



Craven Local Plan

Transport

Evidence Base

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Introduction

This document is a compilation of all transport evidence underpinning the Craven Local Plan. The following table describes the document's constituent parts.

Title	Date	Comments
Interim Guidance on Transport Issues including Parking Standards and Advice on Transport Assessments and Travel Plans (Part I)	2015	This guidance is issued by the local highway authority (NYCC) and covers parking for residential and non-residential uses and for bicycles. It also provides checklists to guide the preparation of successful Transport Assessments and Travel Plans.
Modelling Highway Impacts of Local Plan Developments in Skipton (Part II)	June 2017	This study assesses the impact of development already approved and residential and employment allocations in the Craven Local Plan for the Skipton area. Where appropriate the study recommends improvements to the highway network and measures to mitigate the impact.
Modelling Highway Impacts of Submission Draft Plan Developments in Bentham and Settle (Part III)	September 2018	This study assesses the impact of development already approved and residential and employment allocations in the Craven Local Plan for Bentham and Settle. The study concludes that there are no significant impacts, on the road network, from the allocations.
North Yorkshire Local Transport Plan 2016-2045 (Part IV)	2016	This document (LTP4), sets out how the transport services and infrastructure provided by NYCC and partners aim to contribute towards a shared Vision and the five NYCC Council Plan priorities.
A Strategic Transport Prospectus for North Yorkshire (Part V)	2015	This document sets out how NYCC would like to work with the Government, Transport for the North and the Northern City Regions to ensure that improved transport connections allow the county to both contribute to and share in the economic benefits of The Northern Powerhouse.
Central Trans-Pennine Corridor East – West Connectivity (Part VI)	March 2017	This study explores the potential economic benefits that might arise across the North of England from enhanced connectivity between Lancashire and North and West Yorkshire. The purpose is to support the case for potential investment and intervention in road/rail across these three economies comprising the Central Trans-Pennine Corridor.

Part I: Interim Guidance on Transport Issues including Parking Standards and Advice on Transport Assessments and Travel Plans 2015

Interim Guidance

on

Transport Issues

including

Parking Standards

and

Advice on

Transport Assessments

and

Travel Plans

Appendix A (2015)

Parking Standards

Guidelines for Provision

- 1 Plans defining the urban areas and market towns can be found in the appropriate Local Plan.
- 2 These are **MINIMUM** parking standards, to be applied at **residential developments** with different values dependent on accessibility to public transport proximity of differing land uses and location.
- 3 A flexible approach should be taken in using the standards so that each development proposal is assessed on its merit. A lower parking provision may be appropriate, particularly in more central locations where public transport provision is greater, depending on the circumstances of each case. This should be established from early discussions with the highway authority.
- 4 Operational parking space is defined as the space required for cars and other vehicles regularly and necessarily involved in the operation of the business of particular buildings. It includes space for commercial vehicles delivering goods to or collecting them from the buildings, space for loading and unloading and for picking up and setting down of passengers.
- 5 Where no operational requirement is specified, adequate provision for servicing must be provided. This should include sufficient space to allow the maximum number and size of vehicles likely to serve the development at any one time to manoeuvre with ease and stand for loading and unloading without inconvenience to other users of the site.
- 6 Staff requirements quoted refers to the likely maximum number of staff to be present on site at the busiest time.
- 7 In a number of cases, new development will incorporate more than one land use. In these circumstances, the standards applicable to each use simultaneously will be demanded.
- 8 All parking layouts must be designed in such a way that pedestrian and cyclist safety and convenience have absolute priority.
- 9 Where a specific category is not listed standards will be determined by discussion.
- 10 The needs of people with disabilities should be properly provided for in the design of parking areas, and reduced parking levels should not apply to the provision of such spaces. Parking for the disabled should be additional to the general parking provision. A minimum provision equal to 6% of spaces should be designated for people with disabilities, with a minimum of 1 space for employment developments, and 3 spaces for retail/leisure developments above 1000m². The spaces need to be extra wide to cater for wheelchair manoeuvring and be located as close as practical to building entrances. The kerb adjoining these spaces should be dropped along the entire length of the parking spaces to facilitate ease of movement for wheelchair users.

Cycle and operational parking for non-residential uses

Land Use	Use Class	Cycle Parking (Minimum)	Operational Parking (Minimum)
Education			
Nursery Schools	D1	Staff 1 space/5 staff	Facility for contract buses School Travel Plan <i>Space for deliveries</i>
Primary and Secondary Schools	D1	Staff 1 space/5 staff Students 1 space/5 students	Sufficient facility for contract buses School Travel Plan <i>Space for deliveries</i>
Sixth Form Colleges and Colleges of FE	D1	Staff 1 space/5 staff Students 1 space/5 students	Travel Plan <i>Space for deliveries</i>
Medical			
Health Centres Doctors' Surgeries Dentists' Surgeries Veterinary Surgeries		1 space / 3 consulting rooms	1 space / doctor or nurse facilities for patients to pick up and set down as appropriate disabled parking
Business and Industry			
Offices	B1 A2	1 space / 150m ² GFA	space for deliveries
Banks		1 space / 150m ² GFA	1 suitably located space to accommodate security van and other deliveries in a town centre
Industry			
Manufacturing	B2 to B7	Staff 1 space / 200m ² GFA Customers 1 space / 500m ² GFA	1 service vehicle / 500m ² GFA
Warehousing	B8	1 space / 400m ² GFA	1 service vehicle / 250m ² GFA
Offices		1 space / 150m ² GFA	space for deliveries

Hotel and Catering			
Hotels /Motels Defined as more than 20 beds	C1	1 space /10 bedrooms	1 space / resident member of staff Coach pick up/ set down Taxi pick up / set down
Guest Houses Defined as under 20 beds	C1	1 space /10 bedrooms	1 space / resident member of staff
Restaurants	A3	1 space / 50m ² PFA (Public Floor Area) (minimum 4 spaces)	Taxi / car pick up / set down Space for deliveries Note: These standards may be varied for town centre sites depending on the availability of public car parking.
Public houses / Licensed Clubs		1 space / 10m ² PFA (Public Floor Area)	Space for deliveries Note: These standards may be varied for town centre sites depending on the availability of public car parking.
Automotive industry			
Garages Service Stations Car Repair Workshops	none	Staff 1 space / 6 staff	1 space / breakdown or towing vehicle where a car wash is provided, space for 5 cars to wait
Motorist Centres Tyre fitting, exhausts etc		Staff 1 space / 6 staff	space for 2 cars to wait

Retail			
Town centre / neighbourhood shops		Staff 1 space / 200m ² GFA Customers 1 space / 100 m ² GFA	1 service vehicle / 500 m ² GFA
Supermarkets (under 1000 m ² GFA)		Staff 1 space / 200m ² GFA Customers 1 space / 500 m ² GFA	1 service vehicle / 500 m ² GFA
Superstores (over 1000 m ² GFA)		Staff 1 space / 200m ² GFA Customers 1 space / 750 m ² GFA	1 service vehicle / 500 m ² GFA
DIY stores Retail Warehouses		Staff 1 space / 200m ² GFA Customers 1 space / 750 m ² GFA	1 service vehicle / 500 m ² GFA
Garden Centres		Staff 1 space / 200m ² GFA Customers 1 space / 750 m ² GFA	1 service vehicle / 500 m ² GDA (Gross Display Area)
Entertainment and public spaces			
Public Halls Places of Assembly Community Centres Places of worship	D1	1 space / 25 m ² GFA	Space for deliveries
Cinemas and theatres excluding multiplexes		1 space / 50 seats	Space for coaches to pick up and set down as appropriate Space for deliveries
Dance Hall discotheque		1 space / 50 m ² GFA	Space for deliveries Note these standards may be varied for town centre sites depending on the availability of public car parking
Libraries museums and Art Galleries	D1	1 space / 300m ² GFA as appropriate	Space for mobile library van as appropriate

Sports and leisure			
Indoor and outdoor stadia including Rugby League and Football Stadia and Cricket Grounds	D2	Staff 1 space / 10 staff Players and spectators Determined by Travel Plan	Coaches for players space for deliveries
Sports and Leisure Centres	D2	Staff 1 space / 10 staff Players and spectators Determined by Travel Plan	space for deliveries
Swimming pools and skating rinks		Staff 1 space / 10 staff Players and spectators Determined by Travel Plan	space for deliveries
Golf Courses		Staff 1 space / 10 staff	space for deliveries

Residential - special			
Frail elderly nursing homes (restricted to 60/ 65+)		1 space / 6 staff	Staff 1 space / resident member of staff 1 space / 2 non- resident member of staff Space for ambulance or customised transport Space for deliveries
Sheltered accommodation (restricted to 65/65+ and restricted to 1 bedroom units)		1 space / 10 staff	Staff 1 space / resident member of staff 1 space / 2 non- resident member of staff Space for ambulance or customised transport Space for deliveries
Semi-retirement accommodation (where individual units are self-contained)			Staff 1 space / 2 non- resident member of staffs Visitors 1 space / unit Space for deliveries
Student accommodation		1 space / 2 units	1 space / 3 students space for deliveries
Community housing for the handicapped			Staff 1 space / resident member of staff 1 space / 2 non- resident member of staff ambulance or customised transport Space for deliveries
Extra care facilities		1 space / 6 staff	Staff 1 space / resident member of staff 1 space / 2 non- resident member of staff Space for ambulance or customised transport Space for deliveries

Residential Parking Standards

Minimum Vehicle Parking					
use class	Land Use	Minimum Cycle Parking	Rural Areas	Market Towns and Harrogate / Knaresborough Scarborough Catterick Garrison	Central Urban Areas <i>with good accessibility to all services</i>
	Dwelling 4 or more bedrooms	Secure facility to lock cycles	3 spaces	2 spaces	
	Dwelling 3 bedrooms	Secure facility to lock cycles	2 spaces	2 spaces	
	Dwelling 2 bedrooms	Secure facility to lock cycles	2 spaces	1 space	
	Dwelling 1 bedroom	Secure facility to lock cycles	1 space	1 space	
	Houses in multiple occupancy Bedsitters	Secure facility to lock cycles per bedroom	To suit location		

Appendix B (2015)

Cycle Parking Facilities

Guidelines for Provision

The type of cycle parking provided should be based on the expected length of stay by the prospective user.

Short Stay

Where the length of stay by the user is expected to be less than approximately 2 to 3 hours (e.g. customers at a supermarket) short stay cycle parking facilities will normally be adequate. These should preferably be 'Sheffield' type stands these being a fixed hoop against which a cycle can be lent and locked. These are available commercially from a number of manufacturers. Any type of stand that supports the cycle by its wheel should be avoided as these often cause damage to the wheel.

Short stay cycle parking facilities need not necessarily be undercover but providing covered parking facilities may benefit customers.

Long Stay

Where the length of stay by the user is expected to be over approximately 3 hours (e.g. staff parking) long stay facilities should normally be provided. These may be either Sheffield type stands provided in a covered area or covered bike shed or cycle lockers. Both of these types of facility are available commercially from a number of manufacturers.

Long Stay cycle parking should be located near to the final destination and be covered and secure.

Location of Cycle Parking

The location of cycle parking is crucial to its successful use.

All types of cycle parking should be located in an area which has regular passing pedestrian traffic. This provides informal supervision, increases the security of the facilities and therefore increases its use.

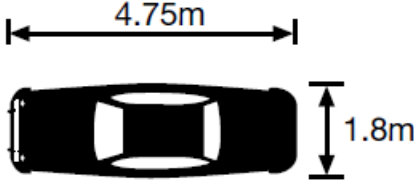
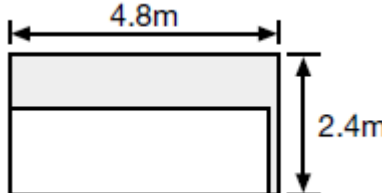
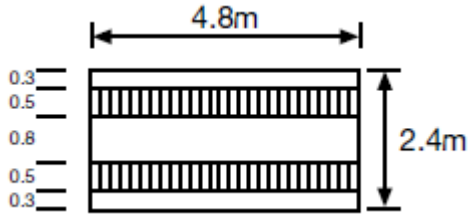
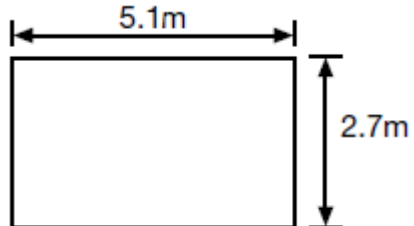
Short stay cycle parking should be located as close as possible (e.g. within 30 m) to the final destination (e.g. as close to the store entrance as possible). Experience shows that where the facility is not located close to the final destination its use is decreased. This can lead to problems with informal cycle parking at the entrance to the development (e.g. cycle locked to trolley parks at supermarket entrances).

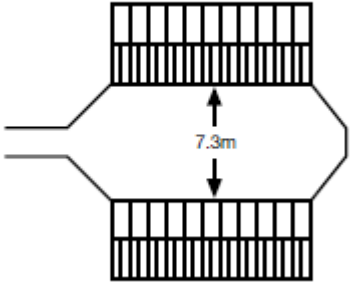
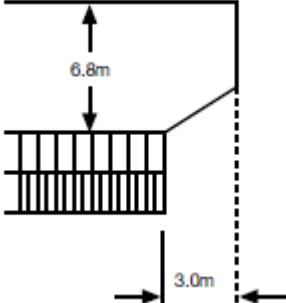
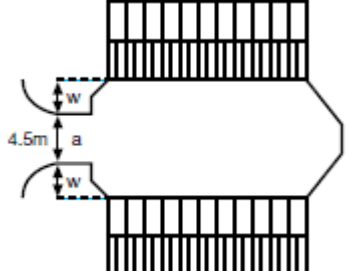
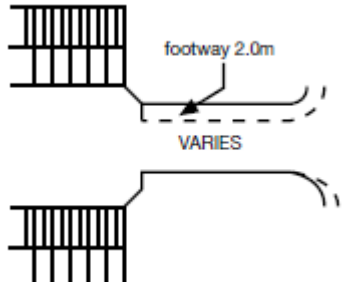
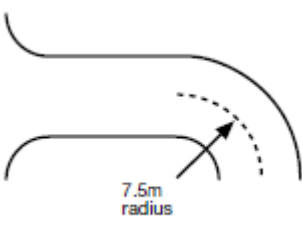
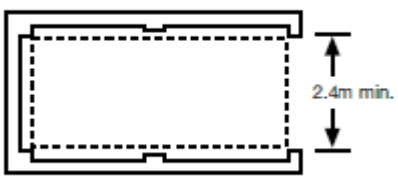
Ongoing Review of Provision

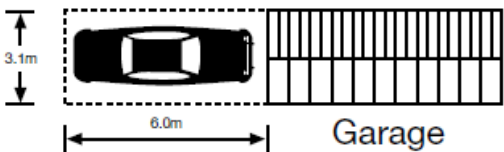
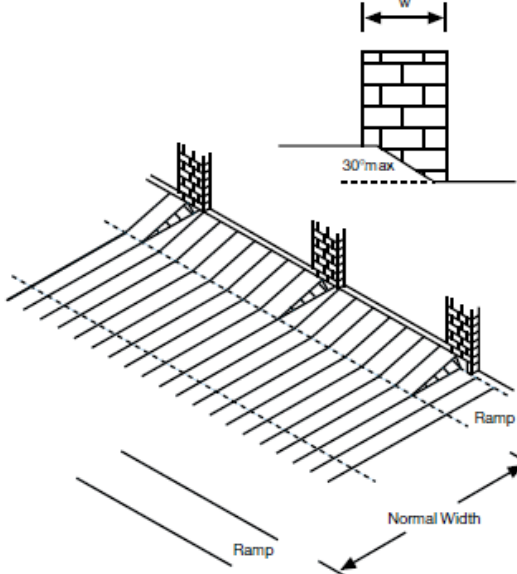
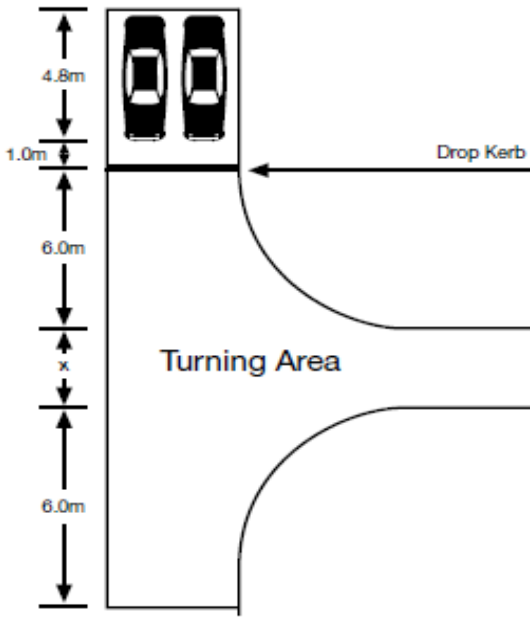
The number of cycle parking places specified in the guidelines is the recommended minimum provision. The developers should always assess whether an increased level of provision may be necessary or advantageous. Additionally, the developers should monitor usage of the cycle parking facilities following completion of the development. If the cycle parking is well utilised consideration should be given to providing additional parking.

Appendix C (2015)

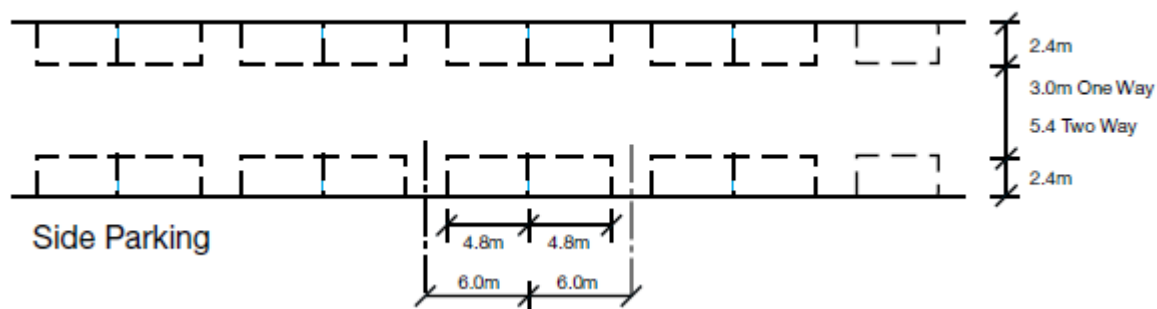
Car Parking Dimensional requirements

Standard Car Size	
99% of all new cars will fit within the dimensions of a rectangle 4.75m x 1.8m.	
'Standard' Car Parking Space	
A minimum space of 4.8m x 2.4m is required for the hard standings, car ports and the internal dimensions of garages. The standard dimensions of 4.8m x 2.4m must only be used as a general minimum (16ft x 8ft).	
Basic Hard standing	
For a standard car excluding working space for individual plots.	
Basic Convertible hard standing or car port convertible to garage later. Group hard standings convertible to garages later	
Notes <ol style="list-style-type: none"> Dimensions of convertible hard standings include allowance for wall thickness. Slab dimensions are the absolute minimum for garages and larger sizes will be to provide working space. Add from 0.6m in length x 1.0m in width to 1.5m in length and 1.5m in width for working space. In special case of garages or car ports for the semi-ambulant, see 'Designing for the Disabled' by Selwyn Goldsmith RIBA. 	
Car Working Space	
Basic space	2.4m x 4.8m
A Working surface and minimum clearance	3.2m x 5.6m
B Door opening from dwelling	3.4m x 5.8m
C Washing and cleaning	3.5m x 5.9m
D Washing and storage space	3.6m x 6.0m
E As D, with space for kneeling	3.8m x 6.3m

<p>Garage Forecourts</p> <p>Manoeuvring space between walls or garages Min 7.3m – up to 9.0m desirable. To allow for opening lock up doors and cars parked outside.</p>									
<p>Manoeuvring space between garage and opposite kerb Manoeuvring space at end of forecourt aisles 3.0m.</p>									
<p>Garage forecourts need to be kept as visually unobtrusive as possible. The provision of screening by layout or by screen wings (w) may be required.</p>									
<p>Access Widths to Garage Courts</p> <table border="1"> <thead> <tr> <th>Total spaces*</th> <th>Widths</th> </tr> </thead> <tbody> <tr> <td>(a) Up to 6</td> <td>2.5m</td> </tr> <tr> <td>(b) 7-16</td> <td>4.5m</td> </tr> <tr> <td>(c) Over 16</td> <td>5.0m</td> </tr> </tbody> </table> <p>* Garages and hard standings For service vehicles to mews area 4.5m.</p>	Total spaces*	Widths	(a) Up to 6	2.5m	(b) 7-16	4.5m	(c) Over 16	5.0m	
Total spaces*	Widths								
(a) Up to 6	2.5m								
(b) 7-16	4.5m								
(c) Over 16	5.0m								
<p>Radius</p> <p>For access ways up to 16 spaces a minimum centre line radius of 7.5m. For access ways over 16 spaces radius to be designed for 10mph and forward visibility provided accordingly. Washing areas should be sited clear of the vehicular access and parking area</p>									
<p>Individual Garage</p> <p>The MINIMUM internal size is 4.8m x 2.4m. THROUGH garages – with doors back and front are strongly recommended when this can give access for additional rear curtilage parking.</p>									

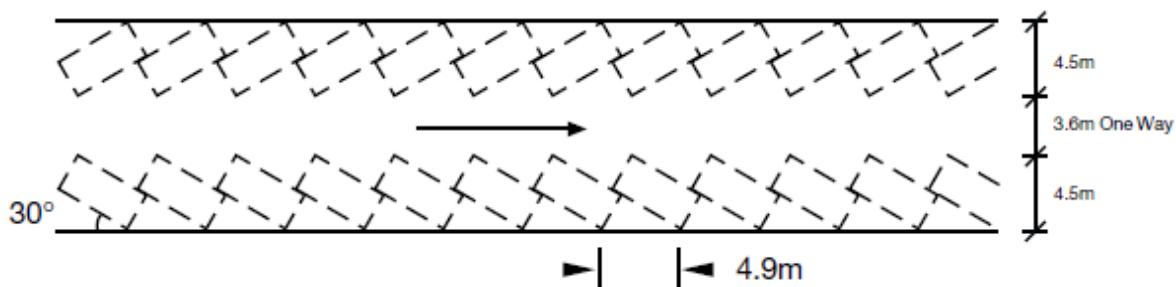
Minimum Garage size to count as parking:	
From MfS the Minimum Garage size for it to be counted as a parking space	<p style="text-align: center;">3.0m x 6.0m</p>
Other requirements	
<p>Parking Space in Front of a Garage Allow a minimum of 6m space for minimum working at rear, up and over door clearance at front.</p> <p>This space MUST NOT lie within future highways limits.</p>	
<p>Grouped Garages on Sloping Sites Where garages are sited across contours they may need to be wider than normal to accommodate wider piers.</p> <p>The manoeuvring space in a garage forecourt will need to be wider than the minimum to accommodate a short ramp.</p> <p>The length of a ramp and width of pier will depend on the slope of the forecourt.</p>	
<p>Parking Space Abutting Turning Areas Parking bays will need to be lengthened where they abut turning areas and provided with a drop kerb to act as a distance stop.</p> <p>This will enable large vehicles to turn properly.</p>	

Car parking Dimensional Requirements

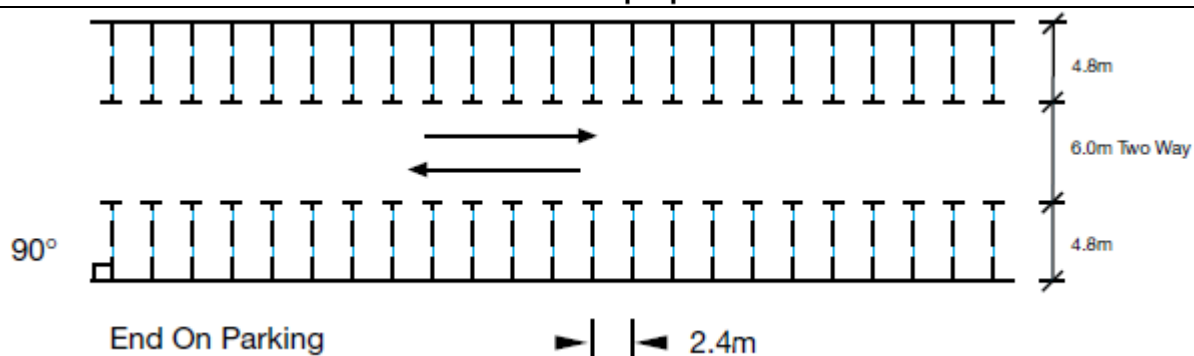
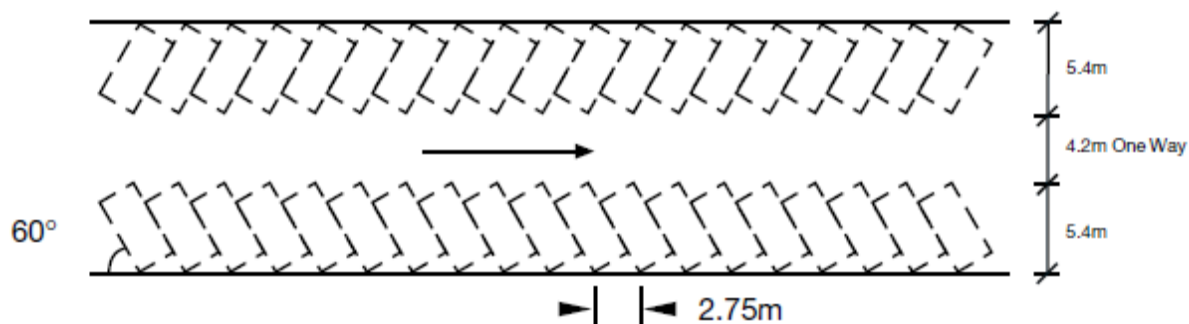
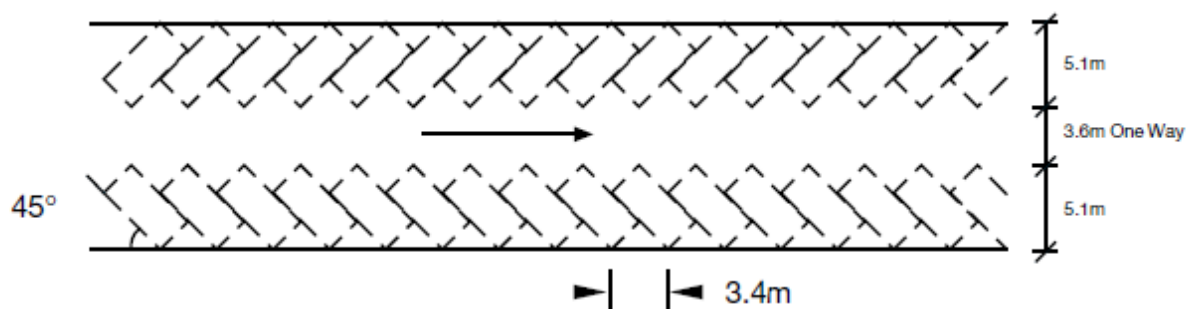


Alternative Parking layouts

N.B. These arrangements are not normally acceptable adjacent to highways



Alternative Parking layouts continued



Checklist for a Transport Assessment

A properly prepared TA will help assess the development's compatibility with the relevant policies and allow the transport implications of proposed developments to be properly considered. It will, where appropriate, identify the appropriate developer funded mitigation to facilitate development.

This checklist will assist developers to ensure all the necessary issues are considered in the preparation of their Transport Assessment.

The list should not be viewed as a substitute for a meeting with the local highway authority to scope the content of the Transport Assessment.

ISSUES TO BE CONSIDERED BY DEVELOPER	
Executive Summary	
To be written so the public can understand the conclusions. Also make sure the methodology and build-up of assumptions in the main report itself are clear to read and follow.	
Policy Framework – Please agree with the Highway Authority	
Consideration should be given to relevant national and local policy	
Existing Highway Conditions – Please agree with the Highway Authority	
Consider the existing road infrastructure.	
Highlight existing problems (queues, accidents, complaints etc.)	
Set out the existing traffic flows. Are the surveys current and representative? What are the peak hours? What about the weekend? Holiday periods?	
Have the counts included HGVs? Are PCUs conversions, or %HGVs used in capacity calculations?	
Does the report highlight all the critical junctions and links, or are there more?	
Does the report consider other committed developments (or vacant buildings etc.) which might have a noticeable impact on the base traffic assumptions?	
The Proposed Development	
Does the development description match that shown on the planning application?	
Generation and Assignment – Please agree with the Highway Authority	
What assumptions have been made about modal split, do these relate to the area?	
Is the traffic generation methodology robust?	
Are comparative sites similar in composition and location?	
Is the sample large enough and the sites comparable to the area?	
Are the figures mean or 85th percentile?	
Do the figures correlate to the proposed parking levels and modal split assumptions?	
What are the peak weekday and weekend times, do these relate to the surveyed network peaks or is there a combination of different peak times? Consider tidality for new junctions.	
What about HGV traffic generation, is this material?	
On what basis is the traffic assigned to the road network (comparative counts, gravity model, a range of tested options, a guess?) Is this reasonable, has it been justified? Are sensitivity tests needed?	
What assumptions have been made for traffic already on the network e.g. pass-by/diverted trips?	
What effect will competing sites have on the above?	
Without a further planning consent, what other uses could go on in the site?	
Do the conclusions match those in other reports e.g. Retail Impact Assessment?	

Future Issues – Please agree with the Highway Authority	
Are there any committed or protected highway or transportation schemes which would have a direct or indirect effect on any of the above?	
What traffic growth assumptions have been made, have these been substantiated?	
Vehicular Impact – Please agree with the Highway Authority	
Have the correct road junctions and links been identified?	
How have the critical junctions and links been analysed? Has this been done properly?	
Do the calculations model existing conditions; do these reflect what actually occurs?	
What is the future impact in terms of capacity, delay, queuing etc?	
Consider the implications of the impact (increased accident risk, effect on other road users, pollution, noise, vibration, queuing through junctions, excessive delay, rat-running to avoid problems, impact on schools and other sensitive locations etc.)	
What mitigating measures is the developer proposing; are these deliverable?	
What about HGVs?	
Is secure powered two-wheeled parking provided?	
What are the consequences on other vehicles, pedestrians, cyclists and public transport etc?	
What developer funded improvements are required?	
Pedestrian Impact – Please agree with the Highway Authority	
What is the catchment zone?	
What are the routes on foot to/from the site (access to/from residential areas, public transport connections, local facilities etc.)?	
Are there any accident problems involving pedestrians?	
Is there, or will there be, a need for help in crossing roads?	
What about dropped crossings/tactile facilities etc?	
What about footway/path widths, surfacing, lighting, safety/security?	
Has the site been designed to achieve good access on foot or do you have to negotiate a sea of car parking?	
Are pedestrians disadvantaged in any way by these proposals?	
What developer funded improvements are required?	
Bicycle Accessibility – Please agree with the Highway Authority	
What is the catchment zone?	
What are the routes by bicycle to/from the site (access to/from residential areas, public transport connections, local facilities etc.)?	
Are there any accident problems involving cyclists?	
Is there, or will there be, a need for help in crossing roads?	
What about cycleway/path widths, surfacing, lighting, safety/security, junction arrangements?	
Has the site been designed to achieve good access by bike without negotiating a sea of car parking?	
Is the bicycle parking convenient, safe, secure, covered etc. and in accordance with the highway authority's guidelines?	
Have bicycle changing, showering, locker, clothes drying facilities been provided?	
What developer funded improvements are required?	

Public Transport Access – Please agree with the Highway Authority	
Which bus/train services pass the site, and do they stop?	
How frequent, when do they start and finish, what about at the weekend?	
Where can you get to on the existing services and where can't you get to?	
Are the stops close to the site (consider shelters, lighting, bicycle parking, seating, information etc.)?	
How accessible are the stops on foot (directness, dropped crossings, tactile facilities, crossing facilities)?	
For major sites – do the buses have sufficient capacity at peak times?	
Can public transport penetrate the site? Consider cost, increased journey times for other users etc.	
What developer funded improvements are required?	
Conclusions & Reminders	
What developer funded improvements are required? – Please list including the need for any TROs.	
Has a Road Safety Audit been organised?	
Are legal agreements required? T&CP Act Section 106, Highways Act Section 278 and/or Section 38?	
Is a 'Travel Plan' Required? – Please agree with the Local Highway Authority	
What measures are to be included?	

	Indicative Thresholds for preparing Transport Assessments	TS	TA	TA/TP
	Residential developments where there are more than 50 dwellings.	✓		
	Residential developments where there are more than 80 dwellings.			✓
	Any development that is not in conformity with the adopted development plan.			✓
	Any development generating 30 or more two-way vehicle movements in any hour.		✓	
	Any non-residential development generating 100 or more two-way vehicle movements per day.		✓	
	Any development proposing 100 or more parking spaces.		✓	
	Any development that is likely to increase accidents or conflicts among motorised users and non- motorised users, particularly vulnerable road users such as children, disabled and elderly people.			✓
	Any development generating significant freight or HGV movements per day, or significant abnormal loads per year.		✓	
	Any development proposed in a location where the local transport infrastructure is inadequate. – for example, substandard roads, poor pedestrian/cyclist facilities and inadequate public transport provisions.		✓	
	Any development proposed in a location within or adjacent to an Air Quality Management Area (AQMA)		✓	
	Any development where in the opinion of the local highway authority problems are already being encountered and a lower threshold may be considered a material concern.		✓	

Not used

Checklist for a Travel Plan

A properly prepared Travel Plan will assist in mitigating the impact of development.

This checklist will assist developers to ensure all the necessary issues are considered in the preparation of their Travel Plan. It is not exhaustive and should not be considered as such.

The list should not be viewed as a substitute for a meeting with the local highway authority to discuss the content of a Travel Plan prior to drafting.

Issues to be Considered by Developer	
Executive Summary	
To be written so the public can understand the conclusions.	
Policy Framework	
Consideration should be given to relevant national and local policy.	
Administrative Arrangements	
Is there a nominated person with responsibility for the Travel Plan and its maintenance?	
Is there a survey of staff travel choices for current staff and/or statistics that will inform the likely use of the new development?	
Have you presented a timetable for completion of the travel plan and submission of interim reports to the local highway authority at not less than two-year intervals? Have you made provision for any monitoring fee required through a S106?	
Is there evidence that public transport operators have been consulted?	
The Proposed Development	
Is the site permeable for walkers and cyclists so that all of the desire lines across the site are possible without detour?	
Is there a car park management system that includes parking permits?	
Does the car park layout incorporate spaces for car sharers in an attractive and visible location?	
Is the approach to key locations convenient and convivial for walkers?	
Is the approach to key locations convenient and convivial for cyclists?	
Is there secure (i.e. overlooked) cycle parking in a location that encourages cycling; e.g. near the clocking-in point in a workplace?	
Are there features within suitable buildings that would encourage cycling; e.g. changing rooms, lockers, showers?	
Are there clear, safe, well-lit connections to the nearest public transport routes?	
Are there facilities for waiting for public transport on-site?	
Public Transport Promotions	
Are timetables displayed in a visible location and telephone calls to public transport information lines made available free of charge?	
Are there initiatives planned to encourage a positive attitude to public transport; e.g. free trial weeks, discount on ticket purchase etc?	

Car Sharing Promotion	
Is there a car-share database or other means to encourage car sharing?	
Are there any promotion measures/incentives to encourage car sharing?	
Walking Promotions	
Are there plans to encourage walking, e.g. through promotional campaigns linked to walking and health?	
Will walkers benefit in any way from the Transport Plan?	
Cycling Promotions	
Is there an appropriate mileage allowance for work-related bicycle use?	
Is there a bicycle user group?	
Is there promotion of national events such as Bike to Work Week?	
Is there financial assistance towards the purchase or loan of a bicycle?	
Office Practice	
Is maximum possible use made of flexible working in order to reduce the need to travel?	
Is maximum possible use made of information technology in order to reduce the need to travel?	
Is there a goods inwards/outwards delivery policy that discourages wasteful journeys?	
Is there a company car policy that discourages driving?	
General Promotions	
Are there constant reminders of the need to reduce unnecessary car use?	
Are there two or more positive attempts per year to involve occupants in promotions of alternatives to the car?	
Are small efforts made to avoid all forms of travel, e.g. canteen or shop on site?	
Conclusions & Reminders	
What developer funded improvements are required? – Please list	
Are legal agreements required? T&CP Act Section 106?	
Are the Targets SMART and deliverable?	

Part II: Modelling Highway Impacts of Local Plan Developments in Skipton June 2017

Craven District Council

Local Plan Evidence Base

**Modelling Highway Impacts of
Local Plan Developments in
Skipton**

June 2017

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Originated by		Checked by		Reviewed by	
Draft 2	NAME Bala Kannemadugu	NAME Ravi Grandhi	NAME Richard McGarr		
Approved by	NAME Richard McGarr	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I approve them for issue			INITIALS
DATE	Feb 2017	Draft For Internal Review			

REVISION		NAME Bala Kannemadugu		NAME Ravi Grandhi		NAME Richard McGarr	
Final							
Approved by	NAME Richard McGarr	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I approve them for issue				INITIALS	
DATE	April/May 2017	Document status Final Draft For Client Review					

REVISION		NAME Bala Kannemadugu		NAME Ravi Grandhi		NAME Richard McGarr	
Final 2							
Approved by	NAME Richard McGarr	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I approve them for issue				INITIALS	
						RM	
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1 Introduction

1.1 Overview

- 1.1.1 Jacobs have been asked by Craven District Council (CDC) to undertake traffic modelling work to ascertain the traffic impacts of proposed development sites within the town of Skipton as part of the forthcoming Craven Local Plan.
- 1.1.2 The results and recommendations of this study are supported, in part, by outputs from the Skipton strategic transport model, which enables development impacts and proposed transport solutions on the highway network, to be identified.
- 1.1.3 The Council is now advancing its Local Plan. This will allocate specific sites principally for residential and employment purposes across the District in line with the Local Plan Strategy.
- 1.1.4 In accordance with paragraph 32 of the National Planning Policy Framework (NPPF), the Craven District Local Plan should take account of whether (amongst other matters) improvements can be undertaken within the transport network that cost effectively limit the significant impacts of any proposed development. In the light of the focus of new development in Skipton and the relatively low levels of growth proposed elsewhere in the Local Plan, such significant impacts are only likely in the Skipton area. This study assesses the impact of committed development (already with planning permission, but not yet occupied) and the potential residential and employment allocations in the Craven Local Plan for the Skipton area. Where appropriate the study recommends improvements to the highway network and measures to mitigate these impacts. .

1.2 Aim of Study

- 1.2.1 This document seeks to provide evidence on the prospective highway impacts of Local Plan development proposals in and around Skipton within the Local Plan period to the year 2032.
- 1.2.2 The purpose of the analysis is to examine the overall impact of development in terms of travel demands and network performance, with a view to identifying the need for potential mitigation measures and junction improvements to complement the Local Plan growth strategy and support the Local Plan objectives.
- 1.2.3 The analysis is an essential element of the evidence base underpinning the preparation and justification of site allocations that will be identified in the Local Plan. Key considerations during the study have been:
 - Identification of any major constraints on the local roads network as a result of Local Plan proposals and assessment of any improvement measures to support these.
 - Provide feedback and allow for consultation between key stakeholders, including Craven District Council, North Yorkshire County Council (as the Local Highway Authority), and other parties.
 - Provide a transport evidence base to aid development of a robust developer contributions funding mechanism and help determine how the measures will be funded, to deliver the transport infrastructure to support the Local Plan.

1.3 Report Structure

1.3.1 The remainder of this report is structured as follows:

- Chapter 2 details the base traffic model utilised for the study.
- Chapter 3 details the forecasting methodology.
- Chapter 4 details the Local Plan development sites modelled.
- Chapter 5 contains the results of the junction assessments.
- Chapter 6 discusses further junction assessments should improvements be put in place.
- Chapter 7 discusses supplementary junction improvements which could or should be considered but which are not associated with the Local Plan traffic.
- Chapter 8 presents the final summary and conclusion.

2 Skipton Base Highway Model

2.1 Base Highway Model History

- 2.1.1 The development of the Skipton traffic model was originally commissioned by North Yorkshire County Council (NYCC) in 2009 to assess the transport implications of developments and packages of transport improvements on the existing highway network.
- 2.1.2 The model was built using VISUM software, which is capable of modelling both the impacts of new development and proposed transport improvements both on the overall highway network and at individual roads and junctions.
- 2.1.3 The traffic model covers the built-up area of Skipton and the A65 and A59 along the northern edge of the town. Figure 2-1 below shows the coverage of the traffic model as used for this study.

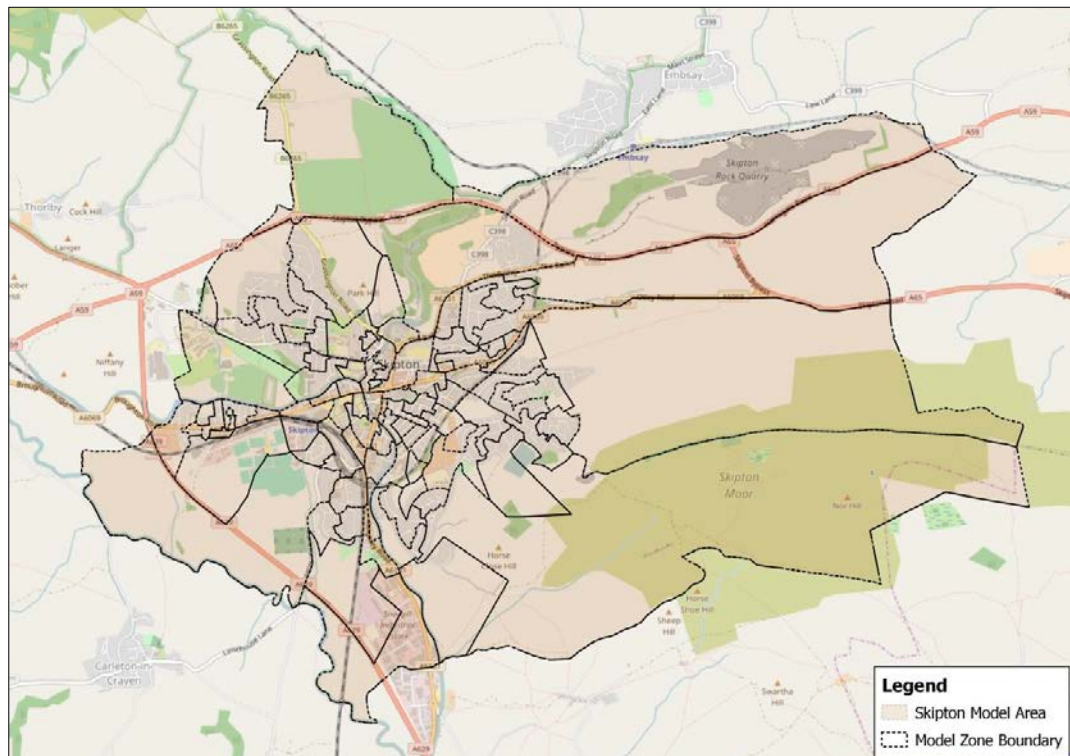


Figure 2-1 – 2015 Model Coverage

- 2.1.4 As part of the initial model development, an extensive data collection exercise was undertaken in 2009 which included roadside interview surveys, manual and automatic link flow counts and junction turning counts.
- 2.1.5 The data collected was used to calibrate and validate the 2009 base year model for the PM (1700-1800hrs) peak.

2.2 Interim Forecast Model 2015

- 2.2.1 To provide further confidence of its ability to replicate more recent traffic flows, the Skipton highway model was updated from its base year of 2009 to the interim forecast year of 2015. This update was undertaken based on traffic flows only and not the origin or destination patterns of trips on the network. This would ensure a platform to develop robust forecast models of development and transport packages and their impacts upon key junctions and the wider highway network.
- 2.2.2 Traffic count surveys were carried out in 2015 at key locations across the Skipton area for the purposes of revalidating the base model to the interim forecast year of 2015.

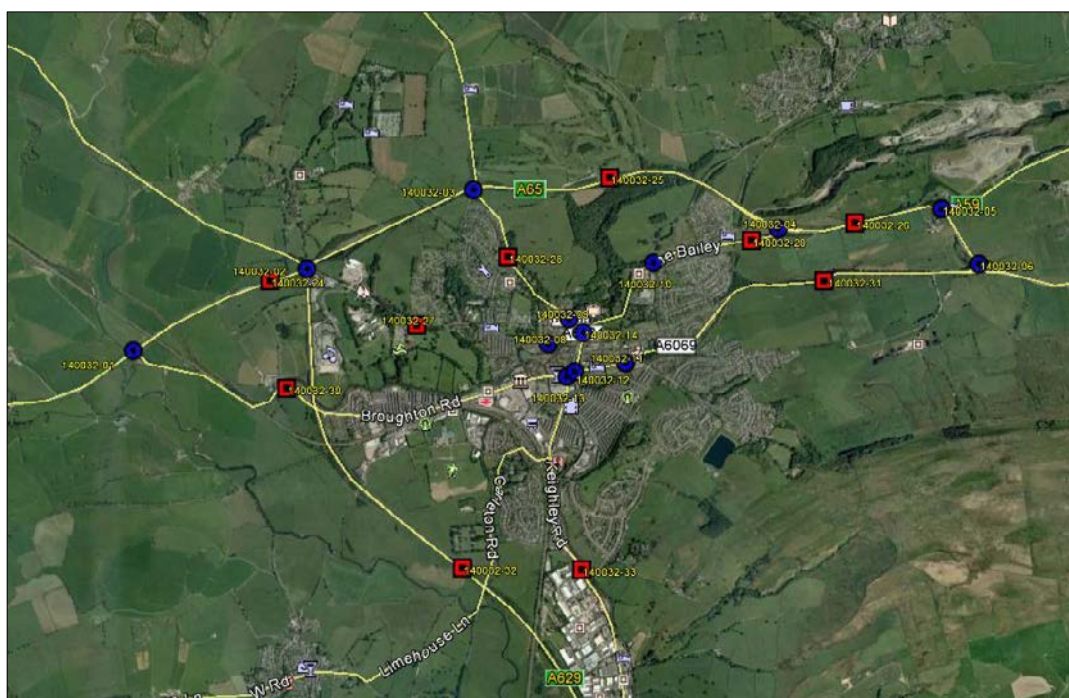


Figure 2-2 – 2015 Survey Locations

- 2.2.3 The updated traffic counts were analysed to assess the most appropriate time period to model development and transport packages in the forecast year 2032. The criteria for assessment were overall traffic volumes at the key junctions in Skipton. The outcome indicated that whilst there was some variation on a junction-by-junction basis, there was a tendency towards the PM peak being marginally the busier time period. Given this was also the period modelled in the base model, the PM peak was deemed suitable to be taken forward for this study.
- 2.2.4 The VISUM model network was checked against significant highway improvement schemes completed between 2009 and 2015, to ensure the network was as accurate as currently possible.
- 2.2.5 Traffic demand in the model was generated in two ways: by applying National Trip End Model¹ (NTEM) and National Transport Model² (NTM) growth factors to

¹ The National Trip End Model (NTEM) forecasts and the TEMPro (Trip End Model Presentation Program) software are used for transport planning purposes. The forecasts include population, employment, households by car ownership, trip ends and simple traffic growth factors based on data from the National Transport Model (NTM).

car, LGV and HGV trips in the 2009 base matrix, respectively, and by explicitly modelling the demand of key developments in the detailed model area completed between 2009 and 2015.

- 2.2.6 NTEM growth factors between 2009 and 2015 were produced for cars from TEMPRO³ software at the model zone and county level.
- 2.2.7 NTM growth factors between 2009 and 2015 were applied to the LGV and HGV demand matrix using datasets for large urban areas in the Yorkshire and Humber region.
- 2.2.8 Forecast fuel price and income adjustment factors⁴, from 2009 to 2015, were applied to the TEMPRO adjusted car, LGV and HGV demand matrices, to produce the final 'prior' interim forecast matrices.
- 2.2.9 A process of matrix estimation was used to accurately calibrate the 2015 forecast demand matrices against the PM peak count data. This was conducted using the VISUM software suite.
- 2.2.10 The new PM peak demand matrices created through the matrix estimation process were re-assigned to the VISUM network and the modelled flows compared against corresponding observed count data, to ensure they met the WebTAG minimum validation criteria⁵ for link flows. Table 2-1 and Table 2-2 show the criteria and validation results, respectively.

Table 2-1 DfT WebTAG Calibration/Validation Criteria

Link Flow Criteria	% of Cases	Acceptability Guideline	GEH Statistic
Individual Link Flows < 700 veh/hr	> 85% of cases	± 100 vehicles	< 5
Individual Link Flows 700 – 2700 veh/hr		± 15%	< 5
Individual Link Flows > 2700 veh/hr		± 400 vehicles	< 5

Table 2-2 2015 Calibration/Validation Results

All Link Calibration Sites (23 sites 104 counts)	Total Vehicles
No. within DMRB Flow criteria	89
No. within GEH of 5	89
% within DMRB Flow criteria	86%
% within GEH of 5	86%

All Turn Calibration Sites (13 sites 114 counts)	Total Vehicles
No. within DMRB Flow criteria	110
No. within GEH of 5	103
% within DMRB Flow criteria	96%
% within GEH of 5	90%

² The National Transport Model (NTM) provides a systematic means of comparing the national consequences of alternative national transport policies or widely-applied local transport policies, against a range of background scenarios which take into account the major factors affecting future patterns of travel.

³ Trip End Model Presentation Program

⁴ WebTAG Data Book, Table M4.2.1, May 2014

⁵ WebTAG Unit M3-1 Highway Assignment Modelling, Table 2, October 2013

- 2.2.11 The results in Table 2.2 show that the 2015 interim forecast year model meets national standards as it is WebTAG compliant and provides a robust representation of 2015 traffic flows in Skipton.
- 2.2.12 Further to the comparison of observed and modelled traffic flows the delay and congestion in the model was examined. This was undertaken to ensure that there were no erroneous or unrealistic delays at junctions and to ensure that where delay is currently being experienced this was being represented.
- 2.2.13 As all the tests undertaken meet national guidance and local standards the model is of a high quality and is robust.
- 2.2.14 The 2015 interim forecast year model is therefore suitable for use as a base for forecasting and future testing of the Local Plan development traffic in 2032.

3 Traffic Growth and Forecasting

3.1 Overview

- 3.1.1 This section describes the methodology and assumptions used for forecasting traffic growth between the interim forecast year model (2015) and the future year model (2032).
- 3.1.2 The Craven Plan covers the period to the year 2032. It was agreed, therefore, that this would also determine the forecast modelling year, to ensure a thorough impact of built-out development on the highway network, by the end of that period.
- 3.1.3 This assessment required factoring the 2015 interim forecast model to a 2032 model to represent the forecast growth in background traffic. This was calculated using the Department for Transport's (DfT) Trip End Model presentation PROgram (TEMPRO) for cars, and the National Traffic Model (NTM), for HGV's.
- 3.1.4 Forecasting entails a degree of uncertainty. WebTAG Unit M4: Forecasting and Uncertainty (May 2014), stipulates the use of a Core planning scenario and alternative High and Low Growth scenarios, with respect to appraising a specific transport scheme. Whilst not directly relevant to this study, it is still prudent to assess a number of strategic forecast scenarios, with a mix of development options, and potential highway mitigation measures, to ensure the network is thoroughly stress tested.
- 3.1.5 A low growth Baseline 2032 forecast was established for background traffic growth and committed development sites in Skipton, i.e. minus any Local Plan development options. This would enable comparisons of traffic volumes and junction performance against the Baseline, once the Local Plan scenario was plugged into the forecast model.

3.2 Forecast Growth Methodology

- 3.2.1 The methodology used for developing forecast traffic flows for 2032 involves developing three trip matrices which when added together will form the total amount of traffic likely to be present. These matrices are
 - Background traffic growth (not related to any development trips);
 - Committed development trips; and
 - Local Plan development trips.
- 3.2.2 DfT guidance states that the total growth between the 2015 model and the 2032 full development model should be no more than the traffic growth dictated by TEMPRO. This has been achieved for the total amount of traffic likely to be present in 2032 meaning the model is robust and is representative of local traffic growth. The level of growth dictated by TEMPRO has been compared to the growth proposed by the Local Plan and it was found to be higher meaning the modelling analysis is giving a robust set of results.
- 3.2.3 Traffic growth forecasts from TEMPRO take into account changes to car ownership, income, population and jobs, at a national, regional and local level. As local development planning forms an integral part of this base data, it is

necessary to remove any TEMPRO growth associated with it, so as to avoid the double-counting of development trips. This adjusted growth is known as the background traffic growth. This is simply the traffic growth which would be present if none of the Local Plan development sites were to be taken forward and there were no committed development assumptions.

- 3.2.4 The background growth demand is added to the committed development trips to get the Baseline demand matrix. This represents the minimum level of traffic growth in the forecast year and does not include any Local Plan development trips.
- 3.2.5 Development trip only demand matrices are developed for the Local Plan scenario, and then added to the Baseline demand matrix to create separate full growth forecast matrices representing each scenario. This allows comparison of the highway impacts of the Local Plan scenario against the equivalent Baseline, for the 2032 PM peak period.
- 3.2.6 Goods Vehicles (LGV and HGV) were considered separately from cars and used growth factors derived from the National Travel Model (NTM) for Yorkshire and Humber. These are considered to be more representative of the longer distances that HGVs usually travel, than similar figures from TEMPRO. The methodology for deriving Baseline and Local Plan demand matrices is the same as for light vehicles.

3.3 Growth Factors – Skipton (Cars)

- 3.3.1 Growth factors were obtained from the default planning assumptions in TEMPRO between the forecast years 2015-2032, for three specific NTEM zones, or aggregation of zones. These were:
 - Craven – Authority;
 - Yorkshire/Humber – Regional area; and
 - North West – Regional area.
- 3.3.2 Each NTEM zone, county or region, represented a zone in the Skipton Highway model. Those for county or regional areas represent the external zones, or those zones where traffic originates or travels to, outside of Skipton.
- 3.3.3 The TEMPRO growth factors were then fine-tuned to account for future fuel cost changes and income growth between 2015 and 2032. The factors come from Table 1 of WebTAG unit 3.15.2 (April 2009) which can be accessed at: <https://www.gov.uk/transport-analysis-guidance-webtag>.
- 3.3.4 Table 3-1 shows the final growth factors applied to the 2015 PM peak matrix for cars, to generate the background demand for the 2032 Baseline Forecast. Committed development trips would subsequently be added to this demand and Local Plan trips on top of that, for those modelling scenarios.

Table 3-1 Final Skipton Growth Factors

TEMPRO Area	Growth Factor	Income Factor	Fuel Factor	Final Growth Factor
Craven	1.050	1.055	1.011	1.119
Yorks/Humber	1.081	1.055	1.011	1.152
North West	1.101	1.055	1.011	1.174

3.4 LGV and HGV Growth Factors

- 3.4.1 Light Goods Vehicles (LGV) such as vans and small lorries and Heavy Goods Vehicles (HGV) such as medium sized lorries and larger articulated lorries have been treated separate to cars. LGV and HGV growth factors were taken from the DfT's National Trip End Model (NTM) developed in 2015. This provides growth factors for all vehicle types on either a regional basis or by road classification. Table 3-1 shows the LGV and HGV growth factors applied to generate the growth from 2015 to 2032.

Table 3-2 Final LGV and HGV Growth Factors

Mode	Growth Factor
LGV (OGV1)	1.483
HGV (OGV2)	1.159

4 Development Sites

4.1 Introduction

4.1.1 Developments specifically taken into consideration for the purposes of this report are divided into two types:

- Committed development sites - Housing likely to be completed on significant developments after 2015; and
- Potential allocations in the Local Plan sites Document in Skipton which would be expected to be delivered by 2032.

4.1.2 Figure 4-1 shows the locations of the committed and Local Plan development sites in and around Skipton which have been modelled in this study.

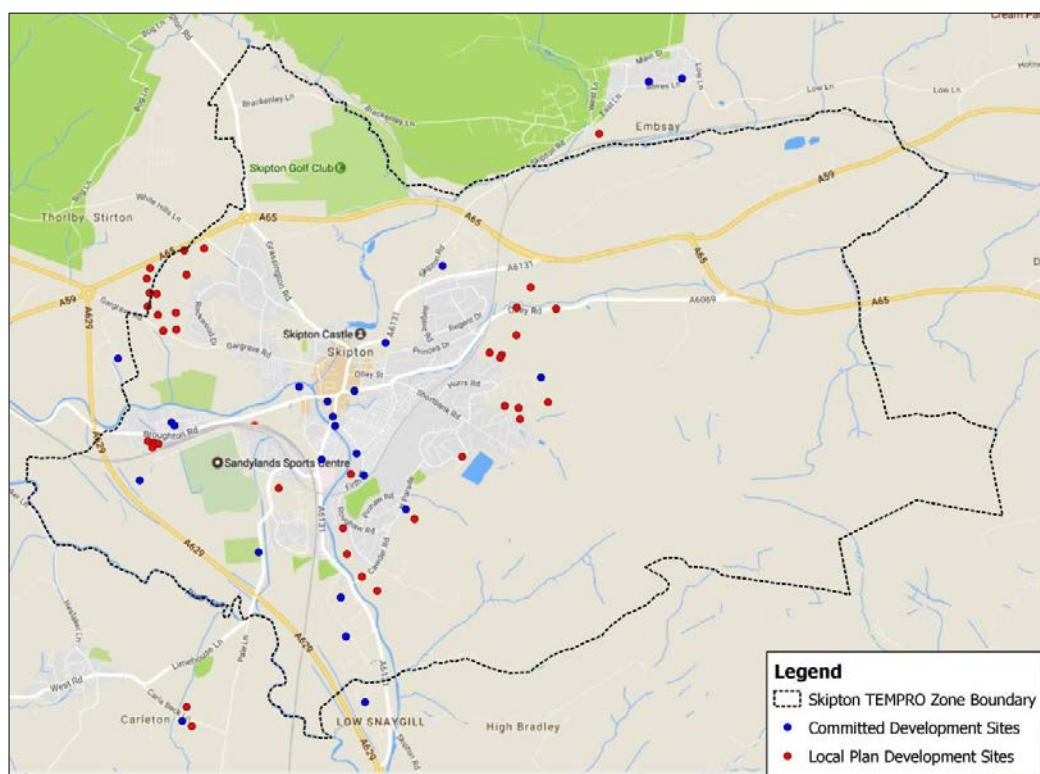


Figure 4-1 – Committed and Local Plan Development Site Locations

4.2 Committed Development Sites

4.2.1 Committed development sites were those considered to be of sufficient size (>5 dwellings) and trip-making capability to warrant explicit modelling, in order to assess the traffic impacts upon the network. This approach is consistent with other studies undertaken across North Yorkshire. Table 4-1 shows the explicitly modelled committed development sites, from 2015 onwards.

