North Yorkshire County Council

LOCAL CYCLING AND WALKING INFRASTRUCTURE PLAN

Phase 1 Project Report

70045790-015
NOVEMBER 2018

CONFIDENTIAL

North Yorkshire **County Council**

LOCAL CYCLING AND WALKING INFRASTRUCTURE PLAN

Phase 1 Project Report

TYPE OF DOCUMENT (VERSION) CONFIDENTIAL

PROJECT NO. 70045790

OUR REF. NO. 70045790-015

DATE: NOVEMBER 2018

North Yorkshire **County Council**

LOCAL CYCLING AND WALKING INFRASTRUCTURE PLAN

Phase 1 Project Report

WSP

Amber Court
William Armstrong Drive
Newcastle upon Tyne
NE4 7YQ

Phone: +44 191 226 2000

Fax: +44 191 226 2104

WSP.com

QUALITY CONTROL

Issue/revision	First issue	Revision 1	Revision 2	Revision 3
Remarks	Working draft – submitted to NYCC for comment.	Addressing NYCC Comments	Updated Draft	
Date	31/08/18	03/10/18	20/11/18	
Prepared by	HK	HK	HK / PF	
Signature				
Checked by	PF	PF	PF	
Signature				
Authorised by	CW	CW	CW	
Signature				
Project number	70045790	70045790	70045790	
Report number	009	011	015	
File reference	\\uk.wspgroup.com\Central Data\Projects\700457xx\70045790 - NYCC - Scarborough LCWIP\02 WIP\TP Transport planning\00 Reporting			

CONTENTS

TABLES

FIGURES

APPENDICES

APPENDIX A – INTERNAL STAKEHOLDER WORKSHOP

APPENDIX B – DRAFT NETWORK PLANS

APPENDIX C – EXTERNAL STAKEHOLDER WORKSHOP

APPENDIX D – FINAL NETWORK PLANS

1

INTRODUCTION

1. INTRODUCTION

1.1. BACKGROUND

1.1.1. WSP were commissioned by North Yorkshire County Council (NYCC) to develop a Local Walking and Cycling Infrastructure Plan for Scarborough (LCWIP). The plan is intended to operate as the basis for future bid work, influence junction design and highway schemes, and guide new development and developer contributions in creating a cohesive and efficient cycling and walking network.

1.1.2. NYCC has received an Access Fund contribution to deliver soft transport measures in the Scarborough area through to 2020 as part of the 'Open North Yorkshire' project. The development of the Scarborough LCWIP will support the aims of the 'Open Scarborough' element of the project, as well as setting out a comprehensive action plan for cohesive cycle and walking networks in Scarborough over the coming decade and beyond.

1.1.3. The objectives of the project are to:

- Produce an evidence-based walking and cycling network plan;
- Identify early network investment priorities and potential interventions;
- Secure stakeholder "buy-in" for the network and the investment priorities; and
- Provide an indicative delivery programme for investment in cycling and walking infrastructure up to 2028.

1.1.4. The resultant Scarborough Local Walking and Cycling Infrastructure Plan will work toward a vision of Scarborough as an exemplar for active travel, creating a great place for people to live, work, and play.

1.2. DEFINING THE STUDY AREA

1.2.1. Scarborough is a coastal town in North Yorkshire, located on the eastern periphery of the county. Scarborough is a historic town, supporting many functions over the centuries, as evidenced by various historical legacies, such as the 11th century castle overlooking the north and south bays, the Regency and Victorian terraces on the south cliff promenade, or the imposing Grand Hotel overlooking the south bay, opened in 1867. The town still supports a strong tourist economy, and still has an active fishing industry. The Borough also encompasses part of the North Yorkshire Moors National Park, one of the largest expanses of heather moorland in the country.

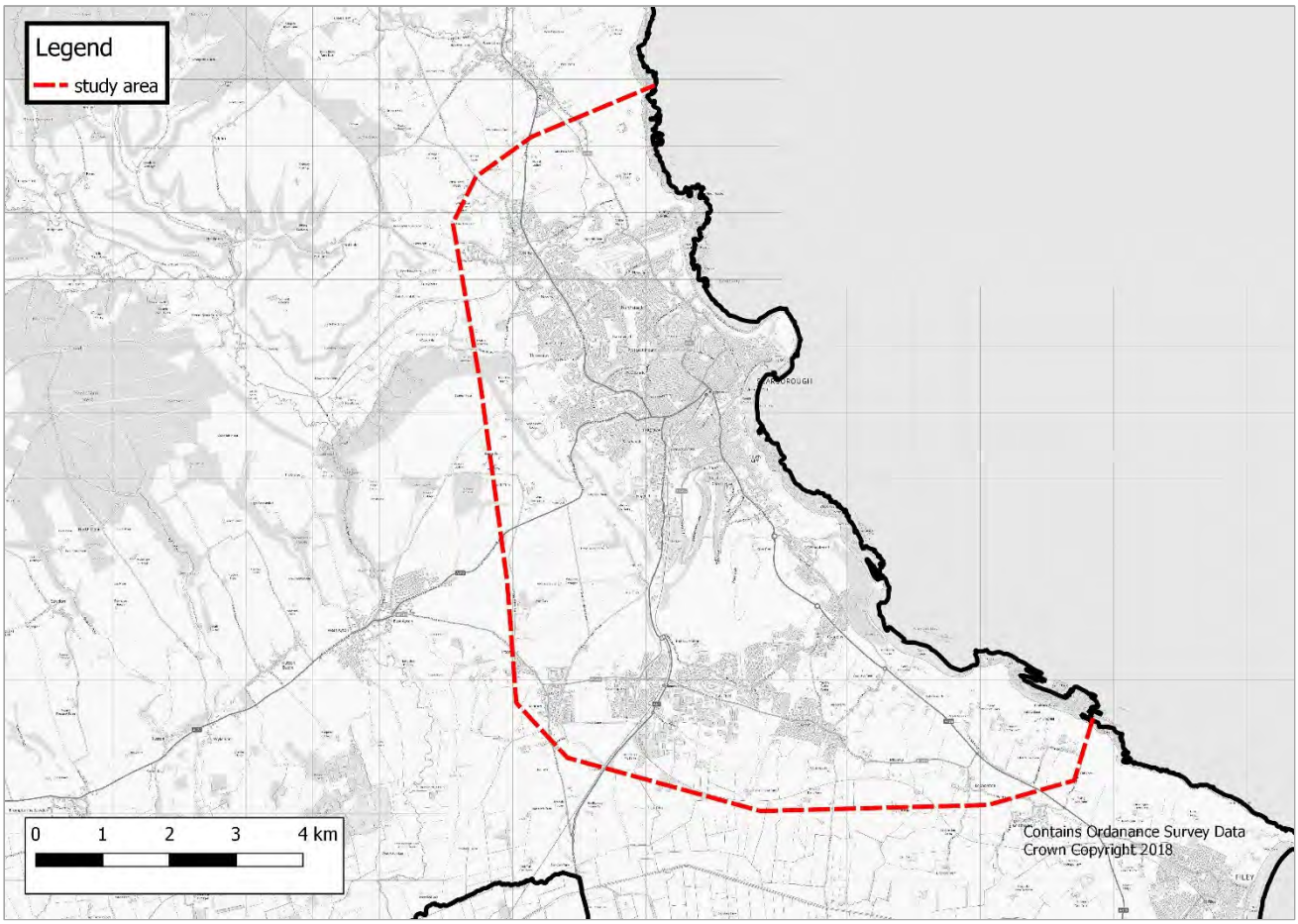
1.2.2. The town of Scarborough is the main urban area within the wider borough, with a population of approximately 38,400 in the town itself and 60,000 including the wider urban area, while Whitby and Filey are the next largest settlements, with a population of approximately 13,000 and 7,000 people respectively; the Scarborough LCWIP study area is therefore focussed on the wider urban area of the Principal Town of Scarborough, rather than trying to encompass the smaller towns and rural hinterlands of the borough. The study area also encompasses the adjacent service village of Seamer to the west. The extent of the study area is defined in Figure 1.

1.2.3. Scarborough urban area is identified as the main centre for higher level services and job opportunities within the Borough and the wider coastal area. Scarborough's role is expected to be enhanced over the period of the Local Plan, acting as the focus for growth and where the majority of

new development is likely to take place. Scarborough is also the administrative centre for the borough, and is home to a University Campus (part of Coventry University).

1.2.4. Being on the periphery of the County, Scarborough is considered reasonably self-contained, but is still strategically connected by a number of routes to the wider region, with the A64 providing connections to Malton, York, Leeds, the A19 and the A1(M), although the route remains single carriageway for long sections. There are a number of other key strategic routes, such as the A165 costal route to Filey, Bridlington and Hull, the A171 costal route to Whitby and Middlesbrough, and the A170 to the North York Moors and Thirsk.

Figure 1 – Study Area Boundary



1.3. REPORT STRUCTURE

1.3.1. This project report presents the work undertaken to develop the Scarborough LCWIP and is structured as follows:

- Section 2 – Evidence Base;
- Section 3 – Best Practice;
- Section 4 – Developing the Cycle Network;
- Section 5 – Developing the Walking Network;
- Section 6 – Stakeholder Engagement;
- Section 7 – Recommended Network; and
- Section 8 – Recommended Next Steps.

2

EVIDENCE BASE

2. EVIDENCE BASE

2.1. INTRODUCTION

2.1.1. This chapter identifies and establishes the existing geographic, demographic and existing active travel situation in the study area, as well as an overview of the existing policy framework. This evidence base incorporates engagement with stakeholders to take account of local knowledge and points of view. The culmination of this work is an evidence base that supports and further informs development of the SLCWIP. The evidence is a mixture of general trends within the study area and data that can be used to define particular network connections and priorities.

2.1.2. The structure of this section is as follows:

- Informing the evidence base;
- Policy review;
- Local geography;
- Demographics;
- Travel patterns;
- Walking;
- Cycling;
- Propensity to Cycle;
- Wider transport; and
- Future situation

2.2. INFORMING THE EVIDENCE BASE

2.2.1. To produce an informed evidence base the project team undertook a range of data collection and stakeholder consultation exercises:

- **Site Visits:** Site visits were undertaken to appreciate the study area at ground level. The site visits were undertaken on foot and cycle to understand travelling around the study area as vulnerable road users.
- **Stakeholder Workshops:** An internal stakeholder workshop took place with officers of North Yorkshire County Council and Scarborough Borough Council to gain their input on the challenges and opportunities related to cycling in the study area. The summary of this workshop is provided in the Appendices to this report.
- **Meetings:** As well as the stakeholder workshop, the project team have liaised with key internal stakeholders from Scarborough Borough Council to gain a detailed insight to the work the Borough has done related to walking and cycle network planning. Meeting with SBC staff (as planning authority) and NYCC area officers also provided an opportunity to understand proposed and committed developments in the study area that may impact and influence the final network, in particular large residential and employment sites.

2.3. POLICY REVIEW

INTRODUCTION

2.3.1. The current cycling and sustainable transport policy situation across Scarborough and the wider region has been reviewed to ensure proposals align with local, regional, and national policy. The following list provides a summary of the policy and strategy documents reviewed.

- National Planning Policy Framework (NPPF), 2012 and updated 2018;
- White Paper: Creating Growth, Cutting Carbon, 2011;
- DfT Cycling and Walking Investment Strategy, 2017;
- DfT Local Cycling and Walking Infrastructure Plan Guidance, 2017;
- NYCC Local Transport Plan 4 (LTP4), 2016-2045;
- York, North Yorkshire & East Riding LEP Strategic Economic Plan, 2014;
- LSTF Access Fund Bid, 2016;
- Scarborough Local Plan, 2017; and
- Eastfield Paths Strategy, 2014.

NATIONAL POLICY

National Planning Policy Framework

2.3.2. The Government's National Planning Policy Framework (NPPF) was published on 27th March 2012 and replaced all previous planning policy in England with immediate effect. The framework states that local planning authorities should support a pattern of development which, where reasonable to do so, facilitates the use of sustainable modes of transport.

2.3.3. The NPPF sets out a clear approach to promoting sustainable transport through the planning system. One of the 12 Core Planning Principles set out in paragraph 17 states that planning should "actively manage patterns of growth to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable locations".

2.3.4. Chapter 4 of the NPPF addresses the promotion of sustainable transport, and states in paragraph 34 that local planning authorities should ensure, through both Local Plans and planning decisions, that developments that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised.

2.3.5. Paragraph 35 further states that Local Plans, prepared in consultation with local communities, should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people. Developments should be located and designed where practical to:

- give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;
- create safe and secure layouts which minimise conflicts between traffic and cycle users or pedestrians; and
- site key facilities such as primary schools and local shops within walking distance of most properties, particularly within large-scale developments.

2.3.6. Chapter 9 of the updated NPPF (published in July 2018) further emphasis the role of sustainable transport in the early stages of plan-making and development proposals, with paragraph 104

specifically referencing the role that LCWIPs can play in planning policies, to inform the provision of high quality walking and cycling infrastructure to support development.

White Paper: Creating Growth, Cutting Carbon (2011)

2.3.7. The White Paper was published in January 2011 alongside the launch of the Local Sustainable Transport Fund (LSTF), and presents an ambitious vision for sustainable and active travel, stating a vision for "a transport system that is an engine for economic growth, but one that is also greener and safer and improves quality of life in our communities."

2.3.8. The White Paper recognises the potential for a significant proportion of shorter local journeys made by car to instead be undertaken via sustainable and active modes: primarily walking, cycling, and public bus. To facilitate this behaviour change, the White Paper sets out the role of Localism and how Local Authorities are best placed to instigate change.

DfT Cycling and Walking Investment Strategy

2.3.9. The Government published its first Cycling and Walking Investment Strategy (CWIS) in 2017.

2.3.10. The strategy sets out the Government's ambition to make walking and cycling the natural choices for shorter journeys or as part of a longer journey, and includes targets for increasing the number of people cycling whilst also reducing the number of cycle user casualties. The CWIS states that the benefits to doing this would be substantial, potentially leading to cheaper travel and better health, increased productivity for business and increased footfall in shops, and lower congestion, better air quality, and vibrant, attractive places and communities for society as a whole.

2.3.11. In regards to spending, the CWIS outlines a £300 million investment in cycle training and infrastructure during the current Parliament and sets out ambitious targets for the period up to 2025, including a doubling of cycling trip stages each year (from 0.8 billion in 2013 to 1.6 billion by 2025), whilst also reversing the current year-over-year decline in walking trip stages. The CWIS also identifies a need to decrease the number of cycle user fatalities and serious injuries each year.

Local Cycling and Walking Infrastructure Plans Guidance (2017)

2.3.12. The Local Cycling and Walking Infrastructure Plans (LCWIP) Guidance was published alongside the DfT CWIS. Local Cycling and Walking Infrastructure Plans are set out in the CWIS as a new strategic approach to identifying cycling and walking improvements required at a local level.

2.3.13. The LCWIP guidance sets out a recommended approach to planning networks of walking and cycling routes that connect places that people need to get to, whether for work, education, shopping, or for other reasons. The guidance brings together national and international guidance on best practice, and explains how a range of tools, such as the Propensity to Cycle Tool (PCT), can be used to help develop robust plans and schemes. The development of the Scarborough LCWIP will broadly follow the guidance set out in this guidance.

SUB-REGIONAL POLICY

North Yorkshire Local Transport Plan (LTP4) (2016-2045)

2.3.14. NYCC's LTP4 is a four-tier document which covers the local transport strategy, objectives, transport improvements by modes/theme, and policies adopted by the County Council.

2.3.15. In 2012, legislation governing Local Transport Plans changed and as a result councils / local government no longer need to be fixed to a five-year timespan. NYCC subsequently produced a 30-year plan in accordance with this change, extending until around 2045.

2.3.16. NYCC, through consultation with stakeholders, has identified 5 key objectives regarding transport in the county:

- Economic Growth – Contributing to economic growth by delivering reliable and efficient transport networks;
- Road Safety- Improving road and transport safety;
- Access to Services- Improving equality of opportunity by facilitating access to services;
- Environment and Climate Change- Managing the adverse impact of transport on the environment; and
- Healthier Travel- Promoting healthier travel opportunities.

2.3.17. The LTP4 states that the County Council will promote sustainable travel and encourage staff to travel to work by walking, cycling, bus, rail and car sharing. It also highlights that, where possible, NYCC will provide additional infrastructure to support sustainable travel, with improvements provided through transport grants such as the LSTF fund. The County Council will also seek to ensure that provision of suitable facilities to encourage healthier travel choices is made within any new development.

2.3.18. The LTP identifies that over 40% of the population of North Yorkshire live in communities with a population of over 10,000 people, while almost 25% of the population live in the two largest urban areas, these being Scarborough and Harrogate / Knaresborough. As a result, many trips in these areas are relatively short, making walking and cycling a viable form of transport for these trips.

2.3.19. While the LTP recognises a recent growth in cycling for leisure purposes, the document sets out the Council's commitment to providing for and promoting walking and cycling as a mode of travel for 'utility' purposes.

2.3.20. However, the LTP also acknowledges the lack of funding available for significant additional infrastructure. This commitment to walking and cycling therefore primarily revolves around the continued maintenance of the highway network, which is considered "eminently suitable for most cycle users". Despite this, the LTP states that NYCC will continue to seek additional funding where available, and proactively plan and develop cycling infrastructure where there is a realistic chance of funding being available to deliver the improvements.

York, North Yorkshire & East Riding LEP Strategic Economic Plan

2.3.21. The York, North Yorkshire & East Riding Local Enterprise Partnership (LEP) Strategic Economic Plan (SEP) was released in 2014, and is a single strategy for the area that serves three identified purposes:

- It sets out the key economic issues, opportunities and priorities for the area;
- It is the EU Strategic and Investment Funds Strategy required for EU funding purposes (supported by the EU Strategic Investment Fund Implementation Plan); and
- It is the Strategic Economic Plan that Central Government require for Local Growth Deal funding purposes (supported by a more detailed Local Growth Deal Implementation Plan).

2.3.22. Priority 5: A Well-connected Economy addresses transport in the area, stating an overarching goal to provide businesses with strong connections to their customers and markets. In order to achieve this aim, the SEP presents three objectives:

- Fast, reliable journeys between key centres;
- Transport that underpins both growth and low-carbon goals; and
- Access to UK and international markets.

2.3.23. Scarborough is identified as part of Yorkshire's Opportunity Coast, with priorities for increased east to west road and rail connectivity, particularly to York. Scarborough is anticipated to see significant growth over the next 5 years, with investment in offshore wind, potash mining, and the regeneration of the town centre, including the redevelopment of the Futurist Theatre on the seafront.

Access Fund Bid – Open North Yorkshire (2016)

2.3.24. Open North Yorkshire was a bid for funding support to deliver a £1.089m package of schemes to promote sustainable travel initiatives in three of North Yorkshire's key growth centres: Harrogate, Scarborough and Skipton. The bid aims to achieve sustainable modal shift towards sustainable travel (including cycling and walking), whilst supporting economic growth.

2.3.25. The objectives set within the document aim to reduce congestion by: doubling cycle and walking trips for adults and school children; facilitating access to bicycles and improving confidence of new cycle users through innovative training and route information; reducing the number of cycle user casualties by implementing a safe systems approach; and targeted travel and journey planning linked to economic growth (employment and housing). Up to 2020, the following schemes / objectives have been identified:

- Travel behaviour & training – Cycle safety, training and travel planning in schools and for employees at key business sites;
- Sustainable travel promotion/ marketing – Journey planning via website/app;
- Sustainable access to public transport & Wheels 2 Work – Promoting cycling to/from bus/rail stations and moped hire for access to employment/education; and
- Cycle Infrastructure – Bid ready cycle scheme development.

2.3.26. These objectives are considered to support the County Council's long-term vision for increasing sustainable transport across North Yorkshire.

LOCAL POLICY

Scarborough Local Plan (2011-2032)

2.3.27. The Scarborough Local Plan was adopted in June 2017, and covers a 15-year plan period from 2011 to 2032. The Plan covers the entirety of the Borough of Scarborough, excluding any areas located within the North Yorks Moors National Park. The Local Plan sets out the planning vision and strategy for the borough, including a spatial development strategy, a number of development management policies, and various site allocations to direct growth to the appropriate location in a sustainable manner.

2.3.28. The Local Plan presents ambitious growth targets over the plan period for:

- 9,450 new dwellings; and
- 40.35 hectares of employment land.

2.3.29. The site allocations presented in the Local Plan exceed the target growth in housing, and 76% of the overall planned increase is located in the Scarborough Urban Area, which broadly follows the LCWIP Study Area.

2.3.30. The Local Plan presents a number of aims to ensure the Plan's extensive vision is brought forward in a sustainable manner; the Scarborough LCWIP will contribute directly towards the following:

- To make best use of existing infrastructure and secure new or improved infrastructure where required;
- To build upon the excellent opportunities for communities to access good quality open space for recreational and reflective purposes and to increase opportunities for participation in sport and health benefiting activities;
- To enhance accessibility and connectivity to and from key services, between settlements and outside of the Borough.

2.3.31. It is also noted that the Local Plan aims to "*concentrate development within and adjacent to the main settlements along the coast, rather than allow development across the borough*"; this approach benefits the LCWIP process, providing opportunity for a denser network of cycle routes between site allocations.

Transport and Infrastructure

2.3.32. Section 9 of the Scarborough Local Plan deals specifically with transport and infrastructure. Policy INF 1 states that the Borough Council will work with North Yorkshire County Council, relevant local authorities and other key partner organisations to improve accessibility within and beyond the Borough, which is intended to support local economic, tourism and sustainable regeneration objectives. This includes the following aspects, directly linked to the LCWIP process:

- Improving bus, pedestrian and cycle links to rail stations;
- Promoting Scarborough town centre as a strategic public transport hub;
- Promoting sustainable modes of transport other than the private car; and
- Protecting, managing and enhancing an integrated network of routes for those without access to a car.

2.3.33. Policy INF 3: 'Sustainable Transport and Travel Plans'. This policy provides support for development contributions to cycling and walking infrastructure complementary to the LCWIP proposals, stating: "Proposals will be required to contribute to sustainable transport. *Proposals will be supported that improve transport choice and encourage travel to work and school by public transport, cycling and walking*".

2.3.34. Policy INF 4: The Cinder Track. The Cinder Track lies on the route of the old Scarborough to Whitby railway line, and is considered to be of significant recreational value to walker, cycle users and horse riders. The Local Plan identifies that the route will be protected and developed as a recreational route, and furthermore that proposals within the vicinity of the track will be expected to demonstrate how the track can be utilised and improved to increase both recreational use and sustainable commuting (including the collection of contributions towards such improvements).

Green Transport Networks

2.3.35. Paragraph 9.19 states that the protection of public rights of way and the creation of new networks of routes for those without a car is a key aspiration of the Borough Council. The Local Plan considers that investment should be aimed at providing a network of good quality coastal, rural and urban

routes which inter connect and offer a variety of options to users. This aspiration is likely to form a core objective of the developing LCWIP, along with a complimentary network of additional routes, such as long distance recreational cycle paths.

Eastfields Path Strategy (June 2014)

2.3.36. Eastfield Parish Council adopted the Eastfield Paths Strategy in June 2016, setting out their strategy for enhancing and extending the network of paths and Public Rights of Way (PROW) in the parish. The Strategy recognises that the character of the area as a spacious and green neighbourhood bounded by countryside relies on this network for leisure purposes, while the town's isolated location on the periphery of Scarborough creates significant access issues, particularly when considering 39% of households in the parish lack access to a car. There are also serious health problems in the parish, with above average rates of coronary heart disease, and adult and child obesity.

2.3.37. The Strategy aims to create a Parish with an accessible, high quality and well-used network of paths; and encourage people to walk, cycle, and explore their local neighbourhood more often.

2.3.38. The Strategy presents a comprehensive audit of the existing network of paths in the Parish, and includes a section discussing the Middle Deepdale development, and the opportunity this site presents to extend the path network.

2.3.39. The Strategy also presents a number of proposals for improvements to the path network; a number of these could be considered for inclusion as part of the Scarborough LCWIP, or could form part of a complimentary secondary network of local routes. In particular, some of the medium / longer routes could be considered as part of an arterial primary network between Eastfield / Cayton area, such as along the Musham Bank path or Knox Hill bridleway.

2.3.40. While the Strategy identifies an east-west link as a short-distance route within the Cayton / Eastfield urban area, there is no strategic long-distance east-west route discussed in the document; the potential need for such a long-distance route has been identified using the PCT tool (as presented in Section 4), potentially providing a contiguous cycle route from Seamer to Filey.

SUMMARY

2.3.41. The policy review demonstrates that the Scarborough LCWIP will contribute to a range of policy objectives at various spatial scales.

2.3.42. At a national level, the LCWIP will contribute toward the Government objectives of supporting sustainable development, by contributing to economic growth in a way sustainable manner. The Government recently released the Cycling and Walking Investment Strategy (CWIS) and Local Cycling and Walking Infrastructure Plan (LCWIP) guidance. The LCWIP represents part of North Yorkshire's contribution to support the CWIS objectives.

2.3.43. The LCWIP will support and contribute toward all five objectives of the North Yorkshire Local Transport Plan due to the wide-ranging way that walking and cycling, as a mode of transport, can deliver benefits to individuals and wider society. At a local level, the LCWIP will complement Scarborough's aims, contributing towards the Borough's vision for better opportunities to access work and leisure activities, and have wider benefits for the environment, health, air quality, and social cohesion. If adopted as an SPD, as per the DfT's LCWIP guidance, the Scarborough LCWIP will provide a policy basis for development to contribute towards a cohesive walking and cycling network, and helps ensure Scarborough's significant growth aspirations come forward in a sustainable manner.

2.4. LOCAL GEOGRAPHY

OVERVIEW

2.4.1. The Borough of Scarborough sits within the County of North Yorkshire, the largest county in England, covering an area of around 865,400 hectares with a resident population of just over 600,000[1] (mid-2015 estimate). Around a sixth of the county's population live in Scarborough Borough, with a population of 108,800 people, although only approximately half of these live in the Scarborough urban area, with the rest based in the two smaller towns of Whitby and Filey, as well as the rural hinterlands of the Borough.

2.4.2. Scarborough is the largest holiday resort on the Yorkshire coast, with the population estimated to rise by at least 10,000 people in the peak summer months—although some estimates consider that the population may double during certain periods.

2.4.3. The Yorkshire Coast stretches from Staithes and Whitby down to Spurn Head and the Humber estuary, incorporating coastal settlements and resorts such as Bridlington, Filey, Hornsea and Withernsea, as well as Scarborough itself. The Yorkshire Coast Growth Plan identifies that coastal areas such as Scarborough present some of the greatest regeneration needs in the LEP area in economic terms, characterised by unemployment, deprivation and skills issues.

2.4.4. The area suffers from a low-wage economy, which, despite the broad range of housing available, has an overall impact on housing affordability. In particular, the cost of housing in the rural areas and Whitby are markedly higher than in many areas of Scarborough town. 66.8% of the population are identified as earning less than £23,400 per year, while the median weekly income is below the national and regional averages.

2.4.5. The Borough features a significantly high number of flats, predominantly located in the town centre and along the costal frontages, comprising circa 25% of the housing market, as opposed to just 15% in the wider region. There are also over 4,000 second homes (7.3% of the housing stock), illustrating the draw of the area as a holiday destination.

2.4.6. The Scarborough economy has historically been dependant on fishing and tourism industries. With regards to tourism, over 7 million tourists visit the Borough annually and whilst numbers have declined in recent years, the average spend per visitor has risen. While the tourist industry accounts for 22.8% of jobs in the Borough, most of these are part-time and low paid. The public administration and health sector also accounts for a large proportion of employment in the Borough, at 33.5% of all jobs.

2.4.7. As the tourism market has changed over the decades, evidence indicates that resorts such as Scarborough need to widen and upgrade their offer as a destination, and strengthen non-tourism related aspects of their economies. In Scarborough, tourism activity is now combined with a significant manufacturing and engineering base.

[1] http://www.northyorks.gov.uk/article/23704/North-Yorkshire-population-information

2.4.8. Successful events such as the Scarborough Engineering Week and the Employability Charter are looking to help to equip a new generation with the skills needed in the industry, and at the same time investments such as a £15m water park, and the continuing rise of the surfing scene will continue to enhance its attractiveness to visitors. Other Yorkshire Coast opportunities include potash mining and offshore wind, with potential to service turbines from Yorkshire Coast harbours such as Bridlington or Whitby.

2.4.9. Coastal erosion and sea level rise present threats to stretches of the coast, and other areas such as Flamborough Head are important for birdlife and conservation. A long term sustainable approach to development that balances needs and looks at the future roles of settlements will be important.

Opportunities

A concentration of growth in the LCWIP Study Area, particularly around Cayton / Eastfield / Seamer presents opportunity to associate improvements with new development, creating a cohesive network connecting planned growth and providing funding opportunities;

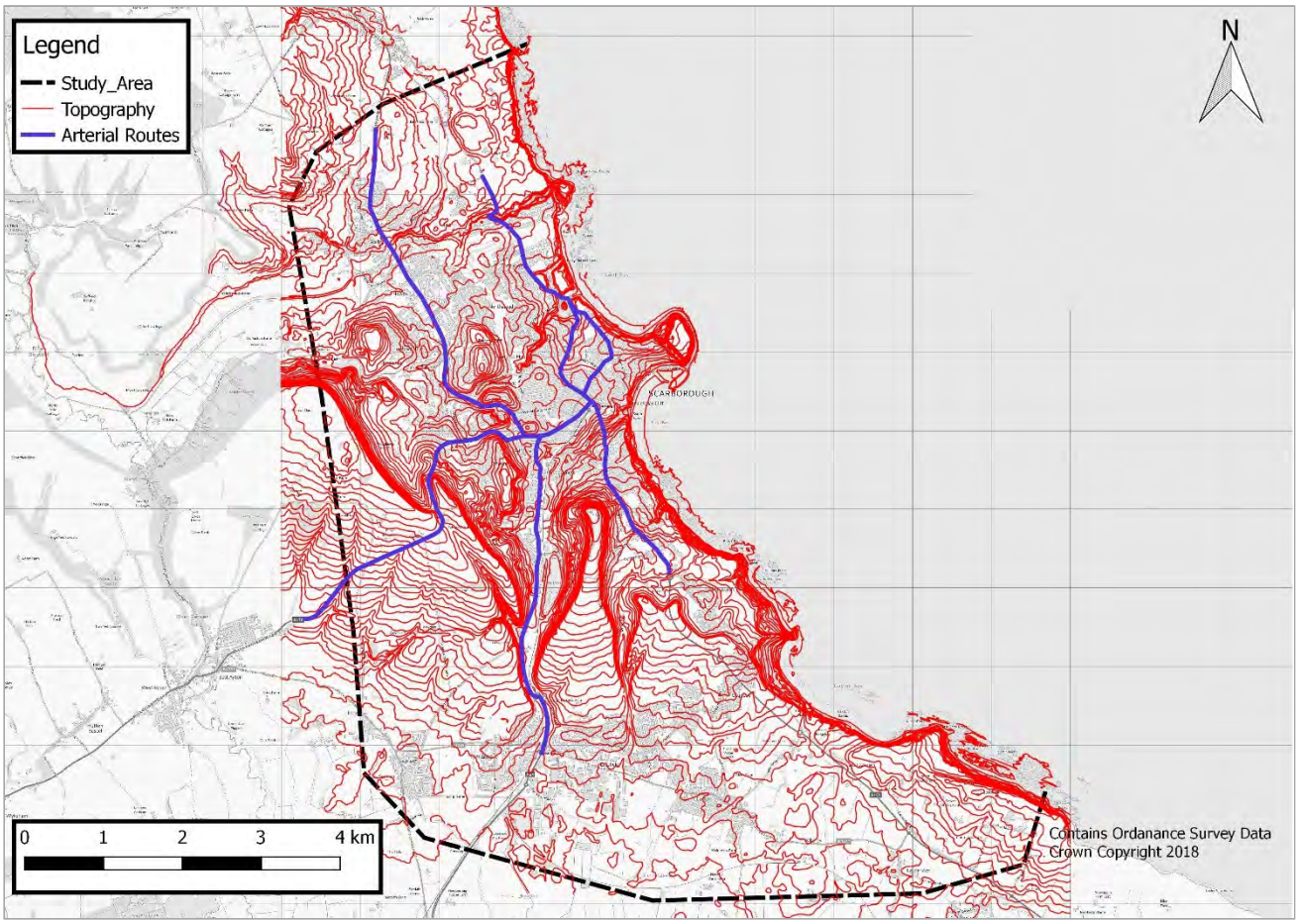
Lower value local jobs may result in lower levels of car ownership (or multiple car ownership per household), increasing the propensity to travel by sustainable and active modes;

A strong visitor economy presents opportunities for local trips within the Study Area to be made by bicycle, both within the town centre and connecting to leisure and tourist opportunities further afield.

TOPOGRAPHY

2.4.10. Figure 2 illustrates the topography within the LCWIP Study Area, displaying 5m contours, with key arterial routes shown for additional context. Topography will be more important when considering specific desire lines and potential routes; nevertheless, the figure clearly shows where routes could be more challenging, particularly for cyclists, such as around the cliffs and headland, and the northern extent of Oliver's Mount.

Figure 2 – LCWIP Study Area Topography (inc key arterial routes)



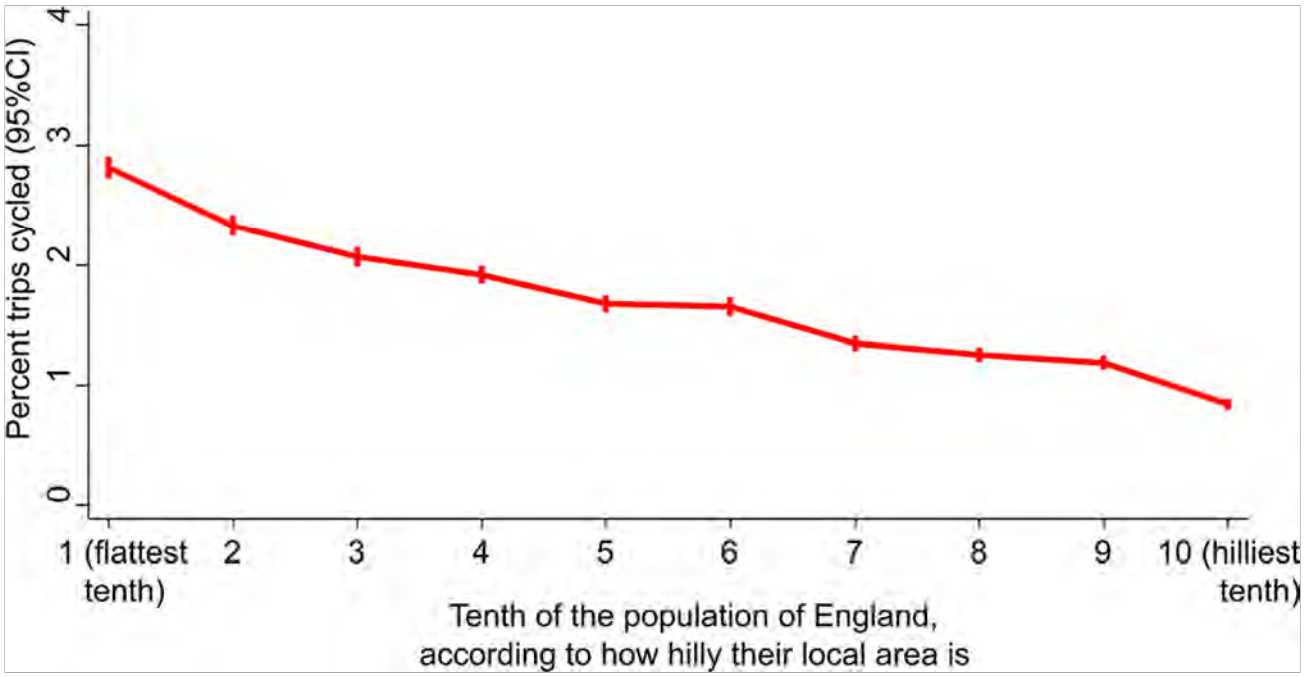
2.4.11. Hilliness is an important predictor of cycling levels in England, with the probability of cycling a trip falling steadily as the hilliness of the local area increases. Recent University of Leeds research showed that "hilliness was found to be, by far, the most significant determiner of the proportion that cycled to work in a district[2]."

2.4.12. Furthermore, as demonstrated in Figure 3, overall, people in the tenth of the population in the flattest areas are three times more likely to cycle a trip than the tenth of people in the hilliest areas (2.8%

[2] Estimation of the determinants of bicycle mode share for the journey to work using census data, 2007

trips cycled vs. 0.8%[3]). This makes the topography within the study area an important, influencing factor on the cycle network development. Certain areas within the study area may be too hilly and deter potential cycle user from using those routes

Figure 3 – Proportion of Trips Cycled in England (according to hilliness of local area)



Source: Centre for Diet and Activity Research

2.4.13. Gradient also plays a major role in the perceived 'comfort' or 'attractiveness' of pedestrian routes (footpaths and footways), and thus, the propensity to walk a particular route. As highlighted in DfT's 2005 'Inclusive Mobility' guidance[4], and replicated more recently in the 2014 Welsh Active Travel Guidance[5], steep gradients can have a particular impact on older people, those with physical difficulties and parents with pushchairs. The guidance recommends that as a general rule, a gradient of 5% (1 in 20) should be the desirable maximum in most situations and 8% (1 in 12.5) should be used as the absolute maximum unless justifiable. Research by Meeder *et al* (2017)[6]

[3] Centre for Diet and Activity Research, 2016

[4] Inclusive Mobility, Department for Transport, 2005

[5] Active Travel Design Guidance, Welsh Government, 2014

[6] 'The influence of slope on walking activity and the pedestrian modal share', Meeder M. *et al.*, 2017

concluded that slope (and by inference 'hilliness') has a significant influence on walking attractiveness primarily due to the effort (or energy) required to scale the slope, suggesting that for every 1% increase in incline there is a 10% reduction in walking attractiveness.

2.4.14. Such evidence suggests that 'hilliness' in certain areas, particularly around the bays, is likely to have a bearing on the propensity of people to walk or cycle to and from these areas, and must be taken into consideration when determining potential networks.

2.4.15. Of particular note is the significant gradient along all the routes from the town centre to the south bay, the main tourist area in Scarborough and a key connection between the two.

Challenges

The Scarborough LCWIP study area contains some significant gradients, including virtually impassable places at the cliffs and across the valley. These natural features may sever key desire lines in places, requiring significant diversions.

Opportunities

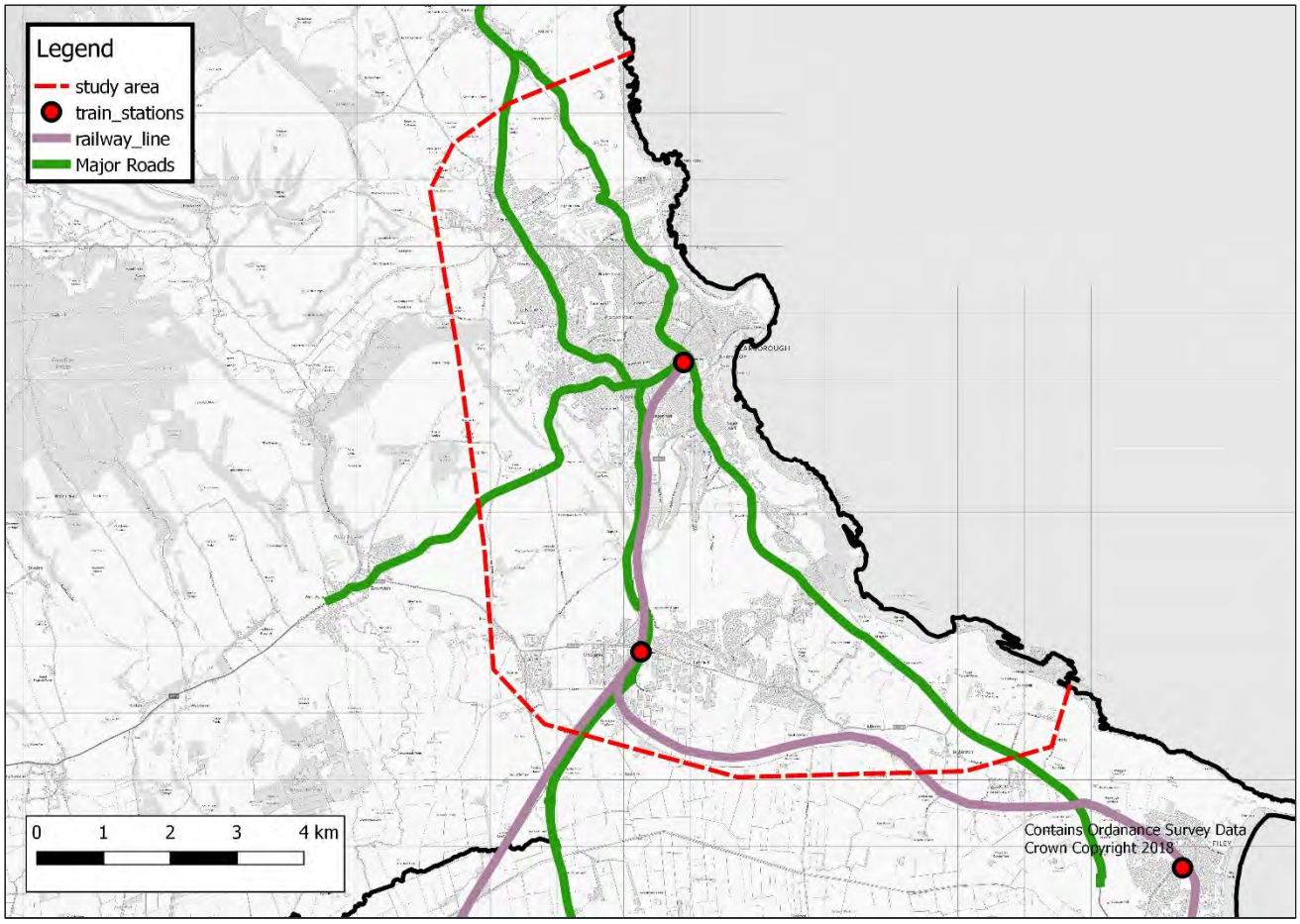
Consideration should be given to implementing infrastructure in areas of limited hilliness' or inclines, depending on other factors identified during this study.

Many of the existing arterial routes follow less severe gradients; some routes may be capable of forming part of a cycling and walking network through quick wins.

BARRIERS TO MOVEMENT

2.4.16. Within the study area there are other physical barriers which impede cycling and walking movements. Figure 4 displays how human-made features ('A' class roads and railway lines) provide a number of barriers to movement in many directions through the LCWIP Study Area. The severing impacts of such features on key desire lines must be considered as part of the LCWIP process.

Figure 4 – Barriers to Movement



ENVIRONMENTAL CONSIDERATIONS

2.4.17. Environmental considerations have the potential to form a key part of the LCWIP process. Protected areas of land can restrict the type of infrastructure that can be implemented, or even prevent a route from being adopted at all.

2.4.18. The greenbelt (within the UK) is an area of open land around an urban area where building is restricted. The green belt should be taken into account when looking to improving the potential for cycling in an area as it will limit the infrastructure that can be implemented. Hard infrastructure such as segregated routes may not be realistic proposals in a greenbelt area; however, softer alternative measures such as signed routes may be implemented. Whilst there is no designated Greenbelt land in the LCWIP study area, and related restrictions must be considered in the development of the Networks.

2.4.19. Figure 5 illustrates the various environmental constraints that may need to considered as part of the emerging Scarborough LCWIP. The majority of the potential constraints, such as North Yorkshire Moors National Park and the Heritage Coast, lie beyond the boundaries of the LCWIP Study Area. However, the headland around Scarborough Castle and much of the southern coast are part of an SSSI, and there are a great many listed properties that could have an impact on specific routes.

2.4.20. It is noted that there are currently no declared AQMAs within the LCWIP Study Area[7].

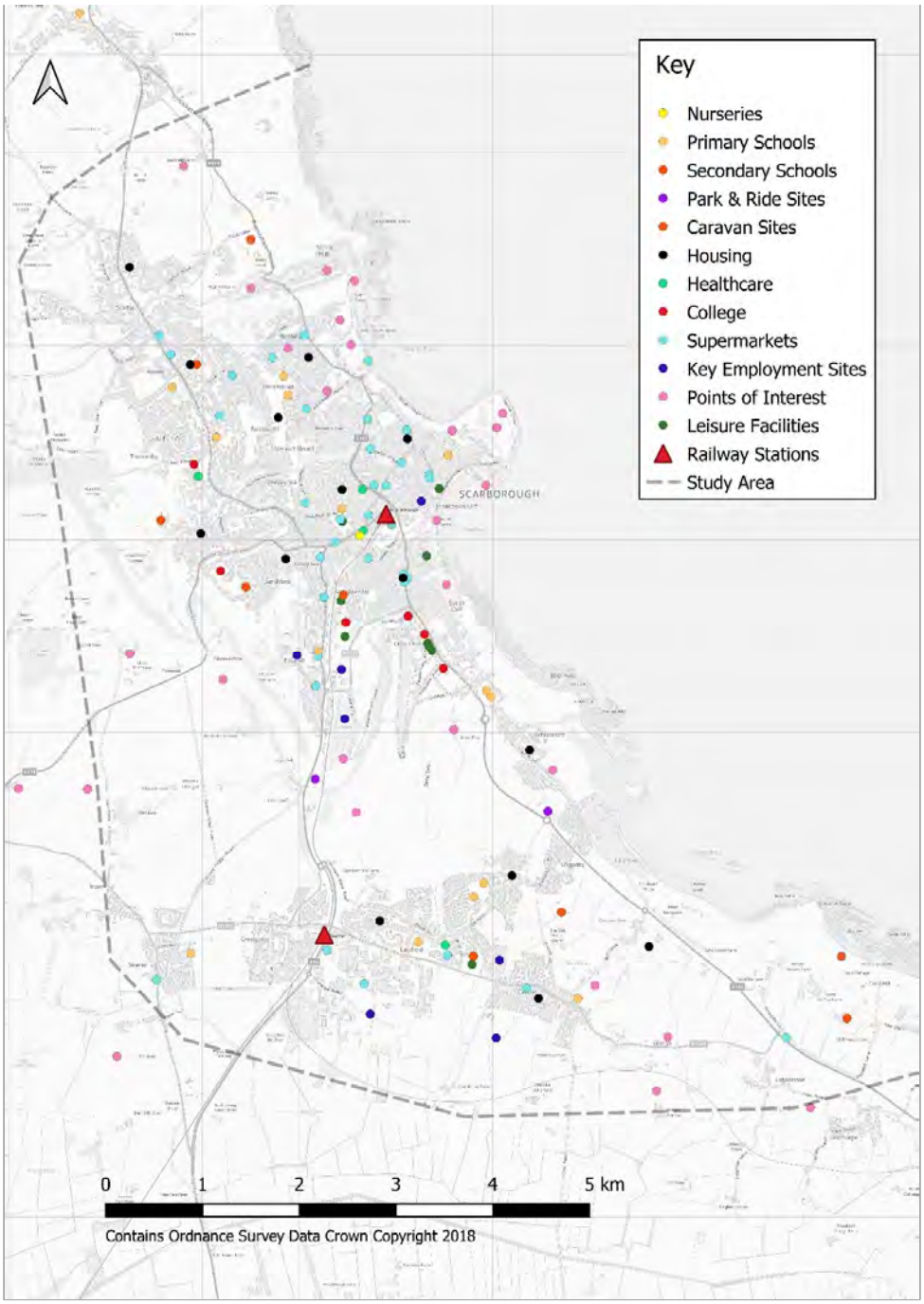
[7] https://uk-air.defra.gov.uk/aqma/

Figure 5 – Environmental Considerations

ORIGINS AND DESTINATIONS

2.4.21. A desktop study of key origins and destinations (ODs) was carried out in order to identify the existing locations within the LCWIP study area boundary that are most likely to benefit from additional pedestrian and cycle access and connectivity. Figure 6 illustrates that the destinations are largely within the urban area of Scarborough town centre, particularly those associated with employment, sport and leisure, and grocery. There is a lack of destinations within the rural greenbelt between Scarborough and the neighbouring Eastfield / Cayton area.

Figure 6 – Origin and Destination Locations



2.4.22. To identify significant residential (origin) areas, proxy nodes were plotted on GIS, based on 2011 Census data available from the Office for National Statistics (ONS). Population weighted centroids for the Census Middle Super Output Areas (MSOA) were mapped, showing where the population is greatest within the MSOA boundaries, and thereby indicating the urban areas with the greatest potential for trips. These nodes were reviewed, using an Ordnance Survey (OS) basemap as a reference, and manually adjusted where necessary to ensure that they were located over urban areas to represent realistic trip origins. Additional points were added where required in order to ensure all urban residential areas were adequately represented.

2.4.1. As illustrated in Figure 6, there are a number of key employment sites to the south of the town centre, along the A64 corridor; this includes Queen Margaret's Industrial Estate and Eastfield Industrial Estate where McCain, the town's major employer, is situated. Other key employment areas are situated within the town centre area and to the east at Scarborough General Hospital. As identified in the Scarborough Local Plan, there are a number of committed employment sites at Eastfield Industrial Estate, highlighting further expansion to the site; potential future ODs are discussed in Section 2.9 of this report.

Challenges

Given that most of the key origins and destinations lie within the urbanised areas of the Scarborough LCWIP Study Area, it is likely that any proposals for additional infrastructure will be constrained by the highway boundaries and built environment, limiting the potential for any significant interventions;

A number of leisure routes have the potential to extend into the urban hinterland and rural areas surrounding the LCWIP Study area, or connect to towns further afield such as Filey or Whitby; these routes are likely to have limited connectivity.

Opportunities

The majority of the key origins and destinations lie within the urbanised LCWIP Study Area; there is likely to be opportunity for a single intervention to facilitate travel between a number of key areas, particularly along key arterial corridors;

Longer distance routes between Scarborough and Eastfield / Cayton could align with the significant future development sites allocated in the Scarborough Local Plan;

Leisure routes further afield could also align with longer distance commuter routes towards the built up areas outside the LCWIP Study Area (Scalby, Whitby, Filey, Seamer), providing dual purpose routes.

2.5. DEMOGRAPHICS

THE LOCAL POPULATION

2.5.1. The total population of the Borough of Scarborough is approximately 108,800 (ONS annual population survey), with the majority of that population in the main key seaside towns of Scarborough, Whitby, and Filey. The population of the town of Scarborough itself is approximately 38,400, while almost 60,000 people reside in the wider Scarborough Urban Area. Whitby and Filey are much smaller, with populations of approximately 13,000 and 7,000 people respectively. Approximately 12,000 people live within the part of the Borough that lies within the North York Moors National Park.

2.5.2. To understand current travel behaviour and help to forecast future trends, data from the 2011 Census has been analysed to inform this report. The data shows that the population of the study area is approximately 62,564 people[8], approximately 58% of the total population of the Borough of Scarborough. Note that the study area extends slightly beyond the boundaries of the Scarborough Urban Area.

2.5.3. The study area population comprises approximately 32,319 female and 30,245 male residents[9], which equates to 52% and 48% respectively of the total population.

Age Composition

2.5.4. Table 1 below displays the age breakdown for the study area and how the local statistics align with regional and national statistics. Almost half of the population within the study area (48%) are over the age of 45.

2.5.5. The Local Plan notes that parts of the Borough are popular retirement areas. This is reflected in that approximately 21% of the study area population is over the age of 65 years, notably higher than the comparative statistics of 17% for Yorkshire & Humber (Y&H) and 16% nationally. 62% of the population in the study area is of working age (16-64), lower than the comparative averages for Y&H and nationally. Notably, the study area has an ageing working age population with 44% of population in the 45-64 age group.

