Cumbria County Council & Copeland Borough Council

COPELAND TRANSPORT IMPROVEMENTS STUDY

Final Report

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AUGUST 2021

CONFIDENTIAL

Cumbria County Council & Copeland Borough Council

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COPELAND TRANSPORT IMPROVEMENTS STUDY

Final Report

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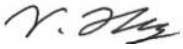
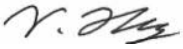
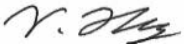
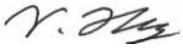
Signature					
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CONTENTS

TABLES

FIGURES

APPENDICES

LIST OF ACRONYMS

CCC – Cumbria County Council

CBC – Copeland Borough Council

DfT – Department for Transport

DoS – Degree of Saturation

EAST – Early Assessment Sifting Tool

HE – Highways England

IDP – Infrastructure Delivery Plan

LCWIP – Local Cycling and Walking Infrastructure Plan

LSOA – Lower Super Output Area

LEP – Local Enterprise Partnership

MSOA – Middle Super Output Area

NMU – Non-Motorised User

PCT – Propensity to Cycle Tool

RFC – Ratio of Flow to Capacity

RIS – Road Investment Strategy

RTM – Regional Transport Model

TAG – Transport Appraisal Guidance

TIS – Transport Improvements Study

WCTM – West Cumbria Transport Model

1 INTRODUCTION

1.1 OVERVIEW

1.1.1. WSP has been commissioned by Cumbria County Council (CCC) and Copeland Borough Council (CBC) to undertake a Transport Improvements Study (TIS) for the borough of Copeland, to support the Copeland Local Plan proposals for the period up to 2035. This study will be referred to as Copeland TIS for the remainder of this report.

1.1.2. This study consists of three stages as follows:

- Baseline;
- Identify Improvement Options; and
- Development of the Improvements.

1.1.3. A Communications and Engagement Plan was prepared for the study. The plan was developed in order to determine the scope of engagement (including the level and type) to be undertaken for the study, and identifies members of the Project Delivery Group (PDG) and key stakeholders.

1.2 STUDY OBJECTIVES

1.2.1. The overarching aim of the study is to identify and develop transport interventions that will mitigate the impact of the Local Plan and support delivery of the sites in the Copeland Local Plan. There is a particular emphasis on identifying improvements that are sustainable and promote health and access for all where possible.

1.2.2. The improvements should be feasible, proportionate, realistic, deliverable and not prohibitively expensive or create excessive maintenance requirements. The study will link schemes to site allocations for the development of site-specific Infrastructure Delivery Plans (IDPs).

1.3 COPELAND LOCAL PLAN

1.3.1. The Copeland Local Plan is the development strategy for the areas of Copeland outside the Lake District National Park (LDNP). The Copeland Local Plan 2017-2035 is currently being produced and will replace the current adopted Copeland Local Plan 2013-2028: Core Strategy and Development Management Policies (Core Strategy).

1.3.2. The Copeland Local Plan 2017-2035 identifies a housing requirement of 140 additional homes each year (2,520 for the Plan period), together with a higher figure of 200 homes a year (3,600 for the Plan period) to support the growth aspirations of the borough and help deliver strategies such as the Copeland Vision 2040. The Local Plan makes provision to support these growth aspirations, which include a Clean Energy Park proposed for land at Moorside identified in the National Policy Statement.

1.3.3. The Local Plan introduces an expanded settlement hierarchy to that outlined in the existing Core Strategy where development can take place proportionally in smaller settlements to support the borough's rural communities. However the hierarchy still largely focuses development in the main towns of Whitehaven, Egremont, Cleator Moor and Millom, with the greatest proportion identified for Whitehaven as the largest and most sustainable settlement.

1.3.4. A number of larger key regeneration sites have been identified to deliver the housing numbers, mainly in Whitehaven, together with a range of housing sites across the borough. A Wellbeing

Village site has been identified to the south of Whitehaven, with the proposal including accommodation for hospital workers, step up step down care provision, student accommodation and provision for older people to provide an inclusive community, which will help to provide accommodation in the borough but not be a traditional housing development.

1.3.5. There are also a number of draft employment allocations in the plan, including the regionally significant Westlakes Science and Technology Park. The largest proposed employment allocation is the Hensingham Common site (30Ha), although this is dependent on the requirements identified in the economic forecasts and site availability. There is also a major employment site identified in Cleator Moor (14Ha), which will act as a business cluster for the nuclear and energy sector.

1.3.6. This study supports the identification of sites in the Preferred Options Draft of the Local Plan which underwent a statutory public consultation exercise between 20th September and 30th November 2020.

1.4 RECENT AND ONGOING TRANSPORT STUDIES IN COPELAND

1.4.1. At the time of writing, there have been several recently completed and parallel projects within Copeland that are of relevance to the Transport Improvements Study. These are outlined in the table below.

Table 1-1 – Relevant studies

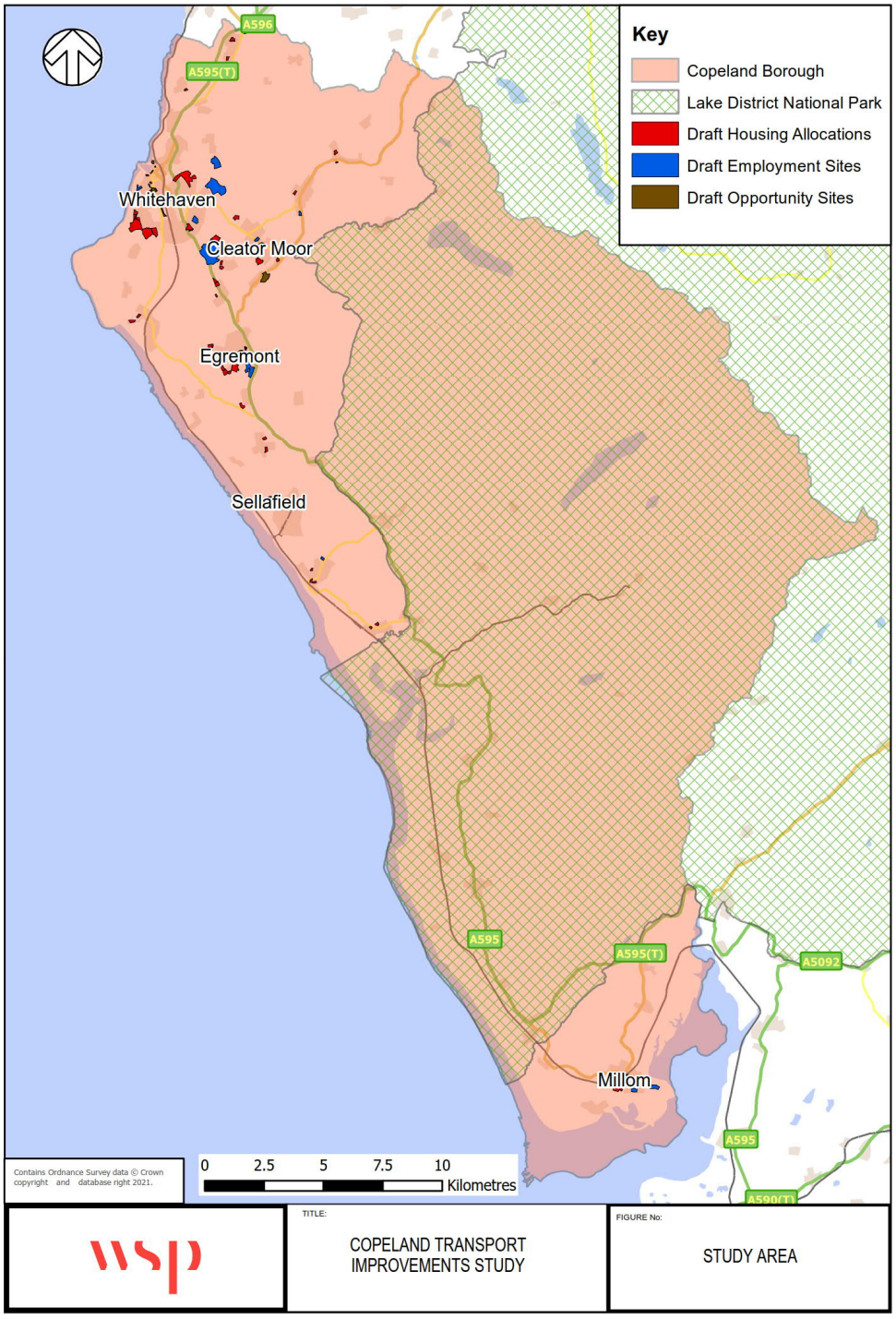
Study	Completion	Relevance to the Transport Improvements Study
Whitehaven Parking Study	March 2020	The study identified parking needs and improvements in Whitehaven town centre and at three railway stations (Bransty, Corkickle and Askam in Furness). Recommendations included construction of additional car parks in Whitehaven and these have been incorporated into the Copeland Local Plan transport modelling. Relevant information from the study will be used to help identify any transport mitigation measures required as part of the Local Plan.
Cleator Moor and Millom & Haverigg Town Investment Plans	Submitted January 2021	Outlines an integrated set of proposals, including transport and related public realm interventions to facilitate a high-quality and sustainable transport network enhancing connectivity.
Highways England's Inkerman Terrace to Egremont Study	May 2021	The study is reviewing issues along the corridor and future development impacts associated with updated Local Plan, and will identify potential local improvements on this section of the A595. It will be important that this study is integrated into the Copeland TIS to avoid any duplication or conflicting recommendations.
Whitehaven Local Cycling and Walking Infrastructure Plan	Expected December 2021	The Whitehaven Local Cycling and Walking Infrastructure Plan (LCWIP) will identify the aspirational cycling and walking networks for Whitehaven and North Copeland, connecting key origins and destinations to promote active travel, and present a prioritised programme of improvements. The LCWIP networks and priority corridors will be identified in the Copeland TIS Report.

1.4.2. Project partners from each of these studies have been engaged during the development of this Transport Improvements Study to take advantage of project synergies. The outputs have been considered to ensure alignment of the recommendations.

1.5 STUDY AREA

1.5.1. The study area corresponds with the coverage of the Local Plan which is the area of Copeland outside the LDNP, as shown in Figure 1-1.

Figure 1-1 - Study area



1.6 PURPOSE OF THIS REPORT

1.6.1. This report will form part of the Copeland Local Plan evidence base and will specifically inform CBC's Infrastructure Delivery Plan.

1.6.2. It will be used by CCC and CBC to identify transport improvements which will help to mitigate the cumulative effects of development over the Plan period.

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

- Chapter 2: Baseline – Travel Patterns
- Chapter 3: Baseline – Active Travel
- Chapter 4: Baseline – Public Transport
- Chapter 5: Baseline – Highways
- Chapter 6: Future Baseline – Highways
- Chapter 7: Option Generation
- Chapter 8: Development of the Interventions
- Chapter 9: Linking delivery of interventions to Local Plan sites

1.6.4. The report will be updated with an addendum if there are significant changes that need to be considered once the Local Plan Publication Draft is produced.

2 BASELINE – TRAVEL PATTERNS

2.1 INTRODUCTION

2.1.1. This chapter outlines the existing and likely future travel patterns in Copeland in order to understand the hierarchy of transport modes and therefore, the potential for each mode in reducing the impact of the Local Plan developments.

2.2 TRAVEL TO WORK

2.2.1. The table below, sets out journey to work data, taken from the 2011 Census, for the resident population of Copeland. It should be noted that the data may not be representative of the current (2021) travel statistics given changes to infrastructure and services since 2011 as well as the impact of the COVID-19 pandemic on travel behaviour.

Table 2-1 – Modal split from 2011 Census Journey to Work data.

Travel Mode	Copeland	Allerdale	Cumbria	England
Driving a car, van or motorcycle	66.8%	64.1%	61.7%	57.9%
Passenger in car or van	9.6%	7.6%	6.7%	5.0%
Taxi	0.5%	0.3%	0.5%	0.5%
Bus, minibus or coach	4.7%	3.8%	4.2%	7.5%
Train	1.7%	1.0%	1.2%	9.4
Walk	10.3%	14.1%	15.7%	10.7%
Bicycle	1.7%	1.5%	2.5%	3.0%
Work from home	4.1%	7.0%	6.8%	5.4%
Other	0.6%	0.6%	0.7%	0.6%

2.2.2. The data clearly indicates that Copeland Borough has:

- A higher share of journeys to work by motorised vehicle (car/van/taxi/motorcycle) than both the wider county and national average;
- Approximately half the proportion of journeys undertaken by bicycle, compared to the national average;
- The lowest proportion of journeys to work on foot and people working from home of any of the comparator areas; and
- A higher share of journeys to work made by public transport than the neighbouring borough of Allerdale and the county average.

2.2.3. These findings reflect the dominance of Sellafield Ltd. as an employer in Copeland, with a heavy reliance on the private car (49%) and car sharing (34%) recorded in their most recent travel survey, as well as a relatively high proportion of employees travelling by public transport (11%). The observed modal split is a result of the location of the main Sellafield Ltd. site beyond the typical acceptable walking and cycling distances for most workers. Furthermore, the relatively low proportion of journeys to work made by public transport and active travel are also a result of the rural nature of Copeland and its dispersed population.

2.2.4. In the following section, and on the associated heat maps, Census data has been presented at the Middle Super Output Area (MSOA) level for Copeland; this illustrates the proportion of residents travelling to work by the following modes:

- Driving a car or van
- Passenger in a car or van
- Bus, minibus or coach
- Train
- Bicycle
- Walking

2.2.5. The maps illustrate varying levels of modal share across Copeland, with particular contrasts between the north and south of the borough. For example, there is an apparent difference in the proportion of commuters travelling by bus, minibus or coach between the north and the southern areas of Copeland. This can be explained by the frequent bus services in Whitehaven and connections to the surrounding settlements and the lack of regular timetabled services in the rest of the borough, in particular in South Copeland where all timetabled bus services have been withdrawn since 2011.