Table 4-1 Committed Development Sites

Ref ID	Site Name/Location	Type	Size
15417	Reward Manufacturing, Sackville Mills, Sackville Street, Skipton BD23 2PR	C3	43no
15726	Elsey Croft, Moorview Way, Skipton BD23 2TW	C3	103no
15027	Vasco GB Ltd ,Clitheroe Street, Skipton BD23 1SU	C3	29no
15870	Land off A65, Kendal Road, Hellifield	C3	21no
15332	Canalside Warehouse, Westgate Centre, Swadford Street, Skipton BD23 1UR	C3	11no
16113	Land at corner Field, to the north of A6131/Harrogate Road, Skipton	C3	83no
15792	Land north of A629 and west of Carleton Road, Skipton BD23 3BT	C3,B1, B2,B8	225no/ 25000sqm
16584	Firth Mill, Firth Street, Skipton BD23 2PT	C3	35no
16571	Carla Beck Farm, Carla Beck Lane, Carleton BD23 3BU	C3	24no
15503	Land at North Parade, Skipton BD23 2SR	C3	105no
15262	Northern Paper Board Ltd, Ings Lane Skipton BD23 1TX	B8	2100sqm
15388	Willis of Skipton, Stirton Depot, Gargrave Road, Skipton BD23 1UD	B8	1800sqm
15774	Guyson International Ltd, Snaygill Industrial Estate, Skipton BD23 2QR	B8	57sqm
16047	9a, Newmarket Street, Skipton BD23 2HX	B1	46sqm
16122	Devonshire Place ,Skipton BD23 2NS	B1	218sqm
16312	Skipton Building Society, The Bailey, Skipton BD23 1AP	B1	352sqm
16325	Land opp Unit 3, Enterprise Way, Airedale Business Centre, Skipton BD23 2TZ	B8	620sqm
16334	Navigation House, Back Bridge Street, Skipton BD23 1RL	B1	113sqm
16754	Hamble Croft, Netherghyll Lane, Cononley BD20 8PB	B1	165sqm
16534	Dechra Pharmaceuticals Manufacturing, Snaygill Industrial Estate, Keighley Road	B1	1252sqm
16395	John Binns & Son (Springs) Ltd, Airedale Business Centre, Keighley Road, Skipton	B1,B2,B8	866sqm
16936	Whitakers Chocolatiers Ltd, 85 Keighley Road Skipton BD23 2NA	B1	990sqm
17008	Bowers Wharf, Skipton BD23 2PD	B1	50sqm
17175	Unit 5D Millenium Road, Airedale Business Centre, Skipton BD23 2TZ	B2	246sqm

4.3 Local Plan Development Sites

- 4.3.1 Craven District Council provided a list of potential Local Plan sites for allocation. These are listed below in Table 4-2. It should be noted that standard planning codes apply for proposed land use, and subsequent trip generation purposes – B1 office only, B2 light industry, B8 warehousing, D2 Education and C3 for residential only schemes.

Table 4-2 Local Plan Development Sites – Skipton

Reference ID	Site name/ Location	Type	Size (dwellings/GFA)
BR002	Holly Tree House and land to the rear	C3	7no
BR016	Gilders, Langholme, and land to the west, Skipton road	C3	25no
CA015	Carla Beck Farm, Carla Beck Lane	C3	24no
CA016	Land to the east of The Old Byre, Carla Beck Lane	C3	16no
CN006	Station Works, north of Cononley Lane	C3	90no/2000sqm
EM006	Land on West Side of Entrance to Embsay Station	C3	8no
SK013	East of Aldersley Avenue and south of Moorview Way	C3	161no
SK018	Land west of Whinny Gill Rd (garages)	C3	5no
SK044	Former allotments and garages, Broughton Road	C3	24no
SK052	Croft House Carleton Road	C3	16no
SK060	Business premises and land, west of Firth Street	C3	102no
SK061	East of Canal, west of Sharphaw Avenue	C3	114no
SK080/SK081/SK082/SK108	Land north of Gargrave Road, west of Parkwood Drive and Stirtonber; bounded by White Hills and A65.	C3,D2	400no/20000sqm
SK088	Hawbank Fields, North of Otley Road and South of A6132	C3	219no
SK089, SK090	Land at Elsecroft, south of Otley Road; Land north of Airedale Avenue east of railway line	C3	263no
SK101	East of Keighley Road and south of Cawder Lane	C3	116no
SK114	Cawder Gill/Horse Close and Garages off Cawder Road	C3	165no
SK135	Skipton Rock Quarry	B2 and B8	35400sqm
SK049	Land east of Skipton Bypass	B1, B2 and B8	60200sqm
SK113	Land south of Skipton auction mart	B1, B2 and B8	30100sqm
SK100	Land north of Skipton Auction Mart	B1, B2 and B8	15100sqm

4.4 Development Trip Generation

- 4.4.1 The number of trips generated by the individual sites was estimated using trip rates calculated using the nationally accepted and industry standard TRICS⁶ database. The rates are based on the number of dwellings and size of employment areas put forward as the Council's potential Draft Allocations.
- 4.4.2 Trip rates calculated in TRICS were based on specified land uses of various site locations and sizes. Table 4-3 shows the trip rates considered.

Table 4-3 TRICS trip rates (PM Peak)

Land use	Units	Trip Rate In	Trip Rate Out
C3 residential	No. of dwellings	0.206	0.112
Class B1	100 sqm of GFA	0.046	0.389
Class B2	100 sqm of GFA	0.116	0.746
Class B8	100 sqm of GFA	0.001	0.004
Class D2	100 sqm of GFA	0.283	0.392

- 4.4.3 The trip rates for car and HGV were applied to the relevant development sites to generate car and HGV trips. These trip rates from TRICS are assumed to be average national rates used for trip generation based on the assumption that the proportion of non-car trips generated by development sites is by default, a national average. The total trips generated for committed developments and local plan developments (housing and employment) are presented below in Table 4-4.

Table 4-4 Total Committed and Local plan trips ends (PM Peak)

Development	Trips In	Trips Out
Committed	156	191
Local Plan	496	821

4.5 Development Trip Distribution

- 4.5.1 Access points onto the highway network for Local Plan sites were determined by information supplied by Craven District Council.
- 4.5.2 Each development requires a trip distribution to dictate the origin and destination point of all generated trips. For Skipton, this was obtained by using existing distribution patterns in the traffic model, for sites with similar land use characteristics and proximity, and adjusting the trip totals according to the Local Plan site in question. This formed the demand matrix for that site which, along with the other sites and background growth, was assigned to the model network to determine the overall routing of traffic.

⁶ TRICS – Trip Rate Information Computer System, the national standard for trip generation analysis.

5 The Effect of Local Plan Development Traffic at Key Junctions

5.1 Introduction

- 5.1.1 This chapter details the results of the impact assessment of the Local Plan Development traffic on key junctions in Skipton.
- 5.1.2 The list of junctions assessed, in no particular order, is shown in Table 5-1 with an accompanying location plan in Figure 5-1. For the assessed junctions, traffic flows were extracted from the highway model for the year 2032 Baseline and Local Plan scenarios.

Table 5-1 Assessed Junctions

Town	Junction Number	Junction Name	Type
Skipton	1	A65 / Gargrave Road / A629 / A59	Roundabout
	2	A6069 / Cavendish St	Priority
	3	A6131 / A6069 (Bottom High Street)	Roundabout
	4	A6131 / A65	Priority
	5	A6131 / Cawder Lane	Priority
	6	Skipton Road / The Bailey	Priority
	7	Water Street / Raikes Road	Priority
	8	Shortbank Road / Newmarket Street	Mini Roundabout
	9	Broughton Road / Carleton New Road	Priority
	10	Craven Street / Keighley Road	Signals
	11	Keighley Road / Carleton Road	Signals



Figure 5-1 Assessed Junctions – Location Plan

5.2 Interpretation of Results

- 5.2.1 The junctions identified were assessed through nationally accepted junction modelling software called Junctions 9 for priority and roundabout junctions and Linsig for signalised junctions.
- 5.2.2 Inputs into the junction models are based on traffic flows through the junction taken from the VISUM model. In the case of Skipton, these were extracted directly as turning flows from the 2032 Baseline and Local Plan forecast models, for each scenario.
- 5.2.3 The key output of the junction assessment is the ratio of flow to capacity (RFC), which shows demand compared to the available capacity. The models present an RFC figure for each junction arm during the modelled period, which ensures any RFC 'spike' is captured and not overlooked by an average RFC across all junction arms. This is a standard nationally accepted way of measuring congestion at a junction.
- 5.2.4 RFCs are reported using a nationally accepted traffic light colouring system which has been used previously by Jacobs for North Yorkshire County Council, as the Local Highway Authority, and Local Authority districts for other strategic transport assessments involving detailed junction analysis. The traffic light colouring system works as follows:
- **Green** - RFC less than 0.85, junction is likely to operate without delays; 0.85 is an industry recognised level of congestion, where a junction starts to approach capacity
 - **Amber** - RFC between 0.85 and 1, junction is approaching capacity and may be subject to minor delay
 - **Red** - RFC greater than 1, junction is over capacity and delays will occur
- 5.2.5 Perceived congestion at junctions may be worse than that shown in the modelling results; this is due to a range of factors. A further issue is that of the ability of the junction models to identify what may be perceived as queuing. Queues at signalised junctions include stationary vehicles and also vehicles in a 'rolling queue'. The modelling software used to undertake junction assessment cannot measure rolling queues and so only static queues are reported. If static queues clear when given a green light at signals, the junction is judged to be performing within capacity.
- 5.2.6 The junction capacity assessment software only models junctions on an individual basis and therefore does not take into account the interaction between adjacent junctions as a result of queuing or 'platooning' traffic. The VISUM traffic model does however model the interaction between adjacent junctions so traffic flows between junctions has been taken into account.

5.3 Analysis of Results

5.3.1 Results of the assessments for the 2032 Baseline and Local Plan scenarios for the five junctions in Skipton are shown in Table 5-2. The figures represent the maximum RFC, per junction arm, of any 15-minute period between the 1700hrs and 1800hrs PM peak modelling period.

Table 5-2 Junction Assessment Results

Junction Number	Junction Type	Junction Name	Arm	Baseline Scenario	Local Plan Scenario
1	Roundabout	A65 / Gargrave Road / A629 / A59	A65 - North East Arm	0.74	0.75
			Gargrave Road	0.72	1.06
			A629	1.12	1.18
			A59	0.65	0.67
			A65-Northwest Arm	0.52	0.64
2	Priority	A6069 / Cavendish Street	Cavendish Street Left	0.26	0.17
			Cavendish Street Right	0.21	0.33
			A6068W/Broughton Road	1.09	1.04 [#]
3	Roundabout	A6131 / A6069 (Bottom of High Street)	A6131 North High Street	0.28	0.35
			A6069 East	0.55	0.60
			A6131 West	0.65	0.68
4	Priority	A6131 / A65	A6131 Left	0.72	1.02
			A6131 Right	0.85	1.02
			A65W to A6131	0.00 ⁺	0.21
5	Priority	A6131 / Cawder Lane	Cawder Lane Left	0.62	0.81
			Cawder Lane Right	0.62	0.81
			A6131W to Cawder Lane	0.49	0.46
6	Priority	Skipton Road / The Bailey	A6131 East	0.16	0.17
			The Bailey- A6131 West	0.20	0.20
			Skipton Road (to Embsay)	0.15	0.18
7	Priority	Water Street / Raikes Road	Mill Bridge	0.00	0.00
			Water Street	0.49	0.93
			Raikes Road	0.00	0.00
8	Mini Roundabout	Shortbank Road / Newmarket Street	Shortbank Road	0.39	0.43
			Brougham Street	0.41	0.41
			Newmarket Street	0.38	0.49
			Otley Road	0.52	0.57
9	Priority	Broughton Road / Carleton New Road	Broughton Road (East)	0.48	0.44
			Black Walk	0.98	0.82 [#]
			Broughton Road (West)	0.02	0.02
			Carleton New Road	1.16	1.08 [#]
10	Signals	Craven Street / Keighley Road	Craven Street	0.84	0.85
			Keighley Road North	0.87	0.89
			Upper Union Street	0.40	0.44
			Keighley Road South	0.66	0.68
11	Signals	Keighley Road / Carleton Road	Carleton Road	0.26	0.34
			Keighley Road North	0.39	0.41
			Keighley Road South	0.64	0.62

Cells highlighted where Scenario RFC is greater than 0.85 and greater than Baseline RFC. **Red >1, Amber<1.**

[#]A small reduction in trips due to rerouting to avoid congestion means RFC is lower in Local Plan Scenario.

⁺No congestion due to high capacity of right turning lane on A65.

Blue shading indicates junctions which may require improvement to increase capacity as a result of Local Plan.

- 5.3.2 The results from Table 5-2 show that the following four junctions are forecast to operate over capacity in 2032 with Local Plan developments in place:
- **Junction 1:** A65 / Gargrave Road / A629 / A59;
 - **Junction 2:** A6069 Cavendish St; and
 - **Junction 4:** A6131/A65.
 - **Junction 9:** Broughton Road / Carleton New Road.
- 5.3.3 Of these only junctions 1 and 4 will have more congestion than in the Baseline Scenario and will therefore require improvement to increase capacity to reduce this congestion.
- 5.3.4 The following two junctions are forecast to operate approaching capacity (85%-100%) in 2032 with Local Plan developments in place. Both will operate with more congestion in the Local Plan Scenario than the Baseline Scenario and will therefore require improvement to increase capacity to reduce this congestion.
- **Junction 7:** Water Street / Raikes Road
 - **Junction 10:** Craven Street / Keighley Road
- 5.3.5 Outputs from the capacity analysis therefore indicate the following junctions in Skipton will require increased capacity to mitigate congestion caused by the Local Plan traffic:
- **Junction 1:** A65 / Gargrave Road / A629 / A59 / A629
 - **Junction 4:** A6131/A65
 - **Junction 7:** Water Street / Raikes Road
 - **Junction 10:** Craven Street / Keighley Road
- 5.3.6 The above junctions have been assessed to identify and test mitigation measures. The assessment is detailed in Chapter 6.
- 5.3.7 It should be noted that one arm at Junction 1 is likely to operate over capacity in the Baseline without any Local Plan development traffic present. When Local Plan traffic is present at the junction this arm will remain over capacity and a further arm will operate over capacity.

6 Junction Improvements to Accommodate Local Plan Traffic

6.1 Introduction

- 6.1.1 This chapter details, where possible, the mitigation measures proposed to add capacity to accommodate the extra demand and presents the results of further capacity assessments modelled with the improvements in place.
- 6.1.2 All the mitigation measures conceptualised have no adverse impacts for pedestrians and other non-motorised traffic users. All designs have catered for pedestrians and include footways and crossings where appropriate. This includes putting footways back where proposed improvements extend the carriageway width.
- 6.1.3 It should be noted that these improvement measures have been identified as being required in 2032 which is the final year of the Local Plan. The model has not been used to determine what the triggers are for these mitigation measures to be implemented.

6.2 Junction 1 - A65 / Gargrave Road / A629 / A59

- 6.2.1 The existing A65 / Gargrave Road / A629 / A59 junction is a roundabout with five arms. The westbound arm of Gargrave Road is predicted to operate above capacity in the Local Plan scenario, and the northbound arm of the A629 is operating above capacity both in the Baseline and Local Plan scenario.
- 6.2.2 It is suggested to increase the widths of these two arms as follows to improve the operational capacity of the junction.
 - For Gargrave Road, at the curve near the approach, widen by 1.5m. This adds enough width to add another lane.
 - For the A629, widen the approach road half width by 0.5m and at the curve near the approach widen by 2m.

6.3 Junction 4 - A6131 / A65

- 6.3.1 This junction has been modelled as a three arm priority junction with the A6131 as the minor arm. In the Local Plan scenario, the junction is expected to operate above capacity on the minor arm.
- 6.3.2 The vehicles from the major arm, A65 westbound, join the minor arm A6131 as a free left turn, which avoids any impact of these vehicles at the junction.
- 6.3.3 It is recommended that the widths of the minor arm (A6131) can be widened by 2m at an offset of 10m, 15m and 20m from the give way line. There is land availability within the highway boundary to do this.
- 6.3.4 Due to widening of the minor arm approach, the flare length would increase from 2 vehicles to 4 vehicles which will add enough capacity to allow the junction to operate below capacity in the Local Plan Scenario.

6.4 Junction 7 – Water Street / Raikes Road

- 6.4.1 This junction has been modelled as a three arm priority junction with Water Street Lane as the minor arm.
- 6.4.2 To add capacity and improve the flow of traffic at the junction the junction has been re-modelled by changing the priority so that Raikes Road becomes the minor arm with Water Street and Mill Bridge having priority. This means traffic approaching from the north on Raikes Road would have to stop and give way to traffic on Water Street and Mill Bridge.
- 6.4.3 This rearrangement will not require any additional land. The results show that the junction will operate below capacity in the Local Plan Scenario.
- 6.4.4 NYCC will need to investigate this mitigation measure further at the detailed design stage to ensure the appropriate widths and lane markings are applied to ensure capacity is added as required.

6.5 Junction 10 – Craven Street / Keighley Road

- 6.5.1 The signal timings have been tweaked in the modelling software to give more capacity where required. This has shown the congestion at the junction in the Local Plan Scenario to reduce below 85% and below the Baseline Scenario.
- 6.5.2 Adjusting the signal timings therefore offers a low cost mitigation measure to add capacity to this junction.
- 6.5.3 It should be noted that signal improvements are being provided as part of the Section 106 agreement for Wyvern Park which will alter the signal timings. As such this mitigation measure may already be carried out by the Local Plan year.

6.6 Assessment of Junction Improvements in Skipton

- 6.6.1 The mitigation measures identified were coded and assessed using the junction models for the 2032 Local Plan scenarios. This produced modified RFC figures, which demonstrated the effect of mitigation on the modelled junctions in the town. Results with mitigation measures are detailed in Table 6-1.
- 6.6.2 In summary, the junctions will all operate below capacity with minimal queueing and delay. The junction improvements will therefore mitigate any additional congestion caused by the Local Plan development traffic.

Junction Number	Junction Name	Arm	Baseline Scenario	Local Plan Scenario (No Mitigation)	Local Plan Scenario (With Mitigation)
1	A65/Gargrave Road/A629/A59	A65 - North East Arm	0.74	0.75	0.76
		Gargrave Road	0.72	1.06	0.81
		A629	1.12	1.18	0.84
		A59	0.65	0.67	0.71
		A65-Northwest Arm	0.52	0.64	0.66
4	A6131/A65	A6131 Left	0.72	1.02	0.62
		A6131 Right	0.85	1.02	0.84
		A65W to A6131	0.00	0.21	0.19
7a	Water Street / Raikes Road	Mill Bridge	0.00	0.00	-
		Water Street	0.49	0.93	-
		Raikes Road	0.00	0.00	-
7b	Water Street / Raikes Road (With Priority Change to make Raikes Road the minor arm.)	Water Street	0.00	-	0.00
		Raikes Road	0.54	-	0.53
		Mill Bridge	0.61	-	0.64
10	Craven Street / Keighley Road	Craven Street	0.84	0.85	0.83
		Keighley Road North	0.87	0.89	0.81
		Upper Union Street	0.40	0.44	0.49
		Keighley Road South	0.66	0.68	0.74

Cells highlighted where Scenario RFC is greater than 0.85 and greater than Baseline RFC. Red >1, Amber <1.

Table 6-1 Junction Assessment Results – with Mitigation

6.7 Junction Improvement Costs

6.7.1 As described above the four junctions which will require mitigation measures to increase capacity and improve the junction are

- **Junction 1:** A65 / Gargrave Road / A629 / A59 / A629
- **Junction 4:** A6131/A65
- **Junction 7:** Water Street / Raikes Road
- **Junction 10:** Craven Street / Keighley Road

6.7.2 The estimated cost of these mitigation measures is as follows

Junction 1	£300,000
Junction 4	£170,000
Junction 7	£220,000
Junction 10	£5,000
Total	£695,000

6.7.3 These improvements are for mitigating additional congestion caused by Local Plan development traffic, i.e. where the max RFC is above 85% and is above the Baseline Scenario RFC.

6.7.4 The costs do not include any land purchase costs or statutory undertaker's costs but do include an industry standard 44% Optimism Bias uplift.

6.7.5 These costs are comparable with and are based on other similar junction improvement estimates in other districts within the County.

7 Consideration of Supplementary Junctions

7.1 Introduction

7.1.1 This section of the report discusses parts of the network which do not require improvement due to additional congestion caused by the Local Plan development traffic but do have perceived congestion issues or congestion not related to the Local Plan.

7.1.2 In particular these junctions are

- Junction 3: A6131 / A6069 Roundabout (bottom of High Street)
- A6131 / B6265 / High Street Roundabout (top of High Street)

7.2 Junction 3: A6131 / A6069 Roundabout (bottom of High Street)

7.2.1 The traffic model and the individual junction model for this junction show that there will not be any congestion, particularly congestion caused by the Local Plan traffic. There is however perceived congestion at this junction and congestion can occur as a result of misuse of lanes, pedestrians crossing and slower moving heavy traffic.

7.3 A6131 / B6265 / High Street Roundabout (top of High Street)

7.3.1 The main problem identified at the roundabout at the top of the High Street is that there are no clear lanes for traffic coming down the Bailey turning right, straight down the High Street or for traffic turning left into Jerry Croft.

7.3.2 62% of the traffic from The Bailey turns down the High Street and 38% turns right into Mill Bridge. A clear lining system could be established to ensure this traffic does not use the wrong lane.

7.3.3 This roundabout has also been identified as a potential hazardous area for pedestrians with a narrow footway around the Church wall on the north side of the roundabout.

8 Summary & Conclusion

8.1 Summary

- 8.1.1 The aim of this report is to produce a strategic transport assessment detailing the impacts of the Local Plan housing and employment allocations in Skipton. In doing so this report has taken into account forecast increases in car usage up to 2032 and the likely growth in traffic from those planning permissions likely to be built after the traffic survey was undertaken in 2015.
- 8.1.2 The Skipton Traffic Model commissioned by North Yorkshire County Council, as the Local Highway Authority, has been utilised to assess the traffic impacts of the Local Plan development sites.
- 8.1.3 The primary output of the study is an assessment of the impact on eleven junctions across the Skipton highway network. This assessment forecast that, without improvement, four of the eleven junctions in Skipton would operate over capacity in the Local Plan scenario. However, two out of the four overcapacity junctions are already operating over capacity in the Baseline scenario. Two further junctions are forecast to operate approaching capacity (85%-100%) in 2032 with Local Plan developments in place. Indicative mitigation options are available as measures to be implemented at the four junctions. Section 6 of this report sets out the position in relation to the others, which are over capacity at 2032. The mitigation measures proposed are discussed in Section 6.

8.2 Development Sites

- 8.2.1 A total of twenty one Local Plan development sites have been modelled in Skipton.
- 8.2.2 The modelling demonstrates that the Local Plan traffic will cause some additional congestion on the existing junction layouts but with limited junction improvements in place it is possible to accommodate the planned level of growth in Skipton without taking existing junctions over capacity or further over capacity.

8.3 Mitigation Measures

- 8.3.1 To add capacity to the highway network in order to reduce the congestion caused by the Local Plan development traffic, the following measures have been proposed, The cost for these improvements is estimated to be £695,000.
- Widening of Gargrave Road by 1.5m near the curve;
 - Widening of A629 by 2m near the curve and 0.5m for the stretch beyond (i.e. approach road half width);
 - Widening of A6131 at A65 by 2m at an offset of 10m, 15m and 20m from the give way line;
 - Remodel the priority of the Water Street / Raikes Road junction so that Raikes Road becomes the minor arm with Water Street and Mill Street having priority.
 - Signal timing tweaks at the Craven Street / Keighley Road junction.

8.4 Scenario Testing Results

- 8.4.1 The modelling work has shown that the Local Plan in Skipton will cause additional congestion on the highway network when compared to the Baseline congestion.
- 8.4.2 With the above mitigation measures in place the assessment show that the junctions in the Local Plan scenario will operate below capacity.

8.5 Conclusion

- 8.5.1 The modelling work undertaken on the impact of the Local Plan traffic shows that the proposed level of development associated with Local Plan sites in Skipton can be accommodated within Skipton if the improvement measures are implemented.
- 8.5.2 Work to date on the necessary changes to keys on the network indicates that improvements to the traffic flows at these junctions are achievable. Further potential improvements as part of or related to new development would enable further mitigation of key junctions as well as wider benefit to the local network.
- 8.5.3 This assessment is likely to be revisited prior to any Examination in Public if there are any changes to committed or Local Plan development details. This will allow for a final check on robustness and accuracy in parallel with Local Plan assumptions at the time.

Part III: Modelling Highway Impacts of Submission Draft Plan
Developments in Bentham and Settle September 2018

Craven District Council

Craven Local Plan

**Modelling Highway Impacts of
Submission Draft Plan Developments in
Bentham and Settle**

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1 Introduction

1.1 Overview

- 1.1.1 Jacobs have been asked by Craven District Council (CDC) to undertake junction assessment work to ascertain the traffic impacts of proposed development sites within the towns of Bentham and Settle as part of the forthcoming Craven Local Plan.
- 1.1.2 The Council is now advancing its Local Plan. This will allocate specific sites principally for residential and employment purposes across the District in line with the Local Plan Strategy.
- 1.1.3 In accordance with paragraph 32 of the National Planning Policy Framework (NPPF 2012), the Craven District Local Plan should take account of whether (amongst other matters) improvements can be undertaken within the transport network that cost effectively limit the significant impacts of any proposed development. This study assesses the impact of committed development (already with planning permission, but not yet occupied) and the potential residential and employment allocations in the Craven Local Plan for Bentham and Settle. The study has concluded that there are no significant impacts on the road network from the Submission Draft Plan land allocations.
- 1.1.4 The study has been completed with the cooperation of North Yorkshire County Council (NYCC) as the local highway authority (LHA), Aim of Study
- 1.1.5 This document seeks to provide evidence on the prospective highway impacts of Submission Draft Plan development proposals in Bentham and Settle within the Local Plan period to the year 2032.
- 1.1.6 The purpose of the analysis is to examine the overall impact of development in terms of travel demands and network performance, with a view to identifying the need for potential mitigation measures and junction improvements to complement the Local Plan growth strategy and support the Local Plan objectives.
- 1.1.7 The analysis is an essential element of the evidence base underpinning the preparation and justification of site allocations that will be identified in the Local Plan. Key considerations during the study have been:
- Identification of any major constraints on the local roads network as a result of Local Plan proposals and assessment of any improvement measures to mitigate and thus support these.
 - Provide a transport evidence base to aid, if required, development of a robust developer contributions funding mechanism and help determine how the measures will be funded, to deliver the transport infrastructure to support the Local Plan.

2 Base Traffic Flow Data and Traffic Growth

2.1 Base Data

- 2.1.1 The Skipton Traffic Model does not extend in any detail much beyond the boundaries of Skipton. Bentham and Settle, therefore, were dealt with as a separate junction modelling exercise to the assessment of Local Plan traffic in Skipton.
- 2.1.2 The effect of background and development-led traffic growth in Bentham and Settle was based around two key junctions in Bentham and one junction in Settle. Observed traffic flow data was collected for these junctions using the NYCC C2Web Database. These junctions are:
- Settle – B6480 Duke Street / Ingfield Lane / B6480 / Cammock Lane
 - Bentham – Station Road / B6480
 - Bentham – Robin Lane / B6480

2.2 Assessment Year

- 2.2.1 The Craven Plan covers the period to the year 2032. It was agreed, therefore, that this would also determine the forecast junction assessment year, to ensure a thorough impact of built-out development on the highway network, by the end of that period.
- 2.2.2 This assessment required factoring the base traffic flow data to 2032 to represent the forecast growth in background traffic. This was calculated using the Department for Transport's (DfT) Trip End Model presentation PROgramme (TEMPro) for cars, and the National Traffic Model (NTM), for HGV's.¹
- 2.2.3 A Baseline 2032 forecast was established for background traffic growth and committed development sites in Bentham and Settle, i.e. minus any Local Plan development options. This would enable comparisons of traffic volumes and junction performance against the Baseline, once the Local Plan scenario was plugged into the junction assessments.

2.3 Growth Factors

- 2.3.1 Growth factors, between 2015 and 2032 were derived by data from the National Travel Model (NTM) database, and adjusted by local and regional TEMPro growth factors, as shown in Table 3.2. This was to ensure a more robust figure than from TEMPro alone, given the lack of a traffic model for Bentham and Settle.

¹ The National Trip End Model (NTEM) forecasts and the TEMPro (Trip End Model Presentation Program) software are used for transport planning purposes. The forecasts include population, employment, households by car ownership, trip ends and simple traffic growth factors based on data from the National Transport Model (NTM).

The National Transport Model (NTM) provides a systematic means of comparing the national consequences of alternative national transport policies or widely-applied local transport policies, against a range of background scenarios which take into account the major factors affecting future patterns of travel.

Table 2.1 **Final Bentham and Settle Growth Factors**

Mode	Local		Yorkshire & Humberside		Final Growth Factor
	NTM	TEMPRO	NTM	TEMPRO	
Car	-	1.158	1.261	1.151	1.269
HGV	-	-	1.156	-	1.156

The formula for deriving the Final Growth Factor was:

$$\text{Final Growth Factor} = (\text{TEMPRO Craven} / \text{TEMPRO Y\&H}) * \text{NTM Factor}$$

The Final Growth Factors for cars and HGV's were applied to the turning count data for both junctions to derive indicative turn volumes for the background 2032 scenario, in the PM peak. For the Baseline and Local Plan scenarios, development-specific traffic was added to the turning volumes, based on their location and potential distribution.

3 Development Sites

3.1 Introduction

3.1.1 Developments specifically taken into consideration for the purposes of this report are divided into two types:

- Committed development sites - Housing or Employment with valid permissions and likely to be completed during the Plan Period on significant developments; and
- Proposed allocations in the Submission Draft Plan in Bentham and Settle which would be expected to be delivered by 2032.

3.2 Committed Development Sites

3.2.1 Committed development sites were those considered to be of sufficient size (>5 dwellings) and trip-making capability to warrant explicit modelling, in order to assess the traffic impacts within the junction assessments. This approach is consistent with other studies undertaken across North Yorkshire. Table 3-1 shows the explicitly modelled committed development sites, from 2015 onwards.

Table 3-1 Committed Development Sites in Bentham and Settle

Town	Ref ID	Site Name/Location	Type	Size Dwellings or m ²
Bentham	8/2014/15067	Felstead Low Bentham Road High Bentham	C3	7
	08/2008/8735	Mill Dam Farm Mewith Bentham	B1	93
	08/2013/13869	Land to Rear of Moor View Low Bentham Road Low Bentham	B8	953
	8/2017/17775	Low Bentham Cp School Doctors Hill Low Bentham	C3	5
	8/2017/17887	1 Felstead Low Bentham Road High Bentham	C3	16
	8/2017/18715	Former High Bentham Primary School Robin Lane High Bentham	C3	72
	08/2016/16850	Butts Depot Clapham Road High Bentham	B2	374
	08/2016/17500	Butts Depot Clapham Road High Bentham	B2	374
Settle	62/2001/1007	Ingfield Lane	C3	20
	62/2010/11138	Land to The East of Sidings the Sidings Industrial Estate	C3	5
	62/2015/15520	Sutcliffe Buildings School Hill	C3	9
	62/2015/15570	Police Station Duke Street	C3	7
	62/2007/8011	7 Station Road	B1	107
	31/2014/15285	Land at Raines Road	C3	7
	31/2013/14022	Armitstead Hall Armitstead	B1	996
	62/2015/16101	Land at Kirkgate	C3	22
	62/2016/17447	Land South of Infield Lane and West of Brockhole Lane	C3	16
	62/2016/17007	Unit A7 and Unit B5 Kirkgate Depot	B2	60
	31/2016/16935	Barn to The North of Barnstead Stackhouse Lane	B1	225

3.3 Local Plan Development Sites

- 3.3.1 Craven District Council provided a list of residential and employment submission draft allocations which, as at June 2018, had not been granted planning permission nor were minded to be granted planning permission and thus have not been included as committed developments. These are listed below in Table 3-2. It should be noted that standard planning use codes also apply for proposed land use, and subsequent trip generation purposes – B1 office only, B2 light industry, B8 warehousing and C3 for residential only schemes.

Table 3-2 Local Plan Development Sites in Bentham & Settle

Town	Reference ID	Site name/ Location	Type	Size Dwellings or m ²
Bentham	HB023	N of Low Bentham Road High Bentham	C3	53
	HB024	N of Lakeber Drive High Bentham	C3	27
	HB025	East of Butts Lane High Bentham	C3	32
	HB026	N of Springfield Crescent High Bentham	C3	82
	HB036	Land E of Robin Lane High Bentham	C3	16
	HB038	Land S of Low Bentham Road High Bentham	C3	19
	HB044	Land W of Goodenber Road High Bentham	C3	59
	HB052	Land Nw Bank Head Farm and S of Ghyllhead Farm High Bentham	C3	118
Settle	LB012	Wenning View Low Bentham	C3	18
	SGO21, SGO66 & SGO80	Land to Nw and SW of Penny Green	C3	80
	SGO25	Land South of Ingfield Lane	C3	125
	SGO27 & SGO68	Land S of Brockhole View	C3	57
	SGO32	Car Park Off Lower Greenfoot	C3	13
	SGO35	F H Ellis Garage	C3	32
	SGO42	NYCC Depot	C3	8
	SGO60	Mill Close and Kings Mill Lane	C3	10
	SGO79	Land N of Town Head Way	C3	26
	LA004	Land N of Barrel Sykes	C3	18
	SGO64	Land South of Runley Bridge Farm and West of B6480	C3	50
	SGO60	Northern Part of Sowarth Industrial Estate	B1, B2, B8	10,400
	SGO14	Land at Lord's Close	B1, B2, B8	6,616

3.4 Development Trip Generation

- 3.4.1 The number of trips generated by the individual sites was estimated using 85th percentile trip rates calculated using the nationally accepted and industry standard TRICS² database. The rates are based on the number of dwellings and size of employment areas put forward as the Council's potential Draft Allocations.
- 3.4.2 Trip rates calculated in TRICS were based on specified land uses of various site locations and sizes. Table 3-3 shows the trip rates considered.

Table 3-3 TRICS trip rates (PM Peak)

Land use	Units	Trip Rate In	Trip Rate Out
C3 Residential	No. of dwellings	0.403	0.219
Class B1	100 sqm of GFA	0.412	2.587
Class B2	100 sqm of GFA	0.159	0.544
Class B8	100 sqm of GFA	0.060	0.485

- 3.4.3 The trip rates for car and HGV were applied to the relevant development sites to generate car and HGV trips. These trip rates from TRICS are assumed to be

² TRICS – Trip Rate Information Computer System, the national standard for trip generation analysis.

average national rates used for trip generation based on the assumption that the proportion of non-car trips generated by development sites is by default, a national average. The total trips generated for committed developments and local plan developments (housing and employment) are presented below in Table 3-4.

Table 3-4 Total Committed and Local plan trips ends (PM Peak)

Town	Development	Trips In	Trips Out
Bentham	Committed	33	42
	Local Plan	93	171
Settle	Committed	54	40
	Local Plan	212	188

3.5 Development Trip Distribution

- 3.5.1 Access points onto the highway network for Local Plan sites were determined by information supplied by Craven District Council.
- 3.5.2 Each development requires a trip distribution to dictate how the traffic generated by the development will pass through one of the key junctions assessed. The existing turning proportions at each junction were used to determine this trip distribution for each development site

4 The Effect of Local Plan Development Traffic at Key Junctions

4.1 Introduction

- 4.1.1 This chapter details the results of the impact assessment of the Local Plan Development traffic on the three key junctions in Bentham and Settle.
- 4.1.2 The junctions assessed are shown in Table 4-1 with an accompanying location plan in Figure 4-1. For the assessed junctions, traffic flows were extracted from a spreadsheet model developed for each location for the year 2032. Baseline and Local Plan scenarios were considered.

Table 4-1 Assessed Junctions

Number	Town	Junction Name	Type
1	Bentham	Station Road / B6480	Priority
2	Bentham	Robin Lane / B6480	Priority
3	Settle	B6480 Duke Street / Ingfield Lane / B6480 / Cammock Lane	Priority

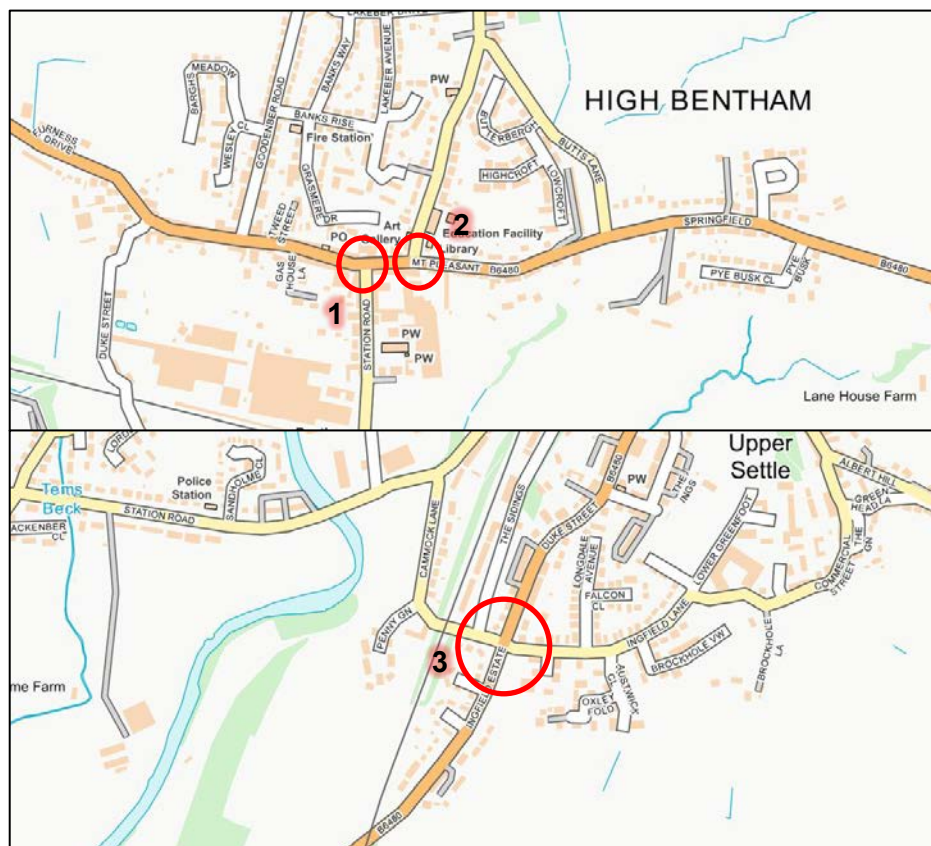


Figure 4-1 Assessed Junctions – Location Plan

4.2 Interpretation of Results

- 4.2.1 The junctions identified were assessed through nationally accepted junction modelling software called Junctions 9.
- 4.2.2 Inputs into the junction assessments are based on traffic flows through the junction taken from the spreadsheet models for the 2032 Baseline and Local Plan forecast models.
- 4.2.3 The key output of the junction assessment is the ratio of flow to capacity (RFC), which shows demand compared to the available capacity. The models present an RFC figure for each junction arm during the modelled period, which ensures any RFC 'spike' is captured and not overlooked by an average RFC across all junction arms. This is a standard nationally accepted way of measuring congestion at a junction.
- 4.2.4 RFCs are reported using a nationally accepted traffic light colouring system which has been used previously by Jacobs for North Yorkshire County Council, as the Local Highway Authority, and Local Authority districts for other strategic transport assessments involving detailed junction analysis. The traffic light colouring system works as follows:
- **Green** - RFC less than 0.85, junction is likely to operate without delays; 0.85 is an industry recognised level of congestion, where a junction starts to approach capacity
 - **Amber** - RFC between 0.85 and 1, junction is approaching capacity and may be subject to minor delay
 - **Red** - RFC greater than 1, junction is over capacity and delays will occur
- 4.2.5 The junction capacity assessment software only models junctions on an individual basis and therefore does not take into account the interaction between adjacent junctions as a result of queuing or 'platooning' traffic.

4.3 Analysis of Results

- 4.3.1 Results of the assessments for the 2032 Baseline and Local Plan scenarios for the three junctions are shown in Table 4-2. The figures represent the maximum RFC, per junction arm, of any 15-minute period between the 1700hrs and 1800hrs PM peak modelling period.

Table 4-2 Junction Assessment Results

Junction Number	Junction Type	Junction Name	Arm	Baseline Scenario	Local Plan Scenario
1	Priority	Bentham - High Street/Station Road	Station Road	0.25	0.29
			Low Bentham Road	0.12	0.13
2	Priority	Bentham - Mount Pleasant / Robin Lane	Robin Lane Left	0.07	0.08
			Robin Lane Right	0.17	0.20
			B6480	0.08	0.10
3	Priority	Settle - B6480 / Ingfield / Cammock	Ingfield Lane Left	0.05	0.08
			Ingfield Lane Right	0.04	0.07
			B6480 Duke Street	0.03	0.08
			Cammock Left	0.02	0.04
			Cammock Right	0.07	0.15
			B6480	0.04	0.20

- 4.3.2 The results from Table 4-2 show that the all three junctions are forecast to operate significantly under capacity in both the Baseline and the Local Plan scenarios.
- 4.3.3 The Local Plan traffic will not have any detrimental impact on any of the junctions and no junction improvement measures are required to accommodate the Local Plan development sites.

5

Summary & Conclusion

5.1 Summary

- 5.1.1 The aim of this report is to produce a strategic transport assessment detailing the impacts of the Local Plan housing and employment allocations in Bentham and Settle on the operation of existing highway network. In doing so this report has taken into account forecast increases in car usage up to the end of the plan period in 2032 and the likely growth in traffic from those planning permissions regarded as 'committed development' and thus likely to be built during the plan period but after the traffic survey was undertaken in 2015.
- 5.1.2 The primary output of the study is an assessment of the impact on three junctions across in Bentham and Settle. This assessment forecasts that all three of the key junctions will operate significantly under capacity in both the Baseline and the Local Plan scenarios.
- 5.1.3 The Local Plan traffic will not have any detrimental impact on any of the junctions and no junction improvement measures are required to accommodate the Local Plan development sites.

5.2 Development Sites

- 5.2.1 Traffic from a total of 9 Submission Draft Plan development sites which are without planning permission or soon to be granted planning permission have been modelled in Bentham and 12 in Settle.
- 5.2.2 The junction assessments demonstrate that the Local Plan traffic will cause only minor increases in traffic flow and this increase is significantly below any levels recognised nationally as requiring mitigation.

5.3 Mitigation Measures

- 5.3.1 No additional mitigation measures are required to accommodate the Local Plan development traffic in Bentham or Settle.

5.4 Conclusion

- 5.4.1 The modelling work undertaken on the impact of the Local Plan traffic shows that the proposed level of development associated with Local Plan sites in Bentham and Settle can be accommodated without any junction improvement measures.

Part IV: North Yorkshire Local Transport Plan 2016-2045

North Yorkshire Local Transport Plan 2016-2045



Enter

North Yorkshire Local Transport Plan 2016-2045

Executive Summary





Executive Summary

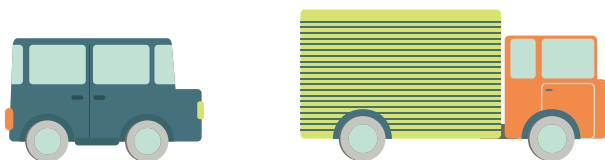
The shared Vision for the future of our County adopted in the North Yorkshire Community Plan by all the local authorities in North Yorkshire is:

‘Our vision is that we want North Yorkshire to be a thriving county which adapts to a changing world and remains a special place for everyone to live, work and visit.’

The NYCC Council Plan further identifies five priorities where we can provide leadership and where intervention is needed to overcome some of the on-going issues that affect the lives of people within the county, one of which refers to transport links. The five key priorities guide all of the services that the County Council provide. This document, the fourth North Yorkshire Local Transport Plan (LTP4), sets out how the transport services and infrastructure provided by the County Council and partners aim to contribute towards our shared Vision and the five NYCC Council Plan priorities.

In 2012 legislation governing Local Transport Plans changed. It remains a statutory duty for the County Council to produce a Local Transport Plan, but it no longer has to be for a fixed five year timeframe. This Local Transport Plan will consider a thirty year time period until around 2045, in the short term (0 to 5 years), medium term (6 to 15 years), and long term (16 to 30 years).

LTP4 is a four tier document. The first part holds the Local Transport Strategy which sets out the context of the Local Transport Plan and our Vision, Objectives and Commitment for transport in North Yorkshire. The second part contains the Objectives, and sets out further details of the main challenges to be addressed for each Objective, along with the approach the County Council and partners will take to achieving them. The third part contains thematic sections which considers transport based on themes and modes, and sets out in more detail what we will do, will not do and what others can do to improve transport. The fourth part holds the Policies specifically adopted by the County Council. The modular nature of LTP4, allows individual themes or policies to be reviewed, refreshed and renewed as and when appropriate.



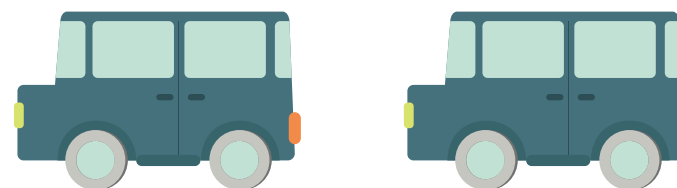
In preparing the Local Transport Plan the County Council have carried out consultation with the Public, our Stakeholders and partner organisations. This consultation shows that boosting the economy, safety, getting access to essential services and the impacts of transport on the environment remain important. Based on this evidence and other data collected the Objectives adopted for LTP4 are set out below.

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

The consultation for LTP4 showed that people still think that keeping our current transport services and infrastructure in good condition is more important than providing new services and infrastructure. Therefore, we will readopt our hierarchical commitment for LTP4, to:

- Manage the transport network and services to make the best use of what we already have;
- Maintain transport networks and services to an appropriate and affordable standard;
- Improve transport networks and services to supplement what we already have.

LTP4 does not try to include everything that the County Council will do for transport. Instead it concentrates on the main things we will do, those that will have the biggest impact on achieving our objectives.



Why is Economic Growth one of our Objectives?

Transport is essential to the health of our economy. Almost every aspect of business and the economy relies on transport. We therefore need to make sure that our transport networks and services are as reliable and efficient as possible to both support the existing economy and to help facilitate future economic growth. As well as promoting economic growth we also need to ensure that the detrimental impacts of economic and housing growth on the transport networks are managed both by ensuring growth is located in a way that facilitates sustainable transport and by ensuring necessary new infrastructure is provided.

The County Council will consider all transport related constraints on economic growth but has prioritised the issues of highway maintenance, traffic congestion and peripherality.

As the highway is the main network for travel in North Yorkshire and since it affects everyone, maintaining our highway network is the County Councils highest transport priority. Despite recent increases in the funding available for highway maintenance from the Government there is still a significant funding gap between what is available and what we need. To make sure that we get the best possible highway maintenance outcomes for our limited money we have adopted an approach to how and when we maintain our roads called Highway Infrastructure Asset Management.

In North Yorkshire the majority of traffic congestion occurs in our main towns. Traffic congestion, as well as causing environmental problems, leads to long and unreliable journey times, resulting in lost, unproductive time sitting in traffic queues as well as unpredictable arrival times for deliveries and workers.

The County Council has identified 6 main towns as the priority, though not exclusive, areas to tackle congestion:

- Harrogate and Knaresborough;
- Scarborough;
- Northallerton;
- Malton / Norton;
- Selby;
- Ripon.

To tackle traffic congestion the County Council has adopted a combination of measures to both reduce traffic demand and to provide more highway capacity. Demand management measures will include both encouraging people to make fewer or shorter journeys and encouraging mode shift. We will provide improved capacity on the highway network through localised improvements such as minor junction improvements, traffic management and improved traffic signals and parking management as well as through major highway improvements such as bypasses.

Peripherality, the distance (or travel time) of areas from each other or from the main transport networks, has a significant impact on local economic performance. Transport improvements can reduce the impact of this peripherality by providing links between economic areas. The County Council are committed to working with Transport for the North (TfN) to both contribute to and share in the benefits of The Northern Powerhouse. North Yorkshire sits adjacent to two City Regions. Improving road and rail connections into these City Regions remains an important element of our strategy to encourage economic growth in North Yorkshire.

The County Council has also identified a number of priority east-west routes for potential improvement including the A64 between York and Scarborough and the A59 between the A1(M), Skipton and onwards to East Lancashire, including at Kex Gill where road closures have been required, and further highway improvements will be required to maintain east-west connectivity and to build resilience into the highway network.

We are also prioritising a number of rail related improvements such as double tracking and electrification of the York – Harrogate – Leeds railway and improved access to conventional and future High Speed rail stations.

Why is road and transport safety one of our Objectives?

This objective aims to make transport within the County a safer and more secure activity, whether it be for work, leisure, school or shopping, for all types of transport and for all types of transport and for all road users such as walkers, cyclists, drivers or passengers. Roads are essential to our everyday lives. Road crashes and casualties are costly in terms of human suffering, lost productivity and damage. Safety on our roads is a high priority for the County Council.

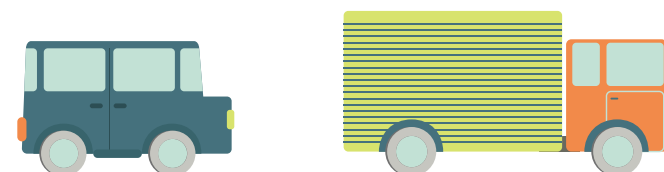
The County Council has a statutory duty to investigate the causes of road collisions and casualties and to take appropriate action to prevent future collisions. We will target our resources to address specific safety concerns, whether they are particular groups of road users, especially vulnerable users, or at particular locations in the county where there are clusters of crashes.

Vulnerable road users such as motorcyclists, pedal cyclists and pedestrians represent 53% of the killed and seriously injured casualties on our roads in 2014. The number of cyclists killed or seriously injured on our roads has been increasing since 2005, reaching 67 in 2014, which represents nearly 16% of all road users suffering significant injuries. Improving safety for cyclists will help to promote and enable healthier travel in the county. Motorcycles form approximately 1% of the traffic but approximately 27% of killed and seriously injured casualties on North Yorkshire's roads.

The principles of education, engagement, enforcement and engineering will continue to be used to address road safety issues and are closely integrated with Public Health work to prevent casualties and to promote healthier, active travel choices for all ages.

We will:

- actively coordinate the work of numerous agencies to reduce the number of casualties on our roads through our local Road Safety Partnership, 95 Alive.
- seek to reduce the occurrence of road collisions where road maintenance or condition is a factor.
- seek any improvements that can be addressed through the development planning process.
- seek to access transport grants that become available to benefit and improve our roads.



Why is Access to Services one of our Objectives?

The importance of transport and good access to services is specifically identified in the Council Plan as a major contributor to achieving our Priorities of ‘Opportunities for young people’ and addressing ‘Loneliness and social isolation’. For most of us, accessing services is the main reason for us needing to travel. NYCC recognises that by working with others, including service providers who have a responsibility to ensure that their services can be adequately accessed by their intended service users/ customers, we can facilitate opportunities for everybody to access the services they require.

Our consultation confirms that the majority of people in the County consider their access to services to be good, and whilst this is encouraging it does mean that difficulties with access are generally small scale and often localised. Addressing these can often be more difficult.

The main issues in North Yorkshire with access to services resulting from where people live are concerned with living in a remote or rural area. In most cases, whether living in a rural or urban area, those with access to a car have good access to services. Since our towns are generally well served by commercially operated public transport to access services, the County Council must therefore concentrate its resources on facilitating access to services for those living in very rural areas that do not have access to a car.

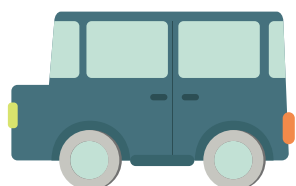
Adequate and timely highway maintenance of the roads and footpaths (including winter snow clearance) can have the biggest impact on accessing essential and non-essential services. The Highway Infrastructure Asset Management Plan outlines the strategic approach for managing the whole of the highway network and details how the Council will deliver our highway maintenance policies.

It is recognised that the bus network is relied upon for connecting those without a car to travel to places of work, education etc. Helping to maintain core daytime bus services enables those without access to a car to reach essential and non-essential services for work, health, retail, leisure and socialising.

We will continue to provide home to school transport for those children who qualify under criteria set out in current legislation. Assistance with transport will be provided to students aged 16 to 18 years old who meet the eligibility criteria.

Reduced access to facilities and services within towns and villages can be caused by severance. Maintaining our existing crossing facilities to ensure they are in good condition, are functional, and are fit for purpose reduces severance in towns and villages.

Economic deprivation can be an issue for travel as the cost of owning a car increases. It is therefore important that our public transport network provides a daytime service to support travel to and from the main employment areas in the County.



Why is Environment and Climate Change one of our Objectives?

Protecting the environment and preventing climate change is ever present on the agenda for transport management. Our consultation showed us that the environment and climate change remains of high importance to our residents. We cannot directly influence the majority of travel choices for those in the County, however where appropriate we will promote sustainable travel. We will encourage staff to travel to work using sustainable modes like buses and trains, walking and cycling, and will promote car sharing and combining trips.

We have a commitment to sustainable development and design. As outlined in the County Council's Highway Maintenance Plan 2006 we will apply the principles of sustainable development via the increased use recycled materials and by the adoption of a whole life costing strategy for treatment identification and selection. We will also consider the need to safeguard the biodiversity and geodiversity of the County's environment in the maintenance and improvement of the highway network through the use of environmental scoping assessments and where appropriate full Environmental Impact Assessments (EIA).

It is recognised that increased congestion and traffic levels can lead to an increase in noise and pollution. The seven district councils have a statutory duty under the Environment Act 1995 to carry out air quality monitoring for a number of pollutants listed in the national air quality objectives, and to take action when air quality problems are identified. The County Council has a duty to work with the district councils to try to improve air quality where it is related to traffic on the County Council's roads. There are four designated traffic related Air Quality Management Areas in North Yorkshire: Knaresborough; Ripon; Malton; and Selby (declared in 2016), and further sites at Richmond, Bedale, Northallerton, Scarborough, Harrogate, and Tadcaster which have exceeded or are predicted to exceed air quality limits. We will work with District Councils and other partners to help reduce transport related pollution across the whole highway network, especially at AQMA sites and for new highway schemes.



Why is promoting healthier travel one of our objectives?

This objective aims to address the health aspects linked to transport, by encouraging healthier travel such as walking and cycling, and by reducing some of the negative effects of transport, such as air pollution.

Transport affects the health of everyone. We spend a good proportion of our time each day travelling. This may be to the local shops, the doctors, to work or to school. Both the Joint Strategic Needs Assessment for North Yorkshire and various other health studies have highlighted the importance of regular exercise in achieving and maintaining a healthy lifestyle, and one of the best ways of achieving this is to incorporate it into our regular routines, such as our travel methods. It is recognised that the best and easiest opportunity for incorporating regular exercise into everyone's daily routine is through 'active travel'. By incorporating healthier travel options into our journeys, we can help meet both transport and health objectives as well as reducing carbon emissions and making air quality improvements.

We will continue to encourage people to choose active travel by communicating the health, financial and environmental benefits. We will also aim to reduce the real and perceived risks of road accidents and fears about personal security that are often associated with active travel modes.

Where possible, appropriate and affordable we will maintain and provide the infrastructure (footways, crossings, cycle routes etc.) that will allow people to make the switch to walking and cycling. We will seek improvements through any transport grants that become available such as the Local Sustainable Transport Fund. We will also seek to ensure that within any new development provision of suitable facilities to encourage healthier travel choices is made.



Our key commitments relating to each of the themed areas or modes are:

Strategic Transport

We will:

- complete a comprehensive Strategic Transport Plan, which will set our key strategic transport priorities, proposed schemes and interventions and how we propose to work with key delivery partners.
- develop proposals for improvements to east west corridors from the east coast and our eastern boundaries to our boundary with Lancashire
- continue to upgrade existing and develop new traffic models, to help assess the impacts of new developments on the transport network and to identify what infrastructure is required to support proposed new developments.
- work closely with key delivery partners such as TfN, Network Rail, Highways England, LEPs and neighbouring authorities, in the delivery of key transport projects, both road and rail based.

Network Management

We will:

- meet the Network Management Duty as defined in the Traffic Management Act 2004;
- ensure that planned and unplanned activities on the highway network are managed to minimise congestion and disruption of traffic flows;
- keep traffic moving by aiming to minimise congestion and disruption on the highway network;
- provide accurate information to inform people about network disruptions and diversionary routes;
- liaise with adjacent authorities and other key stakeholders to ensure the effective movement of traffic on our local road network as well as on road networks for which other authorities are responsible.

Highway Maintenance

We will:

- continue to prioritise the management and maintenance of the highway network;
- continue to operate and improve a Highway Infrastructure Asset Management (HIAMP) approach to maintaining the highway to ensure that we get the best value from our limited funding.

Bridges and Structures

We will:

- maintain all the structures owned and maintained by the authority so that they are fit for purpose and safe to use;
- examine all structures in accordance with the Code of Practice for Highway Structures and BD63/07 Inspection of Highway Structures.

Planning and New Developments

We will:

- proactively contribute to the planning process in the role of the Local Highway Authority, one of the Statutory Consultees in the planning process;
- remain committed to providing advice to the planning authorities that is professional, defensible, in accordance with standards, and based on the application submitted when considering developer proposals;
- continue to secure appropriate developer funded mitigation to ensure new development will not create future issues for NYCC as LHA whilst ensuring the mitigation is also acceptable in planning terms, directly related to the development and fairly and reasonably related in scale and kind to the development;
- ensure developer funded highway works are delivered using the most appropriate mechanism;
- maintain the LHA support and advice to the LPAs in the preparation of their development plans;
- continue to work with external partners to bid for and secure external funding to deliver infrastructure to facilitate development;
- progress the preparation of local policies and protocols to assist with assessing the impact of development on the highway network in North Yorkshire.

Walking and Cycling

We will:

- continue to prioritise the maintenance of our existing infrastructure for walking and cycling (including footways, roads, and cycle tracks) over the provision of new facilities;
- seek appropriate high quality provision for walking and cycling within and linking to all new developments;
- continue to consider requests and where appropriate and affordable provide alterations to the pedestrian network to enable improved access for individuals with mobility difficulties;
- work with public or voluntary sector partners to further develop any ideas for new cycling infrastructure where there is a specifically identified source of funding.
- work with public and voluntary sector partners (including the Borough Council led Harrogate and Scarborough Cycling Forums) to develop Department for Transport / Local Authority Walking and Cycling Partnerships with a view to attracting investment in walking and cycling from the Governments Cycling and Walking Investment Strategy.

Rights of Way

We will:

- ensure maintenance of Rights of Way outside the National Parks is taken care of by our countryside access officers, area rangers and a team of countryside volunteers;
- record all identified Rights of Way on the Definitive Map together with the Yorkshire Dales and North York Moors National Park Authorities;
- consider funding works on Rights of Way from LTP money when those works make a significant contribution to the LTP objectives;
- work with the Local Access Forum to improve public access to land for the purposes of open-air recreation, and the enjoyment of the area, whilst considering the needs of both the users of those Rights of Way, and land owners or occupiers over which a right of way exists.

Traffic Engineering

We will:

- continue to prioritise collision sites and implement improvements to reduce the number and severity of collisions;
- continue to prioritise fatal collisions and carry out investigations in accordance with the timeframes set out in the County Council's Fatal Collision Procedure. Any recommendations necessary as a consequence of the fatal collision will wherever possible be implemented within 6 months;
- ensure road safety audits are carried out on highway improvement schemes;
- improve the traffic signal infrastructure and the method of control at traffic signal installations across the County.