2.5.6. An older population may be characterised as having a greater desire for segregation from motor vehicles, as well as potentially being dismissive of cycling as being for younger people[10]. However, the Local Plan also states that the limited numbers of young people raises concerns about the outward migration of young people from the Borough, and what can be done to retain and attract young people to the area.

---

[8] Census Dataset KS101EW – Usual Resident Population (by MSOA)

[9] Census 2011

[10] Aldred, Woodcock and Goodman, (2015) Does more cycling mean more diversity in cycling?

Table 1 - Age Breakdown

Age Group	Study Area	% of Pop.	Yorkshire & Humber	% of Pop.	England	% of Pop.
0 - 15	10,605	17%	997,792	19%	10,022,836	19%
16 - 24	7,441	12%	665,550	13%	6,284,760	12%
25 - 44	14,210	23%	1,389,425	26%	14,595,152	28%
45 - 64	17,000	27%	1,356,395	26%	13,449,179	25%
65+	13,308	21%	874,571	17%	8,660,529	16%

Census, 2011

2.5.7. The Local Plan also highlights that since the recession in 2009 there was a steady rise in the number of people without work relative to the national increase. While the latest figures (April 2014 to March 2015) show that the gap is narrowing, unemployment in Scarborough Borough (6.5%) is still higher than the national average (6%).

2.5.8. The LEP Strategic Economic Plan identifies that projected growth in the LEP region is lowest in Scarborough (and Craven).

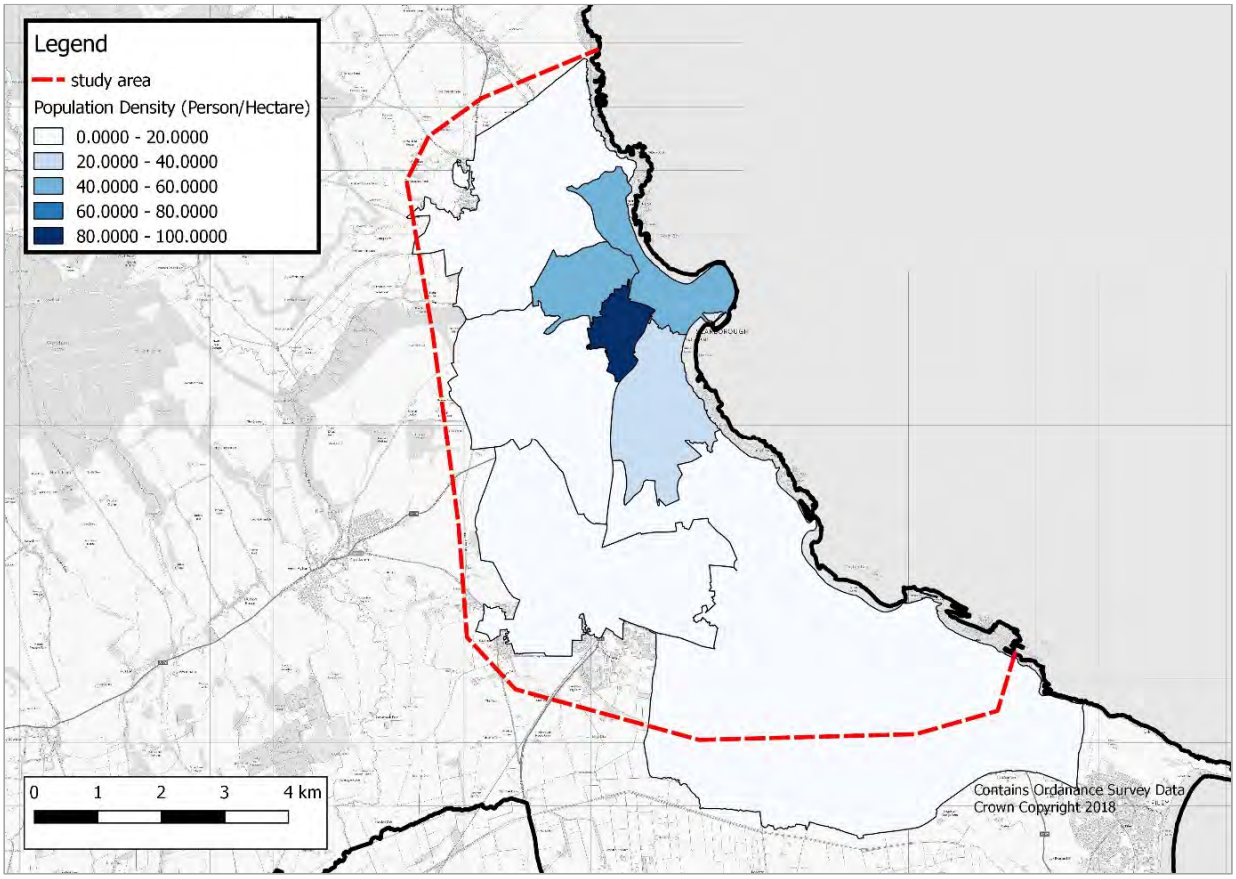
Population Density

2.5.9. Population density is an important factor when considering an area's propensity to both walk and cycle as a mode of travel, and thus developing cycling and walking networks. Population density can help to prioritise certain routes for cycling, focussing on linking more densely populated areas as part of a primary cycle network can mean that new cycle infrastructure could positively impact a greater number of people.

2.5.10. Figure 7 illustrates which Census Middle Super Output Areas (MSOAs) within the study area are most densely populated. The most densely populated area is the central area of Scarborough which has between 80 and 100 people per hectare (pph). The MSOAs surrounding the centre of Scarborough to the north has 40 – 60 pph. One MSOA to the south of the centre has 20 – 40 pph. The remaining MSOAs are sparsely populated with between 0 – 20 people per hectare. The people per hectare reduces the further away from central Scarborough the MSOA is located.

2.5.11. Population density is integral to the network development when considering the economic costs and benefits; infrastructure that affects the most people for the least cost is preferable. Analysing population density allows connections to be made between the most densely populated urban areas within the study area. The main town of Scarborough is clearly significantly denser than the surrounding areas; however, the significant tourist industry in Scarborough results in high seasonal demand for travel between areas such as the caravan parks around Cayton and Scarborough town centre, as well as increased activity around the bays and other tourist destinations.

Figure 7 – Population Density



Challenges

The ageing population may restrict those able to access walking and cycling as forms of travel;

The urban fringes and rural sections of the study area are characterised by a lower population density, limiting the percentage of the resident population likely to benefit from interventions in these areas, particularly those aimed at commuter and utility cycle users;

Opportunities

Conversely to the above, the aging population may present opportunities to align the Scarborough LCWIP with health and leisure benefits;

The higher proportion of those out of work could align with a need to provide better affordable connections between residents and opportunities for employment;

The higher population density within the Scarborough Urban Area indicates that any potential interventions within the urban areas are more likely to impact on a higher percentage of the population.

DEPRIVATION

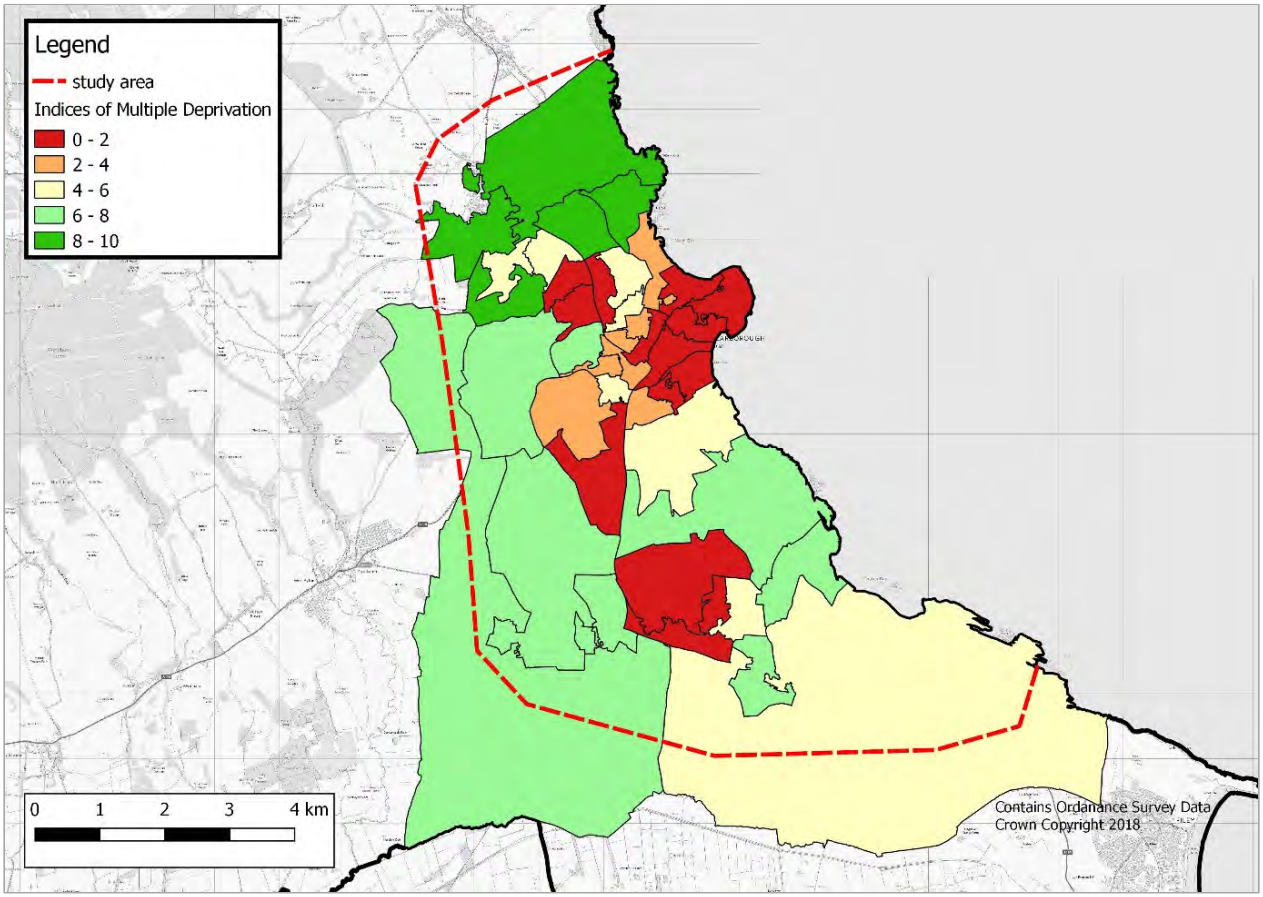
2.5.12. Another important set of demographic indicators when promoting cycling are those related to deprivation. This section will compare the 42 Lower Super Output Areas (LSOAs) within the study area to the 32,482 LSOAs nationwide. The English Indices of Multiple Deprivation (IMD) are usually released on a three-yearly basis by the Department for Communities and Local Government. However, there were five years between the most recent release in 2015 and the previous release in 2010. Their purpose is to assess the concentration and degree of deprivation and poverty within all local authorities in England. The index ranks, at a highly localised scale, the degree to which the different locations could be considered to be in relative deprivation

2.5.13. The following figures classify the various indices presented as quintiles based on data across the whole of the England. Number 1 is considered the most deprived, while 32,482 is the least deprived; therefore 0-2 is presented as within the most deprived 20%, whereas 8-10 is in the least deprived 20% nationwide.

Indices of Multiple Deprivation

2.5.14. Indices of Multiple Deprivation (IMD) is a composite of many types of deprivation, including Income, Employment, Education Skills and Training, Health and Disability, Crime, Barriers to Housing and Services, and Living Environment. Figure 8 illustrates the rankings of the LSOAS within the study area.

Figure 8 – Indices of Multiple Deprivation (IMD)



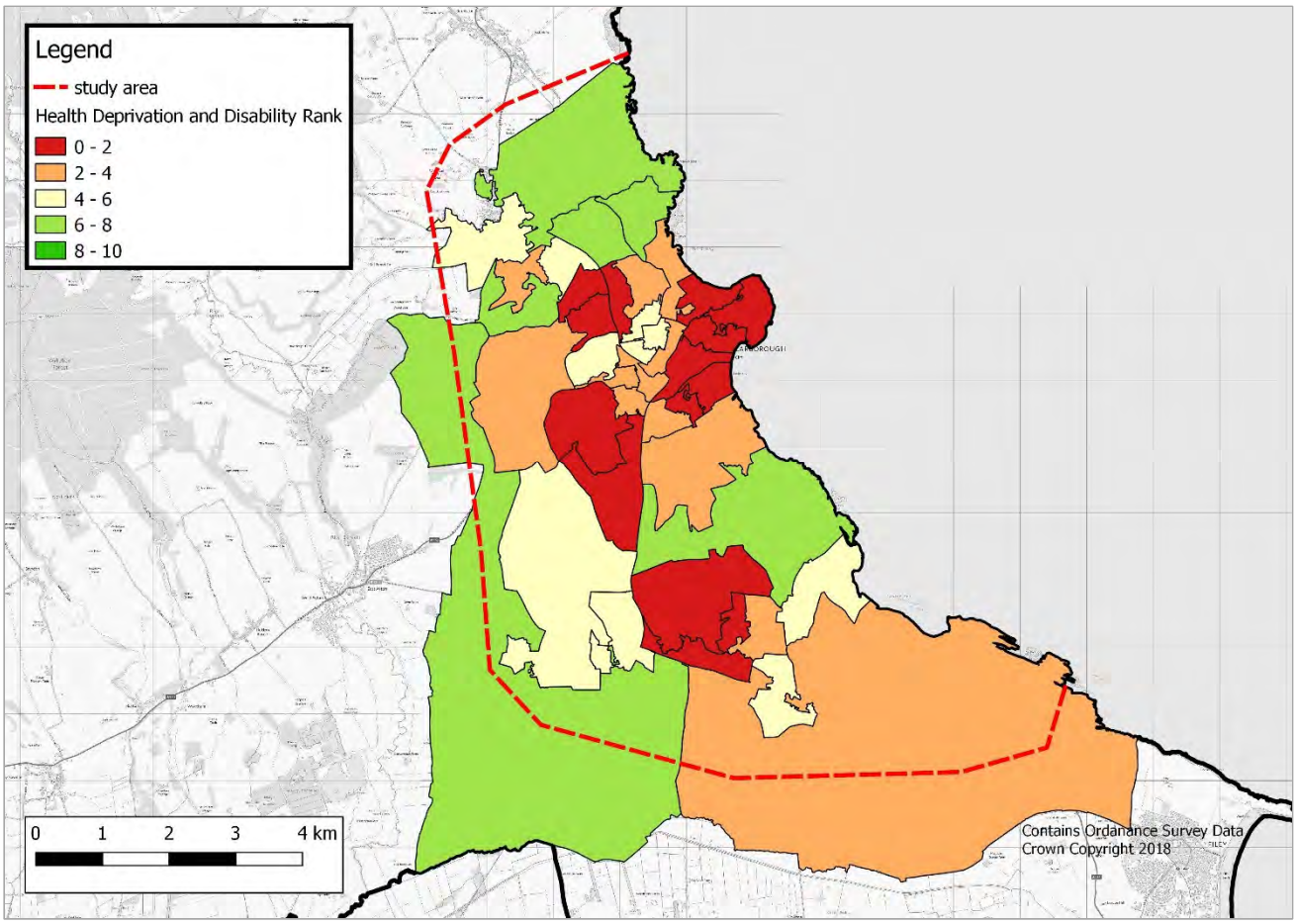
2.5.15. Of the 42 LSOAs within the study area, there are 14 LSOAs which rank within the top ten percent of the most deprived areas within the UK; the majority of these LSOAs are within the central urban areas of Scarborough. However, there are also 5 LSOAS in the north which are in the top ten percent of the least deprived areas in the UK. In all, Scarborough has a very diverse composition of deprivation and in general the further away from the centre the LSOA is, the less deprived it tends to be.

2.5.16. The IMD is designed to pull together different facets of deprivation, however, when carrying out small area analysis, it is often worth looking closely at what the domains, and even their subdomains, tell you about different aspects of deprivation.

Health Deprivation and Disability

2.5.17. An important indicator when promoting active transport modes is that related to the level of health deprivation and disability in the area. Health Deprivation and Disability, with regards to the IMD, analyses those living in poor physical and mental health. Figure 9 shows that isolating this IMD factor from the other indicators allows us to see that the levels of Health Deprivation correlate very closely with the overall IMD, with the urban areas being characterised by a lower value. It is noted that none of the LSOAs within the study area are within the top quintile.

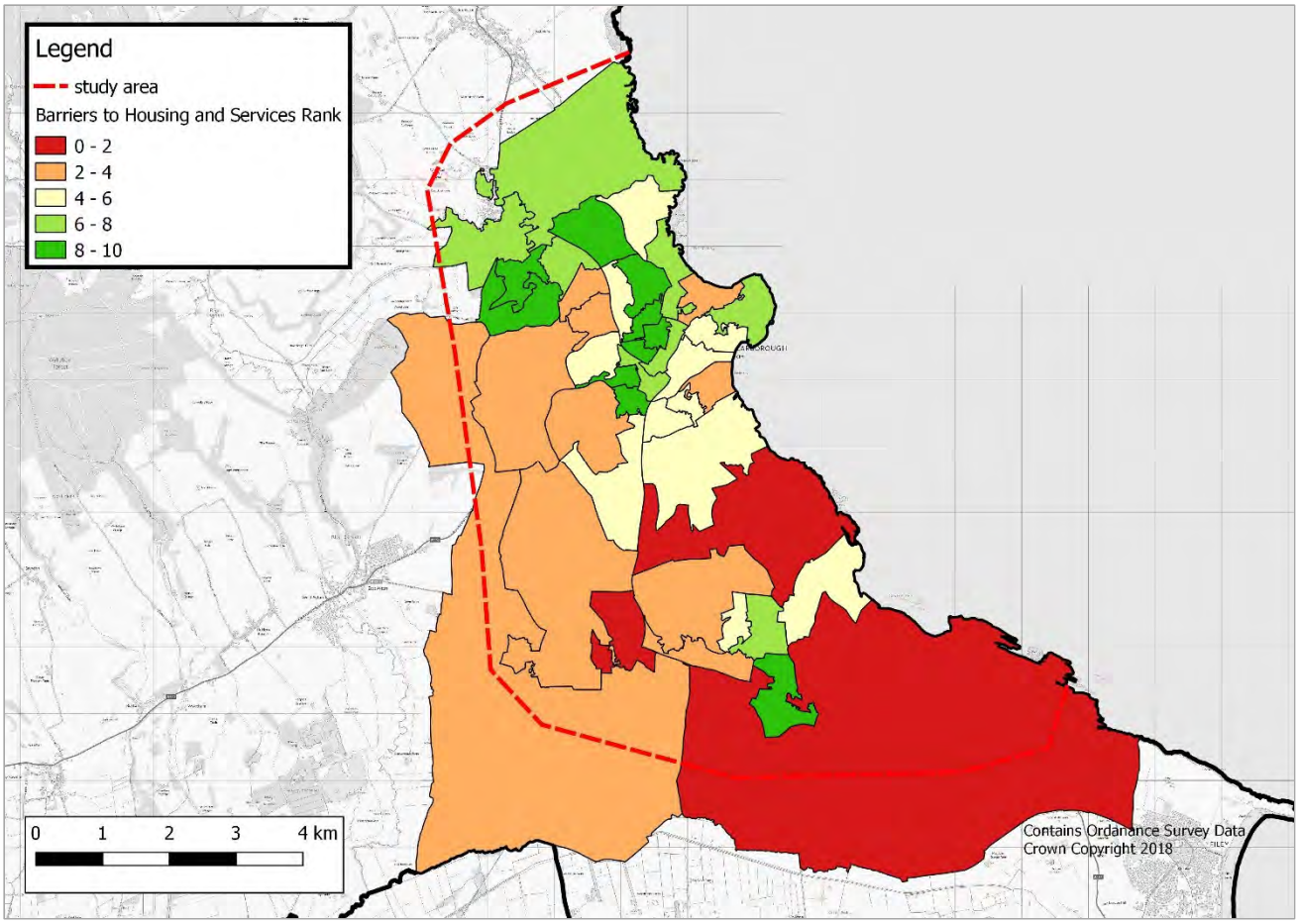
Figure 9 – Health Deprivation



Barriers to Housing and Services

2.5.18. Barriers to housing and services looks at the affordability and availability of housing, and closeness of such housing to key services. The indicators fall in to two sub-domains: 'geographical barriers' and 'wider barriers'. Geographical barriers relate to the physical proximity of local services measured by road distance to a post office, primary school, supermarket and GP surgery. Wider barriers include issues relating to the access to housing including household overcrowding, homelessness and housing affordability.

Figure 10 – Barriers to Housing and Services

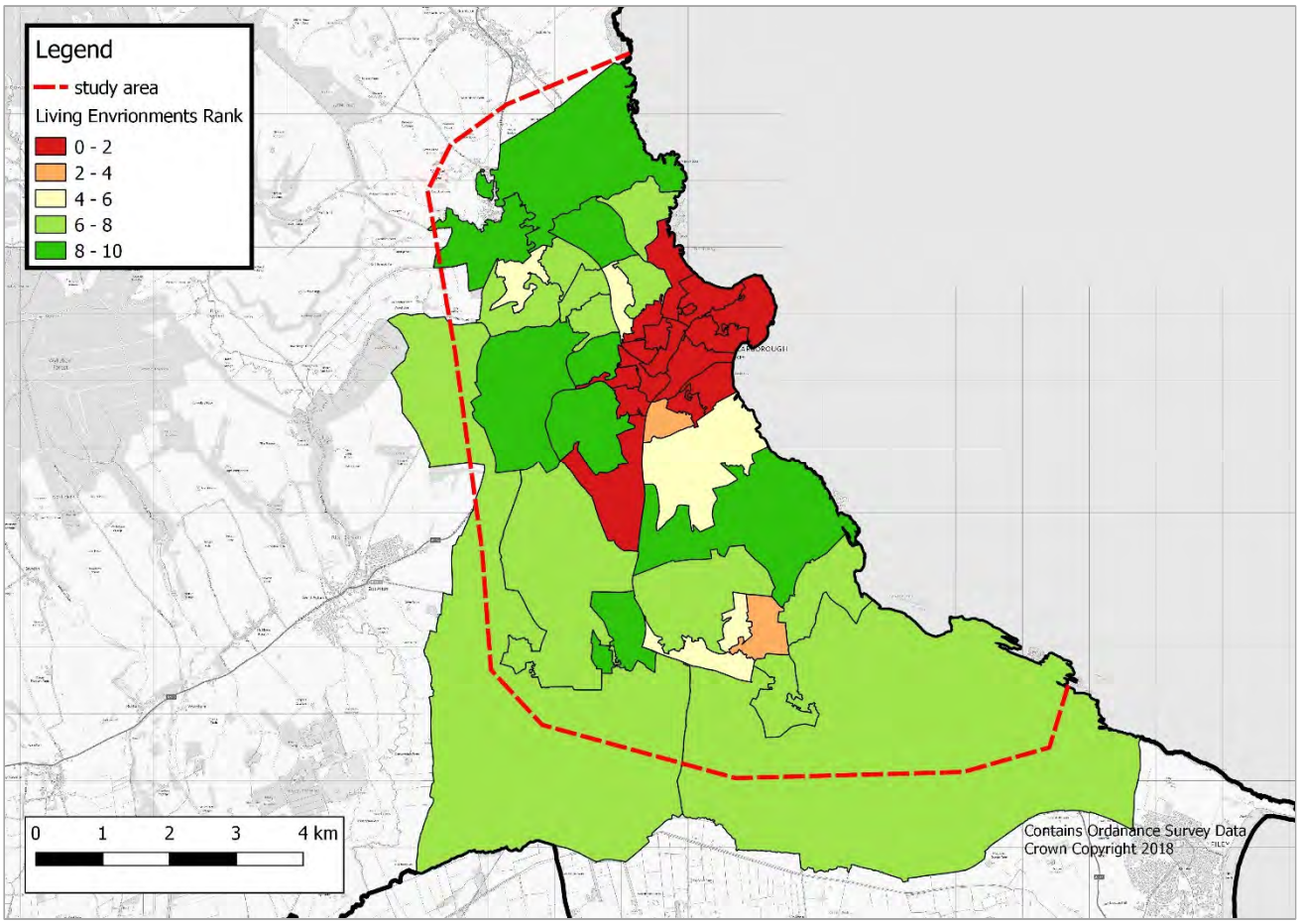


2.5.19. Figure 10 indicates that, unlike other deprivation indicators, Scarborough town itself is less deprived than more peripheral areas of the study area, and indicates a clear north / south divide, with three LSOAs in the south being in the bottom quintile.

Living Environments

2.5.20. Living environment deprivation analyses the standards of people's indoor and outdoor living environment. The specific measures which contribute to this index are the quality of housing, the local air quality and number/severity of road traffic collisions in the area. The indicators fall into two sub-domains: The 'indoors' and 'outdoors' living environment. The Indoors sub-domain measures the quality of housing based on whether a house has central heating and whether or not it fails to meet the decent homes standard. The 'outdoors' sub-domain contains measures of air quality and road traffic incidents involving injury to pedestrians and cycle users.

Figure 11 – Living Environments



2.5.21. Figure 11 illustrates that Scarborough town centre ranks poorly in this particular domain when compared to the wider Study Area. The figure also highlights the significant disparity between the central urban areas ranking the bottom quintile, with the majority of the surrounding areas ranking in the top 2 quintiles; there are very few LSOAs in the middle or lower rank.

Summary

2.5.22. There is some significant variation in the study area in terms of levels of deprivation. Some of the most deprived areas border some of the least deprived areas, with particularly notable differences between the central areas of Scarborough town and the northern LSOAs.

2.5.23. In terms of health the deprivation levels of each location within the study area are similar to that of the overall IMD ranking. However, when looking at the more transport specific indicators—barriers to housing and services and living environments—there are much more varied levels of deprivation across the study area

Challenges

The Indices of Multiple Deprivation characterise the study area as having significantly high levels of deprivation in urban areas, particularly in Cayton and Scarborough town, potentially indicating higher levels of car usage from more the peripheral areas.

Opportunities

The southern and western fringes and rural sections of the study area are characterised by a higher level of deprivation in regards to barriers to housing and services; cycling interventions in these areas could help reduce these barriers.

The centre of Scarborough is characterised by a low Living Environment Index, potentially correlating with air quality and accidents involving non motorised users. High quality walking and cycling infrastructure could help lessen the impacts of both of these, limiting the potential for collisions and reducing vehicular usage.

VEHICLE OWNERSHIP

2.5.24. Overall, only 65% of households in Scarborough have access to a car or van, a considerably lower proportion to those figures for Yorkshire and the Humber and England, at 72.4% and 74.2%, respectively[11]. As detailed in Table 2, Scarborough has a lower proportion of car ownership at every level than the regional or national averages, other than a single car or van.

Table 2 - Vehicle Ownership (% of Population)

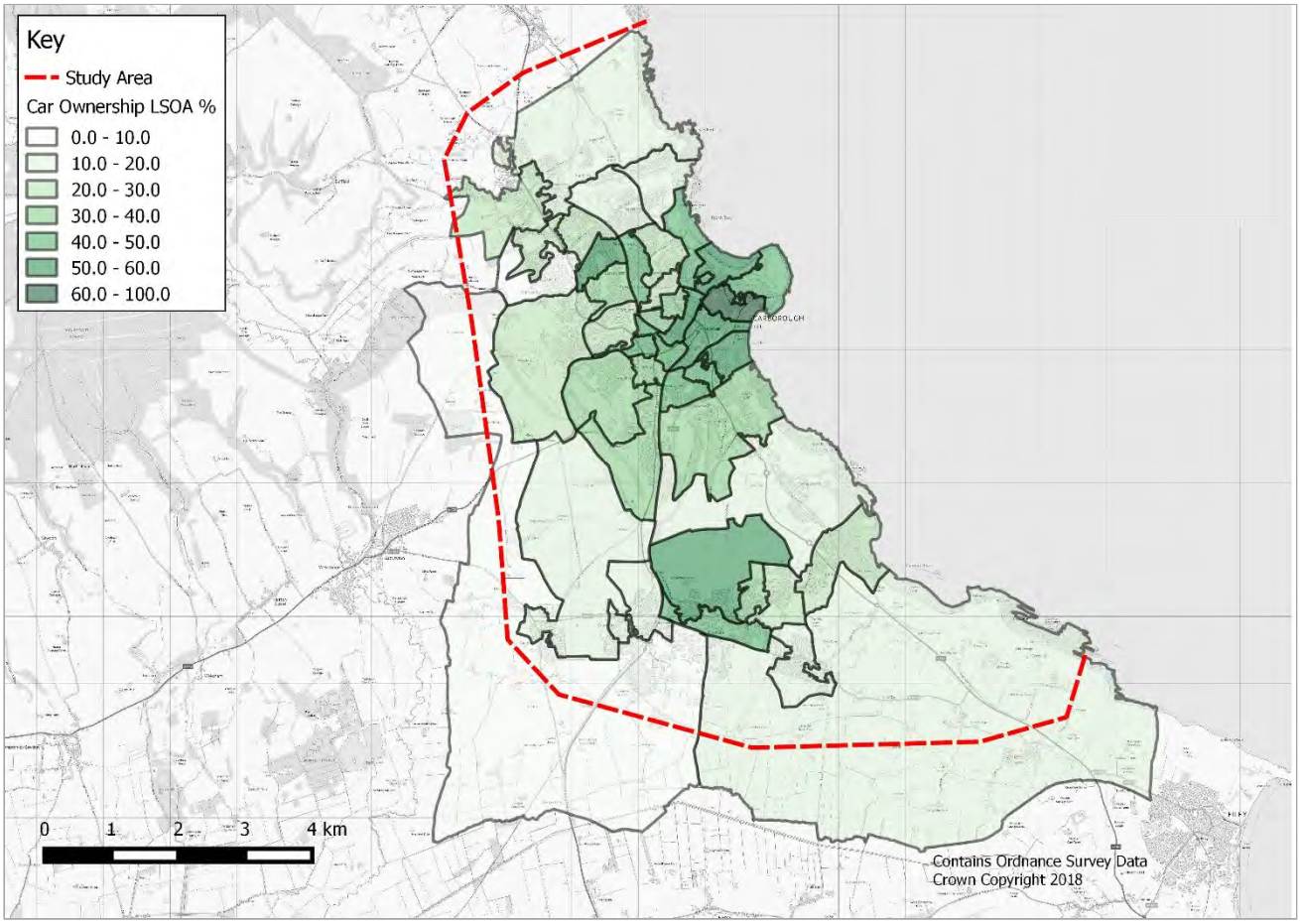
CAR AVAILABILITY	STUDY AREA	YORKSHIRE & THE HUMBER	ENGLAND
No Cars/Vans	34.7%	27.6%	25.8%
1 Car/Van	44.7%	42.9%	42.2%
2 Cars/Vans	16.5%	23.5%	24.7%
3 Cars/Vans	3.3%	4.6%	5.5%
4+ Cars/Vans	0.8%	1.5%	1.9%

Census, 2011

2.5.25. Figure 12 illustrates the considerable disparity in car ownership levels between the urban areas in the centre of Scarborough town and Eastfield, and the outlying areas. For example, 67.6% of households in the LSOA around Queen Street in the centre of Scarborough do not have access to a car, while approximately 2.5km to the north, there are 3 LSOAs around Newlands and Cross Dale Hospital where a minimum of 85% of households have access to at least one vehicle.

[11] Census, 2011

Figure 12 – Car Ownership – Households with no car by LSOA



Challenges

Rural areas of Scarborough and more affluent areas are more likely to have access to multiple vehicles, potentially limiting the willingness to switch modes for short journeys;

These areas are also on the periphery of the study area, potentially in a less dense area of any proposed network with fewer connections

Opportunities

The urban areas of the Study Area are characterised by low car ownership, potentially indicating a high propensity to walk or cycle;

Single car families may also be more willing to travel on foot or by bike as a second form of travel;

Those with vehicles may be able to more easily access remote leisure cycling locations, with implications for a wider network.

TOURISM

2.5.26. As of 2012, around 4% of all overseas visits to the UK included a stay in Yorkshire and Humber, which totalled approximately 1.1 million visits. Approximately 25% of those visits were for leisure pursuits, including cycling. The average holiday taken by an overseas visitor to the region is seven nights, whilst the average spend per night of an overseas visitor is £54. Meanwhile, in 2013 the region attracted 10 million domestic tourism trips, totalling or 27.8 million nights. Of this volume of tourism-related overnight stays, 26% were made by residents of Yorkshire and Humber; 14% by residents of the North East and 13% by residents of the North West.

2.5.27. The Scarborough Local Plan identifies that the local economy has historically been dependent upon the fishing and tourism industries, and that tourism still forms a key part of the economy, with a yearly influx of approximately 7 million visitors annually, spending upwards of £522 million. The overall number of day trip visitors decreased by 4% between 2013 and 2014; however, the overall visitor spend increased by 4%.

2.5.28. In terms of employment, the tourism industry accounts for approximately 22.8% of all jobs in the Borough (around 8,800 jobs). However, a high proportion of these jobs are part-time and low-paid, reflecting the seasonal nature of the tourism industry.

Significant Tourist Locations

2.5.29. As a significant tourist destination, Scarborough and the wider North Yorkshire Coast has many specific points of interest to cater for both tourists and the local population. Within the Scarborough LCWIP Study Area, notable tourist locations include:

- Scarborough Sealife Centre;
- North Bay Chalets;
- Scarborough Open Air Theatre;
- Alpamare Water Park;
- Scarborough Castle and headland;
- South Bay promenade;
- Scarborough Market Hall and Vaults;
- Scarborough Spa; and
- Oliver's Mount,

2.5.30. These destinations are all included within the LCWIP O/D map presented in Figure 6.

Caravan Parks

2.5.31. The LCWIP area includes a large number of caravan parks, offering both static and mobile pitches, as well as camping facilities. Many of these are of a significant size, and have been operating for many years. The Scarborough Local Plan indicates that the population of Scarborough increases by approximately 10,000 people in the height of the summer thanks to the presence of tourists, although some estimates have placed it as high as doubling.

2.5.32. The caravan parks and the transient tourist population has a significant impact on the transport networks in the Borough, causing congestion on the local network. The caravan parks are often located on the periphery of the LCWIP Study Area, increasing the reliance on the private motor car. While the LCWIP guidance makes it clear that providing a network to accommodate commuter and utility purposes is the best way to increase active travel in an area, the unique nature of Scarborough and seasonal demands indicates that some local concessions should be made to

ensure that while the emerging network caters primarily for commuters and utility purposes, the network should also serve a dual purpose, accommodating for tourists, and, where necessary, providing tourist-specific linkages.

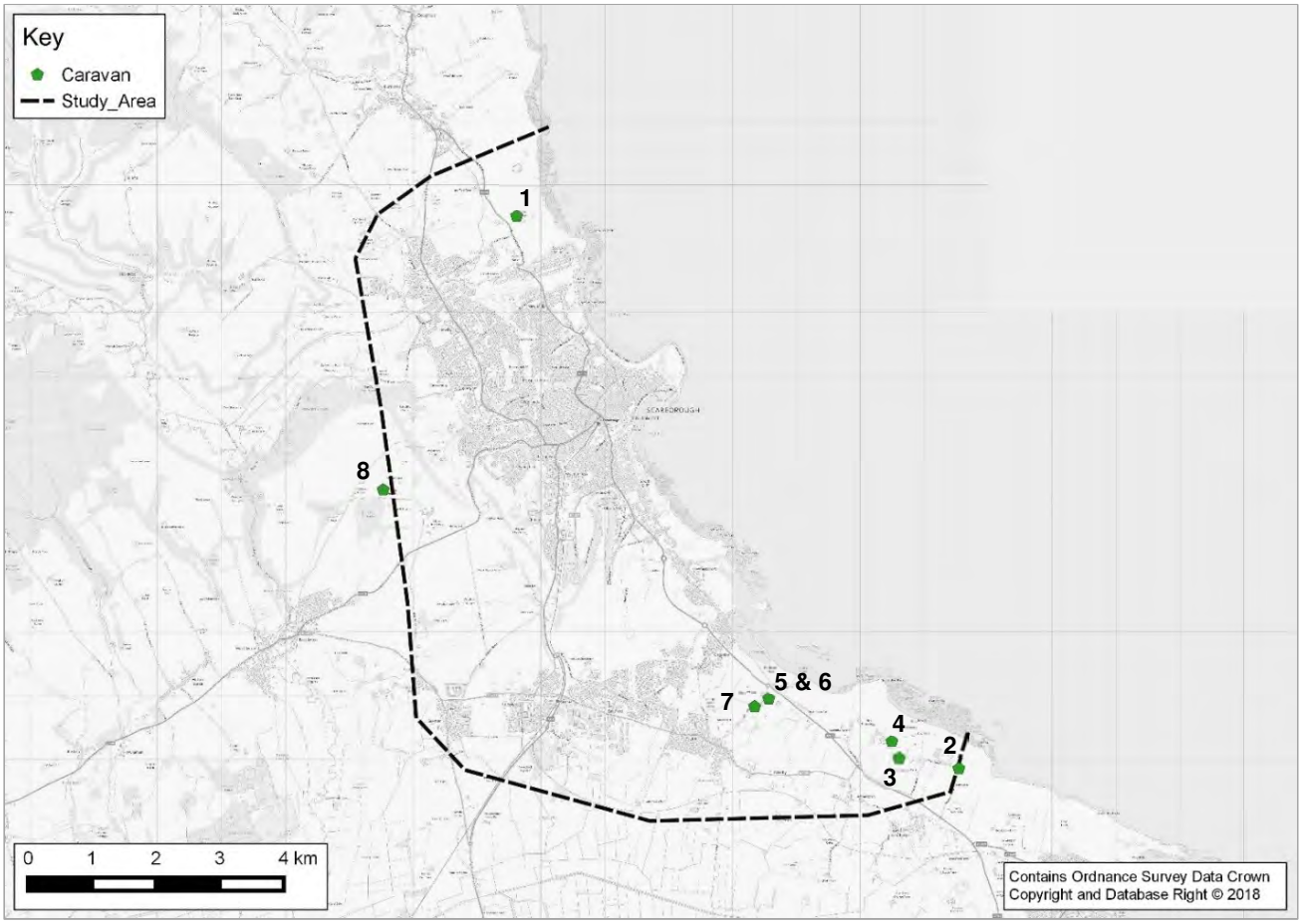
A desktop survey has been undertaken to determine the locations of any caravan / holiday parks within the study area, identifying those of significant size or in close proximity to one another. These sites are listed in Table 3 below, and displayed on Figure 13. These are also included on the LCWIP O/D map presented in Figure 6.

Table 3 - Caravan / Holiday Parks within the LCWIP Study Area

Ref	Name	Postcode	Capacity
1	Scalby Close Caravan Park	YO13 0DA	42 pitches
2	Blue Dolphin	YO14 9PU	682 pitches
3	The Crows Nest	YO14 9PS	185 pitches
4	Flower of May	YO11 3NU	159 pitches
5	Cayton Bay	YO11 3NJ	112 pitches
6	Browns Caravan Park	YO11 3NN	145 pitches
7	Cayton Village Caravan Park	YO11 3NN	310 pitches
8	Pinewood Caravan Park	YO12 5TG	36 pitches

(Source: DiscoverYorkshireCoast.com and UKParks.com)

Figure 13 – Location of Caravan Parks / Holiday Sites within the LCWIP Study Area



Challenges

- The large tourist population potentially creates additional infrastructure needs beyond that of the resident population;
- Tourism specific infrastructure may not be required during the off season, potentially reducing any associated Benefit to Cost Ratio (BCR).

Opportunities

- Infrastructure in some areas may serve all purposes, strengthening the case for provision of such schemes.

2.6. TRAVEL PATTERNS

INTRODUCTION

2.6.1. This section of the report focuses on the movement patterns within the study area looking at how people travel and where they travel to and from. The purpose of the section is to provide an understanding of the demand for movement within the study area and how walking and cycling can offer the potential for addressing some of this demand.

2.6.2. A range of data sources have been utilised to understand the travel patterns within the study area, such as Census and the National Travel Survey. It is understood that these sources have their limitations, such as the age of the data and the geographical disaggregation. However, it is acknowledged that there are no comparative alternatives to use without commissioning data collection for a specific purpose.

MODE SHARE

Journey To Work

2.6.3. One of the questions asked in the 2011 Census was regarding method of travel to work; the question asked: *"How do you usually travel to work? Tick the box for the longest part, by distance, of your usual journey to work."*[12] presents the results of the question in relation to the Study Area, compared to regional and national data.

Table 4 - Method of Travel to Work (% of Trips)

Method of Travel	LCWIP Study Area	Yorks & Humber	England
Work Mainly at or From Home	5.1%	9.3%	10.3%
Underground, Metro, Light Rail, Tram	0.1%	0.4%	4.0%
Train	1.1%	2.3%	5.2%
Bus, Minibus or Coach	5.8%	8.4%	7.3%
Taxi	0.6%	0.6%	0.5%
Motorcycle, Scooter or Moped	0.9%	0.7%	0.8%
Driving a Car or Van	50.3%	58.2%	54.0%
Passenger in a Car or Van	7.2%	6.3%	4.9%
Bicycle	3.0%	2.5%	2.9%
On Foot	25.2%	10.9%	9.8%
Other Method	0.7%	0.5%	0.5%

Note: 'Not in Employment' statistics have been removed.

[12] ONS, 2013 via National Archives (http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/mro/news-release/travel-to-work/census-reveals-details-of-how-we-travel-to-work-in-england-and-wales.html)

2.6.4. The table shows that the proportion of working residents in the LCWIP Study Area who travel to work as a driver or passenger in work by car or van is 57.5%, broadly in line with the national average but below the regional average at 64.5%. It is noted that the proportion travelling as a passenger in a car or van is higher at the local level, with a much lower proportion of those driving a car or van as part of their commute.

2.6.5. The proportion of commutes undertaken by bicycle in the study area is slightly higher than the national and regional averages, while the proportion on foot is considerably higher, with approximately a quarter of all journeys to work made on foot.

Mode Share – Study Area Internal Trips

2.6.6. Further analysis was undertaken to isolate those trips considered internal to the Scarborough LCWIP study area using census Origin – Destination data at the MSOA level, identifying journey to work modes for those trips with both an origin and destination within the Study Area[13].

2.6.7. The full internal Journey to Work data for the study area is displayed in Table 5. The data found that 16,202 internal trips were made; of these, approximately half were undertaken as a driver or passenger in a car or van, while over a third were undertaken on foot. The percentage made by bicycle is only slightly more than the Study Area average including all trips (as shown above), at 3.7%.

2.6.8. Note that 22,879 journeys to work were identified when considering all possible destinations (internal and external), meaning approximately 71% of all journeys to work originating in the LCWIP Study area are internal.

2.6.9. Given these trips are wholly internal and therefore over short distances, there is likely to be significant potential for vehicular trips to be shifted towards sustainable modes, in particular cycling. Moreover, there is clearly already a significant demand for trips to work on foot, and therefore a case for further investment in walking routes.

[13] Census 2011 – Dataset WU03EW

Table 5 - Mode Share for Trips within the Study Area

Method of Travel	Scarborough LCWIP Study Area (no.)	Scarborough LCWIP Study Area (%)
Train	27	0.2%
Bus, Minibus or Coach	1,174	7.2%
Taxi	106	0.7%
Motorcycle, Scooter or Moped	137	0.8%
Driving a Car or Van	7,194	44.4%
Passenger in a Car or Van	1,155	7.1%
Bicycle	592	3.7%
On Foot	5,782	35.7%
Other Method	32	0.2%

Census, 2011 - Dataset WU03EW

Challenges

Despite a large proportion of trips to work remaining wholly within the LCWIP Study area, and therefore travelling a relatively short distance, over 40% of these still travel by car—over 50% when passengers are also considered;

While many of these trips are likely to be over the desirable walking distance, and may involve linked trips to other destinations, only 3.7% of internal trips and 3% of all trips to work are made by bicycle—higher than the national average, yet still low.

Opportunities

A significant walking culture clearly already exists in the LCWIP Study Area, with a quarter of all journeys to work made on foot, far in excess of the regional and national average. Enhancement of the walking environment could encourage further uptake, particularly where significant barriers exist;

While the number of cycle users commuting by bike are above the national and regional average, the modal split is still particularly low. Many car journeys are likely to be relatively short, given almost three quarters of trips to work are wholly internal to the LCWIP Study Area. Providing infrastructure for those journeys beyond a desirable walking distance could help engender modal shift.

COMMUTING ORIGIN / DESTINATION

Introduction

2.6.10. This sub-section uses Census 2011 data to analyse the existing patterns of movement to work within Scarborough and the surrounding areas. Although the data looked at is not specifically related to walking and cycling movements, it is very useful in terms of understanding movement demand around the LCWIP Study Area which has potential to be met by walking or cycling should barriers to these modes be reduced or removed.

Travel Patterns

2.6.11. Table 6 sets out commuting patterns for residents of the Scarborough LCWIP Study Area; this data shows that there were 22,879 trips to work at the time of the 2011 Census originating within an MSOA in the LCWIP Study Area (note that trips equating to less than 0.1% of all trips are removed). Of these, 90% of trips remained within the Scarborough Borough boundary, while approximately 5% of trips to work are to the neighbouring Ryedale District.

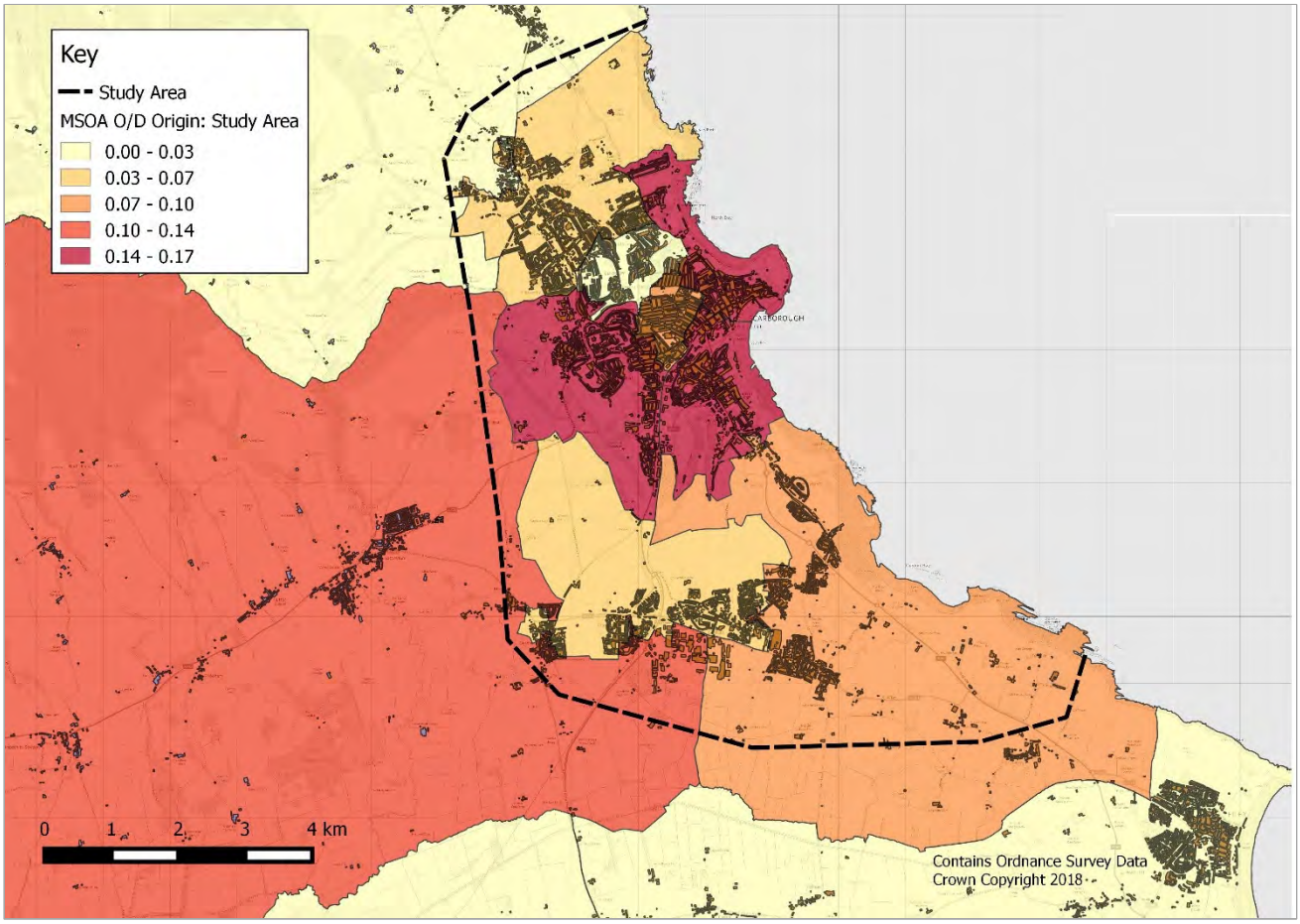
Table 6 - Commuting Patterns for LCWIP Study Area District Residents

Place of Work	Total Workers	% of all workers
Scarborough	19,675	90.2%
Ryedale	1158	5.3%
East Riding of Yorkshire	408	1.9%
York	274	1.3%
Hambleton	81	0.4%
Selby	57	0.3%
County Durham	53	0.2%
Kingston upon Hull	41	0.2%
Leeds	32	0.1%
Middlesbrough	15	0.1%
Stockton-on-Tees	14	0.1%
Sheffield	12	0.1%
Total	**21,820**	**100%**

Census, 2011 – Dataset WU03EW

2.6.12. Figure 14 illustrates these trips, identifying the significant destinations by MSOA; the figure shows the percentage of trips arriving in each destination MSOA, with these displayed as quintiles. Almost 50% of all trips to work originating within the LCWIP Study Area are to a destination in three key MSOAs, extending along the North Bay, through Scarborough town centre, and along the south of the town, including key attractors such as CU Scarborough, Mount View Business Park, Stadium Works, and Queen Margaret's Industrial Estate.

Figure 14 – Key Destinations of Commuting Trips Originating in the LCWIP Study Area



2.6.13. The data has also been analysed to identify national commuting trips with a destination MSOA within the LCWIP Study Area.