Figure 2-1 - Car travel to work mode share

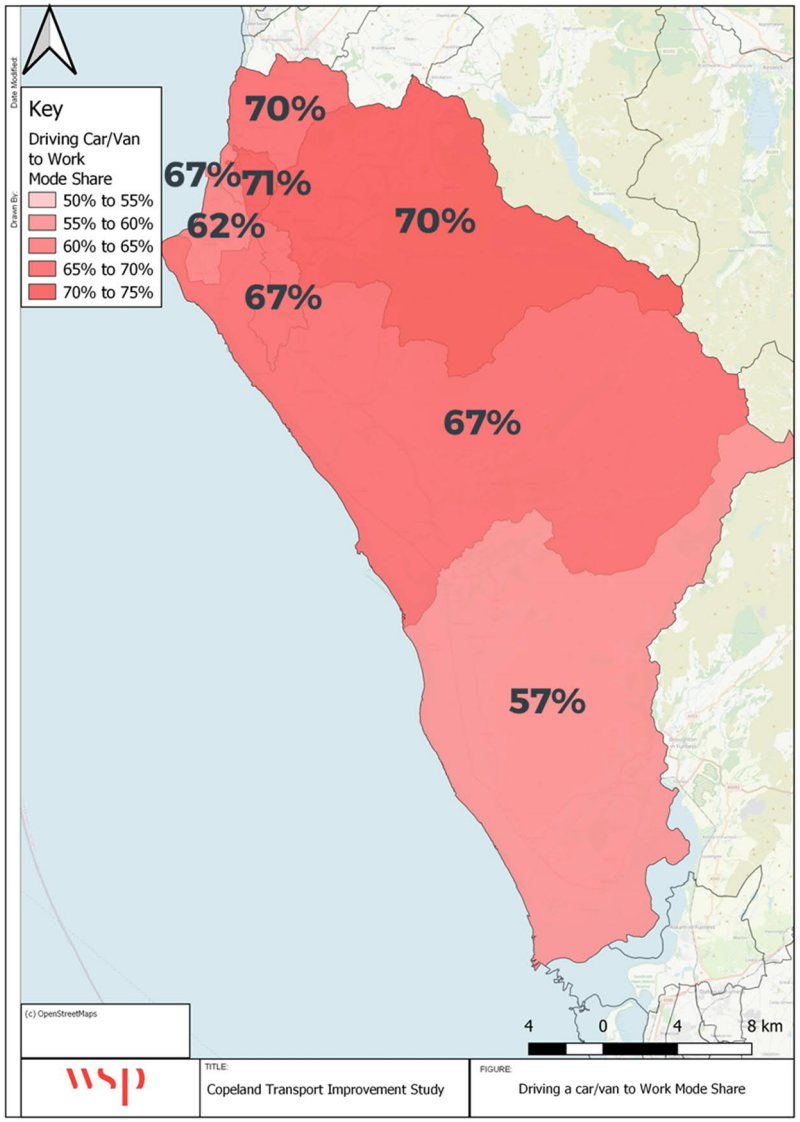


Figure 2-2 - Passenger in car / van mode share

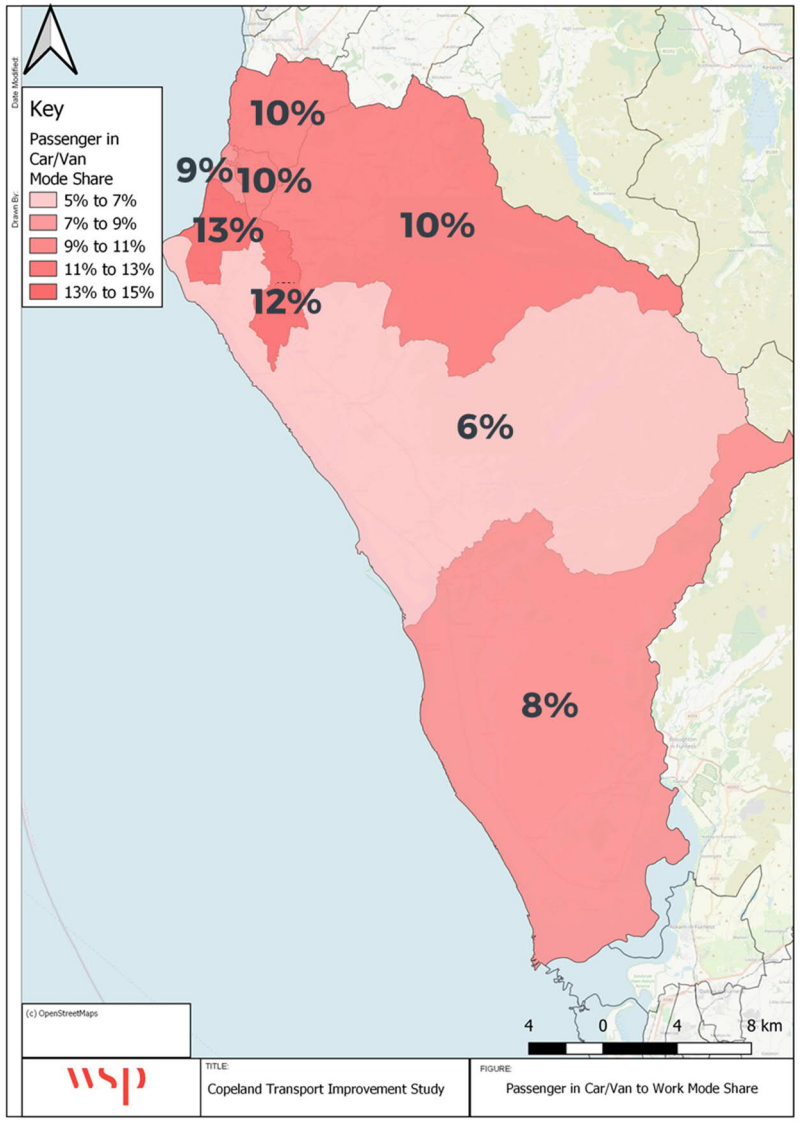


Figure 2-3 - Train mode share

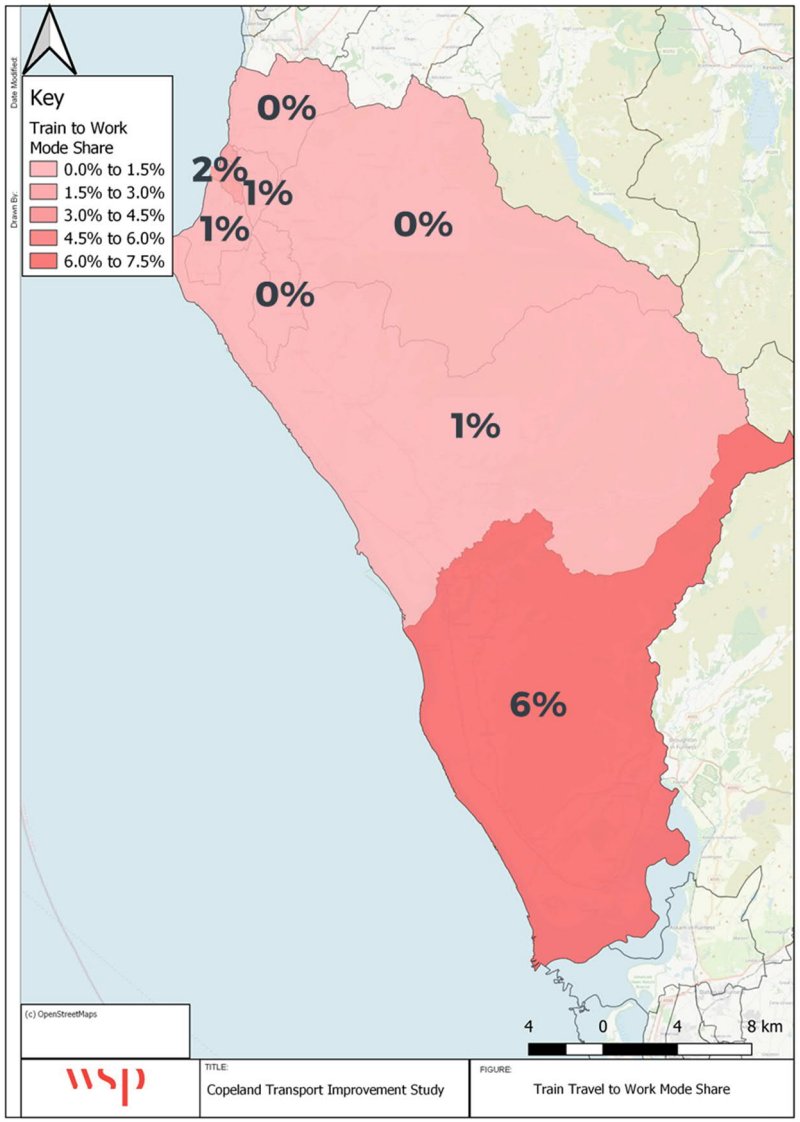


Figure 2-4 - Bus / minibus mode share

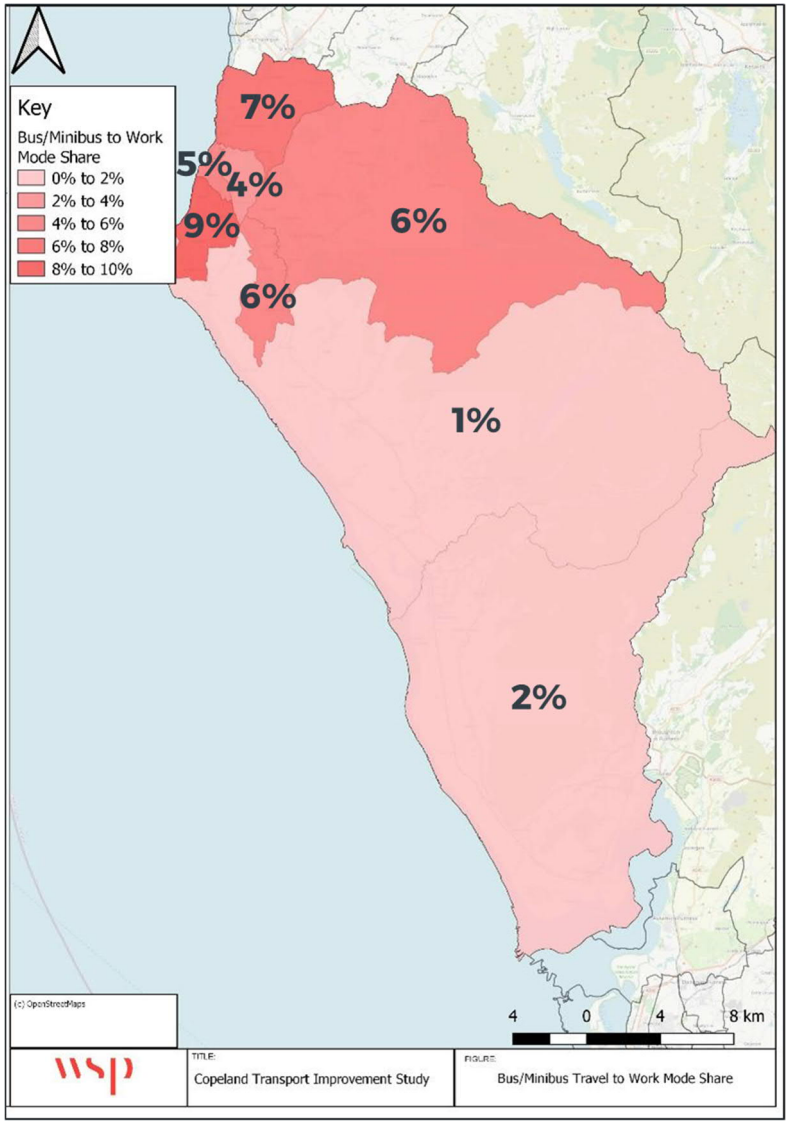


Figure 2-5 - Bicycle mode share

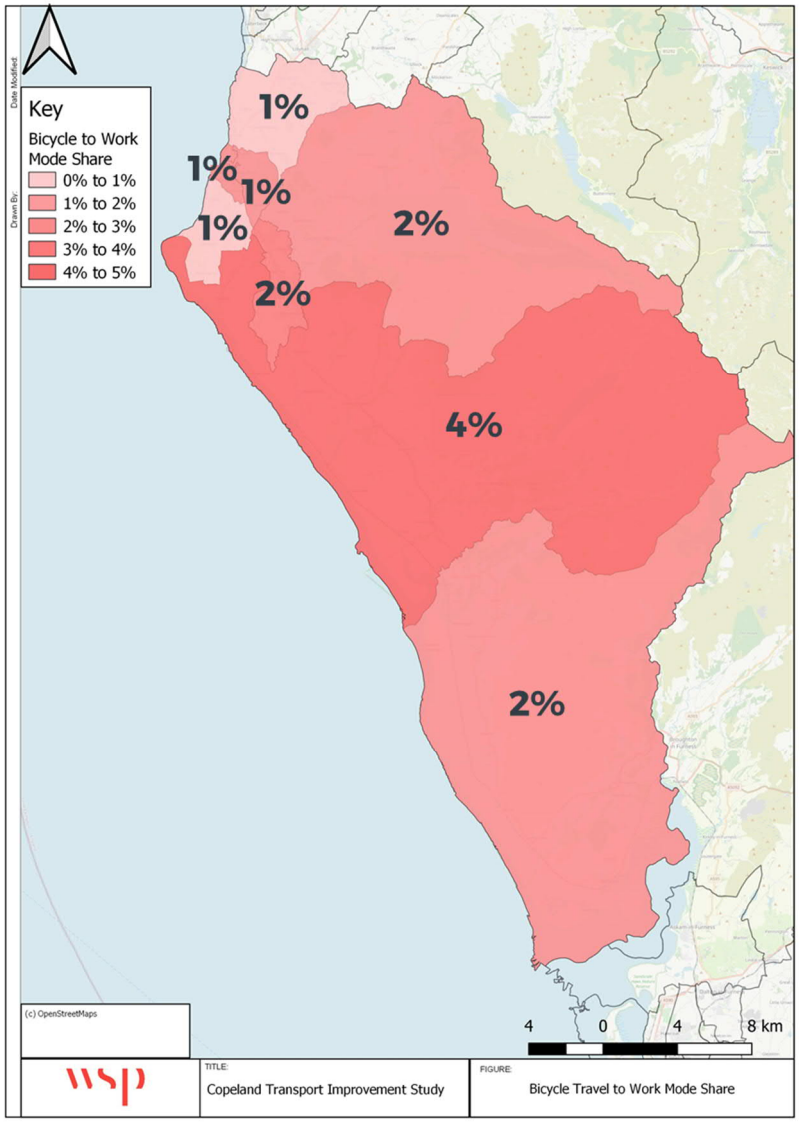
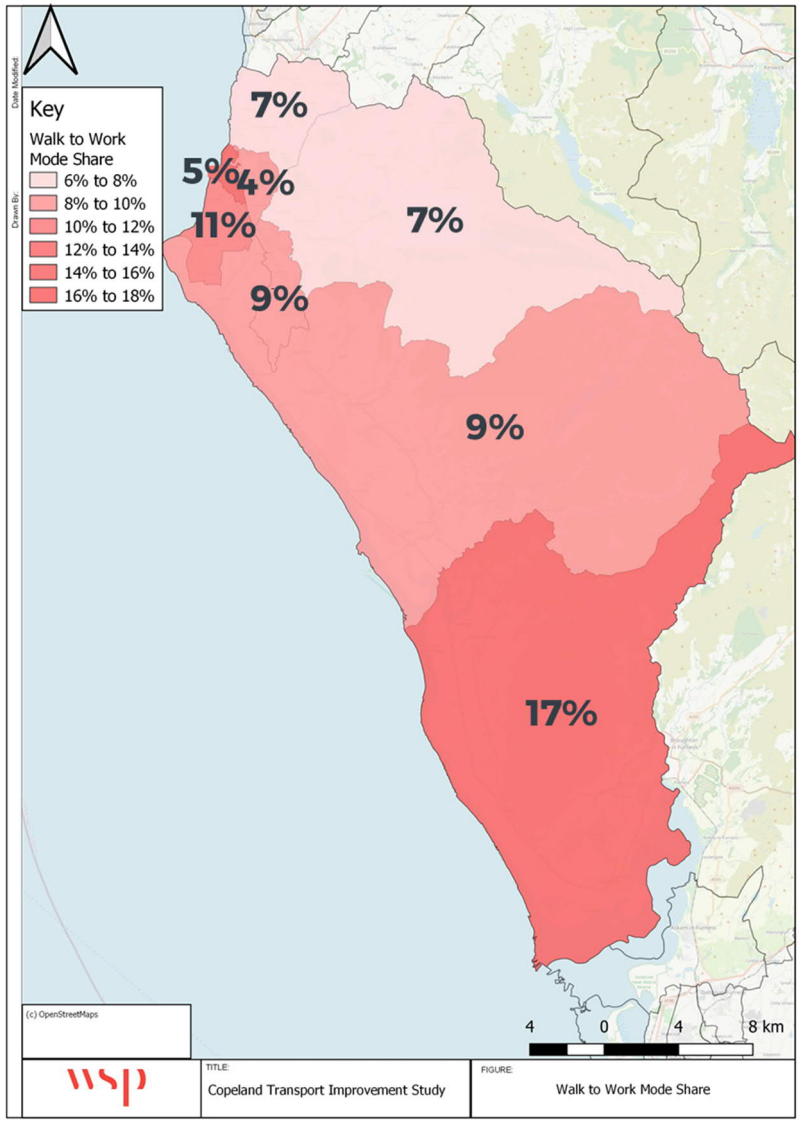


Figure 2-6 - Walking mode share



3 BASELINE – ACTIVE TRAVEL

3.1 INTRODUCTION

3.1.1. This chapter outlines the existing pedestrian and cycling networks in Copeland and the planned improvements to establish the baseline for active travel infrastructure in the borough. This information is then used to identify gaps in the infrastructure and constraints to delivering walking and cycling improvements.

3.2 EXISTING PEDESTRIAN AND CYCLING PROVISION

3.2.1. There is a network of Public Rights of Way (PRoW) throughout Copeland which are maintained and managed by either CCC or the Lake District National Park Authority (LDNPA). For the parts of Copeland within the Lake District National Park, the LDNPA is responsible for the management of PRoW, whereas outside of the Lake District National Park this is the responsibility of CCC (through the CCC Countryside Access Team). Most of the designations are footpaths rather than bridleways and are thus only legally accessible to pedestrians. The traffic free cycle ways are partly managed by Sustrans as these are not PRoW or part of the public highway.

3.2.2. The Coast to Coast route, between St. Bees and Robin Hood's Bay, and the English Coast Path National Trail from Allonby to Silecroft, act as long-distance recreational footpaths within Copeland.

3.2.3. It is referenced within the Yorkshire Dales National Park Management Plan that the Coast to Coast route is to be developed into a National Trail. This was included within the government's autumn statement last year, but no works had been carried out at the time as of June 2021.

3.2.4. The England Coast Path is a new walking route and will continue to be developed with Natural England and will eventually follow the entire coast of England. In Copeland, the section between Allonby and Silecroft are already open to the public.

3.2.5. Just over 10% of Copeland's residents commute to work on foot and generally this will be where people work and live within the same settlement. The pedestrian provision within settlements, especially Whitehaven, is designed to maximise the walking share mode.

3.2.6. The existing cycle network within Copeland is mostly concentrated in the north of the borough, with National Cycle Routes 71 and 72 providing strategic connections between Distington, Whitehaven, Cleator Moor, Egremont and Frizington. These routes are comprised of both on-road and off-road infrastructure, with the off-road mostly consisting of shared use foot/cycleways.

3.2.7. Copeland benefits from several long-distance cycling routes including:

- **Coast to Coast**: Whitehaven to Tynemouth or Sunderland via Keswick, Penrith, Alston, Stanhope and Consett;
- **National Route 71**: Whitehaven to Kirby Knowle via Keswick, Penrith, Kirby Stephen and Northallerton; and
- **National Route 72**: Whitehaven to South Shields via Carlisle, Hexham and Newcastle.

3.2.8. Within Copeland these routes are primarily off-road or follow minor roads and therefore should be accessible to a variety of different potential user groups. However whilst popular with recreational

cyclists, particularly embarking on the Coast to Coast, only 1.7% of residents in Copeland commute to work on bicycle.

3.2.9. The existing pedestrian and cycling networks are presented along with the Local Plan development sites in the figures overleaf.

Figure 3-1 - Existing walking and cycling network in North Copeland

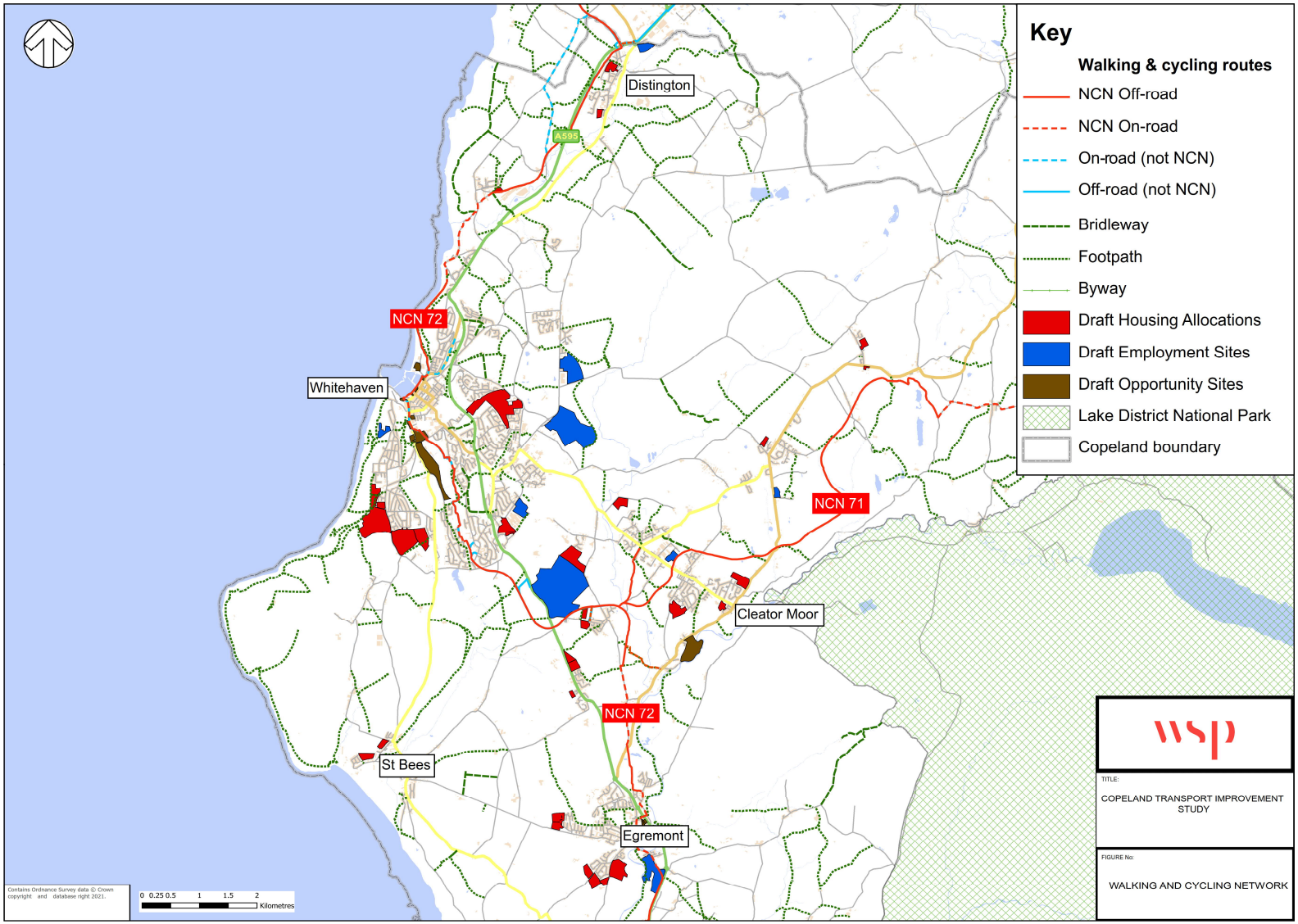


Figure 3-2 - Existing walking and cycling networks in Mid-Copeland.

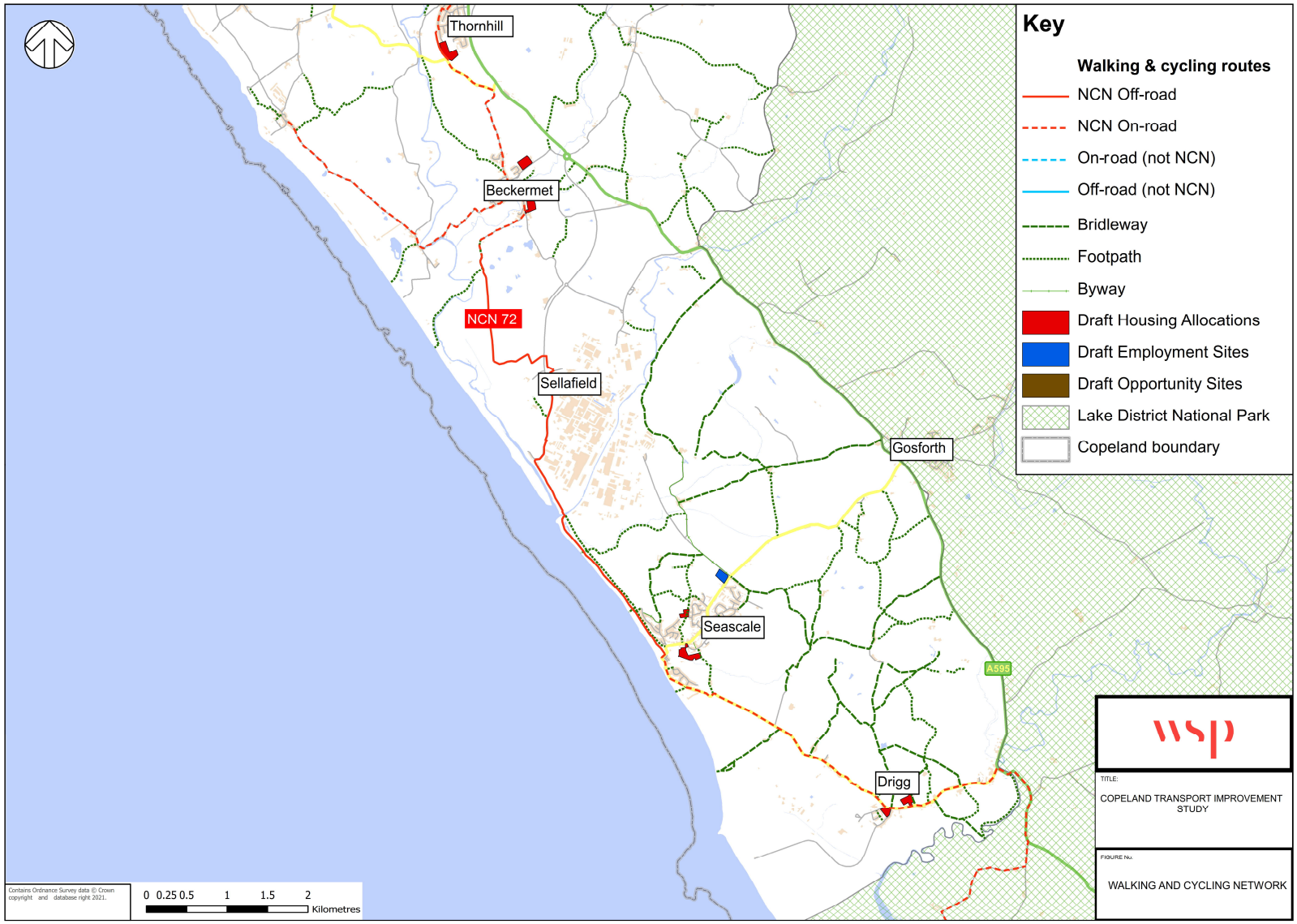
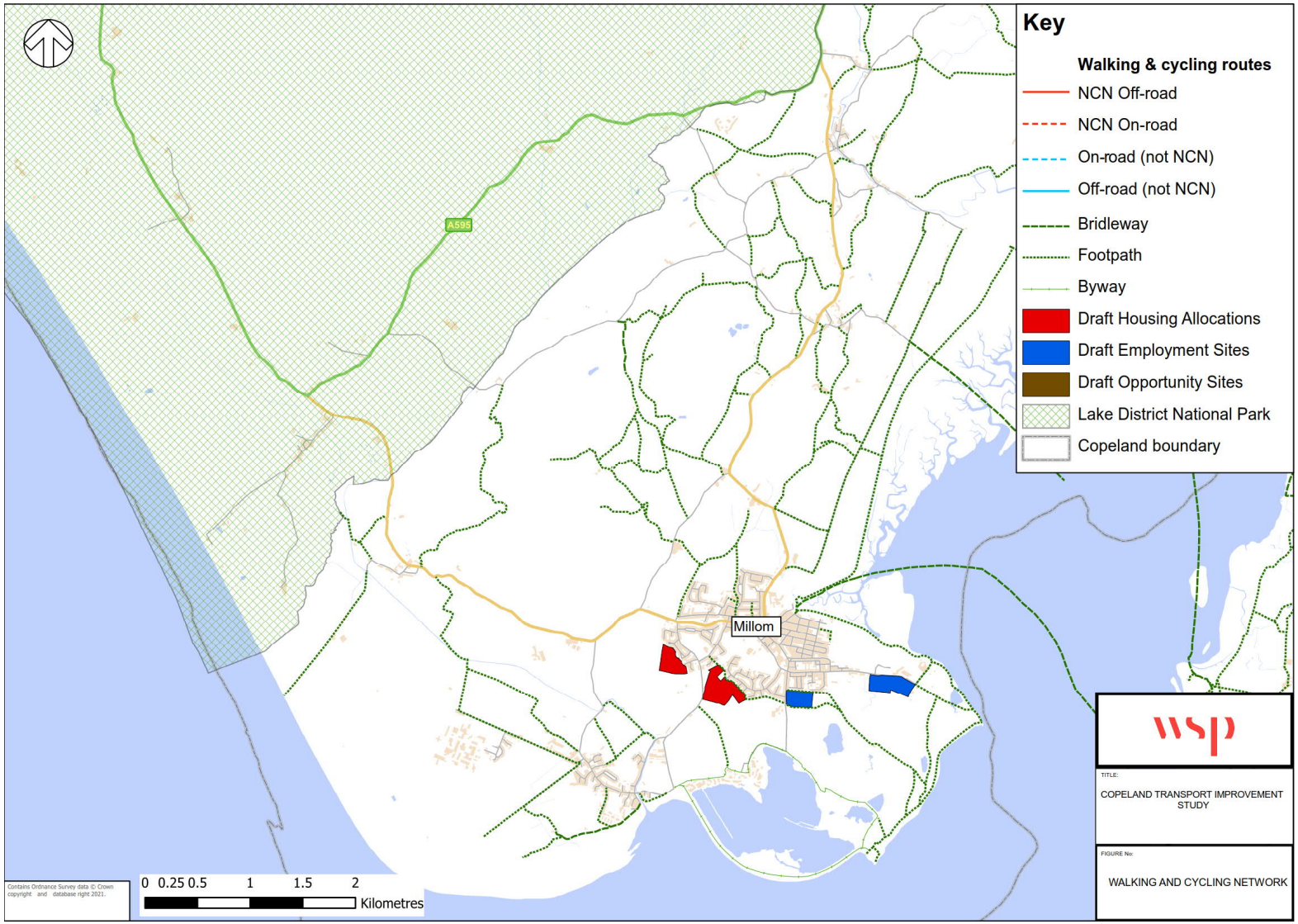


Figure 3-3 - Existing walking and cycling networks in South Copeland.