Funding

We will:

- spend all of our Local Transport Plan capital allocation on transport;
- recognise the importance of the condition of the highway network to all forms of transport and therefore use approximately two thirds of the Integrated Transport allocation to help improve highway maintenance until 2020/21;
- develop a series of proposals for strategic transport improvements for which we will bid for funding from future allocations from the Local Growth Fund through the Local Enterprise Partnership;
- where appropriate and feasible continue to seek funding for the management, maintenance and improvement of local transport networks and services from alternative sources for example ad-hoc government grants, developer funding etc.

Air Quality and Noise

We will:

- cooperate with district councils to try to mitigate the impact of transport on air quality, especially where an AQMA is already, or likely to be, declared;
- encourage the use of more environmentally friendly modes of transport such as walking and cycling and the use of public transport, particularly within urban areas;
- work with Defra and any other relevant authority on Noise Action Planning where possible and within our available financial resources;
- continue to seek to reduce the impact of transport related noise from the existing network where this is feasible and increase the take up of sustainable travel modes.

Street Lighting

We will:

- endeavour to keep all street lighting fully operational by undertaking proactive maintenance to all equipment on a fixed maintenance cycle;
- rectify street lighting defects on a prioritised basis;
- continue to implement a replacement programme to remove the older most inefficient lighting and replace it with new energy efficient LED lighting.
- continue the Council's energy reduction strategy which aims to reduce street lighting energy consumption by approximately £400k per year with an associated reduction in carbon emissions of over 3000 tonnes;
- install new street lighting in line with Council policy, for example, at new housing developments, and all roundabouts.

Road Safety

We will:

- adopt the internationally recognised Safe Systems Approach to how we manage and maintain our road network;
- appoint an elected member who will act as Road Safety Champion and advocate for road safety;
- continue as a leading partner in the 95 Alive York and North Yorkshire Road Safety Partnership;
- deliver appropriate and effective public information and training programmes to promote safe use of the road network;
- seek any improvements that can be addressed through the development planning process;
- seek further improvements through any transport grants that become available.

Buses and Community Transport

We will:

- look at innovative ways of enabling people to access services they need and remain active and independent in their communities;
- assist the commercial sector to help facilitate access to services across North Yorkshire;
- consider our duties under transport and equalities legislation to decide whether the commercial network caters sufficiently for the needs of the community having regard to the transport needs of members of the public who are elderly or disabled. We will consider whether there is a need to procure additional services and what funding is available to deliver these;
- prioritise the provision of services which meet the day-to-day transport needs of local communities, where core daytime services are retained and lower priority evening, Sunday or tourist services may be reduced or withdrawn;
- support community transport to contribute to our overall objectives, providing financial support within approved available budgets.

Rail

We will:

- continue to work with Rail North, the Association of Rail North Partner Authorities and other sub national bodies to influence and manage the TransPennine and Northern franchises;
- continue to work with and influence the Department for Transport, Transport for the North, Network Rail and Train Operating Companies to seek to achieve the best conventional and High Speed rail services for residents and transport users in North Yorkshire;
- review the facilities at each railway station in North Yorkshire and work with stakeholders to help deliver an agreed standard for our stations, and identify further opportunities for improvement or potential sites for new railway stations;
- continue to work with and support the Community Rail Partnerships in North Yorkshire and help to implement agreed business plans;
- actively support opportunities for line re-openings but only where these are demonstrated as of National or pan North of England importance.





North Yorkshire Local Transport Plan 2016-2045



Enter

North Yorkshire Local Transport Plan

Part 1 - Local Transport Plan 2016-2045





Devolution Note

At the time of writing this Local Transport Plan (Autumn 2015) the County Council along with other local authorities in Yorkshire are in discussions with central Government about the potential devolution of powers and funding to a combination of Yorkshire authorities. At present there are a number of different proposals being discussed all of which include some devolution and or transfer of the County Councils transport related powers to a new combined authority. These are mainly associated with the delivery of large scale strategic transport infrastructure improvements.

Whilst any successful devolution proposal would undoubtedly impact on the way in which the proposals set out in this Local Transport Plan would be delivered it is unlikely to fundamentally change the transport issues identified or the specifics that we aim to deliver as the problems and solutions will not be changed by devolution.

This Local Transport Plan (in particular, Part 3a - Strategic Transport) has been prepared with potential devolution in mind and as such will remain relevant whatever delivery mechanism results from the devolution proposals.



LTP Structure



1 - Local Transport Strategy

Vision

Our vision is that we want North Yorkshire to be a thriving county which adapts to a changing world and remains a special place for everyone to live, work and visit.

This is the shared Vision for the future of our County adopted in the North Yorkshire Community Plan by all the local authorities in North Yorkshire. The NYCC Council Plan further identifies the following five priorities where we can provide leadership and where intervention is needed to overcome some of the on-going issues that affect the lives of people within the county:

- Opportunities for young people
- Tackling loneliness and social isolation
- Transport links
- Economic opportunity for all parts of the county
- Broadband connectivity

These five key priorities guide all of the services that the County Council provide. This document, the fourth North Yorkshire Local Transport Plan (LTP4), sets out how the transport services and infrastructure provided by the County Council and partners aim to contribute towards our shared Vision and the five NYCC Council Plan priorities.



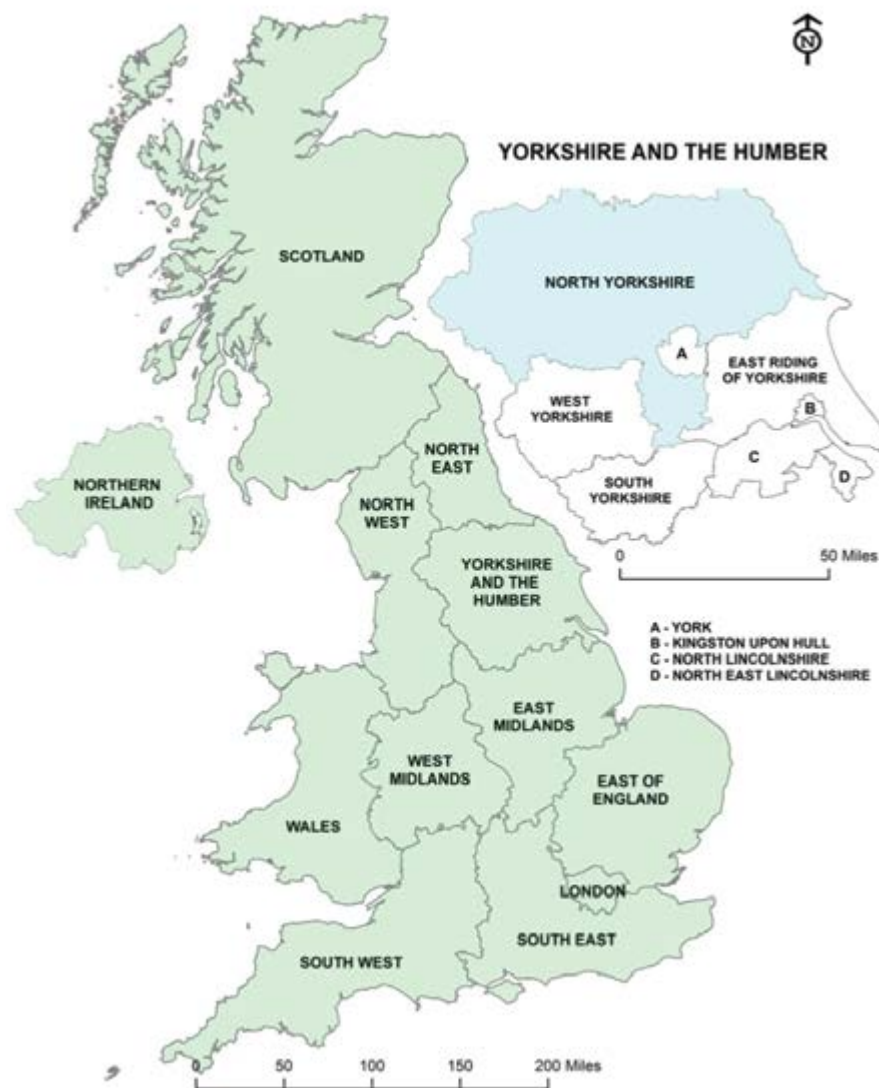
North Yorkshire

North Yorkshire is England's largest county and covers an area of 3,200 square miles (8,300km²).

Approximately 600,000 people live in the County, mainly in 28 main settlements spread around the County. There is also a very significant rural population living in smaller villages and communities.

There are approximately 5,600 miles (9,000km) of road, 2,700 miles (4,400km) of footway and over 2,000 bridges in North Yorkshire. North Yorkshire County Council is the Local Highway Authority for the County and is responsible for the management of most of these roads (excluding trunk roads and motorways such as the A1 and A64 which are managed by Highways England). The main transport networks (road and rail) are shown in Figure 1-2.

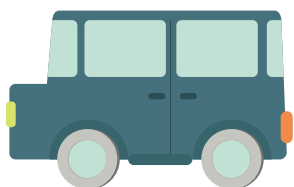
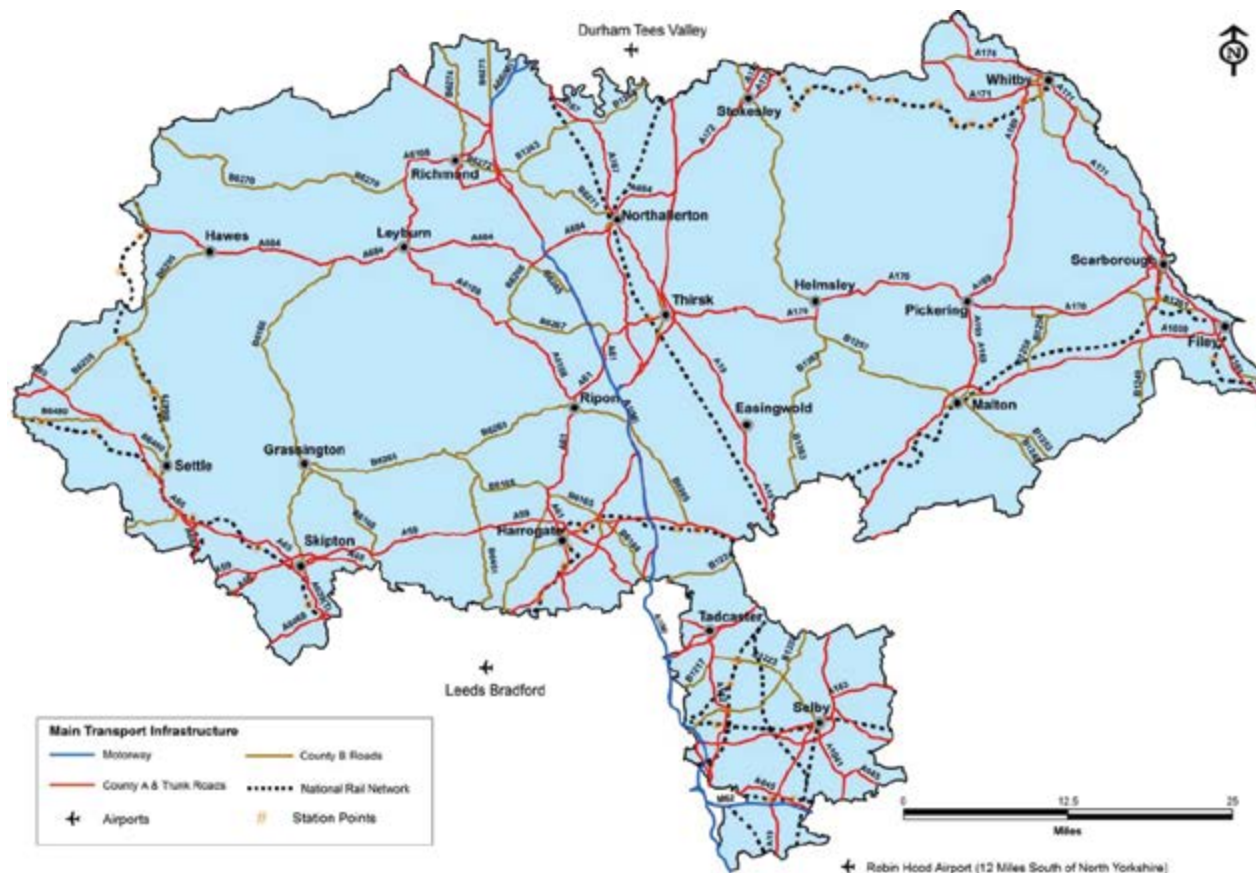
Figure 1-1 North Yorkshire in context



There are ten Local Planning Authorities (LPA's) covering North Yorkshire. The seven district councils (Craven, Hambleton, Harrogate, Richmondshire, Ryedale, Scarborough and Selby) and two National Park Authorities (North York Moors and Yorkshire Dales) are the main development planning authorities. These LPA's prepare the Local Plans which set out where new housing and employment development should take place. They are also the authorities which consider and grant planning permissions for specific sites. The County Council are also a LPA for matters relating to Minerals and Waste disposal outside of the National Parks.

New developments are by far the main contributor to the growth in demand for travel and therefore traffic growth. It is therefore essential that we continue to work together to ensure that land use planning (e.g. Local Plans) and transport planning (LTP) are integrated.

Figure 1-2 Main transport infrastructure in North Yorkshire



Objectives and Commitment

In preparing the Local Transport Plan the County Council have carried out consultation with the Public, our Stakeholders (such as user groups) and partner organisations (such as District Councils).

This consultation shows that their views on what is important for transport have not changed significantly since we adopted our previous Local Transport Plan (LTP3 – 2011-2016). In no particular order boosting the economy, safety, getting access to essential services and the impacts of transport on the environment remain important.

Based on the evidence collected annually, data from census and from our consultation responses, the County Council have decided to adopt the Objectives as set out in the next column.

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

This is what we hope to achieve through our transport services. Further information on each of these Objectives can be found in Part 2 of LTP4.

These LTP4 Objectives also directly or indirectly contribute towards all of the NYCC Council Plan key priorities. For example the 'economic growth' LTP Objective directly relates to how transport contributes towards the 'Economic opportunity for all parts of the county' Council Plan priority, and the 'access to services' LTP Objective identifies how transport can contribute towards the 'Opportunities for young people' and the 'Tackling loneliness and social isolation' Council Plan priorities.

As with LTP3, the money available for the implementation is, and is likely to remain, significantly less than we would ideally like. We therefore need to ensure that we use the best and most cost effective means of achieving our objectives. For LTP3 the County Council adopted a commitment to manage, maintain and improve transport networks and services' as a hierarchy of intervention.



The consultation for LTP4 showed that people still think that keeping our current transport services and infrastructure in good condition is more important than providing new services and infrastructure.

We will therefore re-adopt this commitment for LTP4.

Our Commitment: To **manage, maintain and improve** transport networks and services.

Our commitment is therefore to:

Manage the transport network and services to make the best use of what we already have. This may involve things like better coordination of roadworks to reduce congestion and delays and encouraging more people to use public transport to reduce the number of cars causing congestion and pollution. In most cases these types of management measures are relatively low cost. The County Council has a statutory duty to manage the highway network.

Maintain transport networks and services to an appropriate and affordable standard. Measures could include better maintenance of footways to encourage more people to walk, making sure roads are in a good state of repair to reduce accidents or providing support for a suitable network of public transport services. These types of measures are likely to be more expensive than management measures but cheaper than improvement measures. Highways maintenance is also a statutory duty for the County Council.

Improve transport networks and services to supplement what we already have. Unlike management and maintenance, this is primarily a discretionary power for the County Council and must therefore take a lower priority than action to fulfil our statutory duties. However, where management or maintenance cannot address a transport related issue we will aim to provide appropriate new infrastructure or services. This will of course be considered in the light of available resources. Schemes may range from supporting new community transport services, new sections of footways or crossing facilities through to new park and ride sites and services, major bypasses or road and rail upgrades. These types of improvements tend to be much more expensive than management and maintenance measures.

Timeframe

Previous Local Transport Plans have had a fixed five year timeframe necessary to comply with legislation. In 2012 the legislation changed and whilst having a Local Transport Plan remains a statutory duty for the County Council it no longer has to be for a fixed five year timeframe.

Major road and rail improvements generally take between ten and twenty years to progress from just an idea to being built. Recognising this, and the need to look forward to what we want North Yorkshire to be like in the future, this Local Transport Plan will consider a thirty year time period until around 2045.

This is a long time period but is necessary to allow long term planning for transport, for housing and for economic growth in the County. However, for planning purposes the Local Transport Plan will consider transport needs in the:

- Short Term (0 to 5 years)
- Medium Term (6 to 15 years)
- Long Term (16 to 30 years)

Plans in the short term are likely to be more detailed, have firm funding identified and be much more 'ready to go' than plans in the medium term and longer term which will become more aspirational the further in the future they are.

Scale

This Local Transport Plan will consider transport on all levels of scale. We will consider the scale of what we want to do. For highway maintenance this may range from how we will decide which individual potholes to repair to which bypasses need resurfacing. For improvements it could range from how and where we will install dropped kerbs to help wheelchair users cross the road, to where we want to build £100m bypasses.

At the smaller scale (e.g. potholes) it will set out how we will do things rather than what and where we will do them since there are simply too many in the County (thousands) to have a long list of specific plans. At the larger scale (e.g. bypasses) we will have much more specific plans of what and where we want to build.

We will also look at things at different geographical scales, from the needs of a single street, village or town to how transport in North Yorkshire can contribute towards The Northern Powerhouse¹ and indeed the transport systems and long term economic well-being of the whole of the UK.

LTP Structure

The first page of this LTP graphically represents the structure of the document. LTP4 is a four tier document.

The top tier (Part 1- Local Transport Strategy) sets out the context of the Local Transport Plan and our Vision, Objectives and Commitment for transport in North Yorkshire.

The second tier (Part 2 – Objectives) sets out further details of the main challenges to be addressed for each Objective and the approach the County Council and partners will take to achieving each Objective.

The third tier (Part 3 – Themes) considers transport based on themes (e.g. highway maintenance or bridges) and modes (e.g. buses or walking and cycling) and sets out in more detail what we will do, will not do and what others can do to improve transport.

The fourth tier (Part 4 – Policies) sets out the County Councils specifically adopted policies which are generally related to a specific theme or mode. It ranges from the Highway Infrastructure Assets Management Plan which sets out our whole approach to highway maintenance to specific policies on for example when, where and how we will install brown tourist destination road signs.

In general the Local Transport Plan will not set out programmes of specific schemes and initiatives. For the smaller schemes and initiatives (up to around £5m), the County Council prepare and publish a two year rolling programme. For larger schemes and initiatives (over around £5m), these are likely to be delivered as and when funding is made available.

Importantly, and unlike previous Local Transport Plans, LTP4 does not try to include everything that the County Council will do for transport. Instead it will concentrate on the main things we will do, those that will have the biggest impact on achieving our objectives.

However, just because something is not included in the Local Transport Plan does not mean that it is not important or that the County Council will not do it. To achieve our Objectives we need to take a wide variety of actions and it is not possible to include them all in one readable document.

Funding

Most of the funding for delivery of the Local Transport Plan is provided by the Government in the form of block allocations, or through bids for specific grants.

The Government have provided indicative capital funding allocations until 2020/21 for the delivery of the Local Transport Plan. These allocations amount to approximately £32m per year. Day to day management of the highway network and subsidies for bus services and community transport is provided from Government revenue grants and council tax income. In total the County Council has approximately £75m per year² to spend on transport, however in the context of a population of around 600,000 people and a road length of over 9000km we are still very limited with what we can achieve.

In addition to these allocations there are a number of other ad hoc grants available usually through bids to Government. The County Council has previously been very successful in getting funding for North Yorkshire from these grants with successful bids for over £60m in the period 2012 to 2014. We will continue to take every appropriate opportunity to bid for additional funding for transport in North Yorkshire.

In addition to public sector funding for transport, significant sections of transport infrastructure and funding contributions are provided by the private sector. These are usually associated with new housing and other land developments³. Whilst these are mainly to enable the new development to be built or to mitigate for traffic and transport problems caused by the new development they often also have a beneficial side effect for existing transport users.

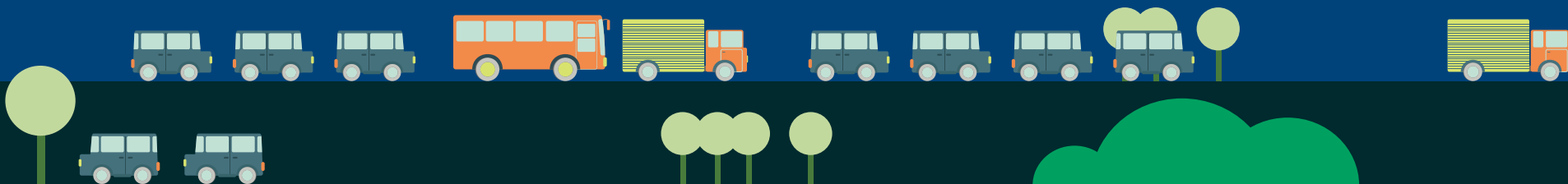
Reviews of LTP4

LTP4 sets the County Councils transport strategies and plans for the next 30 years (to 2045). It is not however intended to set these in tablets of stone. Many things will inevitably change before 2045. The County Council will therefore undertake a review of LTP4 every 5 years to update and amend it to take account of changing circumstances. Additionally, the tiered and modular nature of LTP4, allows individual themes, plans or policies to be reviewed, refreshed and renewed as and when appropriate. It will also allow for additional themes, plans and policies to be added if and when necessary.



Objectives

Part 2a – Economic Growth





2a – Economic Growth

Why is Economic Growth one of our Objectives?

Transport is essential to the health of our economy. It allows people to travel to work, it allows companies to transport raw materials and finished goods and it allows people to go to the shops. Almost every aspect of business and the economy relies on transport; even internet shopping generally requires transport to deliver the goods.

‘Economic opportunity for all parts of the county’ is one of the County Councils five priorities identified in the Council Plan. We therefore need to make sure that our transport networks and services are as reliable and efficient as possible to both support the existing economy and to help facilitate future economic growth. We want to make sure that strong economies in North Yorkshire remain strong and to ensure economic growth benefits the weaker economies.

As well as promoting economic growth we also need to ensure that the impacts of economic and housing growth on the transport networks are managed both by ensuring growth is located in a way that facilitates sustainable transport and by ensuring necessary new infrastructure is provided.

Figure 2a-1 North Yorkshire Unemployment Rates

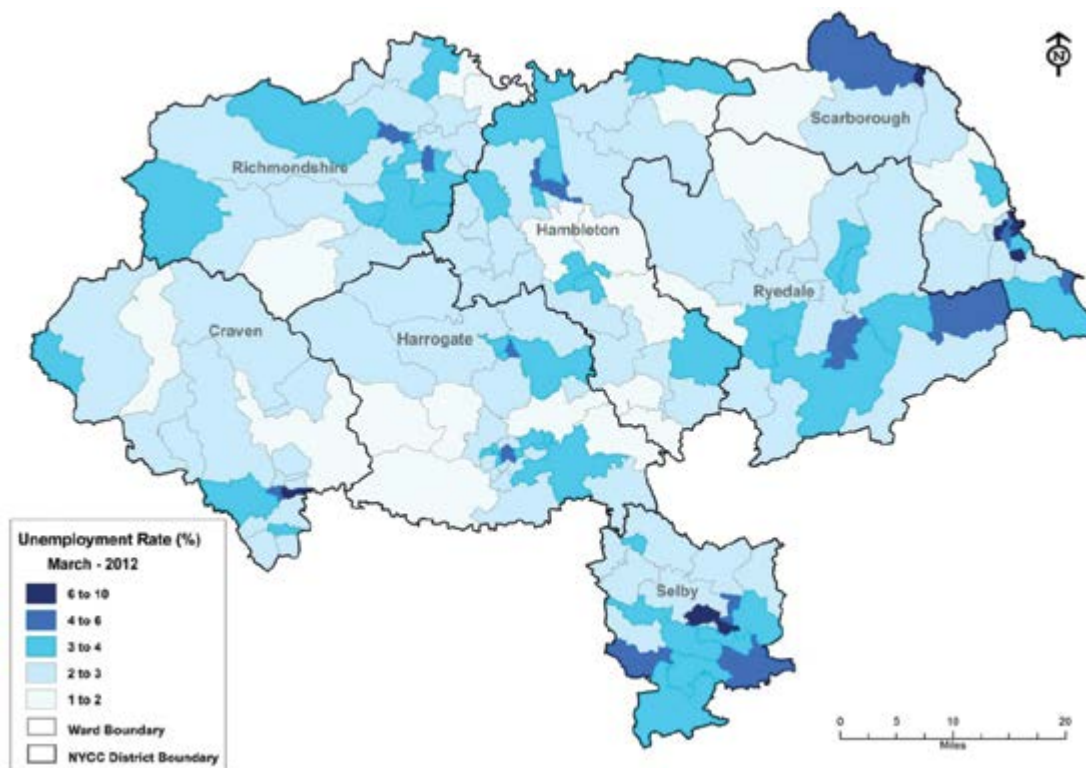


Figure 2a-1 above shows the unemployment rates in North Yorkshire. Unemployment is one indicator of the economic performance of an area. A much more detailed analysis of the economic strengths and weaknesses of North Yorkshire can be found in the York, North Yorkshire and East Riding Strategic Economic Plan¹. There are many different reasons for the relative performance of the local economies in different areas and transport is just one of these.

The County Council will consider all transport related constraints on economic growth but has prioritised the issues of highway maintenance, traffic congestion and peripherality.

Highway maintenance

All journeys use the highway network (roads, pavements, cycleways etc.) for at least part of the trip. People walk on pavements and cycle on cycleways. The roads are used by cars, cycles and buses to get people to work. Lorries also use the roads to make deliveries. Even sea, air and rail journeys generally start and finish on the highway network.

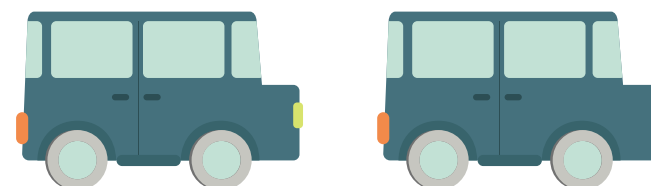
North Yorkshire's highway network is vast² and the budget needed to keep it in a good condition is therefore also vast. In common with the rest of the UK, years of underfunding by successive Governments have resulted in the condition of many of our roads deteriorating. This causes economic problems for commuters and businesses as a result of slower journey speeds and delays at unplanned road works.

As the highway is the main network for travel in North Yorkshire and since it affects everyone, maintaining our highway network is the County Councils highest transport priority. For many years the County Council has prioritised the maintenance of the higher category, busier roads in the County but inevitably this has resulted in the lower category quieter roads deteriorating more quickly. In 2014 only 3% of our busier 'A' roads needed maintenance compared to around 25% of the quieter unclassified roads.

The relatively poor condition of the minor road network tends to have a greater impact on the remoter, more sparsely populated rural areas of the County and is one of the contributing factors to the poorer economic performance in these areas.

Despite recent increases in the funding available for highway maintenance from the Government there is still a significant funding gap between what is available and what we need. However, in recent years the County Council has been very successful in obtaining additional funding for highway maintenance and we are starting to arrest the deterioration of the network. For the period 2015/16 to 2020/21 we have managed to find an additional £39m (£24m from the Governments Local Growth Fund and £15m from County Council reserves) to help maintain our roads. The County Council will continue to seek additional highway maintenance funding.

To make sure that we get the best possible highway maintenance outcomes for our limited money we have adopted an approach to how and when we maintain our roads called Highway Infrastructure Asset Management³.



Tackling congestion

In North Yorkshire the majority of traffic congestion occurs in our main towns. Traffic congestion, as well as causing environmental problems, leads to long and unreliable journey times for business travel and commuters. This results in lost, unproductive time sitting in traffic queues as well as unpredictable arrival times for deliveries and workers. With businesses increasingly embracing the efficiencies of ‘just in time’ deliveries they often see journey time reliability as being more important than the actual journey time.

Traffic congestion is caused when the amount of traffic that wants to use the roads is more than they can cater for. Congestion usually occurs at junctions but spreads back along the road. Traffic congestion can therefore be tackled in one of two ways, by reducing the amount of traffic on the road (demand management) or by increasing the capacity of the road.

Based on traffic flow data, journey time information and local knowledge the County Council have identified 6 main towns as the priority, though not exclusive, areas to tackle congestion:

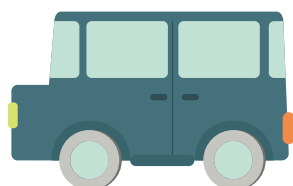
- Harrogate and Knaresborough
- Scarborough
- Northallerton
- Malton / Norton
- Selby
- Ripon

To tackle traffic congestion the County Council has adopted a combination of measures to both reduce traffic demand and to provide more highway capacity. Further details of these can be found in part 3 of this LTP.

Demand management measures will include both encouraging people to make fewer or shorter journeys and encouraging mode shift (people making journey by modes of transport other than private cars such as walking, cycling⁴ and public transport⁵). We will also work with the Local Planning Authorities (the district councils) to seek to manage new development in a way that will reduce the need to travel and therefore minimise their impact on congestion⁶.

We will provide improved capacity on the highway network through very localised improvements such as minor junction improvements, traffic management and improved traffic signals⁷ and parking management as well as through major highway improvements such as bypasses⁸.

However, as is set out in the Local Transport Strategy and in the part 3b, funding for highway improvements is very limited and as such we have a very limited scope for providing highway improvement from our LTP funding. We will however continue to work with planning authorities to ensure that developers contribute towards the costs of highway improvements necessary to accommodate traffic from their development. We will also continue to seek other funding for necessary highway improvements including from Government funds such as the Local Sustainable Transport Fund and Pinch Point funding and through the Local Growth Fund.



⁴See Part 3j - Walking and Cycling for more information

⁵See Part 3l - buses and CT, and Part 3k - Rail for more information

⁶See Part 3g - Planning and new Developments for more information

⁷See Part 3f - Traffic Engineering for more information

⁸See Part 3a - Strategic Transport for more information

Addressing the impacts of peripherality

Peripherality, the distance (or travel time) of areas from each other or from the main transport networks, has a significant impact on local economic performance. Peripherality is an issue at different levels of scale. England could be regarded as peripheral to the rest of Europe, North Yorkshire as peripheral to many of England's major cities and parts of the County as peripheral to the central core of North Yorkshire.

Transport improvements can reduce the impact of this peripherality by providing links between economic areas to help bring economic agglomeration benefits and links to ports and airports to help international business.

In order to help address the impact of the peripherality of North Yorkshire as a whole the County Council are committed to working with Transport for the North (TfN) to both contribute to and share in the benefits of The Northern Powerhouse. By playing our part in bringing together the economies of the North West, Yorkshire and the Humber and the North East we can not only make The Northern Powerhouse stronger but can help grow the economy of the County.

North Yorkshire is part of the Northern Powerhouse and sits adjacent to two City Regions. Improving road and rail connections into these City Regions remains an important element of our strategy to encourage economic growth in 'The North'. To the north the Tees Valley City Region has strong links with the districts of Hambleton and Scarborough. To the south the Leeds City Region has strong links with Craven, Harrogate and Selby districts and for some purposes these three districts are actually considered to be part of the Leeds City Region. We will continue to work closely with these two City Regions to help improve cross boundary transport links for goods and people helping to spread the economic strengths of the City Regions into and across North Yorkshire as well as playing our part in growing the economies of the City Regions.

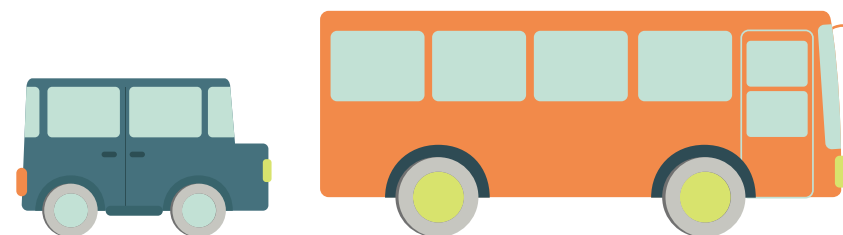
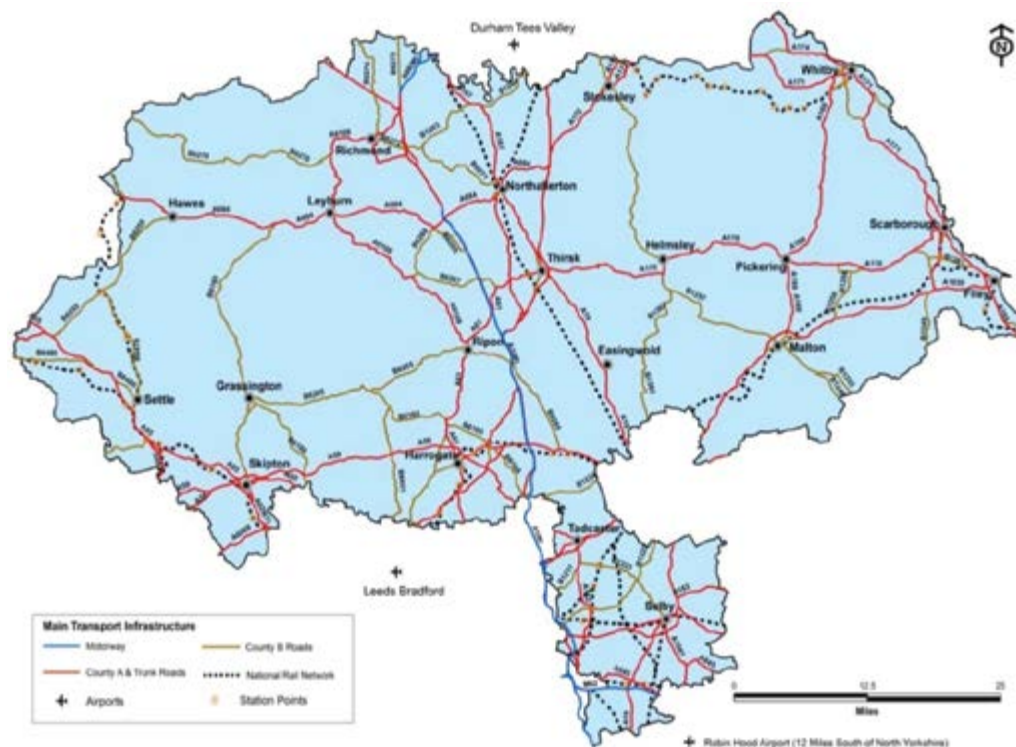
At a local scale, within North Yorkshire, there are excellent transport links (both road and rail) in the central corridor (e.g. A1(M) and East Coast Mainline) which provide good links between the towns in this corridor and to other parts of the Country. These good transport links have helped establish a strong economy in this corridor. However, there are a number of areas of North Yorkshire where their distance from the central transport corridor results in underperforming economies. In the east of the County this is especially relevant to the coastal communities (including Scarborough, Filey and Whitby) and to areas of Ryedale. In the west of the County this is mainly felt in Skipton and other areas of Craven district, although in this area transport links into West Yorkshire and East Lancashire are also vitally important.

These peripheral areas of the County also include many of the main tourist attractions in North Yorkshire (coastal resorts and National Parks) and as such their peripherality can be a constraint on what is one of the most important economic sectors in North Yorkshire.

Long and often unreliable journey times for employees reduce the available pool of skilled labour for employers. Along with similarly long and unreliable journey times for goods and deliveries these represent a significant additional cost to employers and a major disincentive to businesses locating in the peripheral areas of North Yorkshire.

Just as a result of the distances involved (Scarborough is around 50 miles (70km) from the A1(M) and Skipton being 30 miles (50km) from the A1(M)) major improvements in journey times to these areas are difficult to achieve. The road and rail networks to the peripheral areas are also often of a poor standard which has a major impact on journey time reliability.

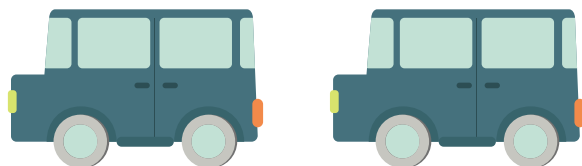
Figure 2a-2 Main transport infrastructure in North Yorkshire



As is set out in the North Yorkshire Strategic Transport Plan⁹ the County Council has identified a number of priority east-west routes for potential improvement including the A64 between York and Scarborough and the A59 between the A1(M), Skipton and onwards to East Lancashire. This includes the A59 at Kex Gill where road closures have been required, most recently in 2016, as a result of the need for urgent slope stabilisation. Further highway improvements, including the potential re-routing of this key route, are required to maintain east-west connectivity and to build resilience into the highway network.

We are also prioritising a number of rail related improvements such as double tracking and electrification of the York – Harrogate – Leeds railway and improved access to conventional and future High Speed rail stations.

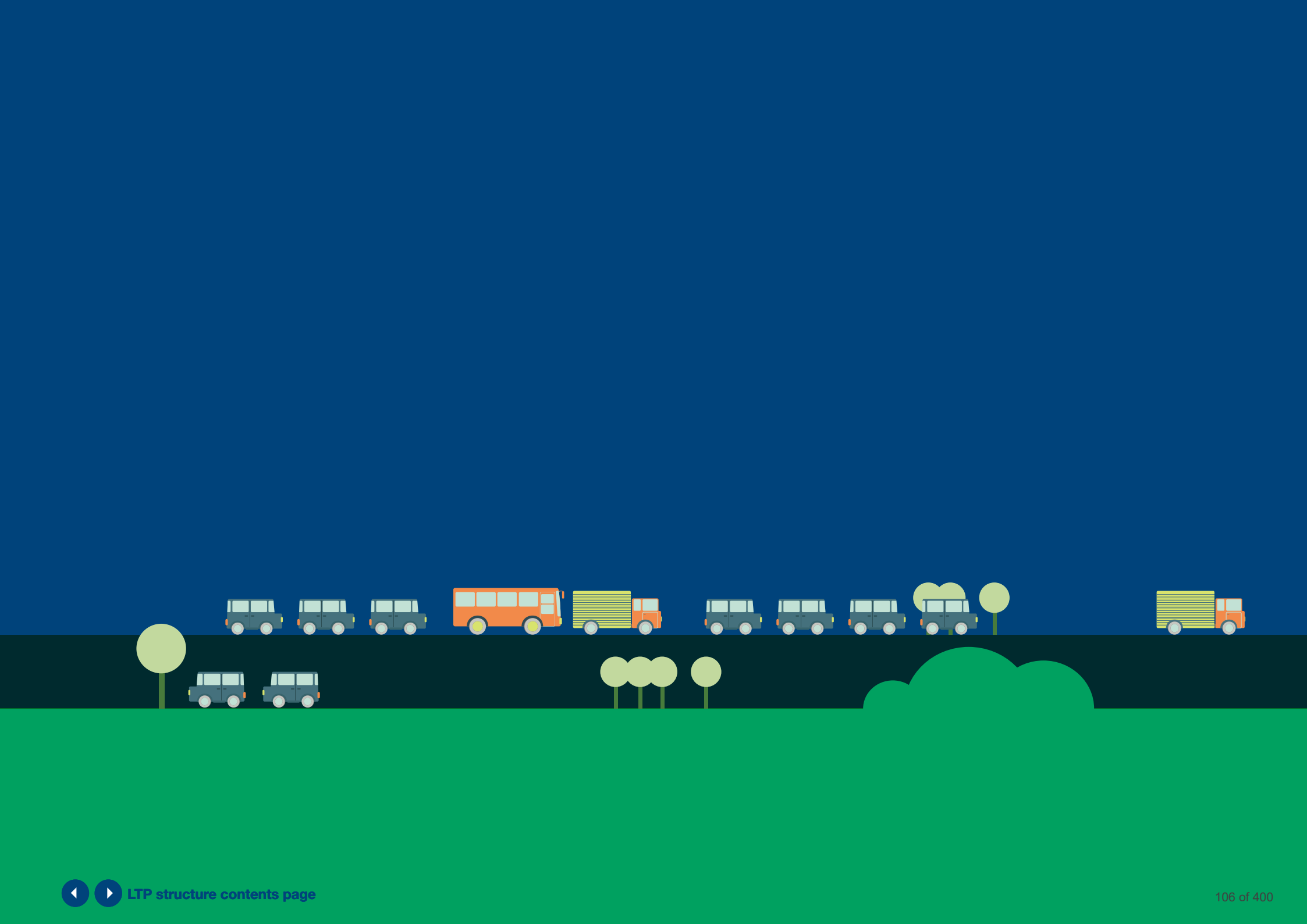
The scale of the problems means that solutions (such as upgrading roads to dual carriageway) are expensive costing tens or even hundreds of millions of pounds. The County Council cannot provide this scale of funding directly and must therefore bid for funds from the Governments Local Growth Fund. The County Council has however committed significant funding (approximately £300,000 per year) to developing the proposals for improvements on these priority routes to maximise the chances of successful bids into the Local Growth Fund to allow us to deliver these improvements.



Conclusion

Transport problems, be they localised or long distance, can have a major impact on economic performance and can be a major constraint on economic growth. By ensuring our highway network is in the best possible condition, reducing traffic congestion and improving strategic transport links the County Council aims to reduce the transport constraints on the economy and help our residents and businesses become more financially secure. This will help reduce many of the problems of poverty and deprivation which ultimately has been shown to help people live healthier and better lives.





Objectives

Part 2b – Road Safety





2b – Improving road and transport safety

Why is road and transport safety one of our Objectives?

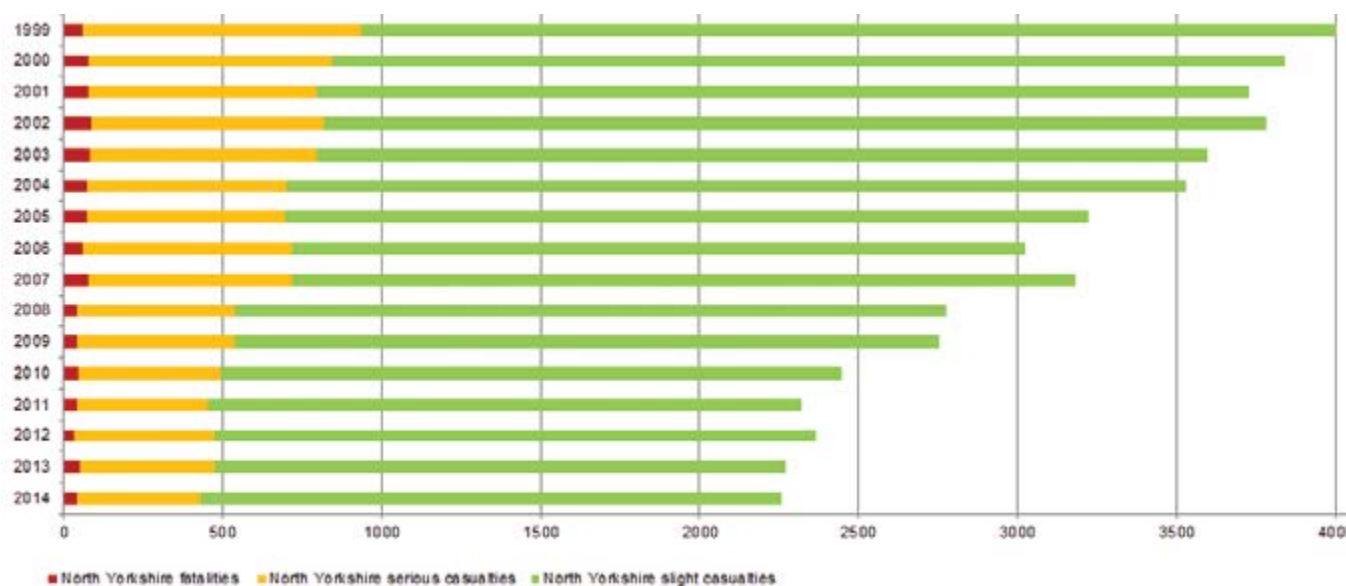
This objective aims to make transport within the County a safer and more secure activity, whether it be for work, leisure, school or shopping, for all types of transport and for all road users such as walking, cycling, driving or as a passenger.

We all use roads in some way and we depend on them to obtain goods and services. They are essential to our everyday lives, and to our economic prosperity. However, one result of everybody's reliance on the network is that 'accidents will happen'.

The County Council has a statutory duty to investigate the causes of road collisions and casualties and to take appropriate action to prevent future collisions. Road collisions are costly. They are costly in terms of human loss and suffering. They are also costly in terms of damage to property, provision of services such as police, medical and insurance, and from lost productivity and delays. It is estimated that in 2013 reported road accidents in Great Britain cost in the region of £14.7 billion¹. If unreported injury accidents are included, this could increase to about £50 billion.

During the last 15 years in North Yorkshire the number of people who were killed or seriously injured on our roads has fallen from 934 in 1999 to 431 in 2014, whilst slight injuries also fell from 2,997 in 1999 to 1,827 in 2014 (see Figure 2b-1 below). This represents approximately a 45% reduction in annual casualties in 15 years, which is broadly consistent with the national rate of reduction in casualties over the same period.

Figure 2b-1 Road Casualties in North Yorkshire 1999 to 2014



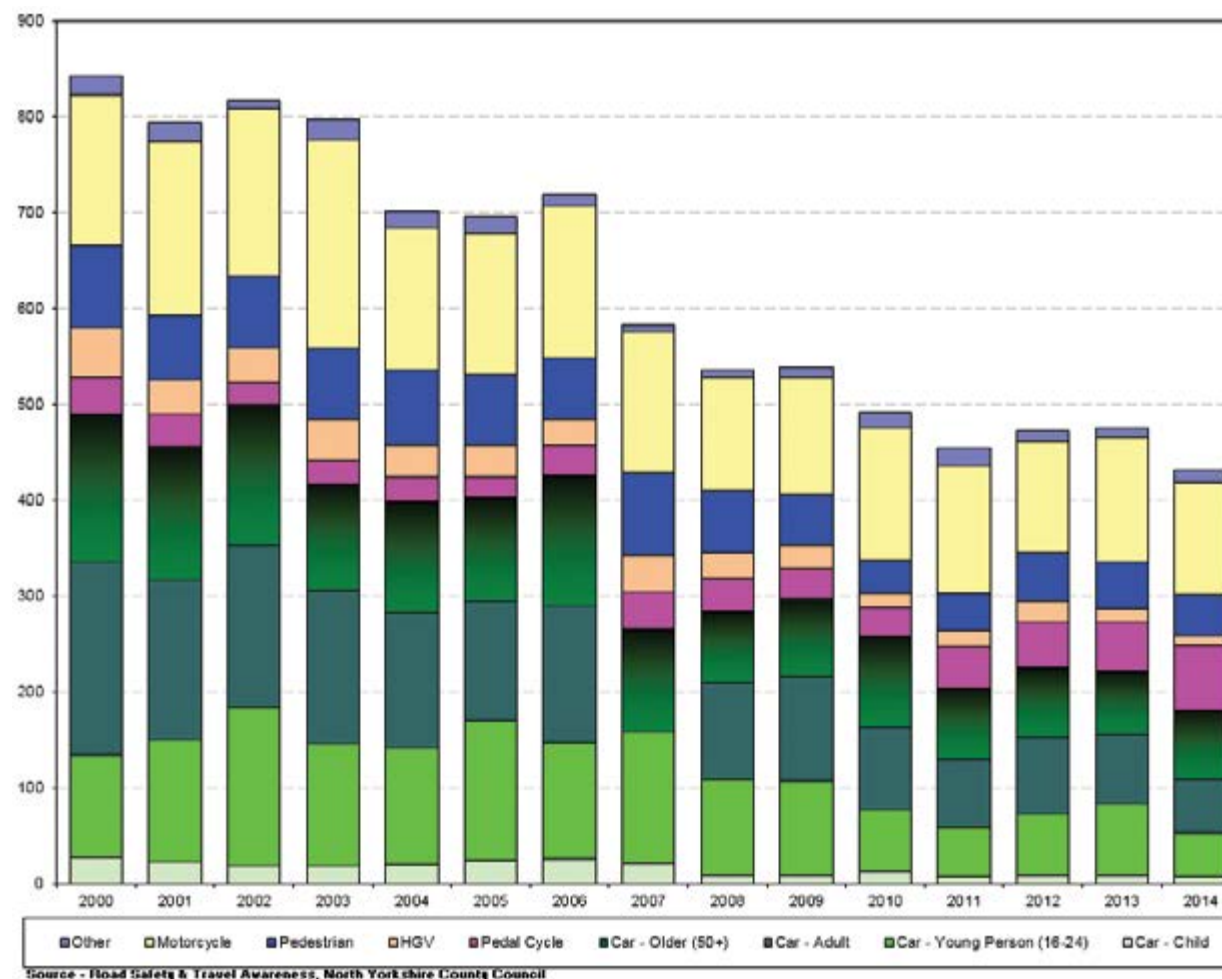
We have been working to reduce the number of crashes and casualties on our roads, despite increasing traffic levels. We founded our road safety partnership, '95 Alive' over 10 years ago, in conjunction with the Police. The partnership now brings together the County Council, City of York Council, emergency services and other local councils and public sector organisations in York and North Yorkshire who have a role to play in road safety. The 95 Alive partnership vision is to:

“Seek to make travelling in York and North Yorkshire safer, and act in a way that inspires the trust and confidence necessary to make people feel safer too.”

However, there is more to do and we will target our resources to address specific, targeted safety concerns, whether they are particular groups of road users, especially vulnerable users, or at particular locations in the county where there are clusters of crashes. The likelihood of being involved in a road collision is not evenly spread across all road users. Some groups are more at risk than others or more vulnerable to injury e.g. cyclists, pedestrians. Figure 2b-2 shows the number of killed and seriously injured casualties on our roads between 2000 and 2014, by user group.

The total number of killed and seriously injured casualties has fallen by 44% in the 14 years shown. Vulnerable road users such as motorcyclists, pedal cyclists and pedestrians represent 53% of the killed and seriously injured casualties on our roads in 2014.

Figure 2b-2 Killed and seriously injured casualties in North Yorkshire by road user group 2000 - 2014



Preventing Injury and promoting healthy and active travel

In particular, we will seek to coordinate our programme delivery to achieve complimentary Highways and Public Health aims and outcomes, including:

- Reduction of unintentional and deliberate injuries to children and young people
- Reduction in premature deaths and injuries to young people
- Reduction in premature deaths and injuries – all ages
- Contribute to the Public Health Active lives and healthy weight programmes
- Support road user and active travel education in schools in core subjects as well as PSHE through the provision of key stage related curriculum resources and the support of a specialist road safety curriculum adviser.

Motorcycles

The vulnerable road user in North Yorkshire most over-represented as fatal or serious casualties is the motorcycle rider or passenger. Motorcycles form a small percentage of the traffic but a large percentage of the injuries on North Yorkshire's roads. They are approximately 1% of traffic but account for approximately 27% of killed and seriously injured casualties in 2014. Whilst a reduction in the number of casualties has been achieved since their peak in 2003, they are still too high.

Motorcycling in North Yorkshire is a popular pastime for many bikers who travel to and through the spectacular and challenging roads including the Yorkshire Dales and the North York Moors. This is both a local issue within North Yorkshire and wider regional issue as many of those who are hurt here will transfer back to their home area for recuperation and treatment.

Pedal Cycles

The number of cyclists killed or seriously injured on our roads has been increasing since 2005, reaching 67 in 2014, which represents nearly 16% of all road users suffering significant injuries.

Cycling in North Yorkshire is rapidly growing in popularity as a sport and for general recreation, since the success of 'Le Grand Depart' of the Tour de France in Yorkshire in 2014, and the first annual Tour of Yorkshire in 2015. Improving safety for cyclists will help to promote and enable healthier travel in the county. Use of cycles for leisure, school or commuting will be more attractive if cyclists perceive their journey as being safe.

High priority crash sites

The County Council maintains and updates an annual list of sites which have been identified as high priority with regard to collisions. These are sites where there have been four or more collisions within the previous three year period and within a 100 metre radius in rural areas and a 50 metre radius in urban areas. Table 2b-1 shows the distribution of these for the period 2012 to 2014.

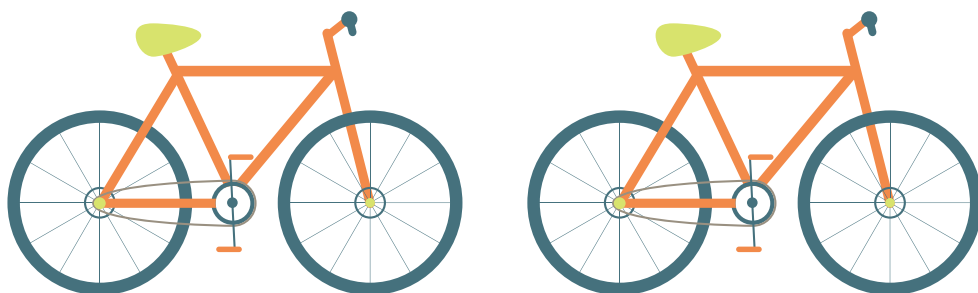


Table 2b-1 Collision Cluster Sites by District – 2012 to 2014

Borough/District	Rural Clusters			Rural Clusters			Rural Clusters		
	No. of cluster sites	No. of collisions in cluster sites	% of total cluster sites	No. of cluster sites	No. of collisions in cluster sites	% of total cluster sites	No. of cluster sites	No. of collisions in cluster sites	% of total cluster sites
Craven	7	31	4.5%	4	17	2.6%	11	48	7.1%
Hambleton	13	60	8.4%	7	36	4.5%	20	96	13.0%
Harrogate	23	117	14.9%	31	154	20.1%	54	271	35.1%
Richmondshire	8	41	5.2%	1	4	0.6%	9	45	5.8%
Ryedale	6	29	3.9%	4	23	2.6%	10	52	6.5%
Selby	15	82	9.7%	7	32	4.5%	22	114	14.3%
Scarborough	6	26	3.9%	22	101	14.3%	28	127	18.2%
North Yorkshire	78	386	50.6%	76	367	49.4%	154	753	100.0%

The majority of these cluster sites are on the main road network, primarily at junctions. They are evenly split between rural and urban locations. We will continue to review and update this identification of high priority sites across the County. By identifying and investigating the types and causes of accidents at these locations, we are best able to identify the most appropriate and cost effective action to take.

The County Council also investigate personal injury collision data on routes (A & B Classified) throughout the county. Routes of concern are highlighted by a new statistical based route analysis tool. Where appropriate a cost effective route based scheme is designed and implemented as soon as possible.



Personal Security

People's lives and travelling are strongly affected by whether or not they feel safe. This 'feel safe' factor can stem from a variety of factors, including the influence of crime and the ability to move safely.

Street lighting is provided primarily to improve road safety but also contributes towards personal security². It is also a deterrent to crime. Recent studies have provided evidence that good street lighting infrastructure can facilitate a reduction in crime and the fear of crime, by increasing visibility and the risk of identification. Improved lighting also has a positive impact on commercial, leisure and tourism activities and can aid pedestrian movement and encourage accessibility to the night time economy, so supporting the County Council's Social Inclusion Strategy, and contributing to greater community cohesion.

However, street lighting contributes approximately 16% of the County Council's annual carbon emissions of approximately 78,000 tonnes. The Government has introduced a carbon tax called the 'Carbon Reduction Commitment' which is intended to encourage energy and carbon saving initiatives. In April 2012 we introduced a Street Lighting Energy Reduction Programme as part of our carbon reduction management programme to reduce energy consumption and carbon emissions. Street lights are considered for dimming technology, part-night lighting provision or removal, and are assessed against a comprehensive list of criteria³. Paramount in this assessment is road safety and personal security. It is estimated that approximately 27% of current street lighting emissions can be saved through this programme. Further information on the assessment of street lights can be found in Section 3i – Street Lighting section of this document.



How will we achieve this objective?

We will use all the information that is available to us to best identify where safety issues can be addressed to greatest effect with the resources available to us. We will do this by analysing the numbers, locations and causes of collisions on our roads and any patterns that emerge. They may relate to any number of contributory factors, for instance the location, the type of vehicles involved, the time of day, the weather conditions or the condition of the road.

We will adopt the internationally recognised Safe Systems Approach to safety on our roads and for our road users, to provide a holistic approach to road safety. This encompasses all the best practice that we currently employ, but includes elements outside the County Council control such as vehicle design and emergency service response. The Safe System is explained in detail in the Road Safety themed section. It consists of the following:

- Safer vehicles
- Safer roads and infrastructure
- Safer Speeds
- Safer Road Users
- Post-Crash response

We will apply the following principles in addressing road safety issues:

- Education – We will help road users to understand how to use the road network safely and to realise how their actions affect others,
- Engagement – We will work with local people and partners to promote and deliver a safer road network,
- Enforcement – We will work with the police who seek to deal with anyone who is responsible for breaking the law, and
- Engineering – We will make roads safer through appropriate design for all road users, for example the provision of improved crossings or road maintenance.

The type of approach used will be dependent on the nature of the crashes which are being addressed, the users involved and local factors, and may involve a combination of measures.

The councils Road Safety and Travel Awareness team works with Public Health and the 95 Alive Partnership and currently delivers training programmes to promote safe use of the road network. ‘Bikeability’ training is delivered to primary schools, so that children understand how to cycle on and across roads.

Enhanced Pass Plus courses are available to new drivers wanting to develop a positive attitude to driving. Cycling and walking to school schemes are also encouraged and the team works with schools to develop their own travel plans.

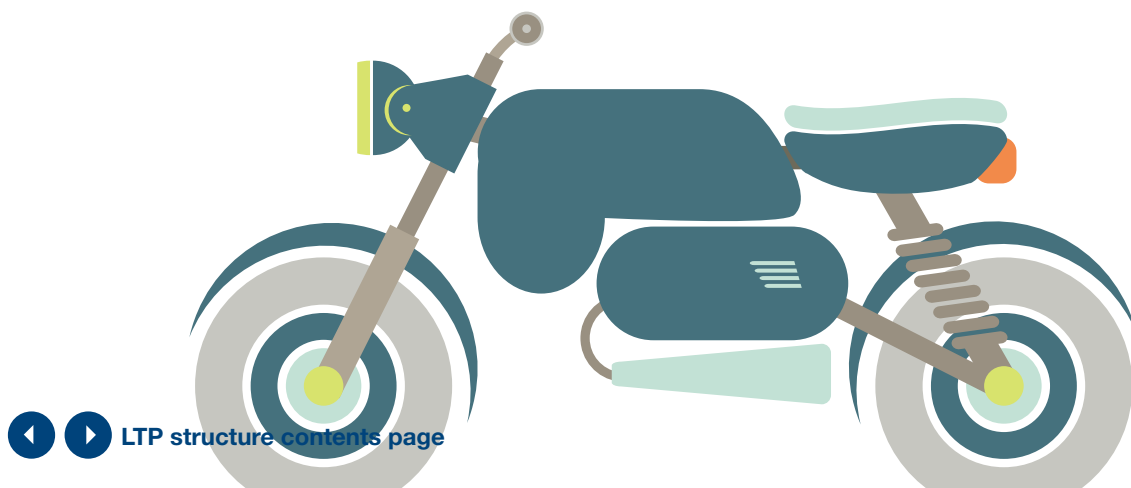
We will seek to access transport grants that become available to benefit and improve our roads. In the recent past programmes such as the Local Sustainable Transport Fund have provided the opportunity to develop sustainable transport options. This has allowed new transport facilities to be provided and also existing conflict points to be addressed, to provide an attractive sustainable transport package.