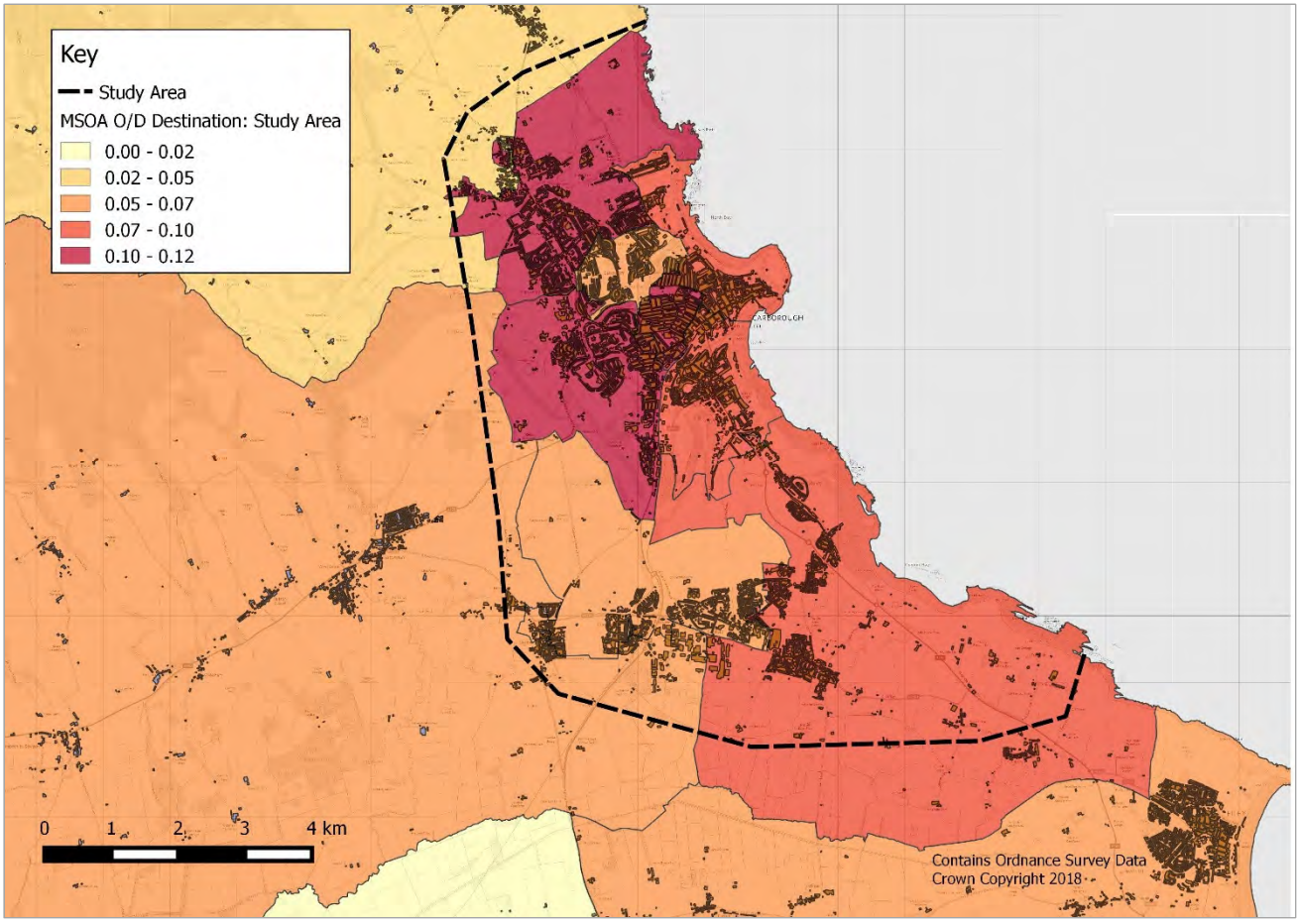
2.6.14. Table 7 below displays this data, showing the key areas trips into the LCWIP Study Area originate from. The data identified 21,787 trips into the LCWIP Study Area. Of these, 91.2% originated within the Scarborough Borough, while 4.1% originated in Ryedale and 3.9% in the East Riding of Yorkshire, the two neighbouring authorities to the west and south.

Table 7 - Commuting Patterns for LCWIP Study Area District Workers

Place of Origin	Total Workers	% of all workers
Scarborough	19,878	91.2%
Ryedale	888	4.1%
East Riding of Yorkshire	850	3.9%
Selby	99	0.5%
York	72	0.3%
Total	21,787	100.00%

2.6.15. Figure 15 illustrates these trips, identifying the main MSOAs where those trips arriving in the LCWIP Study Area originate from. The data identifies that a third of all trips to work into the LCWIP Study Area originate from three MSOAs in the north, west, and central area of Scarborough.

Figure 15 – Key Origins of Commuting Trips with a Destination within the LCWIP Study Area



2.6.16. Note that, once the data has been filtered to ignore those MSOAs with less than 0.1% of the total trips, there are far fewer origins identified than destinations, indicating that Scarborough has less of an economic draw outside of its boundary. Both the origin and destination data shows significant levels of internal commuting in the LCWIP Study Area, with approximately 75% of trips with a destination in the LCWIP Study Area also originating within the area.

Challenges

The data identifies that approximately 75% of trips to work within the LCWIP Study Area both start and finish within the area; while this provides many opportunities, the dense existing urban area and historic streetscape may present difficulties in altering highway provision and allocating more space to active travel modes.

Opportunities

Approximately three quarters of trips to work in the LCWIP Study Area are internal, suggesting significant potential for modal shift to active and sustainable modes.

The dense urban areas of Scarborough provide an opportunity to provide a similarly dense network of high quality walking and cycling infrastructure, providing significant opportunities for active travel.

Over 90% of trips originating or to the LCWIP Study area originate somewhere within the Borough, if not within the LCWIP Study Area itself, indicating that cycle routes further afield could not only provide access to leisure opportunities but also cater for longer distance commuters.

TRIP PURPOSE

National Travel Survey

2.6.17. The National Travel Survey, published yearly by the DfT, is a household survey designed to monitor long-term trends in personal travel and to inform the development of policy. It is the primary source of data on personal travel patterns by residents of England within Great Britain.

2.6.18. We are able to assess the data at the national and regional level, as well as by different types of rural-urban residence classification. However, as the data cannot be obtained at any further level of disaggregation, the applicability of the analysis is limited. Table 8 compares the percentages of trip rates by trip purpose for Yorkshire and the Humber to those of England overall.

Table 8 - Average Proportion of Trips per Person by Trip Purpose

Trip Purpose	Yorkshire and The Humber	England
Commuting	15%	16%
Business	3%	3%
Education (including escort)	12%	12%
Shopping	19%	19%
Other escort and Personal business	19%	19%
Visit friends	15%	15%
Other leisure	17%	16%

DfT, 2016

2.6.19. From this information, we can see that for residents of Yorkshire and the Humber the breakdown of purposes for making trips is nearly identical to that of England overall. It shows that trips are being made for a wide variety of reasons, and that if we adopt a strategy that only addresses a particular purpose (or a small number of purposes), we will only be reaching a relatively small portion of trips.

TRIP LENGTH

2011 Census Data

2.6.20. Distance Travelled to Work data obtained from the 2011 Census was analysed to determine average trip lengths and evaluate the potential for shorter trips undertaken by other modes to be converted to cycling trips.

2.6.21. Table 9 below shows the percentage of usual residents in employment travelling certain distances to work under 10km, and compares the data for the study area, North Yorkshire, Yorkshire and the Humber, and England. The table also shows the average commute distance for all trips to work.

Table 9 - Distance Travelled to Work (% of workers)

Distance	LCWIP Study Area	North Yorkshire	Yorkshire & the Humber	England
Less than 2km	36.7%	21.3%	17.9%	16.6%
2km to less than 5km	21.7%	11.8%	20.8%	18.4%
5km to less than 10km	10.0%	10.5%	18.3%	17.3%
Work mainly at/from home	10.1%	15.2%	9.3%	10.3%
Other	6.9%	7.5%	7.3%	8.5%
Total Under 5km*	58.4%	33.1%	38.7%	35.0%
Total under 10km	68.4%	43.7%	73.5%	71.0%
Average Distance (km)	**13.7km**	**19.2km**	**14.6km**	**14.9km**

Census, 2011. *Includes those working from home and those who answered "Other".

2.6.22. This data shows that the study area is characterised by greater proportions of the working population travelling shorter distances to work than the average for North Yorkshire, the county, region, or the nation.

2.6.23. Walking is often considered the most important mode of travel at a local level; Guidance on the preferred maximum walking distances to amenities is given in the Chartered Institute of Highways and Transportation [CIHT] document Providing for Journeys on Foot (2000), which states a preferred maximum walking distance for commuting of 2km. While journeys under 2km are generally recognised as those with the potential to be undertaken on foot, it stands to reason that with a conducive environment these trips could also be undertaken by bicycle.

2.6.24. It is widely recognised that cycling can act as a substitute for short car journeys, particularly those up to 5km in length; A distance of 3 miles (5km) is referred to in the DfT's 'Cycle Infrastructure Design' (2008) guidance as being appropriate for many utility cycle journeys. More recent guidance within 'Creating Growth & Cutting Carbon' (2011) identifies a larger 5-mile distance.

2.6.25. The data identifies that over a third of all journeys to work in the study area are less than 2km in length, while 58% are less than 5km, suggesting that over half the journeys to work made in the study area have the propensity to be made by cycle.

2.6.26. The Census data analysis has found that approximately 71% of all journeys to work with an origin in the LCWIP study area are internal - i.e. remain within the study area.

2.6.27. It is also noted that, when considering all trips to work, 90% remain within the Scarborough Borough, while an additional 5% travel to the neighbouring Ryedale District, meaning the vast majority of trips to work are over relatively short distances; the average commute originating in the LCWIP study area is 13.7km—approximately 37% of these are under 2km, while well over half of all journeys to work are less than 5km, indicating a large number of journeys to work could be undertaken on foot or by bike under the right conditions.

2.6.28. Around a quarter of all journeys to work are made on foot, suggesting a high proportion of journeys considerable within a desirable maximum walking distance are already made on foot, while just 3% are undertaken by bike, significantly fewer than the 22% of journeys to work between 2km and 5km.

2.6.29. The proportion of those walking to work increases by almost 10 percentage points when only considering those journeys to work internal to the LCWIP Study Area; however, the percentage of cycle users only increase by 0.7 percentage points.

Opportunities

NTS survey data indicates approximately 68% of trip purposes carried out in Yorkshire and the Humber could be considered Utility or Commuter , while this percentage is marginally higher (69%) when considering trips within the urban city and town, which is likely representative of the LCWIP Study Area.

2.7. WALKING AND CYCLING

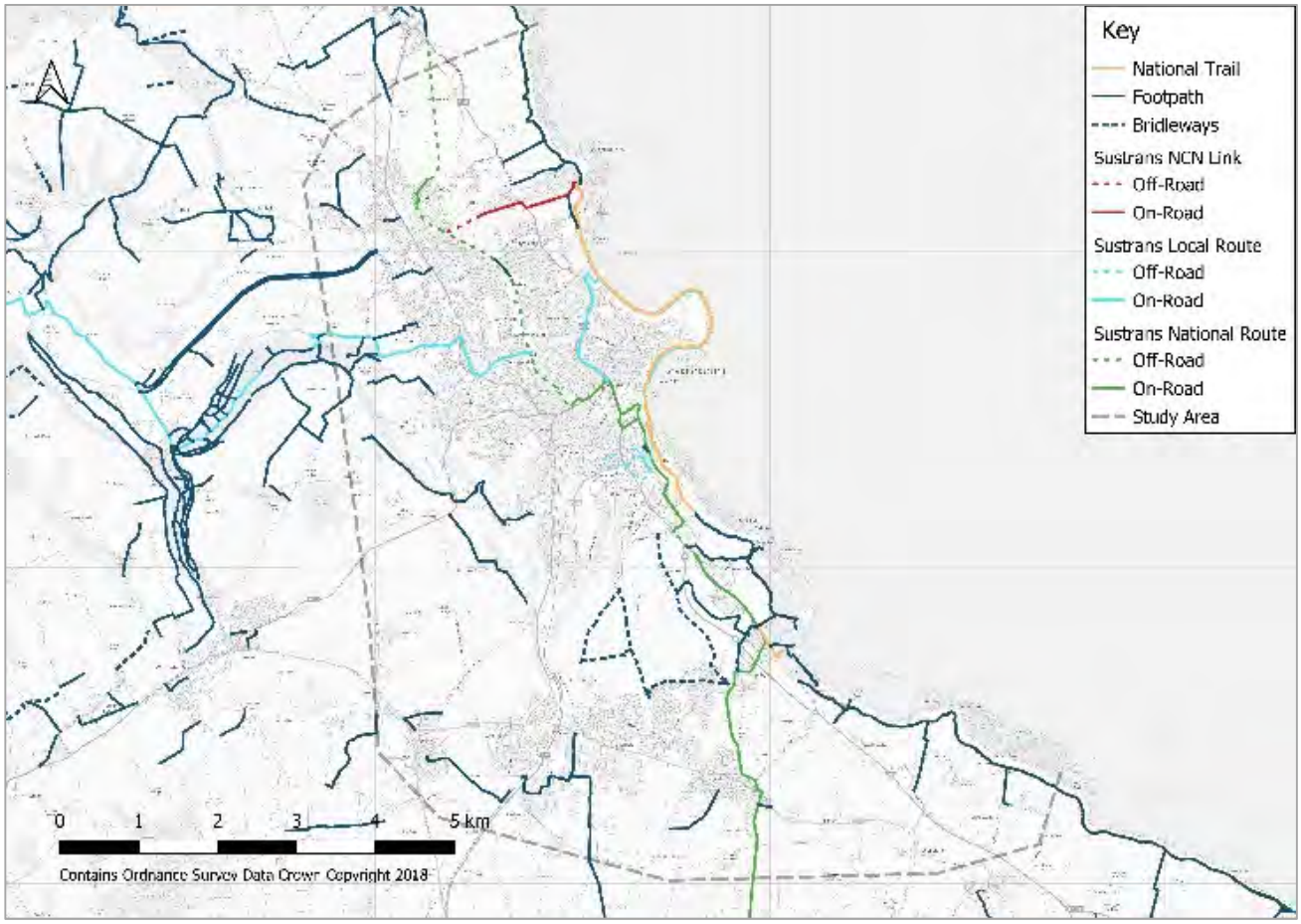
2.7.1. This section of the report provides additional context about the existing walking and cycling facilities in the LCWIP Study Area, allowing identification of areas and features with high-quality infrastructure and those areas with a deficit.

2.7.2. Note that the section focusses more strongly on cycling and cycle users; walking for any purpose is considerably more prevalent than cycling nationally, and Scarborough has a strong existing culture of walking, while cycle use is low nationally. The needs of pedestrians have long been catered for through the provision of footways; while often inadequate, the presence of a footway nevertheless facilitates some movement on foot. The needs of cycle users have been poorly understood until recently, and the lack of cycle-specific infrastructure has been identified as one of the key factors in supressing demand.

EXISTING WALKING AND CYCLING NETWORKS

2.7.3. Figure 16 shows the existing cycling and walking network in Scarborough (excluding highway infrastructure). Note that this figure only shows Public Rights of Way (PROW) and designated Sustrans routes. SBC / NYCC do not hold any detailed GIS data relating to cycling infrastructure.

Figure 16 – Cycle Network & PROW within the LCWIP Study Area



2.7.4. The following routes are of particular note:

- The Cleveland Way National Trail – this 109-mile route extends from Helmsley to Filey Brigg. The southern extent of the route includes the section from Robin Hoods Bay to Filey via both bays and around the headland. This route is specifically catered toward leisure walkers and tourists;
- Sustrans National Cycle Network Route 1 – this long-distance route extends 1,695 miles from Dover to the Shetland Islands. In the LCWIP Study Area, the route to the south primarily follows on-road sections through Cayton and Osgodby to the south bay, meeting the Cinder track in the centre of Scarborough to extend up toward Whitby. This route primarily caters for leisure and tourism cycle users;
- The Cinder Track – this route is discussed in more detail in Section 2.3.34. Following the old railway track bed from Scarborough to Whitby, this route forms part of the NCN Route 1, and despite the potential of the urban sections of the route, the lack of lighting and natural surveillance lends itself toward leisure and tourist cycle users in daylight hours;
- Deepdale Bridleway / Knox Hill Bridleway – these routes offer the potential to connect Eastfield and Osgodby to Scarborough town via an off-road route, particularly given the constraints on the existing highway network and the opportunity presented by the extensive Middle Deepdale development and further Local Plan allocations in the vicinity. Currently, the lack of lighting and natural surveillance limits the potential of the route to cater for commuter / utility purposes.

2.7.5. An initial site visit to the LCWIP Study Area was undertaken on the 27th of June 2018. Various pieces of cycling infrastructure were observed, including the following:

- Shared use cycle / footway along the A165 Filey Road – this route extends contiguously along the western side of Filey Road from the Technical College to the junction of Filey Road / Queen Margaret Road; however, there are also sporadic elements of shared use cycle / footway on the eastern side of the road, while cycle priority is not given at minor roads, resulting in signage cluttering the route.
- Shared use cycle / footway along the A64 Seamer Road – there were some very short sections of shared use route along the A64 Seamer Road. While this provides opportunities to tie in with the new Weaponess Sports Village and CU / Scarborough College site, the route by itself is unlikely to be used in its existing form.

2.7.6. NYCC have supplied additional data showing the location of Toucan crossings in the Borough; this data will be used in the corridor prioritisation stage to identify any potential synergies with improvement proposals.

DEFINING CYCLE USERS

2.7.7. From the outset, it is important to recognise that the term ‘cycle users’ encompasses as a wide range of individuals who use their bikes for a variety of different reasons. These users have varying needs and expectations, not only in regard to the infrastructure and facilities required, but also in terms of ‘soft’ measures such as information, publicity, safety and security.

2.7.8. Table 10 displays the range of cycle users that are expected to benefit from the measures proposed in the Scarborough LCWIP; identification of user types helps to inform the development of the strategy in the consideration of all user types, and also recognises that users can change type during the course of their lives.

2.7.9. It is also important to note that non-users are specifically included in this list, as this group represents an important target audience in terms of the potential for a modal shift toward cycling. Furthermore, non-users are considered to require particular attention in terms of overcoming many of the traditional barriers to taking up cycling.

Table 10 - Cycle User Types

Type	Description
Non-User	Existing walkers / drivers / public transport users including the young, elderly, infirm and disabled – those who do not cycle at present
Utility	Education / healthcare / shopping trips – using bikes as means to an end
Commuter	Fixed locations workers / hub workers / multi-modal workers – using bikes as an alternative to walking, the car or public transport for all or part of a trip – using bikes to travel to work
Leisure	Active individuals / active couples / active families / active groups – using bikes for leisure pursuits – using bikes to travel to fun
Sporty	Off-road enthusiasts / off-road informal / off-road groups & clubs / off-road commercial ventures / road enthusiasts / road groups & clubs – using bikes for sporting and/or health reasons, generally enthusiasts, participate in 'challenges' and 'sportives' – using bikes for sport / health
Competitive	Individuals / formal clubs – using bikes as part of a training regime for formal competition on and off-road ('pinning a number on') – using bikes for competition

ADULT CYCLING AND WALKING DATA

2.7.10. In 2012, the DfT published a new Official Statistics release for Local Area Walking and Cycling in England. This release presented data related to walking and cycling prevalence at the local authority level. Updates to these statistics have been released annually, including year-on-year comparative data to identify any changes in Walking and cycling prevalence.

2.7.11. On 18 January 2018, the department published a new National Statistics release: '*Walking and Cycling Statistics, England: 2016*'. These statistics are comparable to the previous Local Area Walking and Cycling in England datasets, but are considered to present a more complete picture of walking and cycling statistics.

2.7.12. The headline results (nationally) from this new dataset are:

National Travel Survey (NTS) 2016:

- people walked less often but cycled further compared to 10 years ago;
- people made an average of 243 walking trips and 15 cycling trips; and
- people walked an average of 198 miles and cycled an average of 53 miles.

Active Lives Survey (ALS) 2016:

- 42% of adults walk for travel at least once a week;
- 12% cycle for any purpose at least once a week; and
- both walking and cycling are more prevalent in the southern half of England.

2.7.13. In addition to the active mode commuting data, this data is useful as it provides a picture of how the active mode transportation is changing (if at all) for adults in Scarborough who walk and / or cycle for recreation and utility purposes, and allows us to compare those proportions and year-on-year changes with the county, regional, and national figures.

2.7.14. The tables overleaf present this data for the current and previous periods, also showing the year-on-year increase or decrease.

Table 11 - Percentage of Adults who Walk for any Length or Purpose

Period	Frequency	Scarborough	North Yorkshire	Yorkshire & the Humber	England
2014-15	1 x per month	84.2	87.5	85.8	86.3
	1 x per week	80.7	83.1	79.2	80.6
	3 x per week	63.6	64.4	61.0	62.0
	5 x per week	52.3	52.7	50.0	48.5
2015-16	1 x per month	75.2	78.8	75.4	77.3
	1 x per week	70.3	71.1	66.0	68.0
	3 x per week	41.9	44.4	40.2	41.8
	5 x per week	30.0	32.0	29.7	30.9
Change	1 x per month	-9	-8.7	-10.4	-9
	1 x per week	-10.4	-12	-13.2	-12.6
	3 x per week	-21.7	-20	-20.8	-20.2
	5 x per week	-22.3	-20.7	-20.3	-17.6

DfT, Walking and Cycling Statistics - Datasets CW0105 & CW0303

Table 12 - Percentage of Adults who Cycle for any Length or Purpose

Period	Frequency	Scarborough	North Yorkshire	Yorkshire & the Humber	England
2014-15	1 x per month	18.0	16.3	13.7	14.7
	1 x per week	13.4	10.9	9.4	9.5
	3 x per week	5.0	4.3	4.2	4.4
	5 x per week	3.8	3.0	2.5	2.6
2015-16	1 x per month	18.1	17.6	14.9	17.1
	1 x per week	11.9	12.3	10.6	11.9
	3 x per week	6.5	5.5	5.0	5.7
	5 x per week	2.9	2.5	3.0	3.4
Change	1 x per month	0.1	1.3	1.2	2.4
	1 x per week	-1.5	1.4	1.2	2.4
	3 x per week	1.5	1.2	0.8	1.3
	5 x per week	-0.9	-0.5	0.5	0.8

DfT, Walking and Cycling Statistics. *Possibility of statistical error due to insufficient sample size

2.7.15. The following key points were identified:

- Data indicates a drop in year-on-year data when considering those who walk for any purpose;
- The percentage walking for any purpose in Scarborough is broadly in line with the National averages.
- However, there are fewer people walking at any frequency in comparison to the regional average.
- Cycling has increased year-on-year, although this increase is less than the national average increase (in percentage points). Nevertheless, the percentage of people cycling 3 / 5 times per week in Scarborough is greater than the regional average.

Table 13 - Percentage of Adults who Walk for Recreation / Leisure Purposes

Period	Frequency	Scarborough	North Yorkshire	Yorkshire & the Humber	England
2014-15	1 x per month	59.3	61.7	54.4	53.9
	1 x per week	53.8	52.5	44.2	43.3
	3 x per week	29.9	31.4	26.0	24.6
	5 x per week	22.4	21.8	18.1	16.9
2015-16	1 x per month	66.5	68.6	59.8	60.6
	1 x per week	58.2	56.5	46.6	47.0
	3 x per week	28.9	28.5	20.9	20.5
	5 x per week	21.5	21.0	14.8	14.5
Change	1 x per month	7.2	6.9	5.4	6.7
	1 x per week	4.4	4	2.4	3.7
	3 x per week	-1	-2.9	-5.1	-4.1
	5 x per week	-0.9	-0.8	-3.3	-2.4

Table 14 - Percentage of Adults who Walk for Utility Purposes

Period	Frequency	Scarborough	North Yorkshire	Yorkshire & the Humber	England
2014-15	1 x per month	52.4	55.6	59.2	60.4
	1 x per week	47.0	48.8	51.2	53.2
	3 x per week	29.7	33.2	34.7	36.4
	5 x per week	22.5	21.2	22.4	24.6
2015-16	1 x per month	41.1	40.9	45.4	49.2
	1 x per week	34.5	34.8	38.8	41.6
	3 x per week	16.1	18.1	20.8	22.7
	5 x per week	11.8	12.5	15.7	16.7
Change	1 x per month	-11.3	-14.7	-13.8	-11.2
	1 x per week	-12.5	-14	-12.4	-11.6
	3 x per week	-13.6	-15.1	-13.9	-13.7
	5 x per week	-10.7	-8.7	-6.7	-7.9

DfT Cycling and Walking Statistics

Table 15 - Percentage of Adults who Cycle for Leisure / Recreation Purposes

Period	Frequency	Scarborough	North Yorkshire	Yorkshire & the Humber	England
2014-15	1 x per month	12.6	12.7	10.1	10.0
	1 x per week	7.0	7.8	5.9	5.4
	3 x per week	2.1	1.9	1.9	1.6
	5 x per week	0.8	1.0	0.8	0.6
2015-16	1 x per month	15.6	16.0	12.2	13.9
	1 x per week	10.4	10.2	7.6	8.0
	3 x per week	4.4	3.7	2.5	2.3
	5 x per week	2.0	1.6	1.3	1.0
Change	1 x per month	3	3.3	2.1	3.9
	1 x per week	3.4	2.4	1.7	2.6
	3 x per week	2.3	1.8	0.6	0.7
	5 x per week	1.2	0.6	0.5	0.4

Source: DfT, Walking and cycling statistics. * Possibility of statistical error due to insufficient sample size

Table 16 - Percentage of Adults who Cycle for Utility Purposes

Period	Frequency	Scarborough	North Yorkshire	Yorkshire & the Humber	England
2014-15	1 x per month	5.7	5.1	5.4	6.5
	1 x per week	3.4	3.7	3.9	4.5
	3 x per week	1.3	2.2	2.2	2.6
	5 x per week	0.7	1.4	1.1	1.5
2015-16	1 x per month	7.2	5.3	6.5	8.2
	1 x per week	5.8	3.9	4.9	6.3
	3 x per week	2.6	1.5	2.6	3.3
	5 x per week	2.1	0.8	1.7	2.1
Change	1 x per month	1.5	0.2	1.1	1.7
	1 x per week	2.4	0.2	1	1.8
	3 x per week	1.3	-0.7	0.4	0.7
	5 x per week	1.4	-0.6	0.6	0.6

Source: DfT, Walking and cycling statistics. * Possibility of statistical error due to insufficient sample size

2.7.16. The following key points are noted in relation to walking:

- There has been a significant increase in the number of adults walking for leisure purposes once a month / week, locally, regionally, and nationally, with a slight decrease in those doing this more frequently;
- The percentage walking for leisure purposes at any frequency in Scarborough is broadly in line with the regional average—these figures are significantly higher than the national averages;

- However, the percentage of those walking for utility purposes have sharply dropped—those walking for utility purposes in Scarborough 3-5 times per week (likely commuters) have halved in comparison to the previous year's statistics.

2.7.17. The following key points are noted in relation to cycling:

- Cycling for recreational purposes has increased locally, regionally, and nationally at every frequency—the percentage cycling for recreational purposes in Scarborough are significantly higher than the national average;
- In particular, the percentage of those cycling for recreational purposes 3-5 times per week in Scarborough is higher than the regional average and almost double the national average;
- Cycling for utility purposes has also increased in Scarborough, and is now significantly higher than the regional average, although below the national average, at every frequency.

COLLISION DATA

2.7.18. Collisions involving walking and cycle users can be seen as a barrier to taking up or continuing the activity, as they have a negative effect on both perceived and actual safety. However, existing data on collisions only provide some additional context regarding barriers to active travel. A poor route or junction may supress demand to such an extent that the numbers of walkers or cyclists are negligible or non-existent. Furthermore, the data only records accidents that cause injury; there are no records of near-misses or damage only accidents.

2.7.19. Table 17 shows the number of vulnerable road users casualties in Scarborough from 2012 to 2016, as well the severity breakdown, the total number of road user casualties in the borough during that time, and how vulnerable road user casualties compare to the total road user casualties annually.

Table 17 - Scarborough Cycle User Collisions

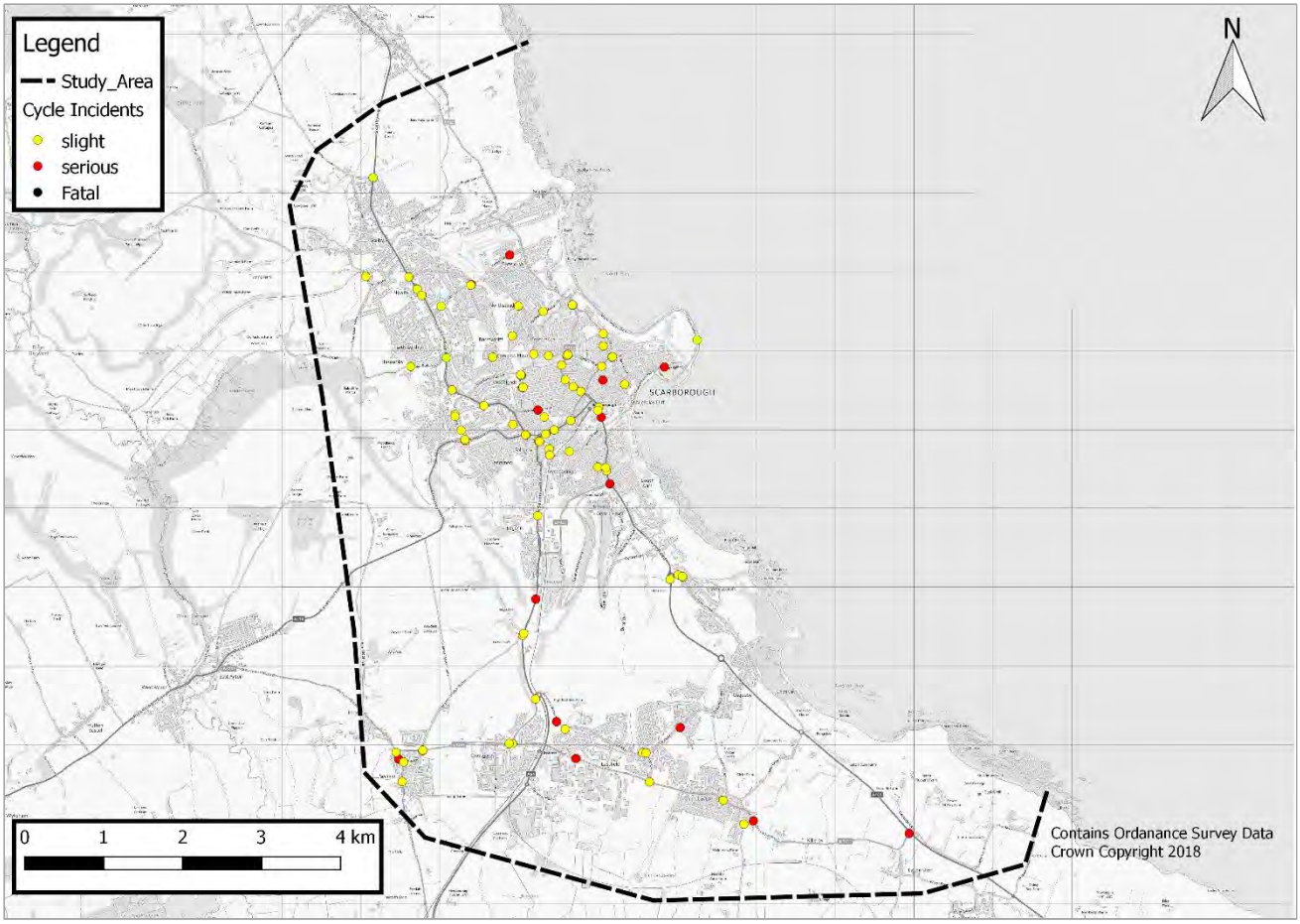
Severity	2012		2013		2014		2015		2016	
	Cycle	Walk	Cycle	Walk	Cycle	Walk	Cycle	Walk	Cycle	Walk
Slight	21	26	17	23	15	14	15	19	15	21
Serious	2	8	3	6	3	2	4	4	3	8
Fatal	0	0	0	0	0	0	0	0	0	0
Total Vulnerable Users	57		49		34		42		47	
Total Road User Casualties	141		119		107		134		124	
Vulnerable Users % of Road User Casualties	40%		41%		32%		31%		38%	

2.7.20. The data in Table 17 shows that over the five-year period there were no fatal collisions that involved a cycle user or pedestrian. The data shows that between 2012 and 2016 the number of collisions involving vulnerable users decreased; the fewest collisions occurred during 2014, with 32% of all collisions involving either cycle users or pedestrians.

2.7.21. An average of the data in the table above shows that approximately 37% of all incidents over the 5-year period involved a vulnerable road user. Improving infrastructure within the study area could potentially contribute to reducing these.

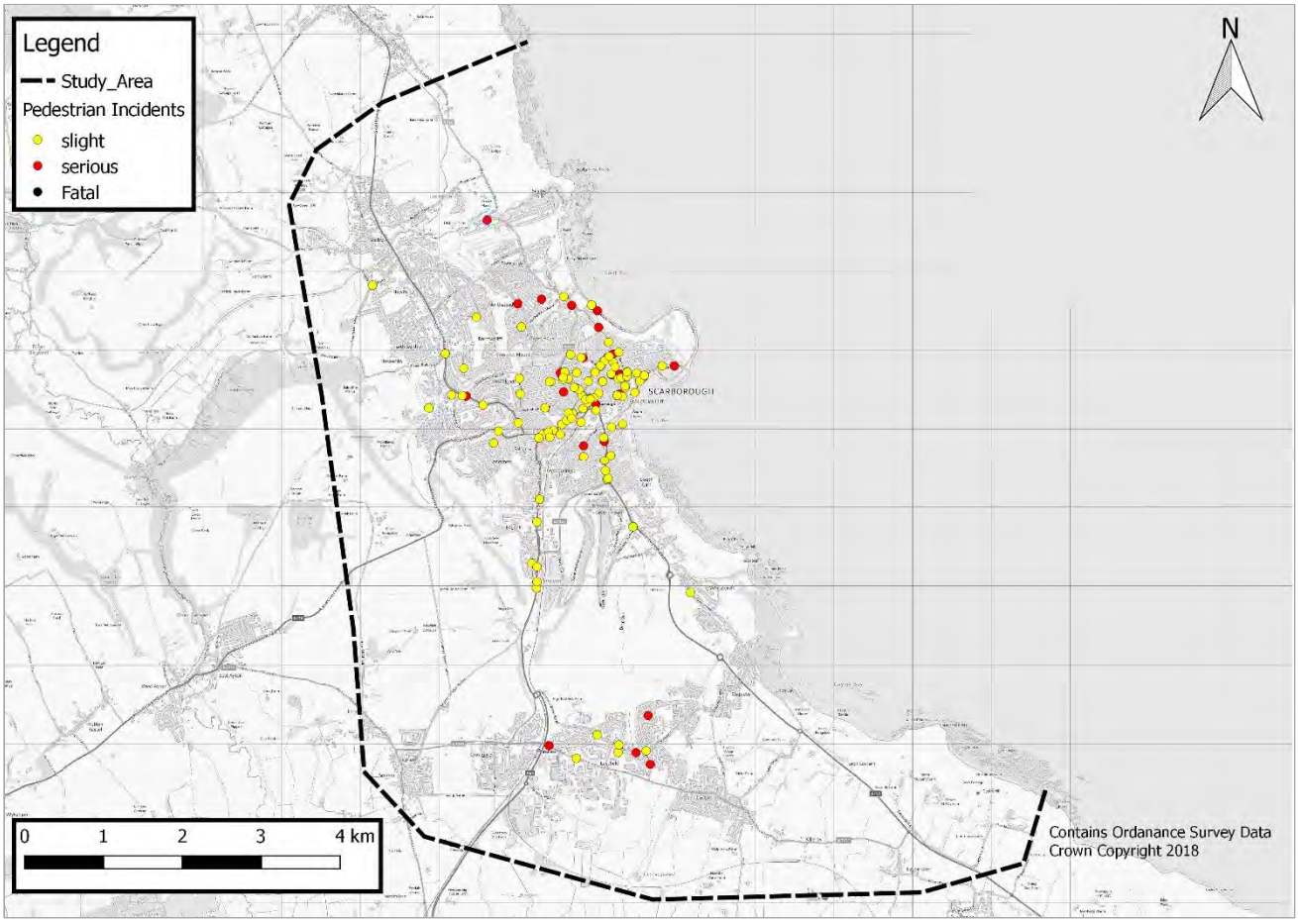
2.7.22. The accident data has been used to produce Figure 17 and Figure 18, giving a visual display of where the accidents involving cyclists and pedestrians respectively

Figure 17 – Cycle Collisions by Severity



2.7.23. The figure shows all of the collisions over the 5 year period between 2012 and 2016. The data shows that there are no identifiable clusters or major problem junctions within the study area. However, there are a large number of collisions which occur along the main arterial routes into the town centre, particularly along the A64 Seamer Road through Falsgrave—these routes are likely to be integral to delivering a successful cycle network in Scarborough.

Figure 18 – Pedestrian Accidents by Severity



2.7.24. The figure shows that the majority of incidents involving pedestrians occurred around the town centre of Scarborough. There are no significant clusters of incidents, although there are a significant number of collisions which occur along the A64 corridor between Falsgrave and Scarborough train station, which could be attributed to an increased level of interaction between pedestrians and vehicles along this link, characterised by residential properties and retail and service uses. This area is also likely to have a higher footfall than the surrounding area—especially during peak periods—due to the train station being in this area, as well as a number of bus stops.

CYCLE AND PEDESTRIAN FLOWS

2.7.25. While NYCC has a number of permanent ATC sites within the LCWIP Study Area, these sites do not obtain detailed vehicle classification data, therefore numbers of cycle users could not be obtained from these sites. Although classification data was available from a number of temporary count sites, some of this data was over 5 years old, generally only short term (a week), and did not identify cycle user specifically, only categorising 'Other' where vehicles were not 'Cars', 'HGVs', or 'Buses'.

2.7.26. SBC have one permanent pedestrian monitoring site on Westborough in Scarborough town centre, just prior to the junction with Aberdeen Walk. This site provides monthly information on the numbers of pedestrians entering / existing the town centre via this route. the outputs for the previous 3 years are shown in Table 18 and Figure 19.

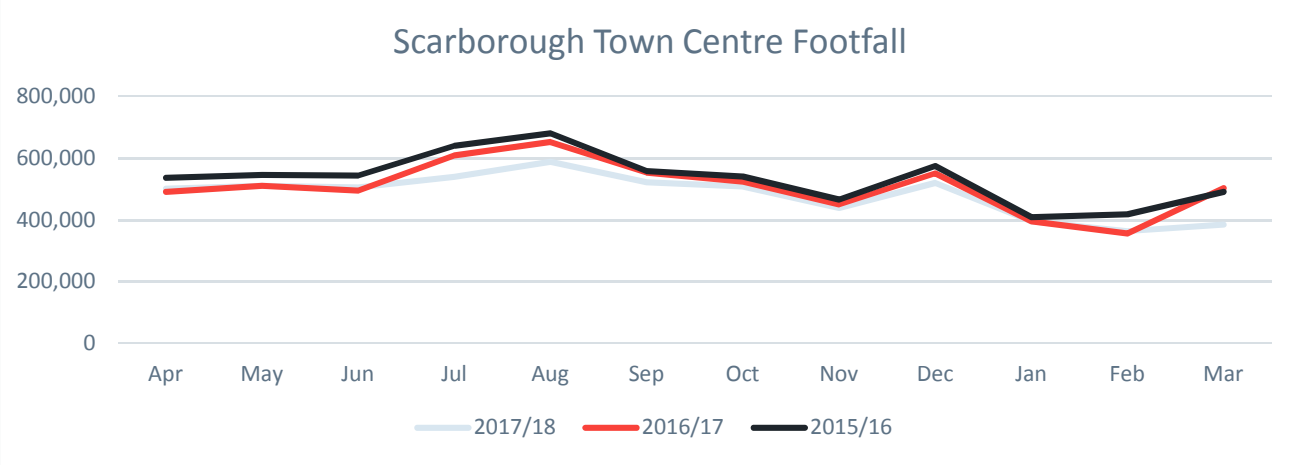
2.7.27. These figures clearly show the seasonal variation in pedestrian numbers visiting Scarborough town centre. Whilst January was the lowest monthly figure recorded in 2015/16, February was considerably lower in both 2016/17 and 2017/18, while August is the busiest month in all three years (coinciding with school summer holidays). The following points were noted:

- The highest monthly footfall recorded was in august 2015/16, at 680,334 pedestrians;
- Comparatively, August 2017/18 saw 92,237 fewer pedestrian movements recorded;
- Footfall increased from the lowest month to the highest month by 61.7% in 2017/18, whereas the increase in the prior year (2016/17) was 83.3%.
- The total numbers of pedestrians recorded each year has decreased year-on-year, with over half a million fewer pedestrians recorded in 2017/18 compared to 2015/16.

Table 18 - Scarborough Town centre footfall – 2015/16 to 2018/18

Year	Apr	May	Jun	Jul	Aug	Sep
2017/18	500,992	510,436	505,444	539,956	588,097	521896
2016/17	490,740	510,086	495,322	609,159	652,404	552,977
2015/16	536,184	546,029	544,029	640,376	680,334	558,162
Oct	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Yr Total**
508,382	438,629	519,739	395,433	363,617	384,875	**5,777,496**
523,950	449,886	551,380	395,191	355,986	503,771	**6,090,852**
540,949	465,455	574,302	408,604	417,733	490,589	**6,402,746**

Figure 19 – Scarborough Town Centre Footfall – 2015/16 to 2017/18



WALKING AND CYCLING ISOCHRONE

2.7.28. Active travel isochrones have been produced encompassing the LCWIP Study Area, identifying what extent of the Borough could reasonably be accessed by walking or cycling. The isochrones use the following origin points:

- Scarborough train station; and
- Olympian Business Park.

2.7.29. Scarborough train station was selected as a key focal point in the town of Scarborough, at the centre of a number of radial routes. The entrance to the Olympian Business Park is relatively central to the Eastfield / Cayton urban area, especially considering the potential future area upon completion of the Middle Deepdale development and the Local Plan aspirations.

2.7.30. The criteria used for the isochrones are listed in Table 19.

Table 19 - Walking and Cycling Isochrone Criteria

Mode	Speed	Increments
Walk	4.8kph / 3mph	5 min, up to 30 min.
Cycle	16kph / 10mph	5 min, up to 30 min.

2.7.31. Figure 20 and Figure 21 show the resulting isochrones using Scarborough train station as the origin, while Figure 22 and Figure 23 show the isochrones using the Olympian Business Park as the origin point.

Figure 20 – LCWIP Study Area Walking Isochrone – Scarborough

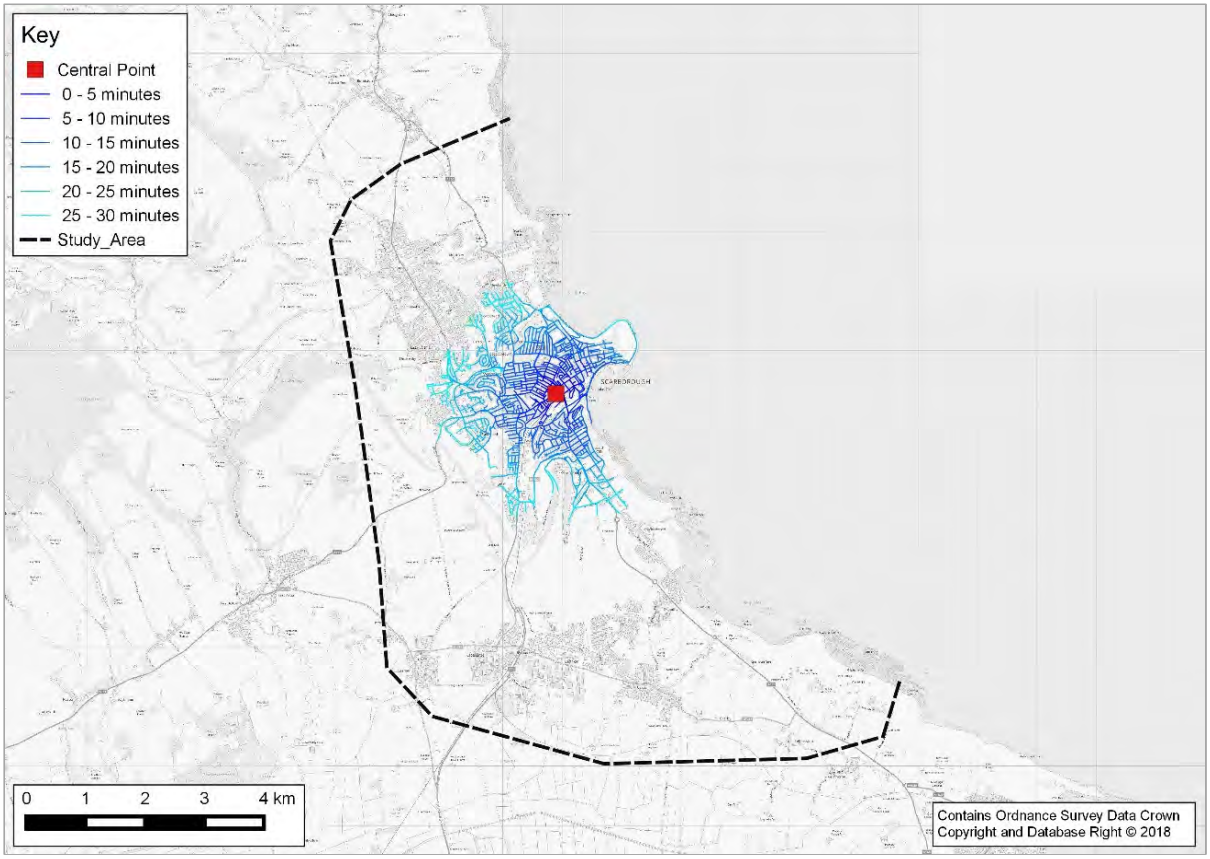


Figure 21 – LCWIP Study Area Cycling Isochrone - Scarborough

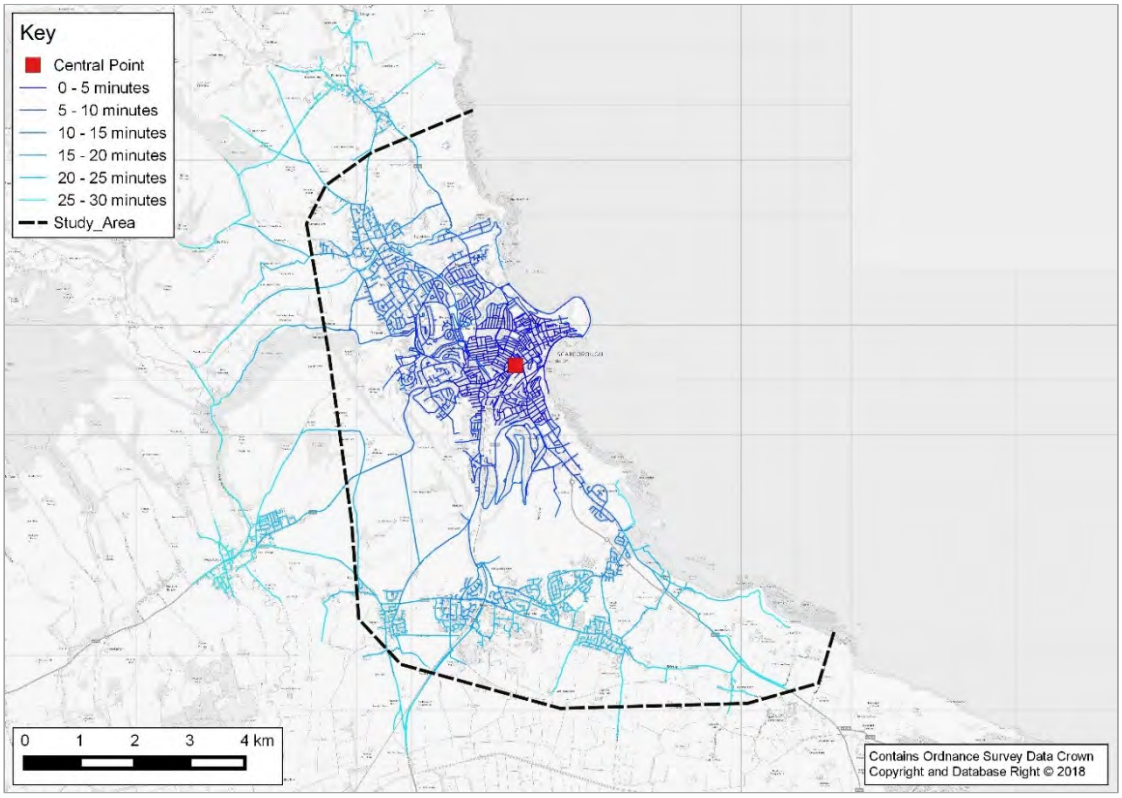


Figure 22 – LCWIP Study Area Walking Isochrone – Olympian Business Park

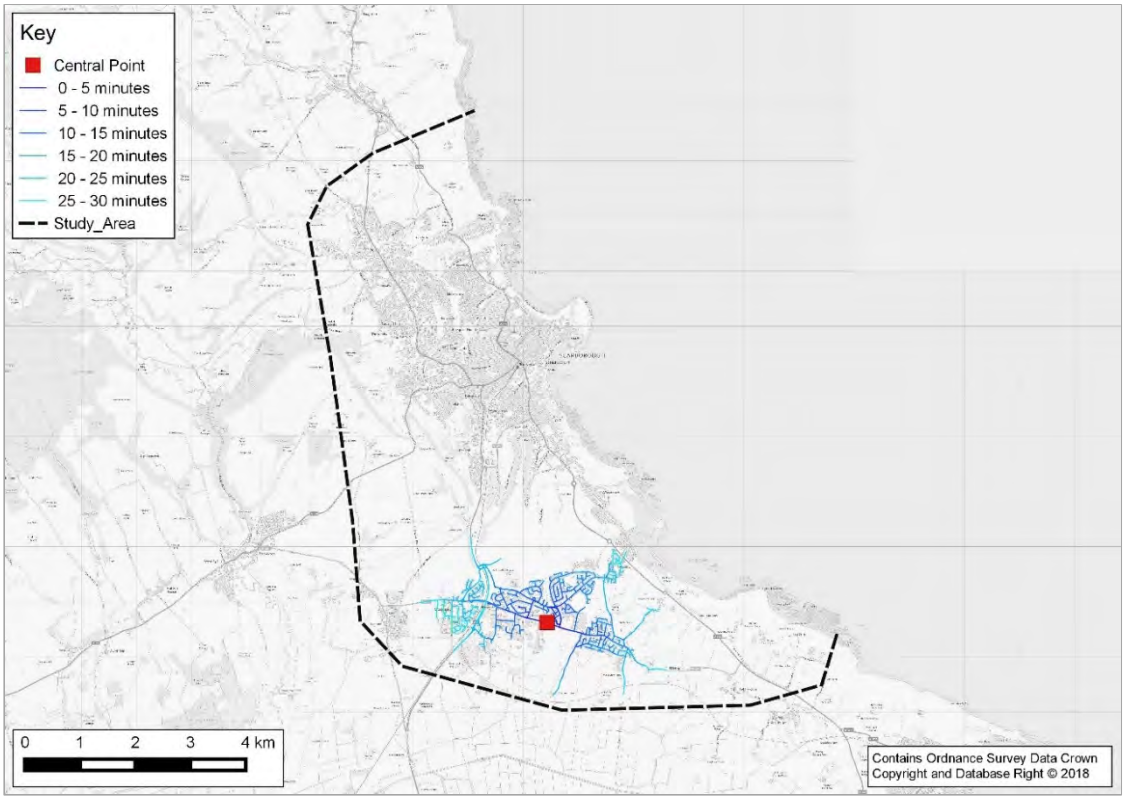
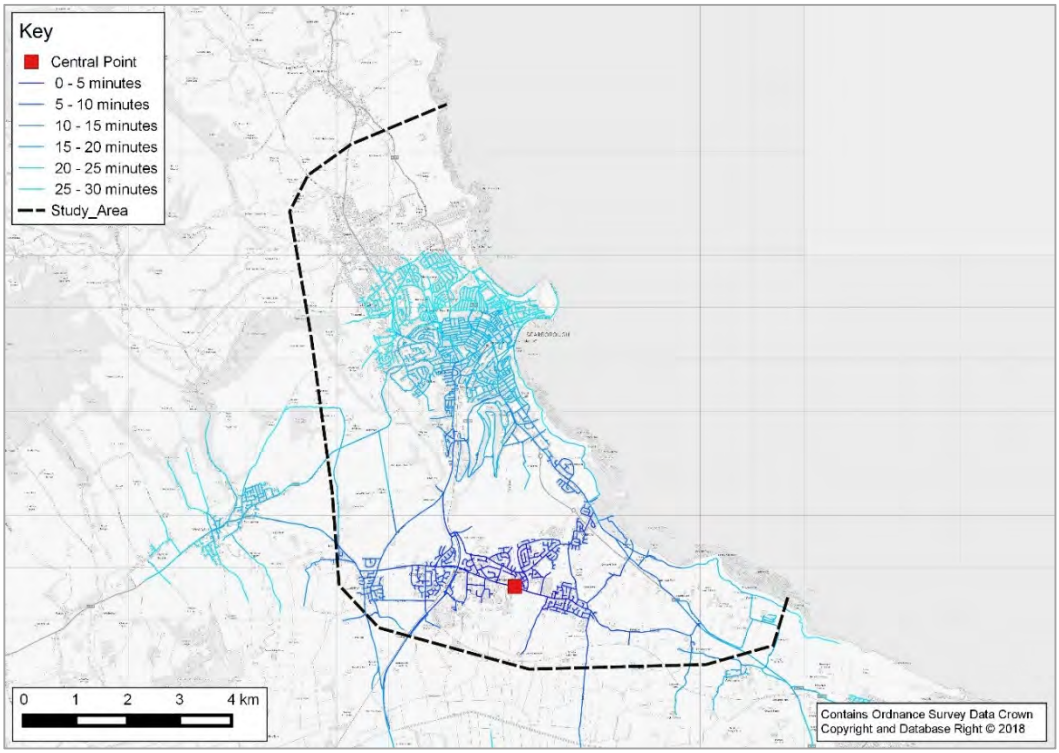


Figure 23 – LCWIP Study Area Cycling Isochrone – Olympian Business Park



2.7.32. The isochrones show what extent of the LCWIP study area could be considered accessible by cycle or on foot based solely on distance (rather than the provision of infrastructure or hilliness, for example). The following points are noted:

- The majority of the built-up area of Scarborough can be accessed on foot, although the north-western extents of Barrowcliffe and Scalby are beyond a reasonable walking distance;
- Almost the entire LCWIP study area is within an average half an hour cycle time from Scarborough train station;
- The Scarborough and Eastfield / Cayton urban areas are considered separate areas in terms of travel on foot, being beyond the desirable maximum walking distance from one another;
- The northern extents of Scarborough are beyond the maximum desirable cycling distance from Eastfield.