3.3 PROPENSITY TO CYCLE TOOL

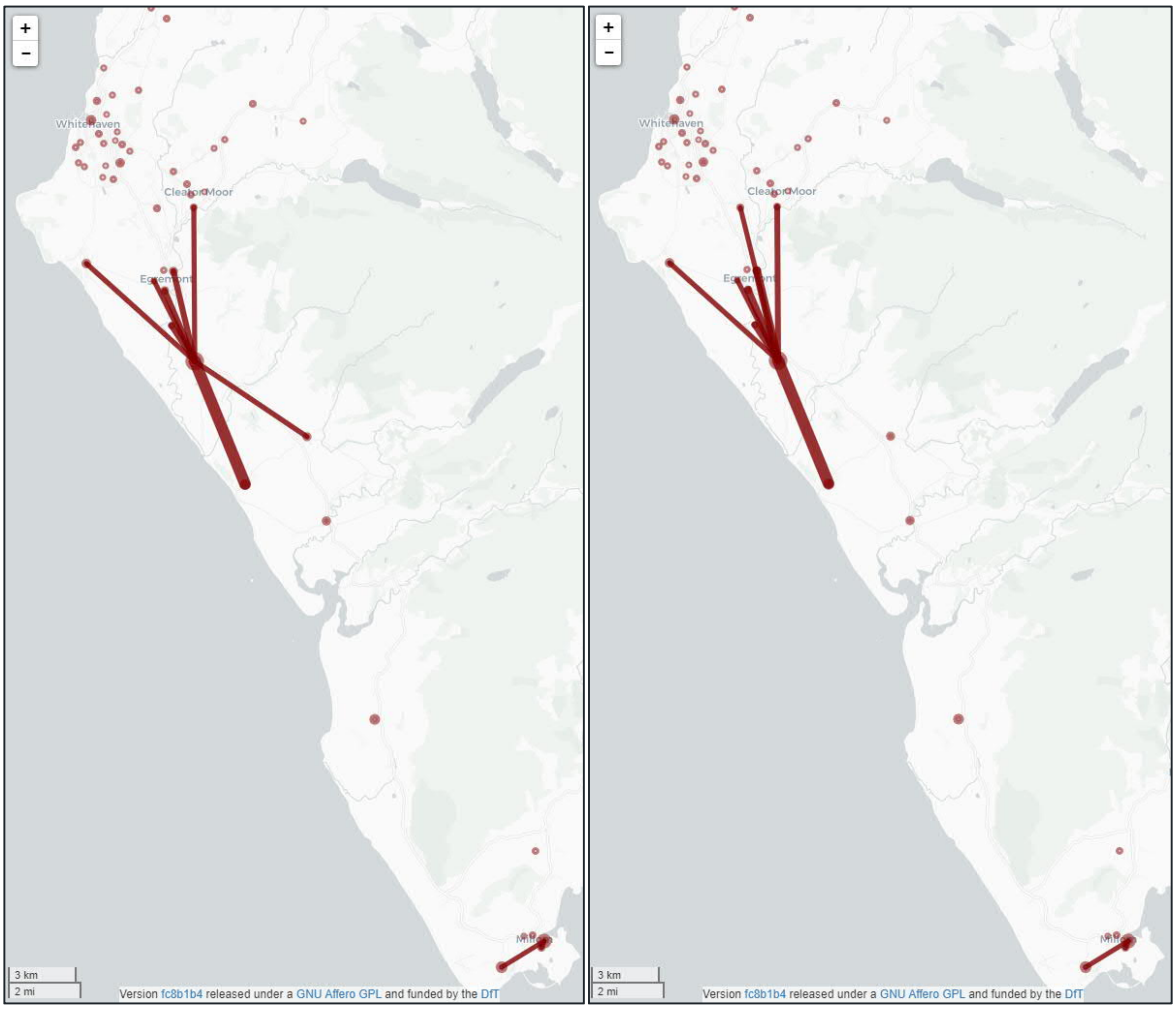
3.3.1. The Propensity to Cycle Tool (PCT) is a web-based tool that can assist with understanding potential demand for cycling across a study area, under a variety of forecast scenarios. It uses the 'travel to work' origin-destination dataset from the 2011 Census and applies assumptions about the propensity for cycling based on distance and hilliness of routes between output areas.

3.3.2. The outputs from two of the PCT scenarios are presented for Copeland to identify the areas with the greatest potential for an uplift in the levels of cycling.

3.3.3. Firstly the 'Government Target – Near Market' scenario is considered, the basis of which is a doubling in the number of cycling trips nationally in line with target in the Department for Transport's (DfT) Cycling Delivery Plan. This is modelled as a function of trip distance and hilliness, as well as a number of sociodemographic and geographical characteristics.

3.3.4. The figure below shows the 10 highest cycling flows between LSOA pairs in Copeland in the 2011 Census and 'Government Target – Near Market' scenarios. The line widths are scaled by number of cyclists and it is clear that the highest cycling flows are concentrated on the LSOA within which Sellafield Ltd. is located, reflecting the significant concentration of employment at the site.

Figure 3-4 – Top 10 cycling flows modelled in the PCT for Copeland in the (a) 2011 Census and (b) 'Government Target – Near Market' scenarios.



3.3.5. The top 20 modelled cycle flows in North Copeland for the 'Government Target – Near Market' and 'Ebikes' scenarios are presented in Figure 3-5 below. The 'Ebikes' scenario represents the expected cycle flows with widespread uptake of electric cycles. These model outputs again demonstrate that the greatest potential for increased levels of cycling to work are focussed on Sellafield Ltd. However in the 'Ebikes' scenario there is also greater propensity for cycling identified within Whitehaven which is a result of the steep gradients representing less of a barrier to the uptake of cycling.

Figure 3-5 - Top 20 cycling flows in North Copeland as modelled in the PCT (a) 'Government Target - Near Market' and (b) 'Ebikes' scenarios.

3.4 LOCAL CYCLING AND WALKING INFRASTRUCTURE PLAN

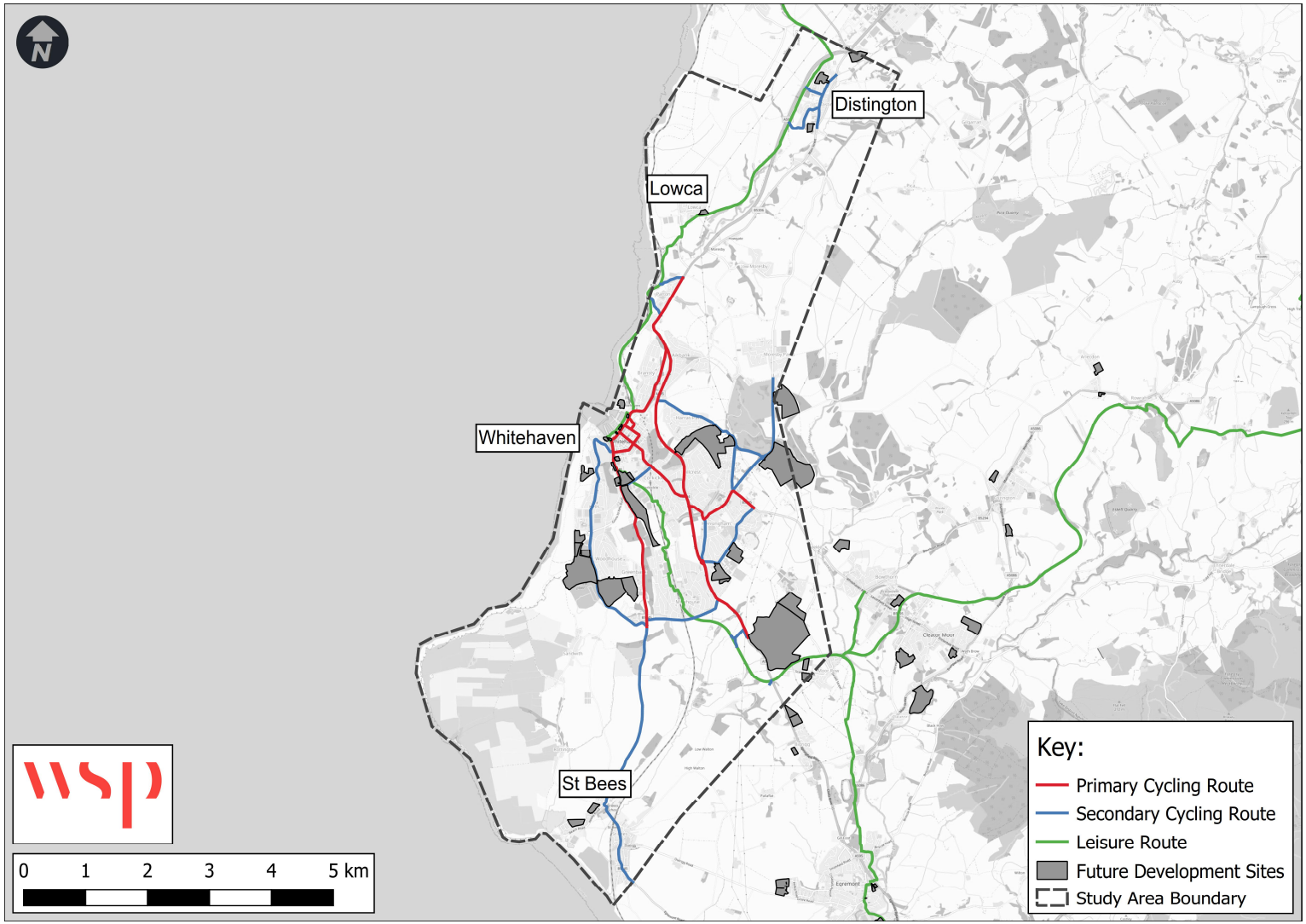
3.4.1. A Local Cycling and Walking Infrastructure Plan (LCWIP) is in preparation for Whitehaven and the northern area of Copeland from the border with Allerdale to St Bees. This will provide a long-term strategic approach to identifying and delivering walking and cycling improvements within the area to support increased active travel. The key outputs of the LCWIP will be walking and cycling network plans and a prioritised programme of improvements.

3.4.2. The development of the LCWIP relies on a detailed understanding of the key origins and destinations in the study area, identifying existing and future trips. A desktop study of key origins and destinations is being carried out in order to identify the existing locations within the Whitehaven

LCWIP study area that are most likely to benefit from additional pedestrian and cycle access and connectivity. It is crucial that the active travel networks developed support the Local Plan sites and as such, providing connections to these active travel networks has been identified as a priority for the LCWIP.

3.4.3. A draft cycling network plan has been produced for the Whitehaven LCWIP which represents the aspirational coverage of cycling routes in the study area (see Figure 3-6). This has been developed by establishing the desire lines for cycle movements between origins and destinations, including the Local Plan sites, and then mapping the most direct route which is typically the preferred option.

Figure 3-6 - Draft Cycling Network for Whitehaven LCWIP



3.5 POTENTIAL IMPROVEMENTS

Cumbria Cycling Strategy

3.5.1. The Cumbria Cycling Strategy (2017-2022) was produced by the Cumbrian Cycling Partnership, which consists of partners such as Local Authorities (including CBC), Sustrans and British Cycling. The Strategy was designed to: promote cycling as part of a healthy lifestyle; enable cycling to support the economy; promote Cumbria as an excellent place to cycle; and improve the cycling infrastructure to enable more cycling.

3.5.2. The Strategy recognised that there are some significant infrastructure gaps in the urban and rural route network infrastructure and the Partnership is committed to working with partners and landowners to improve the cycling networks. Three schemes were proposed as part of the Study (2017) for Whitehaven. These are:

- A package of improvements to the Coast to Coast Cycleway from Whitehaven Harbour to Mirehouse Road;
- Extension of the traffic free cycle route from Mirehouse to St. Bees;
- Extension of the traffic free cycle route from Mirehouse to West Lakes Science Park.

Town Investment Plans

3.5.3. In June 2021, CBC was awarded £22.5 million as part of the Towns Fund for the development Cleator Moor. The Cleator Moor Town Investment Plan identifies an indicative allocation of £6 million of transport and related public realm interventions to improve the connectivity of the town. The improvements are to be delivered for completion by 2026. This includes approximately 5km of new and upgraded walking and cycling paths as well as wider cycle infrastructure such as parking. The priority enhancements outlined in the plan include:

- Improving connections to key parts of the town and surrounding areas;
- Upgrading links between the town centre and C2C cycle route;
- Improving the pedestrian and cycling environment along Leconfield St / High St / Ennerdale Road;
- Enhancing gateways to improve the experience and arrival into Cleator Moor.

3.5.4. CBC was also awarded £20.6 million through the Towns Fund for the Millom and Haverigg Town Investment Plan. Improving transport connections is one of four priority projects in the Plan, with interventions totalling an indicative allocation of £5.62 million identified, including the following:

- Upgrades to Millom Railway Station, such as improved pedestrian and cycle access;
- Approximately 6km of new and improved walking and cycling routes;
- Improvements at three junctions to regulate speeds, improve provision for pedestrians and better connect outer and core town centre areas; and
- Town centre corridor enhancements and upgrading while also improving the public realm.

3.5.5. The proposed interventions identified in this study will be further developed in alignment with both the Cleator Moor and Millom and Haverigg Town Investment Plans.

Borderlands – Hadrian's Wall Walking and Cycling Corridor

3.5.6. One of the Destination Borderlands projects is to develop of a series of schemes along the length of Hadrian's Wall (from Wallsend to Ravenglass) to improve the visitor experience and encourage people to explore different attractions within this unique World Heritage Site. This will link with a

separate ‘Borders Walking and Cycling Routes’ project and will seek to establish the Borderlands as a national and international destination for outdoor recreation, by enhancing the existing network of long-distance walking and cycling routes, and through the creation of a new route.

Connecting Cumbria’s Hidden Coast

3.5.7. CBC are leading this project to develop a recreational route between Whitehaven and Millom, featuring adrenalin activities, cycling facilities and art installations at various intervals. Largely following the route of the designated English Coastal Path, phase 1 of project will include:

- A cyclists’ crossing created over the River Irt to fill a current gap in the path to remove a 6km detour;
- 1.4km of new cycle path;
- 1.8km of new or improved footpaths;
- A permanent hub at Silecroft beach that will house a café and toilet/shower facilities; and
- Links to Wheels For All Hub, an inclusive cycling centre.

3.5.8. All of these previously identified and ongoing projects will inform the Option Identification Stage of this Transport Improvement study.

4 BASELINE – PUBLIC TRANSPORT

4.1 INTRODUCTION

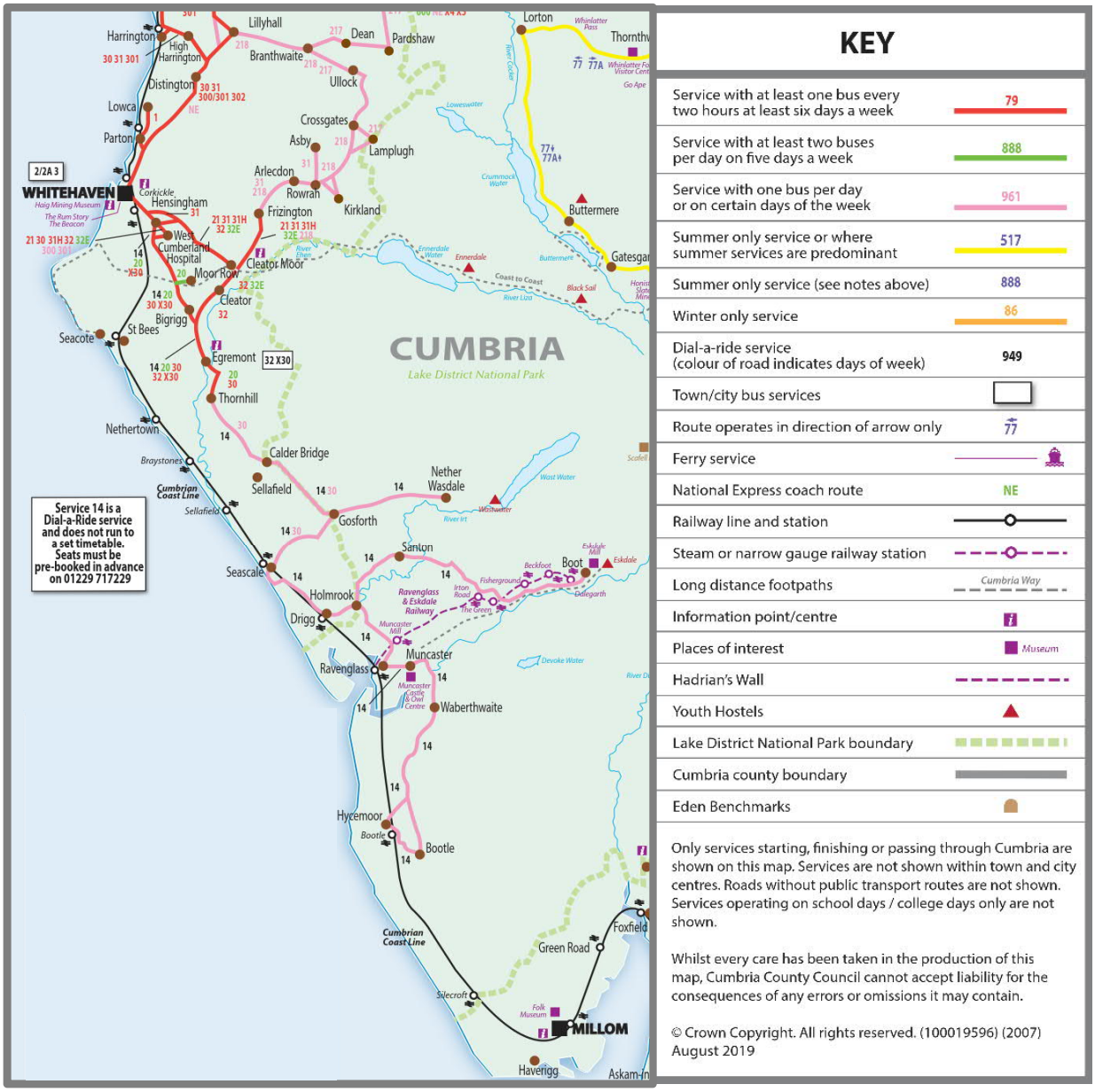
4.1.1. This chapter outlines the public transport baseline for Copeland, identifying the existing bus and rail services and any planned improvements to establish accessibility issues and constraints for the Local Plan sites.

4.2 BUS SERVICES

EXISTING PROVISION

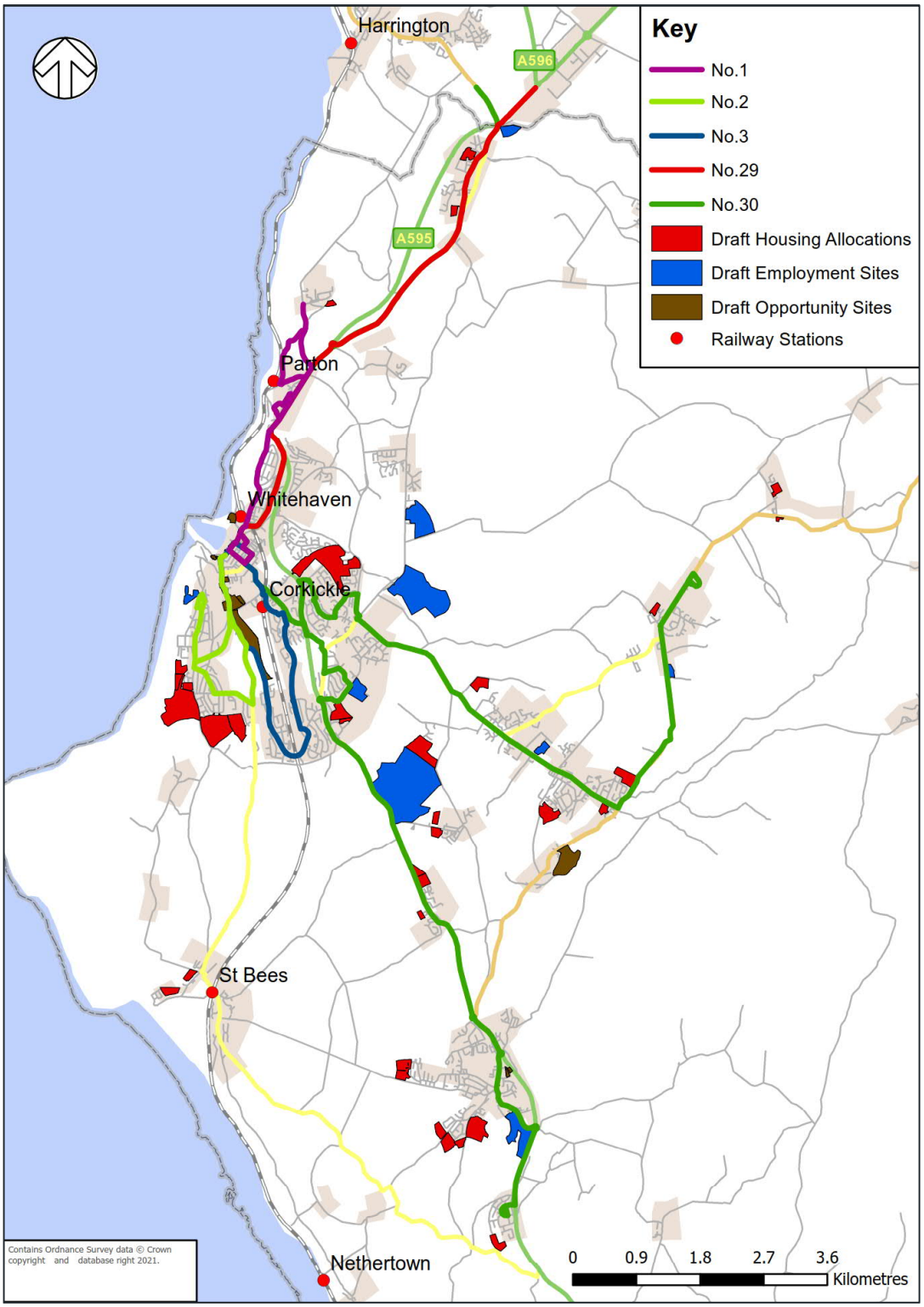
4.2.1. The current bus network and service provision within Copeland is concentrated on Whitehaven and links to surrounding settlements including Cleator Moor, Egremont, Thornhill, Distington and Lowca.

Figure 4-1 – Existing bus routes in Copeland



4.2.2. Figure 4-2 presents the bus routes with regular services in North Copeland in relation to the Local Plan sites. It should be noted that bus provision in South Copeland is limited and no equivalent figure is provided.

Figure 4-2 - Bus routes and Local Plan sites in North Copeland.



4.2.3. Bus schedules for services that operate in Copeland are provided in the table below.

Table 4-1 – Details of bus services in Copeland

No.	Route	Max. frequency	Start	Finish	Weekend service
1	Whitehaven – Lowca	Half-hourly	06:32	18:03	Sat – hourly Sun – 2 services
2/2A	Whitehaven – Kells	Half-hourly	06:16	21:05	Sat – hourly Sun – 5 services
3	Whitehaven – Mirehouse	Half-hourly	06:36	18:36	Sat – hourly Sun – 2 services
3A	Whitehaven – Mirehouse	Half-hourly	06:36	18:36	Sat – hourly Sun – 2 services
29	Whitehaven – Workington	Half-hourly	05:35	19:20	Sat – hourly Sun – no services
30	Whitehaven – Maryport via Workington	15 minutes	05:00	23:24	Eve – hourly Sat – first bus 06:26 otherwise as Mon-Fri Sun – hourly
30	Whitehaven – Thornhill via Egremont	Half-hourly	05:25	23:26	Eve – 2-hourly Sat – as Mon-Fri Sun – 5 buses
30	Whitehaven – Frizington via Cleator Moor	Half-hourly	06:36	21:40	Eve – hourly Sat – As Mon-Fri Sun – hourly
216	Whitehaven – Branthwaite via Moor Row and Cleator	One service on Mondays	09:30	12:30	No
217	Frizington – Lamplugh – Dean – Cockermouth	One service on Wednesdays	09:30	12:30	No
218	Frizington – Lamplugh – Branthwaite – Workington	One service on Fridays	09:35	12:05	No

4.2.4. The information presented in Figure 4-1 and Table 4-1 demonstrates the limited number and coverage of bus services within Copeland, except for Whitehaven and the surrounding towns.

4.2.5. There are four bus services within Whitehaven that mainly operate hourly and there is a half-hourly bus service (Stagecoach 30) from Whitehaven to Frizington (via Cleator Moor) and to Thornhill (via Egremont). There are also frequent connections between Whitehaven and Workington with six buses an hour on two different routes (Stagecoach 29 and 30), however the direct bus link to Carlisle was withdrawn in 2020.