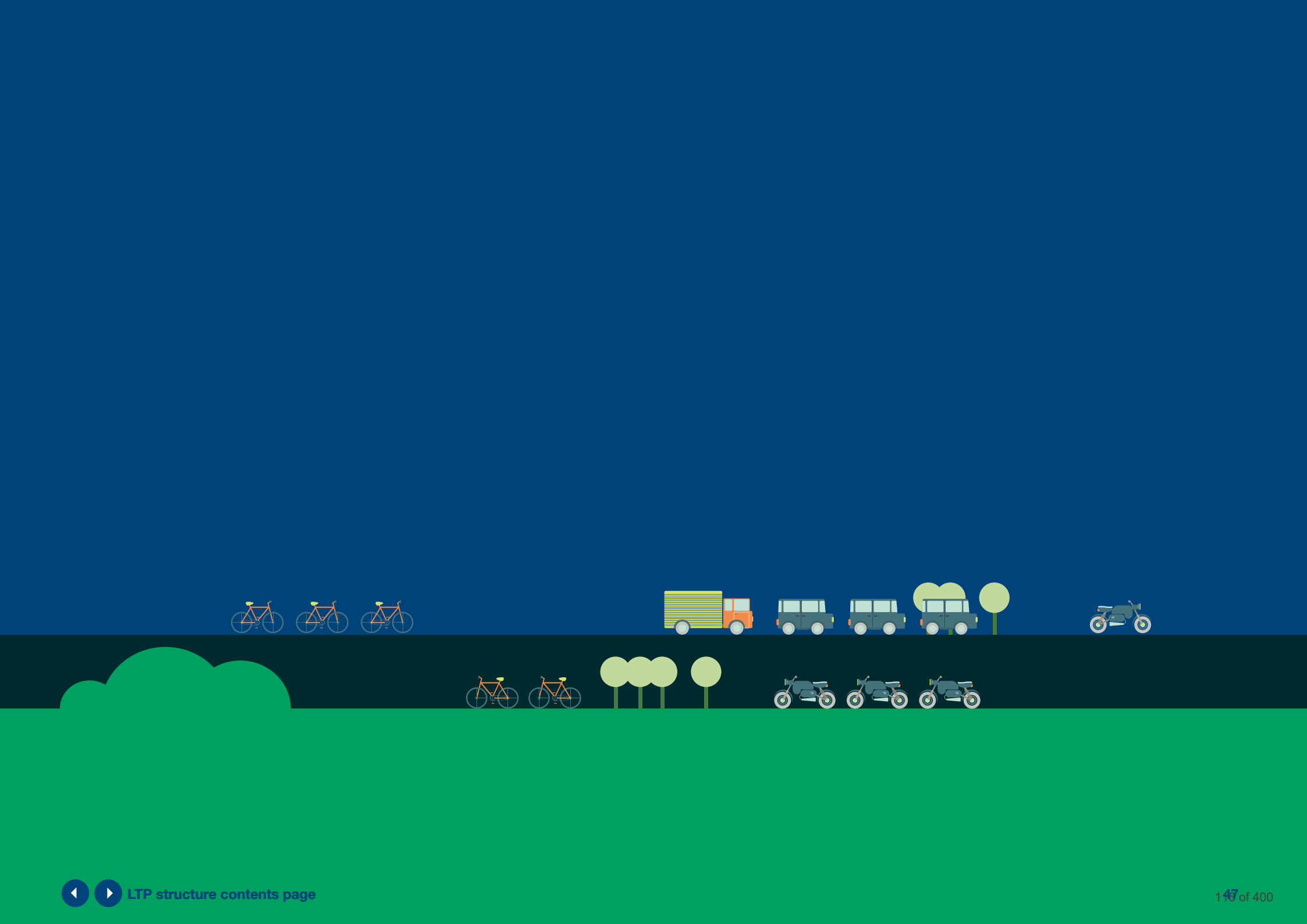
We will seek any improvements that can be addressed through the development planning process. This gives us the opportunity to not only avoid potential road hazards at the design stage, but also allows proper integration of vulnerable user groups, thus promoting healthier travel options.

We will seek to reduce the occurrence of road collisions where road maintenance or condition is a factor. Road maintenance is a fundamental feature of safe roads, and factors such as surface condition, road alignment, drainage, signs, road markings, traffic signals and gritting in the winter can reduce the potential for a crash.

Conclusion

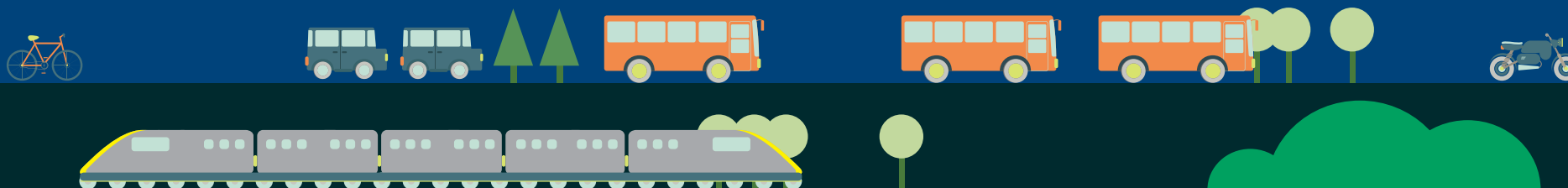
Roads are essential to our everyday lives, including our commute to and from work and school, deliveries to home or businesses, for visitors who come here on holiday and medical journeys to the doctors or hospital. Safety on our roads is a high priority for the County Council. Road crashes and casualties are costly in terms of human suffering, lost productivity and damage. We are a leading partner in our local Road Safety Partnership, 95 Alive, where we actively coordinate the work of numerous agencies to reduce the number of casualties on our roads by targeting the causes and locations of collisions and crashes. The principles of education, engagement, enforcement and engineering will continue to be used to address road safety issues and are closely integrated with Public Health work to prevent casualties and to promote healthier, active travel choices for all ages. The council will adopt the Safe Systems Approach as fundamental to this work.





Objectives

Part 2c – Access to Services





2c - Access to Services

Why is Access to Services one of our Objectives?

It is clear that transport can have both a positive and negative impact on everyone's day to day life. Good transport connections make it easier to access our workplace and other essential services for education and health. Being able to access all of these things provides us with a balanced lifestyle, helps us to socialise with family and friends, remain healthy and independent, and enables us to boost the economy through working, shopping and leisure. Overall, this makes our lives better. The importance of transport and good access to services is specifically identified in the Council Plan as a major contributor to achieving our Priorities of 'Opportunities for young people' and addressing 'Loneliness and social isolation'.

For most of us, accessing services is the main reason for us needing to travel. We need to reach work, education, food shopping, and health appointments, which all involve travel of some sort, whether this is by walking, cycling, public transport or private car.

NYCC recognises that by working with others, including service providers who have a responsibility to ensure that their services can be adequately accessed by their intended service users/customers, we can facilitate opportunities for everybody to access the services they require, for example by providing a good highway network to travel on, a reliable public bus service, and safe footpaths and public rights of way to walk on.

In considering people's difficulties in accessing services we will think about the issues that may be experienced because of where people live (i.e. Place), for example rural areas, and we will think about the issues people have because of personal circumstances (i.e. People) for example age, income, disability. Those households without access to a car are most likely to be restricted in accessing the services they need. It is clear that those who fall into more than one of these categories will have the most difficulties. People who live in a rural area, who are older and also have difficulty walking for example, or those who do not have access to a car but who also have a long term illness or disability for example, will feel a greater affect. The resulting impact of this on accessing services has a multiplying effect.

Our consultation confirms that the majority of people in the County consider their access to services to be good, and whilst this is encouraging it does mean that difficulties with access are generally small scale and often localised. Addressing these can often be more difficult.

Adequate and timely highway maintenance¹ of the roads and footpaths (including winter snow clearance) can have the biggest impact on accessing essential and non-essential services as nearly all local transport uses the highway network. The Highway Infrastructure Asset Management Plan outlines the strategic approach for managing the whole of the highway network (roads, pavements, cycle ways etc.), and details how the Council will deliver our highway maintenance policies. These documents reflect requirements set out in the New Roads and Street Works Act 1991, Road Traffic Regulation Act 1984, and the Traffic Management Act 2002. We manage and maintain the 9000km of roads, 4500km of footways, and 1,700 bridges in the county to ensure that people can continue to travel, and this impacts all modes, and all people.

What are the issues concerning 'Place'?

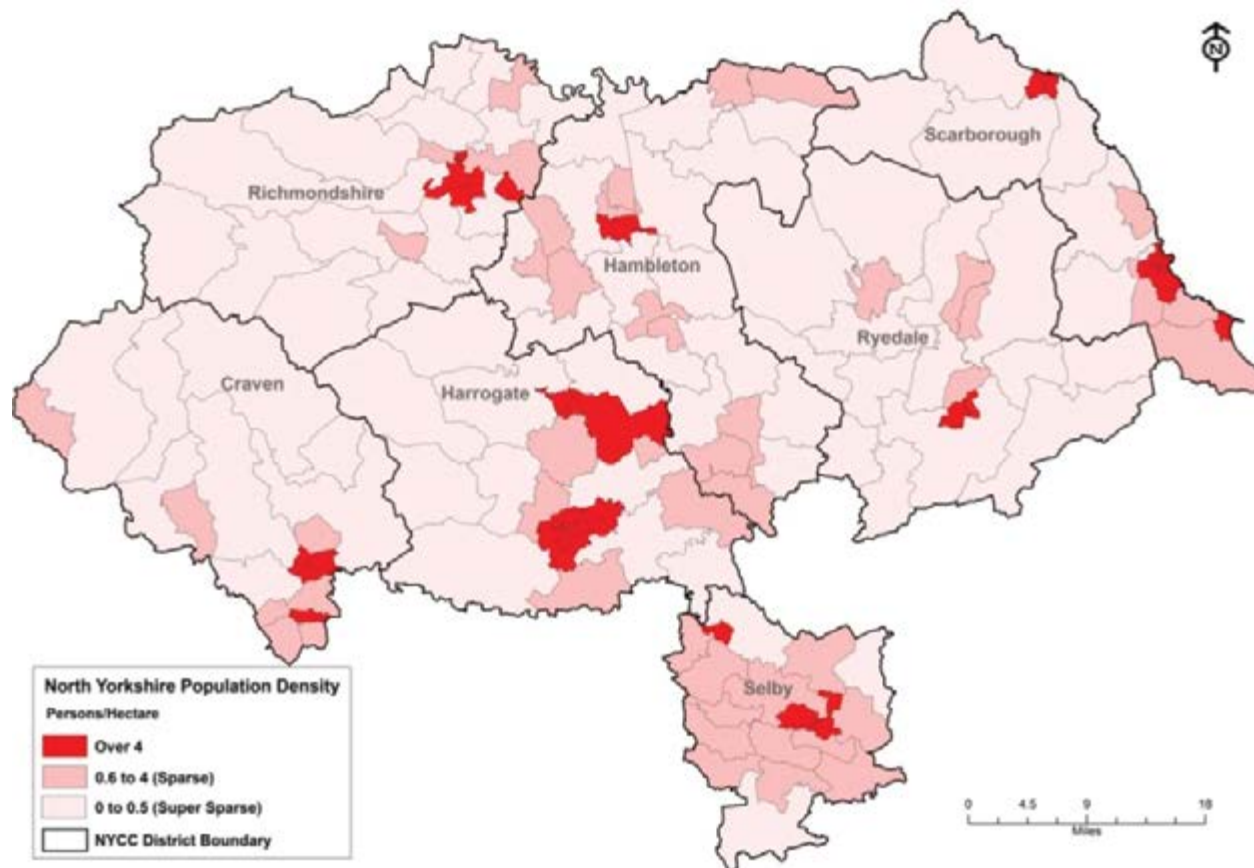
The main issues in North Yorkshire with access to services resulting from where people live are concerned with living in a remote or rural area.

Our consultation showed us that a majority of people travelled more than 10 minutes (around 40 to 50%) to access essential services like work, doctors, and food stores, and that these journeys were mostly undertaken by private car (around 50 to 70%).

In general, people living in towns have good access to services as they can walk to many essential services, and the County's towns generally have good bus provision. In rural areas, walking issues usually relate to the lack of footways or cycle tracks alongside roads. Problems in bigger villages and towns are more often associated with crossing facilities on busy roads. In both cases, this results in difficulty accessing local services within their local areas.

Figure 2c-1 shows the population density of the districts. The diagram indicates that most of the county is very sparsely populated. The main populations are concentrated in the towns in each district; however the majority of the county consists of very rural areas.

Figure 2c-1 Population density by District



In most cases, whether living in a rural or urban area, those with access to a car have good access to services. In rural areas which are sparsely populated, the private car is often the most sustainable mode of transport. Since our towns are generally well served by commercially operated public transport to access services, the County Council must therefore concentrate its limited resources on providing access to essential services for those living in very rural areas that do not have access to a car.

Getting to school, particularly primary schools, can often be achieved without access to a private car. We can ensure the opportunity to walk or cycle to school is an achievable and attractive option, through promotion and development of safe and convenient routes to school. We will continue to challenge parents' decision to take children to school by car where there are suitable walking options, and we will promote active travel choices. We will also continue to provide home to school transport for those children who qualify under criteria set out in current legislation. Due to the remote nature of many communities in North Yorkshire, some children have no other option than to travel to school by bus or car, and we will continue to provide this service to pupils living within the County who otherwise would be unable to attend school.

Connectivity

Connectivity between villages, and from villages to towns, can increase the opportunity for people to access certain services. While some essential services, such as food shopping, may be available within the village, others such as employment and health services may only be available in nearby larger settlements. Linking the place people live with the services they require relies upon the road network for both cars and buses. Maintaining the road network² is therefore essential to keeping these links open, in order to facilitate travel.

Severance

Reduced access to facilities and services within towns and villages can be caused by severance. Busy roads with limited opportunities for people to cross can lead to communities feeling severed and vulnerable, especially for elderly people and those who find walking more difficult. Maintaining our existing crossing facilities to ensure they are in good condition, are functional, and are fit for purpose reduces severance in towns and villages. Bypasses around villages can also help with this issue as they reduce through-traffic, but they are expensive, take a lot more design and planning time to develop, and are therefore more of a long term solution.



What are the issues concerning ‘People’?

The main issues with access to services resulting from personal circumstances are:

- Age
- Income / unemployment
- Disability
- Lone parent households
- Car ownership

Age

We are living in times of an increasingly aged population. Census 2011 data for North Yorkshire shows that the numbers of residents over the age of 65 is increasing, and at 21% in North Yorkshire, this is higher than the national average of 19%.

Whilst age in itself is not a limiting factor for accessing services, a higher proportion of older people who no longer work has a double impact due to fewer people paying taxes which contribute to the economy. This can also lead to increased reliance on walking and on the public and community transport network. Further, an aging population may rely more heavily on health services. Consultation shows that around 38% of over 65 year olds walk to the doctor and to their local food shops, while a further 15% use public transport to access these services. Our footpaths need to be in good condition to be able to facilitate walking to services directly, and for accessing bus stops.

Table 2c-1 Percentage of people of each Age by District

Borough/District	% children (0-15 years)	% people of working age (16-65 years)	% over 65
North Yorkshire	16	63	21
Craven	15.4	61.8	22.8
Hambleton	15.7	62.7	21.6
Harrogate	17.0	63.4	19.6
Richmondshire	16.7	65.9	17.5
Ryedale	15.2	61.5	23.3
Scarborough	14.8	61.9	23.3
Selby	17.1	66.1	16.8

Conversely, the increase in school leaving age means that young people are not going into employment as soon as they once were, and often students rely on public transport if they cannot afford to run their own car. The opportunity for studying at a local further education institution or apprentice placement is limited by transportation and travel options. It may be difficult for young people to attend a college within the county, which are located in Selby, Harrogate, Scarborough and Skipton. Similarly, it may be that young people need to travel daily to York, Leeds, Darlington, Newcastle or Stockton to attend specialist college courses. In all cases, attendance hinges on a bus or train getting students there before 9am.

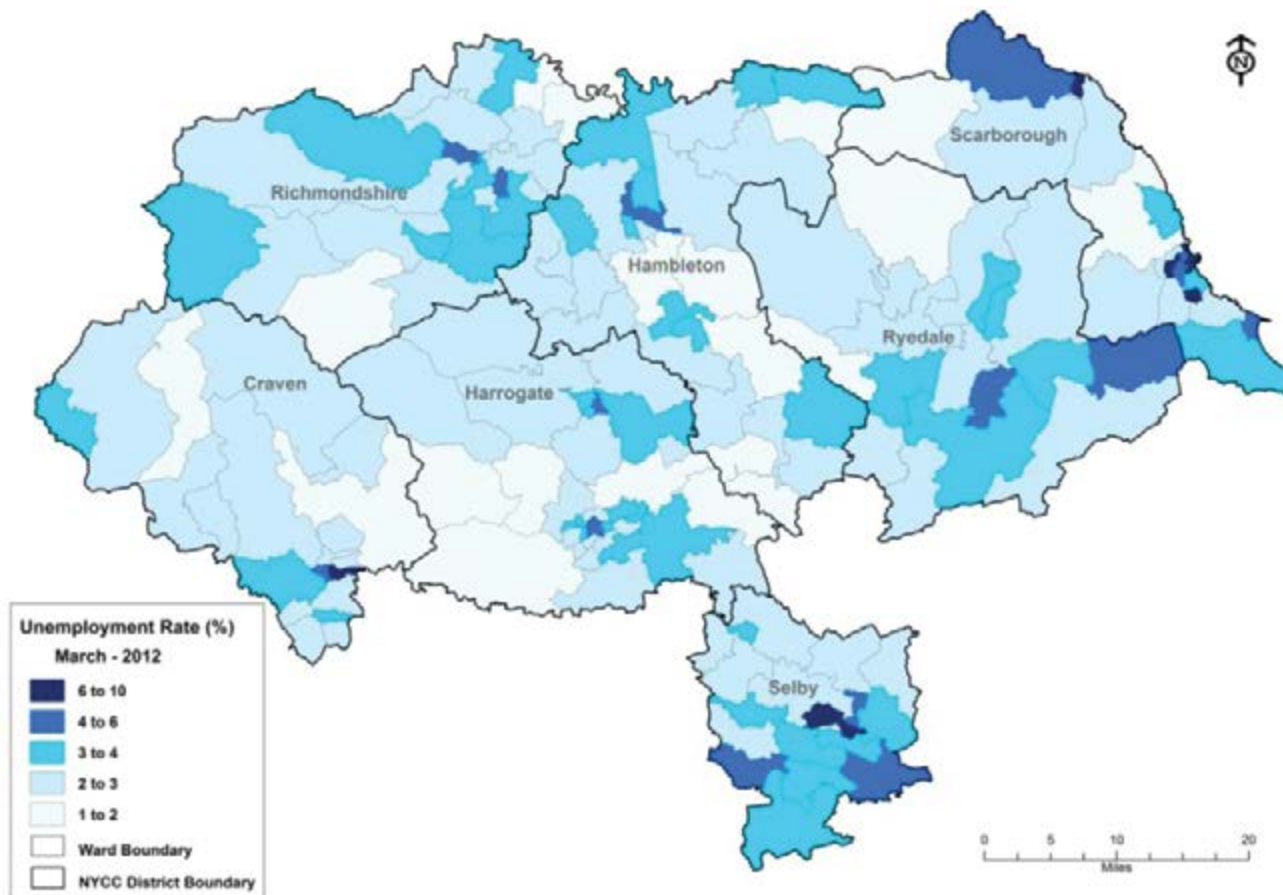
Assistance with transport will be provided to students aged 16 to 18 years old who meet the eligibility criteria⁴. Students who are eligible will normally be issued with a travel pass, from the nearest available pick up point, allowing them to make journeys from home to school or college and back, at the beginning and end of their day.

Income / unemployment

Economic deprivation can be an issue for travel as the cost of owning a car increases. Those living on lower incomes can therefore find that travel to work, and to other essential services, reduces their overall household income, and can make travelling further afield to a work place less economically viable. It is therefore important that our public transport network provides a daytime service to support travel to and from the main employment areas in the County. In exceptional circumstances, support for individual transportation in terms of a personal loan for a moped may be available for those who are eligible through the Wheels to Work scheme.

Census data tells us that although unemployment is not at a high level overall for North Yorkshire, the highest rates of unemployment in the County fall in the Scarborough and Selby districts as shown in Figure 2c-2. Lower incomes (from the retail and hospitality sectors for example) may have an impact on mode choice for travel, and how often people travel, especially to non-essential services which enhance quality of life. Public transport may be the most affordable mode of transport for some people compared with running private car, and the extensive commercial bus network in the County can provide this.

Figure 2c-2 Areas of unemployment by District



Disability or long term illness

People with a disability or long term illness may have a need to access health services more than others, and their personal mobility to access everyday services may be more limited. According to our consultation, around 80% of North Yorkshire residents use a private car to travel to the nearest hospital, and 60% travel by car to their doctor's surgery. This reliance on private car for travel to health services may be due to the bus services not aligning with appointment times, or it may be because people with more serious health problems find it difficult to use public transport and to walk to and from the stops.

Table 2c-2 No. of people with long term/ limiting illness by District in 2014

District	No of people
Craven	10301
Hambleton	16477
Harrogate	26336
Richmondshire	8657
Ryedale	8712
Scarborough	21923
Selby	14403

Car ownership

For those households which do not have access to a car, especially those in rural areas, we aim to maintain a core daytime network of bus services. Our overall strategy remains to ensure that as many communities as possible continue to have access to a public or community transport service and that these services give value for money. Our first priority is to seek to meet the day-to-day transport needs of local communities prioritising core daytime services over evening, Sunday and poor performing bus services. This was confirmed in our consultation, where improving and maintaining our existing bus services and facilities, like shelters, were rated as having a higher importance than providing new bus services or facilities.

The number of households without access to a private car in the UK is around 25%, from data given in the 2011 census. In comparison, all districts in North Yorkshire have a lower percentage of homes without access to a car, apart from Scarborough (28.8%), which accounts for 31% of the total households in North Yorkshire without access to a car.

District	no car	% in district with no car	% of county totals with no car	1 car	2 cars	3 or more cars
Craven	4,228	17.2	9	10,907	7,258	2,190
Hambleton	5,086	13.3	11	15,964	12,635	4,432
Harrogate	11,032	16.4	24	28,621	21,317	6,199
Richmondshire	2,692	13.3	6	9,241	6,331	1,943
Ryedale	3,299	14.6	7	9,720	7,011	2,494
Scarborough	14,224	28.8	31	22,288	9,802	3,121
Selby	5,155	14.9	11	13,707	11,921	3,776

Lone Parent Households

Lone parent households may have a lower income than other households, which may make it more difficult to own a car. Some of these households may rely on the bus network to access some essential services such as employment and education. From census data, it is known that there are a greater number of lone parent households in the Harrogate and Scarborough districts.

Table 2c-4 No. of Lone Parent Households by District

District	No of households
Craven	1,259
Hambleton	1,753
Harrogate	3,713
Richmondshire	1,164
Ryedale	1,010
Scarborough	3,030
Selby	1,719

How will we achieve this objective?

It is recognised that the bus network is relied upon for connecting those without a car to travel to places of work, education etc. Helping to maintain bus services enables those without access to a car to reach essential and non-essential services for work, health, retail, leisure and socialising. Our consultation told us that this is an important part of what we deliver.

The majority of public transport is provided by a commercial network of bus services across the County which has grown over the last five years from 75% to a predicted 88% of bus passengers in 2015. The remainder is currently provided by tendered services which are determined using the County Council's set of criteria⁵. This also means that as and when budget pressures require a reduction in the level of support for bus services, then the core daytime services which allow access to essential services like food shopping and health services are prioritised and lower priority leisure, evening, and Sunday bus services are the first to be reduced or withdrawn.

Conclusion

Transport is usually a means for us to do other things, to access or reach work, shops, family, or leisure. Travelling is not generally part of the activity we wish to undertake. Maintaining our existing road and footway network helps to improve and encourage connectivity and social networking, and can create better access to local amenities that people rely on. Our consultation confirmed that maintaining our existing network of roads and footways remains one of the most important transport services that we provide. There are a lot of factors which may affect a person's ability to access the services they may need, and NYCC are sympathetic to these, and strive to facilitate access to essential services wherever possible.



Objectives

Part 2d – Environment and Climate Change





2d - Environment and Climate Change

Why is Environment and Climate Change one of our Objectives?

Protecting the environment and preventing climate change is ever present on the agenda for transport management. There are pressures to reduce our carbon footprint, and the impact we have on the environment around us. Transport can in some ways make a big impact in terms of reducing CO2 emissions as new technologies allow for cleaner vehicle engines, fewer carbon and nitrogen emissions, addition of stop-start functions, and ultra-low emission vehicles (ULEV's) such as electric and hybrid vehicles.

Our consultation showed us that the environment and climate change remains of high importance to our residents. We recognise however, that we must balance the desire to reduce carbon emissions from transport with the travel needs of North Yorkshire residents. Given the largely rural nature of the County and its sparse population, the private car is often the only means of transport for residents, and can be the most efficient and environmentally friendly compared to operating an empty diesel bus. Nevertheless, this should not stop us encouraging people to travel by other modes, where alternative means of travel exist, in order to reduce emissions in the County.

Consideration of the impact that transport has on the environment can be split into the impact to people's health¹, and the impact on the natural and historic environment. North Yorkshire has some of the most beautiful places in the country, and we need to protect these areas as much as we can. Ensuring these spaces continue to be managed will encourage future generations to do the same. A high quality environment, and how it contributes to the tourist and visitor economy, is also identified in the Council Plan as one of the main contributors to the priority of 'Economic opportunity for all parts of the county'.

It is important for environmental considerations to remain at high on the agenda through LTP4, as the long term vision of the Plan is realised. Work that we do to the highway network now, will impact on our environment in the future.

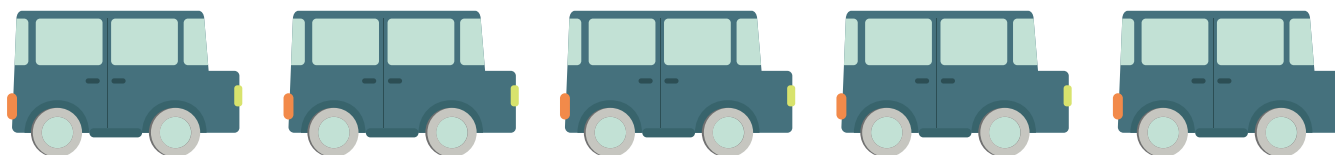


Environmental Impact Scoping in Scheme Feasibility

We have a commitment to sustainable development and design. Whilst undertaking a feasibility study for a new scheme, consideration will be given to environmental and cultural heritage and any relevant regulations e.g. Habitats Regulations². For example, in the case of a structure such as a bridge we would ensure works are compliant with wildlife and waterways legislation. An environmental scoping assessment is carried out which identifies the areas which may be impacted upon, the level of that impact, and any potential mitigation which might be required to offset that impact. The scoping assessment will identify sites of special interest, areas of outstanding natural beauty, and water courses nearby including where any surface water run off may flow, flora and fauna species affected, and the impact of the change in noise and air quality. The assessment may also outline surveys required, and when they should be undertaken if the scheme develops into design stages. The scoping assessment will also determine where a full Environmental Impact Assessment (EIA) will need to be undertaken as part of the design stages. The EIA would form part of a Major Scheme Business Case submission to bid for funding for the scheme development.

Traffic congestion, road noise and pollution

It is recognised that increased congestion and traffic levels can lead to an increase in noise and pollution. Tackling these issues by monitoring air quality and carbon levels in busy areas, promoting public transport in order to reduce car use, and maintaining and providing better facilities for walking and cycling can help to improve localised pollution, visual intrusion, and reduce traffic noise. In addition, where traffic reduction measures such as those mentioned above do not improve the situation where it is feasible we will seek to reduce congestion and air pollution through highway improvement schemes, reduce traffic noise impacting on residential areas from new highways schemes, and potentially from the existing network where this is feasible. This is in line with our 'Manage, Maintain, Improve' hierarchy.



Air Quality Management

Local authorities have a statutory duty under the Environment Act 1995 to carry out air quality monitoring for a number of pollutants listed in the national air quality objectives, and to take action when air quality problems are identified. In North Yorkshire this statutory duty lies with the seven district councils, however, where an air quality problem is related to traffic on the County Council's roads we have a duty to work with the district councils to try to improve air quality.

Generally the air quality in North Yorkshire is very good but there are a small number of locations where high traffic volumes cause localised problems. Air Quality Management Areas (AQMA) for nitrogen dioxide (NO₂) are designated if current or projected levels breach, or are likely to breach, the objective of 40 micrograms per cubic metre (40 µg/m³) as prescribed by the Air Quality Regulations.

There are four designated traffic related AQMA sites in North Yorkshire: Knaresborough; Ripon; Malton; and Selby (declared in 2016). These sites measure and monitor NO₂ emissions from vehicles relative to receptors such as residential properties.

Further to these four sites, there are also five sites around the county which have exceeded or are predicted to exceed the 40 µg/m³ limit, and there are two sites which are approaching the 40 µg/m³ limit, all of which are monitored closely and work is done to try to ensure these sites do not escalate to AQMA qualifying levels. These sites are located in Richmond, Bedale, Northallerton, Scarborough, Harrogate, and Tadcaster.



Reducing Carbon Emissions and Adapting to a Changing Climate

The transport sector contributes 21% of the UK's greenhouse gas emissions⁴; however the good news is that the amount of greenhouse gases in all sectors, including transport, is decreasing over time.

Carbon dioxide emissions make up the largest percentage of greenhouse gas released into the atmosphere. In general, the highest concentrations of carbon emissions are found along the county's main roads, emanating from both vehicles and industry. These levels are monitored regularly though out the county, and remedial measures can be taken in order to reduce the impact of these emissions.

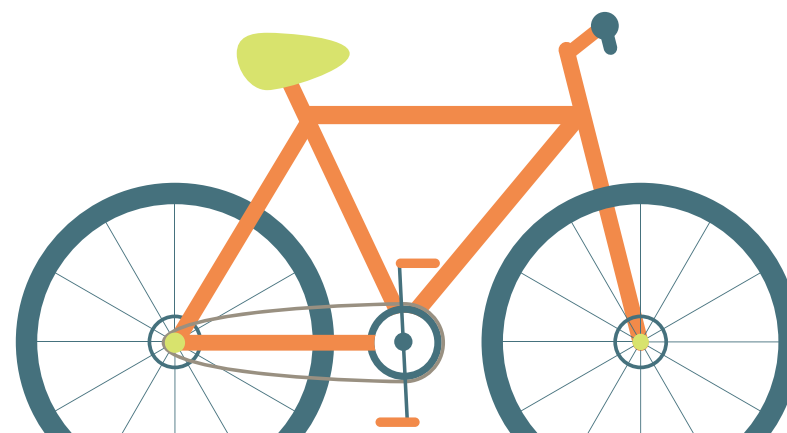
As expected, the A1(M) is the source of the highest levels of carbon emissions as this is a highly trafficked road. This road belongs to Highways England, and is therefore out of the control of NYCC. Our county's A and B type roads are emitting lower levels of carbon pollution, and these roads generally connect our county's towns. The Yorkshire Dales and North York Moors national parks show the lowest levels of carbon emissions⁵.

Industry can also contribute to the carbon emissions recorded in the county, the highest concentrations of which are found in our towns, and lined along the county's main roads. This has a doubling-up affect where the road is also a high carbon producer, and where the industrial process requires heavy transportation of good and products to and from the site. The County Council cannot directly influence choice of mode for the majority of trips made, however we can influence the decisions people make by maintaining our roads, promoting sustainable travel options such as cycling, walking and buses where this is feasible, and by promoting car sharing and linked or combined trips for our staff (like shopping on our way home from work).

By recognising the impacts of climate change, and their potential hazard to road users, we can increase the resilience of the highway network against the predicted effects which include varied patterns of rainfall and local flooding.

Public space and townscape

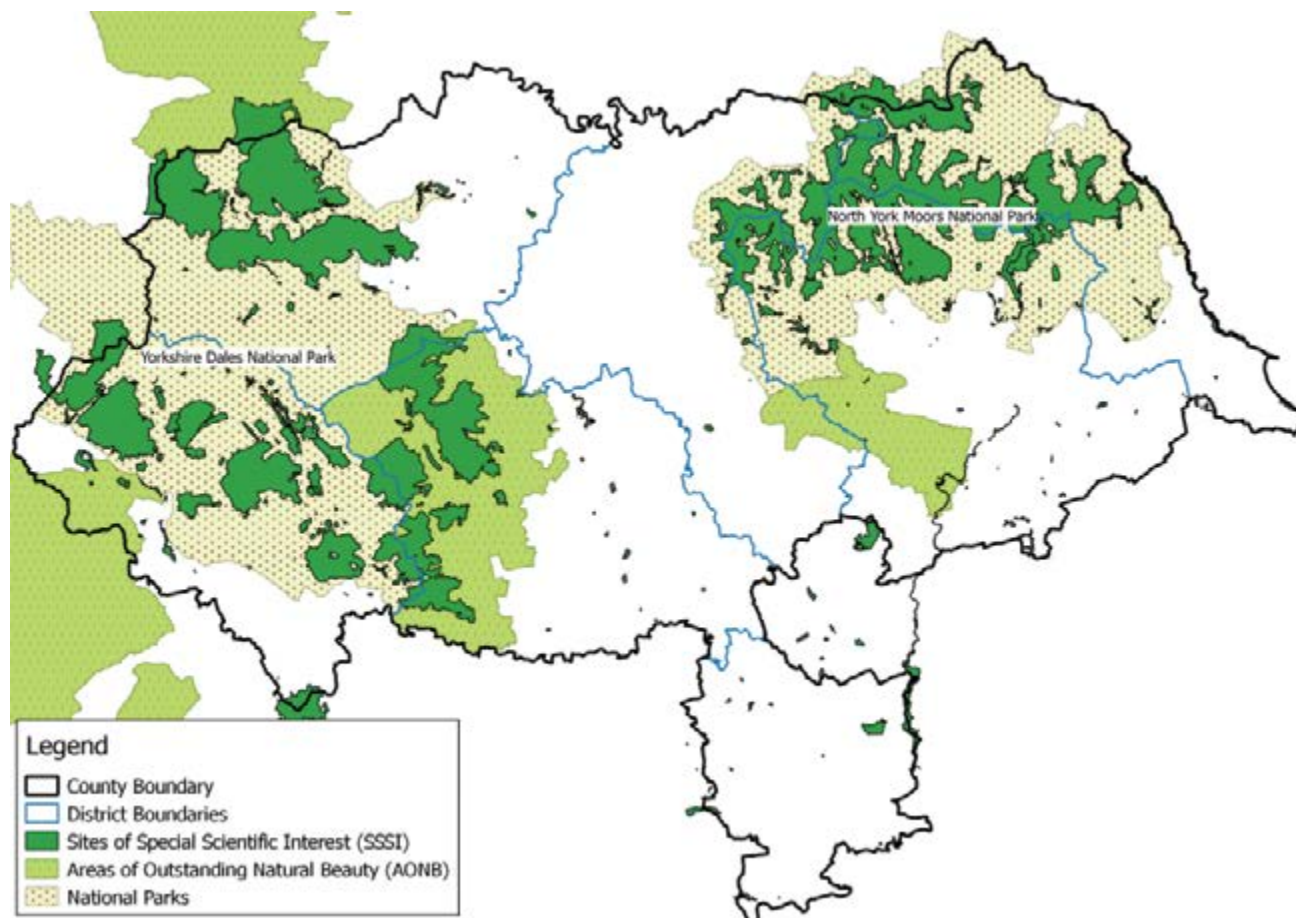
Providing an attractive place to live and work can help to encourage walking and cycling, and have a positive impact on how we feel in general. Ensuring that our footways and cycleways are maintained so that walking and cycling is not inhibited, while part of our statutory duties, also promotes a better quality of life through a healthier lifestyle, and interacting socially with other people within the towns and villages we live in. The aesthetics of having well maintained green spaces, green infrastructure, verges, and footways also improves quality of life, and therefore this is to be encouraged through grass cutting, planting, repairs, and repaving where required.



Historic and Natural Environment

There are two designated national parks in North Yorkshire; the Yorkshire Dales national park, and the North York Moors national park. Additionally there are two designated Areas of Outstanding Natural Beauty (AONB) fully within the County and parts of two others along with numerous Sites of Special Scientific Interest (SSSI), historic monuments, and conservation areas as shown in **Figures 2d-2 and 2d-3**. We recognise the importance of respecting these designations and the local character of the County. Approximately 46% of the County is designated National Park or AONB. These areas contribute significantly to the County's economy by attracting visitors all year round, from all over the UK and Europe for leisure and tourism. In order to ensure they want to return again, we need to make sure these areas remain peaceful, pristine and protected.

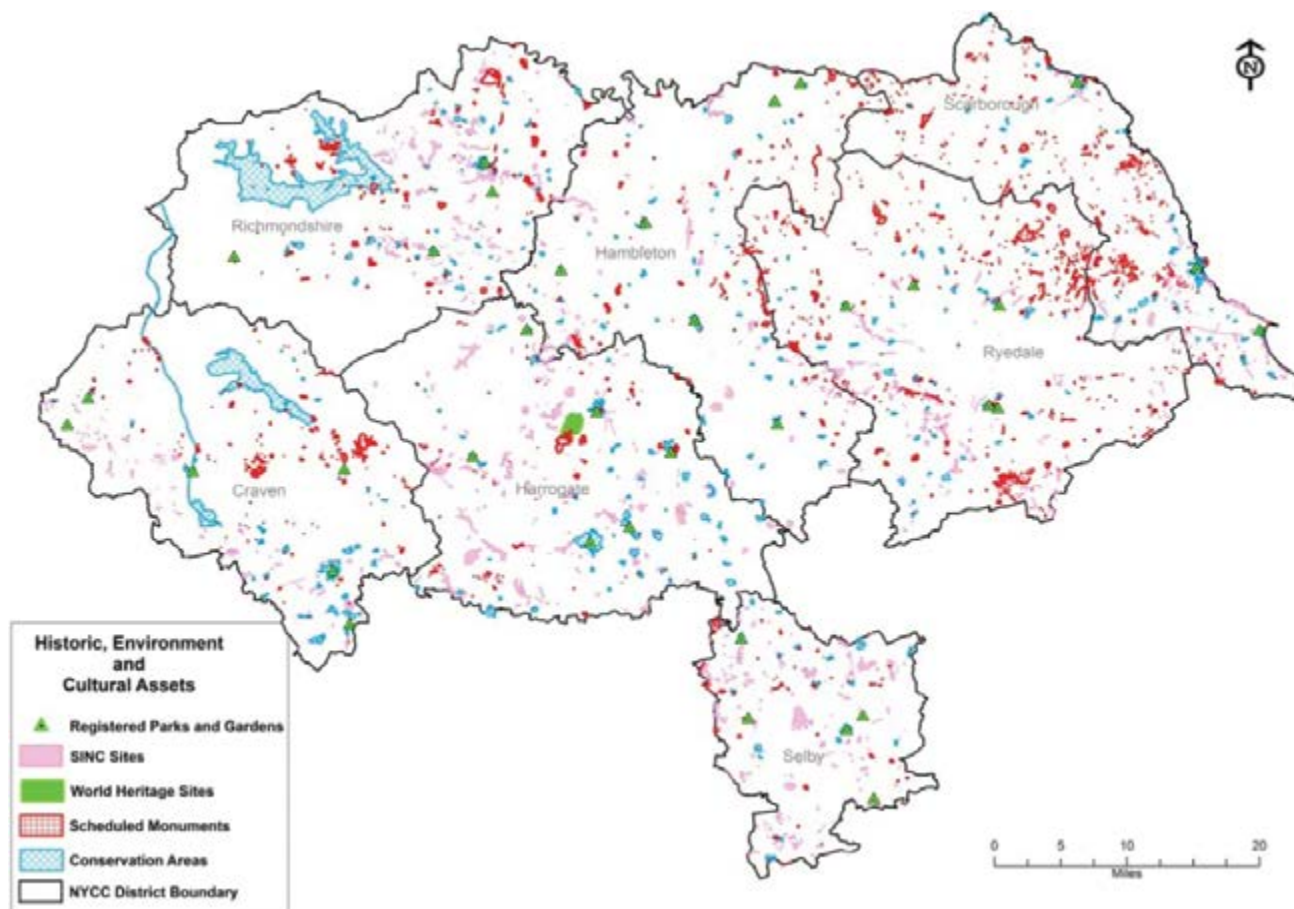
Figure 2d-2 National Parks, AONB and SSSI in North Yorkshire



The highway network which flows through the National Parks is controlled and maintained by NYCC as the highway authority. We need to be sympathetic to the environment when we carry out any road works, and the improvements need to be in keeping with the heritage status of the area, whether this is road surfacing or new signs or finger posts.

Wherever possible and subject to funding constraints we will continue to provide efficient and sympathetic highway management, maintenance and improvement works within our national parks, designated environmental areas and other areas which are considered sensitive.

Figure 2d-3 Conservation areas, Scheduled Monuments and World Heritage Sites



Conclusion

Promoting the environment and reducing air pollution remains high on the agenda for the transport sector. We cannot directly influence the majority of travel choices for those in the County, however where appropriate we will promote sustainable travel. We will encourage staff to travel to work using sustainable modes like buses and trains, walking and cycling, and will promote car sharing and combining trips.

We work with District Councils and other partners to help reduce transport related pollution (carbon and nitrogen dioxide) across the whole highway network, especially at AQMA sites and for new highway schemes. We will support measures to promote environmentally friendly forms of transport including provision for ULEV's and are currently developing a policy which will consider the provision of infrastructure for electric vehicles in North Yorkshire. We will seek to provide minor highway improvement schemes to reduce congestion and promote sustainable transport.

As outlined in the County Council's Highway Maintenance Plan 2006⁶ we will apply the principles of sustainable development via the increased use of recycled materials and by the adoption of a whole life costing strategy for treatment identification and selection. We will also consider the need to safeguard the biodiversity and geodiversity of the County's environment in the maintenance and improvement of the highway network. All of these initiatives together will help reduce our overall impact on the environment in North Yorkshire.

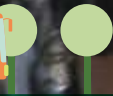




Objectives

Part 2e – Promoting healthier travel opportunities





2e - Promoting healthier travel opportunities

Why is promoting healthier travel one of our objectives?

This objective aims to address the health aspects linked to transport, by encouraging healthier travel such as walking and cycling, and by reducing some of the negative effects of transport, such as air pollution. Road and transport safety is considered as a separate objective but we coordinate both areas of work.

Transport can affect the health of everyone. This could be a positive effect from increased walking and cycling, or could be a negative effect from poor air quality caused by exhaust fumes or traffic noise. As such it has an influence on how we plan future transport, housing, employment and other developments in the county.

Healthier travel opportunities aim to improve the health of those travelling. They also reduce the reliance on motor vehicles, and so play a part in reducing the amount of pollution caused by them. We need to consider what we can do to promote, facilitate and influence the choice of how we travel. In doing so we will consider the factors that influence people's travel choices. These include:-

- **What is our purpose** for travelling? Is it for shopping, work, school, or a medical appointment? Does our journey have a single purpose or are we visiting more than one place? Do we need to carry anything?
- **When** are we travelling? Is our journey going to be affected by night time? Is it too early or late for the first or last bus or train?
- **How** far are we travelling? Are we physically capable? Do we have time? What is the geography of the journey?



Preventing Injury and promoting healthy and active travel

In particular, we will seek to coordinate our programme delivery to achieve complimentary Transport and Public Health aims and outcomes, including:

- Reduction of unintentional and deliberate injuries to children and young people;
- Reduction in premature deaths and injuries to all;
- Contribute to the Public Health Active lives and healthy weight programmes;
- Support road user and active travel education in schools in core subjects as well as Personal, Social and Health Education (PSHE) through the provision of key stage related curriculum resources and the support of a specialist road safety curriculum adviser to every school.

Promoting Positive Health Choices in travel

One of the major aims of the National Health Service and Public Health North Yorkshire is for everyone to pursue a healthier and more active lifestyle, and this highlights the importance of regular exercise in achieving good physical and mental health. Obesity and poor physical fitness is a growing problem across our society causing many health conditions that become long term and restrictive and which can lead to premature death e.g. from heart failure or stroke. With the increasing older population within North Yorkshire, good physical health within this section of society is important so that an active, independent and fulfilling lifestyle can be maintained.

It is recognised that the best and easiest opportunity for incorporating regular exercise into everyone's daily routine is through 'active travel'. Travel is a major part of most people's daily lives, whether it is the commute to work or school, visiting friends and relatives, or trips to the shops or health services. By incorporating healthier travel options into our journeys, we can help meet both transport and health objectives as well as reducing carbon emissions and making air quality improvements.



Travel Choice

Whenever we make a journey we make a decision on how we travel. The main factors which influence our decision are:

- Journey distance;
- Journey purpose;
- Weather conditions;
- Safety/security;
- Level of fitness;
- Geography of journey.

One of the factors affecting our choice is the distance of our journeys. North Yorkshire is a predominately rural county, with numerous small towns serving a large rural hinterland of dispersed communities. Consequently, our journeys can be longer than within urban areas, where places of work, schools and services tend to be closer and more accessible.

Figure 2c-1 of the Access to Services section shows the population density by parish. The diagram indicates that most of the county is very sparsely populated. The main populations are concentrated in the towns in each district, but the majority of the county consists of very rural areas.

For rural journeys a combination of factors may prove a barrier to adopting healthier travel options. This could relate to the hilliness of the journey, the greater journey distances, the feeling of safety and security along the journey route, possibly from the lack of street lighting or no segregated facilities for walking and cycling, or from exposure to prevailing weather conditions.

However, 62% of the population of the county live in towns or larger settlements and as such healthier travel may be an option for some of their journeys. Choosing to make trips wholly or partly by active travel such as walking or cycling can have significant health benefits, and there are many opportunities for people to change their means of travel especially for shorter trips.

North Yorkshire has a strong leisure base for healthy travel. It is a popular holiday and weekend destination with two National Parks, many miles of public footpaths and other rights of way and a popular coastline bringing many people into the county for walking and cycling activities. This has been strengthened by Le Grand Depart of the 2014 Tour de France staged in Yorkshire and the first annual Tour of Yorkshire in 2015. This new and continuing focus on cycling presents good opportunities to promote active travel for both residents and visitors.

The availability of types of transport can also affect our choice of travel, such as the level of public transport availability or the level of car ownership. We recognise that the bus network is relied upon for connecting those without a car to essential and non-essential services for work, health, retail, leisure and socialising. Public transport provision is greater around population centres where the majority of journey purposes are focussed, giving greater opportunity for healthier travel in those areas.

The level of car ownership in North Yorkshire is generally higher than the national average, possibly due to the level of public transport provision and/or the rural location of much of the population. Table 2c-3 of the Access to Services section shows the level of car ownership by district within the county.

We recognise that high vehicular traffic flows can make life more difficult for pedestrians and cyclists therefore by working with our partner councils and agencies, we can identify and take up opportunities to accommodate and enable healthier choices and make them more available where these are practical and achievable. However, it must be recognised that there is always a need to reach an appropriate balance between the needs of all transport users regardless of mode.

Air Quality

Every year, it is estimated that, nationally, 29,000 premature deaths are caused by long term exposure to poor air quality in the UK. This is nearly 5% of all annual UK deaths. For those affected, air pollution reduces life expectancy by an average of about eleven years.

Air quality is monitored at many locations throughout the county, but primarily in congested, built up areas where the effects are localised and more concentrated¹. The use of combustion engines affects the atmosphere in two ways:

- Locally by the production of NO2 emissions and particulates in exhaust fumes which are known to cause ill health, and
- Globally by the production of carbon emissions and CO2 which has a direct effect on global warming and the ozone layer.

Within the county there are a number of locations where NO2 levels have consistently fallen below EU standards, four of which have been declared as Air Quality Management Areas. These are in Malton, Knaresborough, Ripon and Selby (declared in 2016).

The District Councils are responsible for monitoring and managing air quality in their areas. They are also responsible for the declaration of Air Quality Management Areas where air quality does not meet standards. We will work closely with the District Councils to address any air quality issues that relate to or are attributable to transport on our highway network, especially where an action plan has been developed for a management area.

Healthier Transport & New Development

Working with the planning authorities we will seek to ensure that new developments, especially larger schemes, are located in places where sustainable and healthy transport is a realistic option². Additionally, as new developments are planned we need to ensure that sustainable and healthy methods of travel are adequately provided for within the design and are in place before the first residents move in. This will include the provision of footpaths and cycle way links both within any development, and also to nearby employment sites, shops, schools and other services such as health care and public transport.

Also associated with new developments are Travel Plans, a requirement of any new development which is likely to have significant transport implications. A Travel Plan is a travel policy statement prepared by an individual business which positively increases travel options for staff, visitors and customers, of which healthy travel options form part of the travel plan package.

Public Transport

Public transport provides an indirect link to healthier travel objectives. A person travelling by public transport is more likely to complete part of their journey by a healthy mode if they are using public transport rather than a private car. There is likely to be a walking element at either end of a bus journey, or a cycle journey across town to catch the train. Also one bus can carry as many travellers as 50 single occupancy cars, thus reducing the pollution from transport and reducing congestion.



How will we achieve this objective?

We will continue to encourage people to choose active travel by communicating the health, financial and environmental benefits. We will also aim to reduce the real and perceived risks of road accidents and fears about personal security that are often associated with active travel modes.

Where possible, appropriate and affordable we will maintain and provide the infrastructure (footways, crossings, cycle routes etc.) that will allow people to make the switch to walking and cycling.

Working with the planning authorities and developers we will seek to ensure provision within any new development of suitable facilities to encourage healthier travel choices, such as footways, cycleways, crossings, bus stops and the links to essential services. We will work to ensure that these facilities are built into the scheme from the outset so that they are in place when people start to move in.

As the highway authority we will work closely with the District Councils to address any air quality issues that arise from traffic on our highway network, especially where an action plan has been developed for a management area.

We will seek improvements through any transport grants that become available, such as the recent Local Sustainable Transport Fund. This fund has allowed the promotion of healthier and active travel improvements to be made, such as new cycle ways and connections between existing routes, new crossings, bus service promotion, and real time travel information.

Conclusion

Transport affects the health of everyone. We spend a good proportion of our time each day travelling. This may be to the local shops, the doctors, to work or to school. Both the Joint Strategic Needs Assessment for North Yorkshire and various other health studies have highlighted the importance of regular exercise in achieving and maintaining a healthy lifestyle, and one of the best ways of achieving this is to incorporate it into our regular routines, such as our travel methods. By promoting and making available facilities for active travel, North Yorkshire seeks to address some of the health aspects of transport. By also reducing reliance on the motor vehicle we aim to help improve air quality in built up areas, where air quality issues are concentrated.





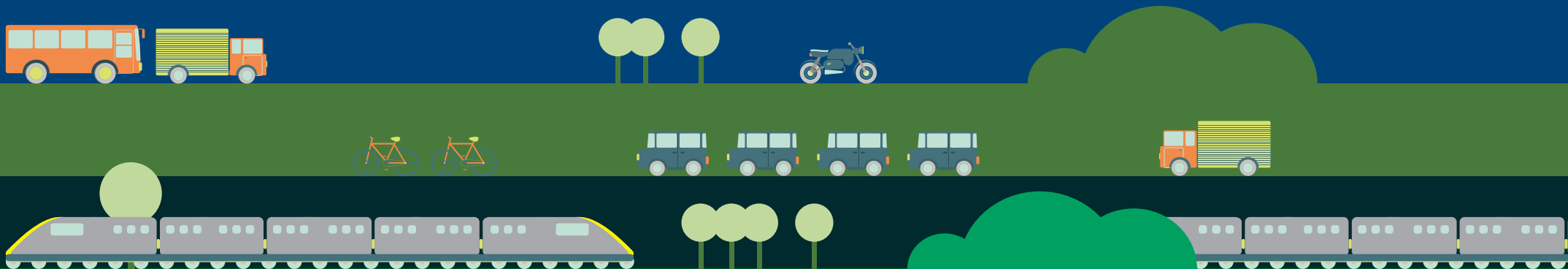
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LTP Structure



Themes

Part 3a – Strategic Transport





3a - Strategic Transport

Providing a strategic vision of how North Yorkshire's transport networks can be improved in the future is vital to ensuring the continued economic success and prosperity of the County, whilst also encouraging and developing further economic growth.

The County Council is committed to completing a comprehensive Strategic Transport Plan, which will set our key strategic transport priorities, proposed schemes and interventions and how we propose to work with key delivery partners. It is expected that the first iteration of the Strategic Transport Plan (STP) will be completed in spring / summer 2016. It will then be reviewed and updated regularly to reflect changes in funding developments associated with local planning authorities Local Plans.

The STP will be used to inform further development of the York, North Yorkshire and East Riding (YNYER) Strategic Economic Plan and identify major transport schemes which the County Council will seek to deliver through funding bids to Government (e.g. the Local Growth Fund) and from developer contributions.

Strategic Transport Priorities & Proposed Solutions

To assist the County's economy to grow and develop, NYCC as a member of the YNYER Local Enterprise Partnership (LEP) has agreed a range of strategic transport priorities which are included in the YNYER Strategic Economic Plan. These are as follows;

- Improving east-west connectivity;
- Improving access to the rail network, both conventional and high speed rail;
- Improving long distance connectivity to the north and south;
- Ease congestion in key growth towns;
- Enhance the reliability of our transport network.

These priorities will form the basis of our STP, and any planned interventions by NYCC will seek to contribute to these priority objectives. Whilst the STP has yet to be completed a number of schemes and initiatives are already in development. Further details of the Strategic Transport Priorities are set out below.

Improving east-west connectivity

As with much of the North of England, north-south links in North Yorkshire are good, in contrast our east-west links are relatively poor. This alongside the relatively poor connections to major economic centres has resulted in the districts of Scarborough, Ryedale, Craven and Richmondshire, not performing to their full economic potential.

Improvements to east-west links will help to boost the economic performance of these areas, by improving access to businesses, unlocking housing growth and enabling them to be accessed easier from other areas of the Country and the strategic transport network (e.g. A1(M) and East Coast Mainline).



2016-2030 – Short to Medium Term Improvements

The A64 and A59 are our two primary east-west corridors, with both experiencing poor journey times and journey time reliability. Much of this is due to long single carriageway sections, with higher volumes of slower moving traffic such as caravans, agricultural vehicles and HGVs. With limited overtaking opportunities, slow traffic speeds increase journey times and uncertainty over journey times.

Significant reduction to overall journey times is unlikely to be achieved by 2030, however the Council recognises that improving the reliability of journey times is something that is achievable in this time scale. As such during LTP4 we will be developing proposals for improvements to both corridors.

A64 Improvements

- Working closely with Highways England, we will support the upgrade of the A64 to dual carriageway standard between the Hopgrove Roundabout in York and Malton;
- Working closely with Highways England, we will support the introduction of selective overtaking lanes and 2+1 running on the A64 between Malton and Scarborough.

A59 Improvements

- Introduction of three additional climbing lanes (overtaking opportunities) between Harrogate and Skipton, including a major realignment at Kex Gill which would also address a significant major landslip risk;
- Review and further develop proposals for a Harrogate Relief Road, to help ease congestion through Harrogate Town Centre, which would address both urban congestion issues as well as improving journey time reliability along the A59 east west corridor;
- Improvements to Junction 47 of the A1(M) to increase capacity at this junction.

In addition to the improvements on the A59 between Harrogate and Skipton, we will explore options for improving links from Skipton and South Craven to Lancashire along the A59, A56 and A6068 corridors.

Outside of the County we are supportive of proposals by East Riding and City of York Councils for improvements to the A1079 and A1237 York Outer Ring Road respectively. Additionally we are committed to working closely with Highways England to further improve the A66 corridor between Scotch Corner and the M6.

Rail Improvements

- Upgrade of the York – Harrogate- Leeds Railway line. Double tracking of the single track sections of this line is taking place over the next 10 years; however the Council is working with partners to try and secure full electrification of this line;
- We are also supportive of proposals to reduce journey times between York and Scarborough.

We are strongly supportive of improvements to the Trans Pennine rail network that provides key links between the County and the major city regions across the North of England.

2030-2045 Longer term aspirations to improve east-west connectivity in the County include the following:

- Improving access to Whitby by improving road & rail links to Teesside;
- Further strengthen road and rail links along the M62 & A63 corridors between Hull / Selby and the A1 / M1;
- Significantly improve Cross Pennine Connectivity between Craven and East Lancashire, including the potential reopening of the Skipton - Colne Railway;
- Development of parkway stations close to the Leeds – Harrogate – York railway.

Improving access to the rail network

NYCC recognises the importance of the proposed HS2 and HS3 rail networks and the benefits to the County that they may bring¹. In order to fully realise those benefits it is essential that the residents and businesses within the County are able to access HS rail networks easily.

As such we aim to ensure that at least 85% of the population of the County are within 40 minutes journey time (road or rail) of an HS2 gateway at York, Leeds or Darlington. This will be achieved through:

- Recognising the role that conventional rail will play in providing access to high speed networks, NYCC would like to see further improvements to the existing rail network to reduce journey times and improve journey time reliability;
- Developing an Access to HS2 & Rail study looking at improving local access through road infrastructure and public transport improvements.

Conventional rail networks will play an important role in linking in to the high speed network, but at the same time it is essential that existing rail infrastructure continues to be improved. NYCC recognises that a key issue for continuing rail usage is access to local stations. As such we will develop options for the following across our existing network;

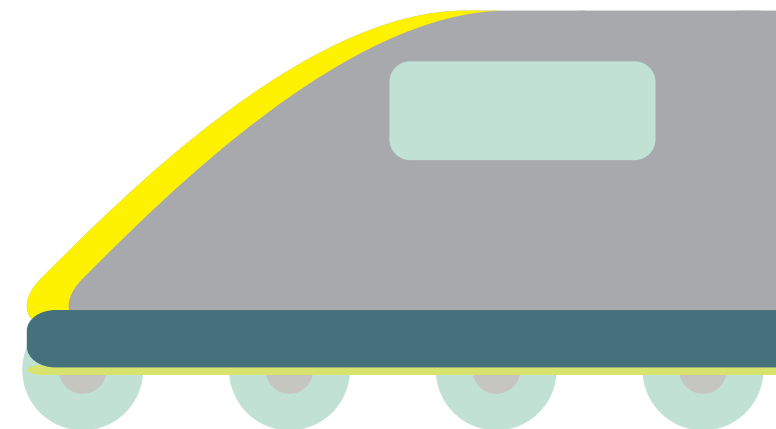
- Development of “parkway” stations which are easily accessible from a wide rural hinterland that could supplement and / or replace existing station facilities.

Improving long distance connectivity

Existing north-south links are generally good. The A1(M) / A19 corridor is a key growth area within the County and has seen significant recent investment up to 2015, with further improvements to the A1(M) between Leeming and Barton due to finish in the early part of the LTP4 period. The existing East Coast Main Line is an important rail route and will remain so post the start of HS2. The introduction of HS2 will help to strengthen north-south links and further improve connections with London and the wider national and international economy.

Nevertheless we would like to see further improvements being made to north-south links, these include.