Opportunities

The isochrone analysis shows that almost the entirety of the LCWIP Study Area is within a 5km cycle journey (approximately 30 minutes journey time) from any point;

The importance of this opportunity should not be understated—with sufficient infrastructure in place, the entirety of the Scarborough LCWIP study area could be connected by a comprehensive cycle network, facilitating cycle travel across the Scarborough Urban Area;

Furthermore, such a level of connectivity by cycle has wider travel implications for cycling as part of a multi modal journey, where complimentary infrastructure could be made available at travel hubs such as the Park & Ride sites or rail stations.

CYCLING ACTIVITIES AND INITIATIVES

Cycle Hire and Recycling Schemes

2.7.33. While there are no cycle hire schemes directly run by SBC or NYCC in Scarborough, there are a few opportunities to hire a bicycle. These include:

- Coast and Dale Bike Library, Scarborough;
- Scarborough and Ryedale Community Cycling; and
- Betta Motoring Bike Hire, Scarborough;

2.7.34. The Yorkshire Bank Bike Libraries scheme was set up as a legacy of Tour de France in 2014, and aims to give every child in Yorkshire access to a bike. Since its inception the scheme has seen 46 libraries set up, with over 5,000 bikes donated and in excess of 40,000 opportunities for people in the county to cycle. There are further bike hire facilities available in the wider area, such as Trailways Cycle Hire, and within the North Yorkshire Moors National Park.

2.7.35. These facilities are orientated toward leisure and tourism uses; there are no cycle hire facilities aimed at commuter or utility users.

Bikeability Cycle Training

2.7.36. The Bikeability program is an initiative of the DfT to provide training to on and off-road cycle users under the age of 16, with the aim of helping them develop better and safer cycling habits. The program is available to all schools in the country and is provided in a series of three levels.

2.7.37. Bikeability is delivered by North Yorkshire County Council in Scarborough as the Local Highway Authority. The DfT release statistics relating to topics such as funding and delivery; the latest Bikeability delivery statistics for the County are for 2006 to 2018[14], released in August 2018. These show NYCC were awarded £122,960 in funding in 2018, bidding for 3,371 places. NYCC delivered 4,311 places throughout North Yorkshire during 2017/18, approximately 940 more than were bid for.

Cycle Clubs

2.7.38. Scarborough has a number of cycling clubs, predominantly focussed on cycling for leisure and recreational purposes:

- Richardson's Cycling Club caters for both on and off-road cycle users, and is associated with British Cycling. A yearly subscription is required. Richardson's Cycles store also operates out of Scarborough, offering more leisure focussed rides on Tuesdays and Thursdays;
- Chasing Trails Mountain Bike offers mountain bike tuition in the local area, as well as bike maintenance and courses in wheel building;
- Trailways in Hawsker offers Cycle hire, bike sales and self-catering railway carriage accommodation alongside the Cinder track, close to Whitby & Robin Hood's Bay.
- Scarborough Paragon Cycle Club is a long-established club, formed in 1953, providing social riding opportunities and time trials.

[14] Bikeability Delivery statistics 2006-18 – Local Highway Authorities, https://bikeability.org.uk/publications/

- Scarborough & Ryedale Community Cycling is a provides an inclusive cycling centre in Scarborough benefitting the communities of Scarborough and Ryedale. Their objective is to provide cycling opportunities for anyone with a disability, the elderly, those who suffer from dementia or isolation and indeed anyone else who wishes to gain the health benefits which cycling can provide.
- Yorkshire Coast Clarion Club is one of over 30 branches of the National Clarion Cycling Club across the country, who organise rides and events for enthusiastic cyclists in and around the Scarborough area.
- Yorkshire Coast Cycling Club provides guided cycling touring, instruction, servicing, repairs and social rides across Scarborough.

2.7.39. More information on Cycle Clubs in Scarborough and the wider North Yorkshire County can be viewed at http://www.northyorkshirecycling.co.uk/clubs/.

Cycle Events

2.7.40. Scarborough hosts a number of cycling events each year, including the following:

- Scarborough Cycling Festival: The Scarborough Cycling Festival was re-introduced in 2010, following a hiatus of 20 years. The 2018 event was held on the 7th-8th of July, and was held at the Oliver's Mount racing circuit. The annual event includes various events to cater for families and cyclists of all levels, as well as cyclo-cross racing and the Sportive D'Scarborough.
- Scarborough Sportive: UK Cycling Events organises a Scarborough Sportive, with a number of routes in the area, including one starting in Scalby.
- Tour de Yorkshire: The Tour de Yorkshire is an annual four-day road cycling race, started in 2015 following the popularity of the first stages of the Tour de France 2014, which were held in Yorkshire. Although the event is not contracted to include Scarborough, the town has been a part of the seaside stage of the race since its inception.

Opportunities

- Expand upon cycle share and hire initiatives for the benefit of those who currently do not have access to cycles
- Capitalise on existing initiatives, events, infrastructure and club structures in an effort to increase cycle participation across the community; and
- Tour de France and Tour de Yorkshire have raised the cycling profile within the study area.

2.8. WIDER TRANSPORT

SYNERGY WITH OTHER TRANSPORT MODES

2.8.1. Although the focus of the Scarborough LCWIP is first and foremost on providing the necessary infrastructure to create a high quality active travel environment, such a network should engender modal shift, enabling journeys that were previously unattractive by walking and cycling. It is therefore important to understand and appreciate the current transport situation in the Borough, considering the synergies between the LCWIP and the various issues associated with other modes of travel

2.8.2. SBC's Infrastructure Delivery Plan (IDP) was last published in 2016, and contains the most recent profile of the existing infrastructure in the Borough. Information from this document, as well as that obtained through various other policy documents and studies, and through stakeholder engagement, have been used to consider how the LCWIP could contribute to improving the wider transport issues in the Borough.

Highways

2.8.3. The Yorkshire and Humber coast is considered to be relatively remote, located on the periphery of the North-East. The demographic profile for Scarborough obtained through the 2011 Census data analysis shows how self-sufficient Scarborough is, with the vast majority of residents living and working within the borough, and indeed within the LCWIP Study Area. Nevertheless, there are important interdependencies and connections with the cities of York and Hull and, especially in the case of Whitby, with the Tees Valley City Region. The most important regional link is the road and rail corridor of the A64 and Trans-Pennine rail link.

2.8.4. Scarborough also has a number of other significant A and B class roads providing radial routes out to the other nearby towns of the Borough and further afield, such as the A165 Filey Road, the A171 Scalby Road, and A170 Racecourse Road

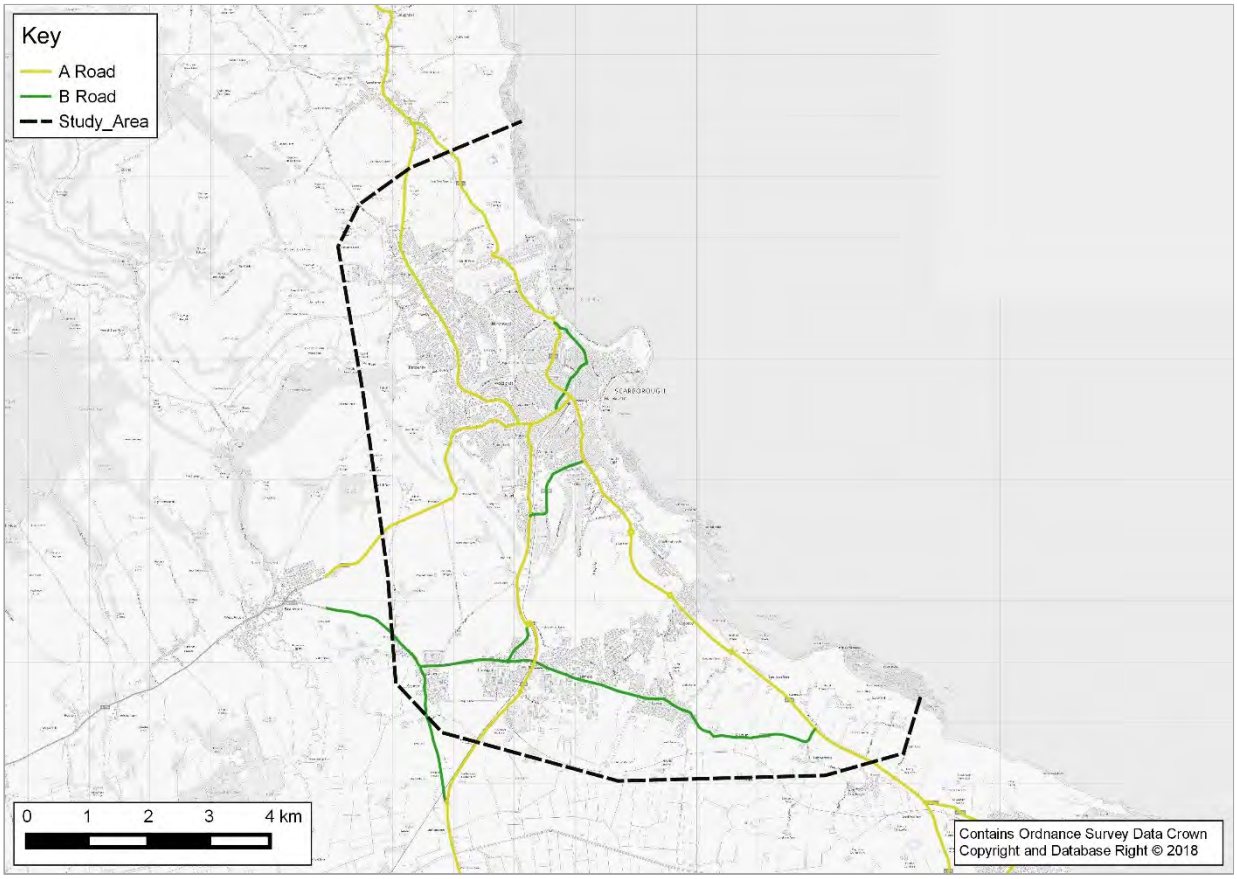
2.8.5. The link westbound on the A64 between Malton and York is identified as suffering from significant operational issues. It is understood that there is a long-term aspiration to make the route more efficient and provide additional capacity through an upgrade to Hopgrove Roundabout and the stretch of carriageway between York and Malton, potentially providing a dual carriageway.

2.8.6. There are also areas of stress in the local highway network at peak times. These are particularly associated with the A64 between Musham Bank roundabout and Dunslow Road roundabout, the A165 (southbound) and at a number of key junctions within the town. The IDP identifies that the following major junctions in Scarborough are likely to require improvement in order to accommodate the anticipated growth over the Plan period to 2028:

- Scalby Rd/Falsgrave Rd;
- Scalby Rd/Manor Rd;
- Stepney Rd/Stepney Drive; and
- Scalby Rd/Stepney Drive.

2.8.7. Figure 24 shows the local highway network in context with the LCWIP Study Area, clearly identifying the various A roads and key B Roads.

Figure 24 – Existing Highway Network



Public Transport

2.8.8. Scarborough is the terminus of the Trans-Pennine rail route and the Yorkshire coastal line. There is an hourly service on the Trans-Pennine route (every two hours on a Sunday), which starts in Liverpool and calls at the major stations of Warrington, Manchester, Huddersfield, Leeds and York. More locally, these trains serve Malton, Seamer and Scarborough.

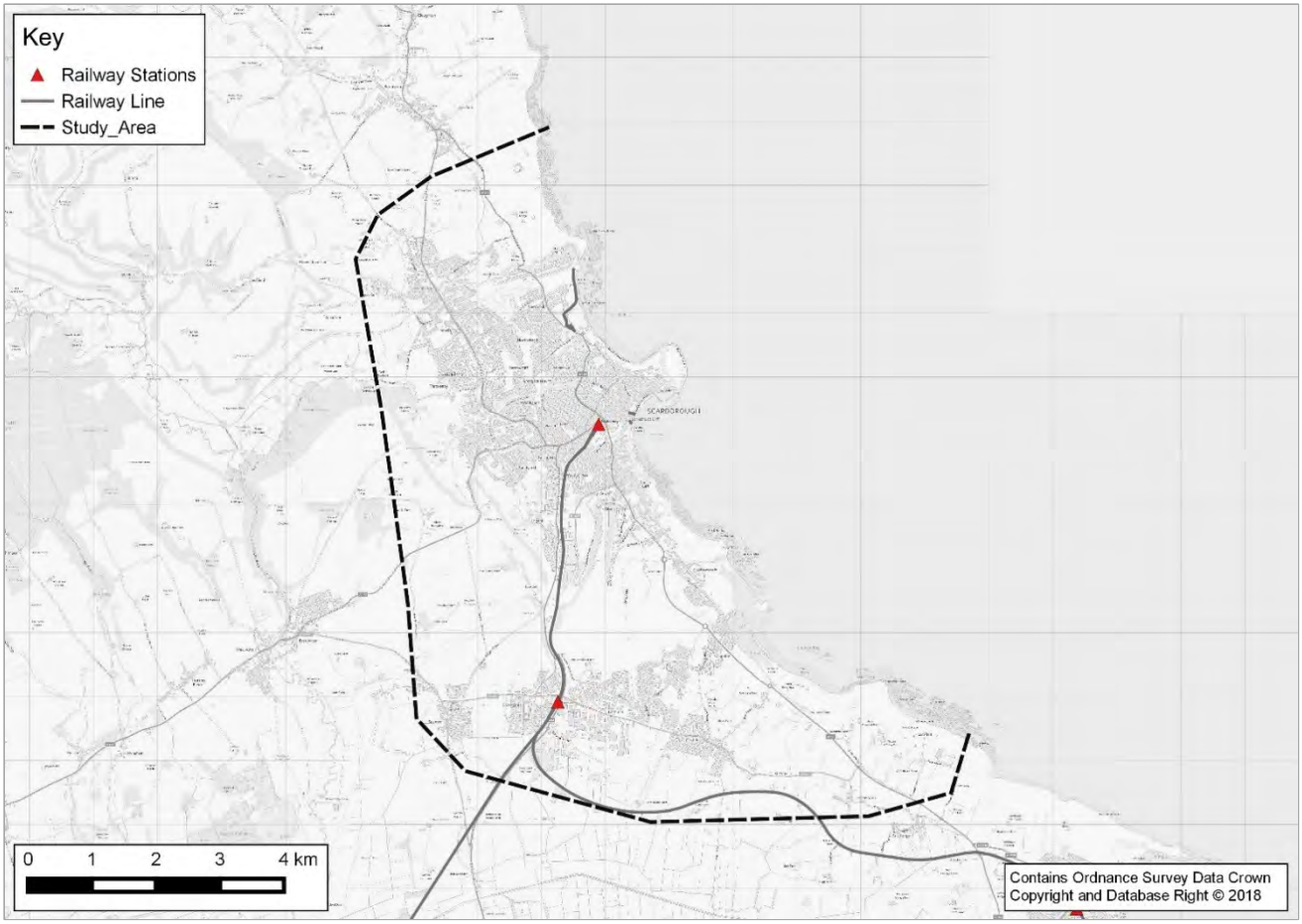
2.8.9. There is a train approximately every two hours on the Yorkshire coastal line which runs south from Scarborough calling at locally at Seamer, Filey and Hunmanby and then running on to Bridlington, Beverly and Hull. Network Rail previously examined the possibility of increasing the frequency of the service on this line and concluded that it does not currently represent value for money. The stretch of single line track between Seamer and Bridlington means that the greatest frequency that can be achieved is an hourly service

2.8.10. The scenic Esk Valley railway runs from Whitby to Middlesbrough. The limited frequency, particularly in early mornings and evenings, along with journey times render it more popular with tourists than commuters. The line encourages linked trips between villages in the North York Moors National Park and Whitby and performs an essential role bringing secondary school pupils from the outlying villages. The North Yorkshire Moors Railway runs from Whitby to Pickering via Grosmont, and is a major tourist attraction.

2.8.11. Figure 25 illustrates the location of the railway line through the LCWIP area, and the locations of Seamer and Scarborough rail stations. The railway itself could cause significant severance in the

LCWIP network if key desire lines are located across points with no existing crossing points, while the rail stations are key O/D points in the network.

Figure 25 – Location of Rail Line and Stations



2.8.12. The bus network is considered able to accommodate the future predicted growth in Scarborough. There are a variety of operators of bus services in the Borough, and the IDP states that these providers can rapidly develop new routes or increase frequencies to meet the demands from growth, providing there is sufficient demand to make the provision of these additional services commercially viable.

2.8.13. However, a general reduction in the level of rural bus subsidy means that rural areas may well suffer a reduction in their service level, which will impact on the level of public transport provision for any new housing in rural areas. The LCWIP proposals could potentially look to provide additional connectivity to those areas on the periphery of the Study Area that would suffer from a reduction in bus services.

2.8.14. There is currently no bus station in the Town Centre of Scarborough; instead, the town relies entirely on on-street bus stops. The IDP states that discussions have suggested that the bus operator is satisfied with the current arrangements but is looking toward improvements to these facilities as opposed to a new bespoke station. Without a centralised transport interchange, it would be more difficult to provide a multi-modal cycle / bus journey; there are however some synergies to be

obtained through the greater provision of cycle infrastructure around the rail stations, especially with a number of bus stops fronting the carriageway outside the facility.

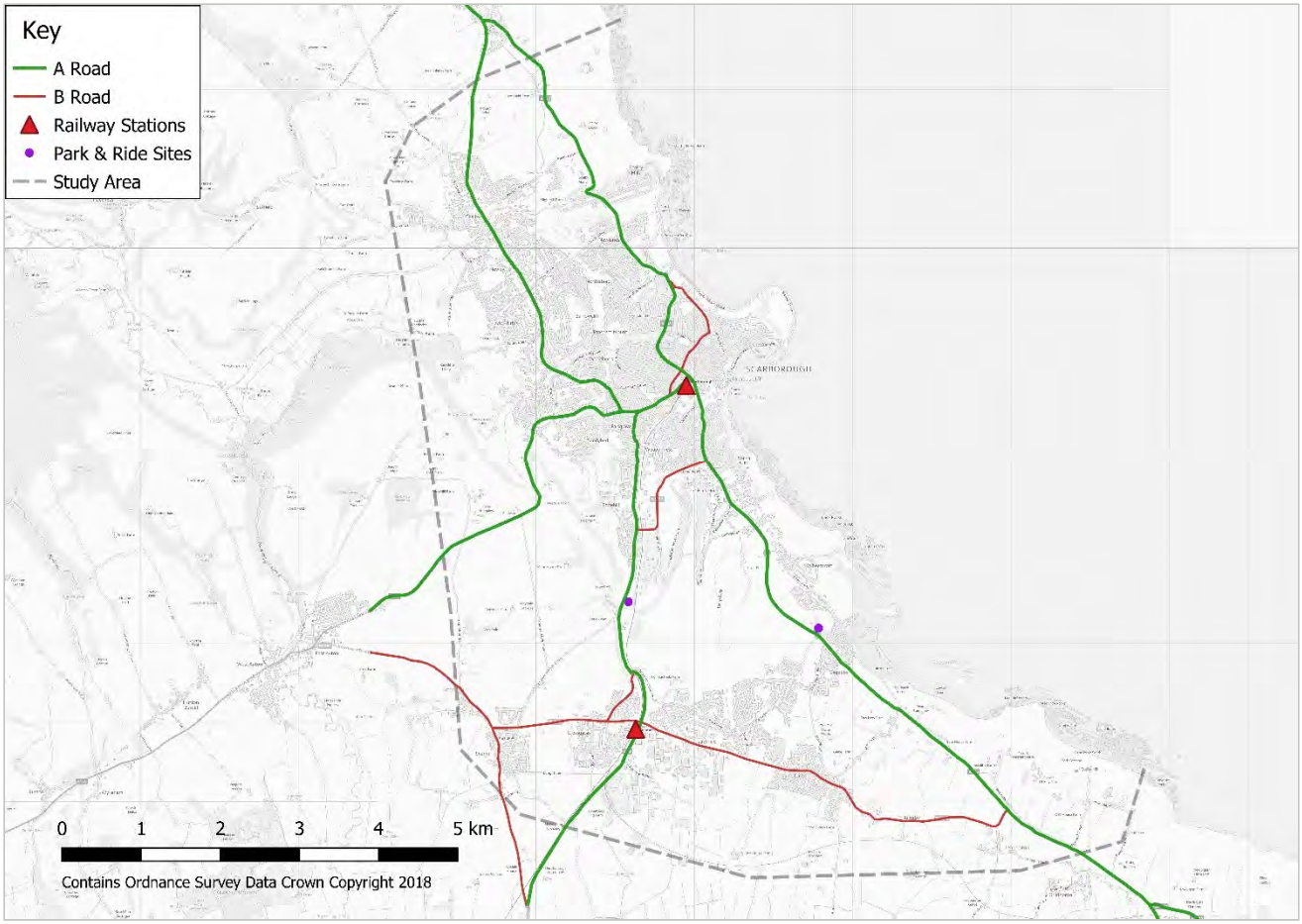
Park and Ride

2.8.15. There are two park and ride services from the south:

- Seamer Road on the A64; and
- Filey Road on the A165.

2.8.16. The locations of the two sites are shown in Figure 26.

Figure 26 – Location of Park & Ride Sites (in context with key highway and rail connections)



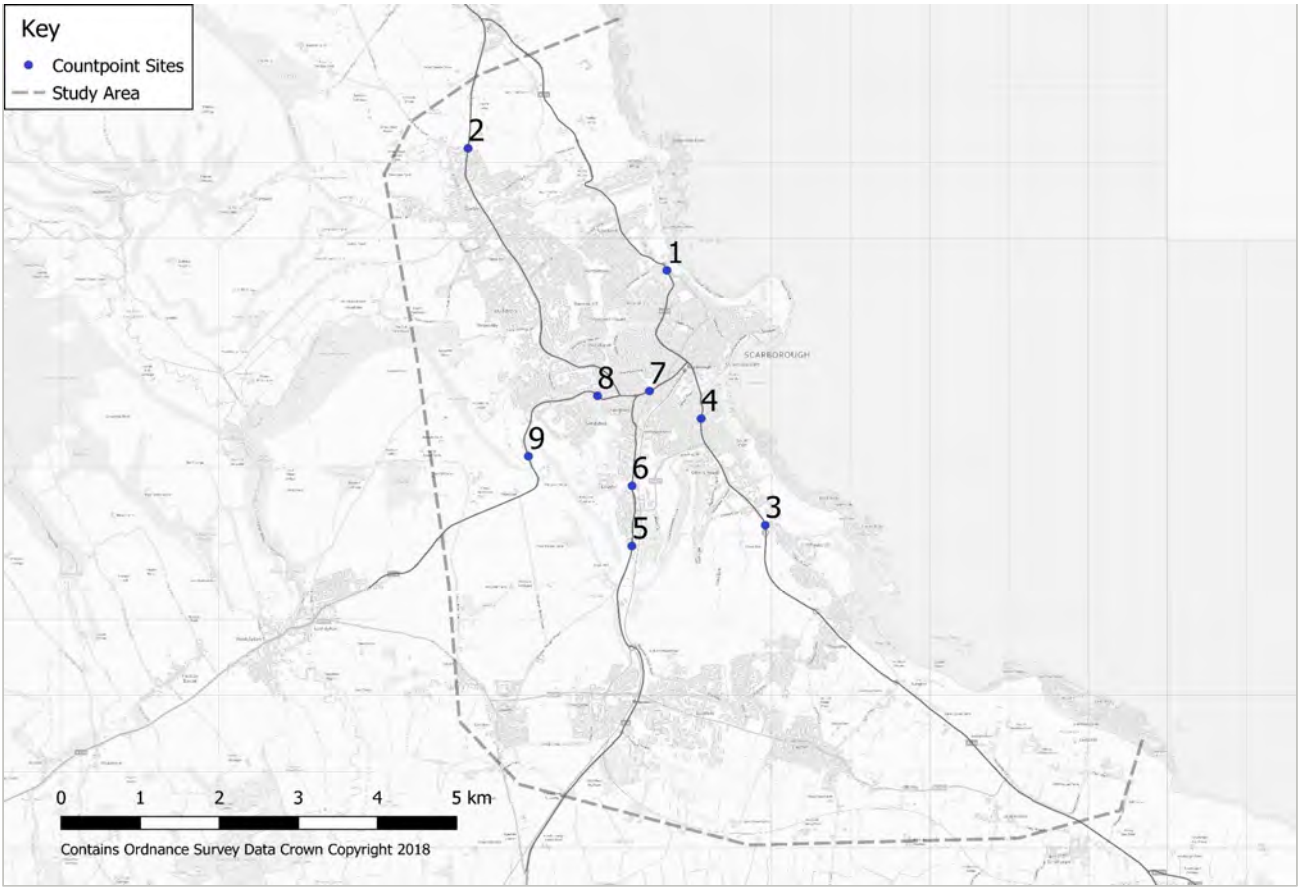
2.8.17. The IDP states that these are currently running with spare capacity at certain times and parts of the year. Existing spare capacity could create a buffer for predicted growth, especially aligned with an on and off-street car parking strategy in the inner core of the Town Centre, and with possible re-development of some Town Centre off-street car parks in the future. A car parking strategy would also likely benefit the LCWIP proposals, allowing the reallocation of road space where necessary to accommodate high quality walking and cycling infrastructure.

TRAFFIC FLOWS

2.8.18. The type of infrastructure recommended in current best practice guidance is directly impacted by the levels of traffic on a route and also the speed of the traffic. Routes which have Average Annual Daily Traffic flows (AADT) of over 5,000 vehicles will require a much higher degree of segregation to achieve modal shift. A higher degree of segregation is also required to induce mode change along routes which have a speed limit of 30 or above.

2.8.19. NYCC's online database has been used to obtain data on vehicle numbers and speeds along key arterial routes. For the purpose of this analysis it was decided that only permanent count points would be used as these would provide the most robust data which could be checked over a number of years, these count points can be seen in Figure 27.

Figure 27 – Scarborough Traffic Counter Locations



2.8.20. Directness of routes is also a major contributor to the design of a successful cycle network; the selected count points are along key arterial routes into the central area of Scarborough, which will likely form a core element of a comprehensive cycle network.

2.8.21. AADT flows and 85th percentile speeds are presented in Table 20.

Table 20 - NYCC Countpoint - AADT and 85th Percentile Speeds

Road Name	AADT	85th Percentile Speed (Mph)	Plan Reference
B1364 Peasholme Road	6,179	N/A	1
A171 Scalby	6,999	34.6	2
A165 Filey Road	15,955	25.8	3
A165 Columbus Ravine	9,317	N/A	4
A64 Seamer Road (south)	21,290	33.2	5
A64 Seamer Road (north)	19,557	29.8	6
A64 Falsgrave Road	15,495	N/A	7
A170 Stepney Road	14,314	40.9	8
A170 Stepney Hill	9,366	28.6	9

2.8.22. The data shows that all sites which have been surveyed have an AADT exceeding 5,000, indicating that any cycle routes which would use these direct arterial routes would require a higher degree of segregation in order to garner use. Without the additional segregation the negative perceptions of safety are likely to decrease the propensity to cycle.

2.8.23. Further to this, the majority of the routes have an 85th percentile speed of 30 mph or above which furthers the need for additional segregation.

2.8.24. The A64 running from Seamer through Falsgrave to Scarborough town centre has the highest AADT figure of all the surveyed roads, with approximately 20,000 two-way trips per day; it should be noted that this is much higher during the summer months as Scarborough has significant levels of seasonal traffic variation due to tourism.

Challenges

The high AADT and average speeds along many of the arterial routes through the LCWIP Study Area indicate a need for fully segregated cycle infrastructure, which can be more difficult to provide where there are significant engineering constraints such as available carriageway width or regular junctions.

Opportunities

Despite the challenges, the need for such infrastructure presents an opportunity to provide genuine high quality infrastructure that can be an exemplar for best practice across North Yorkshire and the wider country.

The travel to work statistics analysed in this Baseline Report show high numbers of short journeys, confined within the Scarborough Urban Area, and an existing propensity to walk amongst Scarborough s populace. Sufficient infrastructure in targeted locations could encourage a significant modal switch to cycling.

2.9. FUTURE SITUATION

PLANNED AND ASPIRATIONAL GROWTH

2.9.1. Planned and aspirational growth is an important consideration when implementing new cycling and walking infrastructure. New developments may become significant origins and destinations due to size, capacity or influence and therefore links to the cycle and walking networks would be necessary. This section of the report summarises the growth aspirations of the Borough over the plan period to 2028, as well as considering the impact of various key committed and ongoing developments in the Borough.

COMMITTED AND RECENT DEVELOPMENT

2.9.2. Figure 28 below shows the location of both recent and committed development sites.

Figure 28 – Committed Development Sites

Middle Deepdale

2.9.3. Middle Deepdale is an ambitious large housing site (approximately 400 acres) situated to the south of the study, north of the existing urban areas of Eastfield and Cayton. The development began construction in 2014, on the Cornelian Fields plot, with more than 200 homes already built. Once completed, Middle Deepdale will consist of:

- 1,350 homes;
- A new primary school with capacity for 420 pupils;

- 60 bed nursing home; and
- Retail units

2.9.4. Planning permission for the site includes significant section 106 agreements and section 278 works, including a new bridge connecting the A165 and A64.

2.9.5. In regards to active travel, the site includes a new cycle route, linking Cornelian Fields to the wider Middle Deepdale development, amenities at Eastfield, a number of primary schools, and the beach at Cayton Bay. Given the significant growth anticipated in this area from both committed and allocated sites, this link is likely to become a key part of both wider cycling and walking infrastructure networks in the south of the LCWIP Study Area.

High Mill, Scalby

2.9.6. The High Mill site has planning permission for 148 dwellings to the east of Scalby, south of Field Lane, on a 12.4 acre site. Planning permission includes 59 affordable homes, areas of public open space, and an access roundabout. Scalby is also intended for significant further development through Local Plan site allocations, and will likely form a key cluster of O/Ds to the north of the LCWIP Study Area.

North Bay

2.9.7. The North Bay has previously been home to a number of significant attractions, including the Atlantis waterpark and Mr Marvel's Amusement Park, while the Sealife centre remains at the northern extent of the bay. However, the area has benefited from significant investment over the past decade, as part of the £150 million 'The Sands' development. The overall project consists of a 55-acre mixed-use development, including retail units, bars and restaurants, a health club, hotel, casino, the Alpamare Waterpark, and a number of residential units. The development has also included the refurbishment of a number of beach facilities, such as the beach chalets and the development will be complimented by a new seven screen cinema complex, due to open in summer 2018.

Futurist Theatre Site (South Bay)

2.9.8. The Futurist Theatre was a long-standing feature of the South Bay, built as a cinema in 1921, but used as a theatre from 1958, boasting the fifth largest capacity outside London. The venue hosted acts such as the Beatles, but the operator's licence expired in January 2014, and after a length of time trying to secure an alternative operator, the decision was taken to demolish the building. Demolition began in June 2018, and it is currently understood that the site is earmarked to become a new Flamingo Land attraction, dubbed 'Flamingo Land Coast'.

Former Weaponess Park & Ride Facility

2.9.9. The former Weaponess Park and Ride facility has been development forms part of a wider £50 million sport and education facility,

- Coventry University (CU) Scarborough Campus
  - Scarborough has long been home to a university campus, hosting Hull University's teaching campus on Filey Road to the south of the town. However, Hull stepped away from the town in 2016, leaving a gap in higher education requirements for the area. Coventry University opened a new £14 million university campus on the site of the old Weaponess Park and Ride in 2016, anticipated to ultimately host more than 2,000 students.

- Scarborough University Technical College
  - The Scarborough UTC specialises in vocational education in Science, Technology, Engineering and Maths (STEM) subjects for 14 to 18-year olds. The site was completed in august 2016, at a cost of approximately £10 million.
- Weaponess Leisure Village
  - Construction of the new Scarborough Leisure Village began in January 2016, with the new facility boasting an eight lane 25-metre Olympic Legacy swimming pool and learner pool, a four-court sports hall, squash courts, a 60-station fitness suite, and an aerobics studio.
- Scarborough Athletic Football Club
  - The Weaponess Leisure Village is also home to the new football ground for Scarborough Athletic. Scarborough football club was wound up in 2007 following financial difficulties, and the old stadium site in now home to a Lidl supermarket. However, the club was reformed, and a 2,070-capacity stadium purpose built for the new club as part of the regeneration of the former Weaponess Park and Ride site.

LOCAL PLAN GROWTH

2.9.10. The Scarborough Local Plan was adopted in June 2017, and covers a 15-year plan period from 2011 to 2032. The Plan covers the entirety of the Borough of Scarborough, excluding any areas located within the North Yorks Moors National Park.

2.9.11. The Local Plan presents ambitious growth targets over the plan period for:

- 9,450 new dwellings; and
- 40.35 hectares of employment land

2.9.12. The site allocations presented in the Local Plan exceed the target growth in housing, and 76% of the overall planned increase is located in the Scarborough Urban Area, which broadly follows the LCWIP Study Area. Key development sites can be seen above on Figure 28.

Locations for Growth

2.9.13. The Local Plan presents a clear focus for growth in the Scarborough Urban Area, including the provision of housing, services, shops and community facilities, in addition to employment uses. The borough intends that this growth will diversify the opportunities already available, providing a wider mix of housing types and new employment types.

2.9.14. The town centre of Scarborough is identified as the main retail destination for the Borough, and the Local Plan states that opportunities for walking and cycling access will be required in order to promote the town centre in an inclusive way.

2.9.15. The Local Plan includes four housing sites of significant size in the Scarborough Urban Area:

- Land to east of Lancaster Park, Scalby – 900 dwellings;
- Land to north of Middle Deepdale (east of Deep Dale Valley), Eastfield – 600 dwellings;
- Land to north of Middle Deepdale (west of Deep Dale Valley), Eastfield – 500 dwellings; and
- Land to south of Cayton - 'South of Cayton Strategic Growth Area') – 2500 dwellings (1575 in the plan period).

2.9.16. The Local Plan also identifies 5 employment site allocations, although two of these from the vast majority of the allocations:

- Land to north and south of Cayton Approach, 'Scarborough Business Park', 24.2ha - B1, B2, B8 and other approved uses; and
- Land to south of Plaxton Park Industrial Estate, 11ha - B1, B2, B8 uses.

2.9.17. These allocations form part of Scarborough Business Park, located to the south of Cayton and Eastfield, adjacent to the South of Cayton Strategic Growth Area. Scarborough Business Park is considered the main economic driver in the Local Plan area, with a significant proportion of the Borough's allocated land in this location, enhancing the business Park's existing role. It is noted that site EMP A4 (24.2ha) already has outline planning permission, including car showrooms, hotels, restaurants, and small scale –retail units.

Policy SGA 1 – South of Cayton Strategic Growth Area

2.9.18. Almost a third of the Borough's housing growth target is anticipated to be delivered in the South of Cayton Strategic Growth Area, a 131ha area adjacent to the Scarborough Business Park on the southern periphery of the Scarborough urban area. The Local Plan states that its development will be expected to achieve a pedestrian and cycle focussed development that will contribute to the creation of a sustainable southern part of the Scarborough Urban Area, and support an expanded role for Eastfield centre, showing clear opportunity for alignment with the LCWIP process.

2.9.19. Policy SGA 1 states that:

"Development will be guided by a comprehensive Development Framework and supporting masterplan(s), the main requirements of which are set out below:

- *The provision of around 2,500 new homes;*
- An accessible central 'hub' of local facilities including shops and a community centre to serve future residents, including a clear strategy for the provision and phasing of necessary new and/or expanded education facilities. The scale and type of new facilities should complement the pattern of existing local facilities"

2.9.20. Requirement D states that the development will be expected to provide strong links prioritising pedestrian, cycle and public transport based modes to Scarborough Business Park, Cayton and Eastfield district centre, and to key facilities and services in the wider Scarborough Urban Area through the preparation and implementation of a strategic 'green travel' plan. This requirement clearly aligns itself with the LCWIP process.

Notable Development Sites:

2.9.21. The Local Plan also identifies a number of other key areas for development. While these are not on the scale of Scarborough Business Park or the south of Cayton Strategic Growth Area, these areas nevertheless represent areas of existing or future importance, and could be key trip generators / attractors, particularly in regards to local trips that could be undertaken on foot or by bike. These include:

- Former rugby club – Scalby Road, Scarborough: redevelopment includes a new GP, adjacent to a range of existing facilities including shops, chemist, bank, library, etc; and
- Weaponess sport village project.

Hierarchy of Centres

2.9.22. The Local Plan provides a hierarchy of centres across the Borough; while the draw of each varies according to size and importance, each centre is considered an important part of the local

community, and even the smaller neighbourhood centres are likely to be key trip attractors / creators, particularly in regards to short local trips that could be undertaken on foot or by bike. The following centres are included within the LCWIP Study Area:

- Scarborough town centre (top of the hierarchy);
- District centres – Falsgrave and Eastfield; and
- Neighbourhood Centre – Newby, Newlands, and Ramshill.

Challenges

- The significant growth planned in the Borough could introduce many new trips onto the transport networks. In places like Eastfield and Cayton, which are disconnected from the town centre of Scarborough, there may be a higher propensity to travel by private motor car.
- Poorly designed development could limit the uptake in active travel modes

Opportunities

- New development sites provide an opportunity to incorporate high quality active travel networks within the development, promoting travel by the modes for new employees / residents.
- Such sites can also contribute to off site highways improvements to help create a cohesive active travel network in the Borough.

TRANSPORT SCHEMES AND INITIATIVES

2.9.23. In addition to documented policy objectives, the Scarborough LCWIP should also consider existing transport, cycling and right-of-way proposals. There are a number of transport schemes and initiatives of note within the study area which are either programmed or are currently being investigated and option tested. This section of the report presents an overview of a number of relevant proposals within the study area.

Local Plan Junction Improvements

2.9.24. A priority issue has been identified during the preparation stages of Scarborough Local Plan. The major junctions in Scarborough at Scalby Rd/Falsgrave Rd, Scalby Rd/Manor Rd, Stepney Rd/Stepney Drive, Scalby Rd/Stepney Drive require improvements to increase capacity and improve traffic flows. The existing junctions are over-capacity and without proposals for mitigation will seriously affect the ability to promote the Scarborough Borough Local Plan and the planned housing growth which it will enable

2.9.25. Outline designs and indicative estimates have been prepared for total project costs approx. £2 million – NYCC have been asked to consider 'betterment' should this work go ahead with external funding.

2.9.26. WSP have been commissioned to undertake detailed design and are currently finalising these improvement schemes.

Scarborough Town Centre Improvements

2.9.27. NYCC carried out significant public realm enhancements to the Westborough and Newborough area of Scarborough Town centre in 2016/17, complementing the £2.78 million facelift to Scarborough Market Hall. The area is considered a key link between the town centre and seafront and the improvements should enhance active travel between the locations. It is noted that cycling is not permitted through Westborough.

2.9.28. Further enhancement work was undertaken in January 2018 through the National Productivity Investment Fund (NPIF) to extend the new public realm, with new paving and footway widening along Newborough, as well as repositioning the existing taxi ranks onto Thomas Street. The scheme also included improvements to Aberdeen Walk, Bar Street, and Huntriss Row, as well as better pedestrian facilities at the Newborough / St Thomas Street signalised junction.

Cycle Infrastructure Proposals

Access Fund

2.9.29. In January 2017 NYCC was awarded approximately £1m in funding, through DfT's Access Fund, for its 'Open Yorkshire' project. The aim of this project is to support the implementation of targeted sustainable travel behaviour change strategies to help promote economic growth and reduce congestion, recognising that existing levels of congestion are a barrier to this growth.

2.9.30. One of only 25 schemes across the country to be funded (37 were unsuccessful), Open Yorkshire directly targets Scarborough, alongside Harrogate and Skipton, and is based around four core elements:

- Travel behaviour and training;
- Sustainable travel promotion and marketing;

- Sustainable access to public transport and Wheels 2 Work; and
- Cycle infrastructure.

2.9.31. As part of the 'Travel Behaviour and Training' element, key employment sites within Scarborough will be provided with dedicated travel planning support.

2.9.32. Project Element 4 of the Access Fund bid is for cycle infrastructure, although this element will not be provided via the Access Fund, but rather through local sources. Despite this, infrastructure is considered intrinsically linked to the overall bid.

2.9.33. The intention is to develop 'bid-ready' cycle schemes, including feasibility design, assessment of impacts, cost estimating, and an assessment of economic impact. The development of the LCWIP contributes directly to this intention by first developing an evidence-based network from which priority schemes will be specified to be taken forward for feasibility assessment.

PROPENSITY TO CYCLE

Overview

2.9.34. The Propensity to Cycle Tool (PCT) project was primarily funded by the Department for Transport (DfT), with the Welsh government funding an extension to Wales. It was developed by an academic-led team involving the universities of Cambridge, Leeds and Westminster. The PCT helps to provide an evidence base for planning for cycling, and can be used to explore cycling potential at different geographical scales – from a county to a potential route corridor.

2.9.35. For research into cycling potential (and the resulting models) to be useful for local transport planners, their spatial scale must coincide with those over which the planning process has some control. For this reason practitioners and researchers focus on scale as the primary way of categorising research into cycling potential.

2.9.36. At the route-based scale, the design of measures use origin-destination data which can be used to create 'desire lines' and (using route allocation) estimates of existing and potential demand at each point on the road network

HOW THE PCT WORKS

Baseline Data

2.9.37. Central to the PCT approach is origin-destination (OD) data recording the travel flow between administrative zones. Combined with geographical data identifying the population-weighted centroid of each zones, these O-D pairs can be represented as straight 'desire lines' or as routes allocated to the transport network.

2.9.38. The O-D pairs are derived from 2011 census data using data obtained from the following questions:

- 'What is the address of your main workplace'? and
- 'How do you usually travel to work'?

2.9.39. This is enhanced through gender composition data for each OD pair, data on background mortality at an area level, and O-D pair level data on route distance and hilliness.

Forecasting Growth in Cycling

2.9.40. Four scenarios were developed to present a range of potential cycling future scenarios. These scenarios consider the removal of different infrastructural, cultural and technological barriers that currently prevent cycling being the natural mode of choice for trips of short to medium distances. The PTC guidance stresses that these are not predictions of the future, but snapshots indicating how the spatial distribution of cycling may shift as cycling grows based on current travel patterns.

2.9.41. The four scenarios are:

- Government Target: a doubling of cycle trip stages by 2025. Note that this is not uniform, with a greater increase in areas with many existing short, flat trips but a low current level of cycling.
- Gender Equality: this scenario assumes female cycle user numbers increase to equal levels of male cycle users, with the greatest impact where cycling is most gender unequal.
- Go Dutch: this scenario considers the increase in cycle users if England had the same infrastructure and cycling culture as the Netherlands, but retained the hilliness and commuter distance patterns. It applies 'Dutch scaling factors' calculated through analysis of British and Dutch National Travel surveys. These include one fixed 'main effect' parameter, plus a distance

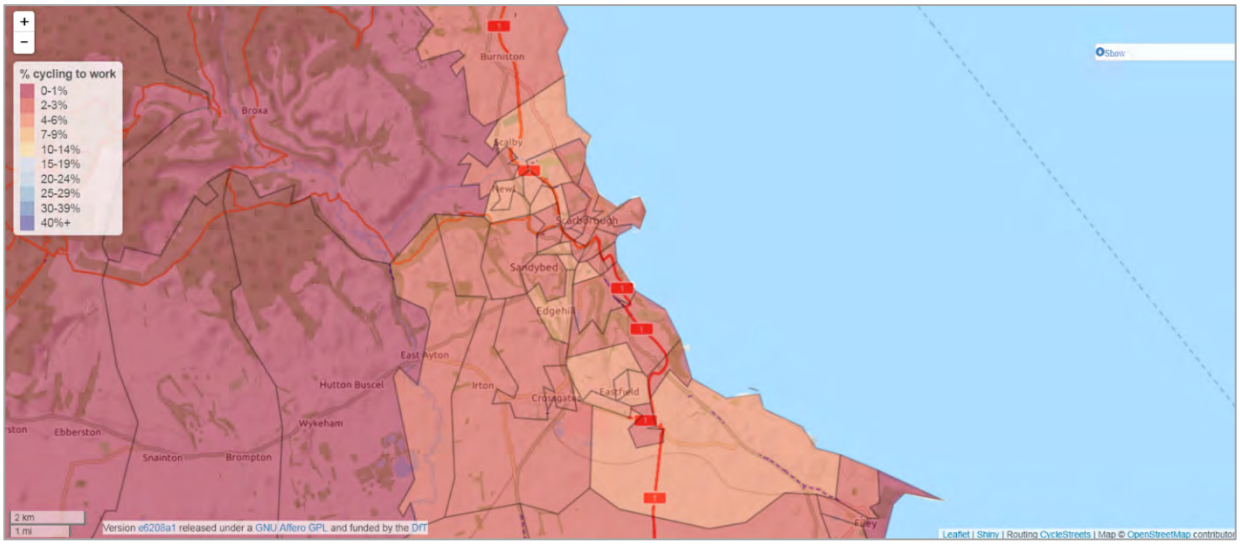
based factor, as the Dutch effect is greater on shorter trips. Note this does not use current levels of cycling, rather considering the distance and hilliness of existing O-D pairs.

- Ebikes: this scenario is an extension of the Dutch scenario; The Ebike scaling factors were generated through analysis of the English, Dutch and Swiss National Travel Surveys, which estimated how much more likely it was that a given commute trip would be cycled by Ebike owners versus cyclists in general.

Existing Cycle Flows

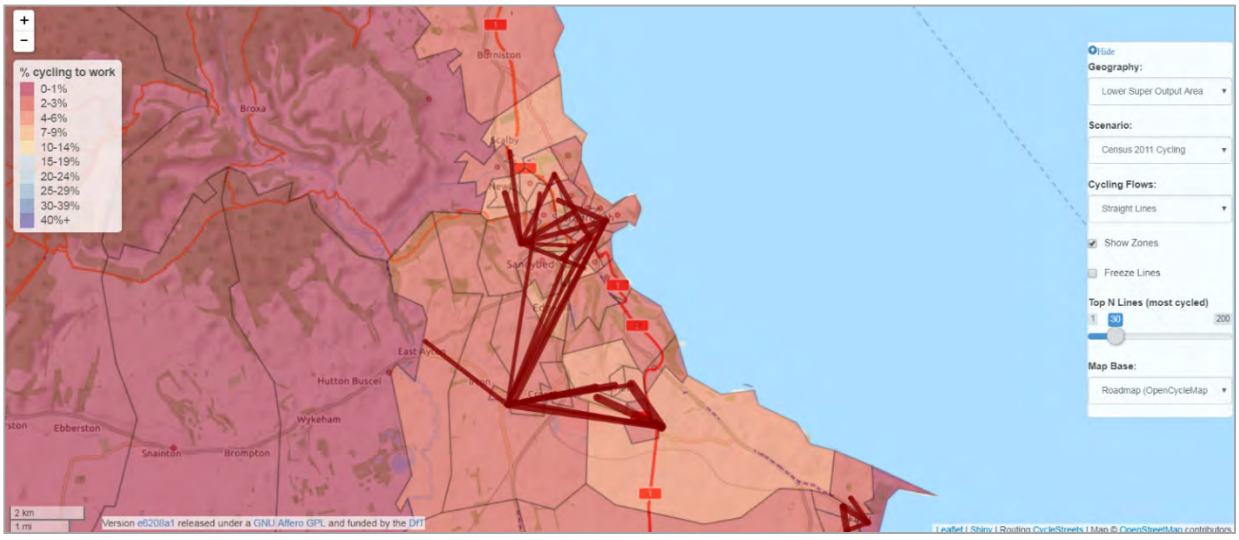
2.9.42. The basic PCT interface displays the existing levels of cycling to work, based on 2011 census data. Figure 29 illustrates this scenario at the LSOA level.

Figure 29 – PCT Output: % of Population Cycling to Work, by LSOA (2011 Census)



2.9.43. The outputs show that existing levels of cycling between LSOA O/D pairs are relatively high in the urban areas of the Borough, with between 7% - 9% of journeys to work undertaken by bike in some areas.

Figure 30 – PCT Output: Top 30 Cycle Flows between OD Pairs (2011 Census)



2.9.44. This figure clearly illustrates the strong existing cycling connections between a number of areas, including:

- Scarborough town centre - Eastfield / Crossgates;
- Eastfield / Crossgates - East Ayton & Cayton; and
- There are also a number of shorter pairs to / from Falsgrave and Scarborough town centre.

2.9.45. provides more context, showing the top 30 most cycled O-D pairs, as well as a roadmap layer for additional context.

2.9.46. This figure clearly illustrates the strong existing cycling connections between a number of areas, including:

- Scarborough town centre - Eastfield / Crossgates;
- Eastfield / Crossgates - East Ayton & Cayton; and
- There are also a number of shorter pairs to / from Falsgrave and Scarborough town centre.

2.9.47. Figure 31 and Figure 32 then assigns the O-D pair movements to the most likely routes: the purple lines represent the fastest routes, while those in green show quieter routes with less vehicular traffic. These routes are generated by CycleStreets.net, so do not necessarily represent the paths that cyclists actually currently take, rather the route choice models are based on GPS data developed specifically for this purpose.

2.9.48. These routes indicate a potential existing demand for a dense network of cycling infrastructure around Scarborough town centre and the A64 corridor, with strategic links to Eastfield / Crossgates in the south, and north towards Scalby. Note there is also a network of routes in the north of the Study Area, around Barrowcliff, and an east-west link between East Ayton and Cayton.