4.2.6. Village Wheels is a Community Transport Initiative operated by CCC that provides links from Seascale, Gosforth, Ponsonby, Calder Bridge and Beckermet with Egremont on Wednesdays and Saturdays. There is also the Muncaster Microbus service which is operated by unpaid volunteers to provide links between Bootle, Eskdale, Wasdale, Holmrook, Seascale and Gosforth. It also provides a twice-weekly circular service to Whitehaven.

4.2.7. Cumbria Community Transport, supported by CCC, also operates a community minibus sharing scheme (Rural Wheels) offering services between the more rural areas of Copeland. It is a dial-a-ride service which provides transport for those in rural areas from their home to their nearest town or public transport connection.

LOCAL PLAN SITES

4.2.8. The development identified in the Copeland Local Plan is primarily concentrated in and around Whitehaven where there are a greater number of existing bus services which operate at least at hourly frequencies. 38 of the sites are located within 300m of a bus stop, which is the recommended acceptable walking distance to a bus stop on a route with services operating less than every 12 minutes.[1] A further eight Local Plan sites are within 400m of a bus stop, however 23 of the Local Plan sites do not have a bus stop located within 400m distance which is beyond the acceptable walking distance for low frequency routes. For these sites, travel by bus would currently be either inconvenient or impractical.

Table 4-2 – Distance from Local Plan sites to nearest existing bus stop.

Proximity to bus stop	No. of sites
Within 300m	38
Within 400m	8
Over 400m	23

4.2.9. Of the 46 Local Plan sites with a bus stop within 400m distance, the frequency of the bus routes serving the nearest bus stop for each site is summarised in Table 4-3.

Table 4-3 – Frequency of bus services at nearest stops within 400m of Local Plan sites.

Service frequency	No. of sites
< 30 mins	2
30 – 59 mins	11
1 – 2 hours	27
Infrequent	6

4.2.10. There are limited bus services across most of Copeland. Due to the borough's relatively small and sparse population it is unlikely that additional bus services for the Local Plan sites would be commercially viable.

4.2.11. To understand the potential demand for bus travel that could be generated by the Local Plan sites, the modal share for bus from the Census Journey to Work data has been applied to the estimated number of trips to and from those residential sites with an anticipated yield of greater than 100 dwellings. These estimated number of trips are presented in the table overleaf.

[1] CIHT (2018) *Buses in Urban Developments*, Chartered Institute of Highways and Transportation, London https://www.ciht.org.uk/media/4459/buses_ua_tp_full_version_v5.pdf

Table 4-4 – Estimated number of trips by bus to/from the 9 largest residential site allocations in the Local Plan.

Local Plan site	Town	Potential Yield	AM trips	PM trips
North of former Marchon Site	Whitehaven	533	16	12
Land at Edgehill Park (part former Marchon Car Park)	Whitehaven	510	30	22
Moor Farm	Millom	195	4	3
Gulley Flatts East, Queens Drive	Egremont	170	10	7
Adjacent Daleview Gardens, Uldale View	Egremont	141	11	8
Garage Site, Rutland Avenue	Whitehaven	127	5	3
Site at Jacktrees Road	Cleator Moor	127	7	5
Playing Fields Ashlea Road	Egremont	108	7	5
Back of Grammerscroft	Millom	107	2	1

4.2.12. It can be seen that the area with the greatest potential demand for bus travel, generated by the Local Plan sites, is in Whitehaven. This is in part due to the volume of dwellings proposed in the housing sites and also the existing, relatively high, proportion of bus users in the town.

4.2.13. As sites come forward, an assessment of the demand for bus services will need to be undertaken in order to fully understand the potential for improvements to bus infrastructure and services, including Community Transport Initiatives such as Rural Wheels and Muncaster Microbus.

POTENTIAL IMPROVEMENTS

4.2.14. CCC have been successful in securing £1.5 million of funding from the DfT's Rural Mobility Fund to deliver four pilot Digital Demand Responsive Transport services in Cumbria, one of which will cover Egremont and St Bees. The service will provide access to transport for those who live within 10 miles of the towns and do not have access to existing public transport services.

4.3 RAIL SERVICES

EXISTING PROVISION

4.3.1. Copeland is served by the Cumbria Coast Line Railway which connects Carlisle to Barrow-in-Furness and there are 14 railways stations located within the borough. The railway serves several of the larger settlements, including Whitehaven and Millom, as well as Sellafield Ltd. which is the largest employment site.

4.3.2. Passenger services are currently operated by Northern (a publicly-owned train operating company) and the current typical service pattern is outlined in the table below.

Table 4-5 – Service pattern on the Cumbria Coast Line Railway

Service	Monday-Saturday	Sunday
Carlisle to Barrow-in-Furness and Barrow-in-Furness to Carlisle*	13 services per day (approximately hourly between 06:00 and 21:00)	9-10 services per day
Carlisle to Whitehaven and Whitehaven to Carlisle	Additional 2 services per day	Additional 3-4 services per day

* Certain services start or finish at Maryport rather than Carlisle.

4.3.3. A journey from Whitehaven to Millom takes approximately 50 minutes by train, from Whitehaven to Carlisle approximately 75 minutes and from Millom to Barrow-in-Furness approximately 35 minutes.

4.3.4. The rail service is constrained by a length of single track between Whitehaven and Sellafield and limited station facilities, and it is likely that the lack of a fast, frequent rail connection to the West Coast Mainline contributes to the area's geographical isolation.

4.3.5. The number of entries and exits recorded in 2018-19 and 2019-20 for each of the 14 stations in Copeland are presented in the table below.

Table 4-6 – Number of entries and exits at railway stations within Copeland

Station Name	2018-19	2019-20	% change
Bootle (Cumbria)	13,386	17,226	+28.7%
Braystones	1,036	1,374	+32.6%
Corkickle	53,668	68,974	+28.5%
Drigg	9,156	8,404	-8.2%
Green Road	7,918	8,878	+12.1%
Millom	196,364	216,802	+10.4%
Nethertown	516	730	+41.5%
Parton	6,508	9,134	+40.4%
Ravenglass for Eskdale	33,456	42,802	+27.9%
Seascale	36,618	46,602	+27.3%
Sellafield	242,066	259,834	+7.3%
Silecroft	7,858	10,810	+37.6%
St Bees	61,020	77,134	+26.4%
Whitehaven	220,670	270,400	+22.5%

Data source: Office of Rail and Road, 2019-20 report

4.3.6. As expected, Whitehaven has the greatest number entries and exits with Sellafield being the second busiest station. The three stations with the lowest number of entries and exits in 2019-20 (Braystones, Drigg, Nethertown) are request-only stops, as are Bootle, Green Road, Parton and Silecroft. It is noted that not all services stop at Braystones or Nethertown, even as request stops.

4.3.7. The average percentage change in the number of station entries and exits from 2018/19 to 2019/20 across the North West of England was 13.9%. As such, 10 of the railway stations within Copeland experienced a greater proportional increase in passenger numbers than the regional average, demonstrating the potential for rail travel in the borough.

4.3.8. To understand the rail accessibility of the Local Plan sites, 20-minute walking catchment areas have been plotted for each of the railway stations and are mapped with the Local Plan sites in the figures below.

Figure 4-3 - 20 minute walking catchment areas of railway stations in North Copeland.

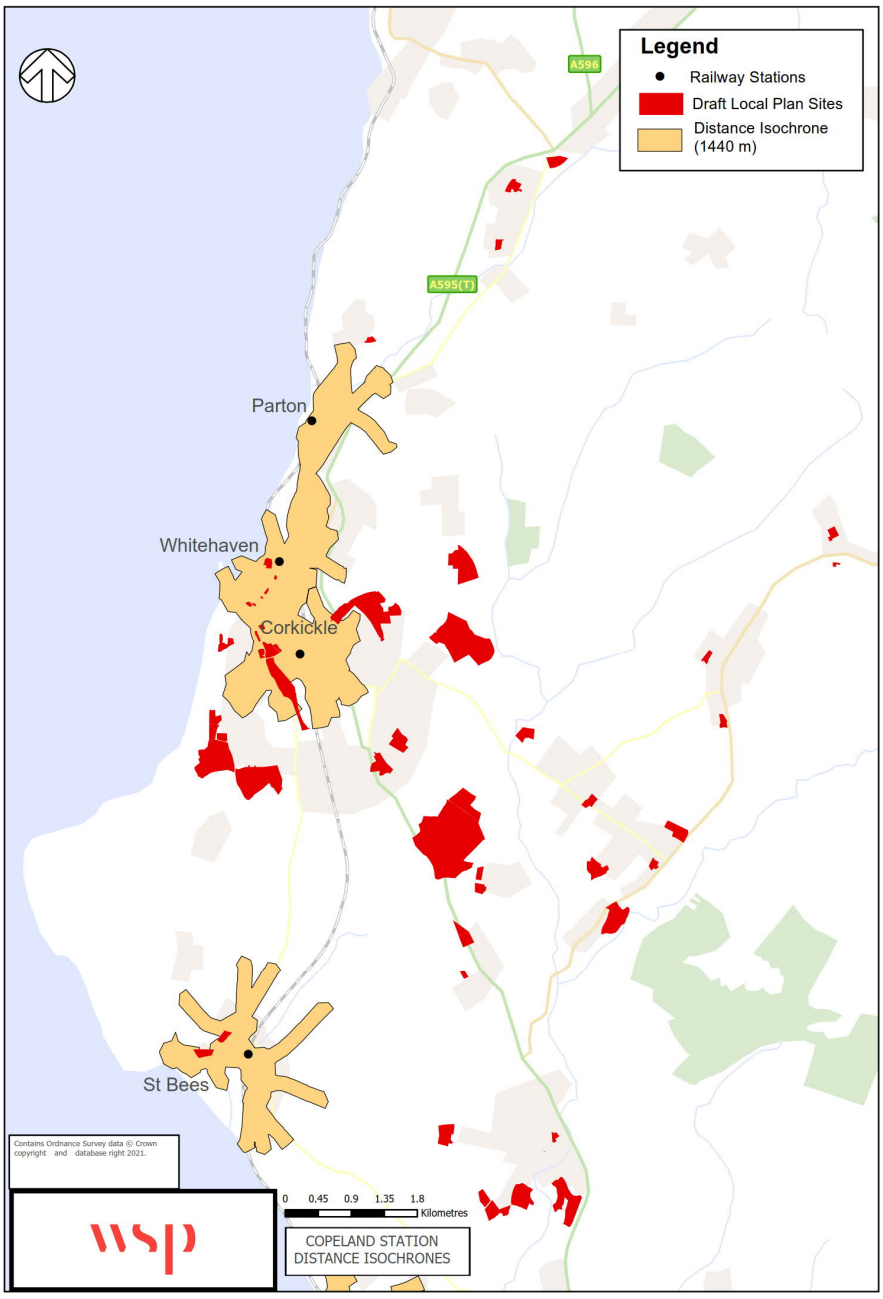
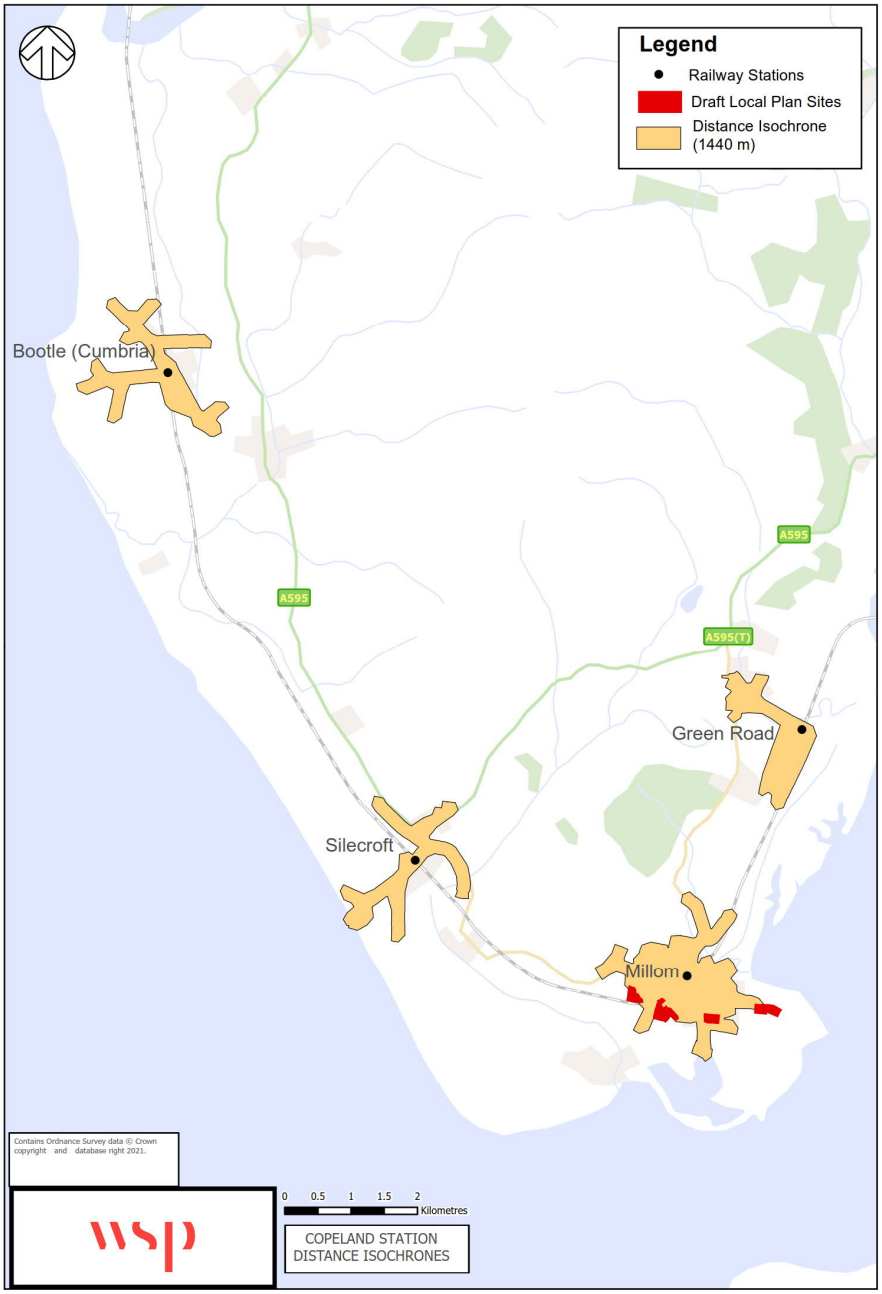


Figure 4-4 - 20 minute walking catchment areas for railway stations in Mid Copeland.

Figure 4-5 - 20-minute walking catchment areas for railway stations in South Copeland.



4.3.9. As presented in the plans above, 26 of the Local Plan sites are within 1,440m of a railway station and of those, 20 sites are less than 800m from the nearest station. However, the majority of the Local Plan development sites (43 sites) do not have a railway station within 1,440m and therefore rail travel is less likely to be an attractive option for getting to or from these sites.

4.3.10. The table below shows facilities available at the six stations that are within 1,440m of Local Plan sites. Common issues at the stations that are likely to inhibit accessibility or reduce their attractiveness include a lack of covered waiting space, insufficient cycle or car parking, limited opportunity for interchange with bus services and lack of toilet or baby changing facilities. A particular accessibility issue noted at Seascale station is the lack of a safe pedestrian route to the northbound platform from the village and to the southbound platform from the beach.

Table 4-7 – Summary of railway station facilities

	Corkickle	Drigg	Millom	Seascale	St Bees	Whitehaven
Waiting room / shelter and seating	No waiting room – shelter with seating available.	No waiting room – shelter with seating available.	Yes – waiting room under construction (March 2021).	No waiting room – shelter with seating available.	No waiting room – shelter available with seating.	Yes – ticket hall and shelter with benches.
Step-free access	Step-free access.	Step-free access to the station. Low platforms with wooden steps to board trains.	Level access to Barrow platform Level access onto Carlisle platform only available from supermarket car park.	Step-free access to each platform but no safe pedestrian connection. Low platforms with wooden steps to board trains.	Step-free access available via a level crossing.	Step-free access. Low platforms and the stepping distance between platform and train may be difficult for some customers.
Accessible toilets	No	No	Yes	No	No	Yes
Baby changing	No	No	No	No	No	No
Customer Help Points	No	Yes	No	No	No	No
Staff Help	No	No	No	No	No	Yes
Cycle parking	None	None	Covered Sheffield stands for 10 bicycles	Covered Sheffield stands for up to 18 bicycles	None	Sheffield stands for up to 18 bicycles (6 covered stands)
Nearest bus stop and services	160m (Calder Ave) Hourly service	>1km	>1km	>1km	>1km	200m (Tangier St) Six services
Car parking	8 spaces	None	12 spaces	~ 30 spaces across two car parks	5 spaces	30 spaces (2 accessible spaces)

POTENTIAL IMPROVEMENTS

4.3.11. The existing Northern franchise ceases in March 2022, with an opportunity to extend further, and the majority of the franchise obligations have been delivered at stations within Copeland. There is the potential for further station upgrades to be funded through the next franchise agreement.

4.3.12. An Outline Business Case is being developed to identify capacity improvements required on the Cumbria Coast Line Railway to support growth in West Cumbria. The delivery of improvements has the potential to make a positive contribution to support the economic growth ambitions of the Local Plan.

4.3.13. The Millom and Haverigg Town Investment Plan identifies £1.2 million for enhancements to the railway station to develop it as a hub and gateway to the town, including:

- Improved WC and passenger waiting facilities;
- Interventions to improve accessibility into and around the station for pedestrians and cyclists; and
- An information point for visitors on local walking and cycling leisure routes.

4.3.14. Any of these previously identified and ongoing projects will inform the Option Identification Stage of this Transport Improvement Study.

5 BASELINE - HIGHWAYS

5.1 INTRODUCTION

5.1.1. This section presents the baseline information for the operation of the highway network. A number of pre-existing sources are used given their relevance and detailed assessment, namely:

- West of M6 Strategic Connectivity Study; and
- Whitehaven Relief Road.

5.1.2. Additionally, the operation of the highway network is captured in the West Cumbria Transport Model (WCTM), which was last updated in 2019. It was agreed as a fit for purpose representation of the highway performance by CCC and Highways England (HE). Further details are presented below.

5.1.3. Collision analysis and Electric Vehicle (EV) charging infrastructure are also presented.

5.2 BASELINE INFORMATION FROM PREVIOUS STUDIES

The West of M6 Strategic Connectivity Study

5.2.1. WSP (previously WSP | Parsons Brinckerhoff) was commissioned in December 2015 to undertake a 'West of M6 Strategic Connectivity Study' on behalf of the Cumbria Local Enterprise Partnership (LEP) and HE.

5.2.2. The purpose of the study was to examine the issues and constraints associated with the strategic road connectivity of the Port of Workington, and the route capability, resilience and reliability of the A595, A590 and A66 to the west of the M6.

5.2.3. A long list of interventions was generated and collated through evidence gathering of transport and land use related indices, and through consultation with representatives from the Stakeholder Reference Groups. Capacity, safety and reliability issues were identified along the A595 within Copeland, many of which are clustered between the Distington Bypass (Howgate roundabout) north of the borough and the main Sellafield Ltd. site to the south.

5.2.4. A project focused appraisal framework was developed in order to assess the long list of interventions against a range of key criteria in line with the study objectives. The shortlist of priority schemes aimed at addressing identified issues included the following 12 within Copeland:

- A595 / A597 / B5306 Junction signalisation;
- A595 Low Moresby Junction;
- A595 / Pelican Garage / New Road Junction Improvement;
- A595 Whitehaven Relief Road - Option 1 - Single carriageway development route;
- A595 / Inkerman Terrace Junction Improvements;
- A595 / Homewood Road Junction Improvements;
- A595 / Mirehouse Junction Improvements;
- A595 Bigrigg Bypass;
- A595 Egremont Junctions - Increase ICD of both roundabouts;
- A595 Beckermet Junction and Moorside / Sellafield Access Improvements;
- A595 Calder Bridge Bypass; and
- A595 Capacity Improvements.

Whitehaven Relief Road

5.2.5. Following the West of M6 Strategic Connectivity Study, CCC commissioned WSP to undertake a TAG (Transport Appraisal Guidance) Stage 1 study to focus on the strategic transport corridors in the vicinity of Whitehaven, between the Distington Bypass (Howgate Roundabout) to the north, and Westlakes Science Park to the south. As part of this work a Phase 1 report was produced which presented the problems in the area in detail, along with identifying scheme objectives. Following this, two options for an eastern relief road (single and dual carriageway) were identified to be taken forward for further consideration and an Options Assessment Report and Business case were produced towards the end of 2017.

5.2.6. The underlying causes of the issues in the study area are:

- A595 is single carriageway through the study area with a lack of overtaking opportunities;
- Congestion hotspots on the A595 during peak periods and around shift start/finish times of Sellafield Ltd. employees (e.g. from 05:30AM);
- Large number of junctions;
- Lack of appropriate strategic alternative routes;
- Whitehaven is the only major centre on the A595 without a bypass;
- Poor alternative routes result in resilience issues;
- Rat running on parallel routes to the A595;
- Multiple functions of the route catering for strategic, freight, local and agricultural traffic;
- Lack of safe crossing facilities for Non-Motorised Users (NMU) leading to severance of local communities and leisure routes;
- Employment sites to the south attract a significant volume of commuting trips (Sellafield Ltd. employs over 11,000 staff on-site); and
- Lack of suitable alternative transport modes for commuting trips results in reliance on car.

5.2.7. These issues are plotted in Figure 5-1 overleaf.

5.2.8. On completion of the study, the scheme was handed to the HE Network Planning team to undertake an assurance review on the work undertaken to date, to ensure the work meets the Project Control Framework guidance and consider the scheme for inclusion within the Road Investment Strategy 2 (RIS 2). Following further scrutiny and assessment of the benefits of the scheme, it was subsequently decided that the scheme would not be progressed through RIS 2, although the case and rationale for the intervention remain strong and the scheme is considered deliverable.

5.2.9. This scheme is important; better connecting key settlements in west Cumbria and Sellafield while also providing a strategic link to the M6 and wider national markets. By removing SRN traffic from Whitehaven and significantly improving the capacity, resilience and reliability of the A595 corridor, this scheme supports the strategic growth and economic agglomeration (in the advanced manufacturing, nuclear and energy sectors) while also supporting new investment opportunities that can come forward to the south of Whitehaven for which strategic infrastructure availability represents a key barrier.

5.2.10. By removing traffic from the heart of Whitehaven this scheme presents opportunities to increase permeability and modal choice within the town, this supporting local plan growth while supporting wider renewal and regeneration activity within the town.

5.2.11. Given this it is considered it important that the scheme be further considered as part of the route strategies in development to support RIS3.

Figure 5-1 - Issues and constraints on the A595 in the vicinity of Whitehaven.

5.3 UPDATED BASE MODEL

5.3.1. The WCTM was updated in 2019 to produce a base and incorporate the use of Transport Information Systems mobile phone data. The available WCTM was used as the base network due to its recent update in the Whitehaven area and 2016 mobile phone data at MSOA was provided by CCC as the starting point for the demand. The purpose of the updated model was initially for the testing of a series of schemes based around travel patterns into Sellafield Ltd. As part of this work the following elements were completed:

- Full review of network coding, generally brought in line with Regional Transport Model (RTM) guidance, with some local considerations;
- Additional network added in to cover Barrow and key Sellafield routes as advised by representatives of CCC and Sellafield Ltd.;
- Conversion of the zoning system to the latest census boundaries, with some further disaggregation;
- Completely new demand created from a combination of processed mobile phone data infilled with synthetic demand where required; and
- A complete recalibration and revalidation based on a new set of screenlines, observed link count and journey time data to ensure the model is fit for purpose.