- Upgrade of the A168 / A19 corridor between Dishforth and Teesside to Expressway standard;
- Improvements to the A1(T) south of the M62 to Doncaster;
- Introduction of HS2;
- Upgrade of East Coast Main Line & Trans Pennine networks, to increase capacity and reliability of the network, including further recognition of its role as a key freight route to access major port facilities at Teesport. To achieve this we would be supportive of a new rail link from Leeds to Harrogate (potentially pre 2030) then to Ripon and Northallerton (post 2030). This would open up additional capacity on the East Coast and also release capacity at Leeds Station.



Ease congestion in key growth towns

The LEP identified Harrogate, Scarborough, Malton, Skipton, Selby, Northallerton, and Catterick Garrison as growth towns in North Yorkshire. The County Council recognises the importance of these towns to the overall economy of North Yorkshire and as such will investigate and develop, where applicable, proposals to reduce urban congestion. Likewise we will look at options to address congestion issues elsewhere in the County.

During LTP4 the Council will:

- Continue to develop plans for Harrogate Relief Road to help reduce congestion in Harrogate Town Centre and improve east-west access;
- Work with District and Borough Councils to identify schemes to relieve significant existing local congestion issues;
- Work with District and Borough Councils to identify schemes to address potential future congestion that could be a constraint on future growth.

Enhance the reliability of our transport network

NYCC recognises the importance of a good quality highway network² to sustain economic growth in the County. As such the County Council will continue to explore options for funding packages for targeted maintenance schemes aimed at supporting the economy. This will support and complement our existing maintenance programme.



Existing Scheme Review

The County Council holds basic proposals for a range of major (those costing over £5m) transport schemes across the County. These proposals include bypasses and relief roads of several villages and towns. As part of the development of the STP, the Council is reviewing each of these schemes to ascertain whether they present a strong economic case for implementation and contribute to our strategic transport priorities and as such are likely to receive Government funding in the foreseeable future. Those that do meet these criteria will be retained as proposals, and may be developed further, whilst those that do not meet the criteria may be removed from our potential major schemes reserve list.

Linking with Regional and National priorities

Northern Powerhouse

North Yorkshire fully supports the Northern Powerhouse proposals, which seek to better connect the six northern City Regions (Liverpool, Manchester, Leeds, Sheffield, Newcastle and Hull). The County is at the geographical centre of the Northern Powerhouse with the main transport infrastructure of the eastern areas of the Powerhouse running through the County.

The County, due to its already thriving economy is not solely the place in between the city regions, but is an important economic centre, with economic performance rivalling some of the city regions. Through the production of our Strategic Transport Prospectus we have started the process of demonstrating where the County fits within the Northern Powerhouse proposals and how our identified strategic transport priorities will help to contribute to the development and success of the Northern Powerhouse.

Local Plans

The County Council recognises the importance of transport in the development of Local Plans. We will continue to support Local Planning Authorities in the production, implementation and review of their Local Plans. We are committed to continue to upgrade existing and develop new traffic models, to help assess the impacts of new developments on the transport network and to identify what infrastructure is required to support proposed new developments.

The Council will work closely with planning authorities in the production of transport proposals that will enable and support housing and business growth, both in existing settlements but also in any new settlement proposals.

Transport for the North

The Council recognises the role that Transport for the North will play in delivering transformational change to the key transport across the North of England. We are committed to working with TfN in the delivery of key transport projects, both road and rail based.

YNYER LEP – Strategic Economic Plan

The Council fully supports the objectives of the Strategic Economic Plan (SEP), and will continue to actively contribute to further updates of the plan, to ensure that the SEP and the NYCC Strategic Transport Plan are closely aligned and complement one another.

Working with Partners

The Council fully recognises that to address many of the strategic transport priorities there will need to be effective coordination and cooperation between numerous partners.

The County is committed to working closely with Network Rail, Highways England and where appropriate neighbouring authorities and LEP's to deliver identified schemes and interventions.

The County is a key partner in the YNYER LEP, and through this has strong working relationships with City of York and East Riding of Yorkshire as well as the business community of the LEP area.

Funding Opportunities

The sheer size and scale of many of the proposed schemes is such that the County Council is unlikely to be able to fund these schemes alone. In order to fund proposed schemes, the Council will work closely with delivery partners, (including District Councils, Highways England, and Network Rail) to access available funding sources (public and private sector) on both a local and national level.

We will work closely with local planning authorities to access appropriate developer based contributions (Section 106 and Community Infrastructure Levy based funding) to help support our strategic transport objectives.

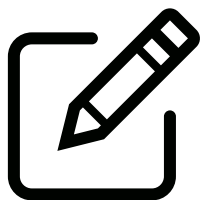
Additionally due to their complexity and the necessary statutory processes the lead in time for delivery of strategic transport schemes from inception through to delivery can be over many years (up to 10 years or more). The Council will develop a comprehensive prioritised delivery plan for strategic transport schemes, ensuring that when opportunities become available we are in a position to present a strong case for funding.

We will continue to work closely with the YNYER LEP to produce scheme proposals, ensuring that these meet their objectives and that they can be submitted as proposals to funding streams such as the Local Growth Fund.



Key Commitments

We will:



complete a comprehensive Strategic Transport Plan, which will set our key strategic transport priorities, proposed schemes and interventions and how we propose to work with key delivery partners;



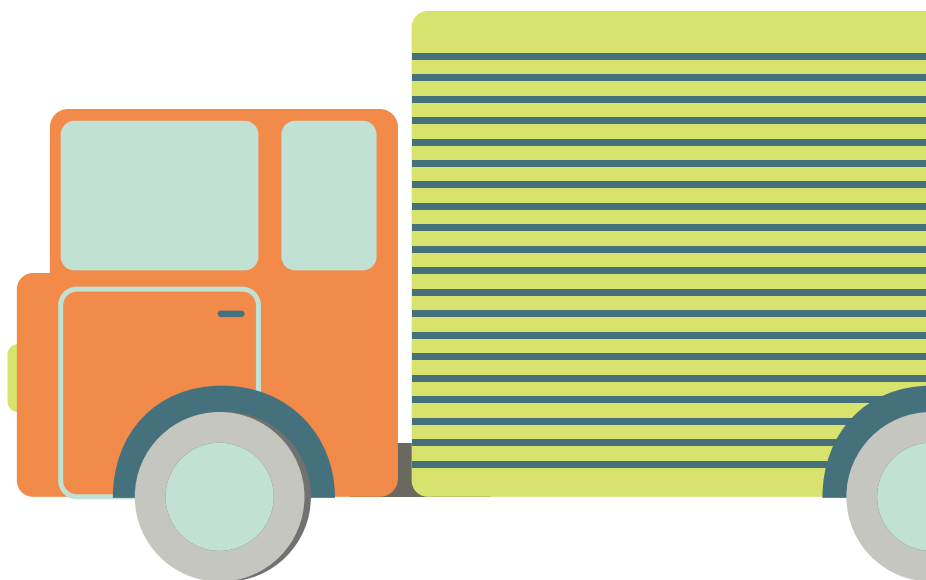
develop proposals for improvements to east west corridors from the east coast and our eastern boundaries to our boundary with Lancashire;

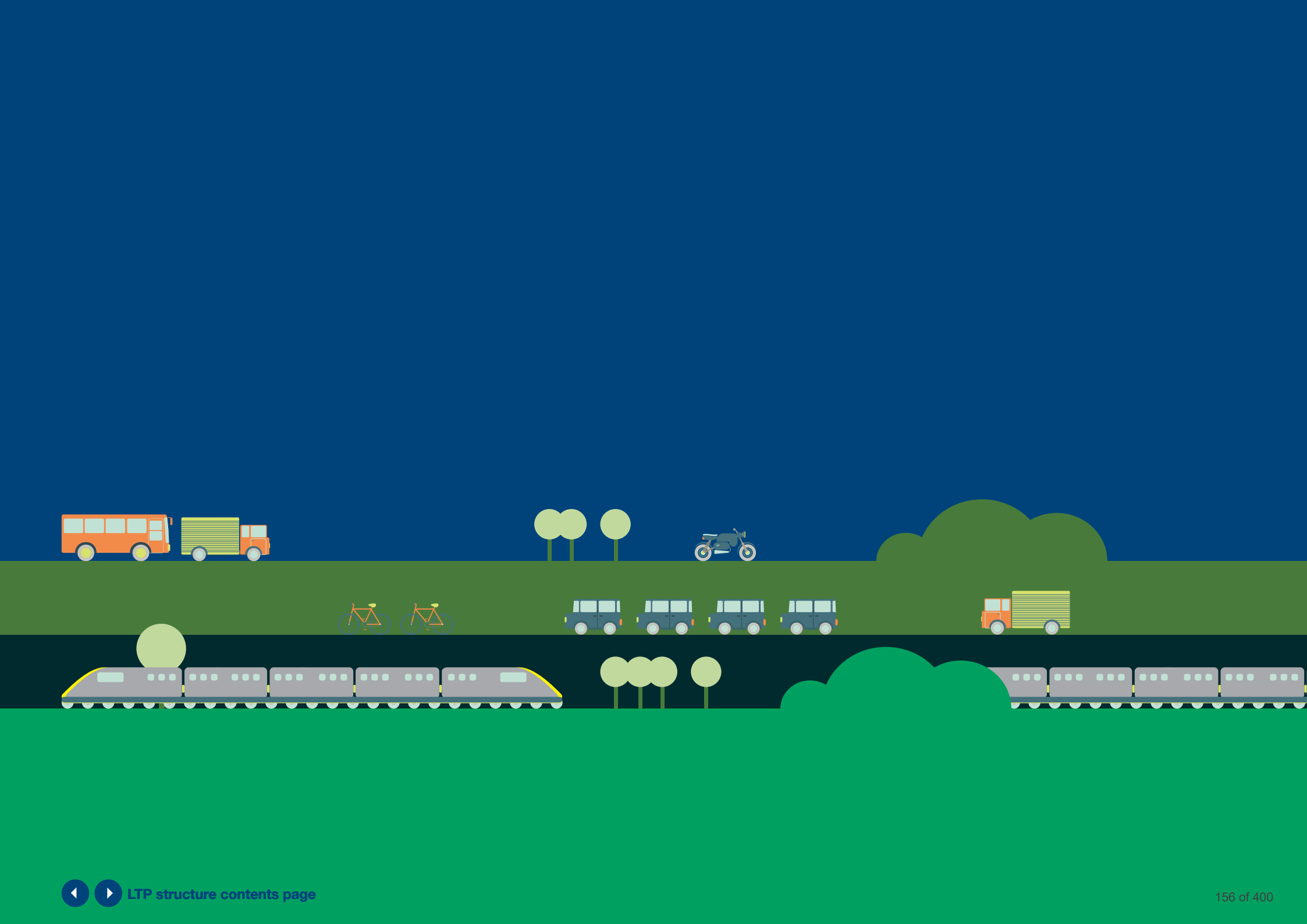


continue to upgrade existing and develop new traffic models, to help assess the impacts of new developments on the transport network and to identify what infrastructure is required to support proposed new developments;



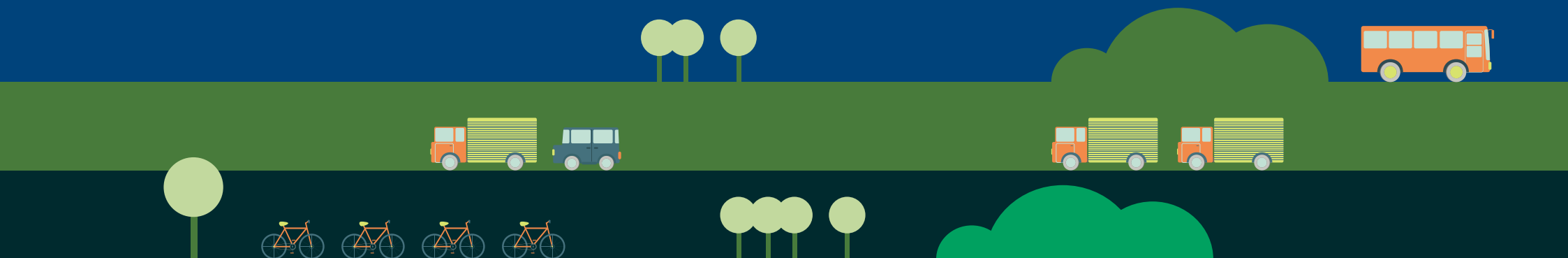
work closely with key delivery partners such as TfN, Network Rail, Highways England, LEPs and neighbouring authorities, in the delivery of key transport projects, both road and rail based.





Themes

Part 3b – Funding





3b - Funding

The funding available to the County Council for the delivery of the Local Transport Plan comes from a variety of sources. This section sets out details of the main sources of funding that are available together with an idea of the sums available in the first five years (until 2020/21).

Government finance rules divide public funding into two main types:

- Capital funding, which in broad terms can only be used to maintain and provide infrastructure such as roads, pavements, cycle ways, bus stops etc. This is mainly provided directly from the Government as a grant to the County Council;
- Revenue funding, which in broad terms can only be used to run the transport network and services. This can be used for example for staff salaries, grass cutting, snow clearance and gritting, gully emptying, minor pothole repairs and subsidising public and community transport services. This money is provided from both government grants (approx. 75%) and council tax (approx. 25%).

It is not legally possible to use capital funding for revenue purposes.

Capital Funding

There are three main sources of capital funding available to the County Council from Government these are:

- Local Transport Plan Block Allocation;
- Local Growth Fund;
- Ad hoc Grants.

Local Transport Plan Block Allocation

The Local Transport Plan capital allocation is provided by the Department for Transport to all transport authorities in England. The allocation is split into two parts, Maintenance (to maintain the highway) and Integrated Transport (to improve the transport networks). The proportion of the total national funding pot allocated to each authority for both parts is determined by a 'needs' based formula.

For Maintenance funding this is broadly based on the length of roads and number of bridges in an authority area. In order to try and ensure transport authorities become more efficient in their highway maintenance practices, as an 'incentive', for the period until 2020/21 the Government will only provide some of this funding if the authority can demonstrate best practice.

For Integrated Transport funding the formula is more complicated but broadly assesses the needs of the area based on congestion, public transport journeys, road accidents, air quality, and difficulty accessing services.

Table 3b-1 sets out the indicative LTP capital allocations for North Yorkshire County Council until 2020/21. It is anticipated that indicative allocations for future 5 year periods beyond 2021 will be provided by government prior to 2020/21.

Table 3b-1 Indicative LTP capital allocations

	2016/17	2017/18	2018/19	2019/20	2020/21
Integrated Transport	£3.023m	£3.023m	£3.023m	£3.023m	£3.023m
Maintenance 'Needs' Element	£27.2m	£26.4m	£23.9m	£23.9m	£23.9m
Maintenance Incentive Element ¹	£1.6m	£2.5m	£5.0m	£5.0m	£5.0m

The funding on the previous page is not ring-fenced in any way. The County Council can if we wish spend Integrated Transport funding on Maintenance and vice versa and do not even need to spend it on transport schemes and infrastructure. However, historically and for the foreseeable future the County Council will spend all of our LTP capital allocation on transport. Furthermore, recognising the importance of the condition of the highway network to all forms of transport, the County Council will use approximately two thirds of the Integrated Transport allocation to help improve highway maintenance until 2020/21.

In total the government provide just over £30m per year in LTP capital funding allocation to the County Council. This funding is for all types of transport improvement schemes and highway maintenance across the county, including new facilities for cycling, walking, road safety, junction improvements and repairs to roads and bridges. It equates to about £50 per head of population or just over £3000 per km of road in the County.

However, to put this in context the Government estimate that the cost of repairing one pothole is around £50, new off road cycle tracks cost over £150k per km, a new roundabout on an A road costs between about £0.5m and £1m and resurfacing a rural road costs around £50 per sq. m (or £250k per km).

The County Council estimates that to keep all the roads in North Yorkshire in a good condition would cost over £60m per year. In addition there is already a backlog of required maintenance works of around £300m. Essentially therefore the County Council are looking at managing the long term deterioration of the highway network rather than improving its overall condition.

Local Growth Fund

The Local Growth Fund was set up by the Government in 2015. This is a £12 billion pot of funding available between 2015/16 and 2020/21 for Local Enterprise Partnerships (In the case of North Yorkshire the York, North Yorkshire and East Riding Local Enterprise Partnership)² to bid for funding to boost economic growth.

This funding is not only for local authority transport schemes but is also available to planning authorities and other organisations (including commercial developers) to help fund other infrastructure that will boost economic growth.

The Local Growth Fund is now the only source of funding available from Government for 'major' (those costing in excess £5m) transport schemes and has replaced all previous bidding processes for major transport schemes. Through the Local Enterprise Partnership the County Council included a number of bids in the first round of Local Growth Fund bidding. It was successful in being provisionally allocated £800k towards upgrades at the A1/A59 junction at Allerton Park near Harrogate and, recognising the importance of highway condition to the economy, a £24m allocation over 5 years (2016/17 to 2020/21) towards targeted highway maintenance works³. The full £12billion of the Local Growth Fund has yet to be allocated. As set out in the section on the Strategic Transport Plan⁴ the County Council is developing a series of 'bid ready' proposals for strategic transport improvements for which we will bid for funding from future allocations from the Local Growth Fund through the LEP.

²www.businessinspiredgrowth.com

³See Part 3c - Highway Maintenance for more information

⁴See Part 3a - Strategic Transport for more information

Ad Hoc Grants

From time to time the Government make funding available for transport improvements or transport related improvements (e.g. Air Quality) through ad hoc grants. These include grants such as the Highway Maintenance Challenge Fund which is next available in 2018/19, the Pothole Challenge Fund, and the new 'Access' fund for sustainable travel⁵ which builds on the legacy of the Local Sustainable Transport Fund.

The ad hoc nature of these grants means that at the time of writing details of which funds may become available and when are unknown. The County Council have previously been very successful in securing funding from such grants and will wherever appropriate and possible continue to seek funding for the management, maintenance and improvement of local transport networks and services in North Yorkshire.

Revenue Funding

The majority of the revenue funding for the management, maintenance and improvement of local transport networks and services in North Yorkshire comes from a combination of Government revenue grant and council tax.

The amount of government grant is based on a formula which considers items such as road lengths, traffic flows and also includes an allowance for 'snow lying days'. The formula has not changed substantially in the last ten years and is generally only inflated at about 2% per year (total 20% over ten years), whereas actual costs have increased by about 50% over the same period.

The County Council currently (2015/16) has around £23.5m per year of revenue funding available for managing and maintaining the highway network, and also spend approximately £12.2m per year on public transport services including subsidising concessionary fares for pensioners and subsidising bus and community transport services⁶.

Other Funding Sources

As well as Government funding for transport the County Council use a number of other, smaller, funding sources to help deliver local transport infrastructure. These include:

Developer Funding⁷

Working with the local planning authorities through the planning process to secure developer funded highway improvements to mitigate the impact of developments where it can be shown the improvements are necessary, directly related to the development; and fairly and reasonably related in scale and kind to the development. The types of development which deliver such developer funded improvements range from residential development to major employment proposals and retail developments.

Public Health Funding

Recognising the health benefits of 'active travel'⁸ some of the funding provided to the County Council to promote and improve public health is being used to promote and provide infrastructure for active travel. Public health funding is also used for road safety education⁹.

⁵See Part 3j – Walking and Cycling for more information

⁶See Part 3l – Buses and Community Transport for more information

⁷See Part 3g – Planning and New Developments for more information

⁸See Part 3j – Walking and Cycling for more information

⁹See Part 3e – Road Safety for more information

Other NYCC corporate funding

Having a well maintained highway is vital to both businesses and individuals. Consequently, in recent years the County Council have invested up to £7m per year from corporate reserves to carry out additional highway maintenance works. This extra funding is set to continue until at least 2020/21 with the County Council allocating £15m extra funding for the period 2015/16 to 2020/21.

Table 3b-2 below sets out the known main sources of transport funding available to the County Council for the first five years of the Local Transport Plan period (2016/17 to 2020/21). The figures for 2015/16 are provided for comparison purposes. All figures are provisional and subject to change in future years.

Table 3b-2 Indicative transport funding

	15/16	16/17	17/18	18/19	19/20	20/21
LTP Integrated Transport	£3.0m	£3.0m	£3.0m	£3.0m	£3.0m	£3.0m
LTP Maintenance 'Needs' Element	£29.7m	£27.2m	£26.4m	£23.9m	£23.9m	£23.9m
LTP Maintenance Incentive Element	£0.0m	£1.6m	£2.5m	£5.0m	£5.0m	£5.0m
Local Growth Fund	£0.0m	£5.0m	£5.0m	£5.8m	£5.0m	£4.0m
Additional NYCC Maintenance Funding	£7.0m	£2.0m	£2.0m	£2.0m	£1.0m	£1.0m
Highways Revenue Funding	£23.5m	£23.2m	£23.0m	£22.8m	£22.6m	£22.4m
Public and Community Transport Revenue Funding*	£12.2	£12.1m	£12m	£11.9m	£11.8m	£11.7m
Public Health Funding	£0.25m	£0.25m	£0.25m	£0.26m	£0.27m	£0.27m
Indicative Total	£74.85m	£74.45m	£74.15m	£74.66m	£72.57m	£71.27m

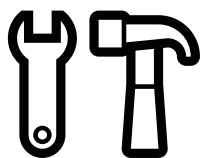
* - Includes concessionary fares funding

Key Commitments

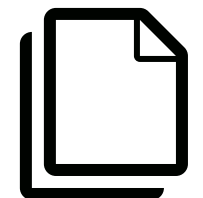
We will:



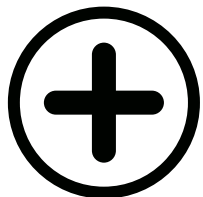
spend all of our Local Transport Plan capital allocation on transport;



recognise the importance of the condition of the highway network to all forms of transport and therefore use approximately two thirds of the Integrated Transport allocation to help improve highway maintenance until 2020/21;



develop a series of proposals for strategic transport improvements for which we will bid for funding from future allocations from the Local Growth Fund through the Local Enterprise Partnership;



where appropriate and feasible continue to seek funding for the management, maintenance and improvement of local transport networks and services from alternative sources for example ad-hoc government grants, developer funding etc.



Themes

Part 3c - Highway Maintenance





3c - Highway Maintenance

Highway Maintenance includes the upkeep of all highway assets. Although usually thought of as roads and footways; highway assets also include cycleways, bridges, drains, street lights and signs.

Whilst Structures and Street Lighting are detailed in separate sections of the LTP¹, this theme will focus on maintenance of our other highway assets. The Rights of Way² theme also considers the management and maintenance of UURs (un-surfaced unclassified roads) which although technically part of the road network effectively operate as public rights of way.

The need to use our roads and footways is common to everyone in the County. To enable people to travel, our network of highways needs to be maintained and kept in a suitable condition. We also recognise the economic benefits of good highway maintenance which enables the timely movement of people and goods. A 2010 YouGov survey of UK businesses of varying sizes found that around 57% of businesses incurred additional costs due to increased journey times, damage to vehicles and increased fuel costs due to congestion caused by poorly maintained roads.

SME businesses (which the majority of North Yorkshire businesses are classed as) are particularly affected by the condition of local roads which can reduce their competitiveness. Consequently we recognise that it is important to ensure roads are well maintained to reduce journey times, damage to vehicles and fuel costs as far as possible.

Many years of underfunding of highway maintenance by successive Governments has led to most highway authorities slowing the rate of deterioration of the network rather than improving its condition. The County Council has made some progress in improving the condition of some roads and footways, whilst also reducing the rate of deterioration of the network.

Yet, with the impact of the recent harsh winters and other severe weather events for example a tidal surge in 2013, together with the reductions in transport budgets, maintaining improvement in the condition of the network will be very difficult. To maximise the efficient use of our limited maintenance funding we have adopted formal scheme identification and prioritisation methods for highway maintenance. We monitor the condition of approximately 25% of the road and footway network each year. The results of these surveys are used to identify required maintenance schemes across the County.

The County Council adopt a Highway Infrastructure Asset Management (HIAM) approach to maintaining the highway. This ensures that we get the best value from our limited funding. This HIAM method includes a life-cycle based approach to highway maintenance. We focus our activities on those treatments which stop deterioration and prevent further decline in an assets condition and only undertake major reconstruction of assets towards the end of their life, when preventative treatments are unsustainable and expensive reactive repairs for safety are required.

The operational management of highway maintenance is carried out by seven area based highway teams. Area team boundaries match those of the seven local District Councils, with the highways offices located in Richmond, Thirsk, Whitby, Kirkby Misperton, Skipton, Boroughbridge and Selby. This allows a locally focused approach to delivery of the highway maintenance service in what is by area the largest County in England.

Our Policy Documents

As the County Council is the local highway authority, it has duties and responsibilities placed upon it by the Highways Act 1980 and we have separate published policy documents to cover these responsibilities:

- Highway Maintenance Plan (HMP)
- Highway Infrastructure Asset Management Policy (HIAMP)
- Highway Safety Inspection Manual (HSIM)

Management Hierarchy

The County Council manages all road types within the County, excluding trunk roads and motorways which are the responsibility of the Secretary of State for Transport and managed by Highways England.

With the budgets we have available, it is not possible to manage and maintain all roads and footways to the same level, however, we do ensure they are all safe. For example, it is not necessary to maintain a minor rural road running between two small villages to the same standard as an 'A' class road, as the latter is used by a significantly higher number of vehicles. To make the best use of the money available, the County Council has therefore adopted a hierarchy for management of the highway network. This hierarchy helps us to prioritise maintenance schemes to make the best use of our available funding.

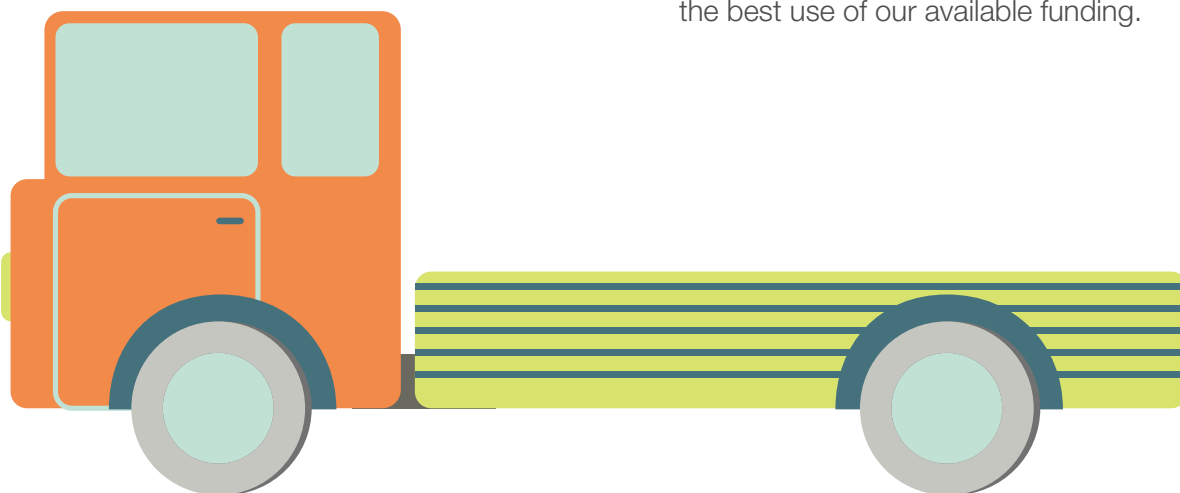
The hierarchy works on the principle that a road should be managed to a standard appropriate to its use. The use is defined by the volume of traffic and its purpose (strategic links, commuter routes, housing estate roads). Based on this, each road is allocated a category. This principle is derived from 'Well-maintained highways: a good practice guide to highway maintenance management'.

A hierarchy has also been developed for footways which is also based upon usage. Busier footways in pedestrian areas and shopping streets are inspected on a monthly basis. If inspections identify dangerous defects, then these are resolved immediately.

Other categories of footway are inspected on a less regular basis. However, as with busier footways, dangerous defects are rectified immediately.

For highway maintenance, the hierarchy informs decisions on matters including:

- Inspection frequency to ensure highways are safe;
- Money for maintenance;
- Winter maintenance such as gritting and snow clearance; and,
- Other policies (e.g. verge cutting, gully emptying etc.).



Inspection Techniques

The surveys of condition use a mixture of visual and machine based techniques to measure the condition of stretches of road and footway. The survey type varies dependent upon the category of highway in the hierarchy and the requirements to report the Single Data Set of Indicators to central government. All our surveys are industry standard condition surveys undertaken by accredited staff.

Identification of Maintenance Schemes

The information obtained from surveys is collated and processed using a computerised system in order to identify defective sections. These locations are then subjected to a further detailed visual survey to clarify the extent of the defects. Locations are then prioritised across the County for possible maintenance schemes.

These locations are prioritised based on:

- Maintenance treatment required;
- Condition index score that reflects the need for maintenance;
- Scheme efficiency (e.g. is it good value to repair an adjacent section of footway, which is in poor condition, whilst also completing a carriageway repair?);
- Cost estimate of completing the maintenance scheme.

A list of prioritised maintenance schemes is produced for each category to match the available budgets. Any very short lengths requiring maintenance are added to other programmes for minor localised patching works.

Repair Methods

For each problem identified there are likely to be a number of different solutions available (see below). For highway maintenance the selection of the most appropriate solution depends on the problem that exists. For example; slippery roads will probably require some type of surface treatment to restore skid resistance; a road with minor pothole damage will probably only require patching to make it waterproof; whereas a more deep-seated structural failure will require full reconstruction.

Maintenance Schemes

Maintenance issues identified from network surveys will be addressed using the most appropriate solutions.

There are three principal types of maintenance scheme as follows:

Basic Maintenance

These are smaller scale and routine repairs to the highway network, such as pothole repairs, patching and haunching (rebuilding the edge of the carriageway), which are designed to repair defective areas. These repairs maintain a satisfactory running service and prevent structural deterioration from occurring.

Surface Treatments

These are non-structural treatments laid onto the existing surface which prevent further deterioration and extend the life, before further maintenance is required. This is achieved through sealing the surface and preventing water from penetrating the structure. Surface treatments usually improve skid resistance as a side-effect. Surface treatments are relatively cheap costing around £3.50 per square metre and so in many cases are the best options for extending the life of the highway.



Resurfacing and reconstruction

Where the structure of the carriageway or footway has deteriorated to a level at which patching or a surface treatment is prohibitively expensive we can undertake resurfacing or reconstruction schemes to restore the structural integrity. This brings the highway back to its original condition. R&R schemes are expensive costing up to £50 per square metre (14 times as much as a typical surface treatment) and as such are only used when necessary.

The type of scheme selected will be determined by the severity of the problem, the hierarchy, local conditions, category of the highway and how best value for money can be achieved. The County Council will select options to preserve and prolong the life of the highway through Basic Maintenance and Surface Treatments before investigating more major Resurfacing and Reconstruction options.

Minor Repairs

The County Council carries out regular safety inspections identifying small scale defects, such as potholes. These inspections form the basis of the network wide programmes of minor patching, repairs and associated basic maintenance work. If identified defects are deemed to be dangerous then an immediate repair is undertaken to ensure that the defect is rectified. Occasionally this may be a temporary repair which is replaced at a later date by a permanent repair.

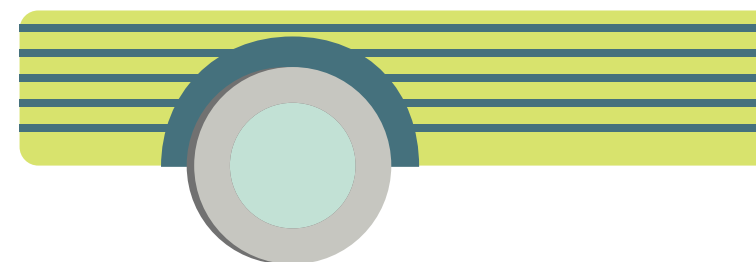
In addition to the regular inspections, the County Council responds to issues raised by its customers through the Customer Resolution Centre. As and when a problem is identified, an inspection will be carried out to establish if any repairs are required. If repair work is deemed necessary, suitable action will be planned. If repair work is not deemed necessary at this stage, the defect will continue to be monitored to ensure that public safety is maintained.

Programme management

A close level of management is undertaken to ensure that schemes are delivered within budget and on time. This management also enables any other potential issues to be identified early and for appropriate action to be taken. Additionally, effective programme management allows for works to be coordinated alongside other planned Street Works, minimising disruption to transport users in the County.

A two-year rolling programme is currently used to allow for early planning and design and the development of a three-year rolling programme is planned.

Delivery of the LTP is not undertaken solely by the County Council. There are many public, private and voluntary sector organisations involved in the delivery of the LTP and wider transport services. This section will give brief details of the roles the main organisations and partnerships undertake.



highways North Yorkshire (hNY)

The highways North Yorkshire partnership consists of the Highways and Transportation service unit of the County Council, our Framework consultants, and Ringway Infrastructure Services (RIS) contractors. Together they deliver most elements of the highways service for the County. This includes:

- Day to day management and maintenance of the highway network;
- Snow clearing and gritting;
- Identification, design and construction of maintenance schemes;
- Identification, design and construction of the majority of improvement schemes;
- Traffic surveys, transport studies, traffic modelling;
- Development of transport policies and strategies.

The County Council sets the policies, identifies maintenance and improvement schemes and carries out some design work. Our consultants provide consultancy services for the County Council which involves some scheme identification, scheme design and site supervision when schemes are constructed. RIS are currently the main contractor for the County Council highways service and carry out the day to day maintenance works on the highway and construct the majority of maintenance and improvement schemes.

Highways Maintenance Efficiency Programme

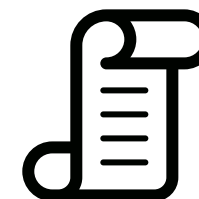
Towards the end of 2014, the Department for Transport set up a new method by which local highways authorities would receive their capital funding. A portion of the funding available is based on being able to demonstrate efficiencies in the way that the highways are managed and maintained.

As part of the DfT's Highways Maintenance Efficiency Programme, local highways authorities are required to complete a questionnaire covering areas such as asset management, resilience, customer focus, benchmarking, efficiency and operational delivery. The outcome of this questionnaire is a score that is used to help determine the total amount of capital funding received.

Aside from the funding, the questionnaire is designed to ensure that local highways authorities are implementing or striving to implement best practice throughout the whole of the highways service and delivering the best service for the budget.

Key Commitments

We will:



Continue to prioritise the management and maintenance of the highway network

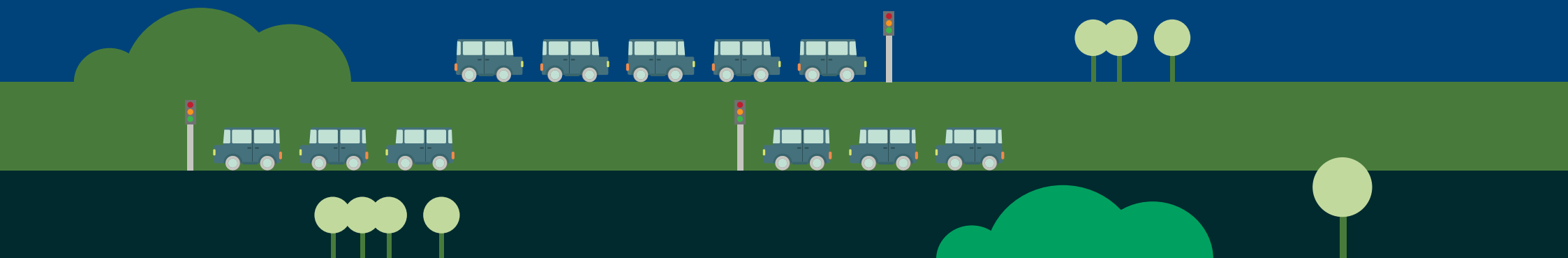


Continue to operate and improve a Highway Infrastructure Asset Management (HIAMP) approach to maintaining the highway to ensure that we get the best value from our limited funding.



Themes

3d - Network Management





3d - Network Management

As outlined in Part 1 of the LTP4 we have re-adopted the commitment to manage, maintain and improve transport networks and service as a hierarchy of intervention. The Council has a statutory duty to manage the highway network and this means that we will look to make the best use of what we already have.

In North Yorkshire the County Council is the highway authority for most public roads with the exception of trunk roads and motorways. The Traffic Management Act 2004 places a duty on all highway authorities to make sure traffic keeps moving on the roads. Through this Network Management Duty we will continue to ensure that planned and unplanned activities on the highway network are dealt with to minimise congestion and disruption of traffic flows.

The Network Management Duty covers a wide range of responsibilities but is principally concerned with the management of temporary activities on the road network. Some of the responsibilities which fall under this Network Management Duty include for example:

- Co-ordination of works by the County Council, utility companies and others;
- Licensing of skips, hoardings, scaffolding etc.;
- Encroachments on the highway

In support of our Duty we will also consider, where appropriate and funding allows, the introduction of localised network management solutions which address pinch points on transport networks, for example this could involve traffic signal upgrades or junction improvements.



Network Management Duty

The Council has a nominated Traffic Manager with responsibility for the Network Management Duty. This duty is facilitated at a local level with each of the County Council's highways Area Managers being assigned the role of Assistant Traffic Manager for their area. For operational purposes the County Council currently has 7 highway areas whose boundaries are the same as the seven district council boundaries. The Street Works Manager coordinates forward programming with the utility companies and enforcement of street works legislation across the County.

The various activities that we will manage on our network can be categorised into three main areas:

- Operational;
- Planned;
- Unplanned.

Operational

Short term localised congestion can occur as a result of various standard operational activities on the network. This category includes road works carried out by the County Council or contractors and utility companies.

Through our Network Management Duty we will continue to make sure that there is a coordinated work programme to avoid conflicts between works and to make the most effective use of resources by ensuring that, for example, any works by utility companies are carried out prior to any County Council resurfacing schemes planned at the same location.

Non-emergency works taking place on roads which are considered traffic sensitive because of the large volumes of traffic they carry will be scheduled, wherever possible, outside of the traffic sensitive period. This may mean works taking place outside the holiday season in tourist areas or works starting after 9.30am and finishing by 4.30pm.

In addition operational activities may include road closures, refuse collection and parking enforcement as well as Highways Act 1980 licensed activities (skips/scaffolding etc.)

These different activities require effective management to make sure that congestion is kept to a minimum. To this end we have procedures and practices in place to facilitate effective coordination of works on the highway network and therefore allow the County Council to exert influence over the various activities. We will continue to undertake proactive discussions with all parties undertaking works on the network as well as making sure robust enforcement policies are in place to deal with cases where due process has not been followed. The Council is committed to improving network coordination activities throughout LTP4.



Planned

These include activities like sporting events, carnivals and parades. We will seek to manage the impact by maintaining a register of planned events. We will also disseminate the information to stakeholders so that network management decisions are well informed.

Figure 3n-1 Tour de France planned event



Photo credit to Bill Herald from Selby

Unplanned

Unplanned activities are by their nature unexpected and therefore it can be difficult to mitigate the immediate effects on the highway network. This category of activities includes incidents such as road traffic accidents and broken down vehicles, weather events (e.g. snow, ice, flooding, high winds), as well as emergency repairs required to the road or utilities apparatus, and other major incidents where roads need to be closed for safety or operational reasons.

We have contingency plans to deal with unplanned events such as the winter service plan. Where, for example, traffic is diverted onto another part of the network this could negatively impact on planned works. We will review the planned works programme and recommend temporary changes to alleviate the effects of any unplanned event.

Management and provision of highway information

The County Council uses a Highway Asset Management Information System called Symology: Insight to manage operational service areas including network management, management of highways licences (e.g. skips, scaffolds and hoardings etc.) and street works co-ordination and management. We use this mapping based software to identify planned disruptions on the network.

An important part of the Network Management Duty is to make sure information on network disruptions is provided to transport users to enable them to make travel choices and reduce disruption. We will provide accurate information to inform people about diversionary routes and also enable transport users to try to change their journeys to avoid problem areas. Map based information will be communicated to the public via the County Council website www.northyorks.gov.uk/roadworks. We will continue to use other publicity such as local radio and newspapers to disseminate information. We have also recently implemented a pilot scheme to give the public more convenient access to statutory notices and to improve traffic information dissemination via the roadworks.org website.

Working with others

Trunk roads, motorway and adjacent networks

It is important to note that as the County Council borders many other authorities the interaction between these highway networks can impact on the North Yorkshire network and vice versa. As set out in Section 16 of the Traffic Management Act 2004 we work to ensure the expeditious movement of traffic on our local road network as well as on road networks for which other authorities are responsible.

The Council will continue to liaise with adjacent authorities and continue to use the ‘manage, maintain and improve’ hierarchy to address cross boundary transport issues. We are a key member of both the Yorkshire and Humber and North of England Traffic Managers groups which enables a consistent approach across the region. We will also continue to work closely with Highways England to make sure that any disruptions on the trunk road and motorway networks as well as the County Council’s network are kept to a minimum. Diversionary routes have already been established which try to minimise the impact of any disruptions on key routes including the A19 (T), A168 (T), A64 (T), A66 (T) and A1/A1(M).

Street works co-ordination

Effective co-ordination is necessary where regulatory functions are governed by law and can be the responsibility of external organisations, for example, the New Roads and Street Works Act 1991 enables utility companies (electricity, gas, telecoms, water etc.) to dig up roads and footways. We will continue to co-operate with other organisations with the aim of trying to make sure the safety of the highway and those using the highway is not compromised as well as maintaining the integrity of the structure and minimising disruption to all road users. Street Works and road works that may impact on traffic flows are reviewed to make sure that activities in one area do not negatively impact on adjacent areas. We also communicate with district councils to coordinate ‘streetscene’ activities such as refuse collection, street cleaning etc. with the aim of reducing disruption to the network.

Communication with other stakeholders

We recognise that other stakeholders are also important in terms of managing the network. We will continue to have proactive discussions with parties that undertake activities on the network and we will seek to contact and coordinate with any organisation whose activities could potentially result in disruption to or fluctuations in motorised and/or pedestrian traffic. We will aim to minimise disruption to public transport services. Anticipated disruption to routes on the bus network will be communicated to bus operators to try to make sure that appropriate diversions or service amendments can be made. We will also work with Network Rail to ensure effective management of level crossings.

Effective working alongside key partners including the emergency services is essential particularly in the case of major accidents and incidents on the County network. Where incidents occur the Council will play an important role in managing the network alongside other agencies.

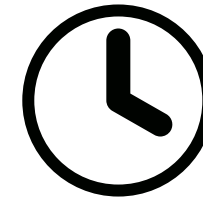
We will work alongside the freight transport industry with the aim of minimising disruption of localised operations on the highway network. For example, the work undertaken by the Timber Freight Quality Partnership enabled a preferred route map for timber transport using the public highway to be developed for North Yorkshire. This map is available to view at: <http://www.northyorks.gov.uk/timbermap>

Key Commitments

We will:



meet the Network Management Duty as defined in the Traffic Management Act 2004



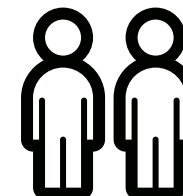
ensure that planned and unplanned activities on the highway network are managed to minimise congestion and disruption of traffic flows;



keep traffic moving by aiming to minimise congestion and disruption on the highway network;



provide accurate information to inform people about network disruptions and diversionary routes;

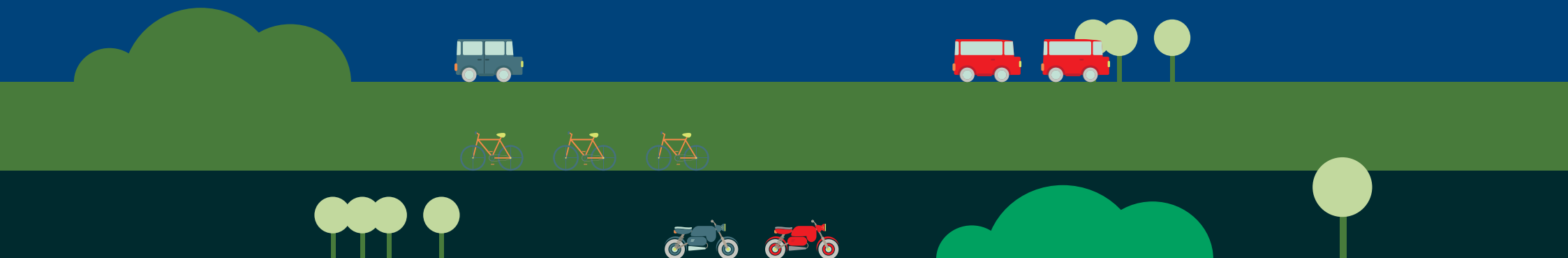


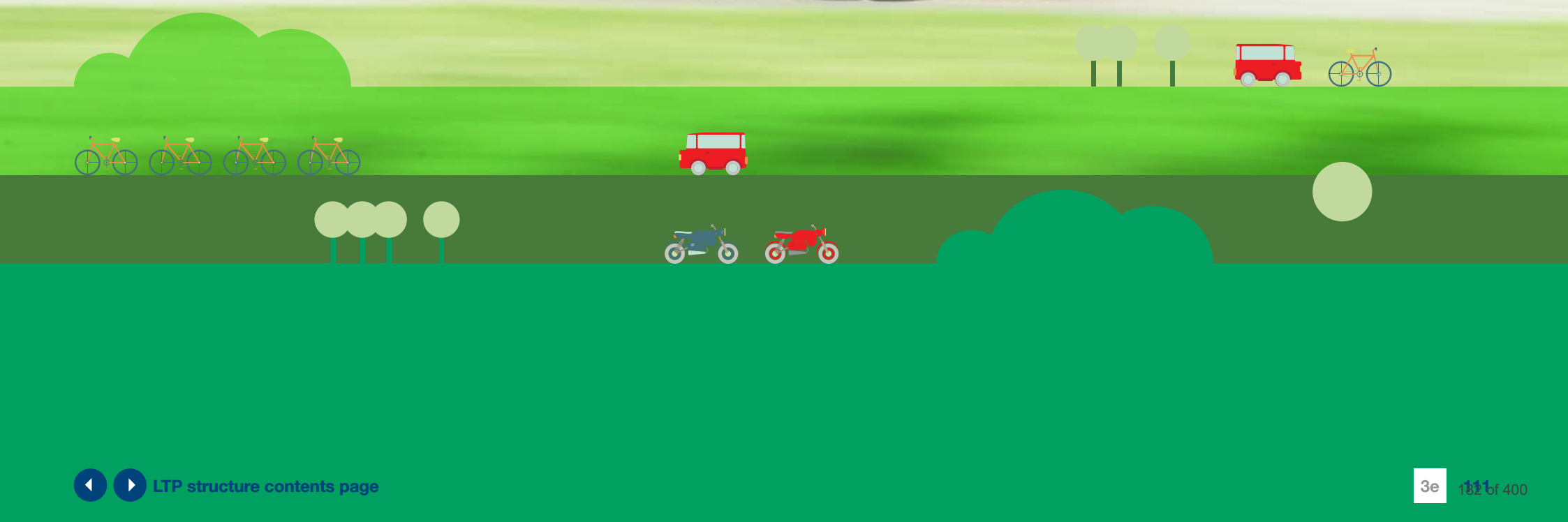
liaise with adjacent authorities and other key stakeholders to ensure the effective movement of traffic on our local road network as well as on road networks for which other authorities are responsible.



Themes

3e - Road Safety





3e - Road Safety

This county has one of the largest road networks of any county in England, consisting of rural A, B and C class roads where the likelihood of being injured in a collision is statistically higher than in a metropolitan or urban area, together with a large network of unclassified roads. In contrast, the risk of injury on a motorway is significantly lower.

Table 3e-1 Road traffic collisions 2010-2014
annual averaged: North Yorkshire

	Urban 20, 30, 40 mph	Rural 50, 60, 70, mph	Total
Fatal	4	36	40
Serious	112	239	351
Slight	537	684	1221
Total	653	960	1612
KSI	116	276	391

With most of the county sparsely populated the road network is the main means of transport connecting small towns and villages. The distance between these mainly very small communities also requires people to travel greater mileage to access employment, education and services such shops or hospitals. This increases their exposure to the risk of road injury by virtue of the miles travelled on these rural roads.

Our local roads have a variety of users ranging from large articulated 40 tonne lorries and (increasingly large) agricultural vehicles through vans and cars to motorcyclists, cyclists and horse riders and those on foot.

Motorcyclists have long visited the county for the pleasure and challenge of a ride out on scenic routes with their many bends, gradients and other points of interest. Many riders will cover over 200 miles on such a ride, which is a physically and mentally demanding enterprise. Cycling has received an immense boost recently from the Tour de France and Tour de Yorkshire events and continues to grow as a leisure activity for locals and visitors alike and as a sporting activity for groups from all around the country and from abroad. Cycling is fast becoming a significant visitor sector.

The challenge of keeping our diverse roads safe for all these different users is immense and it is difficult to meet the needs of all simultaneously.

This theme aims to outline our vision and priorities for how we will work to meet those various needs and the safety issues that are present in such a large and attractive county. Our work will be based on collision and casualty data evidence and also on public representations, through our representative Citizens Panel and other consultation forums.

We keep a close eye on developing trends and activities and try to anticipate what may happen in order to pre-empt foreseeable risks where we can. Whilst reducing casualties and preventing crashes is our primary aim, we also aim to help people to Be Safe and Feel Safe on the county's roads where they live, work and travel, especially to address issues that affect people to the extent that they change the way they travel or live through fear of danger and injury.

Safer Systems Approach

We are adopting the internationally recognised Safe Systems Approach to how we manage and maintain our road network in North Yorkshire. This means that we will endeavour to promote, encourage and provide:

- Safer vehicles
- Safer roads and infrastructure
- Safer Speeds
- Safer Road Users
- Post-Crash response

Safer vehicles

Technology, materials, and infrastructure are ever-improving. We do not manufacture or design vehicles but we will keep ourselves up to date on them to inform our future infrastructure and maintenance planning. We aim to design and manage for the future not just the present as this is financially wise as well as socially responsible.

Safer roads and infrastructure

We will consider the needs of our road users and the priorities for each scheme taking account of the most appropriate design, materials, infrastructure for that road and its various users together with the latest technology. This is a very long term approach as, for example, many maintenance schemes are designed for decades of use and are re-visited over periods of years. Building Safer Systems into our work will pay dividends over time.

Safer Speeds

Setting and enforcing safe speed limits that are appropriate and effective for the local area and for those using the roads.

Safer Road Users

Imparting appropriate knowledge and education to road users of all ages, training for the different modes of travel from cycling, powered two wheelers to cars, lorries and licensing, where the standards for independent driving or riding are set – this latter item is a central government role but we contribute through consultations when changes are being considered. We strongly believe that road user education should be integral to every child's education throughout childhood into adult life. This should start by supporting parents in teaching and leading by their own example which is how children learn most of these lifelong skills and attitudes.

Parents need support and help in doing the best for their children. Schools and youth organisations also have their role to play in reinforcing these lessons. We can provide the expertise and information they need to enable them to do so. We endeavour to provide adult road users with the information they need to become and remain safer road users. Employers and fleet managers are well placed to adopt better policies and promote practices to manage and protect those who drive for them as part of their work.

Post-Crash response

We aim to do the most possible for those involved if a collision occurs and learning the lessons from every collision to improve the other four aims – this is a Partnership based aim for us working with the emergency services that provide the post-crash response services.



Key Priorities for Road Safety

We need to maintain a safe, usable network for all road users. This means that we look at routes and sites and consider who uses them, how and for what purposes, year-round. This enables us to make decisions on how we prioritise what we can do and for whom. There have to be compromises with limited budgets and we will not always meet everyone's needs and aspirations. We will try to ensure that we maintain a balance between the interests of different road user groups.

The current financial climate and competing demands on the network mean that we are not in a position to plan and install hundreds of miles of off road cycleways to satisfy commuters, leisure and sports riders throughout the county area. However, we are keen to support and provide for cyclists where we can¹.

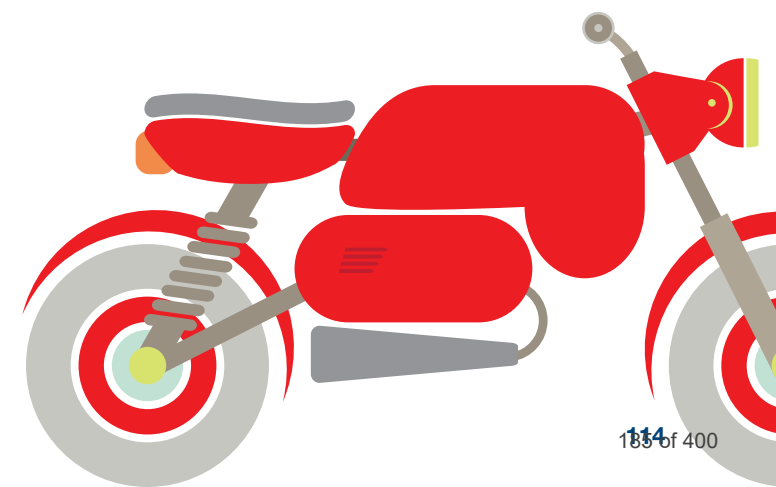
We will take account of cyclists needs in maintenance and new road schemes and within our planning considerations for new developments. When funding can be found we will prioritise our efforts to those places and uses where:

- There is evidence of an existing cause for concern
- There is evidence of an emerging cause for concern
- Large events have triggered a significant increase in cyclists using a route e.g. Tour de Yorkshire
- New event routes are being proposed
- There is evidence of significant benefit/demand
- We can connect existing facilities and routes through small additional elements

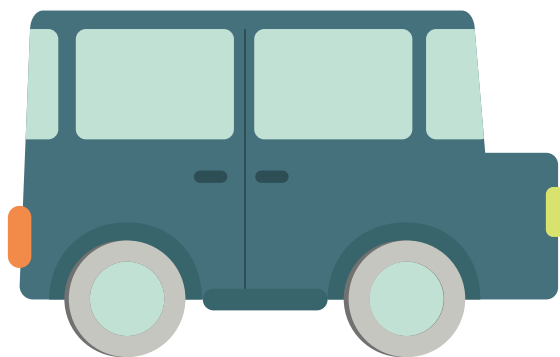
Motorcycling on North Yorkshires' challenging, scenic roads is hugely popular especially with riders of large sports bikes who regularly travel many miles in a day to enjoy them. These riders all too often feature in serious and fatal crashes and the consequences of their injuries are with them and their families for the rest of their lives. After a fatal crash, the closure of rural roads for a number of hours involves hundreds of other people in delays and long detours. The vast majority of bikers killed are men aged between 30 and 55 years of age.

Whilst the number of children hurt on our roads is relatively low in most areas, this cannot be taken for granted and indeed we work to prevent any casualties rather than limiting ourselves to achieve some "acceptable number" of casualties. More than just reducing casualties amongst children this year and next, we see the support of road user education and training throughout a child's life into adulthood as a sound investment for their whole life and, eventually, when they bring up their own children.

Young people need to be able to get to college and work and to access services. Students in education or training and young people at the start of their working life are often low paid but dependant on being able to travel affordably in order to progress in their careers and chosen fields. Their travel needs differ and we are committed to helping them to be able to use our roads safely and to reduce their risk of premature death or injury.



The numbers and overall proportion of county residents over 65 years old is growing. Age of itself does not automatically increase a driver's likelihood of crashing but it does increase the physical effects of injuries to them. Elderly pedestrians are also particularly vulnerable to life changing injury: what is recoverable for a younger person may be life changing when older. We are keen to support people's independence to enable them to continue driving for as long as they safely can. We aim to encourage adults and those looking towards retirement to keep cycling and walking as both these active means of getting around will help maintain a better level of fitness for longer. We will take their travel needs and vulnerabilities into account within the Safe Systems Approach and we will endeavour to support them to stay independent and travelling independently for as long as they can safely do so. This may be within our engineering and infrastructure work or through training and skills or a combination of these.



Access to services, leisure and local shops and businesses is vitally important for everyone, wherever they live. We will use the Safe Systems Approach to maintain and improve our roads and facilities and to support and enable our road users. We will collaborate closely with the emergency services to enable them to provide the best post-crash response they can, using our roads.

Tourism is one of our main sources of income and economic potential. The travel needs of our visitors will be central to our maintenance and network planning for the future to support the visitor economy.



Links with other key areas

We will use all the information that is available to us to best identify where safety issues can be addressed to greatest effect with the resources we can obtain. We will do this by analysing the numbers and causes of collisions and casualties on our roads and identifying any patterns that emerge. They may relate to any number of contributory factors, for instance the location, the type of vehicles involved, the time of day or the weather conditions or other actions or inactions by people. We will coordinate our work and, where there is benefit, collaborate with complementary and related fields both within the council (e.g. Children and Young Peoples Service (CYPS) and Public Health and Safeguarding) and out of the council including through the 95 Alive Partnership and with other public, commercial and third sector organisations.

In particular, we will coordinate our programme delivery to achieve complimentary Highways and Public Health aims and outcomes identified within the Joint Strategic Needs Assessment and the Annual Report of the Director of Public Health to promote joint working and programme delivery where that is appropriate and effective.



What will be delivered?

We will deliver Core Road Safety Services as per statute. This means we will conduct data analysis and from that we will agree and deliver a programme of appropriate remedial schemes of engineering and/or education and training together with enhanced prioritised education/training and engineering services through innovation and collaboration e.g. Public Health and 95 Alive Partnership funding, government grants and shared resources, where we can achieve this. Data-led, effective programmes that make a difference to help people to Be Safe and to Feel Safe are key. Some will be short term information or engagement events; others will be long term education programmes taking children and their families from pre-school and throughout education into adulthood.

Using the Safer Systems Approach principles in addressing road safety issues:

- We will make roads safer through design for all road users, for example the provision of improved crossings or road maintenance priorities that take account of all road users not only vehicle drivers.
- The type of approach used will be dependent on the nature of the crashes which are being addressed, and may involve a combination of measures.
- Deliver appropriate and effective public information and training programmes to promote safe use of the road network. These will address significant issues we have identified as being pivotal in preventing or reducing the effects of collisions. Cycling and walking all or part of the way to school will be encouraged along with measures to reduce congestion and vehicles outside school gates. Specific engagement events will be held to focus on particular issues, such as meeting with motorcyclists at popular venues.

- We will seek improvements through any transport grants that become available. In the recent past programmes such as the Local Sustainable Transport Fund have provided us with opportunities to develop sustainable transport options. This has allowed new transport facilities to be provided and also existing conflict points to be addressed, such as the Park and Ride facilities at Whitby.
- We will seek any improvements that can be addressed through the development planning process. This gives us the opportunity to avoid potential road hazards at the design stage, and allows proper provision of facilities for walking, cycling and accessibility for all.
- We prioritise our road maintenance because it is a fundamental feature of safer roads, and investment in maintenance can reduce the risk of a crash.

We will also provide the following:

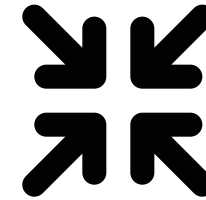
- Provision of the Bikeability national standard training course offered to every primary school for as long as funding can be found to support it (currently funded by government grant with top-up funding from the county council).
- Partnership through 95 Alive – providing strategic analysis with efficient use of public resources and local delivery and response
- Continue as a leading partner in the 95 Alive York and North Yorkshire Road Safety Partnership
- Work more closely with other services to connect our strategies and our service delivery including with Public Health, Public Rights of Way and local, neighbouring and regional authorities and agencies to achieve shared or complimentary aims.
- Maintain and promote popular and newly emerging on-road cycle routes with cyclist safety in mind, working with others such as Sustrans and local councils.
- Take particular care to identify and support the specific needs of older people to help them to stay independent for as long as they safely can and wish to.
- Work with carers and support groups to help carers and those with life changing illness to support their travel needs.