2.9.49. It is also important to note that the tool only considers journey to work data, so excludes all other journey purposes, such as recreational cycling, tourist demand, and movements to school.

Figure 31 – PCT Output: Top 30 Cycle Flows between OD Pairs, mapped to Fast and Quiet Routes - North of Study Area (2011 Census)

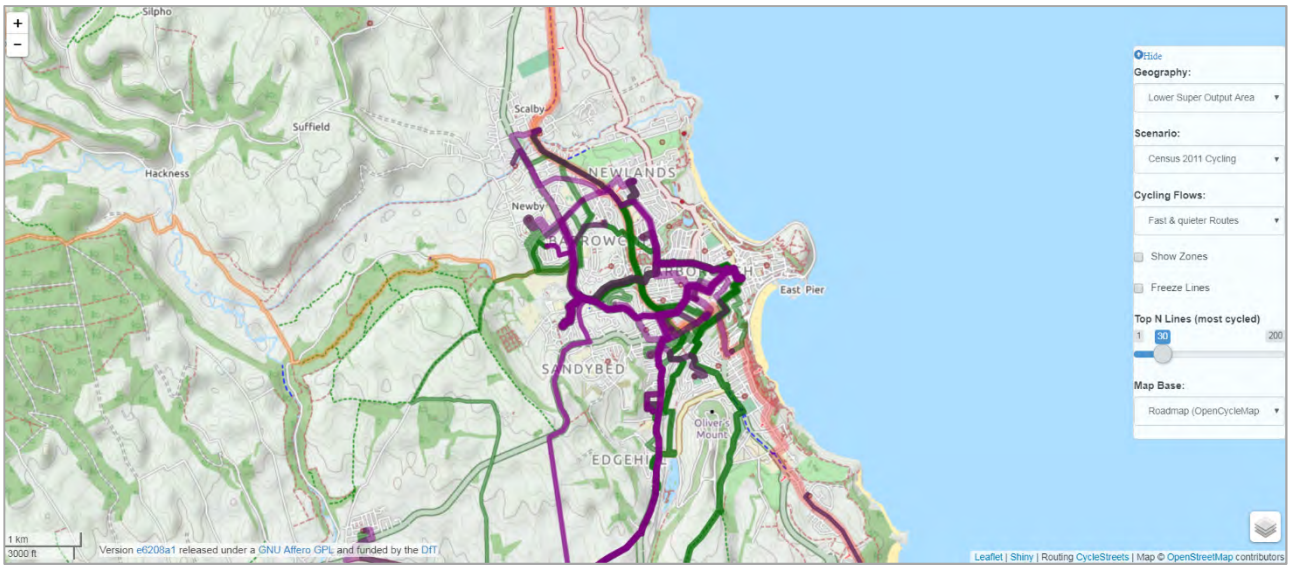
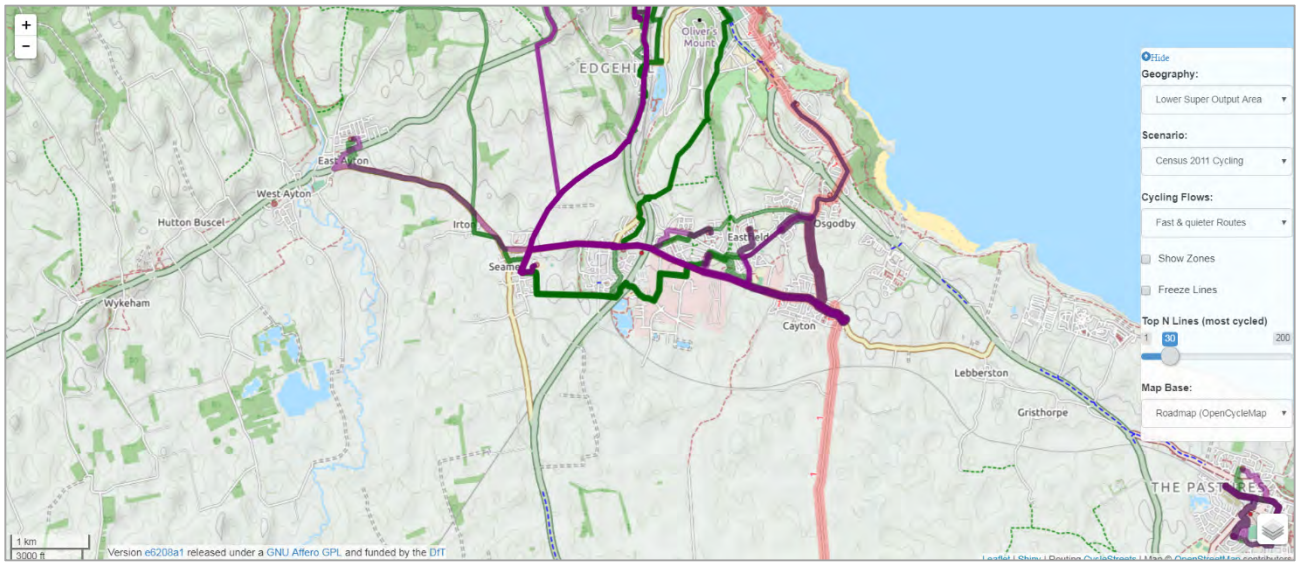


Figure 32 - PCT Output: Top 30 Cycle Flows between OD Pairs, mapped to Fast and Quiet Routes – South of Study Area (2011 Census)



2.9.50. Figure 33 and Figure 34 allocates these routes with the Route Network layer, aggregating the 'fastest route' flows together in order to consider the likely most cycled existing routes on the network.

Figure 33 – PCT Output: Total Cyclists on Route Network – North of Study Area (2011 Census)

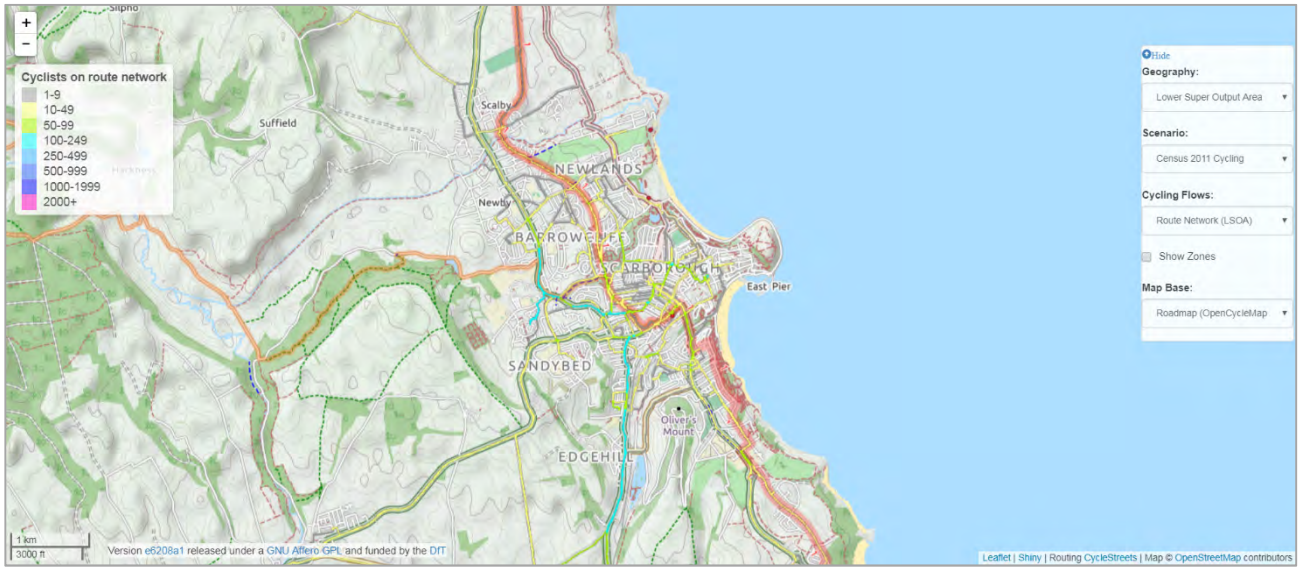
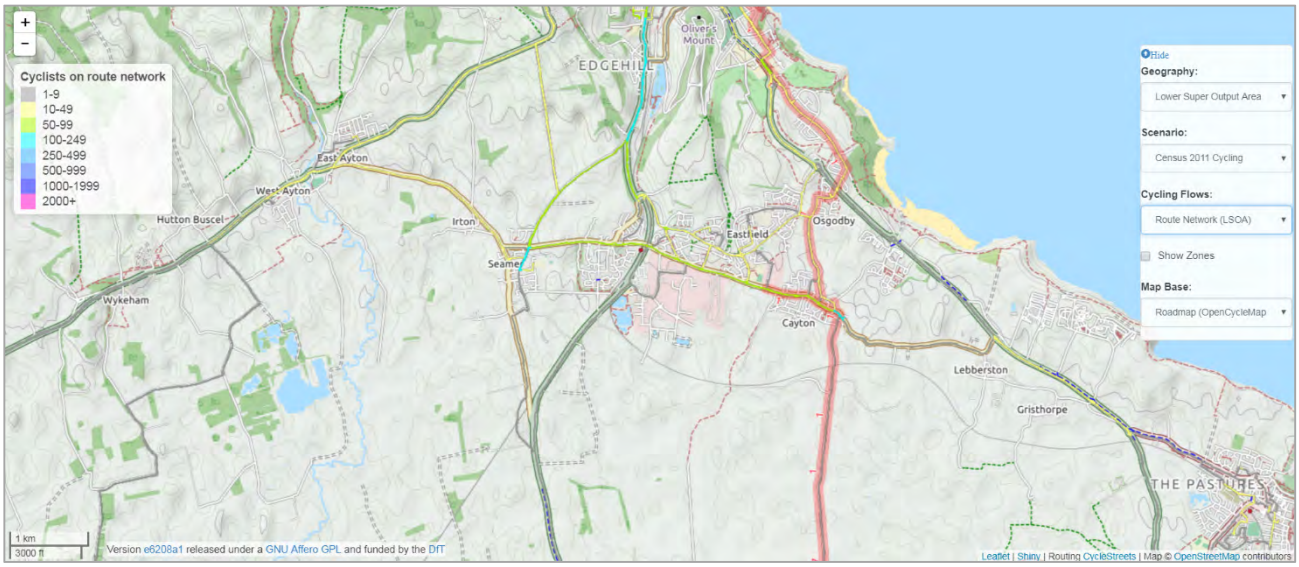


Figure 34 – PCT Output: Total Cyclists on Route Network – South of Study Area (2011 Census)



2.9.51. Given the limitations of the software, the map of existing conditions shows very few cyclists, with only a few key corridors registering more than 100 cyclists.

Future Scenarios – Government Target

2.9.52. The PCT also allows the identification of key routes under the various future scenarios, as described above. Figure 35 and Figure 36 show the potential route network under the government target scenario for North Yorkshire. These figures show an increase in cycling around the urban centre of Scarborough, as well as the key arterial corridor along the A64, and the east – west link between Seamer and Cayton.

Figure 35 – PCT Output: Forecast Cycle Flows mapped to Route Network, based on Government Target Scenario - North of Study Area

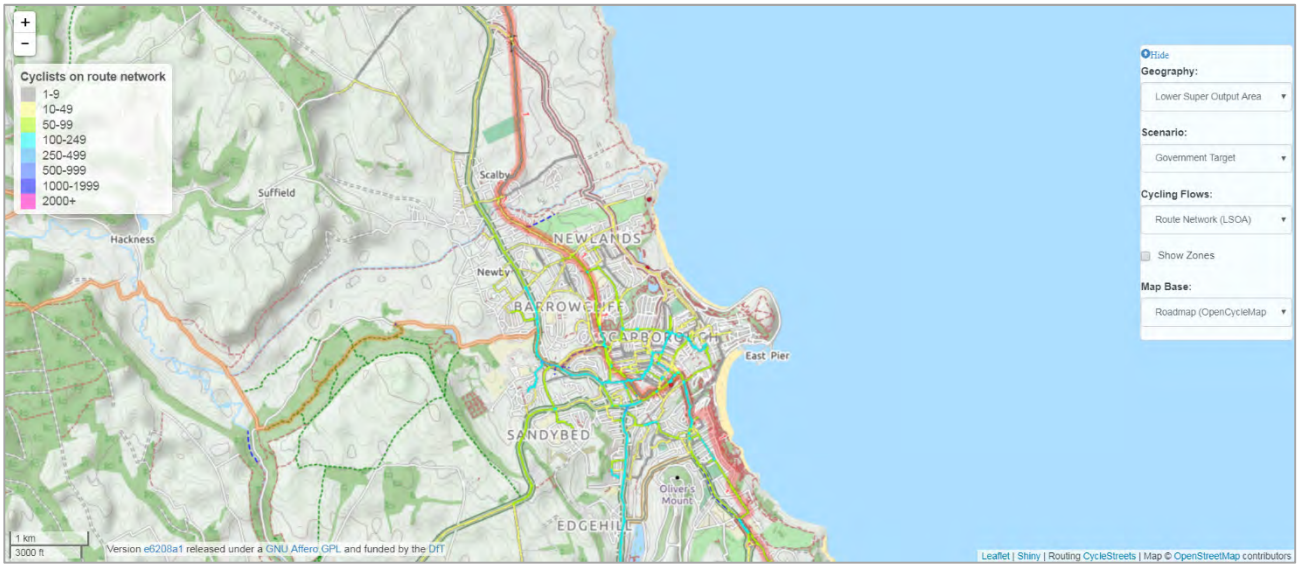
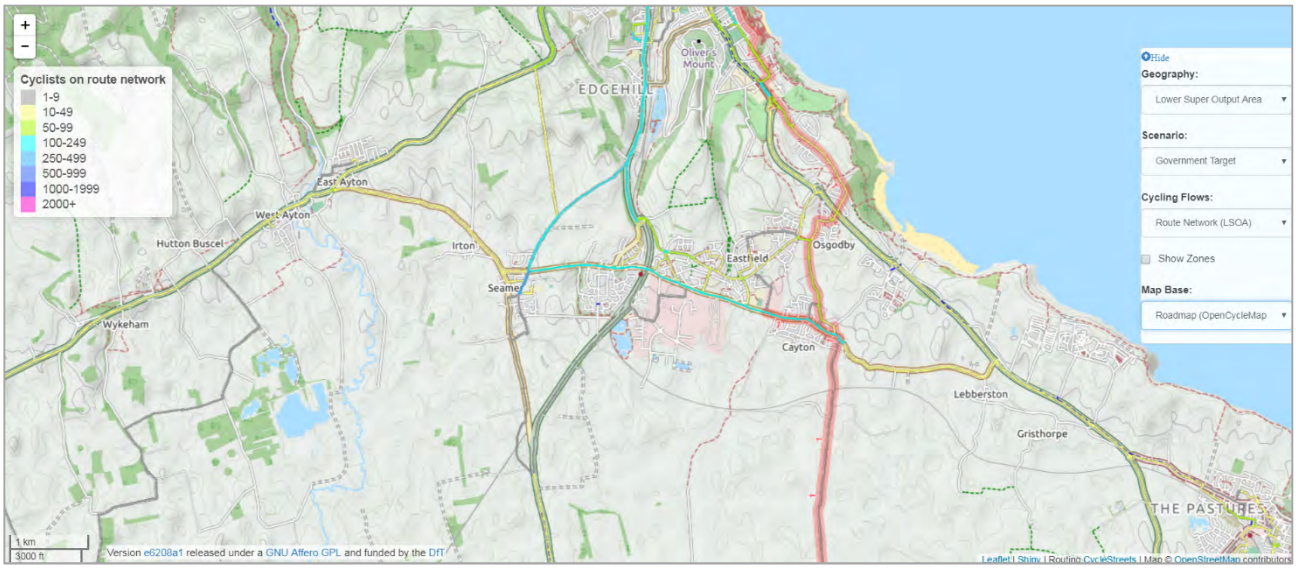


Figure 36 – PCT Output: Forecast Cycle Flows mapped to Route Network, based on Government Target Scenario - South of Study Area



Future Scenarios – Go Dutch

2.9.53. The 'Go Dutch' scenario is considered more aspirational than the government target, presenting a potential scenario of cycling demand in the future if 'Dutch style' infrastructure was available, as well as a similar attitude toward cycling. Figure 37 and Figure 38 show the results of this scenario on the potential cycling network, highlighting areas of significant additional demand.

2.9.54. The figures show increased demand along the A64 corridor from the centre of Scarborough to Seamer, as well as Scalby Road, with flows along these routes predicted to rise to over 1,000 cycle users. There is also more demand for radial routes towards Scalby, East Ayton to Scarborough, and towards Filey (note Filey is outside of the Study Area).

Figure 37 – PCT Output: Forecast Cycle Flows mapped to Route Network, based on Go Dutch Scenario - North of Study Area

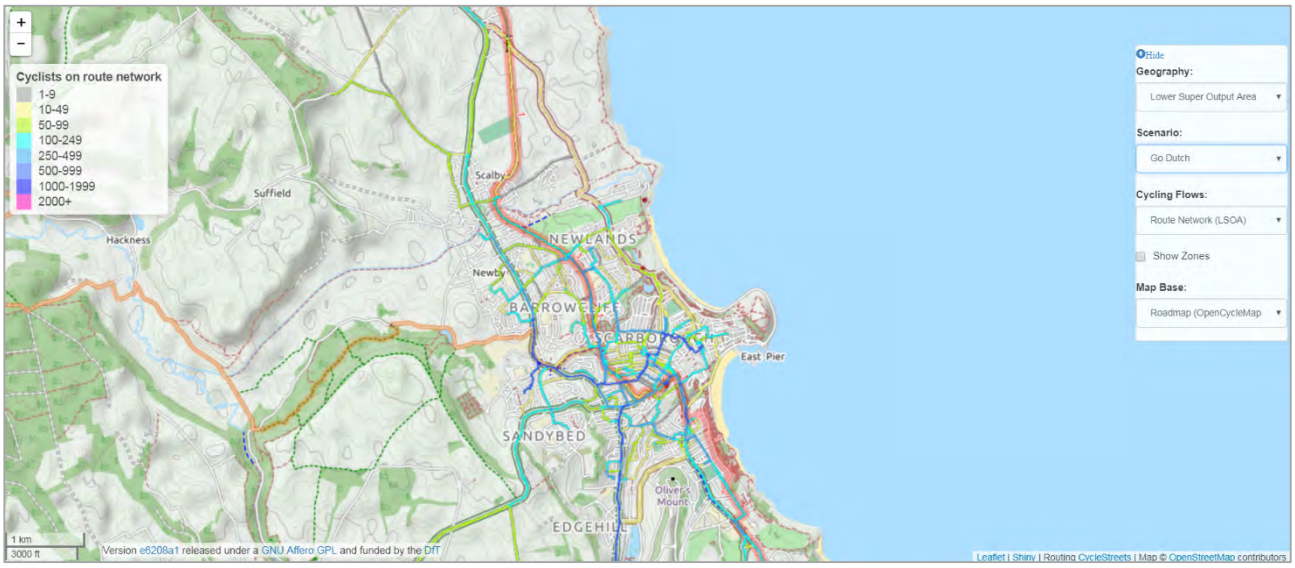
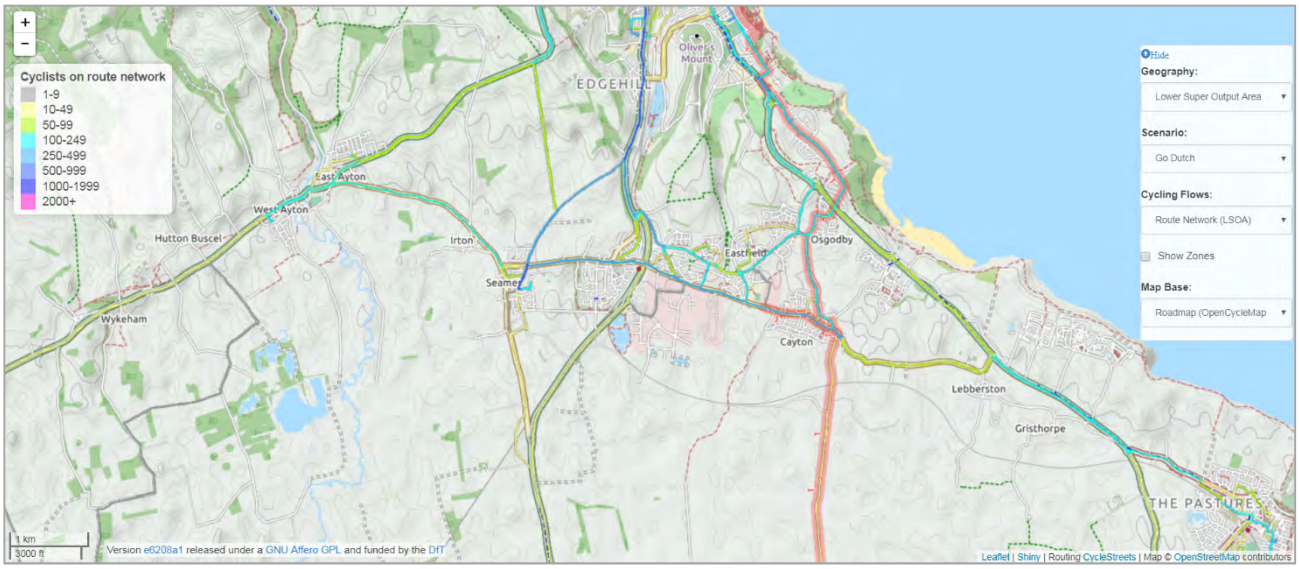
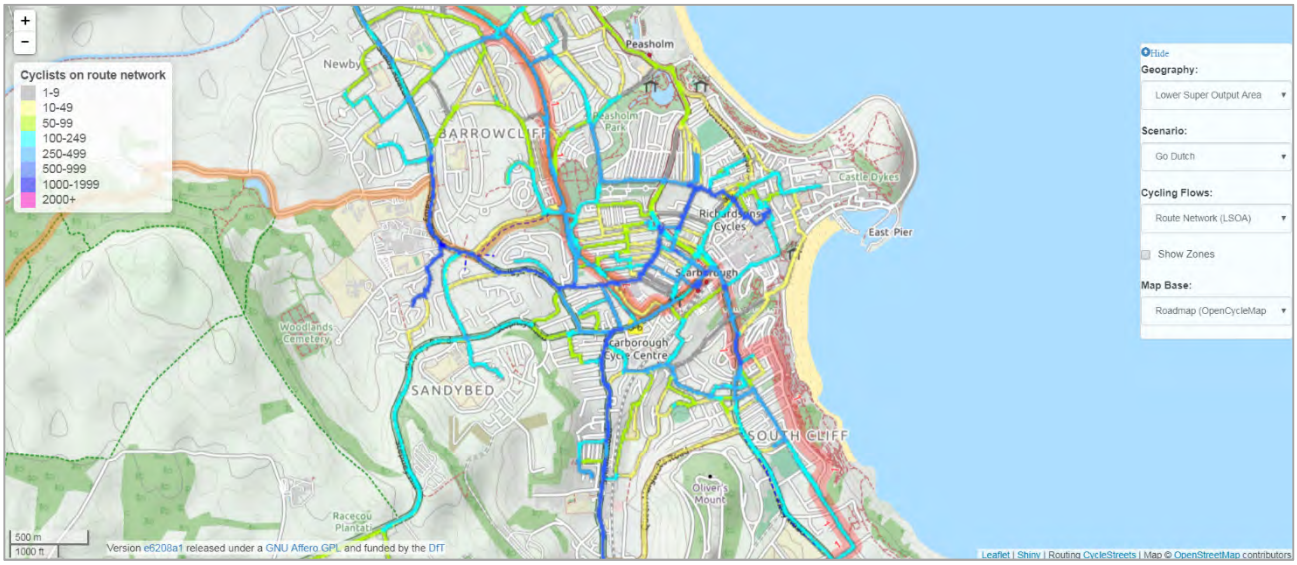


Figure 38 – PCT Output: Forecast Cycle Flows mapped to Route Network, based on Go Dutch Scenario - South of Study Area



2.9.55. Figure 39 shows the central area or Scarborough town in more detail, illustrating the dense network of cycle usage under the Go Dutch scenario. Note the two parallel corridors of the A64 and Wykenam Street, with the A64 extending south toward Seamer and the northern corridor providing connections along Scalby Road toward Barrowcliff, Newby and Scalby. These corridors are supported by a network of lesser routes; note the Cinder Track between Woodland Ravine and Cross Lane is predicted to support between 500 – 999 cyclists, with a similar number along Dean Road/ Glenn Bridge to the west of Peasholme Park.

Figure 39 – PCT Output: Forecast Cycle Flows mapped to Route Network, based on Go Dutch Scenario – Central Scarborough



2.9.56. It is important to understand the limitations of the PCT. The tool allows for the quick identification of the probable key existing cycle routes, as well as those under various future scenarios. However,

these routes do not take into account journeys for any other purposes than commuting to work, and do not consider future growth in the area.

2.9.57. The PCT outputs should therefore only be considered as a starting point, with the network further refined through the subsequent stages in the LCWIP process

Challenges

- The outputs of the PCT presents a significant challenge to provide sufficient infrastructure to accommodate the predicted levels of growth in cycle use;
- Without the provision of such infrastructure, such growth is likely to remain suppressed, with travel by cycle for all purposes remaining at its existing low level.

Opportunities

- The PCT outputs show an opportunity to increase cycle use in Scarborough and the surrounding area, showing a significant increase in cycling levels along existing arterial routes, through the urban core of Scarborough, and particularly between Cayton / Eastfield and Scarborough town.
- The software doesn t consider the additional potential growth in cycling levels due to the significant committed and anticipated development in Scarborough, particularly the opportunities presented by the Middle Deepdale area, Scarborough Business Park, and the Cayton strategic growth area.

3

BEST PRACTICE REVIEW

3. BEST PRACTICE REVIEW

3.1. OVERVIEW

3.1.1. Streets need to manage a wide range of road users and their competing demands by providing clear but flexible spaces, with consistent and legible features that acknowledge where, when and how users should interact.

3.1.2. Priorities should be applied to best provide for efficient and safe movement of people, goods and services, while reflecting and enhancing the character of the place. Balancing user priorities, especially the needs of pedestrians and cyclists, is often challenging in busy urban contexts. There is need to carefully consider configurations, phasing and infrastructure to respond to the most challenging junctions and increase permeability.

3.1.3. Continuous improvement of the street environment and of public places is critical to meet the changing demand and expectations as urban areas grow and diversify. This will rely on best practice, creativity and innovation to develop places that cater for the current and future users.

3.1.4. This high-level review of best practice is not intended to replace or serve as a design standards document, nor to repeat the numerous documents that are already available. Rather, it provides a collection of inspirational and innovative solutions, which, throughout the formulation of the Scarborough Cycling and Walking Infrastructure Plan have aided discussion and debate, and were considered for potential adoption.

3.2. CYCLING INFRASTRUCTURE

3.2.1. The best practice review considers different levels of segregation and suitability drawing upon on experience within the consultancy team, as well as a wide range of literature, most notably the following documents:

- London Cycle Design Standards (TfL, 2014);
- Greater Manchester Cycling Design Guidance (TfGM, 2014);
- Handbook for Cycle-Friendly Design (Sustrans, 2014);
- Design Manual for Bicycle Traffic (CROW, 2007) and
- Cycling Infrastructure Design LTN 2/08 (DfT, 2008)

FULL SEGREGATION

3.2.2. Full segregation between cycle track, carriageway and footway provides the highest level of service for bicycle traffic and can be implemented as a one or two-way operation. A fully segregated cycle track includes a continuous or near-continues physical buffer from separating cycle users from general traffic. This type of segregation is more applicable where general traffic flow and/or speeds are higher.

Figure 40 – Fully Segregated Two-Way Cycle Track (Leeds)

Source: WSP

HYBRID SEGREGATION

3.2.3. Hybrid segregation features a cycle track that is vertically segregated from the carriageway and footway, also known as a 'stepped track'. This provides less separation and protection than a fully segregated cycle track, however, they provide easier and more flexible access to the kerbside for pedestrians and may be more suitable on streets with higher pedestrian flow and more frontage activity.

Figure 41 – Hybrid Segregation (Cambridge)

Source: Local Transport Note 1/12, DfT

CYCLE LANES AND LIGHT SEGREGATION

3.2.4. Cycle lanes are those that are segregated from pedestrians but not physically segregated from general traffic along the full length of the cycle lane. Where they have physical separation, this can take the form of intermittent objects, such as pre-formed rubber separators, wands or planters within a buffer strip between the general traffic lane.

Figure 42 – Cycle Lane with Light Segregation

Source: WSP

SHARED SPACE AND PUBLIC REALM

3.2.5. Shared space schemes are motivated from the point of view of equality for all users of the public space, therefore giving no preference to one group over another. If priority for cycle users is required, then the approach varies and a clearly defined route or alternatives such as cycle streets should be considered.

Figure 43 – Cycle Route through a Public Square

Source: www.realdania.dk

QUIET STREETS AND FILTERED PERMEABILITY

3.2.6. Quiet streets are characterised by more moderate interventions that are appreciated more by cycle users actually using the routes. For example, removal of road markings, formalisation of parking and changes in priorities.

3.2.7. Filtered permeability involves removing through-routes for motor traffic, whilst retaining connections for pedestrians and cycle users.

Figure 44 – Filtered Permeability (London)

Source: WSP

CONTRA-FLOW CYCLE ROUTES

3.2.8. Contra-flow routes may be introduced on existing or newly created one-way streets. The latter may be introduced to:

- Reduce traffic flows; and
- Enable space to be reallocated to other users.

Figure 45 – Contra-flow (Odense)

Source: Danish Cycling Embassy

3.2.9. Contra-flow routes will require varying levels of formalisation, ranging from road markings only to light segregation or physical segregation, depending on variables such as traffic volumes, traffic speed, parking and loading activities, which require the need to maintain a clear cycle route, and for attractiveness to cycle users.

3.2.10. Filtered permeability and contra-flow interventions represent cost effective solutions for promoting cycling, and when delivered well can have a significant benefit on improving area porosity by cycle.

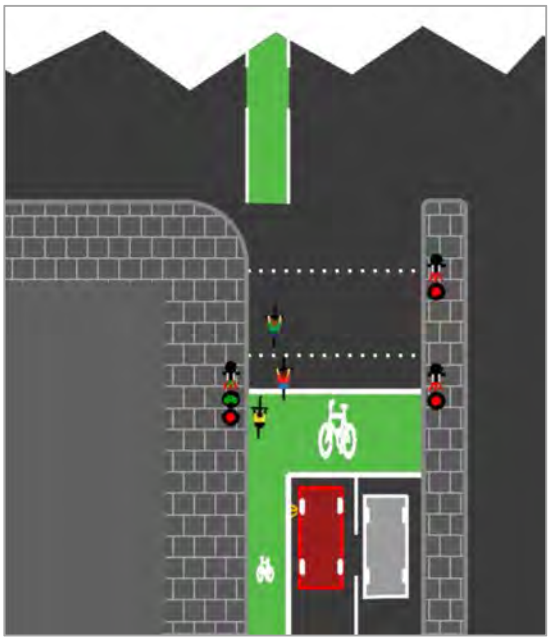
CRITICAL JUNCTION CROSSINGS AND PINCH POINTS

3.2.11. A consistent cycle network includes provision for cycle users at junctions, which are often the locations where the greatest potential conflict with other highway users takes place.

3.2.12. Some options for the benefit of cycle users at junctions include:

- Advanced stop lines and cycle reservoirs;
- Early starts (early release) for cycle users;
- 2-stage right turns;
- 'Hold the left' arrangements;
- Cycle bypasses;
- Low level cycle signals;
- All green signal phase for cycle users, 'Scramble' phases; and
- Interventions at pinch points.

Figure 46 – Diagram of Early Release Signal for Cycle Users



Source: WSP

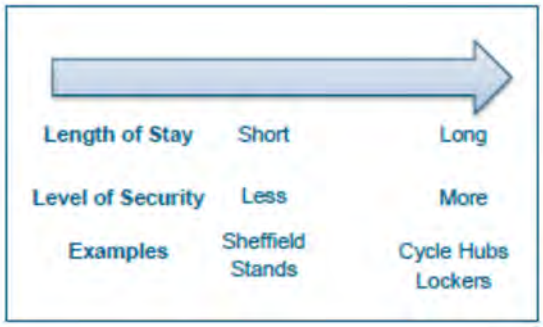
3.2.13. Each of these options has specific complexities in implementation, often associated with the availability of space or junction capacity. There is no 'one size fits all' solution for junction improvements, but the list above represents an initial palette of options do be explored at urban junctions.

CYCLE PARKING

3.2.14. In terms of cycle parking, the level of intervention generally relates to either or both of the following aspects:

- Quantity – the number of parking locations, and number of parking spaces in each location; and / or
- Quality – the level of security provided, protection from the elements, and additional or related facilities (for example, cycle hubs).

Figure 47 – Cycle parking duration of stay



3.2.15. The type and nature of parking should be related to the anticipated duration of stay, as shown in Figure 47.

3.2.16. Trip purpose needs due consideration on a site-by-site basis and the need for a range of parking solutions for various land uses (For example, the use of 'bike hangers' in residential areas).

3.3. WALKING INFRASTRUCTURE

3.3.1. The footway condition and road crossing facilities are two important categories of pedestrian infrastructure that have been considered in this best practice review. It is based upon the expertise of the consultancy team and the following documents:

- Creating better streets: Inclusive and accessible places – Review shared space (CIHT, 2018);
- Streetscape Guidance (Transport for London, 2016);
- Designing for Walking (CIHT, 2015);
- Planning for Walking (CIHT, 2015);
- Design Guidance: Active Travel (Wales) Act 2013 (Welsh Government, 2014);
- Local Transport Note 1/12: Shared Use Routes for Pedestrians and Cyclists (Department for Transport, 2012);
- Manual for Streets 2 (CIHT, 2010); and
- Providing for Journeys on Foot (CIHT, 2000).

PEDESTRIAN ENVIRONMENT

3.3.2. Providing a comfortable and attractive environment for pedestrians encompasses a variety of aspects, including high-quality pavements, attractive landscapes and buildings and as much freedom as possible from the noise, fumes and harassment of vehicles. In addition, opportunities for rest and shelter should also be provided.

Streetscape

3.3.3. Street furniture, signage and other street activity act as obstructions to pedestrians, and can be a hazard to people with mobility or visual impairments. Therefore, to increase the effective width of footways and improve safety, it is often preferable to remove these items, or create a furniture zone where street furniture is coordinated in a consistent arrangement out of the main pedestrian flow to maximise the unobstructed width of the footway.

3.3.4. Personal security is important for a walking route to be attractive, and therefore lighting should be provided where there is sufficient pedestrian demand through the night. In addition, where possible, developments should be designed with natural surveillance, whereby buildings overlook pedestrian paths, to improve perceptions of personal security. This is also likely to deter antisocial behaviour and thereby provide a more attractive environment for pedestrians.

Footway Capacity and Comfort

3.3.5. Footways should be designed with sufficient usable width to safely cater for all anticipated pedestrian activity, and this is important so that the footway capacity is not exceeded, which could result in users being forced onto the carriageway. Therefore, the appropriate width will depend on the existing and expected usage at each specific location. The absolute minimum footway width is 1.8m, to provide sufficient width for wheelchairs / mobility scooters, however the desirable minimum width is 2.0m. Nevertheless, where there is street furniture and various footway activities, such as street traders or queues at bus stops, the usable space is significantly reduced and this is referred to as the effective width of the footway.

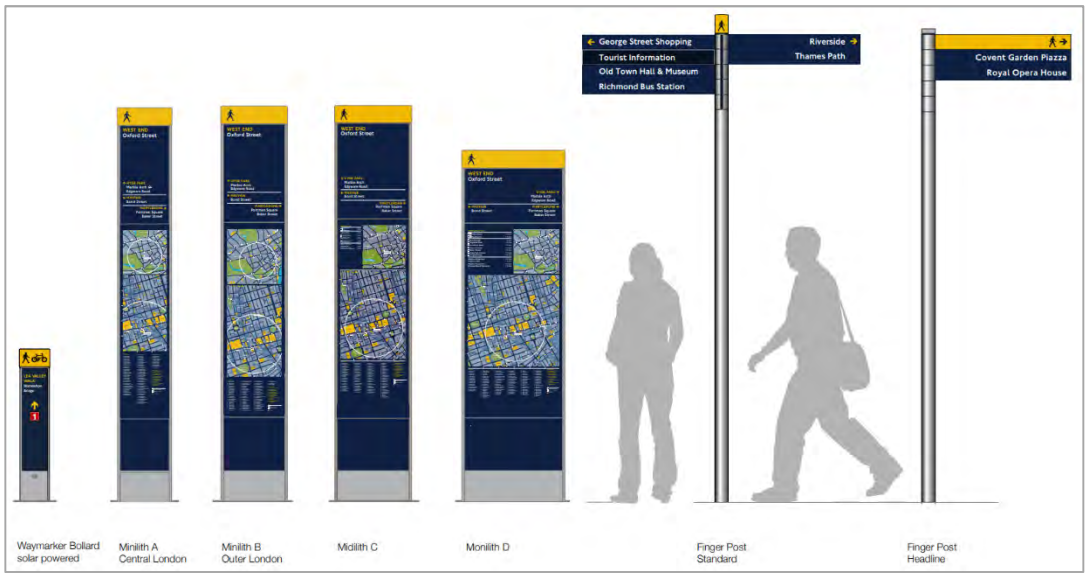
3.3.6. Footway surfacing should be from durable materials, which provide good surface regularity, grip, and drain easily. To ensure good drainage of footways, a gentle crossfall should be provided,

however it is important that the gradient is carefully designed to consider pedestrians with mobility impairments. Likewise, pedestrian ramps should generally not exceed a gradient of 1 in 20.

Wayfinding

3.3.7. Pedestrians are helped if walking routes are well signed and show the distances and/or times to useful destinations. Maps showing walking routes are valuable, particularly in places frequented by tourists. Consideration should also be given to using landmarks, bus stops, surfacing details, tactile paving and mobile phone applications to assist people with navigating the urban environment on foot.

Figure 48 – Examples of Wayfinding Signage



Source: Streetscape Guidance, TfL 2016 (p.244)

Complementary measures

3.3.8. Although not specifically designed as infrastructure walking, traffic calming measures, 20-mph limits and zones along with the filtering out of through-traffic from residential and local streets can have a significant impact on making places more walkable. These measures can contribute to a reduction in the number and severity of pedestrian casualties, and improve subjective safety by reducing traffic intimidation. They also shift the priorities in streets in favour of pedestrians, improving the sense of place and thereby increase the attractiveness of the walking route.

PROVISION FOR PEDESTRIANS

Shared Space schemes

3.3.9. The basic principle of shared space environments is to provide more equitable priority for all street users in areas with reduced physical segregation and formal control. The aim is to balance the ‘movement’ and ‘place’ functions of streets where there is a local aspiration to improve the street

environment for non-motorised users. There are however issues with respect to inclusive mobility and accessibility in shared space because of the lack of designated areas15.

Figure 49 – Shared Space Area

Source: Shared Streets, CIHT 2018 (p.129)

3.3.10. There is a range of street designs with varying levels of segregation, including the following:

- **Pedestrian Prioritised Streets** - Streets where pedestrians feel that they can move freely anywhere and where drivers should feel they are a guest (e.g. Leonard Circus). Under current legislation, this does not give formal priority to pedestrians.
- **Informal Streets** - Streets where formal traffic controls (signs, markings and signals) are absent or reduced. There is a footway and carriageway, but the differentiation between them is typically less than in a conventional street (e.g. Poynton).
- **Enhanced Streets** - Streets where the public realm has been improved and restrictions on pedestrian movement (e.g., guardrail) have been removed but conventional traffic controls largely remain (e.g. Walworth Road).

Catering for Pedestrian Desire Lines

3.3.11. Pedestrian routes need to be direct and match desire lines as closely as possible.

3.3.12. Guardrails are installed to restrict the movement of pedestrians, most often where pedestrian desire lines cannot be accommodated or are deemed unsafe. However, they are visually and physically

[15] Such issues were highlighted in the recent CIHT (2018) document "Creating Better Streets: Inclusive and Accessible Places" which called for the review of the 'shared space' concept, proposing the adoption of the terms 'Pedestrian Prioritised Streets', 'Informal Streets' and 'Enhanced Streets', as discussed in Paragraph 3.3.10 below. In light of the CIHT report, and following publication of the "Inclusive Transport Strategy: Achieving Equal Access for Disabled People" (DfT, 2018) and the Ministry for Housing, Communities and Local Government's National Planning Policy Framework refresh, the DfT have called for a pause on the introduction of new shared space schemes as they update relevant design guidance. The pause relates to those shared space schemes that feature a level surface in areas with relatively large amounts of pedestrian and vehicular movement, such as high streets and town centres (outside of pedestrian zones). The pause does not apply to streets within new residential areas or the redesign of existing residential streets with very low levels of vehicular traffic, such as appropriately designed mews or cul-de-sacs.

intrusive, reduce the width of available footway and can create direct and indirect safety issues, such as pedestrians choosing to walk on road-side of the guardrail. Therefore, they are useful in limited circumstances and best practice is to only use guardrails at locations where there is a real risk of pedestrians being hit by traffic should they walk onto the carriageway.

Shared Use Routes

3.3.13. Shared use routes are designed to accommodate the movement of pedestrians and cyclists and are generally implemented to improve conditions for cyclists, often simply converting existing footways. However, where pedestrian and/or cyclist flows are likely to be very high, shared use routes are generally not appropriate, and instead there is a general preference for on-carriageway provision for cyclists.

3.3.14. Shared use routes may be segregated or unsegregated. A segregated route is one where pedestrians and cyclists are separated by a feature such as a white line, a kerb or some other feature. On an unsegregated route, pedestrians and cyclists mix freely and share the full width of the route. The width of the route depends on whether or not it is segregated, and user flows in both directions.

Figure 50 – Shared Use Route

Source: Shared Use Routes for Pedestrians and Cyclists, 2012 (p.35)

Crossing Points

At-Grade Crossings

3.3.15. To assist pedestrians at road crossings, especially those with mobility or visual impairments, there should be either dropped kerbs or the carriageway should be raised to the level of the footway, with flat-topped road humps. Tactile paving should be provided at the crossing points for visually impaired people to distinguish the footway edge.

Figure 51 – Tactile Paving at a Controlled Crossing

Source: CIHT Designing for Walking, 2015 (p.10)

3.3.16. To reduce the crossing width, a kerb build-out can be provided, whereby an area of footway is built out into the carriageway. This can improve pedestrian visibility and depending on the design, lead to reduction in traffic speed, enhancing safety of the crossing.

Uncontrolled Crossings

3.3.17. Providing dropped kerbs and tactile paving constitutes the most basic uncontrolled crossing, and where the carriageway is wide or traffic flows are higher, refuges can be used to help people cross in two stages. Pedestrian refuges should be 2m-wide to accommodate those using wheelchairs, mobility scooters or pushchairs.

Side Road Entry Treatments

3.3.18. This involves raising and narrowing the mouth of the junction to make it easier and safer for pedestrians to cross the minor arm by reducing speeds of turning vehicles, shortening the length of the crossing and providing a level route. The side road entry treatment also encourages drivers to give way to pedestrians who are already crossing the road.

Controlled Crossings

3.3.19. Zebra crossings provide priority for pedestrians over traffic, and are suitable only where traffic and/or pedestrian flows are relatively low, and there are slow traffic speeds.

3.3.20. Signal-controlled crossings provide a time-based separation between pedestrians and traffic to allow for road crossing. They include the following types:

1. Pelican – pedestrian-only crossing that uses far-side pedestrian signals and has an overlapping flashing green figure / flashing amber phase for pedestrians and vehicles respectively.
2. Puffin – pedestrian-only crossing that uses near-side pedestrian signals. The steady green “invitation-to-cross” phase is followed by an all-red period which can be extended on demand from kerbside and on-crossing detectors.
3. Toucan – usable by both pedestrians and cyclists, and generally follow puffin detection principles.

Grade-separated

3.3.21. Grade-separated crossings include footbridges and underpasses, and they have traditionally been used where people are at high risk when crossing roads with fast and heavy traffic flows. They ensure that people are physically safe from traffic and do not affect traffic capacity. However, they can create problems of personal safety and result in longer, more inconvenient pedestrian routes that involve stairs and ramps.

Figure 52 – Footbridge

Source: CIHT Designing for Walking, 2015 (p.30)

4

DEVELOPING THE CYCLE NETWORK

4. DEVELOPING THE CYCLE NETWORK

4.1. OVERVIEW

4.1.1. The development of the cycle network follows DfT's LCWIP technical guidance, based around connecting people to places, ensuring that the proposed cycle network corresponds to both the routes people currently take and those people are likely to want to take, both now and in the future. This method also helps to identify the long-term vision for the network while ensuring investment is focused on the key routes and the needs of cycle users.

4.1.2. The methodology also aligns with the recently published DfT guidance on producing Local Cycling and Walking Infrastructure Plans (LCWIPs), resulting in a network that is evidence-based and facilitates strategic development.

4.1.3. The key output of Phase 1 of the Scarborough LCWIP process is the determination of a Cycling Network Map (CNM), which sets out a cohesive potential cycling network and details preferred cycling routes for further development.

4.1.4. Moving into Phase 2 of the process, the CNM will inform a programme of cycle infrastructure improvements, which summarises the improvements that are required in order for the routes identified in the CNM to achieve a suitable standard.

4.2. METHODOLOGY

STEP 1 – DEFINE AND UNDERSTAND THE STUDY AREA

4.2.1. A process of 'baselining' of the study area was undertaken in order to understand travel movements and demographic variations, whilst a study area review was undertaken in order to understand the existing issues, physical constraints and topography. This evidence base is presented in the preceding chapters of this report.

4.2.2. A number of site visits have also been undertaken at various stages of the process; these site visits have helped understand existing and future travel demands, identify key corridors, and consider constraints on the network.

STEP 2 – IDENTIFY KEY ORIGINS AND DESTINATIONS

4.2.3. Key origins and destinations were plotted using data collected through the baselining exercise, site audits, stakeholder engagement, and through local knowledge. These ODs included the following key origin points:

- Residential areas – MSOA population-weighted centroids were used as proxy locations for residential areas;
- Public transport interchanges – these are both origins in terms of people arriving in the study area and destinations people use to travel to wider locations (note that Scarborough does not include a bus station—rail stations only were used).

4.2.4. Key destinations included:

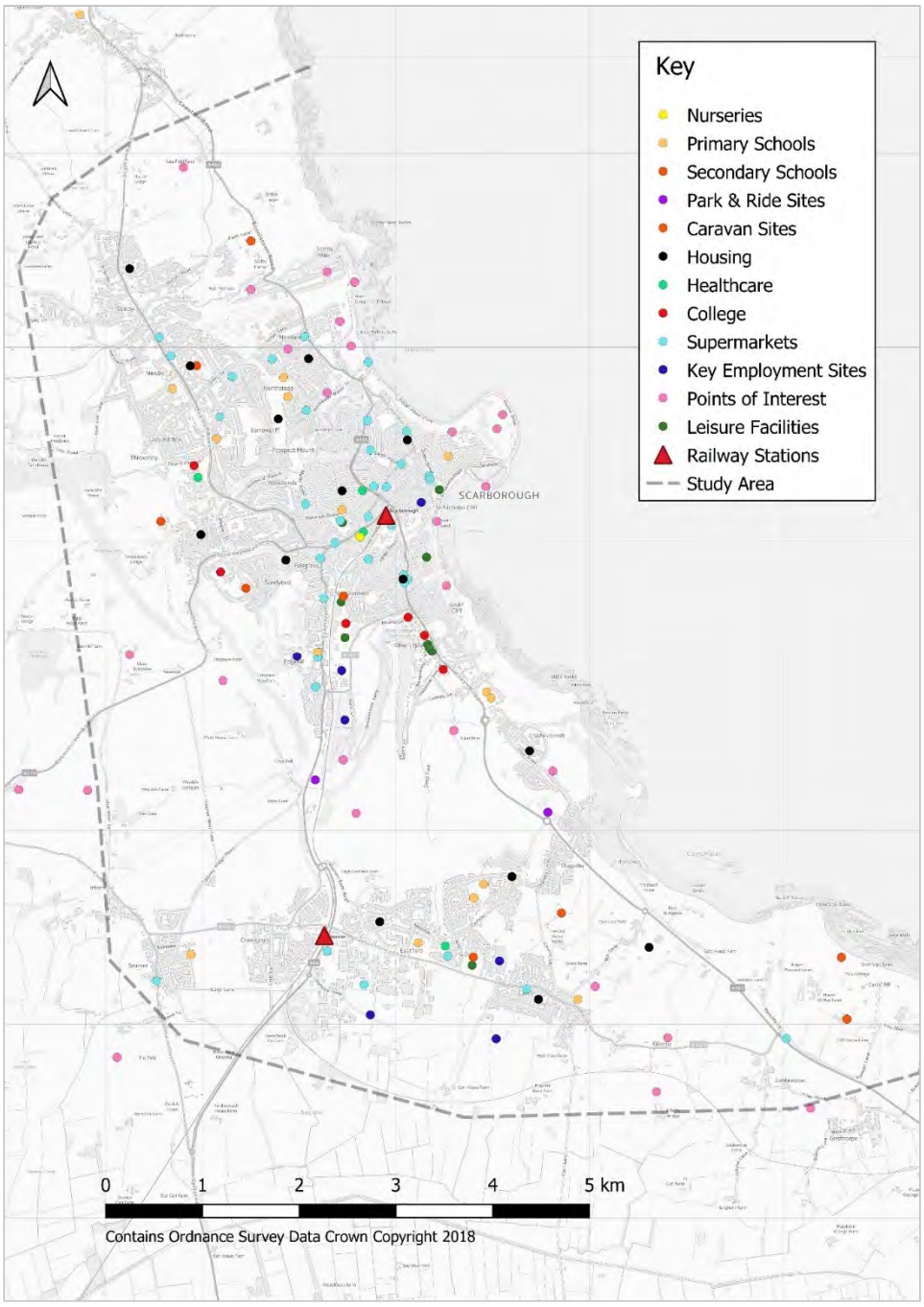
- Public transport interchanges (as above);
- Principal retail areas;
- Employment concentrations;

- Large grocery shops;
- Hospitals;
- Tourist attractions; and
- Educational institutions.

4.2.5. As a key feature identified through stakeholder consultation, significant caravan sites were also included as an O/D.

4.2.6. Figure 53 shows these key ODs in relation to the Scarborough LCWIP Study Area. Further detail regarding OD identification is available in Section 2.4.