5.3.2. The model was shown to be fit for purpose using TAG for calibration and validation as found in TAG Unit M3.1, and therefore there is confidence in the model for the future option testing of the Local Plan.

5.4 COLLISIONS

5.4.1. To identify highway-related safety issues, road collision data between 2016 and 2020 has been analysed to identify clusters of three or more serious or fatal collisions in proximity to the Local Plan sites. The observed clusters are listed in Table 5-1 below along with information about the severity and types of casualty involved.

Table 5-1 – Locations in proximity to Local Plan sites with three or more serious or fatal collisions recorded between 2016 and 2020.

Location	Severity	Casualty types
A595 / New Road (Pelican Garage)	x3 Serious	1 involving a motorcyclist 2 involving vehicle driver / passenger(s)
A595 / Inkerman Terrace	x3 Serious	2 involving a pedestrian 1 involving vehicle driver / passenger(s)
Homewood Road / Sneckyeat Road	x3 Serious	2 involving a pedestrian 1 involving vehicle driver / passenger(s)
Leconfield Street, Cleator Moor	x5 Serious	3 involving pedestrians 1 involving a cyclist 2 involving a motorcyclist
St Bees Road / Mirehouse Road	x1 Fatal x1 Serious	2 involving vehicle driver / passenger(s)

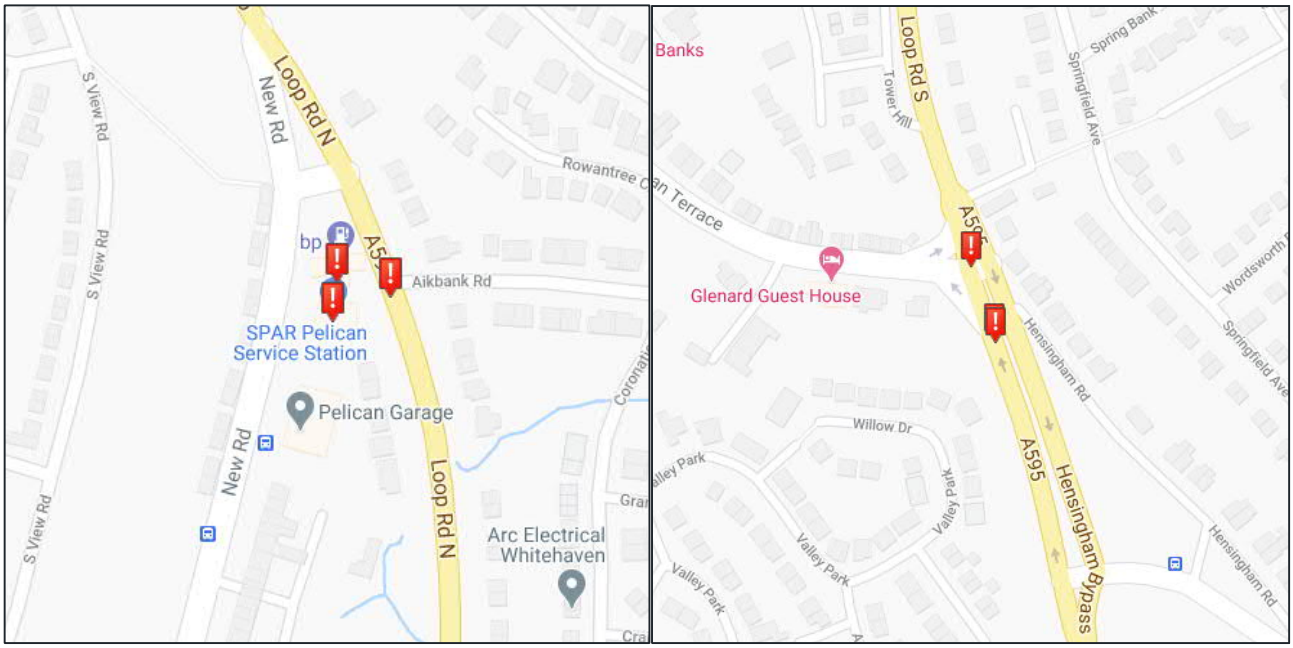
A595 / Crow Park Way (Westlakes Science Park)	x3 Serious	1 involving a pedestrian 2 involving a motorcyclist
A595 – Clints Brow	x3 Serious	3 involving vehicle driver / passenger(s)
Main Street, Egremont	x3 Serious	2 involving a pedestrian 1 involving a cyclist

Source: https://www.crashmap.co.uk/

5.4.2. These locations will be taken forward for consideration of safety improvements in the next stage of the study.

5.4.3. An example of the information is presented below for Pelican Garage and Inkerman Terrace.

Figure 5-2 - Left - Pelican Garage (3 Serious collisions) – Right – Inkerman Terrace / Ribton Moorside



5.5 LOW CARBON VEHICLE INFRASTRUCTURE

5.5.1. Based on the DfT's EV Charging Device Statistics (January 2021), there are 22 publicly available EV charging devices in Copeland, which equates to 32.3 devices per 100,000 population. This is higher than in the neighbouring districts of Allerdale and Barrow-in-Furness, but lower than the county and national averages as presented in Table 5-2.

Table 5-2 – Comparative data on publicly available EV charging devices.

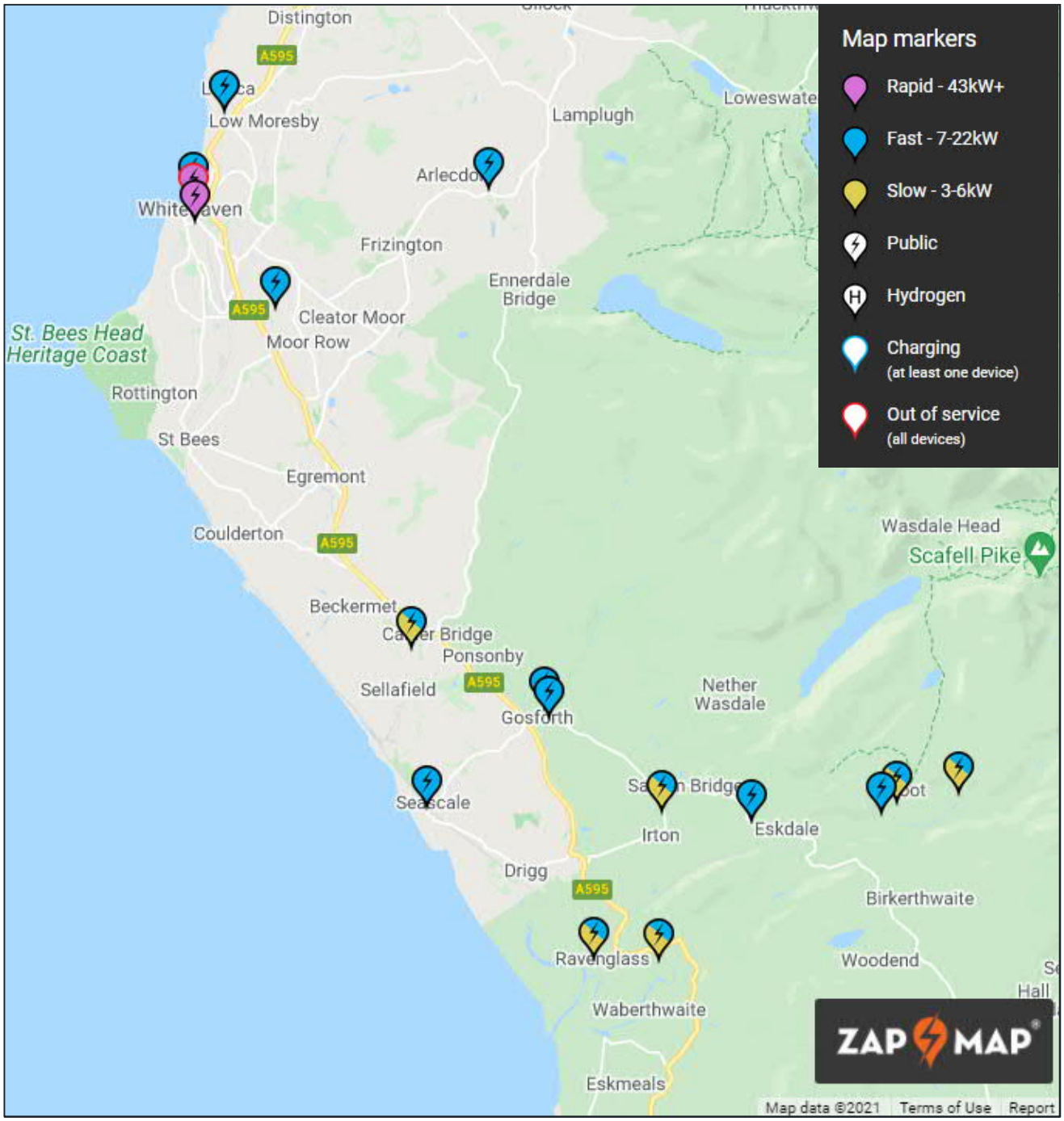
	Copeland	Allerdale	Barrow	Eden	Cumbria	England
Number of public EV charging devices	22	20	3	37	198	17,459
Rate per 100,000 people	32.3	20.5	4.5	69.5	39.6	31.0

Data source: DfT, Electric vehicle charging device statistics (January 2021). Available here: https://www.gov.uk/government/statistics/electric-vehicle-charging-device-statistics-january-2021

5.5.2. To understand how the density of charging devices in Copeland compares to the rest of the UK, an interactive map platform is available[2].

5.5.3. The locations and type of charging infrastructure in Copeland are plotted in Figure 5-3 and summarised in Table 5-3 below.

Figure 5-3 – EV Charging Infrastructure in Copeland



[2] https://www.zap-map.com/live/

Table 5-3 – EV charging infrastructure in Copeland

Location	Connector Type*	Operator
Parton	x2 Fast	Tesla Destination
Rowrah	x2 Fast	Nissan Dealerships
Whitehaven town centre	x4 Fast x6 Rapid	Tesla Destination Genie Point
West Lakes Science Park	x4 Fast	EV Charging Online
Calder Bridge	x1 Slow & x1 Fast	ZeroNet
Seascale	x2 Fast	Tesla Destination
Gosforth	x4 Fast	Tesla Destination
Irton	x1 Slow & x1 Fast	ZeroNet
Eskale	x1 Fast	Tesla Destination
Boot	x2 Slow & x4 Fast	ZeroNet
Ravenglass	x3 Slow & x1 Fast	ZeroNet
Muncaster	x1 Slow & x1 Fast	ZeroNet

*'Slow' charging point = 3kW-6kW; 'Fast' charging points = 7kW-22kW and 'Rapid' charging points 43kW-100kW.

5.5.4. There are no public EV charging points in South Copeland and it is apparent from Figure 5-3 that the majority of the charging infrastructure in the borough is located at visitor destinations within the LDNP. As such there is limited provision for the majority of Copeland's population which could represent a barrier to greater uptake of EVs.

6 FUTURE BASELINE - HIGHWAYS

6.1 INTRODUCTION

6.1.1. This chapter describes the methodology used to assess the cumulative impact of different development scenarios on the highway network within Copeland and therefore establish the future baseline for highway operation. It also sets out the process followed to identify junctions and links for improvement, to be assessed as part of Stage 2 of the study.

6.2 NETWORK MODELLING

6.2.1. The assessment undertaken within this study is based upon the results of modelling undertaken by CCC using the WCTM. This is a strategic model, that has been developed in a computer program called SATURN, which contains separate vehicle classes for cars, light goods vehicles (LGVs) and heavy goods vehicles (HGVs). Nine time periods have been modelled between 05:00 and 18:00, covering Sellafield Ltd. shift patterns. The model periods of assessment in this study are the morning peak period (08:00-09:00) and evening peak period (16:00-17:00).

6.2.2. The model base year is 2019 and three future year demand scenarios were tested as part of the modelling work undertaken by CCC, as follows:

- Scenario 1 – 2035 Future Baseline, which includes:
    - Developments which have planning permission and live applications with the potential to gain permission soon;
    - Developments that are considered likely to gain planning permission and be constructed by 2035 where information is available;
    - Background traffic growth.
- Scenario 2 – 2035 Local Plan, as above and includes housing, employment and retail proposals likely to be delivered to meet the general growth and associated housing requirement forecast up to 2035.
- Scenario 3 – 2035 High Growth which includes the development in Scenario 1 as well as more aspirational growth plans (e.g. Moorside Clean Energy Park[3]) and growth housing target (200 pa) up to 2035.

6.2.3. The modelling is not meant to be prejudicial to the planning process and is based on guidance on uncertainty as defined by Table A2 in TAG Unit M4 forecasting and uncertainty.

6.2.4. The model forecasts from the AM (08.00-09.00) and PM (16.00-17.00) peak periods for both scenarios have been used to identify junctions / links in Copeland that are likely to experience increased queuing and delay as a result of traffic associated with the development proposals.

6.3 JUNCTION SIFTING

6.3.1. A sifting process was then undertaken to identify the junctions at which improvements would be necessary and feasible. The steps followed in this process are detailed below and a summary of the scores and sifting rationale is provided in Appendix A.

[3] CBC (2021) *Copeland Vision 2040,* Copeland Borough Council https://www.copeland.gov.uk/sites/default/files/attachments/copeland_vision.pdf

Step 1- RFC Analysis

6.3.2. The outputs from the SATURN traffic model were analysed by CCC and WSP to determine which junctions are forecast to experience high levels of delay, or high Ratio of Flow to Capacity (RFC), in the model scenarios. A total of 36 junctions were identified as operating at more than 95% of their operational capacity in the AM or PM peak for at least one of model scenarios. This threshold was identified to maintain consistency with the RFC analysis adopted in recent transport improvement studies for Allerdale, Carlisle and Barrow, and has previously been agreed with CCC. The junctions are listed in Table 6-1.

Table 6-1 – Junctions identified with RFC over 95% in CCC modelling

Settlement	Junctions	
Whitehaven	• A595 / Parton Brow • A595 / Bransty Road • A595 / New Road • A595 / Aikbank Road • A595 / Inkerman Terrace • A595 / Ribton Moorside • Homewood roundabout • A595 / Meadow Road • A595 / Mirehouse Road • A595 / Crow Park Way • Lowther Street / Strand Street • Strand Street / Market Place / Swingpump Lane / East Strand • Swingpump Lane / Quay Street • Swingpump Lane / Queen Street • Queen Street / Market Place	• Flatt Walks / Morrisons • Flatt Walks / Corkickle / Coach Road • Preston St / Aldi & Home Bargains • Preston Street / Coach Road • A5094 / Wellington Row • Albert Terrace / Park View • Egremont Road / Lincoln Road • Homewood Road / Westmortland Road • Main Street / Richmond Hill Road • Main Street / Thornton Road • Moresby Road / Cleator Moor Road • Cleator Moor Road / Overend Road • Overend Road / Richmond Hill Road • St Bees Rd / Mirehouse Road
Egremont	• A595 / Howbank roundabout	• A595 / Vale View roundabout
Thornhill	• A595 / B5345	
Blackbeck	• A595 / Hardgates roundabout	
Calder Bridge	• A595 / Sellafield Ltd. access	• A595 / Calder Bridge
Duddon Bridge	• A595 / Duddon Bridge	

Step 2 - SATURN Coding Analysis

6.3.3. The 36 junctions have been analysed in detail to understand why the RFC was greater than 95% in any of the model scenarios, with the worst performing model scenario reviewed for each junction in order to identify the issues.

6.3.4. Through this review, the coding of the identified junctions within the model were compared with site layout plans to identify inconsistencies. Common issues related to high model flows due to it not considering all minor routes, or capacities being underestimated in the model. The signal timings in the model, relating to an average hour, were also reviewed and optimised where necessary. Once these issues were reviewed and amended as necessary, these junctions were considered not to require any further design assessment, because it was demonstrated that there is sufficient highway capacity to allow for the cumulative impact of Local Plan development traffic.

6.3.5. The review also highlighted that capacity issues at certain junctions were the result of traffic blocking back from a neighbouring junction; as such, it was considered that improvements to the identified junctions would not resolve the issue and, instead, options to reduce congestion at the neighbouring junction needed to be prioritised.

6.3.6. The table overleaf provides a summary of the junctions sifted out of further assessment following the review of SATURN coding and blocking back from adjacent junctions.

Table 6-2 – Junctions sifted out of further assessment following review of SATURN model and consideration of blocking back from adjacent junctions.

Junction	Town	Max. RFC	Review of SATURN coding
Flatt Walks / Morrisons	Whitehaven	0.98	Optimisation of the signal timings in SATURN results in the RFC dropping below 95%.
Flatt Walks / Corkickle / Coach Road	Whitehaven	0.97	
A595 / Sellafield Ltd. main access	Calder Bridge	1.03	
Preston St / Aldi & Home Bargains mini-roundabout	Whitehaven	1.01	No perceived issues at this junction despite an RFC of 1.01 being recorded in the Base scenario. It is difficult to accurately model mini-roundabouts within SATURN and so it is anticipated that this is an issue with the modelling.
Swingpump Lane / Quay Street	Whitehaven	1.20	The issue is a result of blocking back from the Strand Street / Market Place / Swingpump Lane / East Strand junction.
Homewood Road / Westmorland Road	Whitehaven	0.95	The issue is a result of blocking back from the A595 / Homewood Road roundabout, not the junction itself.
Swingpump Lane / Queen Street	Whitehaven	0.98	Unrealistic flow of vehicles along Market Place bypassing Swingpump Lane to get to Strand Street. The Strand Street / Market Place / Swingpump Lane / East Strand junction is modelled as a mini-roundabout and thus vehicles from Market Place have right-of-way over Swingpump Lane. The model does not accurately represent this junction hence the large flows along Market Place.
Queen Street / Market Place	Whitehaven	0.97	

6.3.7. Following the review of the SATURN model, the eight junctions above were discounted and so 28 junctions were taken forward for further review.

Step 3 – Review of Junction Context

6.3.8. The remaining junctions were assessed to determine whether it would be feasible and/or appropriate to develop new design options. The following factors were considered:

- Geometry of the junction and surrounding land use;
- Location of the junction and context of residential streets;
- Whether it is desirable to improve capacity and attract additional trips through the location;
- Location of development site allocations in the Local Plan; and
- Whether improvements to adjacent junctions would address the identified issues.

6.3.9. Constraints to developing possible design options were identified at three junctions and have therefore not been included for further assessment. The table overleaf provides information on these junctions.

Table 6-3 - Junctions where a scheme is not desirable or deliverable within the constraints identified.

Junction	Town	Max. RFC	Reason for exclusion from further assessment
A595 / Bransty Road	Whitehaven	1.02	Undesirable route for traffic. No improvement proposed as route should be discouraged.
A5094 / Wellington Row	Whitehaven	1.00	
Main St / Richmond Hill Road	Whitehaven	1.08	
Main Street / Thornton Rd	Whitehaven	1.09	
Overend Road / Richmond Hill Road	Whitehaven	0.96	
Egremont Road / Lincoln Road	Whitehaven	1.04	
A595 / Parton Brow	Whitehaven	0.96	Proposed signalisation of the A595 / New Road junction would create gaps in the traffic and address identified issues.
A595 / Aikbank Road	Whitehaven	0.95	
Albert Terrace / Park View	Whitehaven	0.96	No viable scheme due to width constraints resulting from A595 overpass.
A595 / B5345	Thornhill	0.96	Limited engineering opportunity for left off-slip on the NB side of the carriageway because space is constrained by the cemetery and right-turn ghost island.
Blackbeck Roundabout	Beckermet	0.97	There are no Local Plan sites in close proximity to which scheme costs could be attributed and therefore an improvement scheme to address identified issues is outwith the scope of this study.
A595 / Calder Bridge	Calder Bridge	1.11	
A595 / Duddon Bridge	Duddon	1.04	

6.3.10. The 13 junctions in the table above were discounted from further assessment in this study following a review of their context, resulting in 15 junctions being taken forward to the next stage.

Additional junctions

6.3.11. The list of junctions was discussed with local officers from CCC and CBC on 9th March 2021 and with representatives from HE on 12th March. Each junction was discussed in turn, considering the issues identified through the modelling; to gauge opinion on the potential for improvement, and to seek professional and local views.

6.3.12. From these meetings, a further six junctions in proximity to Local Plan sites were identified for consideration as part of this study because of known performance or safety issues. These junctions are listed in the table below along with a brief explanation of the reason for their inclusion.

Table 6-4 – Additional junctions identified in meetings with CCC, CBC and HE.

Junction	Town	Reason for inclusion in the study
A595 / Rosehill	Parton	Issue with turning out of Rosehill onto the A595 and safety concerns due to steep gradient on approach from Rosehill.
A595 / Highlands	Whitehaven	Safety concern due to unsuitable right-turn pocket on the A595.
A595 / Scalegill	Moor Row	Safety concern and significant number of vehicles using Scalegill and Dalzell Street to avoid the A595 at peak times.
Bookwell	Egremont	There are several development sites identified in the Local Plan that are accessed from the town centre along the roads that converge at these junctions.
Castle Villas / Main St	Egremont	
Cleator Mills / A5086	Cleator	Due to redevelopment of the former Cleator Mill and local residential development at the Flosh.

6.3.13. Moreover the following additional four junctions in St Bees were included for further assessment because of issues raised by members of the public in the Preferred Options consultation.

Table 6-5 – Additional junctions identified in the Preferred Options consultation

Junction	Issue
Abbey vale / B5345	Traffic speed
Cross Hill / Finkle Street on to B5345	Significant traffic congestion
Outrigg / Main Street	Significant traffic congestion
Scalebarrow / Abbey Road	Poor visibility

6.3.14. Taking into account these additional junctions, a total of 25 junctions were taken forward for further assessment as part of this study, and these are listed in the table below for completeness.

Table 6-6 – Longlist of junctions for consideration in Stage 2.