We will have an elected member who will act as Road Safety Champion and advocate for road safety being incorporated across council activity in policy and in service planning and delivery. For less obvious or smaller scale issues such as Road Safety, there is a real benefit from a well-placed advocate to look for opportunities and represent the importance of road safety and crash and casualty prevention work across the Councils decisions and services.

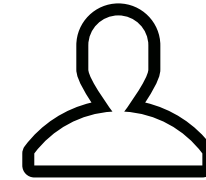
The council, working through the 95 Alive Partnership, will continue to actively engage with motorcycle groups through local and regional information campaigns and at popular locations in the county to educate riders about hazards and good riding practice, and to listen to their concerns and ideas to reduce the incidents of motorcycle accidents. This work will be coordinated with police enforcement operations on key motorcycling routes focussing on where there have been crashes.

Key Commitments

We will:



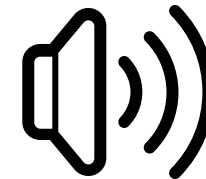
adopt the internationally recognised Safe Systems Approach to how we manage and maintain our road network



appoint an elected member who will act as Road Safety Champion and advocate for road safety



continue as a leading partner in the 95 Alive York and North Yorkshire Road Safety Partnership



deliver appropriate and effective public information and training programmes to promote safe use of the road network.



seek any improvements that can be addressed through the development planning process.

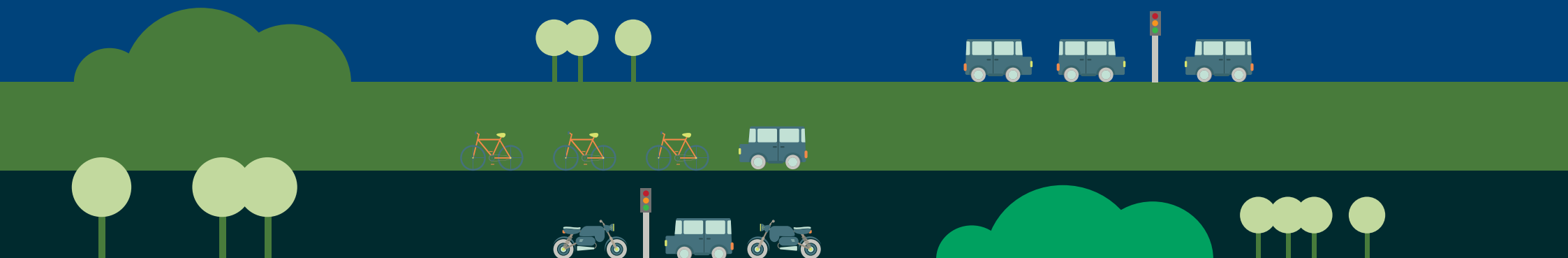


We will seek further improvements through any transport grants that become available.



Themes

3f - Traffic Engineering





3f - Traffic Engineering

The term traffic engineering covers a broad range of services that includes collision investigation and prevention, traffic signals and the strategic management of on street parking across the whole county. The aim of the Traffic Engineering theme is to continue to reduce collisions, facilitate the movement of traffic and improve the infrastructure throughout the county's road network making users journeys safer and more enjoyable.

NYCC has already been working to the Safe Systems Approach¹, going forward this approach will be formally adopted. The Safe Systems Approach covers:

- Safer vehicles;
- Safer roads and infrastructure;
- Safer Speeds;
- Safer Road Users;
- Post-Crash response;

Traffic Engineering focuses on Safer roads and infrastructure, Post-Crash response and Safer Speeds. This Safe Systems Approach is incorporated into the design of all highway improvement and maintenance schemes and will consider the safety of all road users on the network.

Collision Investigation and Prevention

The role of Collision Investigation and Prevention is primarily to prevent personal injury collisions from occurring on the highway. This is done through collision reduction studies at known collision cluster sites, fatal collision investigations and road safety audits.

Collision reduction studies

North Yorkshire County Council has a statutory duty under the Road Traffic Act 1988 to carry out personal injury collisions studies and take appropriate action to try to prevent these personal injury collisions from occurring on the highway. The Council carries out collision reduction studies at locations identified from:-

- **Cluster sites** – where four or more collisions have occurred within 100m radius for rural sites (speed limit greater than 40mph) or 50m radius for urban sites (speed limit of 40mph or lower). Locations that meet this criterion are subjected to detailed personal injury collision analysis and then where appropriate a cost effective collision reduction scheme is designed and implemented as soon as possible.

- **Route studies** – NYCC will continue with the development of its new routes analysis tool which, using a statistics based approach, highlights routes of concern for investigation. The tool will highlight locations where, compared to the surrounding area, it is unusual for personal injury collisions to be occurring. These routes are then subjected to collision reduction studies where detailed personal injury collision analysis is undertaken and where appropriate a cost effective scheme is designed and implemented as soon as possible.
- **In Year Clusters** – By focussing on 'in year' cluster sites the County Council is more reactive to the personal injury collision cluster sites on its road network. We will continue to produce 'In year' cluster site lists on a quarterly basis using a rolling year of personal injury collision data, which will highlight any emerging concerns on the network. We will focus our attention on sites with three or more personal injury collisions or sites with a high severity factor within the relevant search radius for urban or rural locations.

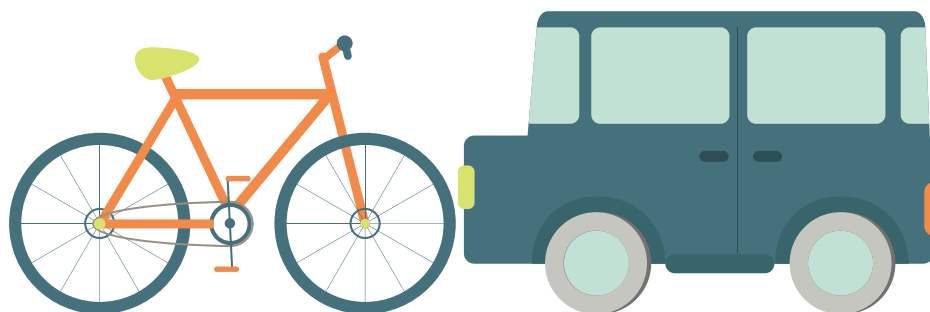
When investigating collision reduction studies detailed analysis is carried out to establish patterns. These could be the type of road user e.g. cyclist, motorcyclists, HGV, age of drivers or alternatively, weather conditions, time of day or clear manoeuvres such as loss of control on a bend. This information is used to inform the collision reduction study. In some instances a joint improvement and maintenance or joint improvement and education scheme is required to tackle the collision problem.

NYCC will continue to prioritise collision sites and implement improvements to reduce the number and severity of collisions. To ensure this happens, where possible, schemes are developed and implemented within the same financial year (or for those occurring late in the current financial year, as soon as practicable at the beginning of the following financial year).

We will monitor the effectiveness of collision reduction schemes using appropriate statistical techniques. This monitoring will help inform future collision reduction studies by highlighting the most cost effective and highest casualty savings for a certain engineering technique for a specific collision problem.

Fatal collision inspections

NYCC will continue to investigate all fatal collisions that occur on the road network and where appropriate recommend measures aimed at preventing collisions of a similar nature from occurring again. The fatal collision investigation is separate to any investigation that may lead to prosecution by North Yorkshire Police and will investigate all highway characteristics to establish whether these could have been a contributory factor in the collision. The investigation will look in detail at the highway vertical and horizontal alignment, drainage, road markings, reflective road studs, signs and the highway surface condition. NYCC will continue to prioritise fatal collisions and will carry out investigations in accordance with the timeframes set out in the County Council's Fatal Collision Procedure. Any recommendations necessary as a consequence of the fatal collision will wherever possible be implemented within 6 months.



Road safety audits (RSA)

We will ensure road safety audits are carried out on highway improvement schemes being undertaken by developers and NYCC. Road safety audits are carried out independently from the scheme designer or promoter. The objective of a road safety audit is to identify aspects of a highway improvement scheme that could result in future road safety problems and to suggest modifications that would improve the road safety of the resultant scheme. Getting involved at an early design stage is important to ensure any potential safety concerns are identified. This plays a key role in the Safer Systems approach.

NYCC will continue to ensure its road safety auditors have the appropriate training and experience to enable them to be suitably qualified to carry out audits. NYCC will provide quotations to developers for members of the traffic engineering team to carry out road safety audits for developer led schemes and will carry out these audits subject to the quotation being accepted. NYCC will also continue to carry out audits on internal led highway improvement schemes subject to the availability of the qualified team members.

Sign clutter and safety

North Yorkshire is a predominately rural county with two National Parks and a number of Areas of Outstanding Natural Beauty and Conservation Areas. As such the visual impact of installing signs and other infrastructure in the highway must be considered. NYCC will aim to remove unnecessary signs to de-clutter the highway environment because studies have found that a proliferation of signs can lead to reduced effectiveness.



Passively Safe Roadside Features

In addition to the de-cluttering of the highway, any sign or structure put in the highway must not be of a robust unforgiving nature that could result in severe injury to road users should it be collided with. These are called passively safe features. Passively safe roadside features include lightweight sign posts, lighting columns and vehicle restraint systems (crash barriers). They are designed to deform or break upon impact by a vehicle and reduce the severity of injury to road users in the event of such an impact. NYCC carry out a risk assessment on all new installations to assess whether a passively safe structure is required. This assessment looks at the speed of the road, vertical and horizontal alignment and previous collision history. The County Council has an approved Passive Safety Protocol.

Traffic Signals

NYCC is responsible for the maintenance and refurbishment of over 330 sets of traffic signal installations located across North Yorkshire. Over 100 of these installations are signalised junctions with the remainder being mainly signal controlled pedestrian crossings. This number continues to increase as housing, shopping and industrial developments are constructed within the County.

Traffic signals are an important feature of the highway infrastructure as they:

- Improve facilities for vulnerable road users such as pedestrians, cyclists and equestrian users;
- Improve congestion and safety at junctions;
- Help facilitate the movement of traffic;
- Manage traffic at locations such as swing bridges and narrow bridges.

Traffic signals can be used at complex junction arrangements and allow for priority or dominating arms and / or priority routes. Advances in the capability of traffic signals over recent years have led to much more intelligent systems enabling NYCC to better monitor, manage and maintain their traffic signals infrastructure.



Maintenance of traffic signals and faults

Traffic signal controlled junctions, pedestrian and cycle crossings are the key points of interaction between motorised vehicles and the most vulnerable road users in our society, it is therefore crucial that they are maintained to an appropriate standard. NYCC therefore aims to have all traffic signals fully operational and it has a traffic signal maintenance contractor to undertake maintenance and repair on all traffic signal infrastructure following annual inspections.

The Council prioritises traffic signal faults into three categories: Urgent 1, Urgent 2 and Non urgent faults. These faults are identified through the annual inspections, reports from members of the public, NYCC officers or by North Yorkshire Police officers and computer based programmes such as the remote monitoring system.

Urgent faults are allocated for any of the following issues:

- All equipment inoperable;
- Equipment failing to change;
- Equipment damaged or in a dangerous condition;
- Defective equipment which is likely to cause excessive queues or abnormal traffic conditions;
- Traffic signals showing multiple or ambiguous or conflicting indications;
- Pedestrian phase inhibited;
- Pedestrian push button unit not demanding;
- Audible and/or rotating tactile device not working;
- Where the NYCC authorised officer considers the fault requires urgent attention.

Urgent 1 category faults are those reported Monday to Friday between 08:00 and 22:00 and these should be attended within 3 hours of the report. Urgent 2 category faults are those reported on a Saturday or Sunday at any time or between 22:00 and 08:00 Monday to Friday. These should be attended within 4 hours of the report.

All other faults will be reported as non-urgent. Non Urgent faults should be attended within 8 hours of reporting.

Programme of traffic signal refurbishment

NYCC is committed to improving the traffic signal infrastructure and has an annual programme for refurbishment. Assessments are carried out on each traffic signal on an annual basis, this information is then analysed to prioritise sites for refurbishment. The refurbishment programme upgrades the signal equipment which leads to improved safety for pedestrians and reduced delays to traffic. The refurbishment programme helps reduce congestion, improves localised air quality and improves road safety. In addition the replacement of old equipment reduces the energy consumption of the system through the use of extra low voltage systems and LED signal lights.

Management of traffic

A brand new remotely hosted cloud based Urban Traffic Management & Control (UTMC) system is now operational in North Yorkshire and will help to reduce delays in the two major urban centres Harrogate and Scarborough. This consolidation of the County Council's traffic control infrastructure onto a hosted system will lead to a significant year on year cost savings as well as improving system reliability.

NYCC will continue to promote the use of more sustainable transport methods and therefore will introduce Bus Pre-emption measures which will allow buses some priority at traffic signals. This will lead to increased efficiency of bus journey times by linking into the UTMC systems. We are currently considering the appropriate measures necessary on the A61, A59 and town centre in Harrogate which potentially could be rolled out to other areas of the County later.

Improvement to the signal infrastructure

The County Council is also committed to improving the method of control at traffic signal installations across the County. The most common system of traffic signalisation is called vehicle actuation (VA), has limitations in terms of the number of traffic lanes it can control, and how responsive it can be to changes in the traffic behaviour.

Microprocessor Optimised Vehicle Actuation (MOVA) is a product developed to overcome some of the problems associated with traditional VA control. It is more responsive to traffic conditions and often leads to a significant increase in capacity (and hence reduction in congestion and delays) at an isolated junction. The County Council has already introduced MOVA at a number of signalised junctions in urban areas and will continue to introduce MOVA when and where appropriate to improve efficiency.

Alternatively the introduction of Urban Traffic Control SCOOT (Split Cycle Offset Optimisation Technique) will optimise timings at existing VA controlled junctions. SCOOT links a number of sets of traffic signals together, and responds automatically to fluctuations in traffic flows. It is therefore beneficial to use this on urban routes with multiple, relatively closely spaced, signalised junctions in order to optimise traffic flow and minimise delay.

Car parking

There are three main types of car parking facilities:

- Private car parks at homes or businesses owned and managed by the householder or business;
- Off street public car parks owned and managed by District Councils or National Parks² (although they could also include privately owned and operated);
- On street car parking which is the responsibility of the County Council.

In North Yorkshire the County Council is responsible for on-street car parking on the local highway network and the District Council and National Parks are responsible for most public off-street car parks. It is important that on-street and off street car parking are best considered together and therefore the County Council is committed to joint working with partners to provide a consistent approach to the public.

NYCC have adopted Civil Parking Enforcement (CPE) which transfers the power of enforcement for most on-street parking offences to the local highway authority. This enables the local highway authority to issue Penalty Charge Notices (PCN) to improve compliance of parking restrictions. The primary purpose of CPE and parking is to aid the movement and safety of traffic by reducing inappropriate parking.

Parking Strategy

On street parking can be a sensitive matter for local residents, therefore NYCC will continue to develop its policies and strategies to ensure it complies with all relevant legislation when dealing with requests from the public.

Demand for car parking is closely linked to the number of journeys being undertaken by transport users. These journeys must begin and end at a parked location, whether this is a residential property, place of work, leisure facility, shopping destination or other location. The rural nature of the county means that many people rely on the car to access key services and sufficient parking provision at certain locations is required. NYCC will continue to look at viable alternatives to the car and therefore on street parking provision will be managed to encourage use of these alternatives such as Park & Ride facilities.

Effective on street parking management measures help to balance on and off street parking supply and demand. This inter-relationship should encourage drivers to park in designated on-street spaces for short visits and deter those wanting to park on-street for longer periods. NYCC will continue to work with its District Council and National Park partners to develop the links between on-street and off-street parking.

Residents Parking

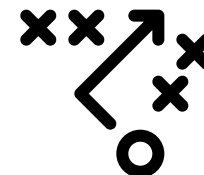
Issues can occur where a significant proportion of residents and their visitors have difficulty in finding parking on the public highway close to their property and a reasonable alternative is not available. Parking displacement into residential areas can occur around:-

- Town centres;
- Retail / leisure / tourist locations;
- Large employers;
- Railway stations.

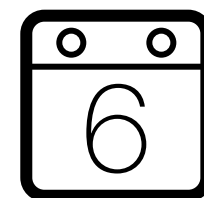
Residents parking schemes impose constraints on both residents and non-residents the implications of introducing them must be considered very carefully. As a result of recent public concerns the County Council has reviewed the assessment criteria in its current Residents Parking Policy.

Key Commitments

We will:



continue to prioritise collision sites and implement improvements to reduce the number and severity of collisions;



continue to prioritise fatal collisions and will carry out investigations in accordance with the timeframes set out in the County Council's Fatal Collision Procedure. Any recommendations necessary as a consequence of the fatal collision will wherever possible be implemented within 6 months;



ensure road safety audits are carried out on highway improvement schemes;

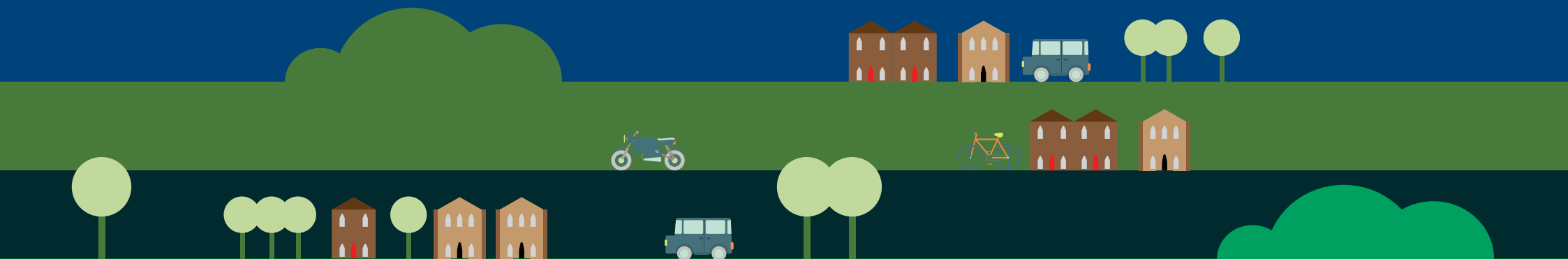


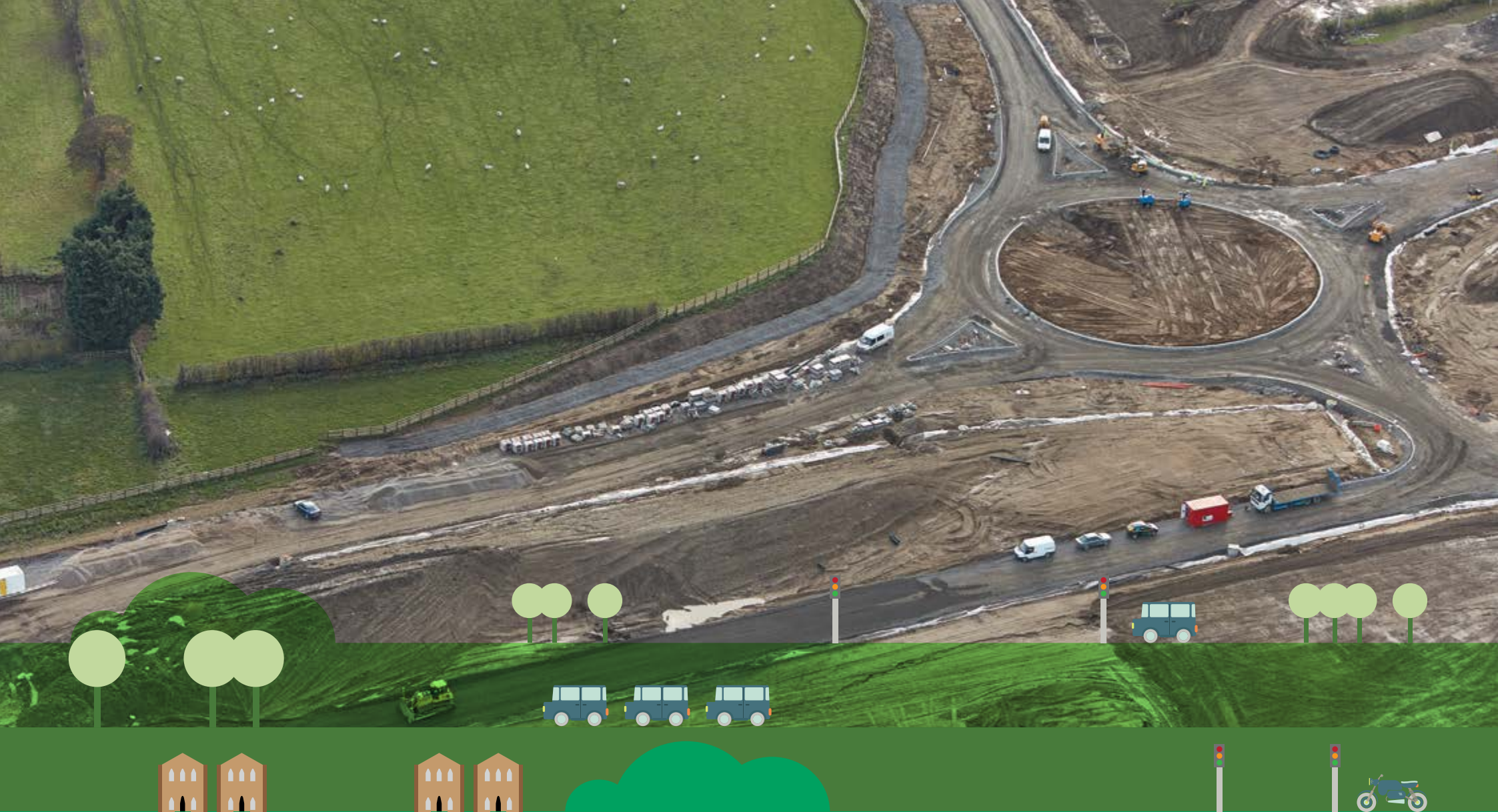
improve the traffic signal infrastructure and the method of control at traffic signal installations across the County.



Themes

3g - Planning and New Developments





3g – Planning and New Developments

1. Managing the impact of new development on NYCC's highway networks is a key function linked to the Local Highway Authority's (LHA's) status as a 'statutory consultee' in the planning process. In its position as a consultee in the planning process the LHA is able to recommend to the Local Planning Authority (LPA) but not direct how it determines an application. This contributes to the delivery of plan objectives by contributing to economic growth whilst ensuring road safety requirements are met and endeavouring to minimise environmental¹ impact and secure healthy travel options² through Travel Planning whilst providing the best possible access to services for existing and new developments. In delivering these aims there is a need to manage public expectations in what can be delivered through the planning process and the extent of the powers and influence NYCC has as local highway authority in the planning process.

Impact on the Local Highway Network

2. NYCC takes a proactive approach to its input to the planning process as the LHA. Within North Yorkshire there are ten planning authorities; seven are District Councils, two are National Parks plus the County Planning Authority. This presents a challenge in delivering consistency across the huge geographical area and in the logistics of meeting differing priorities and deadlines. The matter is further complicated by the varied nature of the highway network, from the central urban cores of the two major towns of Harrogate and Scarborough, to the remote rural settlements via the numerous market towns which characterise the County and the largest military base in Europe at Catterick Garrison.
3. To deliver this key contributor to economic growth the LHA will maintain a professional service whilst refining the well-established delivery mechanisms to provide a service which is responsive to emerging changes in the Planning process.
4. The delivery mechanism is based on a central team and seven geographically based Area teams with the workload split between the central and local team along the following lines as shown in Figure 3g-1.

Figure 3g-1 - Split of LHA responsibilities between Central and Area Teams

Central Team

- setting policy and local standards
- Advice and guidance to LPAs on their Plans
- significant applications
- Larger applications (supported by a TA)
- delivery of developer funded works

Area Team

- standard applications
- smaller applications (with no TA)
- verge crossing applications
- verge crossing delivery

Key elements of the LHA input to the Planning Process

5. The key elements will continue to be as shown in Figure 3g-2.

Figure 3g-2 - Key elements of the LHA input to the Planning Process

Pre-application advice	Formal LHA response to application	Responses to Local Plans and Public Consultations	Negotiation of Section 106 requirements
Negotiation of Section 278 agreements	Negotiation of Section 38 agreements	Managing the delivery of developer funded works	Setting local standards

6. Considering these enables the LHA to ensure the advice it provides to the planning authorities is impartial professional advice based on National and local Policy, Guidance and protocols. It is advice which contains the input from the diverse range of internal transport related disciplines in a single response underpinned by the relevant Guidance. In addition the advice is established in consultation with the relevant external parties. This is particularly important when development will impact on both the local highway network and the Strategic Highway Network (trunk roads and motorways) managed by Highways England. The two authorities work together to ensure that advice is consistent or where there are any differences these are recognised and can be defended. This practice is now endorsed by the Highways England document 'The strategic road network planning for the future'³
7. Any advice the LHA provides to the planning authorities will be constrained by the content of the documents submitted in support of application and the Planning Legislation. Whilst much can be done by negotiation, to endeavour to align NYCC's and the developers aspirations, in the end an application must progress or be refused on the actual merits of the submitted application. If these do not trigger a "severe" impact on the highway network, as defined in the Department of Communities and Local Government's National Planning Policy Framework (NPPF), there is little the LHA can do to resist the development.⁴
8. In considering all planning applications the LHA will always give priority to considering matters relating to highway safety. This will be linked to other issues such as growth and economic development, the convenience of all road users, reducing journeys by car, and future maintenance of the network. Whilst generally matters relating to the environmental impact of development which are defined in the Environmental Impact Regulations are outside the remit of the LHA, where development impacts on identified Air Quality Management Areas and DEFRA's Noise Important Areas the LHA will require the impact of the traffic generated by development to be considered.
9. Where necessary the LHA will be ready to defend its advice through the appeals process.

Transport Assessments (TAs) and Travel Plans (TPs)

10. Transport Assessments (TAs), Transport Statements (TS), and Travel Plans (TPs) are the developer funded transport planning documents which support a planning application. They set out the theoretical impact that the proposed development will have on the local highway network, and present the mitigation identified for reducing this impact. These documents will continue to be key tools in assessing the impact of developer's proposals. TAs and TS are required to assess the impact of development on the highway and transport network surrounding the development whilst Travel Plans identify the developer's proposals to reduce the amount of traffic associated with the development by encouraging the use of alternative modes of transport to the car. The absence of detailed National Guidance on the content of these documents will result in the LHA preparing local policies and protocols to ensure the submitted TAs and TPs adequately address all the issues of concern to the LHA on North Yorkshire's highway network. In preparing this local guidance the LHA will give consideration to other available advice such as Highways England's 'The strategic road network: Planning for the future' guidance.
11. The local requirements will need to ensure that all readers can regard TAs and TPs as truly impartial giving a fair and robust assessment of the proposed developments. The document will set trigger points for assessment and mitigation taking account of the nature of the county's highway network and the need for developers to fund the mitigation of the impact of their development in a local context. The mitigation can take many forms from providing substantial junction improvements to funding buses to reduce the traffic that will be generated.
12. The local highway authority will continue to seek appropriate developer funded mitigation that meets the tests of NPPF by being necessary to make the development acceptable in planning terms, directly related to the development and fairly and reasonably related in scale and kind to the development. The proposals will also need to be deliverable without third party land and in an appropriate timescale. The County Council cannot require developers to fund works that are not necessary for their development. Developer funded works cannot resolve existing problems or satisfy aspirations, they are only required to mitigate the cumulative impact of the application in question, together with any adjacent developments which the planning process considers as 'committed development'.
- The LHA will establish mechanisms with the LPAs to ensure that the constraints of the Community Infrastructure Levy do not compromise the delivery of the necessary transport infrastructure.
13. The LHA will continue to work with the LPAs to establish appropriate area wide traffic and transport models of key settlements and conurbations. Where these exist the LHA will expect developer's proposals to be assessed using the available modelling.
14. Travel Plans will continue to be assessed in accordance with NPPF. They will need to reflect the emerging links between travel planning and the health agenda.

Design Standards for Developer Funded Works

15. Design Manual for Roads and Bridges (DMRB) is the national standard for trunk roads which NYCC as the LHA also applies to roads where traffic takes priority. Manual for Streets (MfS) is the national standard for residential or lightly trafficked streets.
16. The LHA now has a formally approved matrix to inform which of these standards to use; it is based upon a “movement and place” matrix. Where “movement” takes priority DMRB is the appropriate standard and when “place” takes priority MfS is the appropriate standard. Application of the matrix results⁵ in residential areas being designed to MfS with through routes on busy roads with no “place” function having a DMRB standard.
17. The determination of which standard is applied can influence the suitability of a site to be developed as DMRB requires higher design standards including greater visibility splays appropriate for locations where vehicles take priority.

Parking Standards for Development

18. NYCC has re-introduced minimum parking standards for residential development. This is interim advice to accommodate the high volume of residential development coming forward. Building on this interim advice it is proposed to work with the ten planning authorities through the North Yorkshire Planning Officers Group (NYPOG) to conduct a full review of all standards for parking at residential, employment, retail and other types of development and adopt these through the usual consultations and approval processes.

Residential Estate Layouts

19. Within residential areas where “place” functions take priority the LHA will continue to expect layouts to constrain vehicle speeds to 20mph; this should be done without the introduction of vertical speed reducing features (e.g. speed humps) except for tables at junctions.
20. Where new schools are to be built as part of a wider new development the layout of the whole estate will be expected to provide safe routes to school so that all children can be encouraged to walk and / or cycle to school. Footway routes will continue to be sought to all play areas to enable good road safety habits to be established.
21. Developers will be encouraged to follow the advice of MfS layouts to provide attractive pedestrian routes which help to discourage the need to use cars for short journeys. The Council recognises that the MfS advice in some cases conflicts with the Police “Secure by Design” guidance which prioritises security and defensibility. For example, the “Secure by Design” guidance advises against footways linking culs-de-sac as they could potentially provide an escape route for criminals. Whilst recognising the potential conflict between the MfS and Secure by Design guidance, the LHA will continue to encourage walking through the provision of suitable walking

routes on pedestrian 'desire lines'.

Industrial Estate Roads

22. Many industrial estates are self-contained culs-de-sac serving no real benefit to the wider adopted highway network. In practice they form a drain on the LHA's maintenance resources with the high level of HGV use requiring a disproportionate level of maintenance particularly to maintain footways in an acceptable condition. The current practice of continuing to add such roads, which do not form a through route to the network as highway maintainable at the public expense would benefit from a review. A change to the current practice could allow the industrial estates to manage indiscriminate parking in a way the LHA cannot and remove the need for the LHA to maintain roads which are subject to heavy wear and tear.

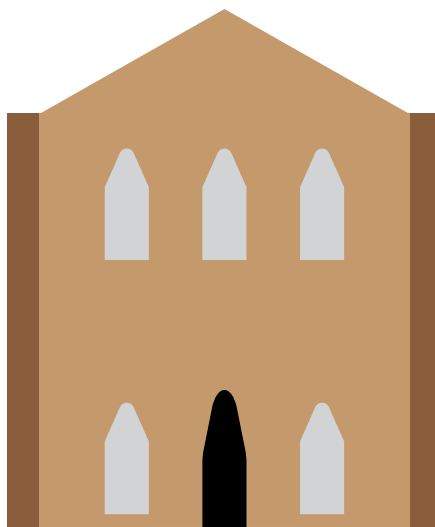
Mechanisms for delivery of Developer Funded Highway works

23. NYCC will continue to deliver developer funded highway works using the most appropriate mechanism. The choice of mechanism will vary from site to site having regard for all the circumstances. The most commonly used mechanisms are described below:

S106 Agreements and Community Infrastructure Levy (CIL)

24. A section 106 agreement is used to secure financial contributions from a developer to fund improvements to the highway. Traditionally off site highway works have been secured through the planning process using Section 106 Agreements, often pooling contributions from numerous sites to fund major infrastructure. This was sometimes supported by special planning policies which linked contributions to a formula based on site size or trip generation.

25. The CIL regulations were introduced by Government to provide developers with certainty about the value of contributions required in support of planning applications. The regulations apply a rate per square metre to cover the cost of delivering strategic infrastructure such as roads, schools, and affordable housing. They are administered by the LPA. To establish the infrastructure to be delivered by CIL the LPA is required to list everything they will be funding on a list; the Regulation 123 List. Once infrastructure is on this list it cannot be delivered outside CIL; this prohibits the use of Section 106 Agreements to secure delivery and implementation using Section 278 Agreements.
26. The CIL regulations also restrict to a maximum of five the number of Section 106 contributions which can be pooled for a specific piece of infrastructure not on the Regulation 123 list. The detail of CIL and its administration is still evolving. The County Council will need to ensure it is able to respond to the changes and have the necessary processes in place to continue to protect the wider interests of the travelling public.



Section 278 and Section 38 Agreement Works

27. A Section 278 Agreement is a legal agreement between the Council and a developer which allows the developer to carry out works to the existing public highway (for example, the construction of new access/junction improvement or improved facilities for pedestrians and cyclists).
28. A Section 38 Agreement is a legal agreement between the Council and a developer enables the highway authority to 'adopt' any new roads (and associated infrastructure) constructed as part of the development on land outside the existing highway. Adoption means the highway authority agrees to undertake future maintenance of the road at the public expense.
29. For both Section 278 and Section 38 Agreement works, NYCC will manage developer proposals and programmes in a proactive way to facilitate growth, minimize network disruption, and optimise the use of the authority's limited resources.

Section 184 Agreement Works

30. Where developer proposals will not result in the addition of new highway to NYCC's network, simple works in the existing highway to provide access to the site will be controlled through licencing under Section 184 of the Highways Act 1980. The Council will continue to require contractors delivering these works to be suitably qualified through New Roads and Streetworks Act (NRSWA) qualifications, to carry adequate liability insurance and to be suitably experienced. A process to remove contractors who do not perform from the approved list will be established.

Seeking Third Party Funding

31. The current development market is placing pressure on the viability of many sites partly through the level of infrastructure needed such as roads, schools, affordable housing, and abnormal ground conditions. This is balanced by an increase in opportunities for securing external funding, for example through the Governments Local Growth Fund. NYCC will work with external partners and developers where appropriate to bid for and secure external funding to deliver infrastructure to facilitate development. For example, the work to be undertaken in 2015 at key junctions on the A6136 at Catterick Garrison has been secured in partnership with Richmondshire DC with assistance from Defence Estates and will provide additional junction capacity to facilitate delivery of Richmondshire District Council's housing allocations in the key growth area of Catterick Garrison.



Local Plans

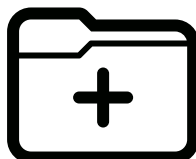
32. NYCC highways will continue to support and advise the LPAs in the preparation of their development plans through the development of key policies, selection of sites and the identification of appropriate mitigation. Where necessary the LHA will support and assist the LPA through the examination in public processes. However where LHA advice has not been included in the plan for adoption the LHA will need to bring this to the attention of the Examiner.

Conclusion

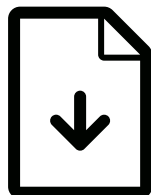
33. The advice provided by NYCC as LHA in considering developer proposals is professional, defensible, in accordance with standards, and based on the application submitted. Whilst the LHA is mindful that NPPF has set a high threshold for requesting mitigation the LHA will continue to secure appropriate developer funded mitigation to ensure new development will not create future issues for NYCC as LHA.

Key Commitments

We will:



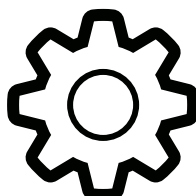
proactively contribute to the planning process in the role of the Local Highway Authority, one of the Statutory Consultees in the planning process;



remain committed to providing advice to the planning authorities that is professional, defensible, in accordance with standards, and based on the application submitted when considering developer proposals;



continue to secure appropriate developer funded mitigation to ensure new development will not create future issues for NYCC as LHA whilst ensuring the mitigation is also acceptable in planning terms, directly related to the development and fairly and reasonably related in scale and kind to the development;



ensure developer funded highway works are delivered using the most appropriate mechanism;



maintain the LHA support and advice to the LPAs in the preparation of their development plans;



continue to work with external partners to bid for and secure external funding to deliver infrastructure to facilitate development;

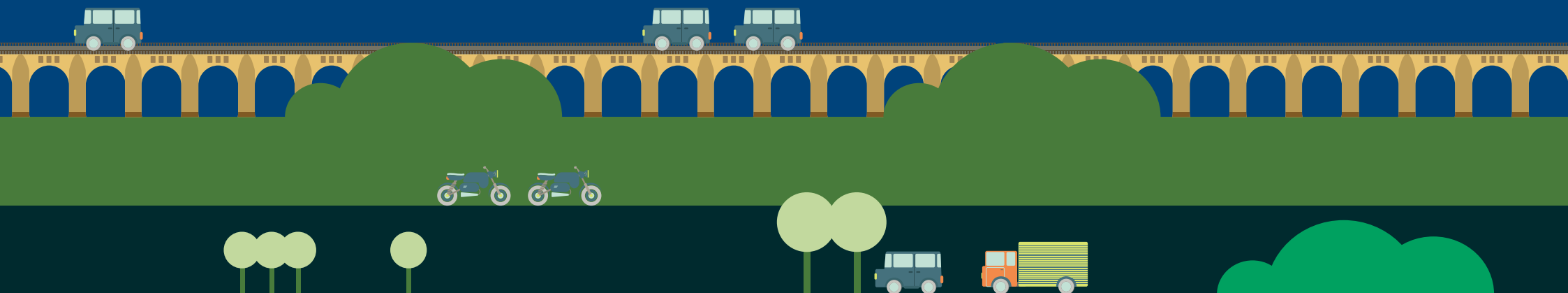


progress the preparation of local policies and protocols to assist with assessing the impact of development on the highway network in North Yorkshire.



Themes

3h - Bridges and Highway Structures





3h - Bridges and Highway Structures

The County Council owns and maintains 1,709 bridges and 250 kilometres of retaining walls on the road network throughout North Yorkshire. We also are responsible for the surfacing over bridges that we do not own, these are 220 Network Rail bridges, 23 Canal and River Trust bridges and 56 disused railway bridges.

Legal Responsibilities

In accordance with the Highways Act the Highway Authority is required to maintain all the structures owned and maintained by the authority so that they are fit for purpose and safe to use.

The County Council achieves the two requirements; fit for purpose and safe for use by adopting an asset management plan. The highways asset management plan details the levels of service and the procedures and standards that have to be complied with so that we comply with our duties in accordance with the Highways Act.

Maintenance of Structures

Every bridge that is owned and maintained by the authority is inspected visually for faults every two years; this is called a general inspection. We have an annual rolling programme of 854/855 bridges examined each year. So every two years we have data which covers all 1709 bridges which have been examined and there is then a complete picture of the condition of the asset. We inspect all structures in accordance with the Code of Practice for Highway Structures and BD63/07 Inspection of Highway Structures.

We carry out Principal Inspections on bridges which are either a complex structure, carry high numbers of vehicles, or are on Principal or A-roads. We have a list of 72 bridges that receive a Principal Inspection, which means the bridge gets a close up inspection everywhere from foundation to superstructure.



We carry out 40 diving inspections of bridges on the faster flowing rivers throughout the county on a rolling six year programme which gives us information on the state of the structure below the water line, about how the bed of the river is moving, and if scour action is occurring so that we can plan works to resist the action of scour. During times of flood we inspect the bridges using divers to ensure that they are still structurally sound and safe for use. It is our policy to keep bridges closed to all traffic and pedestrians when they have been flooded until we have checked them. It is very easy to underestimate the damage caused by floods. Storms in 2000 and 2005 caused £2.5 million and £3.6 million of damage to bridges over a very short period of time in one case less than six hours.

The authority has two maintenance programmes each year. One is Capital funded and the other is Revenue fund. Capital works are planned using a two year rolling programme of strengthening schemes, major maintenance or modifications such as widening. Revenue works are planned on an annual programme of small jobs which are safety related, wear and tear or minor repairs to a wall or bridge. Works which are safety related will always take priority over others within this limited budget so there will be structures that are not perfectly presented, that will have pointing missing and may look untidy but they are still safe to use. All projects are prioritised using the data collected from the bridge inspections; principal and general. The two year rolling programme of capital works is prioritised according to the available budget and the priority of the work.

Ancient Monuments and Listed Structures

Road users use our structures on a daily basis and some of these are Ancient Monuments and Listed Structures. There are twenty five Ancient Monuments and seven hundred and eighty Listed Bridges in the bridge stock. In keeping with the required laws the maintenance of these structures is carried out using materials and techniques in keeping with the age of the structure. There are procedures which have to be followed to get consent to carry out repairs on either of these types of structure which can involve input from several agencies. We have in house and externally the expertise available to design schemes and supervise the works. The same inspection regime is used for these bridges the only difference between them and the rest of the bridge stock is that they are either priceless or a factor of two or three times the cost to replace a standard bridge if damaged.

Retaining Walls

We have 250 kilometres of retaining wall which support the highway in multiple locations across the county. Many of these walls are made with local stone and are not pointed in the same way that a modern wall is. These walls are called mass or gravity retaining walls and they are, if built correctly, very good at supporting the land around them.

Accident damage to Structures

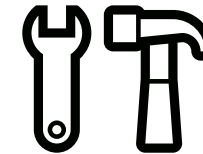
Vehicular damage to bridge and walls costs the County Council a great deal of money each year when the accident is not reported. All damage should be reported in the first instance to the County Council so we can check to see what action needs to be taken to make the structure safe.

Weight Limits

In compliance with EU statutes the County Council has strengthened four hundred weak bridges during the period 1990 to 2014. We currently have twelve permanent weight limits that protect weak bridges which are exempt from the requirement to be strengthened due to listed status or the fact they were limited before the statute came into law. It is the Council's policy not to place a weight limit on a structure unless it is due to a strength issue on the bridge. There are thirteen other weight limits on bridges in the County owned and maintained by others. We do from time to time have temporary bridge weight limits on bridges when they are being maintained but these are normally removed when the project is completed.

Key Commitments

We will:



maintain all the structures owned and maintained by the authority so that they are fit for purpose and safe to use

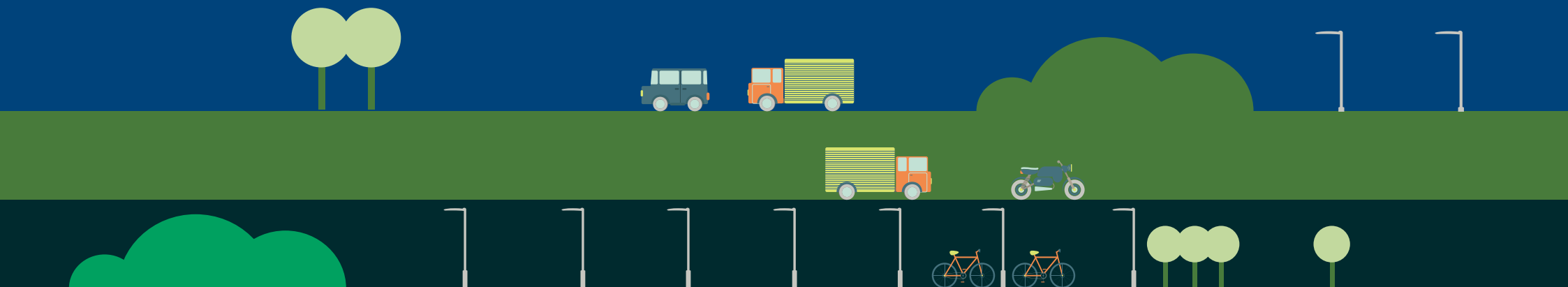


examine all structures in accordance with the Code of Practice for Highway Structures and BD63/07 Inspection of Highway Structures.



Themes

3i - Street lighting





3i - Street lighting

Street lighting generally consists of roadway and footway lighting. Roadway lighting is provided by the County Council whilst footway lighting is most often provided by the district, town or parish council. In order to reduce public confusion, the County Council coordinates all communications (such as enquiries, comments etc.) on street lighting.

Roadway lighting is generally provided to improve road safety and personal security for transport users. It is also often a deterrent to property crime (car theft, burglary etc.) but this is not its main purpose. There are around 50,000 street lights operated by the County Council in North Yorkshire and it costs approximately £2.1m per year to power them.

Many street lighting columns are old and consequently there is an on-going programme of replacement based on routine testing and inspection. The Council has an on-going replacement programme for damaged or decrepit columns; since 2004 the County Council has replaced over 25,000 street lighting columns with equipment expected to last a minimum of 40 years.

Legal Responsibilities

There is no legal or statutory obligation for North Yorkshire County Council to provide or maintain roadway lighting except where there are road humps present and the speed limit exceeds 20mph. In these circumstances there is a requirement to provide one light either side of the road hump.

All other roadway lighting within North Yorkshire is installed and maintained at the County Council's discretion.

It is the Council's practice to install new street lighting in the following circumstances:

- All roundabouts;
- Adjacent to road humps (where the speed limit exceeds 20mph);
- Traffic signal junctions that have a pedestrian phase;
- Pedestrian crossings;
- All new housing developments (unless the local Parish Council request a reduced standard scheme that they will maintain or where the rest of the village is unlit);

- As an accident reduction measure (subject to available finance);
- To prevent/minimise crime and antisocial behaviour (subject to available finance).

The street lighting service allows residents and visitors to access commercial, leisure and tourism activities outside of daylight hours, supporting the County Council's Social Inclusion Strategy. Street lighting also contributes to better community cohesion as it aims to reduce crime and the fear of crime.

Factors used to assess scheme benefits include; crime, fear of crime, proximity of services, hospitals, schools and sheltered accommodation. Priority is given to locations where children or older people are the primary stakeholders such as schools, routes to schools, and sheltered accommodation. In some cases gender and/or race are also considered where these groups are particularly at risk.

Maintenance

North Yorkshire County Council endeavours to keep all street lighting fully operational by undertaking proactive maintenance to all equipment on a fixed maintenance cycle. Depending on the lantern type the maintenance cycle can be either one visit every four or six years.

During the maintenance visit, all equipment is cleaned, a new lamp installed, a visual inspection is undertaken of all components, an electrical test is carried out and the street light is tested for correct operation. This process has helped reduce the number of defects from 12,500 during the 2004/05 financial year to 3,600 in 2014/15.

Approximately 5% of all street lighting defects relate to power supply failures that can only be repaired by the local Electricity Company. Within North Yorkshire there are three electricity companies, Northern Powergrid (Northern), Northern Powergrid (Yorkshire) and Electricity North West. These companies have different service level agreements for attending to street lighting power supply failures; however, their average response time over the last 3 years has been 19 days.

The Council prioritises street lighting defects into emergencies, category 1 and category 2 defects.

Emergencies – 3 hour response

A 3hr response is necessary in order to react to any defect that poses an immediate risk to public safety. This can include lighting columns that have been damaged during road traffic accidents, an installation where live wires may be exposed such as a lighting column with a door missing, lighting columns loose in the ground which may carry a risk of collapse, or a loose brackets/lanterns which may fall off.

Category 1 Defect – 24 hour response

This constitutes a defect, other than an emergency, where it is deemed that a rapid response is required. This can include street lighting in critical locations such as pedestrian crossings, roundabouts or main road junctions, lighting adjacent to schools (in the Winter months) or where a section of consecutive street lights are defective.

Category 2 Defect – 7 day response

This constitutes any defect that is not an emergency or a Category 1 defect.

Since 1st April 2012, more than 95% of all street lighting defects have been attended within the prescribed timescales.

The County Council has a new on-line service that includes a map of almost all street lights in North Yorkshire¹. This allows customers to accurately select a specific street light and generate a fault report that will be passed instantly to the Council's street lighting team. In the event that the street light does not belong to the County Council the customer will be directed to the correct asset owner.



Energy Reduction

There are increasing pressures on local authorities to make savings in energy consumption and service costs.

The current budget position has forced us to look closely at how we make best use of our resources to maintain those services that the public value most. Street lighting provision is one service area in which many local authorities have made significant energy and cost savings. Our current energy costs for street lighting provision in North Yorkshire are around £2.1million per year and we produce over 10,500 tonnes of carbon emissions (CO₂). The Council's energy reduction strategy aims to reduce street lighting energy consumption by approximately £400k per year with an associated reduction in carbon emissions of over 3000 tonne.

All street lights in North Yorkshire used to switch on between dusk and dawn. Since the implementation of the energy reduction programme approximately 55%-60% of the street lights will switch off between midnight and 5am, when road use is at a minimum.

The potential for switching off each individual lighting column is assessed using the following criteria:

- Main traffic routes and road junctions (dimming may be introduced if appropriate);
- Locations with a significant night-time road traffic accident record;
- Potential hazards in the highway such as traffic calming, speed humps and road crossings;
- Parts of town centres that have concentrated night-time activity or economy;
- Areas covered by Council or Police CCTV operations;
- Areas with 24hr operational emergency services, including hospitals;
- Lights outside sheltered housing and other residences accommodating vulnerable people;
- Areas with a significant record of relevant night-time crime or anti-social behaviour.

Any street light that does not meet one or more of the above criteria will be switched off between midnight and 5am².

North Yorkshire County Council is committed to reducing crime and antisocial behaviour and will retain full night operation of any street lighting where North Yorkshire Police advise that street lighting would act as a deterrent.

We will continue to review other methods for reducing energy costs and carbon emissions including switching lights on later and off earlier but also using low energy technology such as LED lamps which can provide an equivalent level of illumination at a much lower wattage. The County Council may also remove street lighting that is now considered superfluous. This will only apply to a very limited number of street lighting columns.

LED Lighting

The Council has updated its street lighting equipment specification to stipulate the use of light emitting diodes (LED's) on all new and replacement lighting projects.

The use of LED technology on North Yorkshire County Council's street lighting and illuminated traffic signs brings a number of benefits:

- Reduced energy consumption therefore reduced energy costs. These can save up to 60% energy compared to a standard street light;
- Reduced carbon emissions;
- Longer life with low maintenance requirements. New LED units have up to 20 year guarantee with maintenance only required once every 6 years;
- Instant lighting: LEDs brighten up immediately when switched on whereas older lanterns can take up to 10 minutes to reach full brilliance;
- LED lights are free of toxic materials and are 100% recyclable.

The Council has commenced a replacement programme designed to remove the older most inefficient lighting and replace it with new energy efficient LED lighting.

Design – New Housing Developments and Highway Improvements

North Yorkshire County Council's Electrical Engineering Team will undertake any street lighting design and any electrical design associated with the installation of illuminated traffic signs, bollards, beacon poles or feeder pillars. A quotation for Design, or Design and Build, can be obtained from the Electrical Engineering Team on request.

Alternatively, an Institution of Lighting Professionals (ILP) approved Consultant may be used³. A list of approved consultants may be obtained from the County Council's Electrical Engineering Team.

Any street lighting design undertaken within North Yorkshire will constitute "Road Lighting" as defined by section 270 of The Highways Act 1980. The design will also fully comply with the requirements of BS5489 "Code of Practice for the Design of Road Lighting" and BS EN 13201-2 "Road Lighting – Part 2: Performance Requirements".

Where an alternative design is provided by an ILP Approved Consultant the proposals for street lighting must be submitted for the approval of North Yorkshire County Council's Road Lighting Engineer prior to works commencing.

Decorative (Heritage) Street Lighting

When a location is designated a Conservation Area or Area of Outstanding Natural Beauty it is important to note that there is no prerequisite for decorative or heritage style street lighting. Quite often the installation of overly ornate street lighting can actually detract from whatever the Conservation Order is set up to protect.

In addition, decorative lighting is less effective at illuminating the highway and often requires additional lighting columns or higher wattage lamps to achieve the required design standards. This has long term financial implications to the County Council that include increased maintenance costs, higher energy costs and potential fines from Central Government for failing to achieve the required Carbon savings imposed on all local authorities.

Notwithstanding this, North Yorkshire County Council is prepared to install decorative street lighting where appropriate however the increase in cost, over and above that for standard street lighting, must be met by a third party such as the Parish, Town or District Council. Members of the public may also contribute to the installation of decorative lighting although this must be as part of a larger lighting scheme and not for single street light outside a resident's property.

Where decorative lighting is installed as part of a new housing development, the County Council requires the developer to pay a commuted sum for the increase in maintenance and energy costs.

Adoption of Footway Lighting from Parish or Town Councils

Under Section 270 of the Highways Act (1980), a Parish Council can insert new lighting columns into an existing footway lighting system so that it ceases to be footway lighting and becomes roadway lighting. The Parish Council can then request that ownership of the new roadway lighting network be transferred to the County Council.

North Yorkshire County Council will not adopt street lighting columns of concrete construction nor lanterns attached to wooden poles. Any such columns shall be removed and replaced with suitable steel or aluminium columns prior to adoption.

Alternatively, the County Council may request that any footway lighting networks that are improved to roadway lighting standard be subjected to a condition survey and structural test appropriate to those carried out by the County Council on its own columns. Any defective columns identified by the structural test must be repaired or replaced prior to adoption.

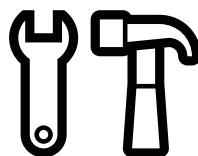
The structural survey and any subsequent column replacements should be carried out by the Parish or Town Council at its own expense. In accordance with Section 270 (4) of the Highways Act (1980) liability for any costs incurred do not transfer to the County Council.

Key Commitments

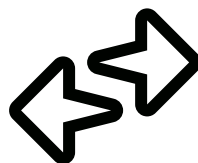
We will:



endeavour to keep all street lighting fully operational by undertaking proactive maintenance to all equipment on a fixed maintenance cycle;



rectify street lighting defects on a prioritised basis;



continue to implement a replacement programme to remove the older most inefficient lighting and replace it with new energy efficient LED lighting;



continue the Council's energy reduction strategy which aims to reduce street lighting energy consumption by approximately £400k per year with an associated reduction in carbon emissions of over 3000 tonnes;



install new street lighting in line with Council policy, for example, at new housing developments, and all roundabouts.



Themes

3j - Walking and Cycling





3j – Walking and Cycling

Background

Over 40% of the population of North Yorkshire live in communities with a population of over 10,000 people. Almost 25% of the population of North Yorkshire live in our two largest urban areas of Harrogate / Knaresborough and Scarborough alone. Towns of this size tend to provide many of the everyday services that their populations require. As a result of this many trips in these towns are relatively short and walking and cycling is a very viable mode of transport for many people for these local trips.

Walking and cycling are the cheapest, healthiest and least polluting forms of travel. Most journeys involve some element of walking, whether it is a walk from home to work, walking to the bus stop or even walking from the car park to the shops. Good walking and cycling links to public transport facilities can integrate different transport modes and further encourage sustainable travel and ultimately reduce car use.

For many people cycling is also a healthy and environmentally friendly mode of travel. Compared to walking, the extra speed of cycling makes longer trips feasible and can offer a suitable means of travel for those who cannot or choose not to drive (e.g. children and those on low incomes). Providing for and encouraging more walking and cycling as an alternative to driving can also make a significant contribution to boosting social inclusion and to reducing congestion and its environmental and economic impacts.

The County Council is therefore committed to continuing to provide for and promote walking and cycling as a mode of travel for 'utility' trips to access local services. In recent years the growth of leisure cycling in the County has been significant. Following on from the Yorkshire Tour de France Grand Depart in 2014 and the on-going Tour de Yorkshire leisure cycling continues to grow. Building on these sporting events and on long distance National Cycle Network routes (such as the Way of the Roses) cycle tourism now makes a significant contribution to the tourist economy of North Yorkshire, to improved public health and in many cases to people taking up utility cycling as an alternative to driving.

The County Council will therefore continue to work with partners (such as Welcome to Yorkshire, the National Park Authorities, Sustrans and other voluntary groups) to seek further growth in leisure cycling.

It must however be recognised that much of the County is sparsely populated with many people living in small towns and villages. The distance between these communities means that people have to travel greater mileage in order to go about their daily lives. Additionally the topography of much of the County, winter weather conditions and short hours of daylight from autumn to spring are a significant constraint on walking and cycling that make it much less feasible for many people.

Recognising that the health, environmental and congestion reducing benefits of increased walking and cycling, as well as the greatest scope for mode shift, is in our main urban areas we will concentrate our efforts to provide for and promote utility cycling in the main towns especially Harrogate / Knaresborough and Scarborough.

Walking

Walking (and other pedestrian travel such as wheelchair use, mobility scooters and prams/ pushchairs) is available to most of the population of North Yorkshire and forms part of most journeys. The County Council manage over 4,400km of footway (pavements), over 200 signal controlled pedestrian crossings and over 70 traffic signal controlled junctions with pedestrian facilities. Most of these are situated in our main towns and villages and are a vital part of the County's transport infrastructure allowing people to go about their everyday lives and allowing local economies to flourish.

The coverage of the current footway network is very good and in recent years the County Council have carried out a comprehensive programme of installing dropped kerbs to assist wheelchair / mobility scooter / pram users on the most used footways. As such there is very little demand for new footways (though some localised widening may be beneficial) or new dropped crossings. However, the County Council consider all requests for new or improved footways and where appropriate allocate budgets for improvements (including budgets specifically aimed at assisting individuals' with mobility problems).

Pedestrian crossings are provided to assist people with crossing busy roads for either safety reasons and / or improved convenience. The County Council will always consider requests for new pedestrian crossing facilities as well as pro-actively considering improved crossing facilities especially in town centres as funding allows.

Facilities within and to new developments (e.g. new housing estates and industrial areas) are usually provided by the developer. The ultimate decision on the level of facilities provided by the developer is taken by the relevant Local Planning Authority (District Council or National Park Authority); however the County Council as the Highway Authority are a consultee on any planning application and always seek the highest quality of provision for pedestrians. It must however be recognised that a balance often needs to be achieved between the needs of different road users.

Annually we spend in excess of £2m per year (based on 15/16 allocations) on maintaining pedestrian facilities. As a result of this investment only about 4% (or 7km) of our most heavily used footways (those in the main town and village centres) require maintenance. This is reflected in a low level of claims for trips and falls on footways. We will continue to invest in maintaining our pedestrian facilities to ensure that we continue to provide a high quality network for pedestrians.



Cycling (utility)

We know that 40% of residents travel 30-60 minutes by car to get to work¹. Transferring many of these journeys from car to bicycle is feasible especially as a seasonal choice (i.e. it will be more cycle-able during spring and summer but less so in winter when there is poor weather and commuting hours would be in the hours of darkness).

It is recognised that whilst there are many positive benefits to cycling such as:

- Providing exercise as part of daily living leading to better personal health;
- Reducing pollution from vehicles to contribute towards improved air quality for all;
- Reducing delays associated with urban traffic congestion;
- Cheaper than public transport or owning and running a car;
- In congested urban areas cycling is often quicker (especially taking into account the search for a parking space).

There are also a number of disincentives including:

- Distance and length of journeys, weather and hours of daylight impact on people's assessment of whether a journey is practical and acceptable to them to walk or cycle;
- Terrain – steep hills or long inclines can be off putting to many especially if they are just returning to walking or cycling;
- Lack of confidence in one's own abilities, physical stamina and confidence in traffic to return to cycling or to walk longer distances;
- Concerns about safety as a cyclist – either for oneself or as a parent for one's children;
- Taking the easy option is all too easy when a car is sitting on the driveway and we are already in the habit of using it;
- Lack of safe and user friendly cycle storage and changing facilities at destinations (school/work/shops).