Figure 53 – Key Origins and Destinations

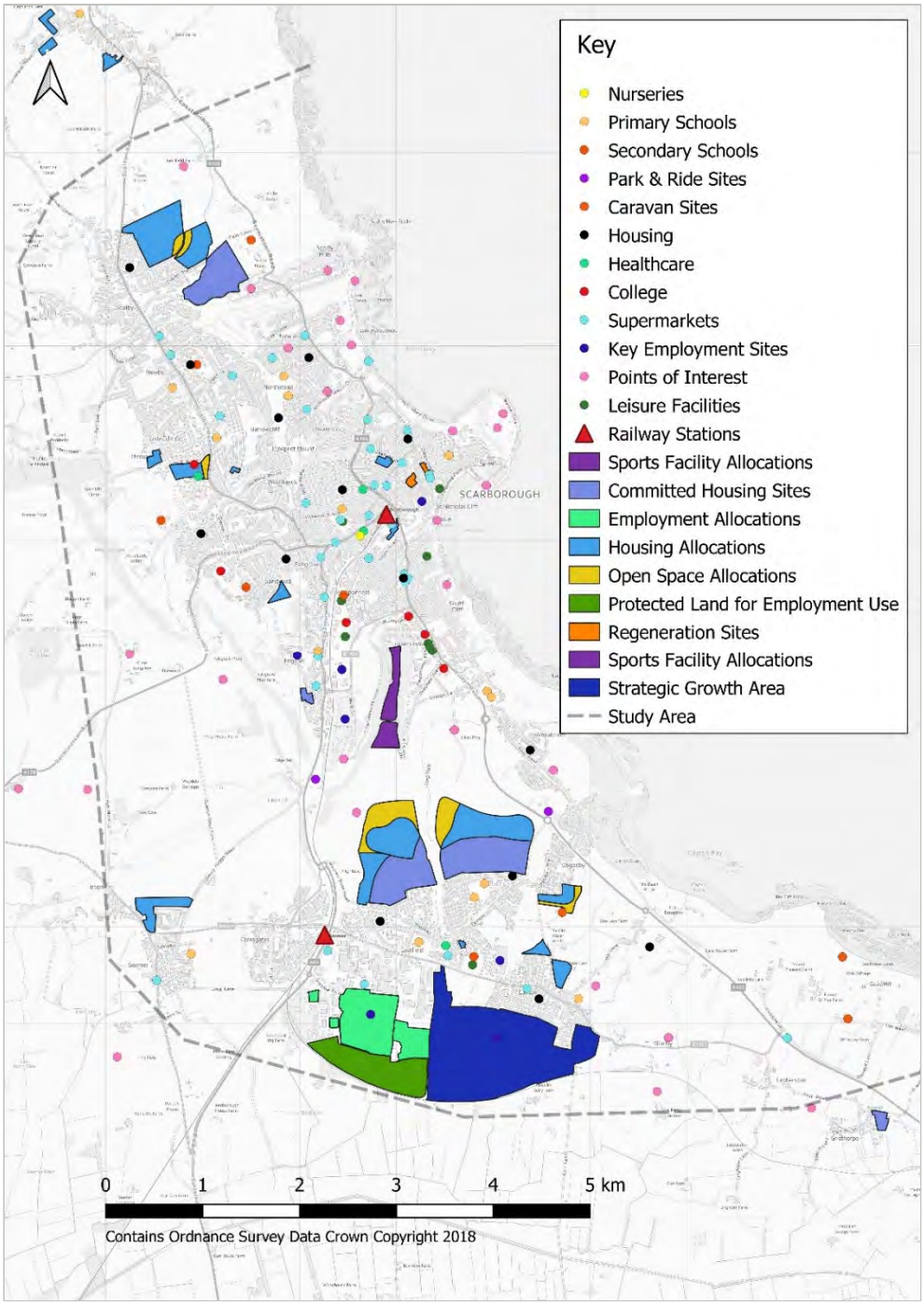


STEP 3 – IDENTIFY KEY FUTURE DEVELOPMENTS AND INFRASTRUCTURE

4.2.7. Identifying potential development and infrastructure is important in terms of understanding where future origins and destinations may be located, as well as the potential for new desire lines. Understanding the location of and proposals for such development allows the network to be developed in a way that links these sites and makes the most of planned infrastructure.

4.2.8. Figure 54 identifies the key future committed and allocated development sites in the Scarborough LCWIP Study Area, presenting these alongside the existing ODs, as determined in Step 2.

Figure 54 – Key Future Developments and Infrastructure



STEP 4 – CLUSTERING OF ORIGINS AND DESTINATIONS

4.2.9. Trip generators in close proximity to one another have been clustered together as key destination areas. This process simplifies the analysis of desire lines, agglomerating multiple destination points into a single broad destination.

4.2.10. A number of potential links outside the LCWIP Study Area were identified during the stakeholder engagement process to outlying towns, villages, and tourist / leisure destinations. It is considered that the current boundary, encompassing the Scarborough Urban Area, remains appropriate in the context of the LCWIP programme, focussing on utility and commuter trips in urbanised areas, which are likely to have the greatest impact for the least cost. Nevertheless, some of the identified routes are likely to offer opportunity for extension in the longer term to some of the more peripheral locations, and these are therefore presented as 'peripheral clusters'.

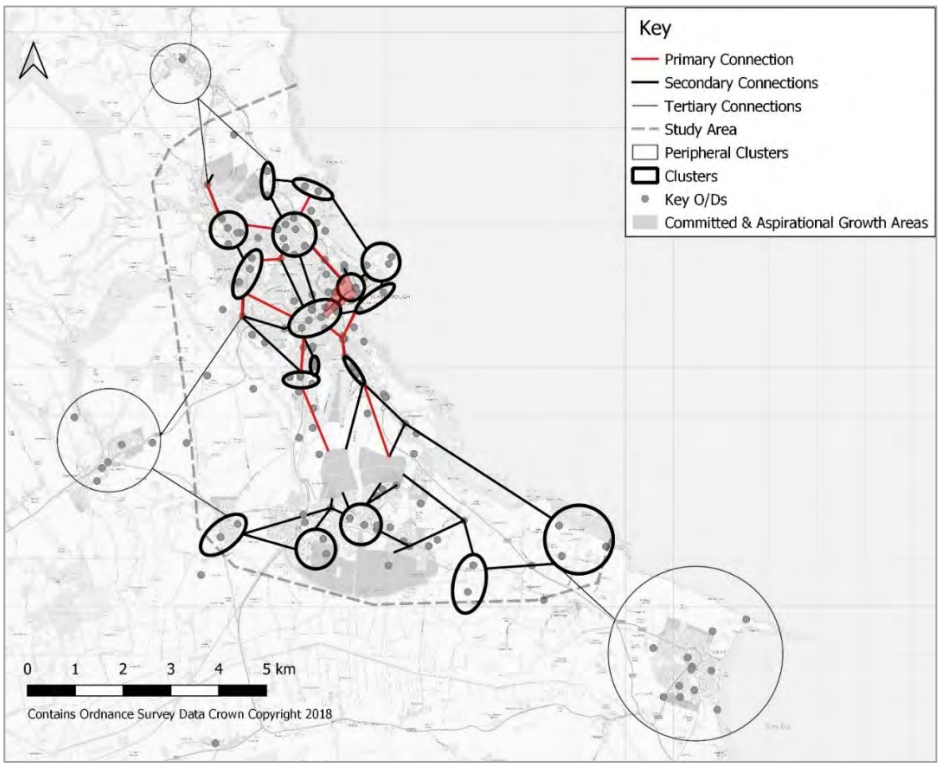
4.2.11. Figure 55 illustrates the main and peripheral clusters, as well as identifying the desire lines discussed in the following sub-section.

STEP 5 – SCHEMATIC CONNECTIONS BETWEEN ORIGINS AND DESTINATIONS

4.2.12. Step 5 maps desire lines between the various origin and destination points. Straight lines were drawn between the key origins and destinations in order to create a schematic web network. These represent the most direct paths for cycle users between points (i.e. 'desire lines') and are, at this stage, irrespective of existing transport networks or constraints.

4.2.13. Parallel lines or lines in close proximity to each other were combined to simplify the network, and are represented as 'primary connections', while desire lines to peripheral clusters are represented by tertiary connections.

Figure 55 – Schematic Connections

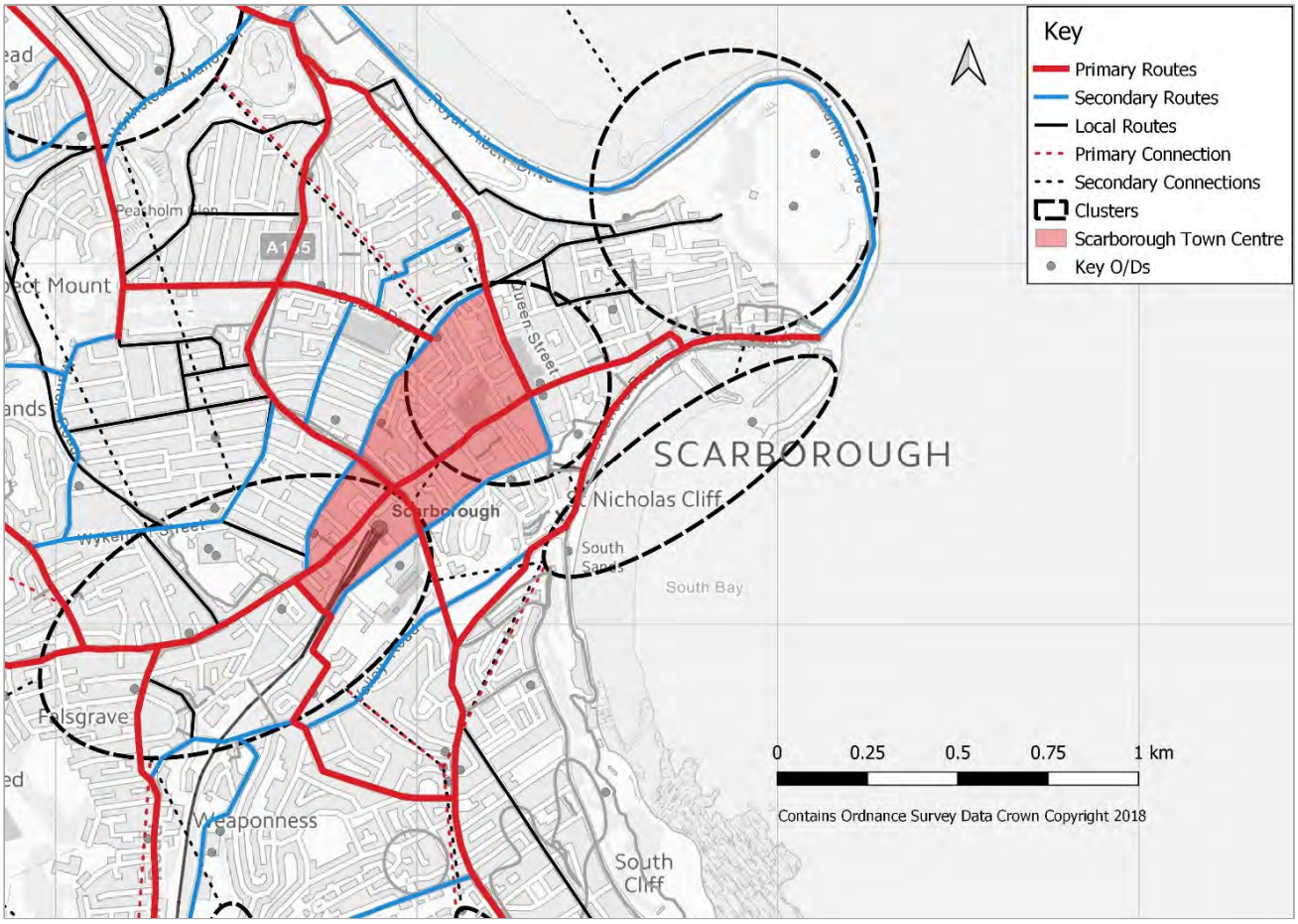


STEP 6 – IDENTIFY ROUTES SERVING THE SCHEMATIC NETWORK

4.2.14. Potential route alignments were then plotted, following the schematic connections identified in Step 5 as closely as possible. The routes selected take into account existing roads, paths and structures but do not consider current constraints, such as carriageway width or traffic management restrictions such as one-way orders.

4.2.15. Figure 56 below illustrates this process, displaying both clusters / desire lines in Scarborough town in addition to the Primary, Secondary, and Local Routes selected to best represent the network.

Figure 56 – Routes serving the Schematic Network



STEP 7 – CONSIDER A ROUTE HIERARCHY

4.2.16. From reviewing best practice and through knowledge and experience of established cycle networks it was recognised that a cycle network hierarchy may be appropriate. Within this hierarchy the type of infrastructure provided would vary both depending on the links' position in the network hierarchy, and on the type of link, where it connects to, and how it will be used. As a result, the network has been categorised in accordance with the criteria presented in Table 21.

Table 21 - Draft Network Hierarchy

Network Element	Characteristics
Primary	▪ Different cycle users, based on confidence level, experience, age, demographics, trip purpose; ▪ Different types of bikes, including standard, recumbent, trailers, cargo bikes, disabled user cycles; ▪ High flow of cycle users; ▪ Creates arterial routes; ▪ Links large residential areas to main clusters such as town centre locations ▪ Through, internal, and inbound-outbound traffic; and ▪ Cater for existing non-cycle users.
Secondary	▪ Medium flow of cycle users; ▪ Increases density of network through provision of key routes ▪ Links local origins to destinations such as schools, colleges, and employment sites; and ▪ Caters for different types of cycle users and equipment.
Local	▪ Lower volumes of cycle users; ▪ Further increases density of network; ▪ Ensure local access to origins and destinations from the primary / secondary network; and ▪ Provide quieter routes for less confident cycle users.
Town Centre Cores	▪ High levels of permeability and priority for cycle users and pedestrians.

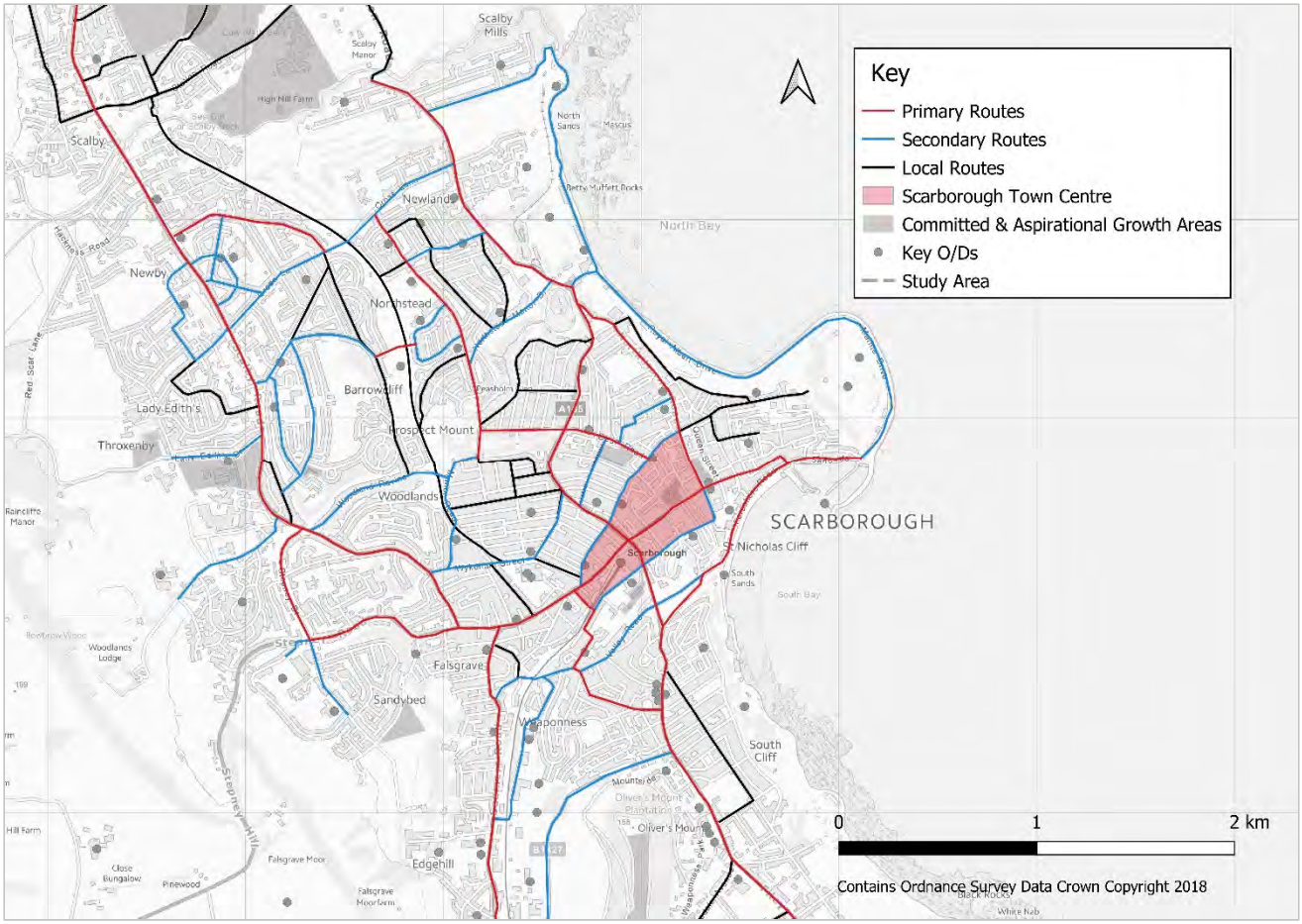
4.2.17. The hierarchy above has been applied to the identified cycle corridors, respective to their location in the study area and perceived role in the network, with discussion provided on the following pages. The full draft CNM is presented Step 8.

4.2.18. A core network of **primary routes** underpins the proposed network, taking into account the main destination clusters, origin points, and any isolated major destinations. The primary routes are supported by a network of **secondary** and **local** links, all of which are discussed below for each section of the study area.

Scarborough Town Centre

4.2.19. Figure 57 presents the draft Cycle Network Map for Scarborough town in more detail.

Figure 57 – Draft Cycle Network Map: Scarborough Town Centre



4.2.20. The following **Primary Routes** have been identified:

- A 'Western Spine' along the A64 Seamer Road / Scalby Road - extending from Musham Bank roundabout in the south to the northern edge of Scalby. This route connects areas such as Crossgates and Eastfield, Middle Deepdale, Seamer Road Business Park, Falsgrave, Scarborough General Hospital, Newby, Barrowcliffe, and Scalby.
- An 'Eastern Spine' along the A165 Filey Road / Burniston Road – extending from Cayton Bay roundabout in the south to the north of Scarborough, this route connects areas such as Osgodby, various educational establishments on Filey Road Scarborough train station and Westborough, Peasholme Park, the Sands, Alpamare Waterpark, and the Sealife Centre.
- A64 / A170 Corridor linking South Bay to Scarborough Sixth Form College – this route runs in an east-west alignment across Scarborough town, connecting the South Bay area via Newborough, Westborough, Falsgrave and the Sixth Form College. This route connects to both the Eastern and Western Spines.

4.2.21. The figure shows a number of shorter distance primary routes that complement the longer distance routes listed above. Despite the reduced length, these routes link key origins and destinations, and are anticipated to accommodate the highest numbers of cycle users in the area.

4.2.22. These routes include:

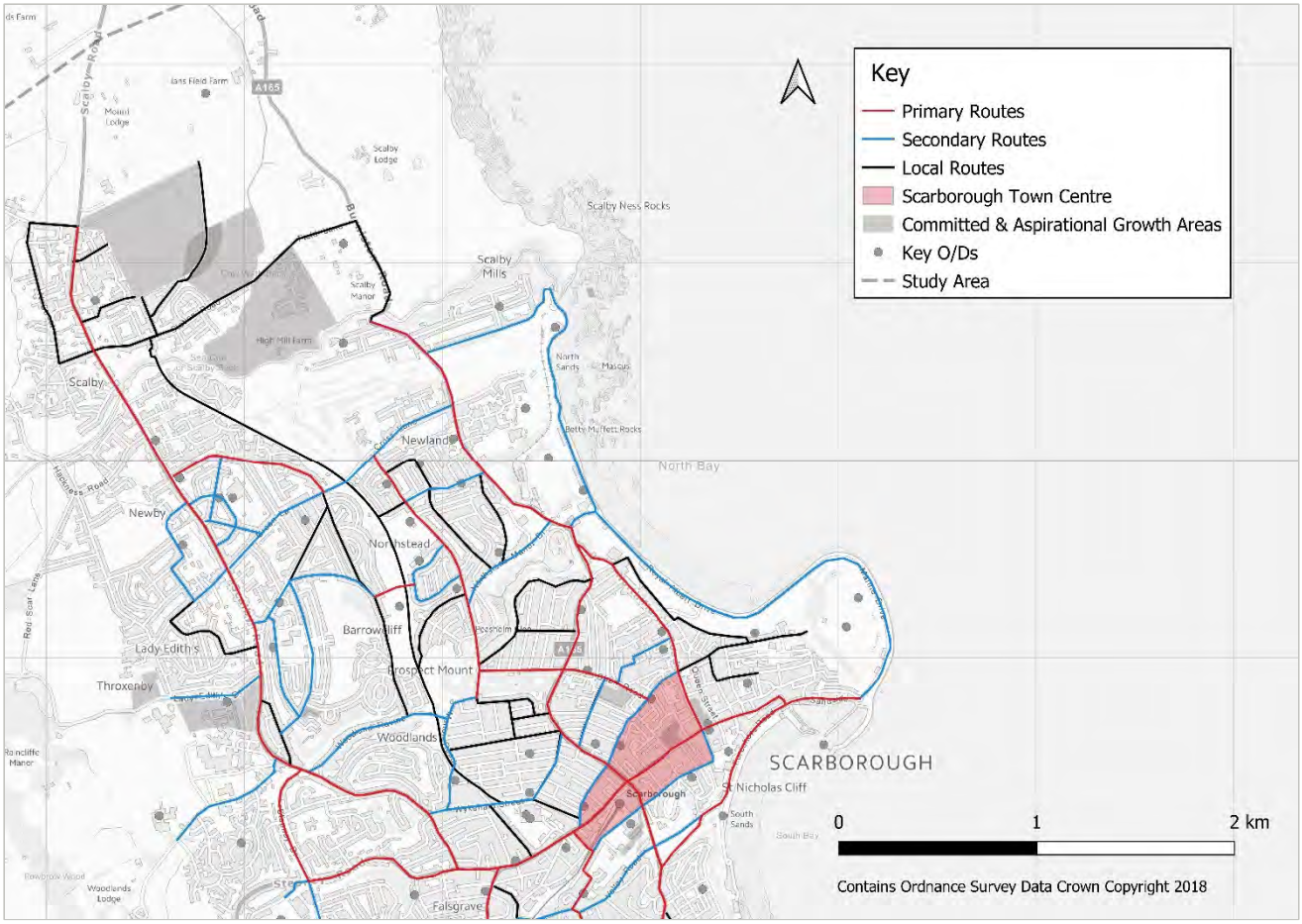
- Stepney Drive – a key desire line from the Western Spine to Scarborough Sixth Form College and St Augustine's Catholic School;
- Westbourne Grove / Westwood Road / Belgrave Terrace – accommodates numerous desire lines from South Cliff and origins in the south east to the Weaponess sports village / CU campus and the Falsgrave area;
- South Bay to the A165 Filey Road – a tourist / leisure route between various hotels / B&Bs to the primary tourist location; and
- Dean Road / Glen Bridge / Northstead Manor Drive – the primary link between Westborough (Scarborough town centre) and the residential areas to the north.

4.2.23. A link between Maple Drive and Barrowcliffe Road has also been included as a primary route, given its potential to contribute to the mitigation of severance between the different surrounding residential areas, whilst also providing a formal link to the Cinder Track, facilitating longer distance movements to and from the town centre area.

Scarborough North

4.2.24. Figure 58 presents the draft Cycle Network Map for the north of Scarborough in more detail.

Figure 58 – Draft Cycle Network Map: Scarborough North



4.2.25. The figure shows the extent of the Eastern and Western Spines, as well as the central route of Glen Bridge / Northstead Manor Drive.

4.2.26. An additional Primary Route has been identified:

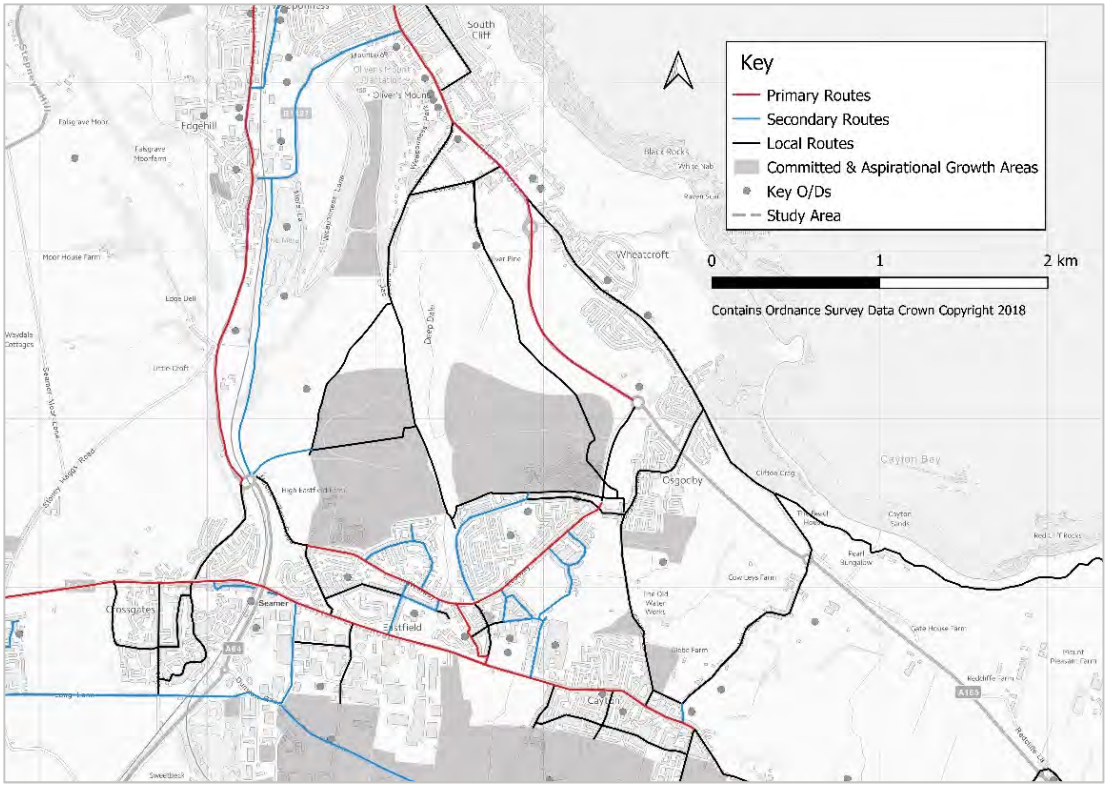
- **Coldyhill Lane –** route encompasses a number of desire lines and facilitates connections from areas including Scalby and Newby Park to Barrowcliff and the Cinder Track, facilitating access south to the town centre.

4.2.27. The primary routes are supported by a number of secondary and local routes, connecting to the various educational establishments and local centres, providing a dense network of connecting links.

Middle Deepdale

4.2.28. Figure 59 presents the draft Cycle Network Map for the Middle Deepdale area in more detail.

Figure 59 – Draft Cycle Network Map: Middle Deepdale Area



4.2.29. While still considered part of the Scarborough Urban Area, the Cayton / Eastfield area and peripheral locations of Seamer and Osgodby are distinct from Scarborough town, segregated by an area of undeveloped land and connected by two high speed A-roads. At present, a number of PROWs connect the two areas, including the Musham Bank Path, Deepdale Bridleway, and Knox Hill Bridleway.

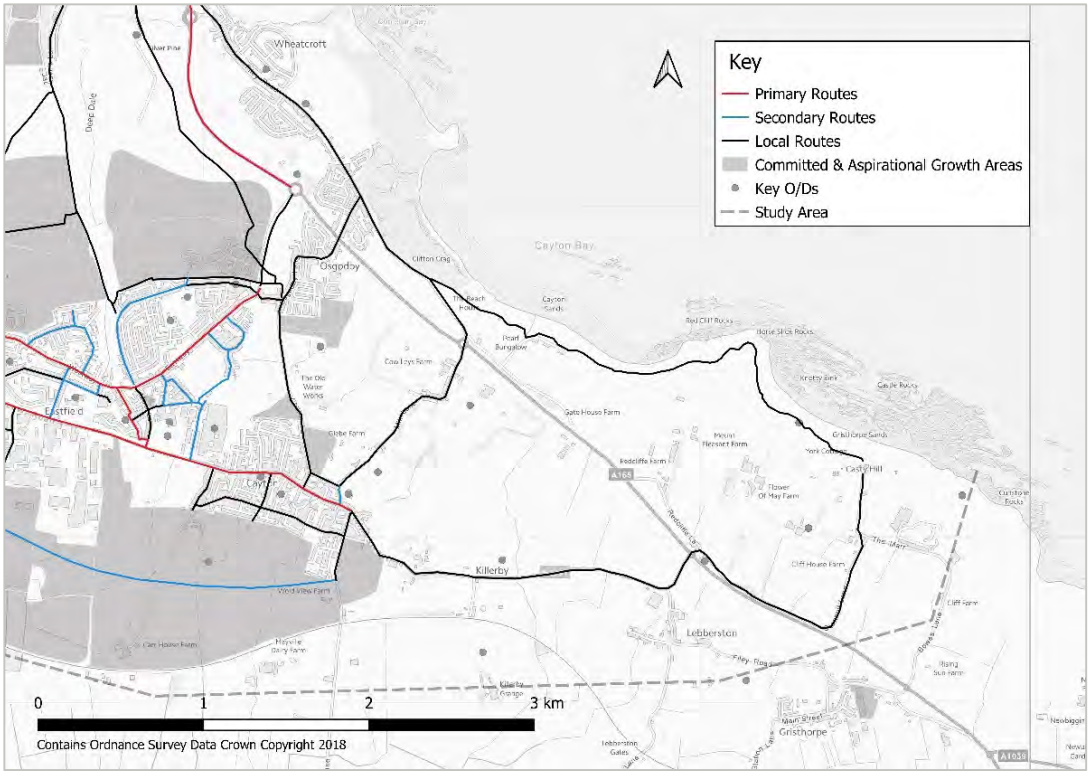
4.2.30. The analysis undertaken identifies existing and future desire lines between the different urban areas. This demand is further strengthened through the significant committed and allocated development to the north of Eastfield and Cayton, at the Middle Deepdale site. At this point, the committed site is not fully complete and the layout of the allocated areas to the north is undetermined. There are number of potential opportunities to connect the areas with high-quality cycling infrastructure, but the exact alignment and type of routes cannot yet be determined with any degree of certainty. It should be noted however, that movements between these areas could be potentially significant and vital to providing a complete network across the LCWIP Study Area.

4.2.31. The CNM therefore identifies both the A64 and A165 between Scarborough town and the urban areas to the south as Primary Routes, but also highlights a number of indicative potential north-south and east-west cycling routes through the Middle Deepdale site. In particular, the Musham Bank Path has been identified as an ‘indicative cycling corridor’ which could support north-south connectivity following further completion of the Middle Deepdale development, providing enhanced connectivity to Scarborough town centre and the various busies/retail parks adjacent to the A64 corridor. Improvements to the aforementioned PROWs would also aid connectivity.

Cayton & Osgodby

4.2.32. Figure 60 presents the draft Cycle Network Map for the Cayton / Osgodby area in more detail.

Figure 60 – Draft Cycle Network Map: Cayton and Osgodby



4.2.33. The figure shows the eastern extent of two strategic east-west Primary Routes across southern LCWIP Study Area:

- **Osgodby to Musham Bank Roundabout** – connecting the western extent of Osgodby to Eastfield High Street, with connections to Scarborough Business Park, McCain, and various other destinations; and
- **Cayton to Seamer** – running via Scarborough Business Park CWZ and Seamer rail station, connecting to Eastfield High Street CWZ.

4.2.34. A dense network of secondary routes provide connections to McCain, Scarborough Business Park, and various educational establishments in the area, supported by Local Routes through residential areas.

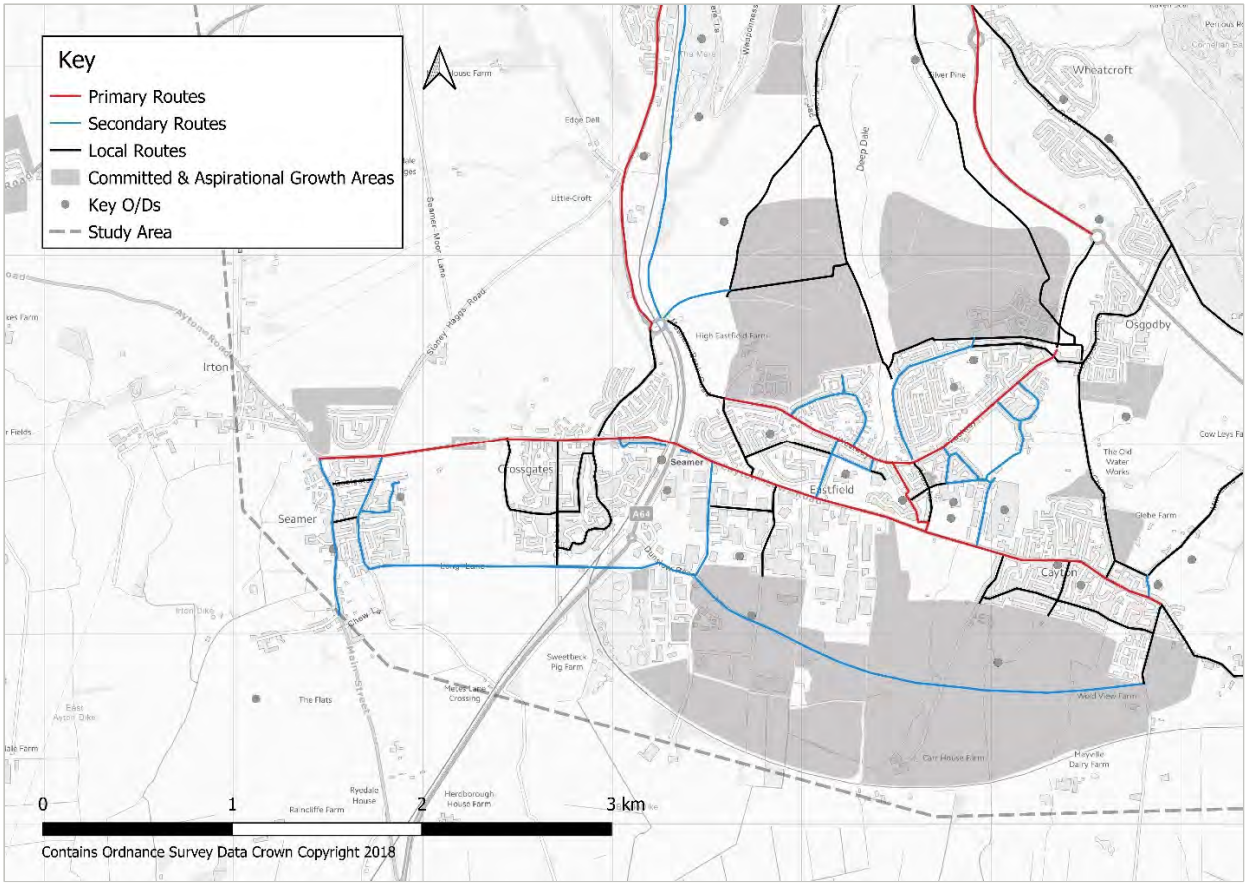
4.2.35. Note that there are a number of caravan parks in the far south east of the study area, connected to Scarborough and Cayton via local roads and leisure routes. While there could be relatively significant cycling demand during the holiday season, were there the correct infrastructure to facilitate this, these routes would likely see low usage in the off-season, and the lack of existing highway network makes it more difficult to provide a route that aligns with the LCWIP objectives.

4.2.36. Nevertheless, the draft CNM presents a circular ‘tourist route’ along the existing costal path and local highway network as a potential indicative route for improvement. Note that the tertiary desire lines between the LCWIP Study Area and Filey also cross these routes; there may be potential for a route to provide for both uses, connecting Filey to Scarborough via Cayton Bay.

Seamer & Eastfield

4.2.37. Figure 61 presents the draft Cycle Network Map for the Seamer / Eastfield area in greater detail.

Figure 61 – Draft Cycle Network Map: Seamer and Eastfield



4.2.38. The figure shows the western extents of the two strategic east-west primary routes discussed in the previous sub-section.

4.2.39. Note that the A64 Corridor is not considered part of the cycling network beyond Musham Bank roundabout, with a number of existing and potential routes instead connecting in to this primary route, facilitating access from across the southern LCWIP Study Area.

4.2.40. Seamer Main Street and Long Lane are identified as secondary routes, providing connections to areas of local importance. In particular, Long Lane is currently a single track rural road, with a surface unconducive to cycling (or walking). However, the route connects directly to Scarborough Business Park, albeit severed by the railway line and the A64.

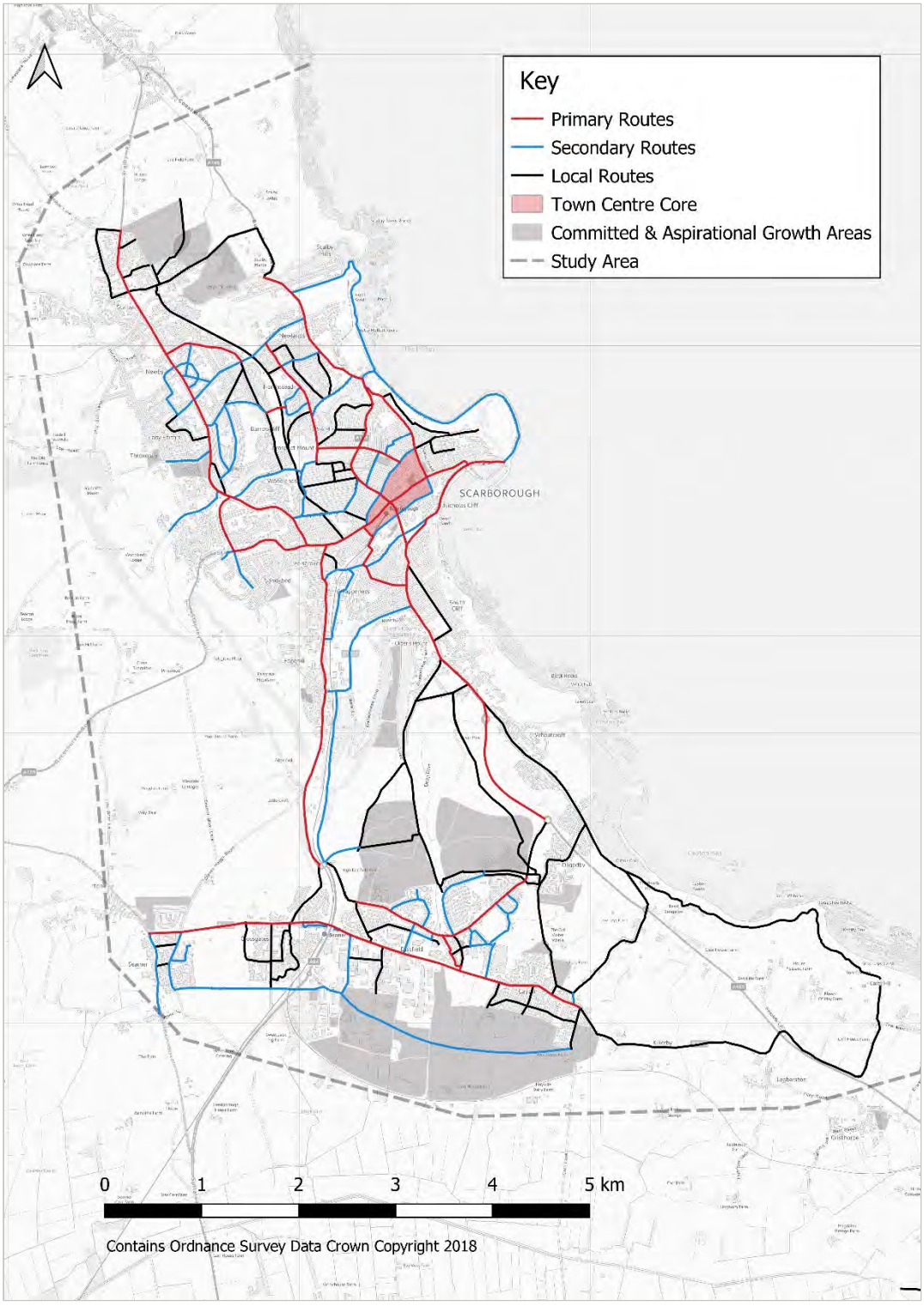
4.2.41. The current location and layout of Seamer rail station also creates a barrier to cycling, with an uncontrolled pedestrian crossing over the railway line itself.

4.2.42. The draft CNM also identifies a need for a future route across Scarborough Business Park and the Cayton strategic growth area, highlighting the need for a cohesive route between the two as part of an important active travel corridor. Such a route has the potential to tie-in with the Cayton Low Road primary route and Long Lane secondary route, creating a southern arc connecting Seamer to Cayton via Scarborough Business Park, though would require a formal crossing point over the A64.

STEP 8 – PRODUCE DRAFT CYCLE NETWORK

4.2.43. A draft Cycle Network Map for the LCWIP study area has been developed, with links categorised based on the network hierarchy established in Step 7. This is presented in Figure 62 and replicated in Appendix B.

Figure 62 – Draft Cycle Network Map



STEP 9 – VALIDATION AND REVIEW

4.2.44. The emerging CNM was reviewed against the existing cycle network and infrastructure provision determined through the baseline process as detailed in Section 2. This included a review against proposed cycle and other transport infrastructure schemes and strategies. This exercise allowed us to compare differences and make adjustments to the draft CNM where required.

4.2.45. The validation and review was informed by the baseline evidence, site visits, local knowledge, stakeholder engagement and a review of connectivity between key origins and destinations. The PCT outputs (Government Target scenario), as specified in Section 2.9, were also used to validate the network in terms of existing and future demand.

STEP 10 – PRODUCE FINAL NETWORK

4.2.46. The final step is the production of the final network which is detailed in Section 7.

5

DEVELOPING THE WALKING NETWORK

5. DEVELOPING THE WALKING NETWORK

5.1. OVERVIEW

5.1.1. This section of the report details the process undertaken in developing a comprehensive walking network in Scarborough. The process follows the best practice guidance available in the recently published LCWIP Technical Guidance (DfT, 2017), which sets out the recommended steps for mapping a future walking network and identifying infrastructure improvements.

5.1.2. The output of this process is the Walking Network Map (WNM); the WNM identifies the preferred walking routes and core walking zones that may require further development. As the culmination of Phase 1 of the Scarborough LCWIP process, the WNM will be used to inform a programme of walking infrastructure improvements undertaken as part of Phase 2, identifying where, what and when intervention is required.

5.1.3. The following sub-sections describe the process undertaken in developing the WNM for the Scarborough LCWIP Study Area.

5.2. METHODOLOGY

STEP 1 – MAPPING WALKING TRIP GENERATORS

5.2.1. The key origin and destination data used in the derivation of cycling origin and destination points in Section 4.2 were again utilised to understand the key ODs in relation to walking. It is considered that, while cycling is likely to enable longer distance journeys and connect OD pairs further afield, the trips generators and attractors remain the same.

5.2.2. These ODs included the following key origin points:

- Residential areas – MSOA population-weighted centroids were used as proxy locations for residential areas; and
- Public transport interchanges – these are both origins in terms of people arriving in the study area and destinations people use to travel to wider locations (note that Scarborough does not include a bus station—rail stations only were used).

5.2.3. Key destinations included:

- Public transport interchanges (as above);
- Principal retail areas;
- Employment concentrations;
- Large grocery shops;
- Hospitals;
- Tourist attractions; and
- Educational institutions.

5.2.4. As a key feature identified through stakeholder consultation, significant caravan sites were also included as a key O/D.

5.2.5. Figure 53 shows these key O/Ds in relation to the Scarborough LCWIP Study Area.

STEP 2 – IDENTIFYING CORE WALKING ZONES

5.2.6. Following the identification of walking trip generators (see Steps 2-4 in Section 4.2), Core Walking Zones (CWZs) can be defined.

5.2.7. CWZs are areas that consist of a number of walking trip O/Ds located in close proximity (e.g. town centre, business park, university campus, etc). These CWZs are most likely to attract trips for utility / commuting purposes.

5.2.8. While CWZs may include points of interest, as a historic tourist location Scarborough has a great number of tourist destinations. These locations are considered to predominantly attract trips for leisure and recreational purposes, although it is recognised that these destinations are also likely to accommodate some measure of employment. Within the LCWIP Study Area, the majority of these are located along the sea front. Due to the number of walking trips attracted, CWZs have also been identified for selected key tourist destinations.

5.2.9. The CWZs identified within the LCWIP study area are listed in Table 22 below.

Table 22 - Core Walking Zones

Core Walking Zone	Area	Purpose
Westborough Shopping District (Town Centre Proxy)	Scarborough Town	Commuting / Utility / Retail
A64 Falsgrave Road	Scarborough Town	Commuting / Utility
North Bay (The Sands development);	Scarborough Town	Tourism / Leisure
Scarborough Castle and headland	Scarborough Town	Tourism / Leisure
South Bay (including the promenade)	Scarborough Town	Tourism / Leisure
A64 Seamer Road (mix of business parks, Weaponess Sports Village, University and College Campuses)	Scarborough Town	Commuting / Utility / Retail
A165 Filey Road Corridor (Various educational establishments)	Scarborough Town	Commuting / Utility / Retail
Main Street, Seamer (local centre proxy)	Seamer / Eastfield	Commuting / Utility / Retail
High Street, Eastfield (local centre proxy)	Seamer / Eastfield	Commuting / Utility / Retail
Scarborough Business Park (existing and allocated / committed development site)	Seamer / Eastfield	Commuting / Utility

5.2.10. As per LCWIP guidance, an approximate five-minute walking distance of 400m can be used as a guide to the minimum extents of CWZs. Each identified CWZ has therefore been plotted using a proxy central point, with a GIS-based isochrone tool and the local highway network used to map the CWZ five-minute extents. This is displayed in

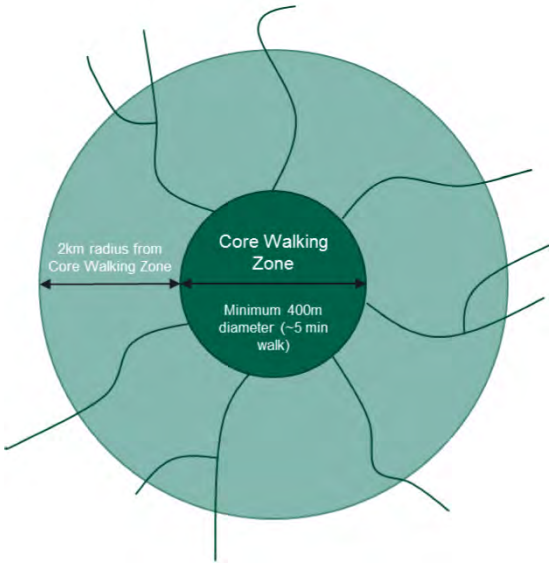
5.2.11. Figure 63.

5.2.12. The isochrone analysis presented in Section 2.7 identified that, while the LCWIP Study Area is of a sufficiently compact size to facilitate a cycling journey within the maximum desirable distance (5km) between almost any O/D pair, the walking isochrones showed two very distinct walking areas when considering the maximum desirable walking distance (2km) - Scarborough town itself and the urban area of Eastfield / Cayton. This is reflected in the identification of the CWZs above. While there is

likely to be some demand for active travel between the two, particularly between employment opportunities to the south of Scarborough and the various committed and allocated housing sites encompassing Middle Deepdale, the emerging Scarborough WNM focusses on the two distinct urban areas as separate sub-areas, within which the majority of walking trips are likely to occur.

Figure 63 – Identified Core Walking Zones

STEP 3 – IDENTIFYING KEY WALKING ROUTES



5.2.13. Following the identification of CWZs, key walking routes to each should then be identified by mapping a 2km isochrone from the central point, considered to be the maximum walking distance from CWZs[16]. The proportion of journeys made by foot typically decreases significantly beyond this distance.

5.2.14. While each 2km isochrone allows the identification of Key Walking Routes in relation to each individual CWZ, the analysis of overlapping isochrones shows where key walking routes are likely to serve multiple CWZs, and therefore have higher levels of demand.

5.2.15. A GIS-based isochrone tool was then used to identify potential walking routes of 2km (approximately a 25-minute journey) for each of the CWZs listed in Step 2.

5.2.16. These are discussed below in turn for each identified CWZ.

5.2.17. It is recognised that there are some limitations to this method; centroids are used as proxies for each OD, and pedestrian movement is unconstrained by infrastructure provision in the same way as vehicles (although the propensity to travel on foot can be heavily supressed by poor quality infrastructure). The isochrone analysis is therefore used to identify movement corridors, within which a combination of stakeholder engagement and site visits are used to identify specific routes for improvement.

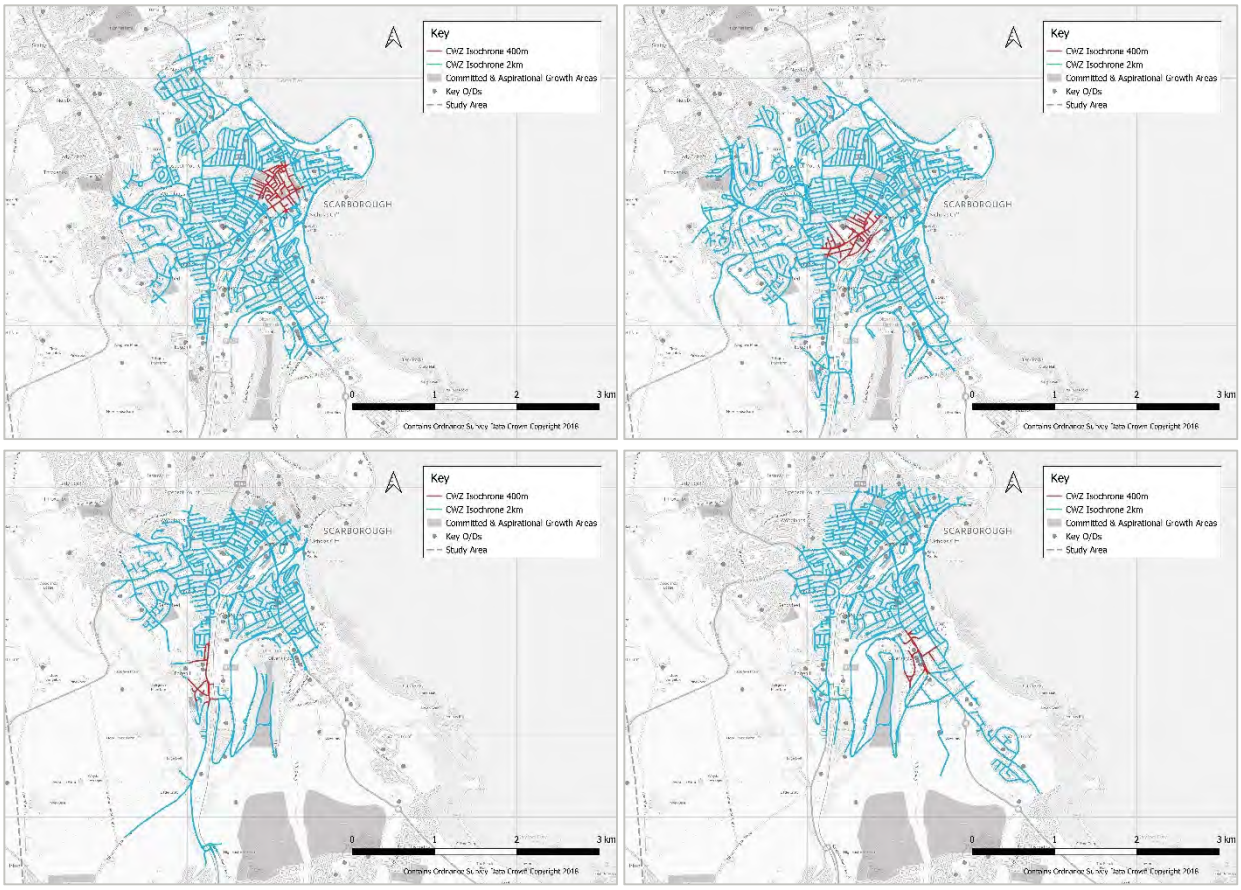
[16] Providing for Journeys on Foot, CIHT, 2000

Scarborough Town

5.2.18. Figure 64 displays the Westborough Shopping District, A64 Falsgrave Road, A64 Seamer Road and A165 Filey Road CWZs (clockwise from top-left). These CWZs have been identified due to the volume of commuter / utility walking trips that they attract.