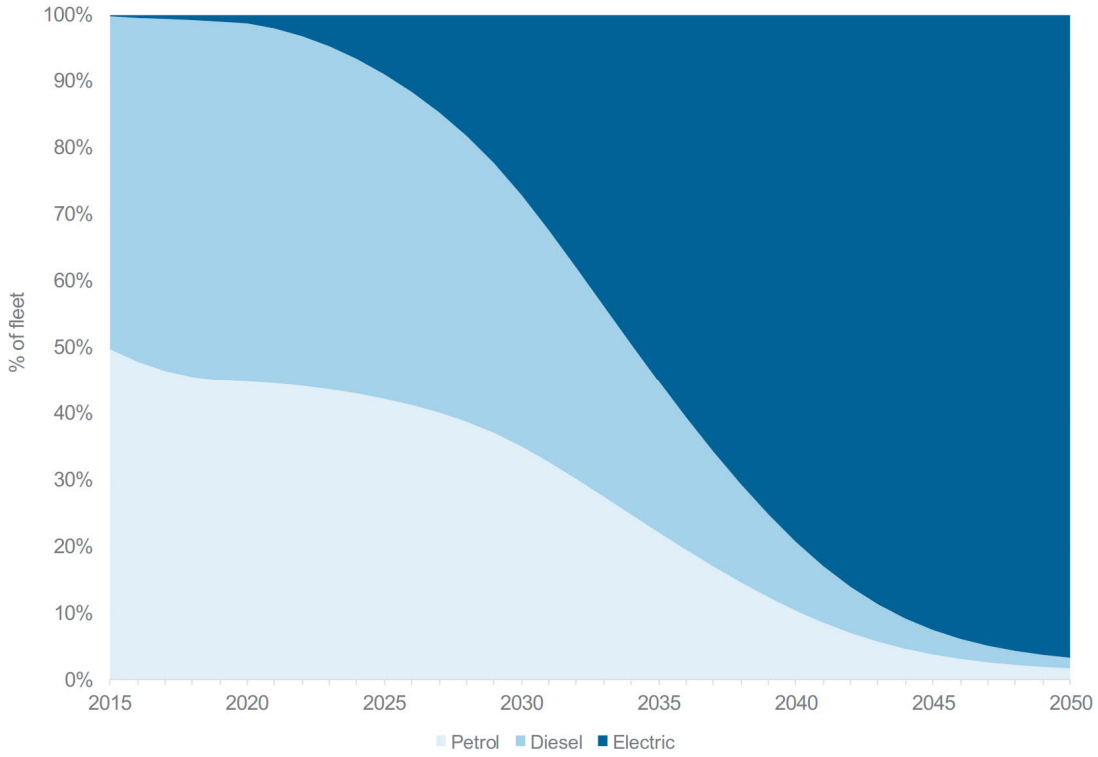
Junction	Network	Issue
WHITEHAVEN		
A595 / Rosehill	HE	Safety
A595 / New Road	HE	Capacity
A595 / Highlands	HE	Safety
Lowther St / Strand St	CCC	Capacity
Strand St / Market Place	CCC	Capacity
Preston St / Coach Rd	CCC	Safety
A595 / Inkerman Terrace	HE	Capacity
A595 / Ribton Moorside	HE	Capacity
Moresby Road / Cleator Moor Road	CCC	Capacity
Cleator Moor Road / Overend Road	CCC	Capacity
Homewood roundabout	HE	Capacity
A595 / Meadow Road	HE	Safety
A595 / Mirehouse Road	HE	Capacity
St Bees Rd / Mirehouse Road	CCC	Safety
A595 / Crow Park Way	HE	Capacity & Safety

Junction	Network	Issue
MOOR ROW		
A595 / Scalegill	HE	Safety
CLEATOR		
Cleator Mills / A5086	CCC	Capacity
ST BEES		
Abbey Vale / B5345	CCC	Safety
Cross Hill / Finkle Street on to B5345	CCC	Capacity
Outrigg / Main Street	CCC	Capacity
Scalebarrow / Abbey Road	CCC	Safety
EGREMONT		
A595 / Howbank roundabout	HE	Capacity
Bookwell	CCC	Capacity
Castle Villas / Main St	CCC	Capacity
A595 / Vale View roundabout	HE	Capacity

6.4 LOW CARBON VEHICLE INFRASTRUCTURE

6.4.1. UK EV adoption is predicted to rapidly increase from 3% of new vehicle sales in 2019 to 75% by 2030 (representing between 25% and 30% of total vehicles in use by that date). And an ambitious scenario taken from the DfT's Road Traffic Forecasts 2018[4] (Scenario 7) would see an accelerated shift to zero emissions vehicles, with almost all vehicles (95%) electric by 2050 and most (80+%) by 2040, as shown in Figure 6-1 below.

Figure 6-1 – Car Fleet Composition by Fuel Type – Scenario 7



6.4.2. The number of EV charging points will need to increase significantly in order to cater for the anticipated growth in EV usage. By 2022 PodPoint, one of the UK's leading providers of EV charging points (and now owned by EDF – the UK's largest producer of low-carbon electricity), estimate that 581 public EV charging points will be required within Cumbria.

6.4.3. In the Copeland Vision 2040, CBC committed to decarbonising transport with the ambition of achieving a zero-carbon economy. This includes a strategic approach to developing a rural EV charging network to connect towns, workplaces and the coastline. However it is also important to ensure that EV infrastructure is accommodated within new developments and installed in existing places where there is currently a lack of provision.

6.4.4. An EV Infrastructure Working Group has been established comprising CCC, district authorities, Cumbria Police, NHS and Sellafield Ltd. The group is working to identify publicly available EV charging points and establish the future demand for on-street EV charging infrastructure in Cumbria for those without private driveways.

[4] DfT (2018) *Road Traffic Forecasts 2018*, Department for Transport, London. Available here: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/873929/road-traffic-forecasts-2018-document.pdf

7 OPTION GENERATION

7.1 INTRODUCTION

7.1.1. This chapter of the report outlines the approach followed to develop a long list of options and the subsequent methodology adopted in order to sift the long list of options into a shortlist of packaged options to address the project objectives identified in Chapter 1. The shortlist of options will include those schemes that should be prioritised for further development, ensuring that a realistic number of distinct and feasible options are considered.

7.2 DEVELOPING THE LONG-LIST OF SCHEMES

7.2.1. The options identified aim to address the issues and constraints captured in the preceding chapters of this report.

7.2.2. A long list of schemes was developed through the following:

- Findings of the Stage 1 Baseline;
- Existing options developed within previous or ongoing studies;
- Engagement with the Project Delivery Group (PDG); and
- A workshop with CCC and CBC members held on 21st April 2021 (see Appendix B for a summary of the member comments).

7.2.3. A total of 63 scheme options have been developed as part of the option generation process, including a diverse range of intervention types across all modes of transport. These have been categorised as follows:

- Active travel;
- Public transport (schemes related to improving railway and bus infrastructure and services);
- Travel demand (schemes that are designed to reduce travel demand and/or facilitate a modal shift from private cars to other modes of travel); and
- Highway (schemes that relate to changes to public highway).

7.2.4. The options identified as part of the long list range from small scale schemes, such as footway improvements and cycle parking enhancements, to larger scale schemes, such as construction of new highway.

7.2.5. To assess the performance of each of the schemes highlighted within the long list, options are considered on an individual basis and in relation to either the existing situation or other potential options that are linked. This ensures that the scheme impacts have been assessed to incorporate other dependencies. This method will enable the selection and packaging of the best performing options of the sifting process, whilst understanding how each of the schemes perform individually.

7.2.6. The long list of schemes is presented in the tables below, having been sorted according to the categories listed at 7.2.3 above.

Table 7-1 – Active travel schemes

ID	Scheme	Description
1	Pedestrian access improvements to Local Plan sites	New or improved footway connections to Local Plan sites.
2	Full segregation of cycle infrastructure to connect all Local Plan sites	New off-road segregated cycle infrastructure which connects all Local Plan sites to the local cycling network.
3	On-road cycle lanes connecting Local Plan sites	New or improved on-road cycle lanes which might have light-segregation from motor vehicles.
4	Traffic calming measures	Traffic calming measures, possibly accompanied by reduced speed limit where necessary, to provide safer on-road cycling conditions.
5	Crossing improvements	New or upgraded crossing facilities in proximity to Local Plan sites which facilitate or enhance accessibility for pedestrians and/or cyclists.
6	Improve wayfinding and marketing of cycling and walking information	Improve cycling and walking information about the local network of routes for each Local Plan site. Provide maps with localised information and install wayfinding infrastructure.
7	Cycle parking facilities	Install secure cycle parking facilities at Local Plan sites.
8	E-scooter roll out	Implement policy and infrastructure (e.g. routes, parking provision & signs) to facilitate increased uptake of e-scooters following trial study.
9	Off-road shared foot/cycleway between Distington to Cleator Moor	Off-road shared foot/cycleway following the disused railway line between Distington and Cleator Moor.
10	Crossing improvement at Bowthorn Road in Cleator Moor	New controlled crossing facility near to Bowthorn Road to connect to bus stops on Leconfield St
11	Improved footways around Sellafield	Improve footways on the roads immediately around Sellafield.

Table 7-2 – Public transport schemes

ID	Scheme	Description
12	Improve connectivity to railway stations from Local Plan sites	New and improved footways and cycle routes between Local Plan sites and railway stations.
13	Enhance waiting facilities at stations	Provide new and/or larger waiting shelters and refurbish the station environment.
14	Improve station access	Enhance accessibility by pedestrians and cyclists, as well as those with mobility impairments.
15	Additional car parking at stations	Increase car parking capacity at Corkickle, St Bees and Whitehaven stations.
16	New bus stops to serve Local Plan sites	Create new bus stops in proximity to Local Plan sites where there currently is no bus stop within 400m.
17	Improved bus stop waiting facilities	Install shelters at bus stops where there is anticipated to be a significant number of travellers.
18	Re-route existing bus services / improve frequencies to serve Local Plan sites	Work with bus operators to re-route services to better serve Local Plan sites.
19	New bus route to serve Local Plan sites	Recommend service improvements link to Local Plan sites
20	Park & Ride site	Create a Park & Ride service for employees within Whitehaven and at West Lakes Science Park.
21	Reinstate no.32 bus service	Reinstate the no. 32 bus from West Cumberland Hospital to Cleator Moor, Egremont and Richmond Estate in Whitehaven.
22	New bus service to Moresby Parks	Introduce a new bus service between Moresby Parks and Whitehaven to provide access to local services.

ID	Scheme	Description
23	New bus service between Cleator Moor and Egremont	Introduce a new bus service between Cleator Moor and Egremont.
24	New bus services in South Copeland	Introduce new bus services in South Copeland which are integrated with the rail services to provide for onward travel.

Table 7-3 – Travel Demand schemes

ID	Scheme	Description
25	Travel Demand Management measures	Work with local employers and schools to develop Travel Plans and deliver behaviour change programmes (there is an Active Travel team in the County Council).

Table 7-4 – Highway schemes

ID	Scheme	Town	Description
26	A595 / New Road	Whitehaven	Highways England proposal for signalising the junction.
27	Lowther St / Strand St*	Whitehaven	Potential improvement scheme as part of a wider Streetscapes Improvement scheme to improve the urban environment for all modes.
28	Strand St / Market Place / Swingpump Lane / East Strand*	Whitehaven	Potential improvement scheme as part of a wider Streetscapes Improvement scheme to improve the urban environment for all modes.
29	Preston St / Coach Road*	Whitehaven	Junction improvement scheme to better manage additional traffic.
30	A595 / Inkerman Terrace / Ribton Moorside signals	Whitehaven	Improve the capacity of the junction, either through improved optimisation of the signals, or reallocation of existing highway space to better manage the flow of traffic.
31	Moresby Rd / Cleator Moor Rd	Whitehaven	Junction capacity improvement to better manage the flow of traffic.

ID	Scheme	Town	Description
32	Cleator Moor Rd / Overend Rd	Whitehaven	Junction capacity improvement to better manage the flow of traffic.
33	Homewood roundabout	Whitehaven	Junction capacity improvement to reallocate of existing highway space to better manage the flow of traffic
34	A595 / Meadow Road	Whitehaven	Prohibit right turn from Meadow Road to address safety concerns on the minor road.
35	A595 / Mirehouse Road	Whitehaven	Junction capacity improvement, potentially extending the left-turn lane on Mirehouse Road.
36	St Bees Rd / Mirehouse Rd	Whitehaven	Potential safety improvements to the right-turn pocket.
37	A595 / Howbank roundabout	Egremont	Highways England are considering capacity improvements at this junction.
38	A595 / Vale View roundabout	Egremont	Highways England are considering capacity improvements at this junction.
39	West Lakes Science Park	Whitehaven	Junction capacity improvement to better manage the flow of traffic.
40	Bookwell	Egremont	Improve safety and access for traffic.
41	Castle Villas / Main St	Egremont	Improve safety and access for traffic.
42	Cleator Mills / A5086	Cleator	Site access to be upgraded as part of the Transport Assessment for the Cleator Mills Site Development.
43	A595 / Rosehill	Whitehaven	Road safety improvement scheme.
44	A595 / Highlands	Whitehaven	Road safety improvement to potentially widen the right turn pocket on the A595.
45	A595 / Moor Row	Moor Row	Road safety improvement to potentially widen the right turn pocket on the A595.

ID	Scheme	Town	Description
46	Abbey Vale / B5345	St Bees	Traffic calming on B5345 at the junction with Abbey Vale.
47	Cross Hill / Finkle Street junction on to B5345	St Bees	Assess options to improve traffic management at this location or deliver strategic improvements that reduce demand through St Bees.
48	Outrigg / Main Street	St Bees	Assess options to improve traffic management at this location or deliver strategic improvements that reduce demand through St Bees
49	Scalebarrow / Abbey Road	St Bees	Assess options to improve visibility at this junction.
50	Traffic calming measures on rat run routes through residential areas	Multiple	Traffic calming measures to reduce traffic speeds and deter rat running through residential areas e.g. Bransty Road, Aikbank Road, Thornton Road, Richmond Hill Road, Lincoln Road.
51	Whitehaven Relief Road	Whitehaven	Construct bypass of Whitehaven to mitigate impact on junctions along the existing A595.
52	EV infrastructure	Multiple	Install EV infrastructure within Local Plan sites.
53	Homewood Road / Sneckyeat Road	Whitehaven	Road safety improvement to address collision hotspots.
54	Leconfield Street	Cleator Moor	Road safety improvement to address collision hotspots.
55	A595 Clints Brow	Bigrigg	Road safety improvement to address collision hotspots.
56	Main St	Egremont	Road safety improvement to address collision hotspots.
57	Safety measures on Red Lonning	Whitehaven	Small scale traffic management improvements at Red Lonning around St Benedict's school.

ID	Scheme	Town	Description
58	Meadow View improvement	Whitehaven	Traffic lights / improved visibility on Meadow View where the road narrows so that only one vehicle can pass parked cars.
59	Streetscapes	Whitehaven	Streetscape proposals for the town centre.
60	Prohibit HGVs on A5086	Multiple	Prohibit HGVs from the M6 and A66 coming along the A5086 from Cockermouth as a short cut to Cleator Moor
61	St Bees Parking	St Bees	Remove parking on Main Street in St Bees.
62	Duddon Bridge	Duddon Bridge	New bridge crossing at Duddon Bridge.
63	Bootle bypass	Bootle	Bootle bypass.

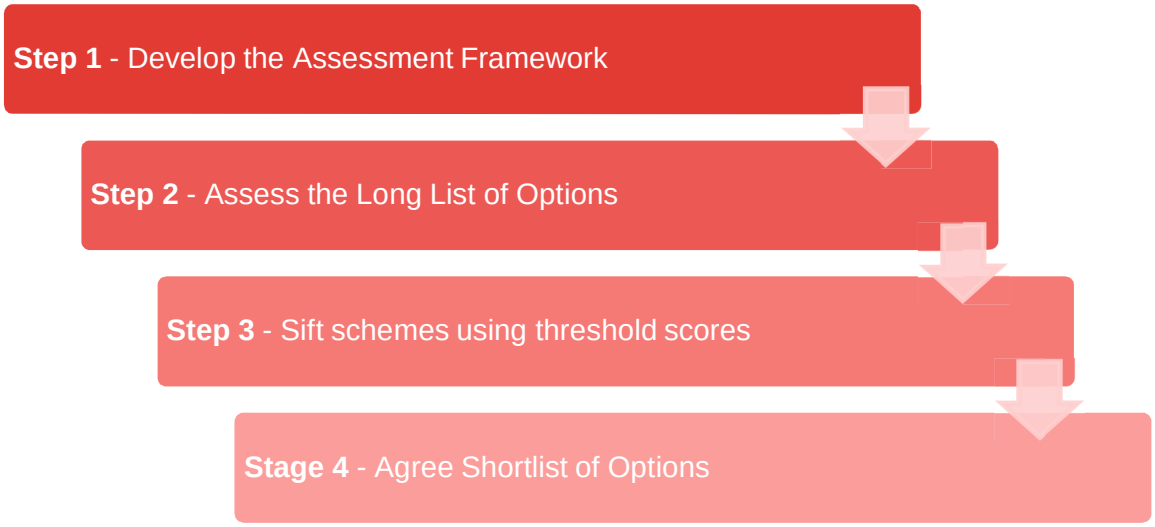
*Schemes are dependent on the Whitehaven Town Investment Plan.

7.3 OPTION SIFTING

7.3.1. To determine which schemes from the long list of options should be progressed to more detailed assessment of the study, scoring and sifting of the long list is required. This will enable identification of feasible improvements that can be attributed to sites identified within the Copeland Local Plan.

7.3.2. Figure 7-1 illustrates the four-step methodology adopted for the purpose of scoring and sifting the options presented within the long list.

Figure 7-1 - Sifting Methodology



7.3.3. The scheme sifting follows a standard and recognised methodology that makes best use of the evidence base in order to ensure that shortlisted schemes are robust, as outlined in the steps below.

STEP 1 – DEVELOP THE ASSESSMENT FRAMEWORK

7.3.4. A bespoke assessment framework was developed for this Transport Improvements Study that combines the study-specific objectives and broader appraisal criteria from the DfT's Early Assessment Sifting Tool (EAST) to assess the performance of the identified schemes.

Performance against the study objectives

7.3.5. The schemes have been assessed against the overarching study objectives in order to ensure they are addressing the needs of the study.

7.3.6. The objectives of the study as outlined in the initial project brief are as follows:

- Develop transport improvements for Whitehaven, Cleator Moor, Egremont, Millom and surrounding areas to support the Local Plan.
- Improvements should be feasible, proportionate, realistic, deliverable and not prohibitively expensive or create excessive maintenance requirements.
- Where possible improvements should be sustainable and promote health and access for all.
- Improvements should be linked to site allocations to enable site specific Infrastructure Delivery Plans to be developed.

7.3.7. In order to assess the impact of a scheme against the objectives, a series of performance measures were established against which all of the identified schemes could be assessed. These were reviewed with the PDG and are shown in Table 7-5 below.

Table 7-5 – Study objectives and performance measures

Objectives	Performance measures
Develop transport improvements for Whitehaven, Cleator Moor, Egremont, Millom and surrounding areas to support the Local Plan.	Does the scheme improve the environment (including noise and air quality) by aiming to address existing traffic congestion issues?
	Does the scheme aim to address traffic congestion issues directly associated with Local Plan sites?
	Does the scheme aim to address road safety issues?
Where possible improvements should be sustainable and promote health and access for all.	Does the scheme improve the accessibility to / from public transport (rail / bus) from Local Plan sites?
	Does the scheme encourage walking and cycling to/from Local Plan sites?
	Does the scheme encourage a mode shift to car sharing or sustainable modes to/from Local Plan sites?
	Does the scheme support tourism or visitor attractions?
Improvements should be feasible, proportionate, realistic, deliverable and not prohibitively expensive or create excessive maintenance requirements.	Early Assessment and Sifting Tool appraisal criteria – see Table 7-7.
Improvements should be linked to site allocations to enable site specific IDPs to be developed.	Is the scheme attributable to Local Plan sites?

7.3.8. The performance measures principally relate to mitigating the impact of the Local Plan sites, however there is also consideration of whether schemes will address or exacerbate existing issues. This helps to understand the wider benefits or disbenefits of the improvements and establish the suitability of the schemes. Nonetheless, it is important to note that planning obligations must be directly related to the developments and this is considered in more detail at the next stage of the study.

7.3.9. The performance measures for three of the objectives were scored using the framework set out in the table below, which details the scoring levels for each.

Table 7-6 – Performance Criteria Scoring

		Performance Criteria			
Study Objectives	**Performance Measures**	Conflicts with the desired outcome, and/or conflict with other schemes, with risk mitigations in place **Score = 1 point**	A neutral/marginal impact on the outcome and/or with local impacts **Score = 2 points**	A good/reasonable fit with the desired outcome with beneficial impacts **Score = 3 points**	A strong fit with the desired outcome with large beneficial impacts **Score = 4 point**
Develop transport improvements for Whitehaven, Cleator Moor, Egremont, Millom and surrounding areas to support the Local Plan.	Does the scheme improve the environment (including noise and air quality) by aiming to address existing traffic congestion issues?	Increases traffic congestion and related noise and air pollution	No impact on local environment	Slightly reduces traffic congestion and related noise and/or air pollution	Significantly reduces traffic congestion and related noise and/or air pollution
	Does the scheme aim to address traffic congestion issues directly associated with Local Plan sites?	Increases traffic on the local highway network	No impact on congestion	Slight reduction in traffic on the local highway network	Significant reduction in traffic on the local highway network
	Does the scheme aim to address road safety issues?	Exacerbates road safety issues or increases exposure to risk	No impact on road safety	Slightly improves road safety and/or reduces exposure to risk	Addresses cause(s) of road safety issues
Where possible improvements should be sustainable and promote health and access for all.	Does the scheme improve the accessibility to / from public transport (rail / bus) from Local Plan sites?	Reduces the accessibility of Local Plan sites by public transport	No impact on accessibility by public transport	Slightly improves accessibility of Local Plan sites by public transport	Significantly improves accessibility of Local Plan sites by public transport
	Does the scheme encourage walking and cycling to/from Local Plan sites?	Reduces / impedes access by active travel	No change to existing active travel infrastructure	Slightly improves active travel infrastructure	Significantly improves active travel infrastructure
	Does the scheme encourage a mode shift to car sharing or more sustainable travel modes?	Makes driving a more attractive option than sustainable travel modes	No impact on relative attractiveness of alternative travel modes	Slightly enhances sustainable travel modes relative to driving	Significantly enhances sustainable travel modes relative to driving
	Does the scheme support tourism or visitor attractions?	Suppresses tourism or visitor attractions	No impact	Slightly improves accessibility to visitor attractions	Significantly improves accessibility to visitor attractions
Improvements should be linked to site allocations.	Is the scheme attributable to Local Plan sites?	Scheme addresses existing issues only, with no tangible link to sites	Scheme addresses existing issues and significant impacts sites	Scheme is directly related to mitigating to sites only	-

7.3.10. In addition to the performance measures, it is imperative that interdependencies between schemes are considered in the assessment because it may be that interventions perform better when appraised as a package with other schemes. Therefore, the assessment framework includes a category relating to interdependencies, with schemes that rely on other options to be successful scoring lower than those that can be delivered independently.

Early Assessment Sifting Tool (EAST)

7.3.11. The EAST is a decision support tool that has been developed to quickly summarise and present evidence on options in a clear and consistent format. It provides decision makers with relevant, high level information to help them form an early view of how options perform and compare. The tool itself does not make recommendations and is not intended to be used for making final funding decisions.

7.3.12. Within EAST, there is a range of criteria that are used to appraise transport schemes, which are grouped into five categories that align with the DfT's Business Case model. The overarching considerations within each category are outlined below.

Strategic

- The approach to scoring this appraisal category considers the expected scale of impact of proposed schemes. This is assessed against the specific objectives of the study, as well as wider objectives in order to consider the strategic fit.
- Key indicators are considered such as the relative importance of the scheme option to both the local and wider area, considering both the possible capacity enhancements which would be delivered.

Economic

- The approach for scoring for the Economic appraisal category considers the expected level of economic impact in terms of unlocking economic growth and productivity levels within the study area. This also considers the impact of each of the options on carbon emissions, environmental and well-being.

Managerial (Feasibility)

- The approach taken to the scoring for the Managerial appraisal category considers the expected practical feasibility of the scheme option. This includes also the governance and legal feasibility of the option, as well as the geographical feasibility and public acceptance.

Financial

- The criteria considered within this appraisal category relate to the financial costs of the proposed schemes, including both capital and revenue costs, and their affordability.

Commercial

- The Commercial category includes criteria that consider the flexibility of the option and the possible funding mechanisms.

7.3.13. Table 7-7 sets out a comprehensive list of criteria included as part of the EAST assessment process. This presents which of these criteria that have been included as part of the assessment framework for the study.

