail services at Watlington Railway Station.
- 8.3.14 Whilst active travel options have been signed, the distance and nature of provision may be a barrier for some users. A higher frequency bus service may therefore provide an alternative option to travelling to King's Lynn for onward travel by train, where bus travel into King's Lynn may be susceptible to congestion, delay, and journey reliability issues. The overall rail journey via Watlington may also be quicker than via King's Lynn railway station and closer to the desire line for rail passengers as all rail destinations are south of



Kings Lynn, so it would be more efficient for rail passengers originating in West Winch to travel south to Watlington.

Opportunity 5: Bus Services Serving West Winch and the Hardwick Industrial Estate

8.3.15 The Hardwick Industrial Estate is located close to West Winch on the southern side of the Hardwick Roundabout and the A47. There are currently no bus services directly connecting to the industrial estate and the nearest bus stop is in West Winch, approximately 700m from the first business premises within the industrial estate. This is beyond the typical 400m walking catchment for bus stops, so there is an opportunity to enhance bus access to this area.

8.3.16 The new development within West Winch may include residents who work at the Industrial Estate. As indicated earlier, the new development may also present opportunities for new or re-routed bus services. The proximity of the industrial estate and West Winch development may present opportunities for services to serve the industrial estate.

8.3.17 Options for serving the industrial estate directly by bus are limited as it is a long cul-de-sac with no opportunity for through movement for bus. However, a potential solution would be to place stops in closer proximity. Options include a new bus only link to Hardwick Roundabout connecting A10 with Beveridge Way which is proposed to be signalised as part of the WWHAR proposals. A new bus stop could be placed along the link with a non-motorised user connection also offering more direct connections.

8.3.18 This would allow northbound bus services to avoid the A10 approach to the roundabout, plus a new southbound bus stop further north on the A10 that would help to reduce the walking distance to connect passengers to and from the employment site. This would require third party land and buses would still encounter queues on the Beveridge Way approach in the PM peak hours but keep clear marking could enable buses to enter the flow of traffic to access the signalised arm approach.



Aspiration 1: New Rail Station on the Fen Line for West Winch

8.3.19 A long-term aspiration for public transport provision that may be considered due to the increased population as a result of the new West Winch development could be a new railway station on the Fen Line. This would reduce or remove the need for longer journeys into King's Lynn or Watlington, making rail travel more attractive for the local population. Changes to the train service pattern or the stations on the route may help support delivery. However, this would be a longer-term aspiration and would require a separate feasibility study and would require major changes to the operation of the railway. As the line is currently single track and the majority of the land alongside the railway between A47 and Watlington is located in Flood Zone 3 according to the Environment Agency flood map for planning, it is assumed that there would not be a viable cost benefit case for a new rail station at West Winch, so existing stations are assumed to remain unchanged.

Opportunities Considered but not taken forward

8.3.20 Hardwick Roundabout is a major roundabout, connecting with local roads, employment areas and strategic routes. The anticipated level of growth may result in increased demand on the existing A10. Bus services using the existing A10 may get caught up in any delay at this location.

8.3.21 Bus priority at the Hardwick Roundabout has been considered, however National Highways prefer the A10 arm to remain unsignalized due to proximity to the A47 entry. Option testing has been carried out for reallocation of road space to create a dedicated central bus lane on the A10 northbound approach but this proved to offer no overall improvement in journey times for bus. This is because there would be increased queue lengths for vehicles which would delay buses accessing the section of bus lane.

8.3.22 Other WWHAR junctions also do not appear to require bus priority measures based on a review of initial modelling results as queue lengths are limited, so there are no excessive delays affecting all vehicles and hence there would be no benefit in adding bus lanes or bus priority measures at these roundabouts.



Also the majority of north-south bus movements are assumed to remain on the A10 with modest diversions through the housing development to pick up extra catchment.

8.3.23 Therefore, these options have not been included in the overall strategy, with the focus switched to trying to achieve mode shift to reduce demand, prioritising bus stops on carriageway along the A10 where possible, creating a mobility hub and enabling interconnectivity between modes.