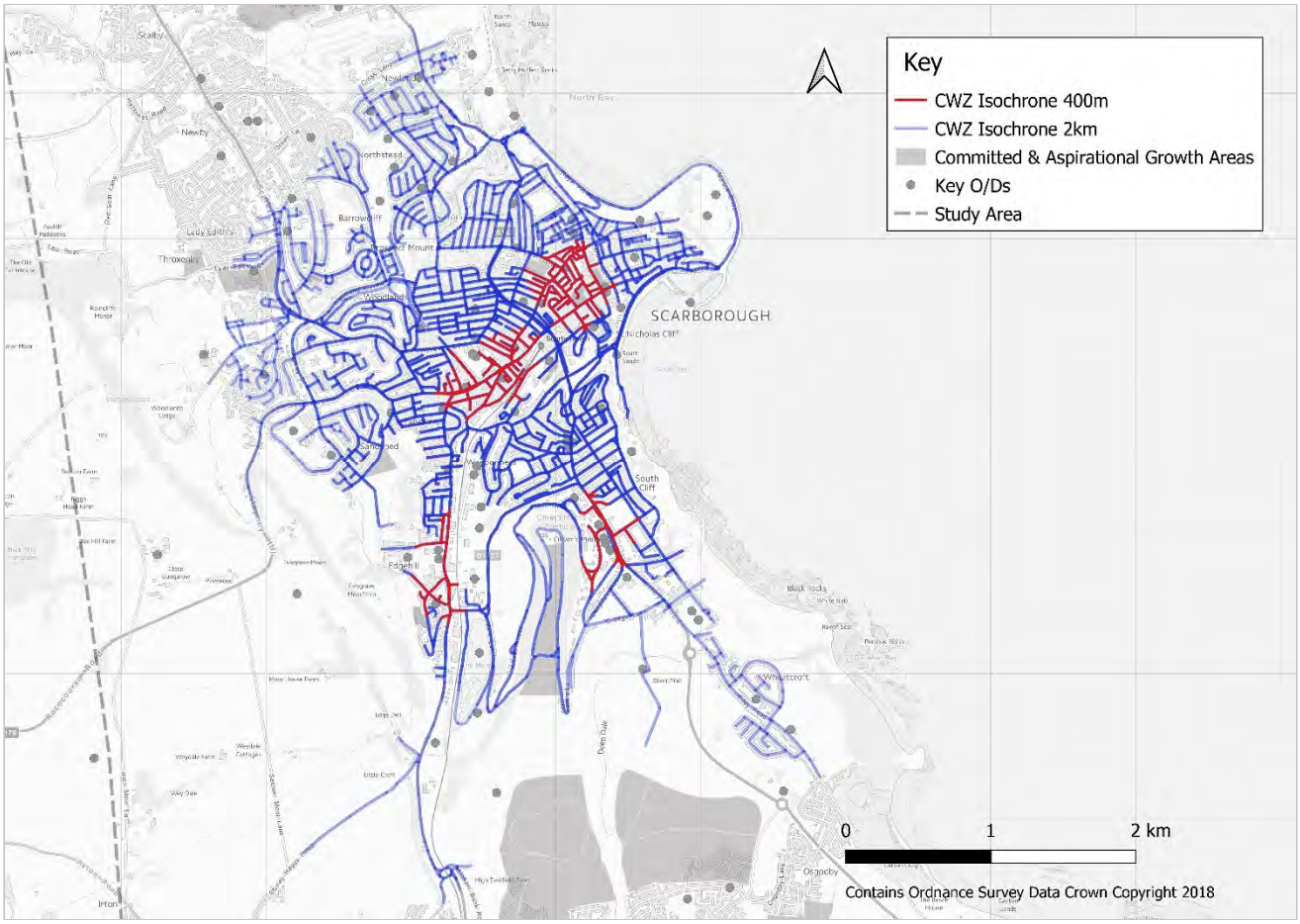
5.2.19. The CWZs are highlighted in red (representing a 400m or 5 min walk), whilst all walking routes accessible within a 2km radius (approx. 25 min walk) are highlighted in blue.

Figure 64 – Scarborough Town Core Walking Zones and Catchments: Commuter / Utility Purposes



5.2.20. These isochrones have been overlaid in order to identify the overlap between the likely walkable distances from each CWZ. These areas are likely to experience higher pedestrian demand as trip purposes between key O/Ds overlap, and consequently such data helps identify primary walking routes and influence the development of the Walking Network Map. The overlaid isochrones are presented in Figure 65; as the isochrones overlap, the routes become more solid, illustrating where a route may be of greater importance.

Figure 65 - Commuter / Utility Purposes Isochrones Overlay



A64 Falsgrave Road and Westborough CWZs

5.2.21. The plots in Figure 64 demonstrates the central locations of the A64 Falsgrave Road and Westborough CWZs, resulting in these areas being in very close proximity to one another with opportunities for short walking trips between the two.

5.2.22. The maximum likely walking distance from each CWZ shows clear overlaps between each area, as demonstrated in Figure 65, as well as highlighting the more isolated nature of northern Scarborough in terms of distance from CWZs. The Westborough 2km isochrone indicates that both the A64 and Filey Road corridors are within a desirable walking distance from the town centre, while encompassing many of the residential centroids in the area.

5.2.23. The Falsgrave 2km isochrone extends further into the Falsgrave, Newby, and Barrowcliffe residential areas than the equivalent route from the Westborough CWZ.

5.2.24. Based on an analysis of the core walking zone and 2km catchments, in addition to existing journey patterns, the following Key Walking Route corridors have been identified:

- **A64** / **A170** - from Westborough to Stepney Drive / Scarborough Sixth Form college;
- **A165 Filey Road to Prospect Road** - through Ramshill and over Viaduct Bridge;
- **A64 Seamer Road Corridor** - from Seamer Road retail park, extending through to Westborough;

5.2.25. There is also a clear demand for a number of corridors to and from the north, including:

- Westborough to Barrowcliffe, and Westborough to the immediate north (Newland residential area).

5.2.26. The layout of the housing estates to the north of Falsgrave makes it more difficult to identify specific walking routes from these areas without these becoming unrealistically circuitous. The green space around Peasholme Park, while creating inviting active travel routes at certain times of the day, becomes a barrier in hours of low light and less activity, particularly during winter months. Any active travel route to these areas designed to promote utility / commuter movements will likely need to incorporate the roads around Glen Bridge and / or the A165.

A64 Seamer Road and A165 Filey Road CWZs

5.2.27. Figure 64 displays the CWZs and the 2km walking catchments for the A64 Seamer Road and A165 Filey Road CWZs. The catchments encompass Scarborough town centre and due to the parallel nature of the CWZs, broadly reach the same northern extents.

5.2.28. Notably, the walking catchment of both to residential areas located to the north of the A64 is fairly limited, with neither isochrone extending into Barrowcliffe or Newby.

5.2.29. Figure 64 also demonstrates that there is potential to link the Seamer Road and Filey Road CWZs into the Middle Deepdale site within the maximum likely walking distance, where there is an appropriate route.

5.2.30. At present, while there a number of PROWs between Eastfield / Cayton to Scarborough through the Middle Deepdale area (see Figure 16), these routes are not of a standard to facilitate or promote high numbers of commuter / utility walkers (or cycle users), and the existing route along the A64 is also less attractive due to high vehicle flows. While there is a clear opportunity to align such routes with the allocated sites at Middle Deepdale, such as through the masterplanning process, bringing forward these corridors will require collaborative work between various parties.

5.2.31. Analysis of the 2km catchments has identified the following key walking route corridors:

- **A165 Filey Road** - from Middle Deepdale to Scarborough train station (as a central proxy for both the Westborough and A64 Falsgrave Road CWZs);
- **A64 Seamer Road** - from Middle Deepdale site to A64 Falsgrave Road CWZ; and
- **A64 CWZ to Filey Road CWZ** - ostensibly via B427 Queen Margaret's Road.

Tourist and Leisure CWZs

5.2.32. Figure 66 shows the identified tourist and leisure CWZs for North Bay, South Bay and Scarborough Castle, along with the respective and 2km isochrone catchment areas, while Figure 67 shows the overlaid isochrones, with areas of overlap represented by a more solid colour.

5.2.33. The baseline work has identified an existing demand for active travel between the residential areas around Filey Road and the South Bay, with a high proportion of guest houses and hotels in this area. However, the topography of the existing highway and the natural barrier of the cliffs severely limits the available routes along this key walking corridor. There are a number of existing PROWs that also accommodate journeys on foot along this corridor, with a network of footpaths offering an (albeit steep) pedestrian route up the cliffs, and the Spa Bridge creating a link with the Westborough CWZ.

5.2.34. The following key walking routes are therefore identified:

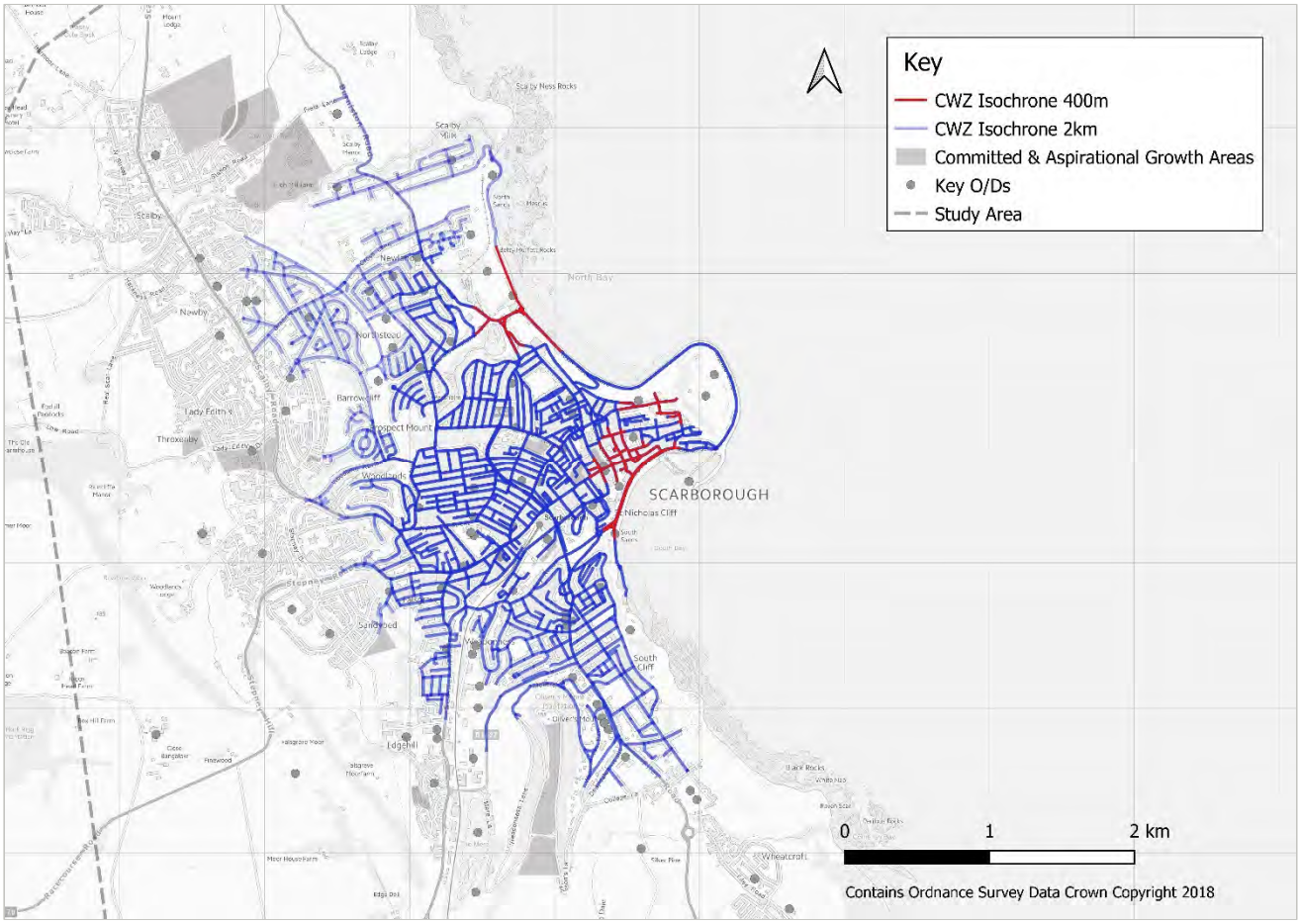
- **South Bay CWZ to residential areas in Falsgrave** - likely including Eastborough, Westborough, and Northway;
- **South Bay CWZ to residential areas in Barrowcliffe** - likely including Eastborough and Dean Road;
- **South Bay CWZ and Filey Road residential area** - likely including Foreshore Road extending south toward Ramshill; and
- **South Bay CWZ to residential areas in Newland** (at the upper extent of the maximum walking distance)

5.2.35. As discussed above, active travel access to the Newland and Barrowcliffe areas are restricted along a number of desire lines by the layout of the housing estates and Peasholme Park. Any active travel route to these areas designed to promote utility / commuter movements will likely need to incorporate the roads around Glen Bridge and / or the A165.

Figure 66 – Scarborough Town Core Walking Zones: Tourism and Leisure Purposes

5.2.36. Whist the Scarborough Castle and South Bay CWZs are in close proximity to each other, the North Bay CWZ is a more significant distance away. The natural barrier of the headland and cliffs to the north also restricts the potential for walking between the north and south bay.

Figure 67 - Tourism and Leisure Purposes Isochrones Overlay



5.2.37. Whilst there is potential for enhanced connections with nearby tourist CWZs such as Scarborough Castle and the South Bay, these are currently restricted by the headland and North Bay cliffs, while journeys to key tourist origins around Filey Road are beyond the maximum walking distance.

5.2.38. Despite this, the North Bay CWZ offers connections to nearby peripheral tourist locations, such as the Sealife Centre, Alpamare Water Park, and Peasholme Park, and both the town centre and rail station are within a 2km catchment. Nearby active travel route corridors identified for both walking and cycling in relation to other desire lines (such as the South Bay / Westborough CWZs to Newlands) could also be of benefit to the immediate connectivity of the North Bay CWZ.

5.2.39. The interconnectivity of other key walking corridors to the south along Filey Road could also encourage longer distance trips, although these are likely to be limited.

5.2.40. The North Bay CWZ is well placed for local trips from areas such as Newby, Barrowcliffe, and Newlands. The following Key Walking Route corridor is therefore identified:

- **East-West corridor** - likely including Northstead Manor Drive, A165 Burniston Drive / N Leas Avenue, and potential improvements to the link between Maple Drive and Barrowcliffe Road (a 'green link' including the Cinder Track).

5.2.41. However, as discussed above, active travel access to the Newland and Barrowcliffe areas are restricted along a number of desire lines by the layout of the housing estates and Peasholme Park.

Eastfield & Cayton

5.2.42. Whilst in close proximity, the urban areas to the south of Scarborough town are separated by an area of undeveloped greenbelt land, connected to the main town by the arterial A64 Seamer Road and A165 Filey Road corridors, as well as a network of footpaths and bridleways.

5.2.43. High Street in Eastfield serves as a key retail area in the southern part of the study area, with minor local uses spread through the rest of the urban area. A large supermarket chain (Morrisons) is situated in the south-west of the area, set in the predominantly industrial Scarborough Business Park and well located for access by car from the A64 to serve the wider Borough. To the east, there are a large number of caravan and holiday parks set away from the urban area, extending out to Cayton Bay.

5.2.44. While the area is already experiencing growth through the Middle Deepdale development, the Scarborough Local Plan (to 2026) sets out a vision for extensive additional growth in this area, with large site allocations to the north of Middle Deepdale, bringing the built-up area closer to Scarborough town, while at the same time extending to the south through the Cayton Strategic Growth Area and expansion of Scarborough Business Park.

5.2.45. The disparate nature of some of the trip attractors makes it difficult to identify any significant clusters of ODs in the area, although locations such as the McCain site should be considered as strategic destinations in their own right, given the context of the area.

5.2.46. Considering the level of uncertainty in the area due to significant growth, and the lack of strategic destinations or significant clusters in the context of the overall study area, the methodology used in order to identify CWZs in relation to Scarborough town has therefore been slightly revised to better reflect the local conditions in the south of the LCWIP Study Area.

5.2.47. The following CWZs have been identified:

- Main Street, Seamer;
- High Street, Eastfield; and
- Scarborough Business Park (existing and allocated / committed development).

5.2.48. As the largest single employer, McCain should also be considered as a key destination with adequate walking connectivity provided.

5.2.49. The caravan parks and locations around Cayton Bay have not been included within the analysis as they are beyond the defined maximum likely walking distance of 2km.

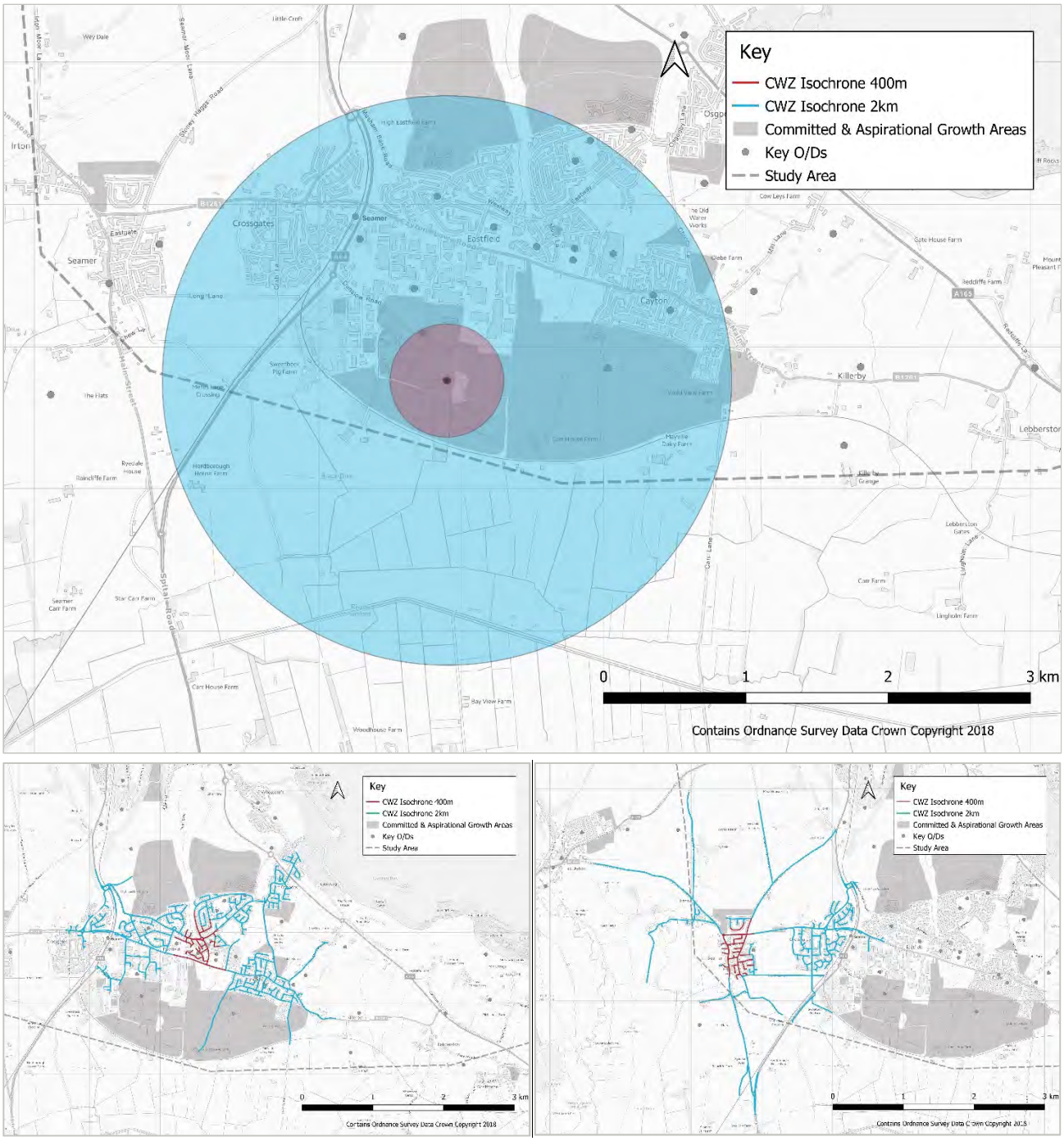
5.2.50. Accessibility to the various schools, local facilities, points of interest, and Seamer rail station have also been considered in the development of the WNM.

5.2.51. Each CWZ consists of an approximate 5-minute walking distance of 400m from a central proxy location, mapped using a GIS-based isochrone tool and the local highway network. Key walking routes from each CWZ are then identified by mapping a 2km isochrone from the central point, considered to be the maximum walking distance from each CWZ.

5.2.52. The internal highway network of Scarborough Business Park has not yet been fully determined. In the absence of this, a 400m and 2km buffer have been applied to the central point as a proxy for walking distance. Note this is therefore the Euclidean distance (‘as the crow flies’) and may over-estimate the actual maximum likely walking distance from the site.

5.2.53. Figure 68 presents the CWZs for the south of the study area.

Figure 68 – Eastfield & Cayton Core Walking Zones: Commuter / Utility Purposes



5.2.54. The analysis clearly shows the potential for walking trips in the Eastfield / Cayton urban area, with the majority of the area within a 2km journey from the High Street (the main CWZ). The figure also evidences the isolated nature of Seamer and, to some extent, the Crossgates urban area on the west of the A64 corridor - most of these areas are beyond the maximum walking distance to the High Street CWZ and employers to the east (such as McCain), and are also severed from the Scarborough Business Park by the A64.

5.2.55. The 2km buffer around the Scarborough Business Park indicates that the vast majority of Eastfield / Cayton could be within the maximum suggested walking distance were the highway layout conducive to pedestrian desire lines.

5.2.56. The following key walking routes are therefore identified:

- **Cayton Low Road** / **Main Street** – this arterial route provides the core east-west link across the Eastfield / Cayton urban area;
- **Long Lane** – this single track rural road provides a direct link along the desire line from Seamer to the Scarborough Business Park, but the surfacing and natural surveillance likely limits usage, while the route is severed by the A64;
- Key links along likely pedestrian desire lines from **Middle Deepdale** to the High Street and Scarborough Business Park CWZs, likely including:
  - Manham Hill;
  - Overdale; and
  - Holme Hill.

STEP 4 – CONSIDER A ROUTE HIERARCHY

5.2.57. Following the identification of key walking routes for each CWZ, each has been prioritised using the definitions provided in the RLG Footway Maintenance Classification[17] as replicated in Table 23. Whilst definitions can be tailored to local circumstances, the DfT's LCWIP technical guidance recommends that a defined classification of footways is used as a basis for establishing where to focus improvements to walking infrastructure.

5.2.58. Within this hierarchy the type of infrastructure provided would vary both depending on the link's position in the network hierarchy, and on the type of link, where it connects to and how it will be used.

Table 23 - Footway Hierarchy in 'Well Maintained' Highways

Category	Name	Description
1(a)	Prestige Walking Zones	Very busy areas of towns and cities, with high public space and street scene contribution.
1	Primary Walking Routes	Busy urban shopping and business areas, and main pedestrian routes
2	Secondary Walking Routes	Medium usage routes through local areas feeding into primary routes, local shopping centres, etc.
3	Link Footways	Linking local access footways through urban areas and busy rural footways.
4	Local Access Footways	Footways associated with low usage, short estate roads to the main roads and cul-de-sacs.

5.2.59. Prestige, Primary, Secondary and Link Footways have been mapped as these are expected to have the highest demand for walking trips and are the busiest local routes, based on the definitions above. It is therefore considered that these routes would be the focus for improvements.

5.2.60. It should be noted that that these assignments should be considered indicative, and alternative or complementary routes within the corridors may come forward through stakeholder engagement, detailed assessment and design.

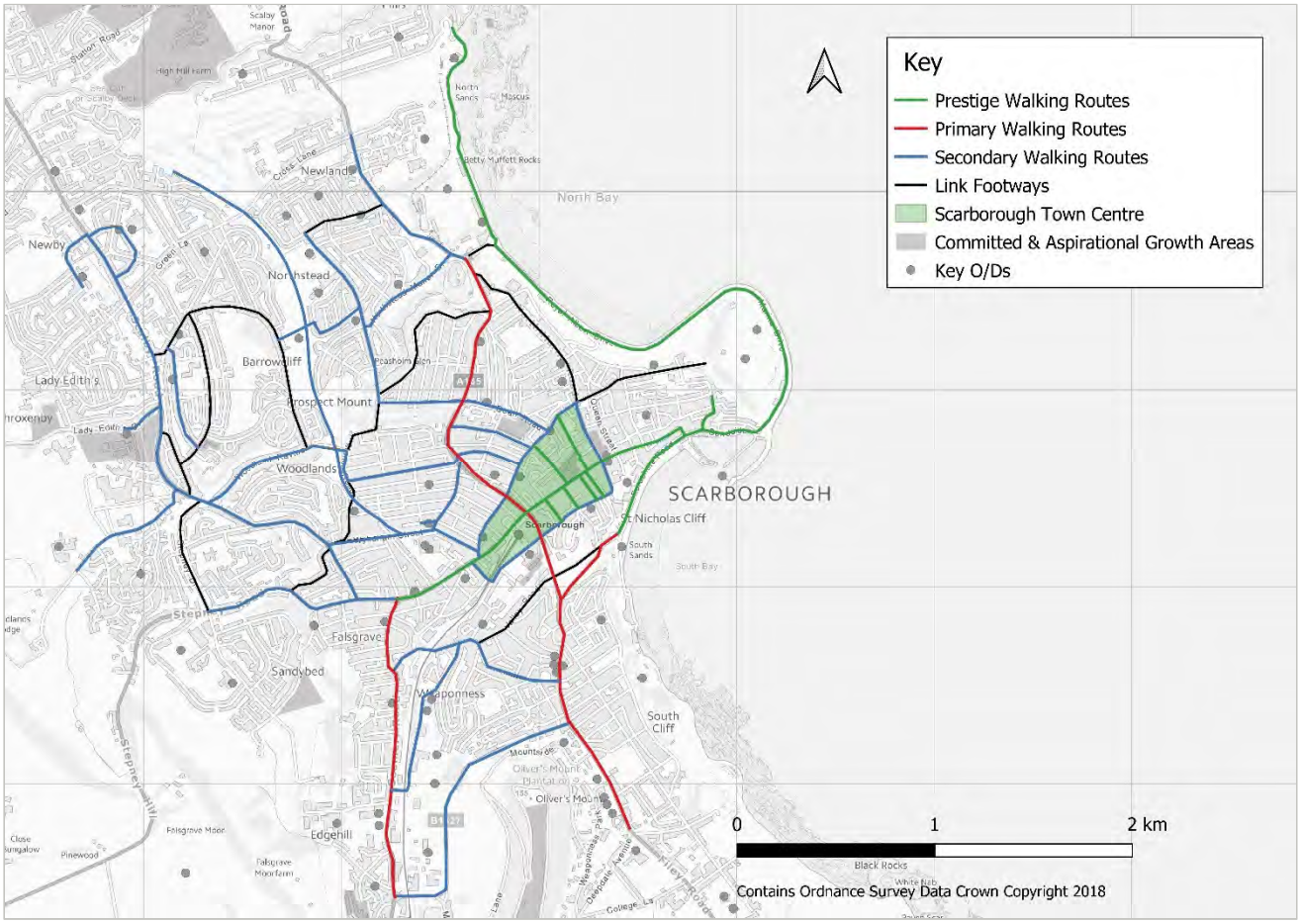
5.2.61. Further discussion on the identification of routes for each footway hierarchy category are provided below, respective to their location in the study area. The draft WNM displaying the route hierarchy is presented in Figure 71.

[17] Well-maintained Highways: Code of Practice for Highway Management 2005 Edition, updated September 2013, Roads Liaison Group- London: TSO

SCARBOROUGH TOWN

5.2.62. Figure 69 presents the broad key walking route corridors for Scarborough town.

Figure 69 – Walking Route Hierarchy: Scarborough Town



5.2.63. These corridors are summarised as:

Prestige / Primary Walking Routes

- **An 'Eastern Spine' along the A165 Filey Road / Columbus Ravine Corridor** – From Scarborough TEC College, via Ramshill and Viaduct Bridge to Peasholm Gap providing a key north-south route in the east. The route would facilitate connectivity between the Filey Road, Westborough, Falsgrave Road, and North bay CWZs. Route is extended at either end to Middle Deepdale (east) to Alpamare Water Park as Secondary walking routes. As an active travel route, this eastern spine could ultimately extend all the way from the Cayton Strategic Growth area to Burniston.
- **A 'Western Spine' along the A64 Seamer Road** - this western spine route is a primary north-south corridor between Seamer Road Business Park CWZ and Falsgrave CWZ. Route provides opportunities to link with Secondary networks to improve connectivity eastwards to A157 Filey Road, southbound to Middle Deepdale (when further developed) and northwards towards Newby.
- **A64/A170 Corridor from South Bay to Stepney Drive / Scarborough Sixth Form** – a key east-west route encompassing Eastborough, Westborough CWZ, and the Falsgrave CWZ.

- **Scarborough Castle / Headland to the A165 Filey Road** – Prestige tourist route with various options for negotiating the South Bay cliffs.
- **Sealife Centre / North Bay / South Bay** – This route has potential to attract leisure and tourist users, and forms part of a longer-distance prestige costal route.

Secondary Walking Routes

- **A64 CWZ to Filey Road CWZ** - ostensibly via Queen Margaret's Road.
- **Westborough CWZ to Falsgrave residential area** - potentially including the active travel route via Northway, Prospect Road, and extending to the Scalby Road active travel route via Woodland Ravine.
- **Westborough CWZ to Barrowcliffe residential area** - potentially including Dean Road / Victoria Street, with wider links across Glen Bridge, along N Leas Avenue and encompassing Woodland Ravine (identified in conjunction with the above corridor), with the inclusion of a 'green link' between Maple Drive / Barrowcliffe Road, tying into the Cinder Track.
- **Westborough CWZ to Newlands residential area** - route would potentially include Dean Road / Victoria Street, connecting to north-south routes along the A165 / Glen Bridge identified in conjunction with the above corridors).
- **North Bay CWZ** - facilitating east-west trips, the route would potentially include Northstead Manor Drive, A165 Burniston Drive / N Leas Avenue, and potential improvements to the link between Maple Drive and Barrowcliffe Road identified in conjunction with corridors above.

5.2.64. Note routes from Westborough also extend to the South Bay via Eastborough, highlighted above as part of the prestige route.

Link Footways

5.2.65. Although there are issues accommodating some desire lines within the residential areas to the north of Falsgrave, the potential routes identified with the corridors above present a dense network of Secondary Walking Routes. A number of other complementary Link Footways could increase this density, including:

- Peasholme Drive;
- Cleveland Avenue;
- Barrowcliffe Road;
- Stepney Drive; and
- Cross Lane / Green Lane.

Supporting Network

5.2.66. Although not directly along any of the identified CWZ corridors, the following routes are also identified as supporting the walking network in the area and providing important connections for local trips to key destinations:

- Secondary Routes:
  - Scalby Road - arterial corridor providing connections to a number of educational establishments and Scarborough General Hospital, as well as a likely key component in the Scarborough cycle network, forming an active travel corridor;
  - Ashburn Road / Valley Road / Westbourne Road—key links to the Weaponess development; and

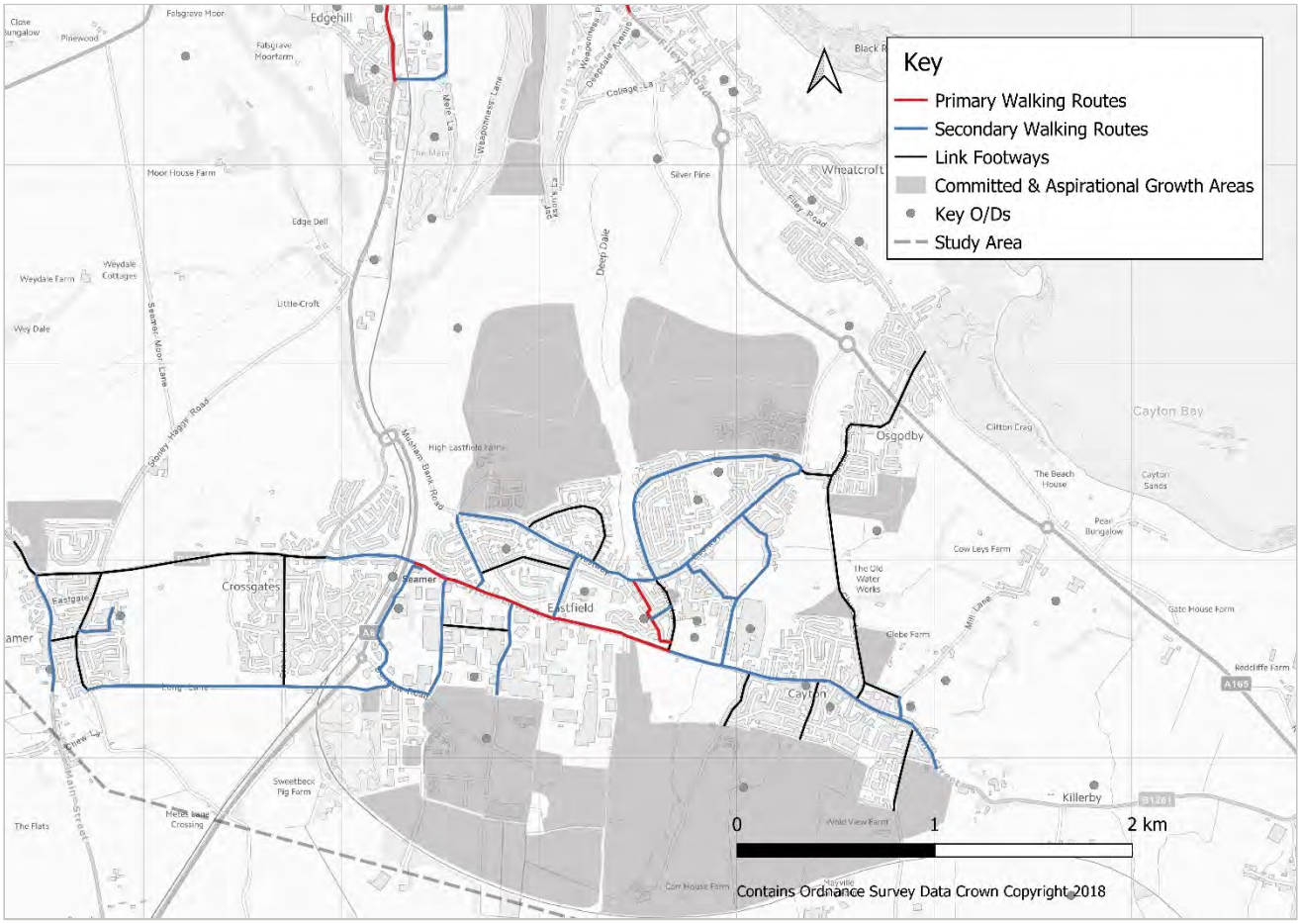
- Wykeham Street / Roscoe Street / Gladstone Road—links to a major foodstore and educational establishment, as well as the Cinder Track.

- Link and Local Access Footways
  - Victoria Road / Castle Road / N Marine Road corridor; and
  - St Nicholas Street / Somerset Terrace / Belgrave Terrace.

SOUTH OF STUDY AREA

5.2.67. Figure 70 presents the broad key walking route corridors for the south of the study area.

Figure 70 – Walking Route Hierarchy: South of Study Area



5.2.68. These corridors are summarised as:

Primary Walking Routes

- **High Street, Eastfield** - pedestrianised area prioritising active travel movements at the local service centre; and
- **Cayton Low Road -** from Seamer rail station and extending along the frontage of the various employment usages.

Secondary Walking Routes

- **Westway and Eastway** – providing a key arterial east-west link facilitating access through Eastfield from Mushum Bank to Osgodby via Middle Deepdale. Route is supported by other

Secondary links along pedestrian desire lines including Manham Hill, Holme Hill, Overdale and Long Lane enabling access to Cayton Low Road.

- **Main Street, Cayton** – facilitating access between Cayton and both the Eastfield High Street and Scarborough Business Park CWZs.
- **Scarborough Business Park** - A number of links through the Scarborough Business Park are recognised as secondary walking routes for their importance in enabling journeys on foot to the wider site.
- **Long Lane** – an existing link that offers significant potential as an alternative route between the residential areas of Seamer and Scarborough Business Park; and
- **Main Street, Seamer** – Reflecting its position as a local shopping centre.

5.2.69. A number of Link Footways have been identified linking local access footways to the Secondary and Primary network routes.

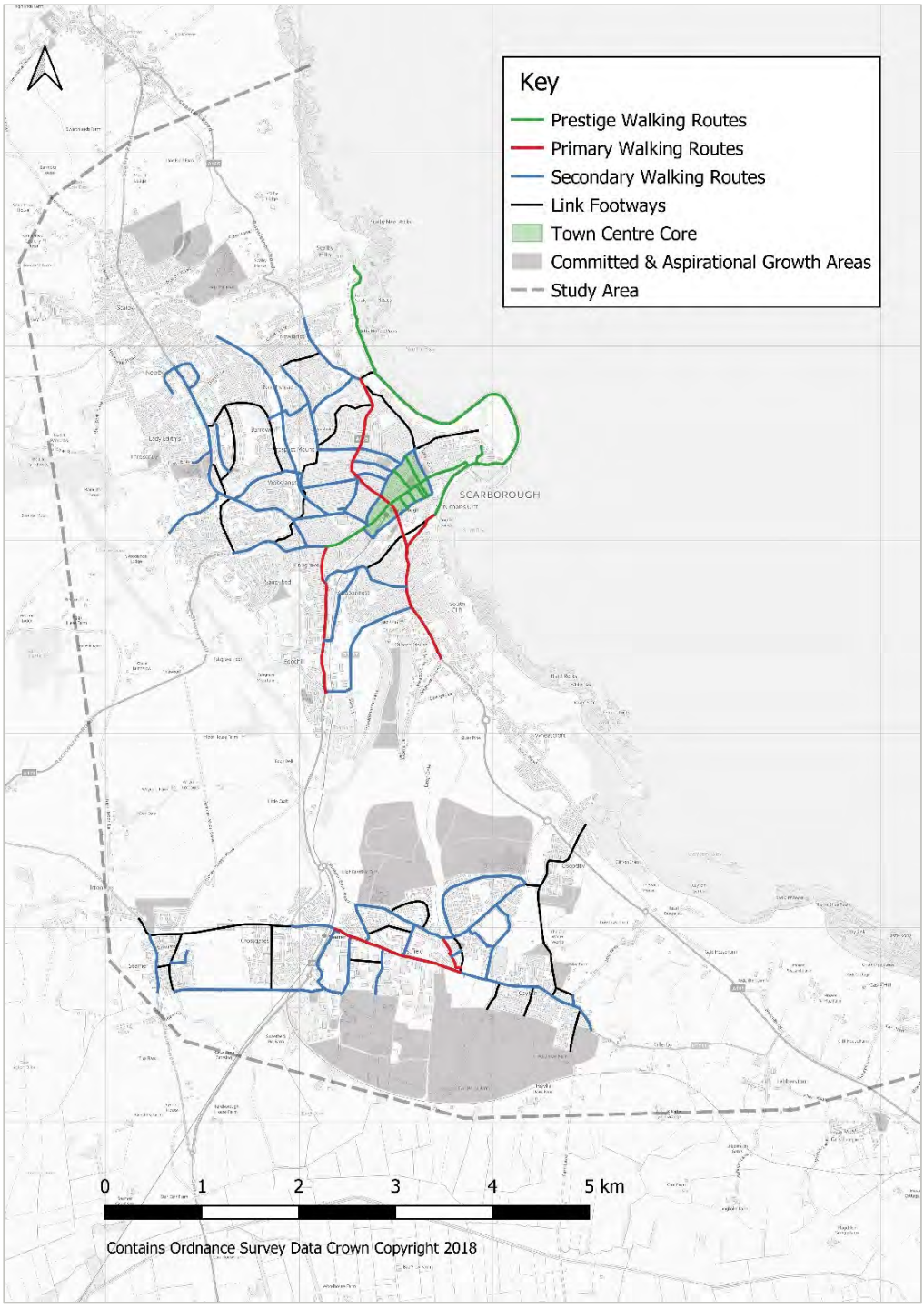
5.2.70. At this stage, the internal layout of the various allocations associated with the expansion of Scarborough Business Park and the further development of Middle Deepdale (as discussed above) are not yet known, whilst a number of committed sites are under construction. The highway layout of these sites should complement and support the routes identified in the Scarborough LCWIP, with due cognisance paid to this document and associated guidance and best practice throughout the planning process.

STEP 5 – PRODUCE A DRAFT WALKING NETWORK

5.2.71. A draft Walking Network Map has been developed, with links categorised based on the network hierarchy established in Step 4.

5.2.72. The draft Walking Network Map for the LCWIP Study Area is presented in Figure 71 below and replicated in Appendix B.

Figure 71 – Draft Walking Network Map



STEP 6 – VALIDATION AND REVIEW

5.2.73. Validation and review of the WNM was undertaken based on the baseline work, site visits, local knowledge (through the Stakeholder Workshop – See Section 6), and a review of walking connectivity between key origins and destinations. The emerging WNM should also reviewed against the existing Scarborough Footway Maintenance log to assess the prioritisation of links, and enable us to make amendments where required.

STEP 7 – PRODUCE FINAL NETWORK

5.2.74. The final step is the production of the final network which is covered in Section 7.

6

STAKEHOLDER ENGAGEMENT

6. STAKEHOLDER ENGAGEMENT

6.1. OVERVIEW

6.1.1. The DfT's LCWIP guidance highlights the importance of stakeholder engagement throughout the development of the LCWIP.

6.1.2. Initial stakeholder engagement for the Scarborough LCWIP took place during the baseline review stage, whereby the project team engaged with key stakeholders, such as NYCC and SBC officers, to gain a detailed insight in terms of challenges and opportunities for developing the respective networks within the study area.

6.1.3. Following the development of the draft cycling and walking networks, an external workshop was organised with the following objectives:

- To gain stakeholder input on the draft cycle network; and
- To identify short term priorities for intervention.

6.1.4. The workshop format provided an opportunity for stakeholders to review and validate the draft networks developed by the project team, aiding the refinement of the networks through contribution of local knowledge and expertise.

6.1.5. The attendees to the external workshop included staff from NYCC and SBC who were involved during the baseline engagement, and widened to include further stakeholders that had not previously been engaged but were identified by NYCC and SBC as being important to the development and delivery of the cycle and walking network.

6.1.6. The stakeholders were split into two groups to participate in exercises and discussions around the draft networks and priorities. The workshop itself was split into two sections, with the first focusing on cycle network development and the second focussing on walking network development.

6.1.7. This section provides a summary of the key outputs of the workshop with a full summary note included within the appendices.

6.2. DRAFT CYCLE NETWORK REVIEW

CYCLE NETWORK HIERARCHY DEFINITIONS

6.2.1. The network hierarchy definitions that were presented at Step 7 of the cycle network development process were presented to stakeholders for their consideration.

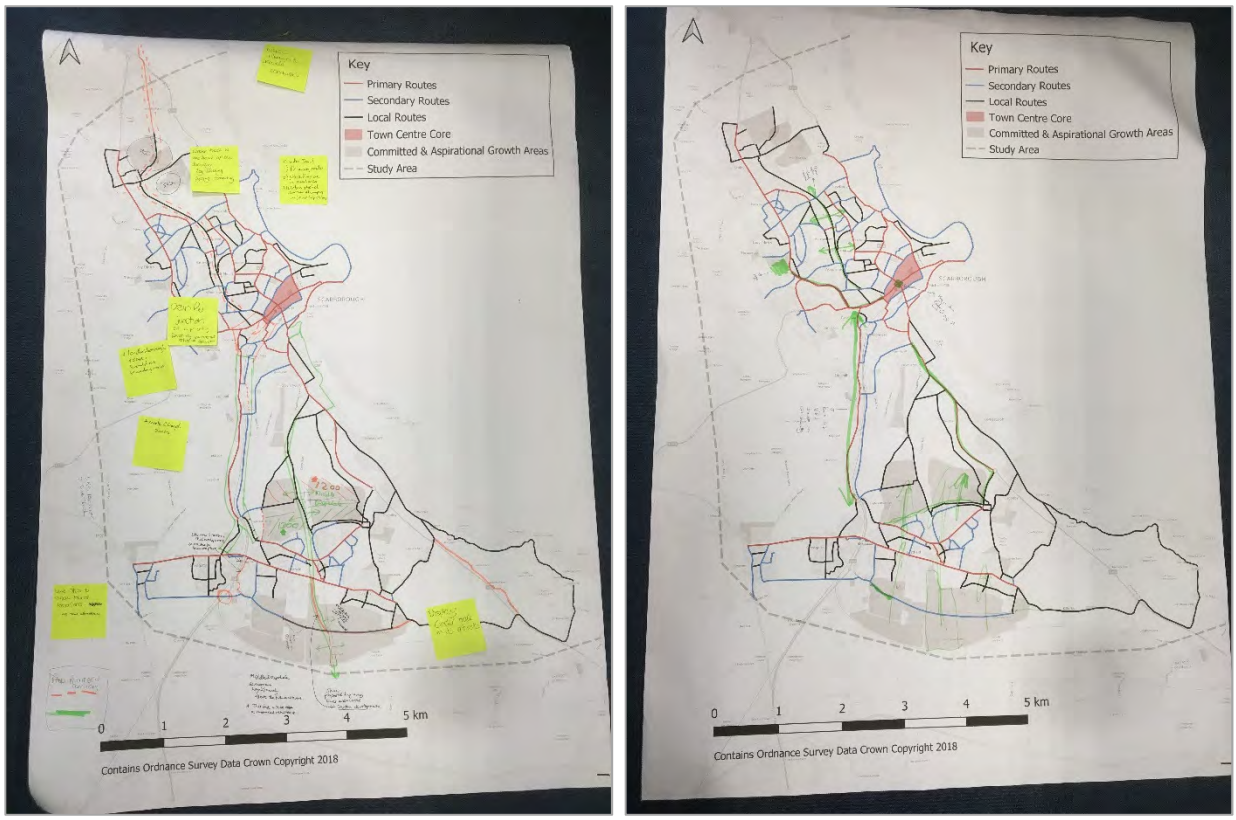
6.2.2. It was noted by NYCC that these definitions should remain consistent with similar ongoing cycling and walking infrastructure studies across the county, but that small amendments could be made to reflect the locally specific requirements for Scarborough. The consensus agreed with this comment with no further suggestions put forward.

6.2.3. Discussions with NYCC following the workshop finalised the definitions and reduced the hierarchy into three network elements – primary, secondary and town centre cores – to ensure consistency in approach across the various LCWIP studies.

CYCLE NETWORK REVIEW AND VALIDATION

6.2.4. Stakeholders were asked to review the draft cycle network and record any comments, additions or amendments directly on to the network plans. Figure 72 displays an example of the comments and annotations on the draft network from the two working groups.

Figure 72 – Group Network Exercise – Cycle Network Review



(Left - Group 1 outputs; Right - Group 2 outputs)

6.2.5. A full list of the comments received are included in Appendix C.

CYCLE NETWORK PRIORITIES

6.2.6. For the second task, stakeholders were asked how they would prioritise sections of the draft cycle network, should funding become available in the short-term (i.e. 2-3 years).

6.2.7. Stakeholders were asked to provide views on both the thematic (i.e. which type of links based on the hierarchy) and spatial priorities (i.e. which areas of the network) to be prioritised for further development in the short-term. Attendees were asked to again annotate and label directly onto the plans, as per Figure 72 above.

6.2.8. The outputs of the exercise indicated a wide variety of spatial and thematic priorities across the urban area, including interventions on the existing highway network, upgrades to and new off-road routes, and within aspirational development sites.

A collated list of the comments received is provided in Appendix C.

6.3. DRAFT WALKING NETWORK REVIEW

WALKING NETWORK HIERARCHY DEFINITIONS

6.3.1. The network hierarchy definitions that were presented at Step 4 of the walking network development process were presented to stakeholders for their consideration. The definitions provided reflected those proposed in the DfT's LCWIP guidance, which were taken from the RLG Footway Maintenance Classification.

6.3.2. Again, stakeholders were invited to offer suggestions to adapt these to reflect the locally specific requirements for Scarborough, however the consensus was the definitions should follow the recommendations in the LCWIP document at this stage.

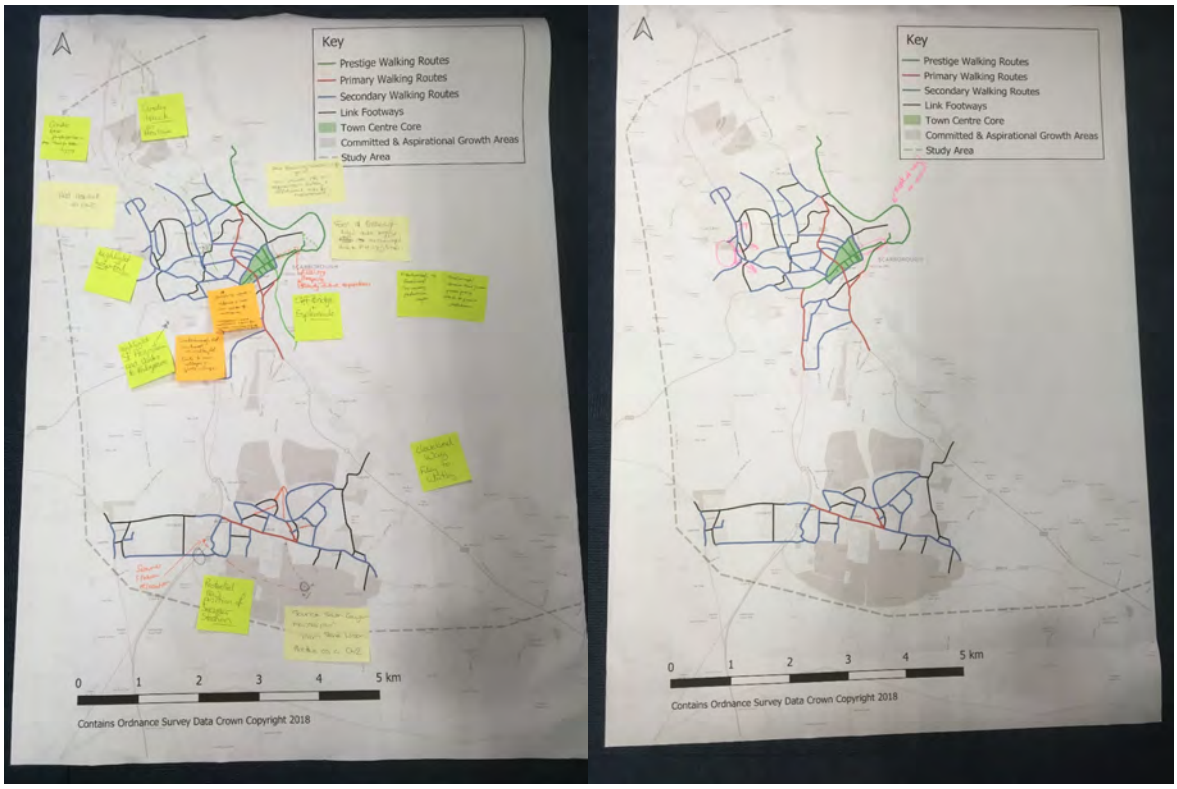
WALKING NETWORK REVIEW AND VALIDATION

6.3.3. As per the first session, stakeholders were invited to review the draft walking network and record any comments, additions or amendments directly on to the network plan.