Table 7-7 – Justification of categories for inclusion in the Appraisal Framework

Category	Criteria	Included?	Reason
Strategic	Scale of Impact	Yes	To assess the extent to which the intervention alleviates the identified problem.
	Fit with wider transport and government objectives	No	The objective-based performance measures are designed to take into account national objectives. As such this does not need to be assessed again as part of the EAST appraisal.
	Fit with study objectives	Yes	To assess the extent to which the schemes address the project objectives.
	Degree of consensus over outcomes	No	Early stage of development should not prevent the scheme being progressed.
Economic	Unlock economic growth and enhance productivity	Yes	To assess the expected impact of the intervention in regard to facilitating economic growth through improving connectivity, reliability, resilience and delivery of planned developments.
	Carbon emissions	Yes	To assess the expected impact of the intervention on carbon emissions.
	Socio-distributional impacts and the regions	No	The level of detail required to assess socio-distributional impacts is not available at this stage of the study.
	Local environment	Yes	To assess the expected impact of the intervention in regard to air quality, noise, landscape and streetscape.
	Well being	Yes	To assess the impact of the intervention in areas such as severance, physical activity, KSIs and improving access to goods and services.
	Expected VfM category	No	It will not be possible to establish quantitative Value for Money for the schemes.
Managerial (Feasibility)	Implementation timescale	Yes	This will help inform the formation of option packages and timescale deliverability of the prioritised schemes.
	Public Acceptability	Yes	It is important to understand the public acceptance of each of the schemes.
	Practical feasibility	Yes	To assess how realistic, it will be to deliver the intervention.
	Quality of supporting evidence	Yes	To assess how well existing information aligns with the proposed scheme.
Financial	Affordability	No	Limited relevance at this stage of study, affordability difficult to assess at early concept stage.
	Capital cost (£m)	Yes	A broad estimation of the capital cost of the scheme.
	Revenue costs (£m)	Yes	A broad estimation of the annual Revenue costs of the scheme.
	Overall cost risk	Yes	Overall risk of cost against desired outcome.
Commercial	Flexibility of option	Yes	How flexible could the scheme be to design changes or alterations.
	Funding Sources	No	Not known at this stage of the study.
	Income Generated	No	Not known at this stage of the study.

7.3.14. The EAST criteria included for the appraisal are scored using the framework set out in Table 7-8 below.

Table 7-8 – EAST Criteria Scoring

Category	Criteria	Scoring				
Strategic	Scale of Impact	1 - Low	2	3	4	5 - High
	Fit with study objectives	0 – 1	2 – 3	4 – 5	6 – 7	8+
Economic	Unlock economic growth and enhance productivity	1 Large negative impact	2 Slight negative impact	3 Minimal impact	4 Slight positive impact	5 Large positive impact
	Carbon emissions					
	Local environment					
	Well being					
Managerial (Feasibility)	Implementation timescale (years)	10+	5 – 10	3 – 5	2 – 3	1 – 2	0 – 1
	Public Acceptability	1 - Low	2	3	4	5 - High
	Practical feasibility					
	Quality of supporting evidence					
	Capital cost (£m)	£10m+	£5m - £10m	£2.5m - £5m	£1m - £2.5m	£500k - £1m	£250k - £500k	£100k - £250k	£50k - £100k	£25k - £50k	£0 - £25k
	Revenue costs (£m)										
	Overall cost risk	1 - High	2	3	4	5 - Low
Commercial	Flexibility of option	1 Static	2	3	4	5 Dynamic

7.3.15. The criteria identified in the table above along with the performance against study objectives constitute the assessment framework used to appraise the long list of schemes in the study.

STEP 2 – SCORING ASSESSMENT

7.3.16. Each scheme in the long list was scored against the criteria within the appraisal framework which, as discussed above, includes the performance measures in Table 7-6 and the EAST criteria in Table 7-8.

7.3.17. The assessment was undertaken by qualified Transport Planners and Highways Engineers to ensure a robust test of the presented schemes.

STEP 3 – SIFTING SCHEMES

7.3.18. Based on the scoring assessment outlined above, the long list of schemes was sifted to develop a short list of schemes that should be prioritised for further development. The sifting ensures that a realistic number of distinct and feasible options are considered.

7.3.19. The sifting process was disaggregated into three steps, the process of which is detailed below.

First Pass Sift

7.3.20. The initial sift tests the strength of the strategic, economic and managerial case for the schemes to establish a range of transport solutions that meet the objectives of the study, deliver benefits and are realistically feasible.

7.3.21. For a scheme to pass the first pass sift it needed to exceed the thresholds outlined in **Table 7-9**.

Table 7-9 – First Pass Sift thresholds

Category	Criteria	Threshold
Strategic	Scale of impact	≥ 2
	No. of performance measures met	≥ 1
Economic	Economic growth	≥ 4
	Carbon emissions	
	Local environment	
	Wellbeing	
Managerial (feasibility)	Practical feasibility	> 1
	Public acceptability	> 2

7.3.22. For a scheme to proceed to the second pass of the sifting process, each of the prioritisation criteria outlined above are required to be satisfied. If a scheme satisfies seven of the eight criteria, it would fail the first pass, thus it would be discounted and not progressed to the second pass.

Second Pass Sift

7.3.23. The schemes that passed the first sift were then considered further within a second pass sift, which tests the scale of impact of the scheme in relation to the cost.

7.3.24. For a scheme to pass the second stage of the sift, the following criteria should be satisfied:

- **Capital Cost (£) or Annual Revenue Costs <= £1m-2.5m; IF**
- **Scale of Impact < 5**

7.3.25. As such schemes that had Capital or Annual Revenue costs exceeding £2.5 million also needed to deliver a high level of impact.

7.3.26. Only those schemes which satisfied all of the criteria were added to the short list of prioritised schemes as part of this study.

Third Pass Sift

7.3.27. The third pass sift involved removing schemes that did not have a tangible link to the impacts of a Local Plan site and therefore failed to satisfy the fourth objective of the study (link improvements to site allocations to enable site specific IDPs to be developed).

STEP 4 – AGREE SHORTLIST OF OPTIONS

7.3.28. **Table 7-10** summarises the number of schemes to be prioritised for further assessment under the four key categories.

Table 7-10 – Summary of Shortlisted Schemes

Scheme Category	Number of Shortlisted Schemes
Active travel	6
Public transport	9
Travel demand	1
Highways	20

7.3.29. The shortlist of schemes is shown in the tables below, having been categorised by theme, with the outcomes of each sift also presented.

Table 7-11 – Shortlisted active travel schemes

ID	Scheme Option	First Pass Sift		Second Pass Sift		Third Pass Sift
		Number of objectives	Practical feasibility	Scale of Impact	Capital Cost	
1	Pedestrian access improvements to Local Plan sites	3	4	5	£250k – £500k	**Pass**
3	On-road cycle lanes connecting Local Plan sites	3	4	3	£100k – £250k	**Pass**
4	Traffic calming measures	1	5	2	£100k – £250k	**Pass**
5	Crossing improvements	3	5	3	£0 – £25k	**Pass**
7	Cycle parking facilities	3	5	4	£0 – £25k	**Pass**
10	Crossing improvement at Bowthorn Road in Cleator Moor	3	5	2	£25k – £50k	**Pass**

Table 7-12 – Shortlisted public transport schemes

ID	Scheme Option	First Pass Sift		Second Pass Sift		Third Pass Sift
		Number of objectives	Practical feasibility	Scale of Impact	Capital Cost	
12	Improve connectivity to railway stations from Local Plan sites	3	3	4	£500k – £1m	**Pass**
16	New bus stops to serve Local Plan sites	3	5	5	£0 – £25k	**Pass**
17	Improved bus stop waiting facilities	3	5	3	£0 – £25k	**Pass**
18	Re-route existing bus services / improve frequencies to serve Local Plan sites	3	5	5	£0 – £25k	**Pass**
19	New bus route to serve Local Plan sites	3	3	5	£100k – £250k	**Pass**
21	Reinstate no.32 bus service	4	3	2	£100k – £250k	**Pass**
22	New bus service to Moresby Parks	4	3	2	£100k – £250k	**Pass**
23	New bus service between Cleator Moor and Egremont	4	3	2	£100k – £250k	**Pass**
24	New bus services in South Copeland	3	3	2	£100k – £250k	**Pass**

Table 7-13 – Shortlisted travel demand management scheme

ID	Scheme Option	First Pass Sift		Second Pass Sift		Third Pass Sift
		Number of objectives	Practical feasibility	Scale of Impact	Capital Cost	
25	Travel Demand Management measures	3	4	3	£100k – £250k	**Pass**

Table 7-14 – Shortlisted highways schemes

ID	Scheme Option	First Pass Sift		Second Pass Sift		Third Pass Sift
		Number of objectives	Practical feasibility	Scale of Impact	Capital Cost	
26	A595 / New Road	4	4	5	£500k – £1m	**Pass**
27	Lowther St / Strand St	5	4	2	£250k – £500k	**Pass**
28	Strand St / Market Place / Swingpump Lane / East Strand	5	4	2	£250k – £500k	**Pass**
29	Preston St / Coach Road	3	4	2	£250k – £500k	**Pass**
30	A595 / Inkerman Terrace / Ribton Moorside signals	3	2	5	£2.5m – £5m	**Pass**
31	Moresby Rd / Cleator Moor Rd	2	4	5	£100k – £250k	**Pass**
32	Cleator Moor Rd / Overend Rd	2	4	5	£100k – £250k	**Pass**
33	Homewood roundabout	3	2	5	£2.5m – £5m	**Pass**
35	A595 / Mirehouse Road	2	4	5	£250k – £500k	**Pass**
36	St Bees Rd / Mirehouse Rd	1	5	3	£250k – £500k	**Pass**
39	West Lakes Science Park	3	5	5	£1m – £2.5m	**Pass**
41	Castle Villas / Main St, Egremont	2	3	2	£50k – £100k	**Pass**
43	A595 / Rosehill	1	4	5	£500k – £1m	**Pass**

ID	Scheme Option	First Pass Sift		Second Pass Sift		Third Pass Sift
		Number of objectives	Practical feasibility	Scale of Impact	Capital Cost	
45	A595 / Moor Row	1	4	5	£1m – £2.5m	**Pass**
50	Traffic calming measures on rat run routes through residential areas	2	3	2	£50k – £100k	**Pass**
52	Electric Vehicle infrastructure	1	5	2	£25k – £50k	**Pass**
53	Homewood Road / Sneckyeat Road	1	4	4	£50k – £100k	**Pass**
54	Leconfield Street, Cleator Moor	1	4	4	£50k – £100k	**Pass**
56	Main St Egremont	1	4	4	£50k – £100k	**Pass**
58	Meadow View improvement	2	3	2	£25k – £50k	**Pass**

Discounted schemes

7.3.30. Schemes sifted during the appraisal process that have scores which did not meet the thresholds in all of some of the criteria are shown in the tables below. The outcomes of the First Pass Sift for the Strategic, Economic and Managerial categories are presented to provide an indication of how the schemes performed against the various assessment criteria. For details of the topic areas considered within each of the categories, please refer to **Table 7-8**. The Scale of Impact scores and costs that inform the Second Pass Sift are also included to demonstrate the indicative Value for Money.

7.3.31. Any discounted schemes still have benefits when addressing different objectives and could be taken forward as part of other work packages outside of the scope of the Copeland Transport Improvements Study which looks at improvements required to deliver the Copeland Local Plan.

Table 7-15 – Non-prioritised active travel schemes

ID	Scheme Option	First Pass Sift			Second Pass Sift		Third Pass Sift
		Strategic	Economic	Managerial	Scale of Impact	Capital Cost	
2	Full segregation of cycle infrastructure to connect to all Local Plan sites	Pass	Pass	Pass	4	£2.5m – £5m	
6	Improve wayfinding and marketing of cycling and walking information	Pass	Pass	Pass	2	£100k – £250k	Fail
8	E-scooter roll out	Pass	Pass	Pass	2	£250k – £500k	Fail
9	Segregated shared use path	Pass	Pass	Pass	2	£2.5m – £5m	
11	Improved footways around Sellafield	Pass	Pass	Fail			

Table 7-16 – Non-prioritised public transport schemes

ID	Scheme Option	First Pass Sift			Second Pass Sift		Third Pass Sift
		Strategic	Economic	Managerial	Scale of Impact	Capital Cost	
13	Enhance waiting facilities at stations	Pass	Pass	Pass	4	£2.5m – £5m	
14	Improve station access	Pass	Pass	Pass	2	£100k – £250k	Fail
15	Additional car parking at stations	Pass	Pass	Pass	2	£250k – £500k	Fail
20	Park & Ride site	Pass	Pass	Pass	2	£2.5m – £5m	

Table 7-17 – Non-prioritised highway schemes

ID	Scheme Option	First Pass Sift			Second Pass Sift		Third Pass Sift
		Strategic	Economic	Managerial	Scale of Impact	Capital Cost	
34	A595 / Meadow Road	Pass	Pass	Pass	3	£50k – £100k	Fail
37	A595 / Howbank roundabout	Fail	Fail	Pass			
38	A595 / Vale View roundabout	Fail	Fail	Pass			
40	Bookwell, Egremont	Pass	Pass	Fail			
42	Cleator Mills / A5086	Fail	Pass	Pass			
44	A595 / Highlands	Pass	Pass	Pass	4	£250k – £500k	Fail
46	Abbey Vale / B5345	Pass	Pass	Pass	3	£50k – £100k	Fail
47	Cross Hill / Finkle Street junction on B5345	Pass	Pass	Fail			
48	Outrigg / Main Street	Pass	Pass	Fail			
49	Scalebarrow / Abbey Road	Pass	Pass	Pass	2	£0 – £25k	Fail
51	Whitehaven Relief Road	Pass	Pass	Pass	5	+£10m	Fail
55	A595 Clints Brow	Pass	Pass	Pass	4	£50k – £100k	Fail
57	Safety measures on Red Lonning	Fail	Pass	Pass			
59	Streetscapes	Pass	Pass	Pass	2	£5m – £10m	
60	Prohibit HGVs on A5086	Fail	Pass	Fail			
61	St Bees Parking	Fail	Pass	Fail			
62	Duddon Bridge	Fail	Fail	Pass			
63	Bootle bypass	Pass	Pass	Pass	3	+£10m	

PDG Review of Options

7.3.32. The scoring and sifting of the longlist of schemes was reviewed by members of the PDG at a meeting on 29th April 2021. Through these discussions, the shortlist of schemes for development was further refined so that a realistic number of improvements were taken forward to Stage 3 of the study.

8 DEVELOPMENT OF THE INTERVENTIONS

8.1 INTRODUCTION

8.1.1. The interventions that successfully passed all stages of the sifting were grouped by transport mode and further developed as discussed in this chapter.

8.2 INTERVENTIONS

8.2.1. Interventions included are as follows with a short description of the types of schemes within each category:

- **Active Travel:** Walking and Cycling Improvements that connect Local Plan sites to existing infrastructure, and where required, upgrade existing infrastructure to improve connectivity between sites and key destinations such as public transport interchanges.
- **Public Transport (Bus and Rail):** Bus service routing improvements, including enhanced frequencies, new services, demand responsive services and bus shelters. Improved rail station facilities and active mode connections.
- **Highway Improvements**: Schemes that improve the capacity and/or safety of a junction that would otherwise be a constraint to the road network with the additional traffic that is forecasted to be generated by new Local Plan sites.
- **Travel Demand Management:** Plans and policies that seek to reduce the amount of vehicular traffic during the normal peak periods in order to limit the potential increase in traffic congestion at key pinch points as a result of Local Plan Sites.

8.3 INTERVENTION PROFORMAS

8.3.1. The accompanying scheme pro-formas provide outline designs and strategies for each of the interventions.

8.3.2. Conceptual designs and strategies for each of the interventions were developed and used to:

- produce indicative scheme costs (which are subject to refinement following detailed design);
- identify delivery risks; and
- outline delivery programmes, which are based on the assumption that funds are secured to deliver the project with political support.

8.3.3. Where relevant, a preferred option was identified, and / or a preferred sequence of delivery of various components of the interventions.

8.3.4. The interventions were reviewed by the PDG and presented to CCC and CBC members in an update session on 9th June 2021 (see Appendix C for a summary of the member comments).

ACTIVE TRAVEL

8.3.5. A variety of active travel interventions were identified in order to improve the cycling and walking connectivity to Local Plan sites.

8.3.6. A shortlist of prioritised improvements was identified at the previous stage of the study and these are as follows:

- ID1: Pedestrian access improvements to Local Plan sites
- ID3: On-road cycle lanes connecting Local Plan sites
- ID4: Traffic calming measures
- ID5 & ID10: Crossing improvements
- ID7: Cycle parking facilities.

8.3.7. The accompanying Active Travel pro-forma contains concept designs and scheme information.

PUBLIC TRANSPORT

8.3.8. A series of interventions were sifted from a long list to improve access to Local Plan sites by public transport, addressing issues identified in the baseline review and through engagement with members of Cumbria County Council and Copeland Borough Council. There were a variety of proposals that aim to improve connectivity to public transport services, upgrade waiting facilities or enhance service provision. The schemes include the following:

- ID12 New and improved footways and cycle routes between Local Plan sites and railway stations (reference the active travel interventions).
- ID16 Create new bus stops in proximity to Local Plan sites where there currently is no bus stop within 400m.
- ID17 Install shelters at bus stops where there is anticipated to be a significant number of travellers.
- ID18 Work with bus operators to re-route services to better serve Local Plan sites.
- ID19 Recommend service improvements link to Local Plan sites.
- ID21 Reinstate the Stagecoach 32 bus between Egremont and Whitehaven via Cleator Moor.
- ID22 New bus service to serve Moresby Parks.
- ID23 New bus service between Cleator Moor and Egremont.
- ID24 New bus services in South Copeland to provide integrated transport with the railway services.

8.3.9. The schemes above have been rationalised and are presented within the accompanying Public Transport pro-forma as a series of public transport interventions. The accompanying pro-forma contains concept designs and scheme information.

HIGHWAYS

8.3.10. Highway improvement options have been developed for the shortlist of junctions that were identified in the previous stage of the study through traffic modelling and stakeholder engagement. The interventions can be categorised as capacity or safety improvements, as set out in Table 8-1.

Table 8-1 – Highways Improvement Options

Capacity improvement	Safety improvement
ID26 A595 / New Road ID27 Lowther St / Strand St ID28 Strand St / Market Place / Swingpump Lane / East Strand ID30 A595 / Inkerman Terrace / Ribton Moorside signals ID31 Moresby Rd / Cleator Moor Rd ID32 Cleator Moor Rd / Overend Rd ID33 Homewood Road roundabout ID34 A595 / Mirehouse Road ID39 A595 / Crow Park Way ID52 Electric Vehicle charging infrastructure	ID29 Preston Street / Coach Road ID36 St Bees Road / Mirehouse Road ID41 & ID56 Castle Villas / Main Street ID43 A595 / Rosehill ID45 A595 / Moor Row ID50 Traffic calming measures to address rat running ID53 Homewood Road / Sneckyeat Road ID54 Leconfield Street ID58 Meadow View

8.3.11. The accompanying Highways pro-forma contains concept designs and scheme information.

TRAVEL DEMAND MANAGEMENT

8.3.12. Travel Demand Management (TDM) involves the application of strategies and policies to reduce travel demand, or to redistribute this demand in space, mode or in time.

8.3.13. TDM measures to reduce traffic on the road network in Copeland, particularly at peak times, are recommended to address the existing and forecast road capacity issues that have been identified at multiple junctions on the A595 and local road network.

8.3.14. The following specific options, applicable to the Local Plan impacts, are discussed in further detail within the Travel Demand Management Pro-Forma:

- Travel Plans for businesses, schools and residential sites, including parking policies; and
- Area-wide behaviour change programmes to promote sustainable travel options.

8.3.15. The accompanying Travel Demand Management pro-forma contains concept designs and scheme information.

THE CASE FOR INVESTMENT BEYOND THE LOCAL PLAN

8.3.16. The transport modelling results demonstrate that the identified capacity improvements deliver enhanced performance at each of the junctions. However at four of the junctions on the A595 (ID26, ID33, ID34 and ID39) several movements are forecast to remain over-capacity without additional TDM measures. In order to support strategic growth aspirations beyond the Local Plan allocations, there is a need for additional highway capacity on the A595 corridor in the form of a Whitehaven Relief Road as has previously been identified by CCC and HE through Whitehaven Major Transport Scheme (2017) and HE's PCF Stage 0 Assessment (2019).

8.4 COST ESTIMATING

8.4.1. Indicative cost estimates for the shortlisted interventions have been developed based on the information provided in the scheme proformas. The costs are provided in 2021 Q2 prices, with no allowance for future inflation and thus they will need to be adjusted for inflation in line with the PRIX when the schemes are to be delivered. The methodology, including assumptions and exclusions, is outlined in Appendix D.

9 LINKING DELIVERY OF INTERVENTIONS TO LOCAL PLAN SITES

9.1 INTRODUCTION

9.1.1. It is anticipated that developer contributions will be the primary funding source for the identified improvements required as a result of the additional traffic generated by the Copeland Local Plan sites. Costs estimates have therefore been developed for the schemes and these are presented in Section 8.

9.2 ACTIVE TRAVEL

9.2.1. Where required active travel infrastructure has been identified within a Local Plan Site, it is expected that the developer will procure and deliver that infrastructure as part of the site construction. Where required infrastructure is outside of the Local Plan site boundary but is required to connect the Local Plan site to the existing network (such as a footpath or cycle way along the boundary of a site), it is expected that developers will fund the full cost of the infrastructure works required. These schemes are presented below for each site, with the outline cost for each recommended scheme. Where the proposal addresses the impacts of more than one site, the cost has been split equally across sites.