To achieve the positive benefits of increased cycling we must address the actual (or in many cases perceived) disincentives. In 2016 we will develop a cycling policy which will set out the County Council's plans for cycling in the short to medium term in more detail including trying to address some of these disincentives. Cycling has not been the norm for an entire generation, and whilst we recognise it will not be easy to reverse this trend,

we will work with partners to try to encourage healthier travel habits. Young people, particularly in rural areas, are accustomed to travelling in cars and on buses, and relatively few regularly cycle any distance or to school. Much of the action to achieve the culture shift that will normalise cycling needs to be undertaken at a national level but we must also play our part locally. This will be achieved through both education (promotion of cycling) and engineering (provision for cycling).

Education is primarily about accentuating the positive benefits of cycling and de-bunking some of the negative myths about cycling. In order to expand our role in educating people about cycling the County Council are currently (2015) investigating a number of funding opportunities so that we can appoint a Sustainable Travel Officer to provide expertise and information about how developers, employers and communities can plan and coordinate healthier and sustainable travel (including cycling) needs and opportunities within new developments and existing communities. With the County Council's new Public Health role, and recognising that active travel including cycling can play a significant role in improving public health, the linkages between the transport and the public health teams are being improved and a number of joint initiatives are currently being developed.

Whilst in recent years much of the public focus on cycle facilities has been on the provision of dedicated off road routes it must be recognised that much of the 9000km of road network in North Yorkshire is eminently suitable for most cyclists. Many of our rural roads and even many roads in our urban areas have very low traffic levels and are suitable for most cyclists. The most economically viable way to provide for increased cycling is to ensure that these roads remain as safe and convenient for cyclists as possible and to provide suitable facilities for cyclists to negotiate short sections or crossing of busier and / or high speed roads.

Whilst until recently the County Council successfully installed millions of pounds worth of facilities for cyclists (especially in our largest urban area of Harrogate / Knaresborough) unfortunately the current financial climate and competing demands on the network mean that we are no longer in a position to plan and install hundreds of miles of off road cycleways neither is it always necessary or appropriate to do so. A new off road cycleway costs between £150k and £250k per kilometre (possibly more depending on what utilities are encountered).

Given that the County Council receives an annual Government allocation for all new transport improvements (not just cycling) of only £3m per year for the whole of the County the amount of new cycle facilities that we can afford to deliver are severely limited. In recent years the funding constraints on delivering new cycle infrastructure have severely restricted the County Councils ability to plan and deliver new infrastructure. Nevertheless, we have taken every possible opportunity to seek additional funding for cycle facilities and have in the recent past had some success for example with the Governments Local Sustainable Transport Fund providing £1.653m in 2012 for sustainable transport (including on and off road cycle routes, cyclist crossing facilities and public cycle parking) in Harrogate.

The County Council will continue to seek such additional funding. A major opportunity for additional funding for cycling initiatives is through the Governments recently announced Access fund². This was announced in the 2015 Comprehensive Spending Review and it is expected will provide funding for the Governments Cycling and Walking Investment Strategy which is to be published in summer 2016. In order to prepare for potential funding opportunities arising from this strategy the County Council has recently commenced scoping a potential DfT / Local Authority Cycling and Walking partnership³.

In addition to which the County Council will increase our current involvement with the Borough Council led Cycling Forums in Harrogate and Scarborough with a view to supporting potential localised Cycling and Walking Partnerships with the DfT. As an essential part of this increased involvement in promoting and providing for cycling an elected member will act as a Champion and advocate for the needs and potential of walking and cycling across council activity in policy and in service planning and delivery.

In general terms the County Council will continue with our current approach of pro-actively planning and developing cycling infrastructure where there is a realistic chance of funding being available to deliver the improvements however in common with all transport schemes will not commit time and funding to develop aspirational cycle plans where there is no realistic chance of funding in the near future.

As with facilities for pedestrians, cycling provision within and to new developments (e.g. new cycle routes and cycle parking facilities) is usually provided by the developer. The County Council will always seek an appropriate quality of provision for cycling and cyclists. It must however be recognised that a balance often needs to be achieved between the needs of different road users.

Cycling (leisure)

Leisure cycling can both bring public health benefits and is increasingly contributing towards the important tourist economy in North Yorkshire. Whilst the remit of the Local Transport Plan is primarily about transport it is recognised that leisure cycling can contribute towards the aims and objectives of the LTP. As the highway authority for North Yorkshire the focus of our activities to promote leisure cycling will be aimed at on road (or cycle track) cycling rather than off road cycling (mountain biking).

Whilst there are clear similarities between the aims, outcomes and constraints on both utility and leisure cycling there are also significant differences in both their geographical emphasis and in the approach to increasing levels of participation.

In recent years the County Council have worked closely with partners (especially Sustrans) to deliver a number of long distance primarily leisure focussed cycle routes in the County. As with utility cycling we will continue with the approach of planning and developing proposals where there is a realistic chance of funding in the near future.

The County Council have also invested significant time and funding to play a crucial role in bringing the 2014 Tour de France and the Tour de Yorkshire to North Yorkshire. This has significantly contributed to the economy on the County both directly through spectators, indirectly through increased cycle tourism and through promotion of North Yorkshire as a tourist destination.

Cyclist safety

As set out in part 2b, unfortunately as cycling levels in North Yorkshire have increased so have the number of cycling casualties reaching 67 killed or seriously injured in 2014. Whilst the increase in cycling levels is welcomed the County Council needs to take measures to address this increase in casualties. Road safety and reducing road casualties regardless of mode of travel remain a very high priority for the County Council and despite the financial pressures capital budgets for road safety related engineering works and revenue budgets for road safety education have been retained. Cyclists are classed as vulnerable road users and as such are identified as a Key Priority for Road safety⁴.



Highway maintenance

As set out elsewhere in this LTP the majority of the County Council transport spending will be on the management and maintenance of the highway network. As most of the cycle network is relatively new the need for maintenance is limited and so the budgets allocated specifically to maintenance of cycle tracks is relatively small. As cycle tracks become older there will be an increasing need for maintenance and so in accordance with the principles of asset management⁵ specific budgets for cycle track maintenance are likely to be increased in future.

Spending on road maintenance is often, and wrongly, perceived to be only for the benefit of motorists however the reality is that the majority of cycling in North Yorkshire is and will remain on the County Councils roads so better highway maintenance is a significant benefit to cyclists. Poorly maintained roads are a much greater issue for cyclists than motorists and often the main maintenance problems on our roads occur exactly where cyclists want to ride (near (kerb) side vehicle wheel track on urban roads and edge damage on rural roads). Addressing the County Council's highway maintenance problems to improve the quality of roads for all users therefore remains a high priority for the County Council.

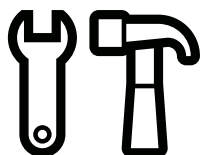
Incorporating cycling into other transport schemes

As a result of the financial pressures and the need to focus on maintaining the highway network there are very few new transport schemes (regardless of mode of transport) being delivered by the County Council. However, where new improvement schemes are being developed the County Council will ensure that the needs of cyclists (and pedestrians) are fully considered and appropriately catered for. The County Council consult widely on all our proposed new transport schemes and this includes statutory bodies such as the Local Access Forum as well as local cycling groups and the views of these groups are considered in decision making.



Key Commitments

We will:



Continue to prioritise the maintenance of our existing infrastructure for walking and cycling (including footways, roads, and cycle tracks) over the provision of new facilities;



Seek appropriate high quality provision for walking and cycling within and linking to all new developments;



Continue to consider requests and where appropriate and affordable provide alterations to the pedestrian network to enable improved access for individuals with mobility difficulties;



Work with public or voluntary sector partners to further develop any ideas for new cycling infrastructure where there is a specifically identified source of funding;



Work with public and voluntary sector partners (including the Borough Council led Harrogate and Scarborough Cycling Forums) to develop Department for Transport / Local Authority Walking and Cycling Partnerships with a view to attracting investment in walking and cycling from the Governments Cycling and Walking Investment Strategy;



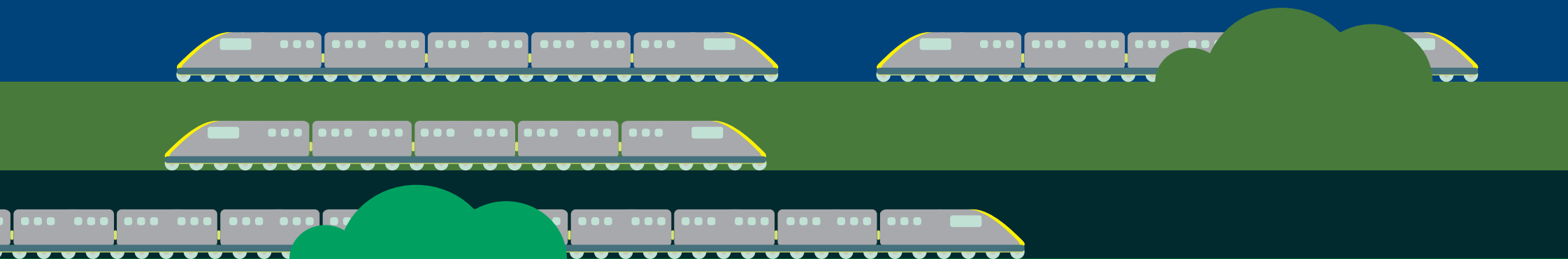
Appoint an elected member who will act as Walking and Cycling Champion.





Themes

3k - Rail





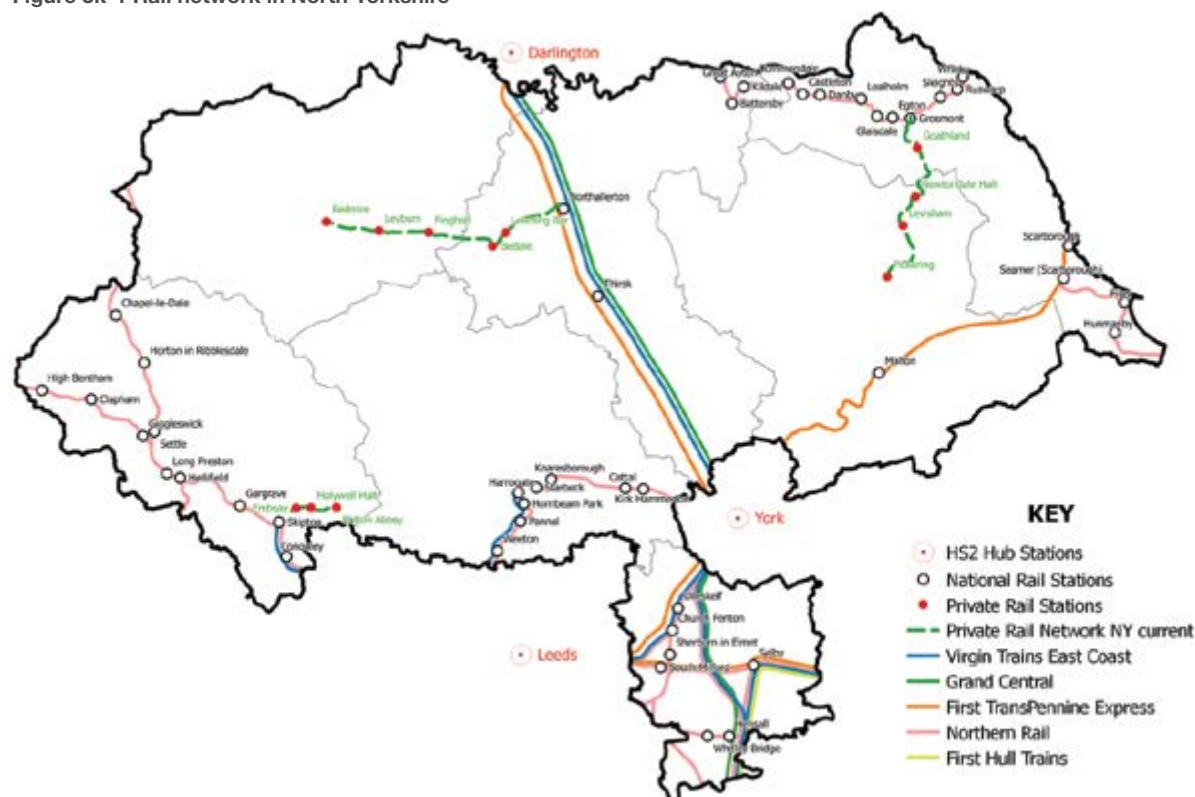
3k - Rail

Railways are a driver and facilitator of sustainable economic growth and social wellbeing connecting cities, towns and communities across the UK, the North and within North Yorkshire.

Some 7.77 million rail journeys are made annually to and from the 46 stations within North Yorkshire. Two stations record over 1 million users a year (Harrogate at 1.58m, and Skipton 1.1m), a further three stations over half a million (Scarborough 927k, Northallerton 671k, Selby, 549k), Knaresborough 353k and 5 others, (Hornbeam Park, Malton, Thirsk, Starbeck and Cononley) record usage over 170,000 passengers a year. Over the last ten years rail patronage in North Yorkshire has grown by over 2.1 million extra journeys, a 39% increase, and in the year 2014-15 it had grown by 6% delivering over 450,000 extra journeys.

Overall there are 260 miles (418km) of rail routes in North Yorkshire.

Figure 3k-1 Rail network in North Yorkshire



The above map highlights the rail network in North Yorkshire where national franchised operations, local franchised operations and open access operators provide the following principle rail services:

- Inter City East Coast franchise to and from London and Scotland serving Skipton, Harrogate, Selby, and Northallerton;
- TransPennine Express: North East and East Coast Via York and Leeds to Manchester and Liverpool, serving Northallerton, Thirsk, Scarborough, Seamer, Malton and Selby;
- Northern Rail: Local Franchise services to York and Leeds serving Harrogate, the Dales, Skipton, Esk Valley & Selby;
- Grand Central: Open Access to London serving Northallerton & Thirsk;
- Hull Trains: Open Access to London serving Selby.

There are three Heritage Rail operators in North Yorkshire that are not part of the National Rail Network. They are North Yorkshire Moors Railway, Wensleydale Railway Company, and Embsay & Bolton Abbey Steam Railway.

Rail freight is important and increasingly so within the County. The extraction of timber from the Yorkshire Dales using Ribblesdale sidings, the reconnection of Arcow quarry in Horton-in-Ribblesdale to the rail network for aggregates together with aspirations for increasing volumes through the east coast ports, provides benefits in reducing HCV traffic, but offers challenges for capacity and with the interface of road and rail for example at level crossings.



Our responsibilities and influence

The County Council does not have direct responsibility for the management of the rail network. The majority of the rail network infrastructure is managed by Network Rail on behalf of the Government and regulated by the Office of Rail and Road. Rail services are provided by private Train Operating Companies as a franchisee under contract to Secretary of State for Transport or open access (i.e. commercial operation).

This arrangement is however changing with greater powers being devolved from central government for the specification and management of local franchised services; for North Yorkshire this means greater influence over TransPennine and Northern rail services. To accommodate and deliver additional devolved powers a North of England Association of Local Councils and incorporated body have been established. North Yorkshire County Council (NYCC) together with the other 28 Local Transport Authorities across the North of England are part of the formal structures that create the Association of Rail North Partner Authorities and as one of 11 regional representatives sit on the board of the incorporated Rail North Ltd. Together these bodies oversee the work of Rail North to manage the TransPennine and Northern franchises and implement the Rail North Long Term Rail Strategy¹.

In the short term, Rail North is working with the Department for Transport (DfT) under a formal Partnership Agreement. The declared ambition and purpose of the Partnership is to move Rail North to a position of full devolution when sufficient maturity and competence can be demonstrated.

Alongside more direct involvement through Rail North, we continue to work with and influence the Department for Transport for longer-term planning and funding opportunities; Network Rail who are responsible for rail infrastructure, investment and safety of the railway; High Speed 2 in development of and connectivity with future high speed networks; Train Operating Companies for timetable and service improvements and Local Authorities to develop our plans and achieve the best outcomes for residents and transport users in North Yorkshire.

Strategic Context

In March 2015 the then coalition government, together with the key northern cities published the Northern Powerhouse: One Agenda, One Economy, One North². This sets out an ambitious programme of transport investments to achieve transformational change and rebalance the economy of the North. The Northern Powerhouse has been endorsed by the current Government and in the summer budget of 2015 announced £30m to create a statutory body, Transport for the North, and to progress this work.

Central to the direction of the northern powerhouse is greater devolution of powers and freedoms to determine local priorities and spending at the devolved level. Progress on transport devolution has been made in relation to rail devolution with the creation of Rail North as mentioned above.

Transport for the North (TfN) is continuing to develop a strategic vision for the North, and will publish a final version of The Northern Powerhouse by March 2016. Alongside this NYCC produced a Strategic Transport Prospectus identifying its strategic transport priorities.

When considering strategic transport at north of England level NYCC has identified its aspiration, 'to ensure that that all parts of North Yorkshire benefit from and contribute to the success of The Northern Powerhouse'. In this context our Strategic Transport Priorities are:

- Improving east – west connectivity (including Trans Pennine links);
- Improving access to High Speed and conventional rail;
- Improving long distance connectivity to the north and south.

To address these priorities we have identified a series of desired rail improvements. These include:

- Transformational change of the Leeds-Harrogate-York Railway Line delivering improved journey times, increased frequency, modern high quality rolling stock and customer service and ultimately electrification;
- Access to High Speed rail where 85% of North Yorkshires population can get to an HS2 hub (York, Leeds, Darlington) within 40 minutes;
- 75% of the population to access a conventional railway station within 20 minutes;
- New rail infrastructure to enable Leeds-Newcastle in 60 minutes with phase one allowing Leeds-Harrogate in 15 minutes;
- Journey time reductions and increased frequency on Scarborough-York line.

We will work with all partners to identify short, medium and long-term deliverables through the relevant organisations and processes including Network Rail's Long Term Planning Process (to 2043), Yorkshire Rail Network Study, North East Rail Network Study, North of England Route Study and East Coast Route Study (to 2023/ 24) and The Rail North Long Term Rail Strategy and the emerging work of Transport for the North.

Stations

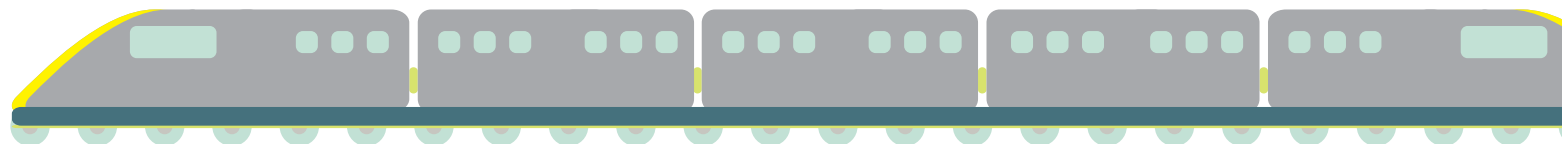
Stations are gateways to the communities that they serve and can act as a catalyst for housing and economic growth. The new Northern Franchise (from April 2016) includes a commitment of at least £30m for investment at some of the North's smaller stations. We will review the facilities at each railway station and work with Rail North, Train Operating Companies and local communities to help deliver an agreed standard for our stations.

The work on stations will include developing Station Facilities Audits for each station, where access to the station, facilities at the station, car parking, interchange with other transport modes and signage will be assessed. These audits will be published in 2016 and will identify where stations fall short of agreed standards and station facilities.

Station infrastructure often doesn't keep pace with changes in demand and to accommodate recent significant growth in rail usage, future new housing and commercial developments and to support economic growth of local areas NYCC will identify opportunities for improvements to current stations and identify potential sites for new railway stations in North Yorkshire. Taking account of the service improvements proposed by the rail industry, including improved frequency, reduced journey times and better connectivity together with developer led investment, we will maintain a prioritised list of North Yorkshire station improvement aspirations.

Harrogate as the busiest station in North Yorkshire is highest on the list of priorities; Thirsk has been identified as offering potential significant benefits to the East Coast Main Line as well addressing current access issues; Crosshills has been identified in recent work as a potential strong case for a new station and Seamer has grown significantly in the last ten years with large housing growth close by.

We will carry out initial outline business case feasibility studies to quantify the value of any station improvements / new stations and where the work provides a satisfactory Benefit Cost Ratio, we will continue to develop proposals to "ready state" to implement when funding is available.



Community Rail Partnerships (CRPs)

The Government has a programme of support for Community Rail Partnerships based on its 2004 and 2007 Community Rail Development Strategies. The current strategy aims are:

- Increasing ridership and revenue;
- Managing costs down;
- Greater involvement of the local community;
- Enabling local rail to play a larger role in economic and social regeneration.

There are four Community Rail Organisations operating in North Yorkshire:

- Esk Valley Railway Development Company – Whitby – Middlesbrough;
- Leeds – Lancaster – Morecambe CRP;
- Yorkshire Coast CRP – Scarborough – Hull;
- Settle & Carlisle Development Company / Friends of Settle & Carlisle.

The new Northern franchise demonstrates a much stronger commitment to CRPs and the new franchisee have committed to provide £0.5m pa of funding for the North's 18 CRP organisations.

Alongside the Rail North management of the Northern franchise including CRPs, NYCC will continue to support and work with the Boards of the CRPs. We will facilitate work on increased frequency, improved journey times, encouraging community engagement, wider marketing and improving the passenger / community experience.

Rail Line Re-openings

The County Council supports, in principle, proposals for rail reopening in the County, on identified routes such as Skipton to Colne and Harrogate to Ripon / Northallerton.

In the past many of the line re-openings were considered to be "local schemes" and therefore required local funding. The Council will only actively support opportunities for line re-openings where these are demonstrated as of National or pan North of England importance. National or pan North strategic importance will be assessed on the basis of the contribution to network resilience, improved strategic connectivity, the delivery of greater capacity or improved rail freight opportunities.

In all cases North Yorkshire County Council will only work with railway industry and local stakeholders where there is common agreement to develop a proposal.

Future of Rail

On the East Coast Main Line, over £240m is being spent by Network Rail on infrastructure, increasing capacity, reducing journey times and improving reliability. With investment in new InterCity Express trains and the franchise holder's commitment to further investment, including a new timetable with 6 direct services between Harrogate and London, the route is set to be transformed by 2020.

The re-franchising for both the Northern and TransPennine services has produced franchise commitments that are transformational. In North Yorkshire this will result in many routes having increased frequencies, additional Sunday services, new or modernised trains and better customer focus. With greater local input into the management and development of the franchises through Rail North it is felt that we can achieve the rail services that are needed for the North.

High Speed connectivity with proposals for HS2 network linking London –Midlands–Sheffield–Leeds–York and the North East in the early 2030s and the work of Transport for the North on HS3, providing fast frequent and reliable links between Northern Cities provides opportunities now for the Council to develop its plans for good connectivity for North Yorkshire to and within these networks.

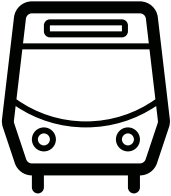
Private investment such as the Potash Mine near Whitby (improvements planned for the rail service on the Esk Valley) along with other planned housing and economic growth in North Yorkshire all combine to facilitate growth in rail.

The County Council remains committed to ensuring North Yorkshire benefits from the growth and investment in our railways and will continue to influence decisions to achieve the best outcome for the County.

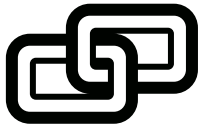


Key Commitments

We will:



Continue to work with Rail North, the Association of Rail North Partner Authorities and other sub national bodies to influence and manage the TransPennine and Northern franchises



Continue to work with and influence the Department for Transport, Transport for the North, Network Rail and Train Operating Companies to seek to achieve the best conventional and High Speed rail services for residents and transport users in North Yorkshire



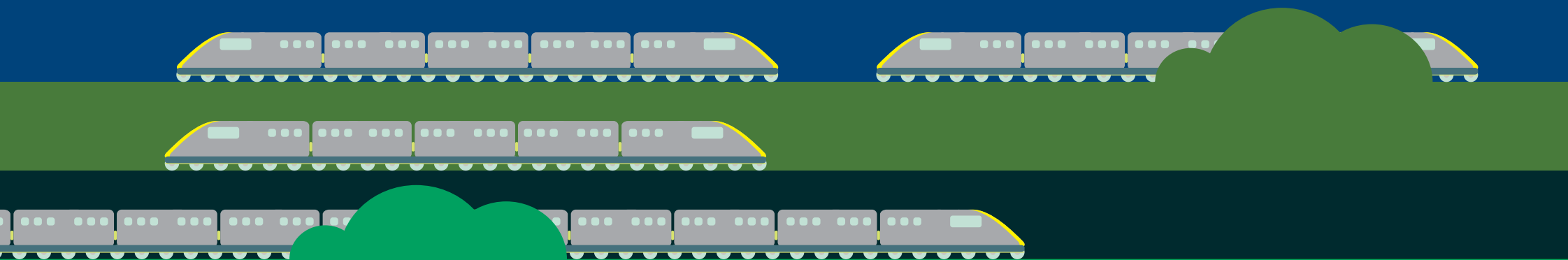
We will review the facilities at each railway station in North Yorkshire and work with stakeholders to help deliver an agreed standard for our stations, and identify further opportunities for improvement or potential sites for new railway stations.



Continue to work with and support the Community Rail Partnerships in North Yorkshire and help to implement agreed business plans.

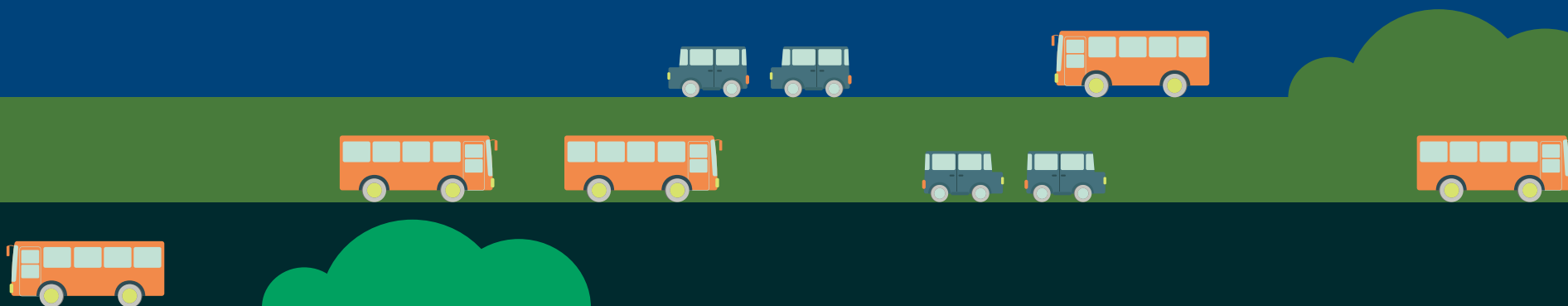


Actively support opportunities for line re-openings but only where these are demonstrated as of National or pan North of England importance.



Themes

3I - Buses and Community Transport





3I - Buses and Community Transport

Our Bus and Community Transport Strategy will support the County Council's Vision and the Local Transport Plan objectives by supporting an environment for commercial local bus services to grow and remain sustainable and delivering core passenger transport services that meet access needs of residents, through our support for bus services and community transport.

National Context

There has been significant change in the passenger transport industry in the last 5 years from changes in funding for the sector with Bus Service Operators Grant being reduced by 20% and a proportion of the payment being transferred to the Local Authority for services that are tendered; changes to concessionary travel with the free national scheme being introduced and administration of the scheme being transferred to upper tier authorities; changes to the legislative framework for elements of the local bus sector, through the 2000 and 2008 transport acts.

Recent administrations have also changed local transport policy thinking with an emphasis on the whole journey through the Door to Door Strategy¹; recognition that transport across all modes is an essential requirement for delivering economic growth and more sustainable communities, with the publication of Transport an Engine for Growth² and an acknowledgement of the impact Passenger Transport has on public health, social welfare and wellbeing, with the publication of a number of studies in this area, including Valuing the Social Impacts of Public Transport³.

In 2015, further important changes were evident, with a proposition for further devolution of powers from Westminster being submitted by York North Yorkshire and East Riding Council's to government in September, government support for the concept of Total Transport with the announcement of funding for local authorities to bid for pilot initiatives, and the introduction, in the Queen's Speech, of a Buses Bill which is anticipated will pave the way for legislative reform to allow bus franchising and encourage simplified and smart ticketing.

It is not possible to discuss recent changes in national public sector context without referring to austerity and the impact of reducing local authority budgets. Budget reductions for NYCC has meant the County Council has had to reduce its revenue expenditure overall by 1/3, a saving of £166m per year by April 2016. This change will continue, with austerity lasting for many years to come, and further budget reductions likely. The effect of reduced budgets is felt across all County Council services and public transport expenditure will see support for local bus service budget reduce from £6m to £1.5m pa by April 2016.

Inevitably this will impact on our ability to provide subsidy for conventional scheduled local bus services and as funding is reduced we will need to look at innovative ways of enabling people to access services they need and remain active and independent in their communities.

¹Door to Door: A strategy for improving sustainable transport integration: DfT March 2013

²Transport: An engine for growth: DfT August 2013

³Valuing the Social Impacts of Transport; DfT March 2013

Current Passenger Transport services

Over the past 10 years, we have seen bus patronage in North Yorkshire grow from 14.7m in 2005/6 to a peak of 17.5m in 2009/10 with the past 5 years seeing a steady reduction in passenger journeys to an estimated 15.5m in 2014/15.

There are a number of factors that have contributed to this trend, with growth factors in the latter part of last decade coming from the introduction of free national concessionary travel and the impact of increased local authority spend; the decline seen in the early part of this decade attributable to the general economic downturn and a reduction of local authority funding available to procure tendered bus services.

In Table 3I-1 we can see that proportionally there is a much higher decline in patronage on subsidised bus services, and this is as expected given the reduction in spending of 66%+ with a further reduction to bring spending down 75% from the levels at the turn of the decade. This table shows that the commercial sector has remained largely stable for the past 5 years with some signs of growth in the most recent years, and the proportion of passengers carried on the commercial network growing from 75% to 85% as the tendered network reduced.

Table 3I-1 Bus Passengers 2010/11 – 2014/15 (millions of passengers)

	2010/11	2011/12	2012/13	2013/14	2014/15
Concessionary passengers	8.5	8.0	7.0	7.2	7.0
Total Bus passengers	17.3	17.3	16.4	15.8	15.5
Commercial Bus Passengers	12.9	13.2	13.1	12.6	13.3
Tendered Service Bus Passengers	4.4	4.1	3.3	3.2	2.2
Proportion of bus patronage that is commercial	75%	76%	80%	80%	85%

Achieving reliable and effective passenger transport services

Commercial sector

As seen above the commercial sector provides the vast majority of local bus services, accounting for 85% of passenger journeys. It is therefore clear that assisting the commercial sector is a crucial element in our strategy to help facilitate access to services across North Yorkshire.

The commercial bus sector has maintained fairly stable patronage levels over recent years. In certain areas we have seen good growth and this is noticeable where the operator provides the right product, which is attractive to users, is reliable and is priced and promoted for the available market.

We have good working relationships with our commercial bus operators and our overall approach to this sector is to support and work in partnership to grow the market, expanding the provision of public transport that is provided commercially and to deliver measures that enable public transport to operate reliably and sustainably throughout the county. Reliability is particularly an issue in the main urban areas where volume of traffic and congestion can have the biggest negative impact; we will seek a joint approach to develop measures to mitigate these impacts for bus services.

We have noted above that a major policy change in Government is the drive for further devolution and in passenger transport this is seen as potentially the introduction of bus franchising.

We believe generally that in North Yorkshire the market provides well for the provision of passenger transport. This is particularly true in the urban areas and between urban centres where the volumes of potential bus passengers is higher and the opportunity to attract these to bus services is greater. It is evident however, that competition amongst bus companies for these commercial passengers is not strong, with only limited commercial competition on a few routes. In addition, in the 'marginal commercial' areas, there is little risk taking amongst bus operators to grow the market to achieve a profitable route, relying instead for the local authority to step in and provide subsidy.

This situation is not sustainable, and it is no longer possible for local authorities to provide subsidies and tender for services not provided by the commercial sector.

In some regards, this supports the argument for franchising, where the overall revenues from the public purse, together with that from fare paying passengers, (estimated c£80m from fares per annum across York, North Yorkshire and East Riding) can be shared across the whole network, providing a suitable level of service with an adequate level of operating profit.

Whilst we acknowledge this approach is an option, our preferred approach is to work with our commercial operators to encourage them to take more 'supported' risk to grow marginal routes and deliver a larger sustainable commercial local bus sector overall. We will support this approach with limited capital pump priming funding and joint marketing/promotion of services.



Tendered Service Sector

As part of its role the County Council has to consider its duties under transport and equalities legislation (Transport Act 1985 as amended 2000 and 2008; Equalities Act 2010) and to decide whether the commercial network caters sufficiently for the needs of the community. In doing this it must have regard to the transport needs of members of the public who are elderly or disabled. The County Council will consider whether there is a need to procure additional services and what funding is available to deliver these. Our main priority is to provide services which meet the day-to-day transport needs of local communities, where core daytime services are retained and lower priority evening, Sunday or tourist services may be reduced or withdrawn.

Taking the need to reduce expenditure and with regard to national and local policy priorities the County Council has consulted on an overall strategy and for a range of specific measures to reduce local bus service expenditure to £1.5m.

Our overall strategy for public transport is to:-

- ensure that as many communities as possible have transport services which contribute to alleviating isolation and loneliness and allow people to live independently;
- support the local economy where possible, by maintaining access to the National Rail network and providing public transport links between towns and villages;
- ensure that the services we subsidise give value for money.

In allocating funding from the supporting bus services budget we will first consider the following criteria:

- we are able to continue to support the development of Community Transport Services;
- we are able to work with operators to develop additional commercial services and ensure the continued viability of existing commercial services.

and taking account of the types of service we will support, we will examine:

- the cost of providing a contract service which will be benchmarked against the cost of a similar service provided by our in-house fleet;
- the availability of alternative services, including other bus services, rail services and demand responsive services;
- the frequency and days of operation of a service.

We will not support or specify the following types of services:

- a service frequency which operates more than one journey every two hours;
- those operating primarily for the purposes of leisure or tourism;
- services which operate on Sundays;
- services which operate weekday or Saturday evenings;
- services which we regard as “Town Services”;
- services which operate primarily for the benefit of children attending a preferred school;
- services which don’t meet value for money and performance criteria.



Community Transport Sector

North Yorkshire County Council has a long history of productive working relationship with the community transport sector. We have over the past 5 years provided over £500k funding in capital one off grants including contributing to the purchase of 18 minibuses and 45 Wheels to Work mopeds. In the past three years we have provided on-going revenue support jointly with the health sector of £350k for 13 community transport volunteer car schemes delivering 45k, 49k and 58k passenger journeys for health and social welfare purposes respectively in the 3 years 2012/13 – 2014/15.

We support community transport through our small grants scheme where organisations can apply for funding up to £2,500 for small projects and in the past this has provided for accessibility adaptations for vehicles, marketing materials, website development, and pump-priming funding for innovative new community solutions.

Current Community Transport Partners

In working with communities to support local voluntary transport, we see the greatest success where organisations are close to their constituent community and the community is actively involved in the design and delivery of the service. These services are most sustainable where there is strong commitment to support and encourage volunteers in the delivery of the service and good partnership working between the County Council and the community exist.

Little White Bus (Richmondshire Dales)

In 2015, as part of our contract renewal process, we had undertaken a consultation on the proposed introduction of community transport services in Wensleydale and Swaledale to be operated by Upper Wensleydale Community Partnership (Little White Bus).

The County Council provides low floor vehicles to be used on the services and Little White Bus operate with a mix of volunteer and paid drivers and staff, providing a combination of a scheduled bus service with additional pre-book demand responsive journeys. Services were introduced in May 2015 and this arrangement has proved popular with passenger numbers increasing month by month.

Nidderdale Plus Community Car

In this example, the community felt that a minibus wasn't always the best solution as the passenger numbers would be quite low. With agreement, the County Council provided a community car (Peugeot diesel estate car) for Nidderdale Plus and they provide local transport for the Nidderdale community.

The service is entirely delivered by volunteers and is well used and valued locally. On the occasions where a larger vehicle is needed e.g. for the weekly market day trip to Ripon the local school minibus is borrowed.

Scarborough and District Dial-A-Ride (SDAR)

In this example, SDAR is a long running established organisation that has strong links with the community in Scarborough. It operates 12 mini buses and with a combination of paid drivers and volunteers delivers community transport services in the area.

The County Council has contributed to capital costs for vehicles and premises and revenue funding to reimburse concessionary fares offered, and with a small enthusiastic management team, the organisation is sustainable without on-going grant funding and provides for over 50,000 passenger journeys pa.

Community Transport Issues and Perception

From various consultation exercises, public meeting and discussions with community transport providers it has been found that the potential for community transport and the role it can play is not fully appreciated or understood by the public. There are concerns about the availability and safety of using volunteers, the cost of some longer distance journeys and the ease and suitability of booking demand responsive journeys. We have found that awareness is generally low, however where people do use community transport services they are very complimentary and positive about the service provided.

Fares, Ticketing and Information

Under the current regulatory arrangements, the county council doesn't have any responsibility or control over the fares and ticketing policies of commercial bus operators; they are able to set fares and offer daily, weekly, or other discounted products as they wish. Similarly, providing information or promoting available bus services is also a responsibility of bus operators. In this last regard, the council is able to establish a bus information strategy, and require operators to meet established minimum enforceable standards.

We are keen to see modern channels for providing information and selling tickets to be exploited and will work with operators to ensure information is clear, accurate and suitable for people's needs, when they need it. This will include timetable information for journey planning in advance, operational information to give passengers live real time information on their actual or planned journey, and printed material where people can read or take away timetable information for services they use.

We are keen too to see smart ticket products becoming widely available across the county and across different modes of travel. We will work with operators to ensure these advances are introduced and available for North Yorkshire residents and visitors, and will support the work of Transport for the North in their development of a North of England smart ticketing platform, delivering 'Oyster' style ticketing throughout the north.

Future Developments

Despite challenging times the County Council is committed to ensure public and community transport is available and sufficient for people in North Yorkshire.

We will work with our commercial operators to encourage them to take more 'supported' risk to grow marginal routes and deliver a larger sustainable commercial local bus sector overall. We will support this approach with limited capital pump priming funding and joint marketing/promotion of services.

We will specify a service for tender with regard to our criteria for any supported bus services, having first assessed the cost and feasibility of providing the service through our own fleet.

We will support the community transport sector to contribute to our overall objectives and accommodate growth where needed by addressing public concerns and providing financial support within approved available budgets

Key Commitments

We will:



look at innovative ways of enabling people to access services they need and remain active and independent in their communities.



assist the commercial sector to help facilitate access to services across North Yorkshire.



consider our duties under transport and equalities legislation to decide whether the commercial network caters sufficiently for the needs of the community having regard to the transport needs of members of the public who are elderly or disabled. We will consider whether there is a need to procure additional services and what funding is available to deliver these.



prioritise the provision of services which meet the day-to-day transport needs of local communities, where core daytime services are retained and lower priority evening, Sunday or tourist services may be reduced or withdrawn.



support community transport to contribute to our overall objectives, providing financial support within approved available budgets.



Themes

3m - Public Rights of Way










3m - Public Rights of Way

There are over 10,000km of Public Rights of Way in North Yorkshire. A third of them lie within two designated National Parks. The Public Rights of Way do not sit independently to the rest of the County's footways and cycleways, rather they are linked together to create a network of access, where people may use a quiet road or street, a footway, a bridle path and a public footpath to complete their walk or leisure activity. The integration of Public Rights of Way into holistic transport planning allows the whole network to be more effectively developed and managed in a way which can cater for all users, help increase choice, and encourage a switch to more sustainable forms of transport in the future.

Public Rights of Way include all of the following:

-  Footpaths – over which the right of way is on foot only
-  Bridleways – available for pedestrians, horse riders, and pedal cyclists
-  Restricted byways – for all traffic except mechanically propelled vehicles i.e. except for motor vehicles or motorbikes
-  Byways open to all traffic – carriageways over which the right of way is on foot, on horseback and for vehicular traffic, but which are used mainly for walking, riding and cycling
-  Cycle tracks – a way over which there is a right of way on pedal cycle and possibly also on foot. (Cycle tracks arise as a result of conversion from footpath to 'cycle track' under the Cycle Tracks Act 1984 or a construction under the Highways Act 1980).

It is acknowledged that there are many unrecorded rights which may still exist. The Department of Environment Food and Rural Affairs (Defra) has urged all highway authorities to ensure that any unrecorded footpath, bridleway and restricted byway rights are recorded on the Definitive Map and the Statement by 2026, even if they are already included in the List of Streets as highways maintainable at public expense. This could therefore include alleys, cuts and ginnels in older residential areas, footpaths in new residential developments, and other well used routes in urban and rural locations which are not recorded on the Definitive Map and Statement, and may not be covered by exceptions issued by the Secretary of State. Public Rights of Way remaining unrecorded on the definitive map by 2026 are likely to be protected by transitional arrangements for a period of time after 2026, proposed to be covered in new regulations currently being developed by Defra. However after that period any outstanding unrecorded routes which would rely on historical evidence alone, are likely to be extinguished. NYCC are striving to record all known alleged Public Rights of Way on the Definitive Map before the 'cut-off' date.

Other public access

Routes that are not designated as Public Rights of Way, but are open for public access might include:

- Open space such as parks and green spaces around communities;
- Access provided on their own land by public bodies such as the Forestry Commission, Yorkshire Water and British Waterways;
- Access provided by trusts and charities, such as the National Trust and the Yorkshire Wildlife Trust;
- Access provided by private estates, for example country houses open to the public.



Open Access routes

Areas of Open Access are defined as mountain, moors, heath and down, as well as registered common land.

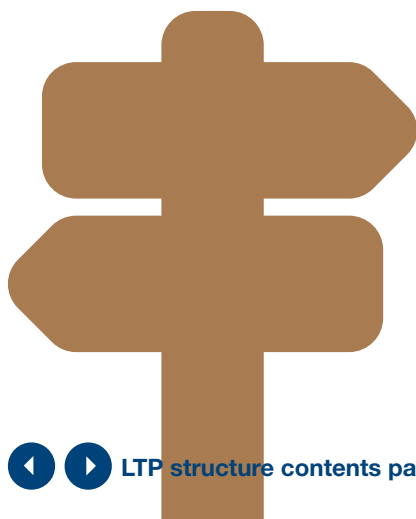
These areas are identified and mapped by Natural England and provide a right of access on foot only. In North Yorkshire the total area of open access land is 181,158ha. The largest concentration is found in the Yorkshire Dales National Park with 95,387ha, the North York Moors National Park with 48,851ha, and in Nidderdale Area of Outstanding Natural Beauty (AONB), as well as small pockets of access throughout the rest of North Yorkshire.

Open Access has provided a much larger area for the public to explore, and the Park rangers are able to help landowners and the public to improve the opportunities for this. For example, they may be able to help by installing stiles or gates to prevent walls that have been damaged by people climbing over them. They may also be able to install additional signage or information points, or perhaps install new access routes to an area of accessible land.

Manage, Maintain, Improve

Landowners, the County Council, and the public each have responsibilities for Public Rights of Way. Among the County Council's responsibilities are protecting the accessibility of the Public Rights of Way network, working with landowners to ensure that paths are free from obstructions and that the furniture is easy to use and in good condition. Landowners have a responsibility for ensuring the network is accessible, usable and in good condition. The public can do their part by following the Countryside Code, closing gates, protecting plants and animals and taking litter home.

In 2007 NYCC adopted a Rights of Way Improvement Plan covering the period 2007-2011, which set out NYCC's approach to managing, maintaining and improving the network. The 2007-11 document was developed before the period of economic austerity and subsequent reductions in public funding. To help meet NYCC corporate savings requirements, in 2014/15 the County Council made significant savings from its PRoW management and maintenance budgets. During 2015/16 NYCC is reviewing all of its policies and working procedures.



The County Council is committed to engaging with all its stakeholders to develop a new policy framework and set of working approaches and procedures that will:

- place greater emphasis on prioritising our approach to managing, maintaining and improving the network;
- increase the County Council's understanding of the value placed on different parts of the network;
- continue engaging with the public and user groups;
- place greater emphasis on ensuring that landowners meet their responsibilities;
- seek to harness greater support from community volunteers.

Following the service review, the County Council's Rights of Way Improvement Plan will be updated before the end of March 2017.

The County Council is responsible for the maintenance of the majority of the County's Public Rights of Way as the Highway Authority. However, responsibility for maintenance of Public Rights of Way within the National Parks has been delegated to the National Park Authorities. The County Council retains responsibility for the definitive map across the whole of North Yorkshire, including the National Park areas.

The role of the National Parks is set out in more detail below. Outside the National Parks, the duty to maintain Public Rights of Way is undertaken by County Council Countryside Access Service staff with additional support being provided by a team of countryside volunteers. Some of the work our team will do is to:

- Check obstructions and survey paths;
- Liaise with landowners to resolve problems;
- Ensure the repair of broken stiles and gates;
- Ensure that signposts and waymarkers are correct and in good condition;
- Survey and maintain long-distance and promoted routes;
- Supervise volunteers and contractors.

Most local Public Rights of Way are unsealed (i.e. unmetalled or unsurfaced). They may be surfaced with loose gravel while others are entirely unsurfaced or use a natural surface, like natural bed rock. This means that where the relationship between supply and demand is out of balance and the route is heavily used relative to its surface, the route may become degraded. This relationship clearly needs careful management in order to ensure that all unsurfaced Public Rights of Way are available for future generations of users to enjoy.

Local Transport Plan funding for Public Rights of Way

Although they are part of the wider highway network, the Government formula that allocates LTP funding for improvements to and maintenance of the highway network, does not take direct account of the Public Rights of Way network. As such, at a time when LTP funding for the surfaced highway (roads, footways, structures etc.) is already insufficient, there is very limited scope for funding the maintenance or improvement of Public Rights of Way from the LTP.

However, as a general working practice, the County Council will consider funding works on Public Rights of Way from LTP money when those works make a significant contribution to the LTP objectives. In practice this means that improvements to or maintenance of Public Rights of Way that provide access to services (e.g. a good route to schools, shops, doctors' surgeries etc.), are much more likely to receive LTP funding than purely recreational Public Rights of Way (such as moorland or mountain top footpaths).

This notwithstanding, any LTP funding for Public Rights of Way will have to compete on an equal basis with the rest of the highway network for funding.

Diversions

Landowners can apply to NYCC to divert an existing Public Right of Way under the Highways Act 1980, where it is their interest to do so. For example, moving a footpath out of a busy farmyard, or moving a cross-field path to a route around the edge of the field, but ensuring that the new route is not substantially less convenient for users. Public consultation is part of this process, and therefore objections can be made to a proposed diversion. Landowners usually have to pay the cost of processing and advertising a Diversion Order, and the costs associate with the provision of the new route, including any new gates and surfacing etc. Promoting Diversion Orders follow a statutory process and cannot always being completed swiftly. Due to the large number of applications awaiting investigation, there is currently a waiting list in operation.

Definitive Map

The definitive map showing Public Rights of Way in North Yorkshire is in fact a series of definitive maps issued by the former Ridings of Yorkshire, North Yorkshire County Council and the North York Moors National Park Authority. The maps are held ay County Hall in Northallerton and can be viewed by appointment by members of the public. Work is currently being undertaken to consolidate these maps in order to produce a new definitive map for the whole of North Yorkshire including the National Parks.

The Public Rights of way network can also be viewed on maps on the County Council's website at http://maps.northyorks.gov.uk/connect/?mapcfg=roads_footpaths

Local Access Forums

There is a North Yorkshire Local Access Forum (LAF) which performs a statutory function as an advisory body under the Countryside Rights of Way Act 2000. Members are appointed to the Forum for the purpose of advising the Council on the improvement of public access to land in their area for the purposes of open-air recreation, and the enjoyment of the area. The Forum must consider the needs of both the users of those Public Rights of Way and other access to the countryside, and land owners or occupiers over which public access exists. There are also Local Access Forums advising each of the National Parks.



Reflecting the directives given to Forums by government, the North Yorkshire LAF operates under a set of principles which underpins their work and advice including:

- Work to see Public Rights of Way developed to redress the fragmentation of the network, connect communities and improve links to places of demand;
- Any new access should be at the highest rights practicable;
- All Public Rights of Way should be maintained to the standard required and where appropriate upgraded physically and legally to a higher standard;
- Develop more access opportunities to include the widest possible range of users;
- Raise awareness of how different users can enjoy responsible sharing of routes where appropriate, whilst supporting challenges to illegal use;
- Recognise the challenges of establishing new initiatives, such as coastal access, access to water, access to woodland, and dedication of land for public access;
- Whilst the creation of all access is welcome, it is noted that temporary access does not give the same public benefit of definitive (permanent) access.

Yorkshire Dales National Park, and North York Moors National Park

The Yorkshire Dales National Park has 1869km of Public Rights of Way. The North York Moors National Park has around 2200km of Public Rights of Way.

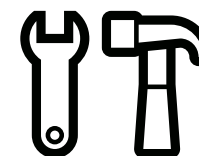
The two National Park authorities have taken responsibility for maintaining the Public Rights of Way within their boundaries under a delegation agreement. The National Parks should be the first port of call for any enquiries about Public Rights of Way in the National Park areas.

More information about how the National Parks approach to the Public Rights of Way can be found in the following documents:

- Yorkshire Dales National Park Authority 'Public Rights of Way Maintenance Plan', 2012-2017¹;
- North York Moors National Park 'Management Plan', 2012²

Key Commitments

We will:



Ensure maintenance of Rights of Way outside the National Parks is taken care of by our countryside access officers, area rangers and a team of countryside volunteers;



record all identified Rights of Way on the Definitive Map together with the Yorkshire Dales and North York Moors National Park Authorities;



consider funding works on Rights of Way from LTP money when those works make a significant contribution to the LTP objectives;

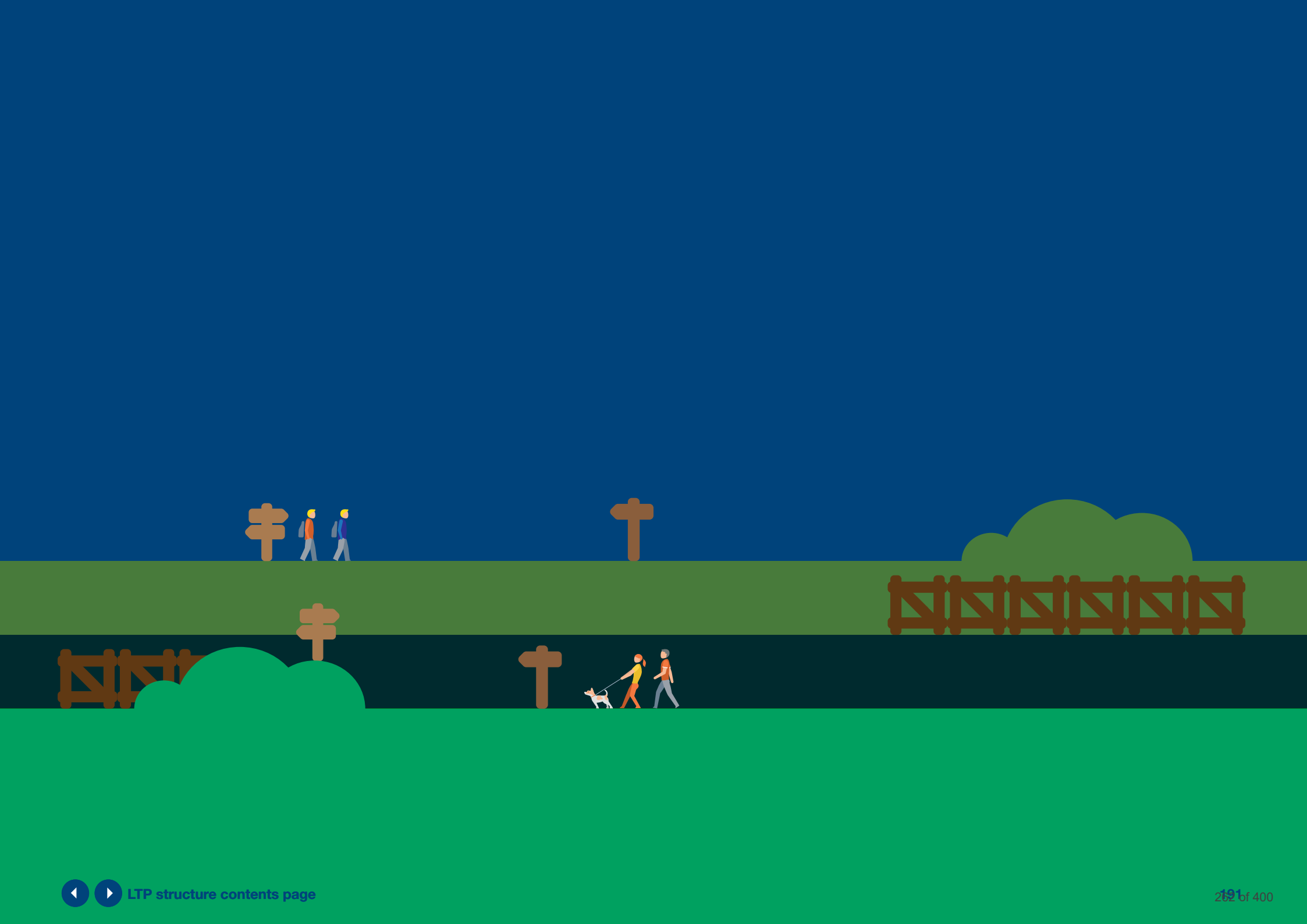


work with the Local Access Forum to improve public access to land for the purposes of open-air recreation, and the enjoyment of the area, whilst considering the needs of both the users of those Rights of Way, and land owners or occupiers over which a right of way exists.

¹Yorkshire Dales National Park Rights of Way Maintenance Plan 2012-17

www.yorkshiredales.org.uk/_data/assets/pdf_file/0005/473441/ydn-p-rights-of-way-maintenance-plan-2012-17.pdf

²North York Moors National Park Management Plan 2012 www.northyorkmoors.org.uk/about-us/how-the-authority-works/management-plan



Themes

3n - Air Quality and Noise





3n – Air Quality and Noise

North Yorkshire is a special place for everyone to live, work and visit, and maintaining the local environment helps it to remain this way. The County has large areas of outstanding and unspoilt natural environment, however, it is recognised that transport can impact on the environment in terms of both air quality and noise levels.

Both road traffic noise and traffic related air pollution can harm our health and wellbeing. The government estimates that air pollution is expected to reduce the life expectancy of everyone in the UK by 6 months on average at a cost of approximately £16 billion per year.¹ Furthermore, there is growing evidence that transport related air quality problems cause more deaths every year in England than road accidents. Poor air quality can also have economic impacts, for example reduction in crop yields, and also contributes to climate change. The government estimates that the annual social cost of urban road noise is up to £10 billion². This is significantly greater than the impact of climate change (£1 to 4 billion).

The protection of the environment is an important consideration for the County Council when managing existing transport infrastructure and networks as well as planning for future transport schemes. Environmental impacts, including air quality and noise, are outlined in the LTP Objectives³. What we will do to manage air quality and noise transport related issues over the LTP4 period is detailed in this section.

We recognise that nationally a reduction in air and noise pollution can be achieved through improvements in car technology including the application of new technologies such as the addition of stop-start functions, reduced nitrogen and carbon emissions, electric vehicles, and further reductions in tyre noise limits. In general terms we can actively promote economic growth and new developments that are sensitive to the environment. We will also seek proactive solutions which ease congestion and consequently the air and noise pollution that can blight areas of congestion.



¹Air Quality: Economic Analysis <https://www.gov.uk/guidance/air-quality-economic-analysis>

²Noise Pollution: Economic Analysis <https://www.gov.uk/guidance/noise-pollution-economic-analysis>

³See Part 2d – Environment and Climate change for more information

Air Quality

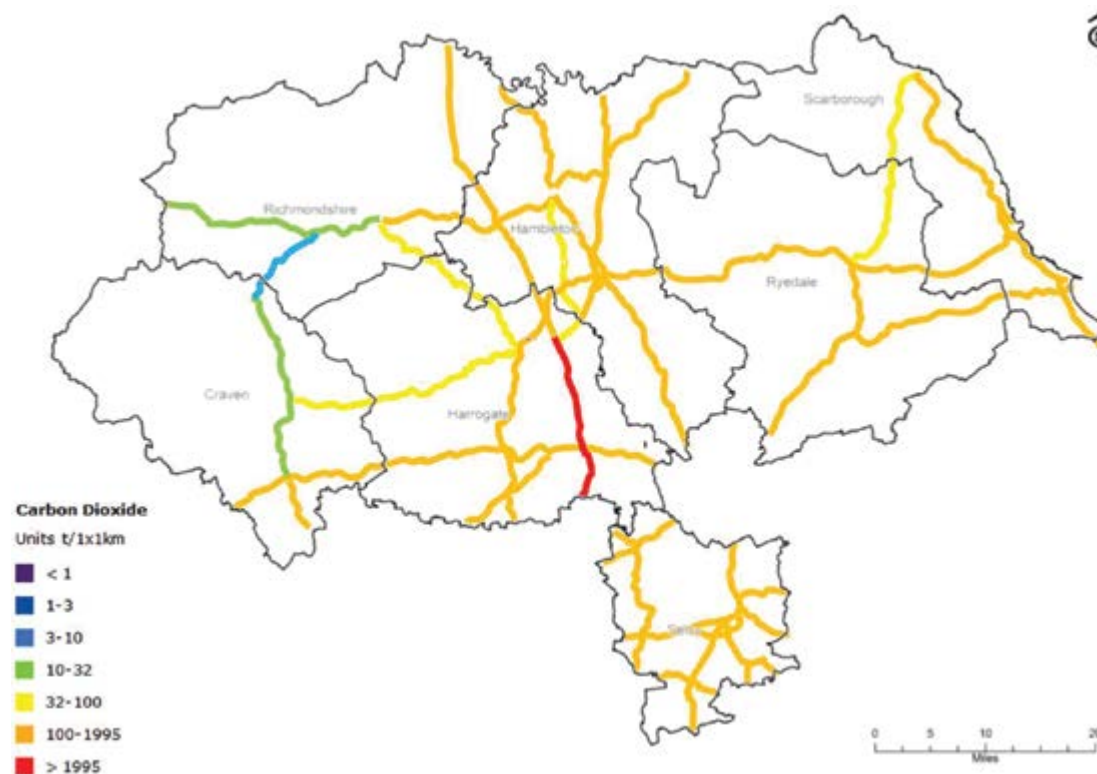
Transport is one of the major contributors to poor air quality. Air pollution is likely to occur at locations with high volumes of traffic, especially where there is congestion and queuing vehicles and where there are buildings close to the road, which can result in pollutants being trapped in a 'canyon' effect.

Carbon Emissions

Carbon dioxide is a component of greenhouse gases and transport is a source of around 20% of CO₂ emissions in the UK with road transport making up over 90% of this⁴.