9 Conclusion

9.1 Summary

9.1.1 This Sustainable Transport Strategy has been developed alongside the WWHAR proposals and presents a complementary package of interventions to support the sustainable travel objectives of the proposed scheme.

9.1.2 The STS package of measures would encourage mode shift away from private car use by providing the means to travel sustainably by cycle, on foot or by bus, as well as linking up the existing network of Public Rights of Way to maximise local connectivity for pedestrians, cyclists, and equestrians.

9.1.3 The STS has been shaped by on-going public and stakeholder liaison to generate a package of complementary measures that will be of the greatest benefit to local users. A shortlisted set of measures have been distilled into a number of NMU and bus opportunities. These are summarised below:

- NMU Opportunity 1: New Raised Table 20mph speed limit and Crossing Close to West Winch Stores
- NMU Opportunity 2: A10 Improved Crossing Facilities on key desire lines
- NMU Opportunity 3: Shared Use segregated NMU Route alongside the WWHAR
- NMU Opportunity 4: New Non-Motorised User Route to Hardwick Industrial Estate
- NMU Opportunity 5: New Non-Motorised User Routes between West Winch Developments and the A10
- NMU Opportunity 6: New NMU connections Between Rectory Lane and WWHAR
- NMU Opportunity 7: Crossings and NMU Routes on the Southern WWHAR



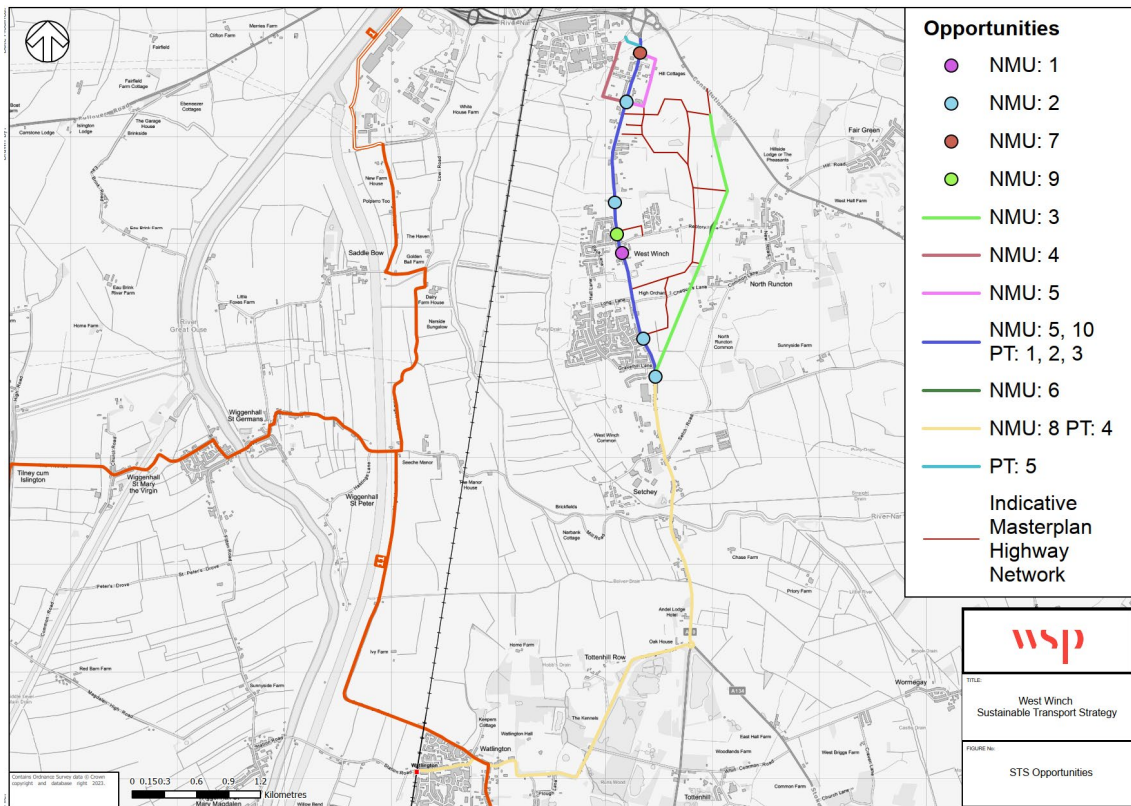
- NMU Opportunity 8: NMU Links to Watlington
- NMU Opportunity 9: West Winch Mobility Hub at Chapel Lane junction with A10
- NMU Opportunity 10: A10 Speed Limit & Weight Restrictions
- PT Opportunity 1: Convert A10 Bus stops in bus laybys to on-carriageway stops
- PT Opportunity 2: Rerouting Bus Services to serve the development
- PT Opportunity 3: New Bus Services / Increased service frequency between West Winch and King's Lynn
- PT Opportunity 4: Regular Bus service Between West Winch and Watlington
- PT Opportunity 5: Bus Services Serving West Winch and the Hardwick Industrial Estate