Table 9-1 – Active Travel Infrastructure

Site name	Site ref	Allocation	Infrastructure proposal	Cost
Garage Site, Arlecdon Road	Ar009 Ar020	HAR1 (Residential)	Traffic calming measures along Arlecdon Road.	£5,100
			Footway surface improvements along Arlecdon Road.	£54,400
Land adjacent to Mill Fields	Be006	HBE2 (Residential)	New footway along Mill Lane to connect to existing footway.	£83,900
			Provision of advisory cycle signage along Mill Lane.	£1,700
Adj Crofthouse Farm, Sellafield Road	Be003, Be023	HBE1 (Residential)	Provision of footway along the boundary of site on the western side of Sellafield Road.	£22,400
			Provide pedestrian crossing on Sellafield Road to existing footway on the western side of the carriageway.	£37,800
Westlakes Science Park	E1	Employment	Provision of an off-road cycle access to the NCN 72 from Westlakes Science Park.	£8,300
Land adjacent Springfield Lodge	Bi009/a	HBI3 (Residential)	Provision of shared use path along the eastern side of the A595 to connect with NCN 72.	£235,400
Land north of Springfield Gardens	Bi001	HBI1 (Residential)		£235,400

Site name	Site ref	Allocation	Infrastructure proposal	Cost
Land behind Jubilee Gardens	Bi002/a	HBI2 (Residential)	Provision of shared use path along the eastern side of the A595 to connect with NCN 72.	£235,400
Leconfield Estate	Cm084	Employment	Provide off-road cycle access to the NCN 71 from Leconfield Estate.	£8,300
			New pedestrian refuge near Bowthorn Road to connect to bus stops on Leconfield Street.	£6,800
Site at Jacktrees Road	Cm028, Cm038	HCM1 (Residential)	Widen existing footways along the northern boundary of the site.	£123,000
			Traffic calming measures on Jacktrees Road from the Site at Jacktrees Road to B5295 High Street.	£12,800
			Change designation of FP403015 to bridleway to connect with the NCN 71.	N/A
			Footpath FP403015 to be subject to surfacing improvements.	£63,500
Cleator Mills	Cl005	Opportunity Site	Change designation of FP403013 to bridleway.	N/A
			Footpath FP403013 to be subject to surfacing improvements.	£155,900
Former School Site	Cm008, Cm008/b	HCM3 (Residential)	Traffic calming measures on Towerson Street.	£2,600
Land adjacent to Dent Road	Cm061, Cm082, Cm082/a	HCM2 (Residential)	Provision of shared-use path along Frizington Road from Greystones Avenue along the eastern boundary of the site.	£332,400
			Surface improvements along old Parkside Road to connect to the NCN 71.	£78,000
Furnace Row	Di030	Employment	Provision of footway connection to Distington roundabout.	£201,200
			Upgrade puffin crossing on A595 northern arm to toucan crossing.	£45,300
Cleared Housing	Di033	HDI2 (Residential)	Widen footways at pinch points.	£212,400
	Di033	HDI2 (Residential)	Implement traffic calming measures.	£10,300
Land South of Prospect Work	Di013/a	HDI1 (Residential)		£5,100

Site name	Site ref	Allocation	Infrastructure proposal	Cost
Land north Meadowbrook, Drigg	Dh004	HDH1 (Residential)	Provision of footway connection along the boundary of the sites on Station Road and B5344 (between Station Road and Land north Meadowbrook, Drigg).	£145,300
Wray Head, Station Road	Dh012	HDH2 (Residential)		£184,500
Playing Fields Ashlea Road	Eg014, Eg036, Eg050	HEG1 (Residential)	Traffic calming measures on St Bridget's Lane and Baybarrow Road to connect to Playing Fields Ashlea Road.	£21,800
Adjacent Daleview Gardens, Uldale View	Eg007	HEG3 (Residential)	Traffic calming measures on Bookwell.	£7,700
			Localised footway improvements on Bookwell.	£41,700
Gulley Flatts East, Queens Drive	Eg008, Eg025, Eg032	HEG2 (Residential)		£41,700
Bridge End	Eg055	Employment	Surface improvements on Bridge End as an alternative route to Vale View.	£54,400
			Signage on Bridge End as an alternative route to Vale View.	£1,700
Land to the South of Thornhill	To002/a	HTH1 (Residential)	Provision of an off-road cycle access to the NCN 72 from Land to the South of Thornhill.	£49,900
			Existing NCN 72 to be subject to surfacing improvements.	£70,700
Land at Griffin Close	Fr043	HFR1 (Residential)	Extend footway along the site boundary on Mill Lane.	£16,800
			Traffic calming measures along Mill Street.	£5,100
Frizington Road	Fr032	Employment	Surface improvements on Park Street.	£32,600
			Change designation of FP401005 to bridleway.	N/A
			Footpath FP401005 to be subject to surfacing improvements.	£145,000
			Surface improvements on Yeathouse Road.	£123,300
			Provision of signage on Yeathouse Road.	£3,300

Site name	Site ref	Allocation	Infrastructure proposal	Cost
Back of Grammerscroft	Mi001	HMI1 (Residential)	Traffic calming measures on Grammerscroft, Palmers Lane and Moor Terrace to connect to Back of Grammerscroft.	£6,400
			Provide pedestrian refuge crossing on Palmers Lane.	£6,800
Moor Farm	Mi022, Mi026	HMI2 (Residential)	Surface improvements and change designation of Church Walk to bridleway.	£112,400
			Surface improvements and change designation of FP415007 to bridleway. Note risk of level crossing.	£168,600
			Provide a toucan crossing on St George's Road in proximity to Church Walk.	£181,300
Mainsgate Road Expansion Site	MI040	Employment	Traffic calming measures along Mainsgate Road.	£5,100
Devonshire Road	E13	Employment	Traffic calming measures along Devonshire Road.	£15,400
Fairway Extension	Se024	HSE2 (Residential)	Change designation of FP426003 to bridleway and connect to Croft Head Road.	N/A
			Footpath FP426003 to be subject to surfacing improvements.	£117,800
Seascale Rural Workshops	Se028	Employment	Provide pedestrian crossing on Gosforth Road to footway on east side of the carriageway.	£37,800
Land West of Santon Way	Se030	HSE1 (Residential)	Traffic calming measures along Gosforth Road.	£3,900
			Provision of footbridge to serve as a crossing point over railway line in Seascale.	£2.2 million
Land adjacent Abbots Court	Sb001	HSB1 (Residential)	Improve footpath connection FP423016 between Land adjacent Abbots Court and Beach Road.	£33,500
			Provide crossing on Beach Road to footway on south side of the carriageway.	£37,800
Old Dawnfresh Factory Site	WEOS1	Opportunity Site	Widen the western footway and extend to integrate with the site.	£123,000
Red Lonning and Harras Moor Stage 3	Wh011/a	HWH2 (Residential)	Traffic calming measures on Harras Road.	£10,300
			Provision of shared-use path using existing verges on Harras Road.	£656,500
			Provision of shared use path utilising wide verges on Red Lonning.	£573,400

Site name	Site ref	Allocation	Infrastructure proposal	Cost
Hensingham Common	ELA1	Employment	Provision of shared use path utilising wide verges on Moresby Road.	£581,700
Whitehaven Commercial Park	Mp022	Employment	Provision of shared use path on Moresby Parks Road.	£664,800
Sneckyeat Industrial	E4	Employment	Pedestrian refuge on Homewood Road in proximity to Sneckyeat Industrial Estate.	£6,800
			Segregated cycle track on Homewood Road	£373,900
Garage Site Rutland Avenue	We001, We032	HWH1 (Residential)	Improved crossing facilities at Homewood Road / A595 / B5295 roundabout.	£13,600
Car Park Quay Street East	Wt030	Opportunity Site	Provision of off-road segregated cycle infrastructure.	£68,600
Jacksons Timber Yard	WEOS2	Opportunity Site		£68,600
Preston St Garage	WEOS3	Opportunity Site		£68,600
BT Depot	WEOS4	Opportunity Site		£68,600
Haig Enterprise Park	E3	Employment	Traffic calming measures along High Road and Woodville Way.	£7,700
Land west of Waters Edge Close	Ww018, Ww022	HWH4 (Residential)		£7,700
Land Adjacent to Waters Edge	Ww019/a	HWH6 (Residential)		£7,700
North of former Marchon Site	Ww014	HWH5 (Residential)		£7,700
Land at Edgehill Park (part former Marchon carpark)	Ws008/a, Ws013	HWH3 (Residential)		£7,700

9.3 PUBLIC TRANSPORT

9.3.1. Where public transport infrastructure such as bus shelters are required to support direct access from new Local Plan site developments to the bus network, it is expected that developers will fund the full cost of the infrastructure works required. Bus stop infrastructure requirements are identified in the table below.

Table 9-2 – Bus Stop Infrastructure

Site name	Site ref	Settlement	Proposed location of new bus stops	Cost
Land adjacent to Dent Road	HCM2	Cleator Moor	Frizington Road (A5086)	£91,000 for Layby £5,500 per shelter
Land at Mill Hill	HCM4	Cleator Moor	Keekle Terrace (B5295)	
Back of Grammerscroft	HMI1	Millom	Palmers Lane	
Moor Farm	MMI2	Millom	Haverigg Road	
Mainsgate Road Expansion Site	Mi040	Millom	Devonshire Road / St George's Road	
Devonshire Road	E13	Millom	Devonshire Road	
Red Lonning and Harras Moor Stage 3	HWH2	Whitehaven	Red Lonning	
Hensingham Common	ELA1	Whitehaven	Moresby Road	
Whitehaven Commercial Park	Mp022	Whitehaven	Moresby Parks Road	

9.3.2. Where recommendations have been made in relation to new bus routes or an extension / diversion of an existing route, it will be expected that the developer discusses a potential contribution to a service with the increase demand expected from each site. The following table outlines the potential for new or extended routes and the sites that they would serve.

Table 9-3 – Bus Service Potential Requirements

Site name	Site ref	Development	Bus service	Cost
Red Lonning and Harras Moor Stage 3	HWH2	Residential	New bus service to Moresby Parks	£105,000 annually Additional bus (single deck) within timetable
Whitehaven Commercial Park	MP022	Employment		
Hensingham Common	ELA1	Employment		
Back of Grammerscroft	HMI1	Residential	New bus service between Millom and Haverigg	
Moor Farm	HMI2	Residential		
Mainsgate Road Expansion Site	Mi040	Employment		
Devonshire Road	E13	Employment		

9.3.3. Alternatively, a developer should provide contributions for a demand responsive service if it is not viable to provide dedicated bus routes for the site (or within a suitable walking distance from a site).

9.4 HIGHWAYS

9.4.1. In order to assess the impact of traffic generated by each of the Local Plan sites at each of the identified junction improvement locations, the proportion of associated traffic for each site to the total forecasted traffic has been determined for the 2035 Local Plan and 2035 High Growth scenarios. This allows an assessment to determine potential developer contributions for the proposed interventions. The Local Plan sites making the most significant contribution, either in terms of additional traffic (greater than 25 trips in either the AM or PM peak period) or proximity to the proposed improvement, is set out for each of the highway improvements in the tables below.

Table 9-4 – Cost estimates for proposed capacity improvements on the A595 and attribution to Local Plan sites.

Scheme	Cost	Sites that contribute ≥25 trips in either the AM or PM Peak of the Local Plan scenario
ID26 A595 / New Road (Pelican Garage), Whitehaven	£1,497,800	1. Old Dawnfresh Factory Site 2. West Lakes Science Park 3. Bransty Row 4. Mark House & Park Nightclub
ID30 A595 / Inkerman Terrace & A595 / Ribton Moorside, Whitehaven	£1,172,200	1. West Lakes Science Park 2. Land at Mill Hill (HCM4) 3. Leconfield Industrial Estate 4. Old Dawnfresh Factory Site 5. Sneckyeat Industrial Estate 6. Adjacent Daleview Gardens, Uldale View
ID33 Homewood Road roundabout, Whitehaven	£500,000–£1 million (based on indicative cost developed by Atkins)	1. West Lakes Science Park 2. Land at Mill Hill (HCM4) 3. Leconfield Industrial Estate 4. Old Dawnfresh Factory Site 5. Garage Site, Rutland Avenue (HWH1) 6. Adjacent Daleview Gardens, Uldale View
ID34 A595 / Mirehouse Road, Whitehaven	£500,000–£1 million (based on indicative cost developed by Atkins)	1. West Lakes Science Park 2. Adjacent Daleview Gardens, Uldale View
ID39 A595 / Crow Park Way, Whitehaven	£500,000–£1 million (based on indicative cost developed by Atkins)	▪ West Lakes Science Park

Table 9-5 – Cost estimates for proposed capacity improvements on the local road network and attribution to Local Plan sites

Scheme	Cost	Sites that contribute ≥25 trips in either the AM or PM Peak of the Local Plan scenario
ID31 Moresby Road / Cleator Moor Road / Main Street, Whitehaven	£805,800	1. Land at Mill Hill (HCM4) 2. Leconfield Estate 3. Whitehaven Commercial Park 4. West Lakes Science Park 5. Red Lonning and Harras Moor
ID32 Cleator Moor Road / Overend Road, Whitehaven	£332,400	1. Land at Mill Hill (HCM4) 2. Leconfield Estate 3. West Lakes Science Park 4. Land at Edgehill Park (part former Marchon carpark) 5. Red Lonning and Harras Moor

Table 9-6 – Cost estimates of safety improvements on the A595 and attribution to Local Plan sites

Scheme	Cost	Top 3 sites that contribute the highest trip numbers in the Local Plan scenarios
ID43 A595 / Rosehill, Whitehaven	£338,700	1. Land at Mill Hill 2. Leconfield Estate 3. Whitehaven Commercial Park
ID45 A595 / Moor Row	£5-10 million (based on indicative cost developed by Atkins)	1. West Lakes Science Park 2. Land at Mill Hill 3. Leconfield Estate

Table 9-7 – Cost estimates of safety improvements on the local road network and attribution to Local Plan sites

Scheme	Cost	Sites that contribute ≥25 trips in either the AM or PM Peak of the Local Plan scenario
ID29 Preston Street / Coach Road	£41,800	▪ Meadow View, Coach Road
ID36 St Bees Road / Mirehouse Road, Whitehaven	£178,800	1. West Lakes Science Park 2. Land at Edgehill Park (part former Marchon car park)
ID41 Castle Villas / Main Street, Egremont	No cost estimate provided due to conceptual nature of this option.	1. West Lakes Science Park 2. Adjacent Daleview Gardens, Uldale View
ID50 Aikbank Road, Whitehaven	£27,300	▪ No directly adjacent attributable site with more than 25 trips
ID50 Bransty Road, Whitehaven	£44,900	
ID50 Lincoln Road, Whitehaven	£82,200	
ID50 Richmond Hill Road, Whitehaven	£25,100	▪ Sneckyeat Industrial Estate
ID50 Thornton Road, Whitehaven	£27,600	▪ West Lakes Science Park
ID53 Homewood Road / Sneckyeat Road, Whitehaven	£169,600	▪ Sneckyeat Industrial Estate
ID54 Leconfield Street, Cleator Moor	£63,700	▪ No directly attributable site with more than 25 trips
ID55 Meadow View, Whitehaven	No cost estimate provided due to conceptual nature of this option.	▪ Meadow View, Coach Road

9.4.2. The tables above present the analysis from the Local Plan scenario. If Opportunity Sites come forward, then these additional sites will likely need to contribute to the infrastructure improvements identified above. This would need to be identified on a site by site basis.

9.4.3. For the Local Authority road network, contribution to total cost of the improvement would be sought from CCC who would be responsible for the works undertaken and subsequent maintenance.

9.4.4. For HE's Strategic Road Network (A595), contributions to the scheme and a different delivery model would need to be agreed with HE who would be responsible for the works undertaken and the phasing of them in the context of other strategies, such as Road Improvement Strategy 3 (2025-2030).

9.5 TRAVEL DEMAND MANAGEMENT

9.5.1. Where traffic demand is likely to exceed the available road capacity, even after a capacity improvement, then Travel Demand Management measures will need to be adopted in order to deliver some of the Local Plan sites to mitigate potentially significant impacts.

9.5.2. A wide range of measures could be delivered at sites to manage the timing and volume of vehicles arriving / departing from site. This could be through restricting parking permits to drivers with at least one additional passenger (car share) or by providing dedicated bus services to key origins/destinations (park and ride).

9.5.3. The cost of measures can be wide ranging, from employing a dedicated Travel Planner for a site (usually part time), to providing dedicated park and ride facilities. As such, no cost has been estimated for these measures, although the cost would be expected to be borne by the developer of the site where Travel Demand Measures are required.

9.5.4. It is recommended that a Travel Planning Working Group is setup for the main Local Plan sites that are likely to have the greatest impact on the transport network, which in this instance is the impact on the A595 through Whitehaven. The group should include Cumbria County Council, Copeland Borough Council and HE.

9.5.5. The following sites have been identified as sites that will be required to have a Travel Plan with Travel Demand Measures to reduce the expected number of trips that site would normally generate (indicative trips in and out are provided for a typical AM peak hour).

Table 9-8 – Sites required to deliver Travel Demand Measures

Site	Settlement	Allocation	Forecast number of trips	
			AM in	AM out
Leconfield Estate	Cleator Moor	Employment	1,016	150
West Lakes Science Park	Whitehaven	Employment	835	82
Hensingham Common	Whitehaven	Employment	544	202
Cleator Mills	Cleator Moor	Opportunity	531	75
Old Dawnfresh Factory Site	Whitehaven	Opportunity	220	7

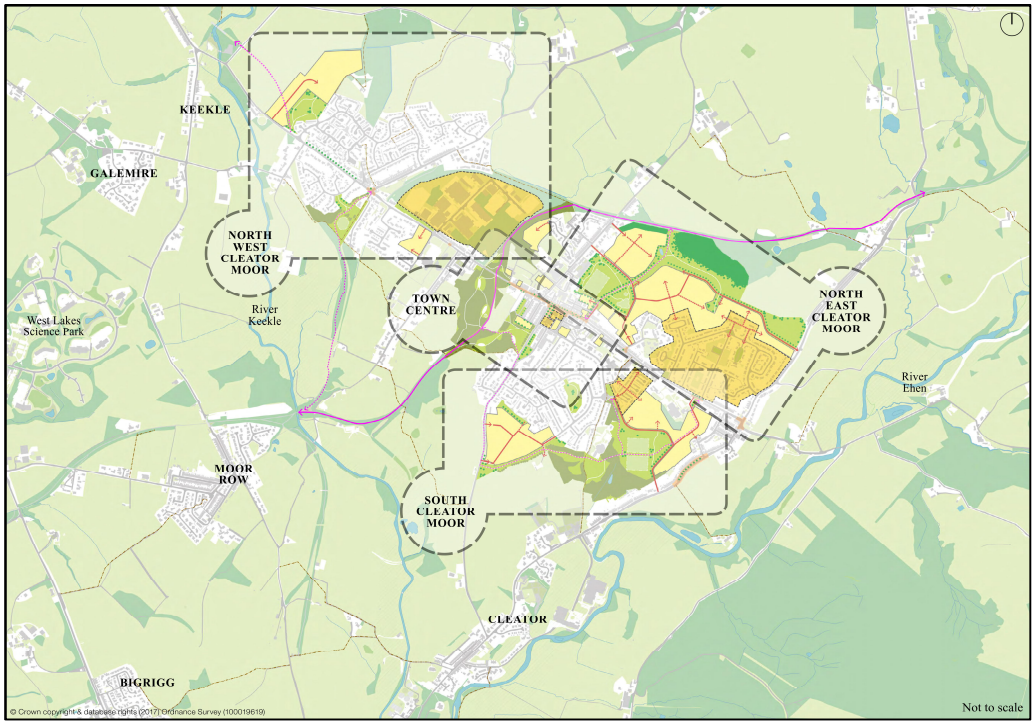
9.6 LINKS TO TOWNS FUND

Cleator Moor

9.6.1. In June 2021, CBC was awarded £22.5 million for the development Cleator Moor as part of the Towns Fund. The Cleator Moor Town Investment Plan identifies an indicative allocation of £6 million of transport and related public realm interventions to improve the connectivity of the town (see 3.5.3).

9.6.2. An illustration of the spatial plan is provided below.

Figure 9-1 - Spatial Plan (Cleator Moor Towns Fund) - Emerging Areas of Change



9.6.3. Local Plan sites in Cleator Moor include:

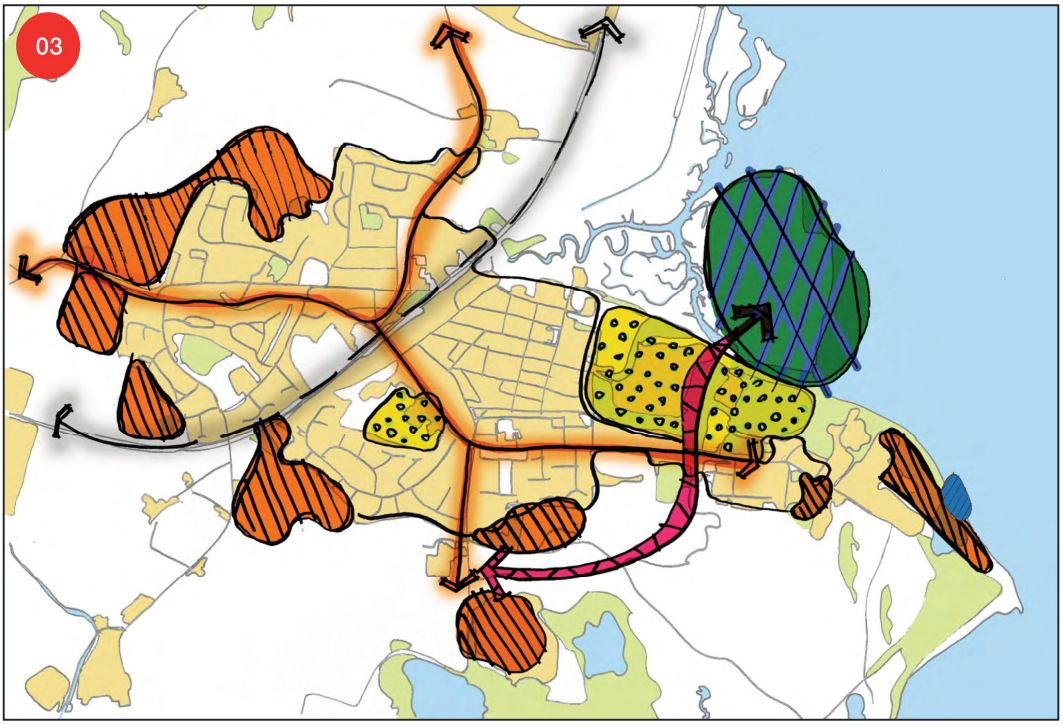
- Leconfield Estate;
- Site at Jacktrees Road;
- Cleator Mills;
- Former School Site;
- Land adjacent to Dent Road; and,
- Land at Mill Hill.

9.6.4. Given that infrastructure associated with the Town Deal is likely to be delivered early in the Local Plan period, further development work for Local Plan sites in Cleator Moor should build upon this infrastructure, identifying synergies and any further gaps not identified in this report.

Millom and Haverigg

9.6.5. Additionally, an indicative indication of a further £5.62 million was identified for 'Improving transport' projects via the Millom and Haverigg Town Investment Plan, for which CBC were awarded £20.6 million in July 2021 (see 3.5.4).

Figure 9-2 - Spatial Plan (Millom and Haverigg Towns Fund) - Expanding the Town



9.6.6. The Towns Fund application has been submitted for Millom and Haverigg, and the Local Plan sites include:

- Back of Grammerscroft;
- Moor Farm;
- Mainsgate Road Expansion Site; and,
- Devonshire Road.

9.6.7. Again, given that any infrastructure associated with the Town Deal is likely to be delivered early in the Local Plan period, further development work for Local Plan sites in Millom and Haverigg should build upon this infrastructure, identifying synergies and any further gaps not identified in this report.

9.7 NEXT STEPS

9.7.1. This report has provided the evidence base to support the identification of the infrastructure and transport policy measures required to deliver Copeland's Local Plan. These interventions have been linked to site allocations for the development of site-specific IDPs so that developer contributions can be sought to deliver the enhancements.

9.7.2. The interventions presented in this report provide the basis for further development work, and a strong indication of the level of infrastructure required to be delivered as part of the Local Plan process. As sites come forward and private developers apply for planning permission, the Transport Assessments, that are an integral part of the planning application process, need to consider all of the issues and interventions identified as being impacted by that site, and will need to be cognisant of the cumulative impacts of other developments that are part of the Local Plan.

9.7.3. A key outcome from this report is the need for Travel Demand Measures to be integrated into the masterplan of key sites across Whitehaven. The need has been identified due to the potential impact on HE's Strategic Road Network (A595). Moderate capacity improvements can be achieved

on part of the existing A595, however, further controls are required to manage the volume of traffic to prevent significant deterioration of its operation. As such, a Travel Demand Management working group should be established as part of the Local Plan so that this mitigation is embedded in the delivery of Local Plan sites across the Local Plan period.

9.7.4. It is imperative that the proposed interventions of this study are developed in alignment with parallel projects, and that project stakeholders continue to collaborate in order to deliver transport improvements. This study has been developed with consideration of the following projects:

- A595 Inkerman Terrace to Egremont Study (Atkins on behalf of HE);
- Borderlands – Hadrian's Wall Walking and Cycling Corridor (CCC);
- Cleator Moor, and Millom and Haverigg Town Investment Plans (CCC and CBC);
- Connecting Cumbria's Hidden Coast (CCC); and,
- Whitehaven LCWIP (CCC).

9.7.5. It is recommended that ongoing dialogue is held with representatives of these projects and any additional studies that emerge during the plan period to identify synergies and any further gaps not identified within this report.

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