6.3.4. Whilst stakeholder broadly agreed with the proposed network and the evidence underpinning this, a number of comments were received for consideration.

6.3.5. Figure 73 displays the outputs of the network plan review exercise, showing examples of the comments and annotations from the working groups. A full list of the comments received is provided in Appendix C.

Figure 73 – Group Network Exercise – Walking Network Review



(Left - Group 1 outputs; Right Group 2 outputs)

WALKING NETWORK PRIORITIES

6.3.6. As with the first session, attendees were then asked to participate in a prioritisation exercise, considering which corridors, links or junctions they felt should be prioritised in the short-term (2–3 years) if funding should become available. Attendees were also asked to consider the wider strategic priorities for the walking network, which may influence the identification of key links, junctions, or corridors for development.

6.3.7. Stakeholders were asked to draw and annotate on the draft walking network plans to show which areas they considered should be given priority. Verbal comments were also captured by the group facilitators.

6.3.8. A collated list of the comments received is provided in Appendix C.

7

RECOMMENDED NETWORKS

7. RECOMMENDED NETWORKS

7.1. INTRODUCTION

7.1.1. The preceding sections of the report have detailed the development and refinement of the draft cycling and walking networks. This section of the report presents the final recommended Cycle and Walking Network Plans, agreed network hierarchies and initial priorities to take forward for further development in Phase 2 of the Scarborough LCWIP.

7.1.2. Consideration is also given to the types of intervention appropriate for each for each network in the context of the study area.

7.2. FINAL NETWORK

Following stakeholder engagement, the final Cycling and Walking Network Maps are displayed in Figure 74 and Figure 75 respectively, with high resolution versions presented in Appendix D.

Figure 74 – Final Cycling Network Plan

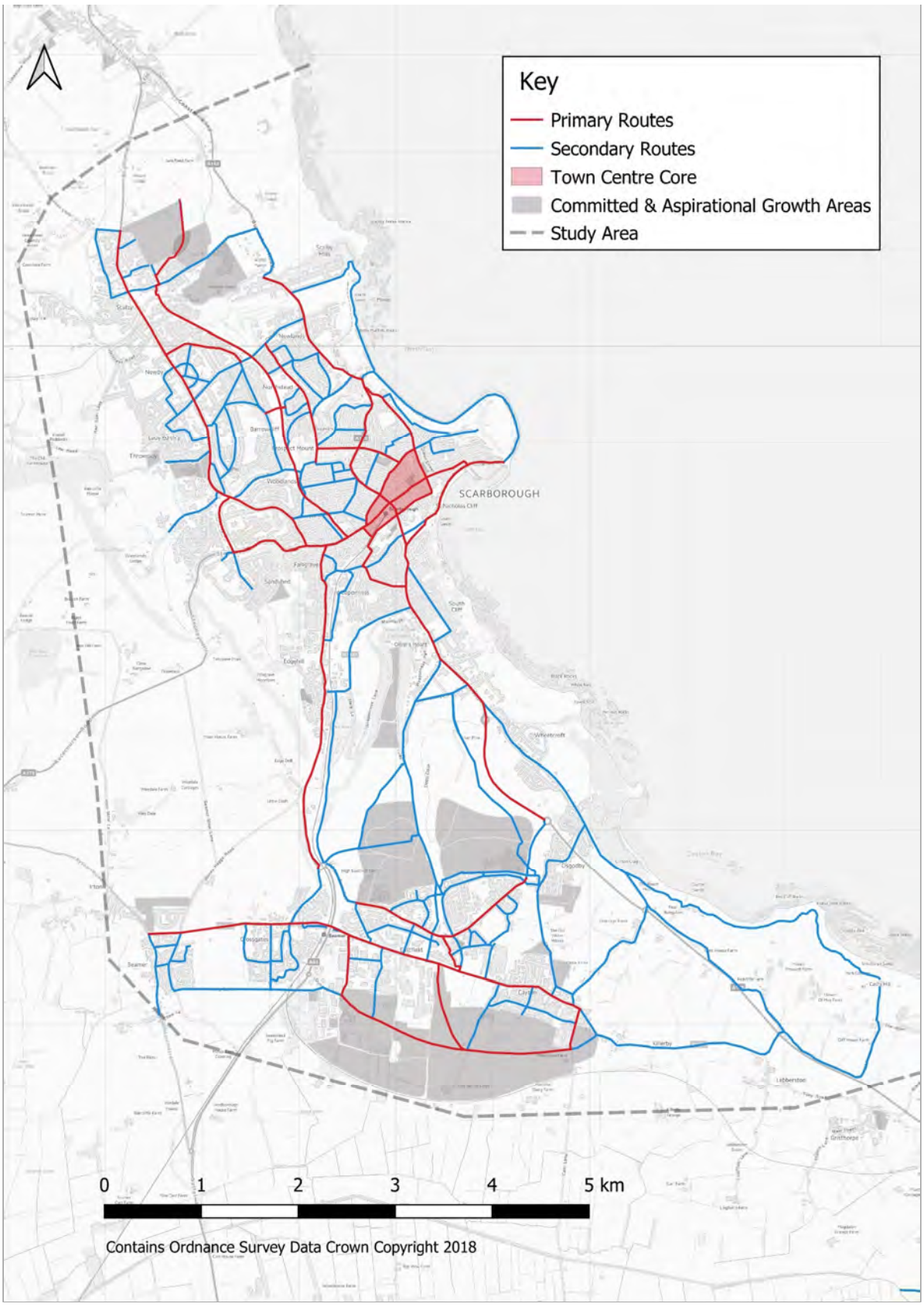
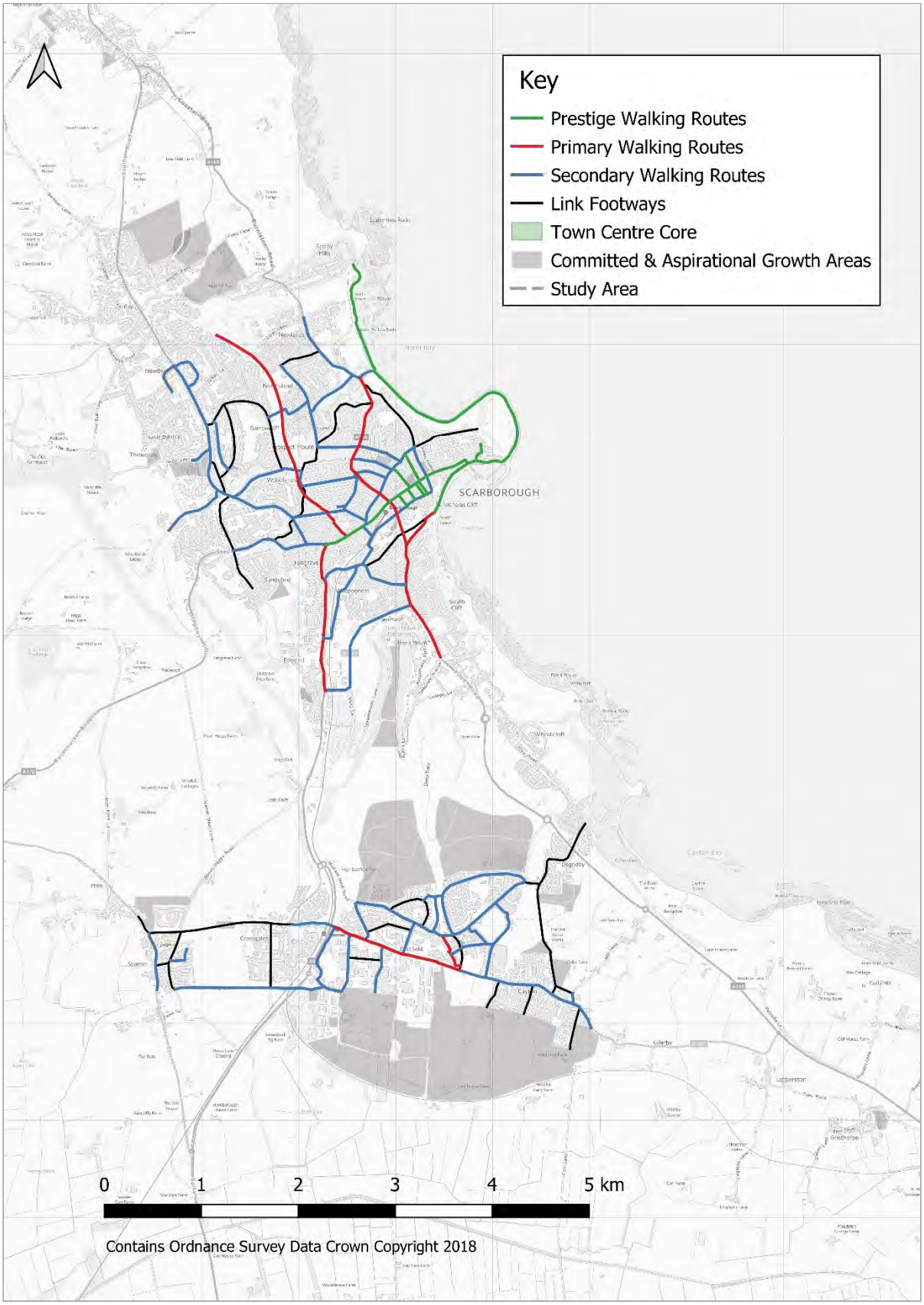


Figure 75 – Final Walking Network Plan



7.3. NETWORK HIERARCHIES

7.3.1. Draft network hierarchies were presented to stakeholders for consideration as part of the external workshop. The draft definitions presented are detailed in Table 21 and 23 for Cycling and Walking respectively.

7.3.2. Following stakeholder input, the network hierarchies have been amended with the final definitions shown in Table 24 and Table 25 below. Amendments to the draft versions are shown in italics.

Table 24 - Final Network Hierarchy Definitions - Cycling

Network Element	Characteristics
Primary	▪ Different cycle users, based on confidence level, experience, age, demographics, trip purpose; ▪ Different types of bikes, including standard, recumbent, trailers, cargo bikes, disabled user cycles; ▪ High flow of cycle users; ▪ Creates arterial routes; ▪ Links large residential areas to main clusters such as town centre locations; ▪ Through, internal, and inbound-outbound traffic; ▪ Cater for existing non-cycle users; ▪ *Cater for people aged '8-80' to be able to cycle safely;* ▪ *Direct, following the shortest possible route;* ▪ *Low gradients where possible.*
Secondary	▪ Lower volumes of cycle users; ▪ Further increases density of network; ▪ Ensure local access to origins and destinations from the primary / secondary network; ▪ Provide quieter routes for less confident cycle users *(while primary network is being developed).*
Town Centre Cores	▪ High levels of permeability and priority for cycle users and pedestrians; ▪ *High levels of cycle parking availability.*

Table 25 - Final Network Hierarchy Definitions - Walking

Name	Description
Prestige Walking Zones	Very busy areas of towns and cities, with high public space and street scene contribution.
Primary Walking Routes	Busy urban shopping and business areas, and main pedestrian routes
Secondary Walking Routes	Medium usage routes through local areas feeding into primary routes, local shopping centres, etc.
Link Footways	Linking local access footways through urban areas and busy rural footways.

7.4. DIFFERENT TYPES OF INTERVENTION

7.4.1. To achieve the cycling and walking networks based on the respective hierarchies detailed in the previous section, it is necessary to reference how different types of intervention will be required that take into account opportunities and constraints in different parts of the network.

7.4.2. For example, the primary networks cover a range of different types of highway and pedestrian environments from arterial A-roads to town streets. Reflecting this, it is clear that the type of intervention required to achieve the characteristics of what the primary network should be will vary.

7.4.3. The best practice review in Section 3 brought together a range of techniques from the UK and beyond for developing cycling and walking networks. This good practice has informed the types of intervention recommended.

7.4.4. Table 26 and Table 27, below, presents various types of intervention that are based around the level of segregation of cycle and pedestrian users respectively from other modes, including both vehicle and non-vehicle traffic. The details of what could be included under each type of intervention is also presented for each.

Table 26 – Types of Intervention - Cycling

Ref	Type of Intervention	Details
A	Full segregation	Cycle track with continuous physical segregation from carriageway and footway
B	Hybrid segregation	Cycle track vertically segregated from the carriageway and footway
C	Dedicated lanes and light segregation	Mandatory or advisory cycle lanes; Intermittent physical segregation Reduced general traffic speeds; Centreline removal; Parking removal; Buffer lane at parking locations
D	Sharing with other modes	Reduced general traffic speeds Filtered permeability to restrict general traffic movements Cycle symbols Contraflow cycling permissions

Table 27 – Types of Intervention - Walking

Ref	Type of Intervention	Details
A	Full Pedestrianisation	Exclusion or temporal limit on other vehicle access. High quality pedestrian environment with significant place function.
B	Pedestrian enhanced streets / shared space / home zones	Reduction in formal traffic controls; Reduced general traffic speeds, Restricted interaction with other modes; Typically less differentiation between footway and carriageway.
C	Footway / footpath enhancements	Improved surfacing; Increased footway widths; Adequate crossing facilities proportionate to function of link; De-cluttering of route; Minimal gradients for duration of link; Direct routes; Dropped kerbs and tactile paving.
D	Shared use pedestrian / cycle routes	Improved at-level surface conditioning; Improved signage; Segregated or unsegregated; Potential widening of route.

7.4.5. Table 28 applies the type of interventions presented in Table 26 to the primary, secondary and town centre core parts of the network. At the same time, the different types of environment are referenced with the type of intervention relating to whether the environment has more of a place or movement function.

Table 28 – Cycle Network Interventions

	Place					Movement		
	Town square	Town street	High street	Local street	Rural road	Off-highway path	Connector	Arterial road
Primary	D	C, D	B, C, D	C, D	-	-	B, C, D	A, B
Secondary	D	C, D	B, C, D	C, D	C, D	C, D	B, C, D	
Town Centre Cores	D	D	D	-	-	-	-	-

7.4.6. Table 29 below conducts the same exercise, but this time applying the walking interventions listed in Table 27 to the prestige, primary, secondary walking routes and local footways within the network. Again, the different types of intervention are referenced relative to whether the environment has more of a place or movement function, as well as level of footfall.

Table 29 – Walking Network Interventions

	Place					Movement		
	Town square	Town street	High street	Local street	Rural road	Off-highway path	Connector	Arterial road
Prestige Walking Zones	A, B, C	A, B, C	A, B, C	-	-	-	-	
Primary Walking Routes	B	B, C	B, C, D	-	-	C, D		
Secondary Walking Routes	-	-	-	C, D	C, D	C, D	C, D	C, D
Link Footways	-	-	-	C, D	C	C, D	C, D	

7.4.7. The output of the tables above reflect the desirable level of intervention for the respective parts of network based on their assignment in the respective cycling and walking network hierarchies.

7.4.8. The network hierarchies and the types of intervention presented above will be used where possible to inform the development of ongoing or future schemes by NYCC.

7.5. DRAFT PRIORITIES

7.5.1. The following parts of the network were proposed as draft priorities for taking forward to feasibility assessments to feed into any bidding opportunities. The draft priorities were presented to NYCC for comment and discussion. The priorities are presented as 'active travel corridors' corridors, within which both walking and cycling interventions would be considered.

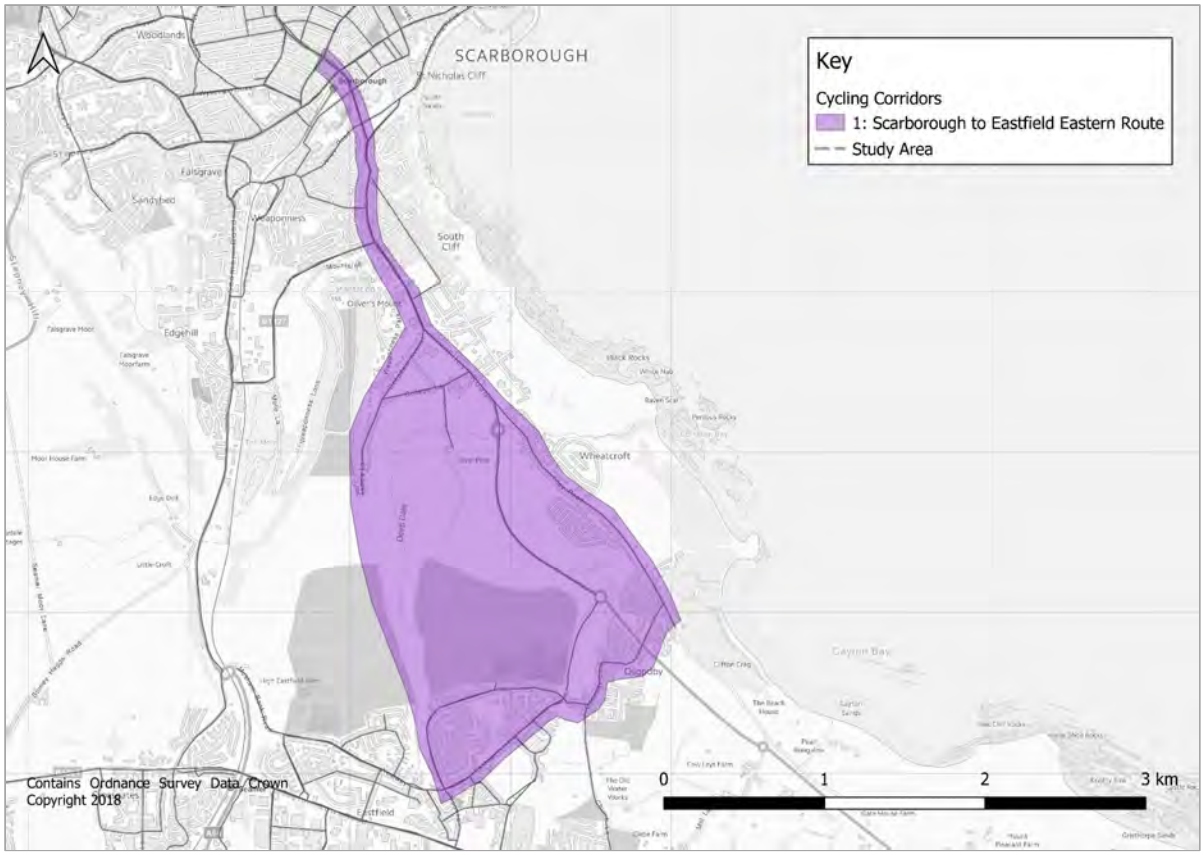
7.5.2. It is envisaged that the DfT Route Selection Tool[18] would be utilised to determine the most suitable cycle route within these corridors as part of the feasibility work. Following identification of the preferred cycling route corridor, a gap analysis of the pedestrian walking infrastructure within this corridor will be undertaken using the DfT Walking Route Audit Tool to assess the level and quality of walking infrastructure provision. This approach will maximise the opportunities for complementary improvements in order to provide a cohesive active travel corridor. Identifying synergies between cycling and walking improvements will maximise potential scheme benefits.

7.5.3. The following sub-sections detail each of the draft priority corridors, along with a rationale for each priority, linking to the evidence base presented in this report.

[18] https://www.gov.uk/government/publications/local-cycling-and-walking-infrastructure-plans-technical-guidance-and-tools

DRAFT PRIORITY: SCARBOROUGH TO EASTFIELD (EASTERN SPINE)

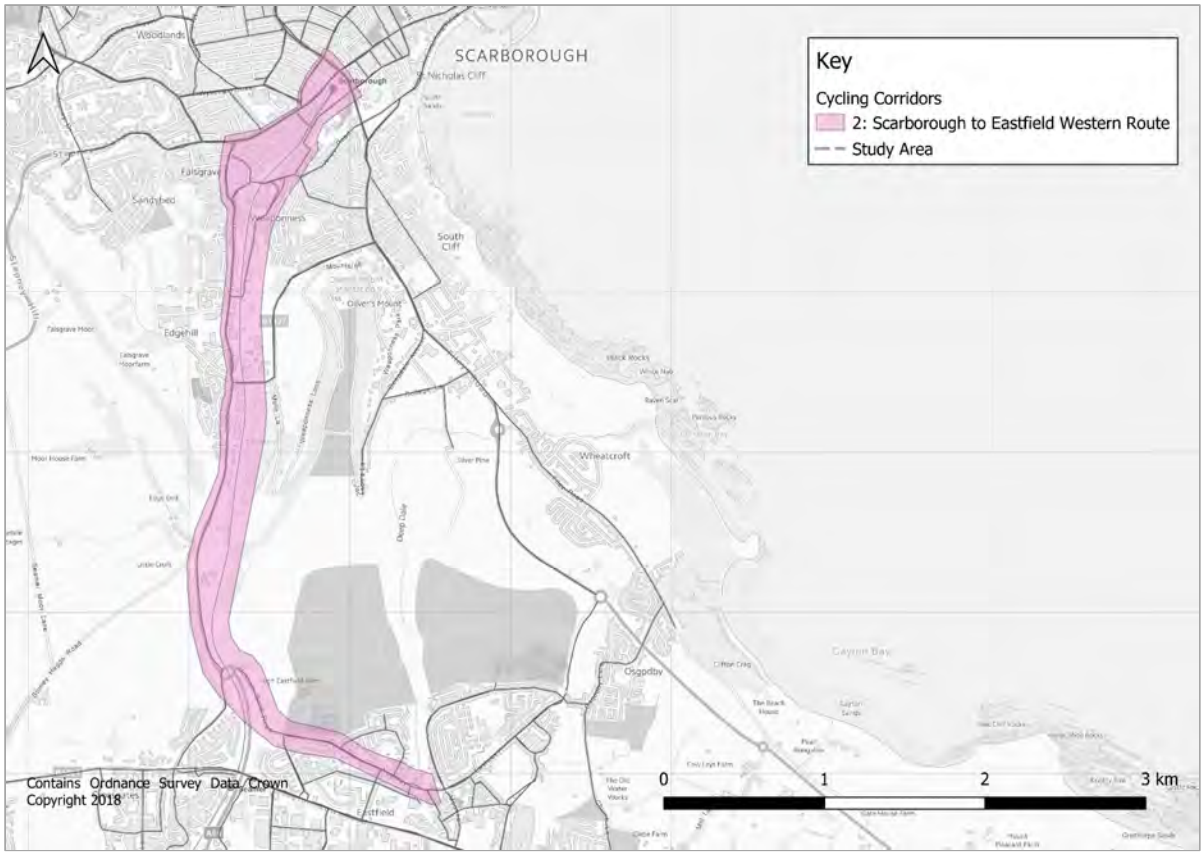
Figure 76 – Scarborough to Eastfield Eastern Corridor



Corridor Description	Rationale
A broad eastern corridor from Scarborough rail station to Osgodby / Eastfield, taking into account the A165 Filey Road and Middle Deepdale. This corridor likely includes the following key features: ▪ The critical junction of Valley Bridge Rd / Westborough; ▪ Valley Bridge as a gateway feature; ▪ The local centre of Ramshill; ▪ Existing cycle infrastructure along the A165 Filey Road; ▪ A route between the Scarborough urban area and Middle Deepdale, potentially including the Knox Hill and Deepdale Bridleways, and Filey Road; and ▪ Connections to Eastfield High Street.	▪ Stakeholder input; ▪ Future predicted increase in demand for movement between the two towns; ▪ The connection of the two urban areas was considered one of the highest priorities in the stakeholder workshop; ▪ Key destinations such as Scarborough town centre, Ramshill, Eastfield High Street, and a number of education establishments are located along this corridor; ▪ Development sites at Middle Deepdale are likely to create demand for movement to/from Scarborough town centre; ▪ Aligns with the Eastfield Paths Strategy (2014); and ▪ Development sites present a funding opportunity through contributions.

DRAFT PRIORITY: SCARBOROUGH TO EASTFIELD (WESTERN SPINE)

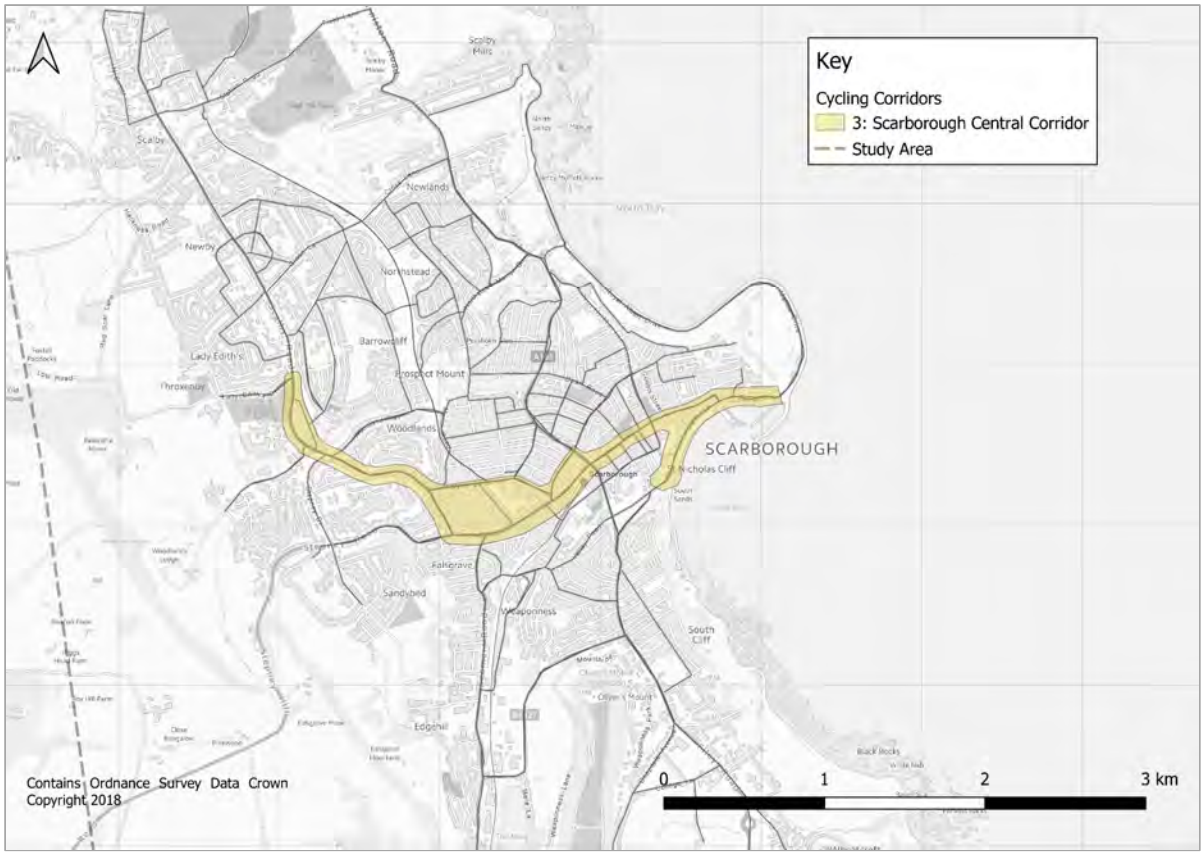
Figure 77 – Scarborough to Eastfield Western Spine



Corridor Description	Rationale
A broad western corridor from Scarborough rail station to Crossgates / Eastfield, taking into account the A64 Seamer Road, Musham Bank Road, and Westway. This corridor likely includes the following key features: ▪ The critical junction of Valley Bridge Rd / Westborough; ▪ Increased permeability for cyclists around the northern and southern extents; ▪ A high-quality cycle route along the length of the A64, and / or enhanced crossing points to a parallel active travel route; and ▪ Linkages into Middle Deepdale.	▪ Stakeholder input; ▪ Future predicted increase in demand for movement between the two towns; ▪ The connection of the two urban areas was considered one of the highest priorities; ▪ Key destinations such as Scarborough town centre, Falsgrave, Seamer Business Park, Coventry University site, Scarborough UTC, Scarborough football club and sports village are located along this corridor; ▪ Development sites at Middle Deepdale are likely to create demand for movement to/from Scarborough town centre; ▪ Aligns with the Eastfield Paths Strategy (2014); ▪ Development sites present a funding opportunity through contributions; ▪ PCT outputs identified this corridor as potentially being one of the highest trafficked cycle routes in Scarborough; and ▪ Overlapping desire lines and walking isochrones from Core Walking Zones suggest parts of this route sees some of the highest current usage.

DRAFT PRIORITY: SCARBOROUGH CENTRAL CORRIDOR

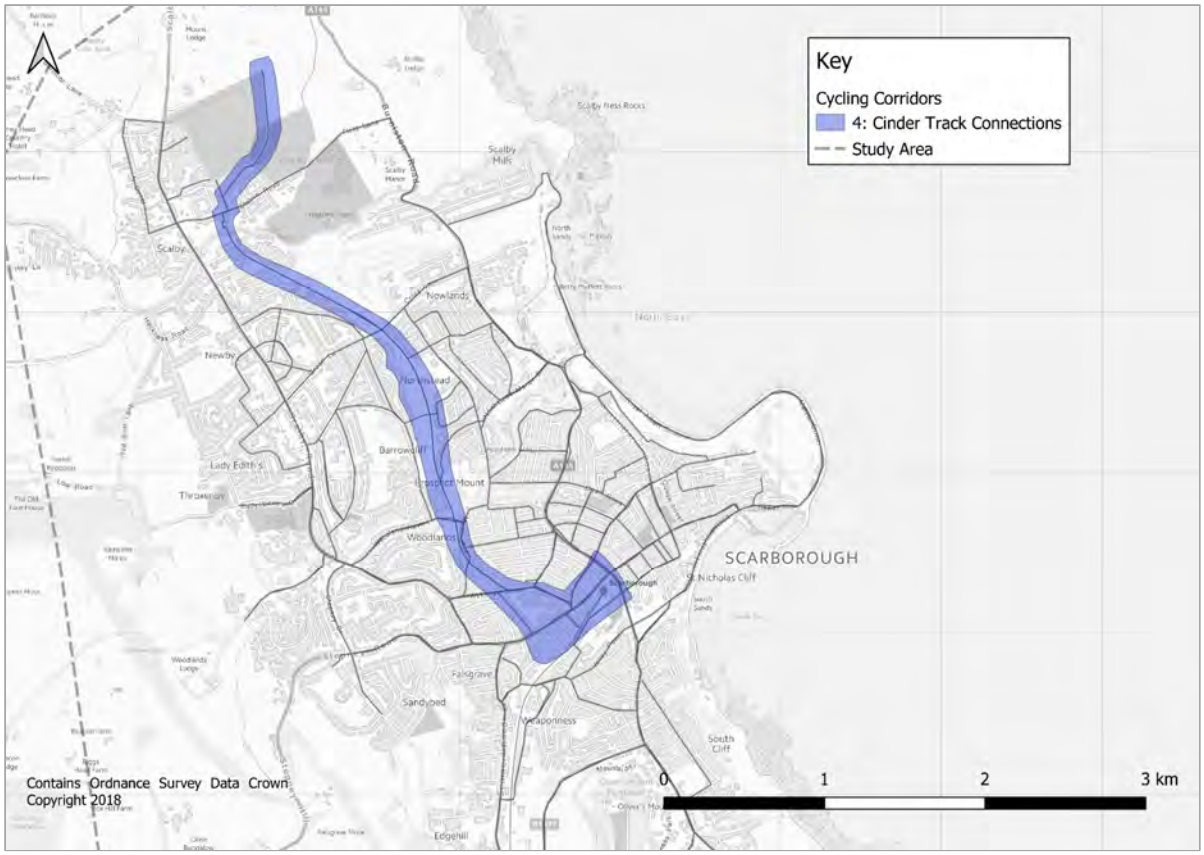
Figure 78 – Scarborough Central Corridor



Corridor Description	Rationale
A varied corridor across the Scarborough urban core, from the South Bay to Scarborough General Hospital via Westborough and Falsgrave; This corridor likely includes the following key features: ▪ The key tourist area of the South Bay, enhancing the area for tourist and leisure usage; ▪ An extension of the Westborough / Newborough improvements to create a cohesive prestige active travel route; ▪ The critical junction of Valley Bridge Rd / Westborough; ▪ A high-quality cycle route along the length of the A64 through Falsgrave, and / or enhanced crossing points to a parallel active travel route; ▪ Increased permeability for cyclists; ▪ Enhanced access to the Cinder Track; ▪ Improved active travel facilities in the vicinity of the hospital, including Scalby Road.	▪ Stakeholder input; ▪ Key destinations such as the South Bay, Scarborough town centre, Falsgrave, and Scarborough General Hospital are located along this corridor, with various other retail, employment and educational ODs; ▪ PCT outputs identified elements of this corridor as potentially being some of the highest trafficked cycle routes in Scarborough; ▪ Overlapping desire lines and walking isochrones from Core Walking Zones suggest this route sees some of the highest current usage; ▪ This route encompasses both Prestige and Primary walking / cycling routes; ▪ The central location of the corridor means many trips will either end within or make use of any associated interventions.

DRAFT PRIORITY: CINDER TRACK CONNECTIONS

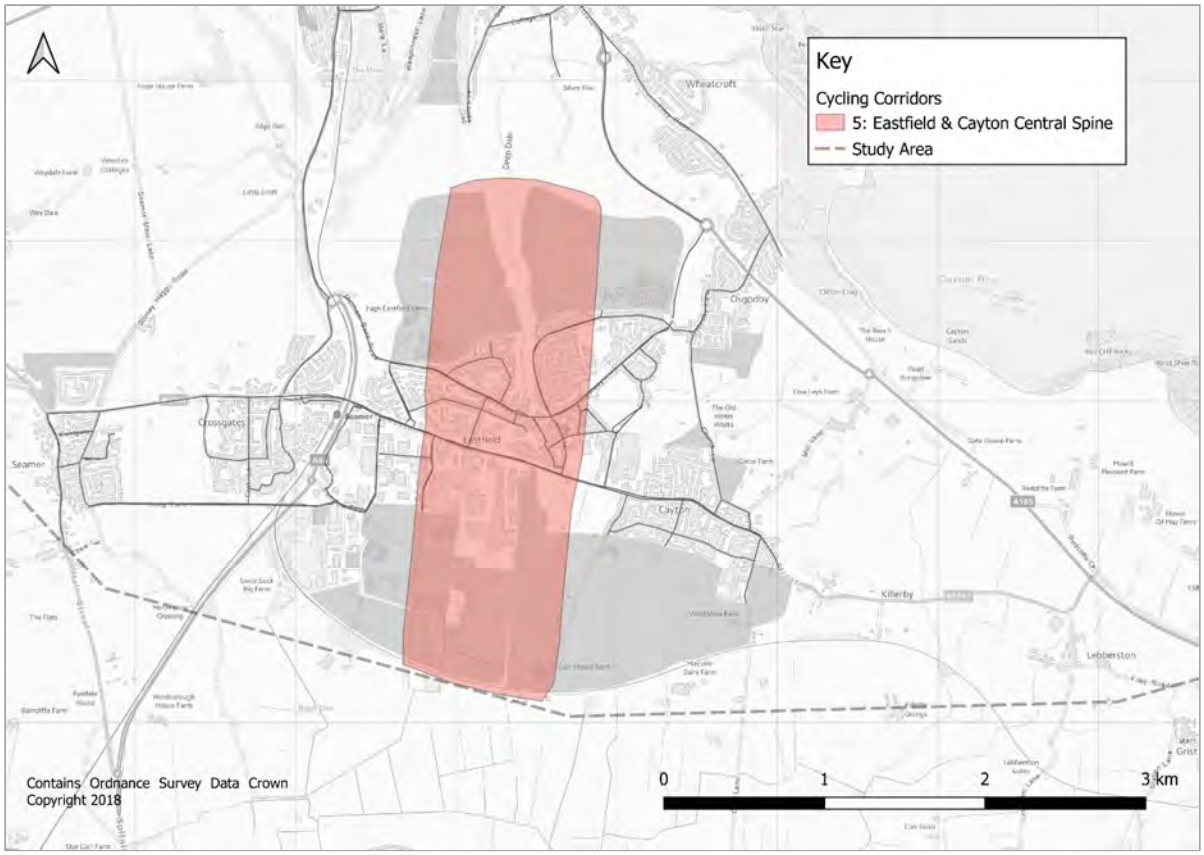
Figure 79 – Cinder Track Connections



Corridor Description	Rationale
A Cinder Track corridor, enhancing the route and connectivity of the Cinder Track in the Scarborough urban area. This corridor likely includes the following key features: ▪ Enhancements to the Cinder Track itself within the urban area, creating a high-quality route capable of inducing trips for utility / commuter purposes; ▪ Additional and improvised formal access points, increasing permeability; and ▪ Enhanced wayfinding.	▪ Stakeholder input; ▪ Aligns with the Scarborough Local Plan and is of strategic importance; ▪ This route encompasses both Prestige and Primary walking / cycling routes; ▪ The central location of the corridor means many trips will likely make use of any associated interventions; ▪ The route provides an opportunity to alleviate the lack of permeability between the various residential estates in central and northern Scarborough.

DRAFT PRIORITY: EASTFIELD & CAYTON CENTRAL SPINE

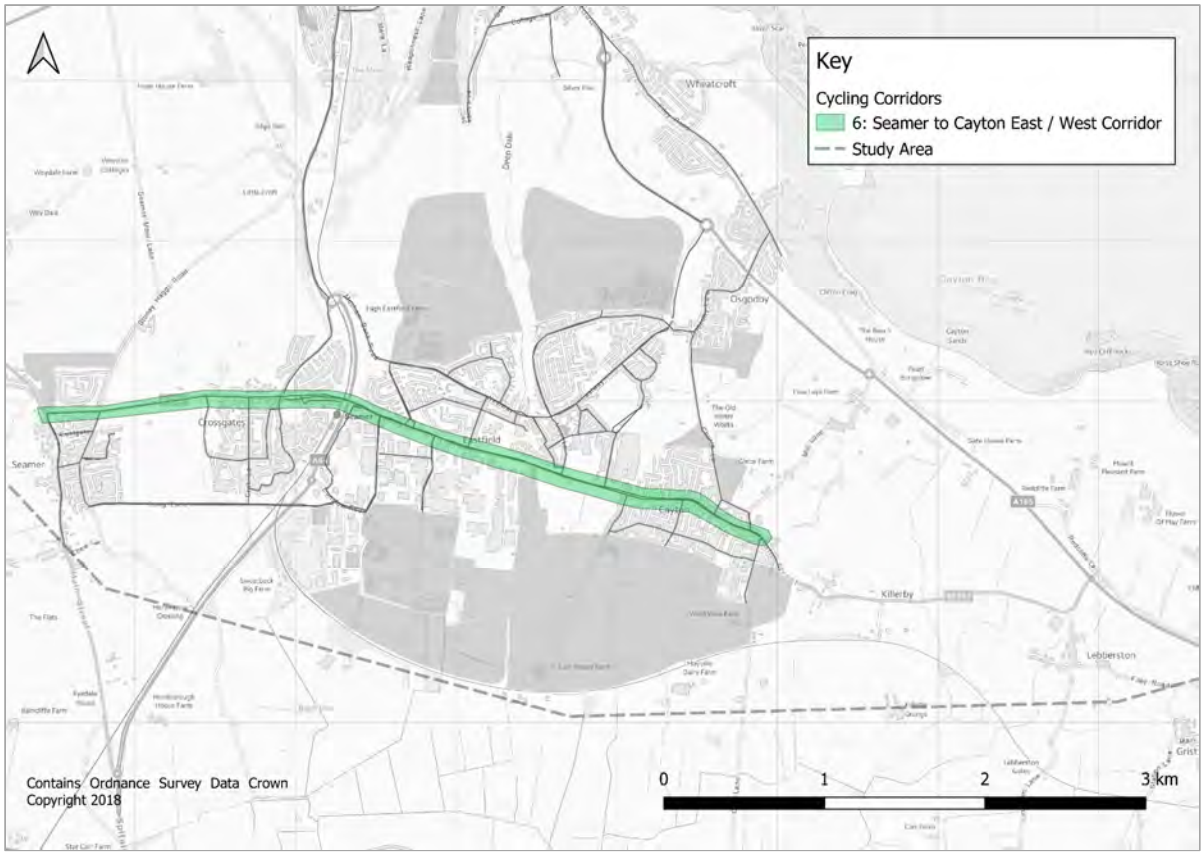
Figure 80 – Eastfield & Cayton Central Spine



Corridor Description	Rationale
A short central corridor in Eastfield, looking to connect Middle Deepdale and Scarborough Business Park / Cayton Strategic Growth Area across the existing urban area. This corridor likely includes the following key features: ▪ Identification of a cohesive north / south route across Eastfield, connecting Middle Deepdale with Scarborough Business Park and the Cayton Strategic Growth Area; ▪ Potentially including the network of PROWs across the Dell and Deepdale Bridleway, with extensions or enhancements as appropriate; ▪ Increased accessibility to the High Street; ▪ Linkages into committed and aspirational development sites, aligning with any masterplanning or site-specific requirements.	▪ Stakeholder input; ▪ The need to ensure integration of new development into the existing urban area was highlighted as a key priority; ▪ Such a corridor would link committed and aspirational development with a key local employment centre, as well as help connect existing ODs such as Eastfield High Street; ▪ Aligns with Eastfield Paths Strategy (2014); and ▪ Development sites present a funding opportunity through contributions.

DRAFT PRIORITY: SEAMER TO CAYTON CORRIDOR

Figure 81 – Seamer to Cayton Corridor



Corridor Description	Rationale
A central corridor across Seamer / Crossgates / Eastfield / Cayton, running the length of the urban area. This corridor likely includes the following key features: ▪ An arterial route across the southern urban area, providing both long and short distance connections between a number of key ODs ▪ Likely to require full / hybrid cycle segregation along most of its length; ▪ Enhanced and additional crossing points and side road treatment; ▪ Increased accessibility to the High Street.	▪ Stakeholder input; ▪ The central location of the corridor means many trips will likely make use of any associated interventions; ▪ Development sites present a funding opportunity through contributions; ▪ PCT outputs identified this corridor as potentially being one of the highest trafficked cycle routes in Scarborough.

8

RECOMMENDED NEXT STEPS

8. RECOMMENDED NEXT STEPS

8.1. INTRODUCTION

8.1.1. Whilst the long-term aspiration of NYCC is to deliver the proposed cycling and walking networks that have been identified through this project in their entirety, NYCC recognises that in the short-term this will not be financially viable.

8.1.2. Following the development of the network maps and identification of draft priority 'active travel' corridors, NYCC have selected four priority corridors to be taken forward for feasibility assessment with the intention of these being delivered when funding is made available.

8.1.3. The choice of the corridors has been influenced by two key factors. The first key factor is a consideration of whether the corridors address connections where a greater propensity for cycling and walking have been identified. Related to this is a consideration of whether the corridors would improve connectivity through the study area and support strategic employment and development sites. The data and evidence presented in Section 2 of this report underpins the identification of corridors for prioritisation.

8.1.4. The second key factor considers the likelihood of the corridor to receive funding (including both government funding and developer funding). Most recent government funding for active travel infrastructure has been for schemes that target modal shift towards cycling and walking in busy urban areas by improving access to employment and education opportunities.

Corridors in the study area that contribute towards both of these aims are highlighted as a priority. And have been recommended for further development.

8.2. FINAL PRIORITIES

8.2.1. The following corridors have been identified as priorities to be taken forward for feasibility assessment:

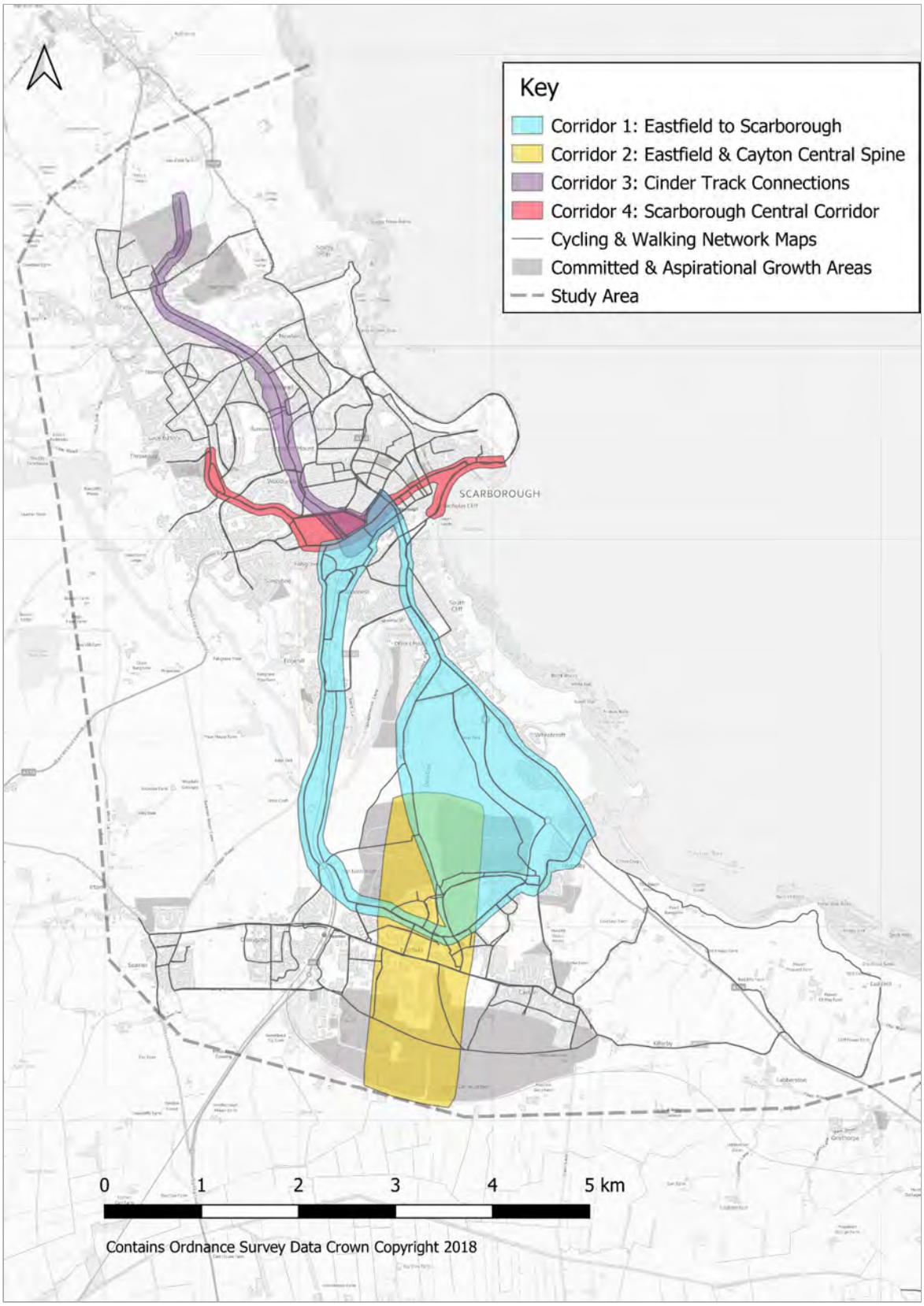
- Corridor 1: Eastfield to Scarborough;
- Corridor 2: Eastfield & Cayton Central Spine;
- Corridor 3: Cinder Track Connection; and
- Corridor 4: Scarborough Central Corridor.

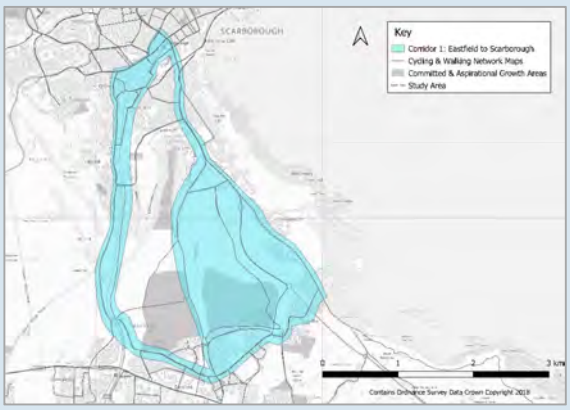
8.2.2. A range of route options will be considered within each of these corridors as part of the feasibility assessment. The DfT Route Selection Tool will be utilised to assist in determining the most suitable cycle route within these corridors. Following identification of the preferred cycling route corridor, a gap analysis of the pedestrian walking infrastructure within this corridor will be undertaken using the DfT Walking Route Audit Tool to assess the level and quality of walking infrastructure provision.

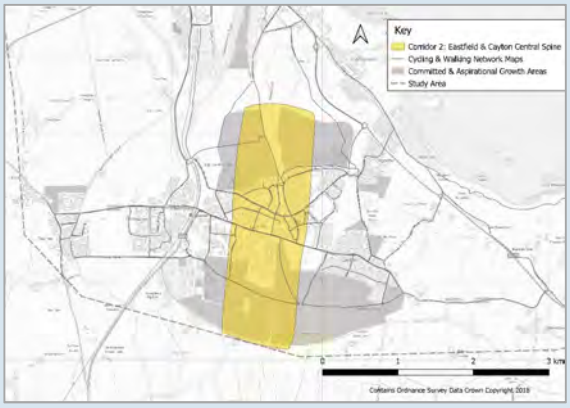
8.2.3. The feasibility assessment will also use the network principles and interventions types presented in this report along with the stakeholder feedback collated during the network development phase.

8.2.4. The rationale for each of the priority corridors is presented overleaf, while Figure 82 shows all the priority corridors in context with one another, illustrating where the extents overlap.

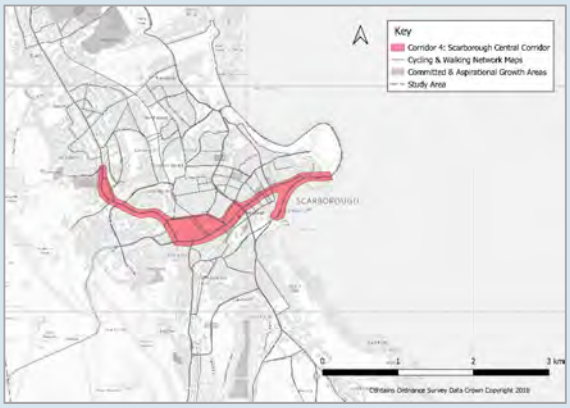
Figure 82 – Priority Active Travel Corridors



Corridor 1: Eastfield to Scarborough	Rationale
	

Corridor 2: Eastfield & Cayton Central Spine	Rationale
	▪ Stakeholder input; ▪ The need to ensure integration of new development into the ▪ Such a corridor would link committed and aspirational ▪ Aligns with Eastfield Paths Strategy (2014); and ▪ Development sites present a funding opportunity through

Corridor 3: Cinder Track Connections	Rationale
	▪ Stakeholder input; ▪ Aligns with the Scarborough Local Plan and is of strategic ▪ This route encompasses both Prestige and Primary walking ▪ The central location of the corridor means many trips will ▪ The route provides an opportunity to alleviate the lack of

Corridor 4: Scarborough Central Corridor	Rationale
	▪ Stakeholder input; ▪ Key destinations such as the South Bay, Scarborough town centre, Falsgrave, and Scarborough General Hospital are located along this corridor, with various other retail, employment and educational ODs; ▪ PCT outputs identified elements of this corridor as potentially being some of the highest trafficked cycle routes in Scarborough; ▪ Overlapping desire lines and walking isochrones from Core Walking Zones suggest this route sees some of the highest current usage; ▪ This route encompasses both Prestige and Primary walking / cycling routes; ▪ The central location of the corridor means many trips will either end within or make use of any associated interventions.