9.1.4 The above scheme opportunities are proposed to be taken forward alongside the WWHAR to provide a complete package of measures that supports growth and encourages mode shift to active and sustainable travel choices.

9.1.5 An overview of the proposed strategy is shown below in Figure 8-1, with more detailed plans provided in **Appendix 4** (Document Reference **NCC/4.02.04/WWHAR**). The wider context of how this connects with the wider network is also shown with the NCN1 and NCN11 routes also shown.



Figure 9-1: Overview Map of STS Opportunities shortlisted



9.2 Meeting WWHAR Scheme Objectives

9.2.1 The Objectives for the WWHAR scheme are listed earlier in Table 1-1. The shortlisting process included these in the approach to scoring used within the MCAF which identified the options to be taken forward.

9.2.2 Reduction of the existing A10 speed limit once the WWHAR is in place and removal of through traffic will help improve highway safety for all users and new crossings will also contribute to this. Improved facilities for walking and cycling will enhance opportunities for active and healthy travel in West Winch and public transport options to facilitate longer distance travel have been considered. Bus priority measures have been considered along the A10 and a central mobility hub proposed to support a wide range of travel choices for all users and integration between modes.



9.3 Meeting DfT Requirements

- 9.3.1 The STS provided in this document covers the key points raised by DfT in early discussions surrounding the Outline Business Case (OBC). The options shortlisted for inclusion within this strategy have been defined and drawn to a sufficient level of detail to enable scheme costs to be understood. **Appendix 4** (Document Reference **NCC/4.02.04/WWHAR**) shows the additional measures to be included alongside the WWHAR main highway scheme. It should be noted that the WWHAR Proposed Scheme design also includes provision of NMU facilities alongside the new highway link and at Rectory Lane plus closure of Chequers Lane to motorised vehicles.
- 9.3.2 Timescales for delivery will depend on the location of the proposed interventions. Crossings of the WWHAR at Rectory Lane and Chequers Lane and the NMU route running parallel with the main highway alongside the WWHAR are an intrinsic part of the design, so would need to be delivered at the same time as the main highway construction. Measures on the A10 would need to wait until the WWHAR road is in place and available to public traffic as the new road will provide an alternative route during construction on A10 to help minimise disruption. The mobility hub is expected to grow commensurate with the surrounding developments and the requirement for crossings on A10 could also be phased with the relevant part of the housing development as the need for crossing the A10 would increase as development on both sides of the road increases.
- 9.3.3 Funding for the STS measures on existing A10 that are not an integral part of the main highway scheme design are expected to be part subsidised by the developers of the proposed housing sites. The integral aspects are to be jointly funded by NCC and the developers as part of the main scheme funding agreement.
- 9.3.4 Bus priority measures have been investigated and considered through the modelling work which has informed the Transport Assessment. Scenarios have been tested which included bus lanes on approach to Hardwick



Roundabout and the modelling results for WWHAR roundabouts have been reviewed to see if bus priority measures would be helpful elsewhere. Based on the modelling results bus lanes were found not to offer any tangible benefits to bus service journey times. Hence these options have not been included in the scheme design. However, an opportunity for a future bus only and NMU link to Beveridge Way has been identified for improving bus connectivity to Hardwick Industrial Estate south of A47. A mobility hub is proposed on A10 in the centre of the village between Chapel Lane and Rectory Lane junctions and removal of in layby bus stops, converting these to on carriageway bus stops.

- 9.3.5 The core design principles of LTN1/20 have been considered within the design as set out below.

9.4 Meeting LTN1/20 Core Design Principles

- 9.4.1 The STS intends to offer a package of measures that responds to the five core design principles of LTN1/20 (Coherent, Direct, Safe, Comfortable and Attractive) so that suitability for active travel, especially cycling has been taken into account. This approach should maximise the opportunities for walking and wheeling in the local area.
- 9.4.2 **Coherent** – the context of the overall surrounding network has been considered and alignment with future LCWIP proposals have been reviewed. There would be improved connectivity with the existing Sustrans National Cycle Route via Watlington, plus new crossings of the A10 and east-west links would be strengthened between West Winch and North Runcton with a grade separated bridge over the WWHAR at Rectory Lane and connections to Chequers Lane also crossing the WWHAR. The scheme also does not prevent future links to the LCWIP aspirational network.
- 9.4.3 **Direct** – desire line analysis is shown in **Appendix 3** (Document Reference **NCC/4.02.03/WWHAR**) and existing travel patterns have been considered in the design and crossing locations placed in alignment with the natural routes that people wish to take with minimal diversion.



- 9.4.4 **Safe** – the crossing design suitability Table 10-2 within LTN1/20 has been reviewed to identify types of crossing that are suitable for the context of the proposals. The majority of new crossings are to be located on A10 within the single carriageway in the two-lane section with 20-30mph speed limit proposed. A grade separated crossing is also proposed at Rectory Lane and an at grade signalised crossing is proposed at Chequers Lane within the 40mph section. A central reserve refuge will also be added. On approach to Hardwick Interchange signalised crossings are proposed and where possible these are to be located where there are two lanes or less.
- 9.4.5 **Comfortable** – the segregation of users and width of routes proposed have been considered in the context of chapter 4 of the LTN1/20 guidance and Table 4-1 in particular. Based on evidence from recent 2023 surveys, the existing number of NMUs active on the network at any one time is expected to be less than 1000 per hour on any one link, so 2.5m-3m widths are expected to be suitable for new segregated routes being proposed. The corridor width of the A10 is constrained due to requirements to keep at least 6.1m width available for it to be used as a bus route. However parallel routes to the A10 can also be provided internal to the development to offer more capacity. Where sufficient space is available, NMU routes are to be set back away from the edge of carriageway with appropriate verge separation. However, on A10 in the centre of the village near West Winch Stores there is a pinch point with no opportunity for widening, so the speed limit is instead proposed to be reduced to 20mph along this section. Within local centres and around schools, wider routes would potentially offer more user comfort.
- 9.4.6 **Attractive** – this is a more detailed point relating to surfacing and materials which would be defined at the detailed design stage but the routes would be designed to be as open and overlooked as possible so that they feel inviting to users. Surfaces would be selected to be suitable for the intended users, albeit there are short sections of existing public rights of way through common land which may only be suitable for unbound surfacing materials. Any lighting



would also need to be carefully designed to adhere to the Norfolk Dark Skies policy which is applicable in the local area.

9.5 Conclusion

- 9.5.1 This STS will more readily enable the WWHAR and associated housing development scheme to fully meet the objectives with all modes considered as well as the needs of all users including existing and future residents and workers. This is expected to help the development grow sustainably and to foster stronger links between existing communities at West Winch and North Runcton with reduced dominance of through traffic on the former A10 and improved accessibility throughout the expanded settlement.
- 9.5.2 With new residents helping to enhance the viability of bus services, there is opportunity for bus provision to increase in line with housing delivery and existing services can adapt to be more frequent and divert into the developments once new links are available through the site connecting with A10. Opportunities to improve public transport access to key employment sites and rail stations are also available in the longer term. This should help to foster sustainable travel patterns with less reliance on private car travel.