As indicated in Part 2d⁵, carbon emissions in North Yorkshire are particularly high on the main highly trafficked road networks, including the A1(M) (red line on Figure 3n-1) and in urban areas. Whilst carbon emissions are not monitored on a local basis we have an aspiration to reduce these emissions from transport. We will encourage people to travel by sustainable modes of transport where they can be considered an appropriate alternative to the private motor vehicle, particularly in urban areas. We also recognise that ultra-low emission vehicles can also help to reduce greenhouse gas emissions and we are currently reviewing the County Council's policy with regard to Ultra Low Emission Vehicles (ULEVs).

Figure 3n-1 Carbon produced by the highway network



As a County Council our rolling fleet renewal helps to make sure our vehicles meet the latest environmental standards and the highest possible miles per gallon. As a recent example the combined CO₂ emission savings over three years compared with the previous pool car vehicles prior to 2013 is estimated at 14.24 tonnes. We are also currently trialling several electric vehicles for our pool cars.

Local Air Quality Management

The Environment Act 1995 sets out the statutory duty for local authorities to review and assess air quality in their area against national standards and objectives. In North Yorkshire local air quality management is the responsibility of the district councils. The seven district councils monitor air quality in their area and must take action where problems are identified. As the highway authority for North Yorkshire, we have a statutory duty to cooperate with district councils where any air quality issues are identified to be from the use of local roads.

The review and assessment of air quality is the first stage of local air quality management. The district councils monitor and assess whether air quality for a number of pollutants exceeds, or is likely to exceed, the objectives set out in the Air Quality Regulations (as prescribed by the EU). These include pollutants that may be caused by vehicle emissions, including nitrogen dioxide and particulate matter. Particulate matter describes condensed phase (solid or liquid) particles suspended in the atmosphere. In relation to PM10 (particles with a diameter less than 10µm) district councils have to carry out a review and assessment of whether air quality standards are being achieved or are likely to be achieved in the relevant period.

There is no current obligation on local authorities to measure PM2.5 concentrations (particles less than 2.5µm in diameter). However, as the EU does require the UK to monitor PM2.5 the government meets this requirement using data from national monitoring networks. The government anticipates future reductions in total PM emissions due to a reduction in exhaust emissions from diesel vehicles; however the non-exhaust traffic sources including tyre wear, brake wear and road surface abrasion will still be a source of particulate matter.

Air quality is considered a problem if it could impact on human health, and consequently part of the local air quality assessment carried out by the district councils considers if residential dwellings are in close proximity to the road. If at the detailed assessment stage one or more of the air quality objectives are not met then an Air Quality Management Area (AQMA) should be declared.

In North Yorkshire there are several AQMAs due to nitrogen dioxide relating to road transport emissions. An AQMA is declared if current or projected levels of nitrogen dioxide (NO2) breach, or are likely to breach, the (annual mean) objective of 40 micrograms per cubic metre (40 µg/m3) as prescribed by the Air Quality Regulations. Where an AQMA is declared the local authority must produce an Air Quality Action Plan to try to introduce remedial measures to improve air quality and therefore meet the air quality objectives.

We will work closely with the district councils to address any air quality issues arising from the use of the County Council's road network, especially where an action plan has been developed.

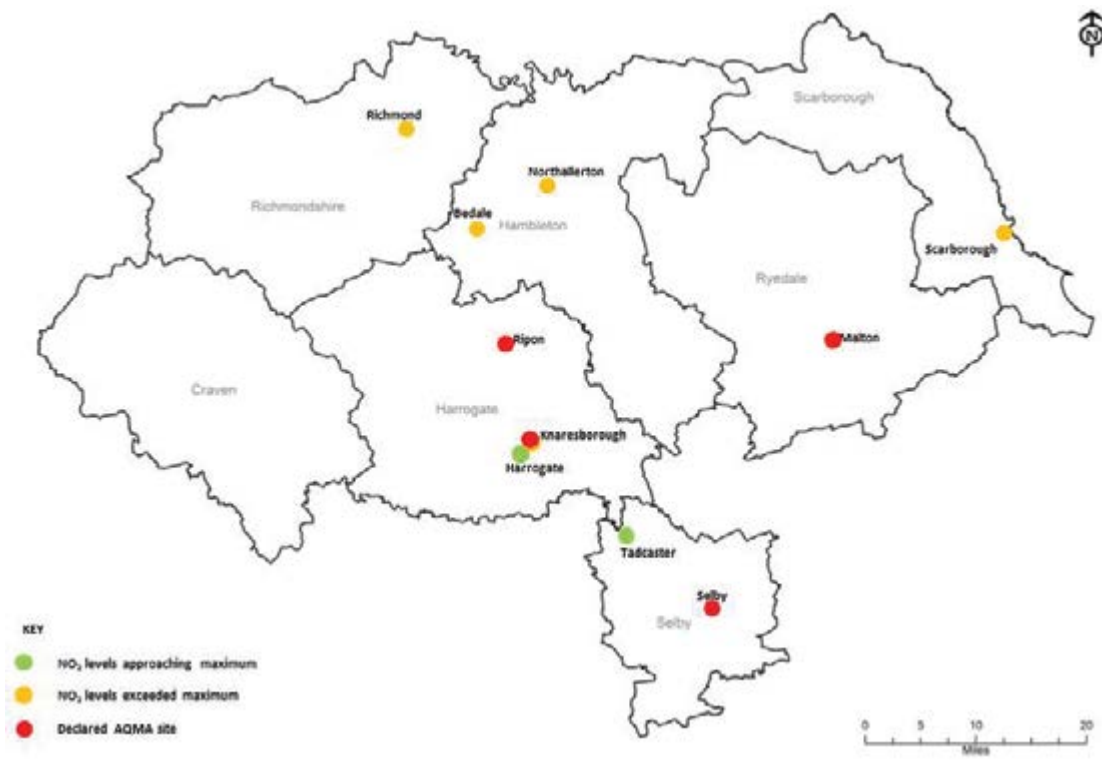
Areas of concern

The air quality in the majority of the County is of a good standard; however there are a few locations where transport has contributed to localised air quality issues within built up areas. There are several transport related AQMA sites in North Yorkshire:

- Bond End, Knaresborough;
- Butcher Corner, Malton;
- Low and High Skellgate, Ripon;
- New Street, Selby (declared in 2016).

Further information on the air quality, including the monitoring process, is available from individual district council websites. There are several other sites in North Yorkshire which have already, are predicted to, or are close to exceeding the (annual mean) objective of 40 micrograms per cubic metre (40 µg/m3) and are therefore monitored regularly. The aim is to try to prevent these sites from exceeding the objective and make sure an AQMA does not need to be declared.

Figure 3n-2 AQMA sites by District



Funding

In terms of funding for mitigating the impact of air pollution we will support district councils in seeking air quality grant funding available from the Department of Environment, Food and Rural Affairs (Defra). Harrogate Borough Council, in partnership with Transdev, were successful obtaining funding from the Department for Transport's Clean Bus Technology Fund 2015 to upgrade buses travelling through the Bond End AQMA in Knaresborough with the aim of reducing nitrogen oxide emissions.

We will also identify any potential measures that could be funded from developments that have a direct impact on an AQMA. As and when necessary we will investigate capital funding opportunities to deliver infrastructure measures to address air quality problems.

Where opportunities for securing external funding arise we will use this to good effect to promote sustainable modes of travel. A recent example is the Local Sustainable Transport Fund where use of public transport, walking and cycling was promoted to encourage people to use less polluting modes.

Related policies

Before the end of 2016 we will review and update the County Council's transport related air quality policy. We are also currently developing a policy on ULEVs and provision of suitable infrastructure in the County. At the appropriate time these will be made available within Part 4 Policies of the LTP4.

What we will do regarding Air Quality

As the local highway authority we will continue to work with district councils to try to mitigate the impact of transport on air quality, especially where an AQMA is already, or likely to be, declared.

Greener modes of transport

We will encourage the use of more environmentally friendly modes of transport such as walking and cycling⁶ and the use of public transport, particularly within urban areas⁷.

We will also encourage bus operators to run more fuel efficient and, where appropriate, LPG or electric buses on urban routes. We may also identify minor road schemes that could improve bus journey times thereby making the bus more appealing. Where appropriate we will work with the rail operator to improve rail services and increase rail passenger numbers.

Whilst we have no direct control over the majority of travel choices for those in the County, we will aim to lead by example in terms of sustainable travel. County Council staff will be encouraged to travel to work using sustainable modes like buses and trains, walking and cycling. Car sharing and combining trips will be promoted both in terms of travelling to work and travelling for work, for example meetings. In addition consideration will be given to avoiding unnecessary travel where possible, such as using teleconferencing.

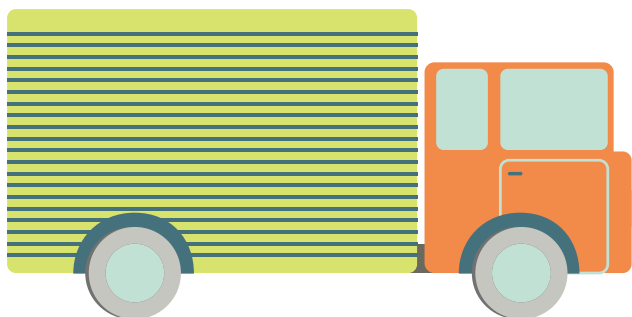
New development

Each local planning authority is responsible for identifying potential developments that could introduce new receptors (residential dwellings) at sites at risk of air pollution or new developments where generated traffic will make local air quality worse elsewhere in the locality. We will support the planning authorities in this role to encourage measures to promote environmentally friendly forms of transport including provision for Ultra Low Emission Vehicles (ULEVs), and travel planning to consider alternatives to reduce reliance on the private car particularly in urban areas, for example car sharing or walking and cycling.

Technology and improved traffic flow

We will implement measures that reduce congestion and have a resulting positive impact on air quality. These measures may include improving the efficiency of traffic signals.

We will identify and use new technology to deliver air quality benefits through improved and steady traffic flow, and priority for cyclists, pedestrians and public transport. The potential of dynamic pollution responsive traffic management systems will also be considered.



Other transport schemes

We have already worked successfully in partnership with district councils to implement new transport infrastructure which has a positive impact on air quality. In Malton and Norton the County Council and Ryedale District Council worked with Highways England to deliver the A64 Brambling Fields junction improvement which has removed traffic from Butcher Corner which is a declared AQMA.

The Bedale Aiskew and Leeming Bar Bypass is currently under construction and due for completion in Autumn 2016. It is anticipated that this will remove some of the traffic from Bridge Street, Bedale which is currently experiencing exceedences in the nitrogen objective.

We are currently reviewing the Harrogate traffic model to help consider potential options for a long term relief road. If this scheme is considered viable this is likely to reduce congestion in Harrogate town centre and route traffic away from locations with poorer air quality.

Noise

The levels of noise within North Yorkshire are generally low, with significant parts of the County (particularly in the National Parks) considered tranquil. Whilst some noise is to be expected, particularly in urban areas, excessive noise can impact on health and wellbeing. Noise pollution can be unpleasant and can lead to health impacts including disturbed sleep and longer term adverse health effects such as cardio-vascular problems. The World Health Organisation estimates that over 40 per cent of the UK population are affected by traffic noise.

Environmental noise comes mainly from transport sources including road, rail and aviation. The European Commission requires member states to seek to reduce the impact of noise on their population. As a result the government has introduced the 2006 Environmental Noise (England) Regulations which relate to the assessment and management of environmental noise.

Road transport noise can come from a variety of sources including engine noise, tyre noise and braking by larger vehicles. The County Council are unable to control noise from individual vehicles, however the government seeks to control this noise through mandatory noise emission standards for new road vehicles and noise limits for tyres.

Noise mapping and action plans

The European Commission requires the government to create noise maps indicating the public's exposure to environmental noise and adopt action plans based on the noise mapping results. These are to be updated on a 5 year cycle, with the latest update to the noise mapping anticipated in 2017. The action plans are expected to investigate and if necessary manage noise issues including identifying appropriate noise reduction measures.

The Department of Environment, Food and Rural Affairs (Defra) has produced noise maps based on the results of computer modelling. These maps indicate sites with high levels of environmental noise, including from roads. Defra has listed a number of Important Areas where the top 1% of worst affected people are located. It is anticipated that these Important Areas will be prioritised by the relevant authority for investigation through the noise planning process to determine if noise from these roads is excessive as indicated by the modelling. Where appropriate and where funding permits measures could be implemented to control the impact of noise from road traffic alongside the relevant planning authority. These measures would vary greatly from location to location.

Funding

In terms of funding for mitigating the impact of transport related noise nuisance as and when necessary we will investigate capital funding opportunities to deliver infrastructure measures to address noise issues. We will seek contribution from new significant development towards mitigation of noise impact on roads identified in Defra Noise Action Planning process.

Related policies

Before the end of 2016 we have plans to review and update the County Council's transport related noise policy. At the appropriate time this will be made available within Part 4 Policies of the LTP4.

What we will do regarding Noise

We will, as highway authority, work with Defra and any other relevant authority on Noise Action Planning where possible and within our available financial resources.

In North Yorkshire Defra has identified noise hotspots located on main roads, particularly where there are higher traffic volumes and with properties close to the roadside. We will liaise with Defra and undertake a review of the Important Areas where the noise source is from a County Council managed road. This review will include a consideration of the levels of noise at each location and an investigation of potential mitigation measures to reduce the impact of the road noise. Although a review of the important areas will be conducted before 2017 it is anticipated that this work will be on going as the Defra noise mapping progresses.

Where possible, we will seek to reduce the impact of traffic noise from new highways schemes on residential areas, for example, by re-routing of traffic away from sensitive receptors or if appropriate, the use of low noise surfacing. We will also continue to seek to reduce the impact of transport related noise from the existing network where this is feasible and increase the take up of sustainable travel modes.

Key Commitments

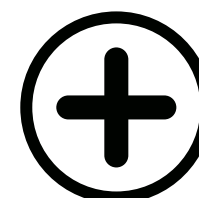
We will:



cooperate with district councils to try to mitigate the impact of transport on air quality, especially where an AQMA is already, or likely to be, declared;



encourage the use of more environmentally friendly modes of transport such as walking and cycling and the use of public transport, particularly within urban areas;



work with Defra and any other relevant authority on Noise Action Planning where possible and within our available financial resources;



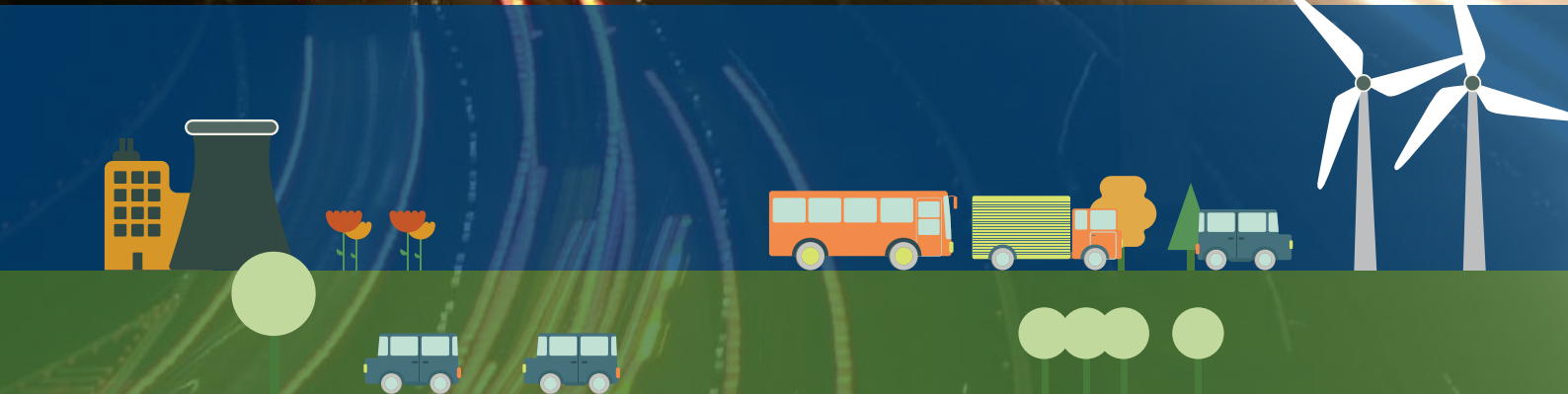
continue to seek to reduce the impact of transport related noise from the existing network where this is feasible and increase the take up of sustainable travel modes.



Part V: A Strategic Transport Prospectus for North Yorkshire 2015

A Strategic Transport Prospectus for North Yorkshire

**The Places in Between:
Contributing to 'The Northern Powerhouse'**



Joint Foreword

This document is North Yorkshire County Councils Strategic Transport Prospectus. It sets out how North Yorkshire County Council would like to work with the Government, Transport for the North and the Northern City Regions to ensure that improved transport connections allow England's largest County to both contribute to and share in the economic benefits of The Northern Powerhouse.

North Yorkshire is part of 'The North'. It is at the geographical centre of the North of England, has much of the North's strategic transport infrastructure running through it, contributes to the current economic prosperity of the North and has huge potential for future growth.

We, the County Council, share the vision of The Northern Powerhouse and want to be fully involved. Linking the economies of the city regions of the North will undoubtedly bring great economic benefits and hopefully create a powerhouse to rival London, but there are important 'Places In Between'. North Yorkshire is one of those. Though we are a rural county, with a dispersed population in a big area, we have great ambitions. Our 28,000 small businesses are a mainstay of our economy and we want to help them flourish whether they are in the geographical centre of the County or on the remote peripheries. Big businesses also want to invest in our County.

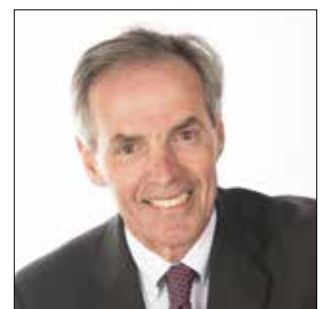
A probable £2bn investment in Potash on the coast, £0.7bn in the biggest power station in Britain at Drax and the world's biggest wind farm at Dogger Bank off the North Yorkshire coast are all global scale investments. We have a strong food production, transport and logistics industry capitalising on our good north south transport links and we are rapidly becoming a global centre for agri-tech research.

We have our transport problems though. Transport links to the coast and across the Pennines are relatively poor, being a rural area people's access to rail is limited and we need to ensure that our good north-south transport links remain good. We believe that relatively small government investments in transport in North Yorkshire can help address these problems and help spread The Northern Powerhouse to even more people making it bigger and better.

Executive Members for Business and Environmental Services.



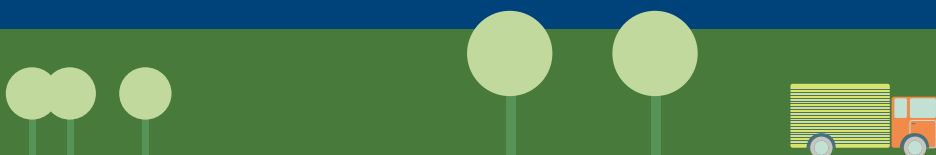
**County Councillor
Chris Metcalfe**



**County Councillor
Don Mackenzie**

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Executive Summary

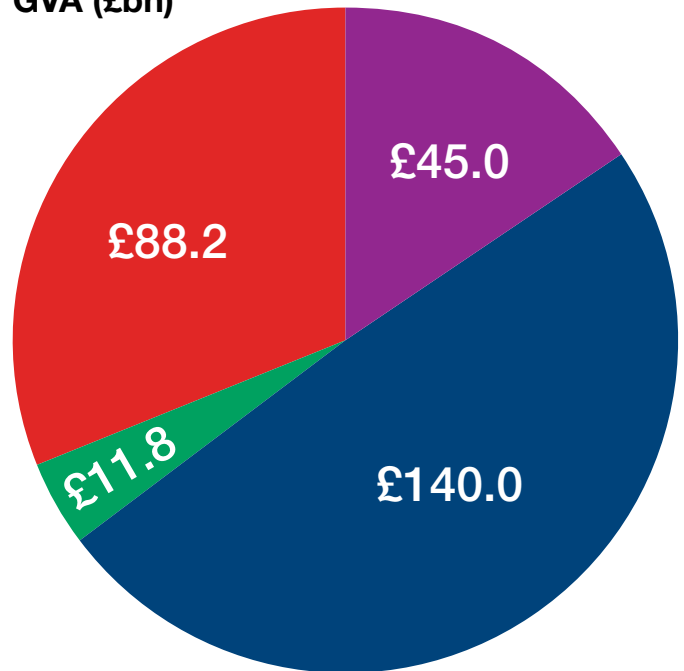
The Northern Powerhouse is a vision that seeks to better connect the six northern City Regions (Liverpool, Manchester, Leeds, Sheffield, Newcastle and Hull) with each other and with the rest of the Country to allow them to function as a single economy.

The County of North Yorkshire is at the geographical centre of this agglomeration of cities and as such is an essential part of this vision. In order to demonstrate how North Yorkshire can both contribute to and benefit from The Northern Powerhouse North Yorkshire County Council has prepared this Strategic Transport Prospectus which presents our long term (to 2045) vision for how improved transport in North Yorkshire can contribute towards a thriving northern economy.

North Yorkshire has an annual GVA (Gross Value Added - the measure of economic performance) of approaching £12bn per annum. That is three times the size of Hull, similar to both Liverpool and Sheffield and represents approaching 12% of the GVA of the whole Yorkshire and Humber region. It is therefore an important element of the northern economy. North Yorkshire is also seen as one of the best places to live in the Country and as such attracts many business leaders to live here and enjoy its high quality of life.

Much of the main transport infrastructure connecting the eastern areas of The Northern Powerhouse run through North Yorkshire including the main north – south road (A1(M)) and rail (East Coast Mainline) routes.

GVA (£bn)



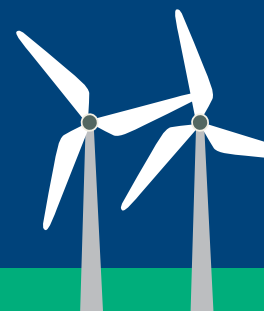
- **The NW**
- **Yorkshire & The Humber**
- **North Yorkshire**
- **The NE**

However, North Yorkshire is not simply 'The Place In Between' the cities. It has a thriving economy of small businesses, agglomerations of the steel supply and food industries and over the next ten years there are plans for global scale investment including a £2bn York Potash mine, and the biggest wind farm in the world is being built off the North Yorkshire coast at Dogger Bank.



Objective:

To ensure that all parts of North Yorkshire benefit from and contribute to the success of The Northern Powerhouse



Strategic Transport Priorities:

Improving east – west connectivity
(including Trans Pennine links)

Improving access to High Speed and conventional rail

Improving long distance connectivity to the north and south

The County Council wants to fully contribute to and benefit from the potential of The Northern Powerhouse. It has therefore adopted the following transport Objective:

- To ensure that all parts of North Yorkshire benefit from and contribute to the success of The Northern Powerhouse.

To achieve this we have identified the following three Strategic Transport Priorities:

- Improving east – west connectivity (including Trans Pennine links)
- Improving access to High Speed and conventional rail
- Improving long distance connectivity to the north and south

These are not the only transport priorities for the Council but are the three that are most important in terms of The Northern Powerhouse.

To address these priorities we have identified a series of rail and road improvements. These include:

- Transformational change on Leeds – Harrogate – York Railway

- Access to High Speed rail where 85% of the population of North Yorkshire can get to an HS2 hub within 40 minutes and 75% to a conventional railway station within 20 minutes
- New rail infrastructure to enable Leeds – Newcastle in 60 minutes with phase one allowing Leeds – Harrogate in 15 minutes
- Journey time reductions on Scarborough – York line.
- Dual carriageway on the A64 between York and Malton to reduce journey times and improve journey time reliability
- A new A59 bypass of Harrogate
- Overtaking lanes on the A59 between Harrogate and Skipton to improve journey time reliability

These are all by their very nature large scale and expensive and are unaffordable from normal County Council transport budgets. We are therefore asking the Government for a small proportion of the funding available for The Northern Powerhouse to enable North Yorkshire to fully play its part.

North Yorkshire Strategic Transport Prospectus (Plan on a Page)

Priority	Where?	What should we do? (to 2030) Plans	What should we do? (to 2045) Aspirations
Improving east – west connectivity (including Trans Pennine links)	Now <ul style="list-style-type: none"> A64 Corridor Scarborough to York A59 York to Harrogate A59 Harrogate A59 Harrogate to East Lancs. Later <ul style="list-style-type: none"> A171 to Whitby A63 Selby to A1 	<ul style="list-style-type: none"> A64 Overtaking Lanes (Malton to Scarborough) A64 Dualling (Crambeck to Malton) A64 Hopgrove (plus dualling) Scarborough – York Rail Improvements A1237 York Outer Ring Road Dualling J47 - A1(M) / A59 York – Harrogate – Leeds Rail Improvements Harrogate Relief Road A59 Climbing Lanes Leeds – Selby – Hull Rail Improvements 	<ul style="list-style-type: none"> Cross Pennine Links A59 York to Harrogate Dualling A171 Improvements A63 Village Bypasses
Improving access to HS2 and rail	Now <ul style="list-style-type: none"> York HS2 Gateway Leeds HS2 Gateway ECML Harrogate Line Scarborough Line Selby Line 	<ul style="list-style-type: none"> Access to HS2 and Rail Study Gateway Stations Station Car Parks Highway Access Improvements 	<ul style="list-style-type: none"> Gateway Stations Station Car Parks Highway Access Improvements
Improving long distance connectivity to the north and south	Now <ul style="list-style-type: none"> A1(M) / ECML Corridor A19 / A168 Corridor Later <ul style="list-style-type: none"> A165 Corridor A65 Corridor 	<ul style="list-style-type: none"> HS2 Strategic new North Leeds railway infrastructure (phase 1). ECML Improvements A1 Upgrades A19/A168 Expressway 	<ul style="list-style-type: none"> A165 Improvements Scarborough – Hull Rail Improvements Strategic new North Leeds railway infrastructure (phase 2).



1. Context – What it's all about

In March 2015 the Department for Transport and Transport for the North launched their vision for how transport will help establish the North as a global economic powerhouse¹. The vision seeks to better connect the six northern City Regions (Liverpool, Manchester, Leeds, Sheffield, Newcastle and Hull) with each other and with the rest of the Country to allow them to function as a single economy.

The Northern Powerhouse also explicitly recognises that whilst the City Regions may be central to the vision the smaller towns and rural areas, The Places in Between, also have a crucial role to play.

This document, **A Strategic Transport Prospectus for North Yorkshire**, has been prepared by North Yorkshire County Council² in discussion with the York, North Yorkshire and East Riding (YNEY&ER) Local Enterprise Partnership and nine Local Planning Authorities. It sets out the County Councils headline Strategic Transport Priorities for the next 30 years (to 2045). It will concentrate in the short to medium term (to 2030)³ on what we aim to do to achieve them, how they can contribute to the establishment of The Northern Powerhouse and how Government and Transport for the North can help us. It will also present some of our aspirations for the longer term (to 2045).

¹ The Northern Powerhouse: One Agenda, One Economy, One North <https://www.gov.uk/government/publications/northern-transport-strategy>

² North Yorkshire County Council is the upper tier local authority and Local Transport Authority for the geographical area of North Yorkshire (excluding York). Seven second tier Local Authorities and two National Parks are the Local Planning Authorities for the area.

³ Corresponding approximately to the end of the DfT Road Investment Strategy RIS 3, the Network Rail Control Period 7 and completion of HS2.



North Yorkshire in Northern powerhouse context





This Prospectus considers strategic transport in the context of The Northern Powerhouse. It will contribute towards and be supported by a more detailed Strategic Transport Plan which is being prepared as part of the new North Yorkshire Local Transport Plan which will come into force on 1 April 2016. This forthcoming Plan, as well as considering strategic transport on the scale of the North of England as a whole, will also consider strategic transport on a North Yorkshire scale.



2. The Northern Powerhouse – North Yorkshire

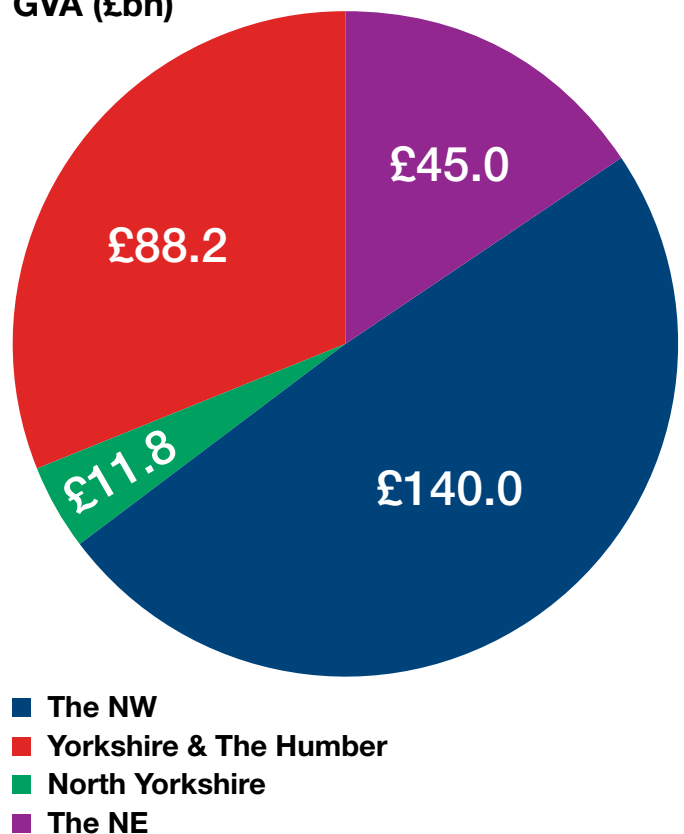
The Northern Powerhouse is about linking the three northern regional economies of the North West, Yorkshire and the Humber and the North East to form a single larger economy. With a population of 15m people and a GVA of £285bn (in 2013)⁴ this could transform The North into an economic powerhouse to balance the weight of London and compete effectively in a global economy.

North Yorkshire is a part of this economy. Its population (2013) of just over 600k people is 4% of the total population of the North and 11% of the population of the Yorkshire and Humber Region. Its local economy, valued at £11.8bn (2013), represents approximately 12% of the wider Yorkshire and Humber economy. To put that into perspective that is almost three times the GVA of Hull (c£4bn), bigger than Liverpool (c£10bn) and about the same size as Sheffield and the Tees Valley City Region (c£11bn)

North Yorkshire is not just about its local economic performance. It is England's largest County. Catterick Garrison is Europe's largest military garrison. With two National Parks, two Areas of Outstanding Natural Beauty and numerous historic towns and cities it is widely known as one of the best places to live in the UK. Many of the 'movers and shakers' of the northern economy choose to live in North Yorkshire. Over 47,000 (10.8%)⁵ of the working age population of North Yorkshire are identified as being in Socio-Economic Classification 1 (Higher managerial, administrative and professional

occupations) compared to 8.9% in the neighbouring areas of West Yorkshire and only 6.7% in the Tees Valley. Census figures also suggest that many of these North Yorkshire resident professionals choose to live in North Yorkshire but to work elsewhere in the North. It is widely accepted that a significant consideration in business location decisions is where the business leaders want to live with their families and the high quality landscapes and quality of life in North Yorkshire fulfil this desire.

GVA (£bn)



⁴ The Northern Powerhouse – GVA and Population Estimates by Region.

⁵ Source – 2011 Census.

North Yorkshire has a very varied economic base. The economy has a large SME sector consisting of over 28,000 businesses. Approximately half of these are clustered in the central A1 / A19 transport corridor. Growth in the scale and number of SME's is a key priority of the Strategic Economic Plan and better connections to the more peripheral areas of the County will assist the performance of the more remote SME's especially in the districts of Craven, Ryedale and Scarborough.

Tourism and the visitor economy is an important and growing sector of the Yorkshire economy worth approximately £7bn per annum accounting for approximately 8.5% of the regions output.⁶ A significant element of this is based in North Yorkshire where the two national parks (North York Moors and Yorkshire Dales) and the east coast holiday resorts (including Whitby, Scarborough and Filey) contribute more than £1.4bn. North Yorkshire has also been developing events to bring visitors from a wider UK and International base for example hosting the 2014 Tour de France Grand Depart, the Tour de Yorkshire, the Mountain Bike World Cup in Dalby Forest as well as major conferences / exhibitions and new events such as power boat racing and Open Air Theatre on the coast.

There is also still a significant heavy industry economy in North Yorkshire. There is a notable agglomeration of steel stockholders, processors, designers and fabricators. This ranges from smaller companies such as Tomrods in Thirsk through to Severfield⁷ the largest structural steel business in the UK which was heavily involved in key national projects such as the Olympic Stadium, The Shard and Heathrow Terminal 5 as well as many run of the mill everyday warehouses. Severfield has two sites in North Yorkshire including their main site at Dalton Industrial Estate near Thirsk and at Sherburn near Scarborough. There are other major players in the industry based in Dalton including Cleveland Steel and Steel Beams and Columns Ltd which are some of the biggest steel stockholders and distributors in the country.

North Yorkshire also has a strong agriculture and food sector. As well as over 5,800 agriculture, forestry and fisheries businesses there is a large food processing and production industry. This includes well known companies such as McCains based in Scarborough and The Wensleydale Creamery in Hawes (producing the only 'real' Wensleydale cheese) and also lesser known companies such as Malton Bacon Factory in Malton and R&R ice cream and Dalepak foods at Leeming Bar adjacent to the A1(M) all of which produce food products for major names (such as Nestle and Cadburys) as well as supermarket own brands.

North Yorkshire is well served by the east coast ports being located close to Teesport (the third largest single port in the UK catering for over 50 million tonnes of freight p.a.) and the Humber ports of Hull and Goole all of which have good road and rail links from North Yorkshire.

⁶ Source - Welcome to Yorkshire.

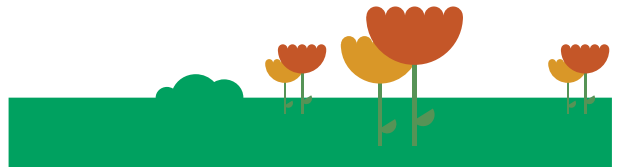
⁷ www.severfield.com

Looking at an even larger scale, over the next ten years there are plans for massive, global scale, private sector investment in the North Yorkshire economy including:

- York Potash⁸ – Plans to build the first new potash mine in the UK in 40 years. Located south of Whitby on the east coast the potential investment could be of the order of £2bn, directly creating 2,500 jobs in the construction phase and 1,000 longer term jobs with the potential for additional supply chain and service industry jobs. It is anticipated to generate exports of around £1bn per year for the UK economy once in full production. Planning applications for the project have recently (June 2015) been approved.

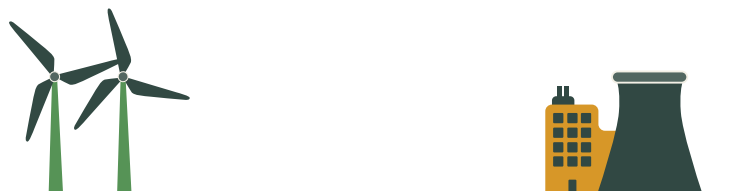


- Investment in the new National AgriFood Innovation Campus York (NAFICY) at the University of York and associated development at the FERA campus on the A64 near Sand Hutton in Ryedale will create 800 new jobs adding £100m to the regional economy.



- Biomass projects at Drax near Selby. Drax¹⁰ power station is the largest (previously) coal-fired power station in the UK. Drax typically supplies 7% to 8% of the total UK electricity demand and the Drax Group has an annual revenue of approximately £2.8bn with profits of around £450m per year. Drax has recently made a £700 million investment to transform three of its six generators into a largely biomass fuelled facility.

- Dogger Bank Offshore Wind⁹ – Dogger Bank in the North Sea around 125 miles east of the North Yorkshire coast is the largest of the allocated Round 3 zones for offshore power generation. Forewind, a consortium of 4 leading energy companies, plan to build the world's largest wind farm at Dogger Bank with around 1,000 turbines generating up to 7.2GW of power sufficient to power some 6 million British homes. Consent for the construction of part of the wind farm was granted in January 2015 with further consents expected in August 2015. Whitby on the east coast of North Yorkshire is the nearest port to Dogger Bank and whilst possibly not suitable for major construction shipping is ideally located for the long term support, servicing and maintenance needs of the wind farm.



⁸ www.yorkpotash.co.uk

⁹ www.forewind.co.uk

¹⁰ www.drax.com

Our economic ambitions, as set out in the YNY&ER Strategic Economic Plan, are that by 2021 for the whole of the LEP areas we will have increased the GVA by £3bn and created 20,000 jobs.

Strategic transport infrastructure in a Northern context



Transport is essential to the growth of the North of England and many of the main northern transport links go into and through North Yorkshire. In North Yorkshire there is around 100km of the A1(M) between South Yorkshire and Durham and the A168 / A19 corridor links the Tees Valley City Region and Teesport to the motorway network (A1(M)).

The East Coast Mainline (ECML) is North Yorkshire's North – South rail artery connecting North Yorkshire to London, the East Midlands, Yorkshire the North East and Scotland. Selby, Thirsk, Northallerton, Skipton and Harrogate all have direct services to London. At Northallerton the ECML splits to serve Teesside and Teesport. HS2 will join the East Coast Main Line in North Yorkshire south of York and continue onward to the North East. North Yorkshire's East - West rail connectivity is provided through the Transpennine rail routes that link the North East, North Yorkshire, York, Hull, West Yorkshire, Manchester, Liverpool and Lancashire. Rail services also link North Yorkshire with Sheffield and the East and West Midlands.

There are significant issues regarding rail capacity and resilience east of Leeds and north of York and Northallerton.

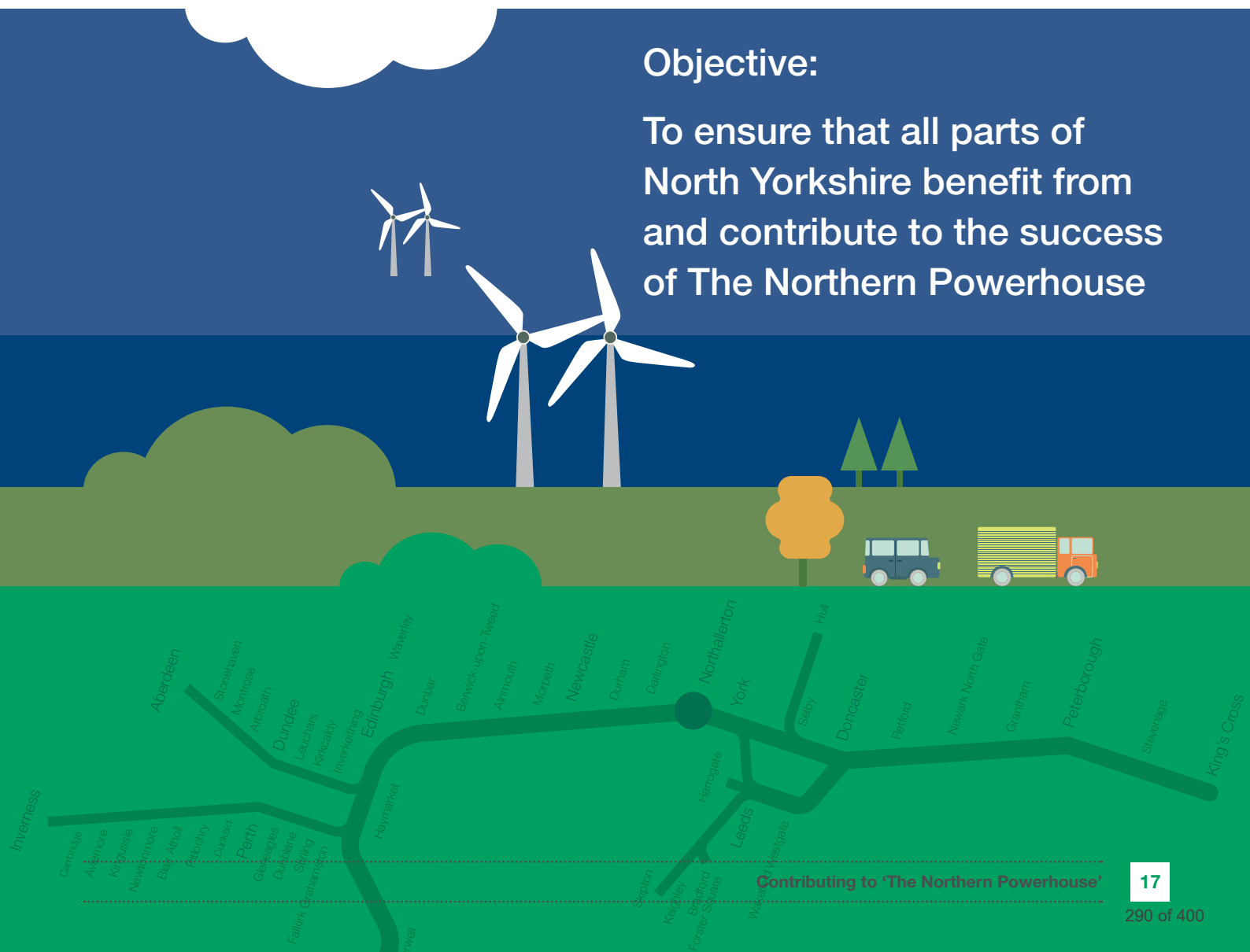
North Yorkshire isn't just 'a place in between' the City Regions it is an important and influential part of the North. Provision of the transport infrastructure necessary to support both the large scale and small scale businesses is essential to their success and to spreading this success to the wider Northern Powerhouse. Investment in North Yorkshire will also help facilitate the sustainable housing growth that is necessary to support the anticipated economic growth.

The Objective of our Strategic Transport Prospectus is therefore:

To ensure that all parts of North Yorkshire benefit from and contribute to the success of The Northern Powerhouse

Objective:

To ensure that all parts of North Yorkshire benefit from and contribute to the success of The Northern Powerhouse





3. Strategic Transport Priorities to 2045 – What's Important

The current (2014/5) strategic transport priorities for North Yorkshire are set out in the North Yorkshire Local Transport Plan 2011-16 (LTP3)¹¹ and the York, North Yorkshire and East Riding Strategic Economic Plan (YNY&ER SEP)¹². In the main these priorities are compatible with the aims of Transport for the North but are somewhat more localised rather than being specifically considered in the context of The Northern Powerhouse.

In preparing this Prospectus these priorities have been reviewed by the County Council and the Local Planning Authorities to set them in the context of achieving the vision of The Northern Powerhouse.

Based on this review the Transport Prospectus identifies the 3 Strategic Transport Priorities below.

- Improving east – west connectivity (including Trans Pennine links)
- Improving access to High Speed and conventional rail
- Improving long distance connectivity to the north and south

Brief details and a justification of each of these priorities are set out below with our plans for improvements set out in sections 4 and 5.

Improving east – west connectivity (including Trans Pennine links)

In common with the rest of the North of England north – south transport links in North Yorkshire are generally good but the east – west transport links are relatively poor. This, together with their geographical remoteness from other large urban areas and the strategic highway and rail network, leads to underperforming economies in both the east (Scarborough Borough and Ryedale District) and west (Craven and Richmondshire Districts) of North Yorkshire. Poor Trans Pennine links especially between Craven District and East Lancashire also act as a constraint on the economies of both of these areas.

Improving these transport links and the east - west connectivity will both boost the local economies of these regions and contribute towards the vision of a single Northern economy. Additionally improved sub-regional east – west routes situated between the M62 to the south and the A66 to the north would help to relieve some of the pressures on these routes by catering for more of the sub-regional traffic movements.

Strategic Transport Priorities:

Improving east – west connectivity (including Trans Pennine links)

Improving access to High Speed and conventional rail

Improving long distance connectivity to the north and south

¹¹ www.northyorks.gov.uk/ltp

¹² <http://www.businessinspiredgrowth.com/about-the-lep/documents/>

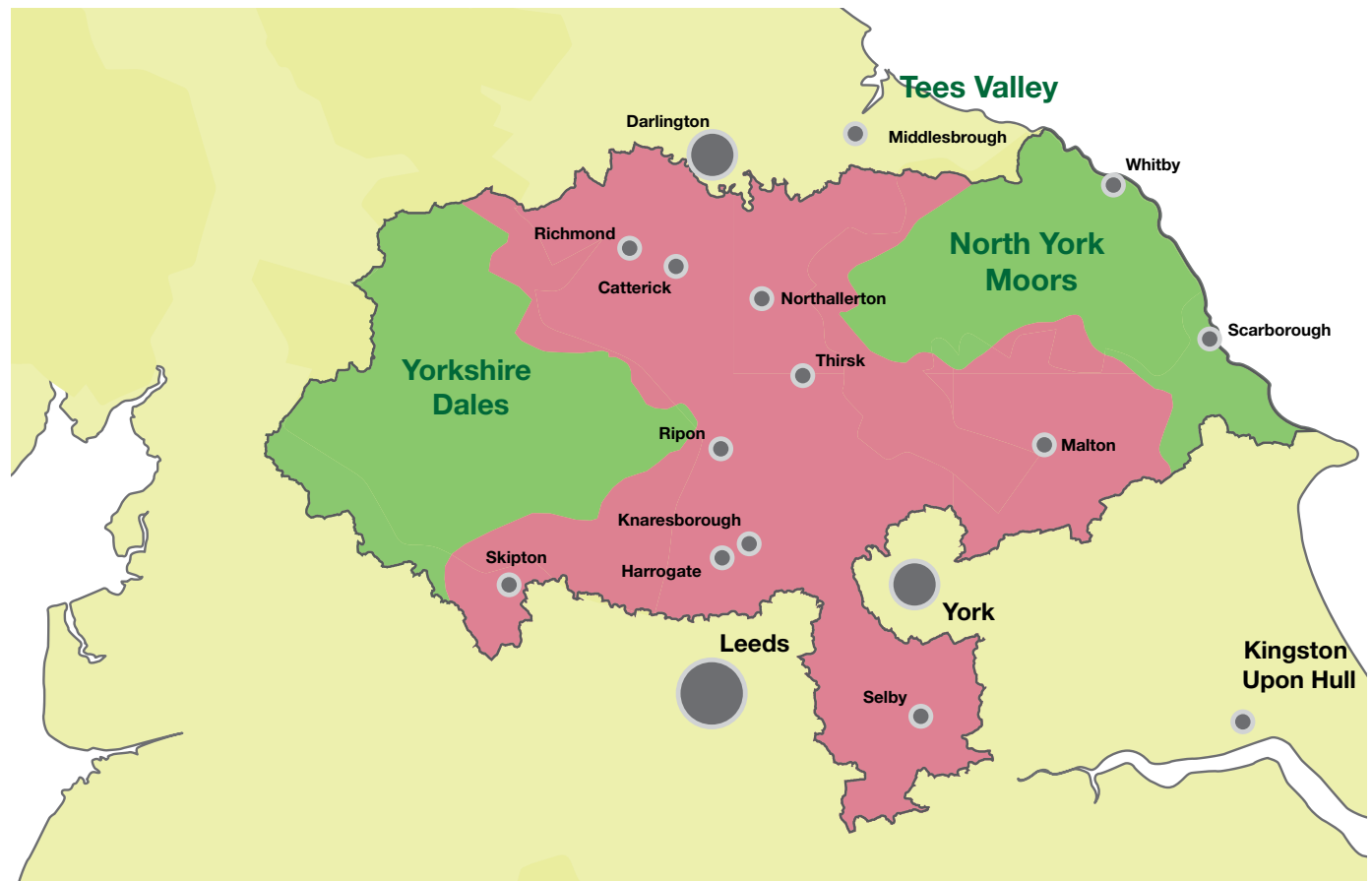
For North Yorkshire the YNY&ER SEP identified the A64 - A1237 - A59 linking Scarborough, York, the A1(M), Harrogate, Skipton and East Lancashire as the priority east – west highway corridor in North Yorkshire.

From a rail perspective, the Scarborough – York, York – Harrogate - Leeds and Hull – Selby – Leeds lines are the priority east – west rail corridors for North Yorkshire.

Ryedale and the east coast of North Yorkshire have the potential to become major contributors to the northern economic powerhouse with major developments in potash, offshore power generation and the growth of the agri-tech campus at Sand Hutton but without urgent improvements to this crucial east –west link both the scale and the spread of these economic benefits are likely to be constrained.

Looking further afield improvements to the A66(T) would also be beneficial to the economy of the northern areas of North Yorkshire as well as Cumbria, Teesside and the rest of the North East.

40 minutes travel time from a HS2 Gateway



Improving access to High Speed and conventional rail

We have identified our aspirations for rail through a number of conditional outputs, not least among these is the ability for 85% of the population of North Yorkshire to be within 40 minutes of an HS2 rail hub. Although this priority will contribute towards all of the other priorities listed above given the importance of HS2, and ultimately HS3, it is appropriate to identify it as a separate priority. High Speed rail will undoubtedly bring significant economic benefits to The North. However, in North Yorkshire the benefits of the improved journey times provided by HS2, and indeed improvements on the conventional rail network, are to some extent negated by difficulties in access to the HS2 gateways and to other railway stations.

In many cases the majority of North Yorkshires long distance rail users utilising key stations such as Northallerton and on the East Coast Mainline (ECML) are not from the town itself but from the surrounding rural hinterland. Access to the town stations for both the towns' people and the rural population is constrained by the rural and urban road network and poor parking facilities at the stations. Improving access to our 'conventional' railway stations especially for our rural population is therefore a priority for the County Council in the short to medium term. This may be either through the provision of improved road infrastructure, improved public transport interchange opportunities and / or through the provision of new 'parkway' railway stations. These would be located to better serve the rural population, provide more parking and hence allow much better road (car and bus) / rail transport interchange. Similarly, and linked to the above, improving road and rail access to the High Speed Rail Gateways in Darlington, York and Leeds is a high priority.

Improving long distance connectivity to the north and south

The north – south transport links through and in North Yorkshire are generally good and especially so in the central A1(M) / ECML corridor. This has helped with the continued strength of the logistics and food industry in the A1(M) corridor through North Yorkshire. However improved connections through North Yorkshire between the Yorkshire cities and those of the North East, and indeed the wider connectivity between the two economic powerhouses (the emerging Northern Powerhouse and the existing London powerhouse) are crucial to the long term prosperity of the UK.

The County Council supports the principle of continued upgrades to the A1 to the north, south and through the County. Equally upgrades to the A168 / A19 links from the Motorway network corridor would be beneficial to the local economy of the County but will also be crucial to link the Leeds and Tees Valley city regions and Teesport and the Port of Tyne.

From a rail perspective HS2 is the biggest project in a generation and will bring undoubted economic benefits to The North including North Yorkshire. A growing priority for the County Council is to ensure that North Yorkshire shares in these benefits and that the dispersed rural population of the County have good rail or road access to the HS2 gateways in Darlington, York and Leeds. Notwithstanding HS2 the existing ECML will remain an important rail route and the County Council supports infrastructure, rolling stock and service improvements on the ECML especially more direct connections to some of our main towns such as Harrogate, Selby and Scarborough. Also of growing importance will be the capacity constraints of the ECML between Leeds and Newcastle especially for freight on the ECML to Northallerton and onwards into Middlesbrough and Teesport.



4. Strategic Transport Interventions to 2030 – What we want to do

North Yorkshire County Council is committed to sharing in The Northern Powerhouse. It is however recognised that in order to be able to do so there are a number of major transport related barriers to be overcome. Whilst the County Council and partners can and will deliver many of the smaller scale initiatives others will require large scale and costly interventions. Therefore to successfully contribute to The Northern Powerhouse the County Council will need access to long term, secure funding streams for major transport schemes be this from the Local Growth Fund, Highways England RIS funding, Network Rail funding or other sources including the potential of devolved central Government funding to Transport for the North.

Experience has shown that in order to be able to access this funding transport authorities need to take the ‘risk’ of advanced preparation and design of schemes and initiatives. The current financial climate for Local Government means taking on this level of financial risk is difficult for the County Council. However, North Yorkshire County Council is committed to sharing the benefits of The Northern Powerhouse and as such has identified funding approaching £1m across the two years 2014/15 and 2015/16 to allow for the preparation of transport schemes and initiatives and a similar scale of funding is likely to be committed in future years.

The sections below outline our approach to developing the main schemes and initiatives that have the potential to make a substantial contribution to The Northern Powerhouse and brief details of some of the schemes that are in development. Further details of the schemes and the level to which each initiative contributes to the priorities are set out in Annex 1.

Our Rail Plan

Much of the railway infrastructure in the North of England is largely untouched from the Victorian era and no longer meets the demands of a Northern Powerhouse. We support the aspirations for high speed connected cities set out in The Northern Powerhouse. In line with industry practice, we have set out a High Level Conditional Output Statement and this points to the following interventions to achieve those outputs

Improving east – west connectivity

- Transformational change on York
- Harrogate – Leeds Line.

There is a strong business case for electrification of the line and in early 2015 the Government's Electrification Task Force concluded that the York – Harrogate - Leeds Line was a tier one priority for electrification. Harrogate is the largest town in North Yorkshire and supports the Leeds City Region and with high quality attractive housing, exceptional schools and safe and strong communities, all making it attractive for professionals to live.

Our long term plan for the line is for a £170m investment to bring about the electrification of the line, transformation and modernisation of Harrogate Station, and double tracking all of the remaining single track sections to improve performance and resilience. These works are being phased over the next 10 years, with the first sections of double track that are being funded by the County Council to be completed by 2018. The County Council are also mindful of the capacity constraints at Leeds station. Care must be taken to ensure that important local services are not overly compromised by the need to accommodate HS2 and other strategic rail services.

At the same time plans that City of York have for York Central Area will provide for an alternative north of the City approach to a new Platform 12. This will avoid crossing the East Coast Mainline thus providing greater resilience, increasing capacity and further reducing journey times.

Improving access to High Speed and conventional rail - Maintaining and improving access to HS2 Hubs and mainline stations.

With HS2 hubs at York, Leeds and Darlington approximately 74% of the county's population is within 40 minutes of a HS2 station. However there remain significant areas of the County, especially the coastal communities, not within 40 minutes of an HS2 hub.

In Our Highways Plan we will be bringing forward proposals to improve journey times on the main A64, and similarly our aspiration is for improved frequency and reduced journey time on Scarborough – York railway line.

Additionally, there are a number of key locations where parkway stations could provide a strategic access to the National Rail network. We will continue to examine the development of these sites.

Improving long distance connectivity to the north and south - Strategic North Leeds new railway infrastructure.

North of York there are several places where a failure on the ECML would result in complete shutdown with no services being able to travel to the North East or Scotland. This situation will be exacerbated when HS2 trains are also running on the classic network infrastructure.

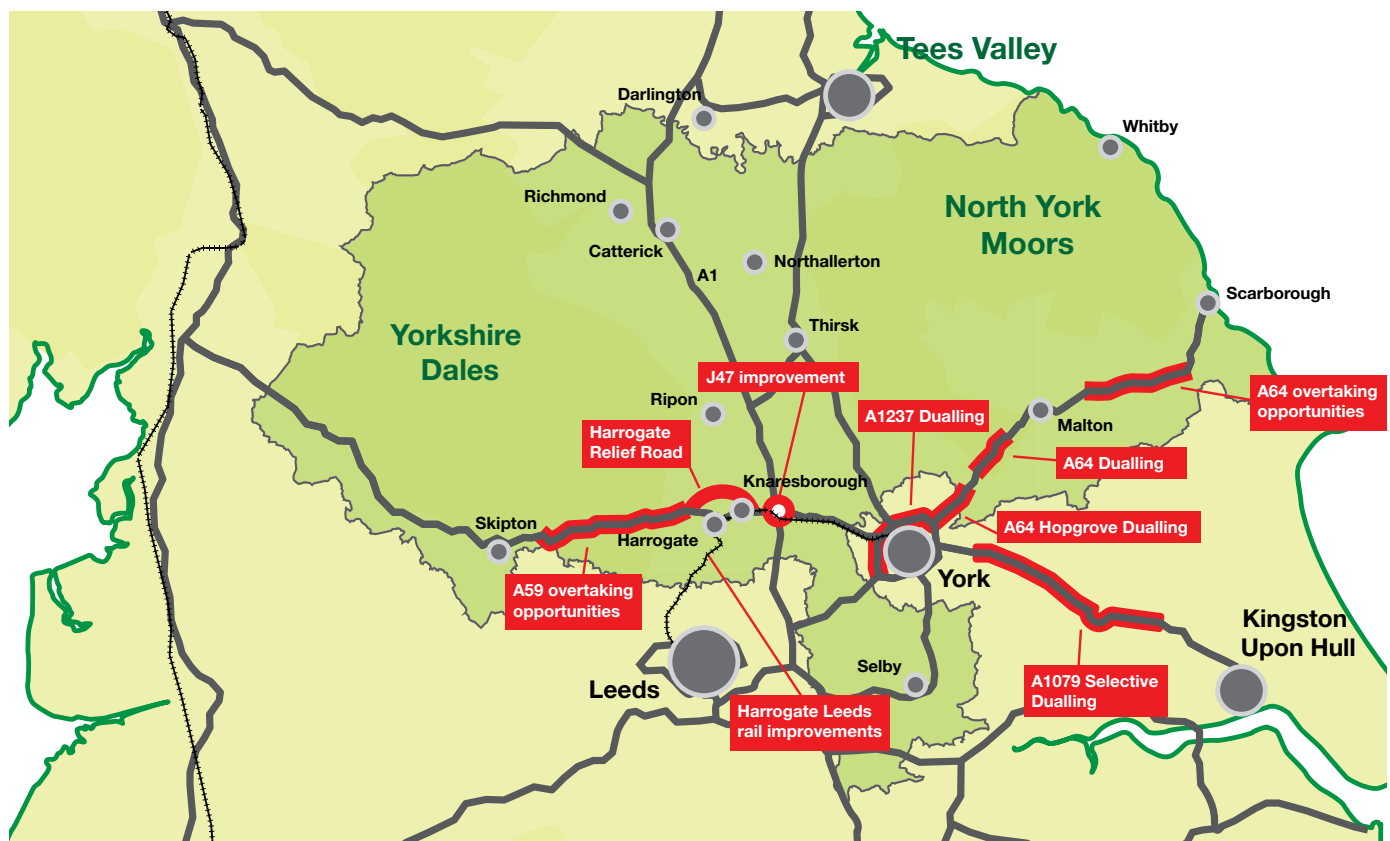
Providing resilience for the ECML to Tyneside and improving access for freight from Teesport and the Port of Tyne will ensure North Yorkshire and the North East are able to continue to grow and take advantage of the inward investment in the area.

A new railway from Leeds to Harrogate, Ripon and then joining the ECML north of Northallerton will bring much needed resilience to the ECML and

enable the East coast ports to expand. In the longer term (post 2030) it could also potentially help with plans and aspirations for housing and business growth in the central A1(M) / ECML corridor and it will help to enable the North East, Tees Valley and Yorkshire & Humber economies to act as a single market. Additionally it will remove three level crossings on busy A roads in Northallerton removing a major source of congestion and a constraint on the growth of North Yorkshire's County Town.

The £210m scheme will also provide for two new stations and better connect the Leeds City Region with the North East and Scotland. Whilst delivery of this proposal in the Leeds area could potentially start in the period to 2030 later phases in North Yorkshire are likely to be delivered after 2030.

East West Priorities Plan



Our Highways Plan

Improving east – west connectivity - Whilst any improvements in absolute journey times would be welcomed the long distances together with the vast investment needed to achieve major journey time improvements mean that in the medium term (to 2030) this is unlikely to be deliverable. Therefore the main issue that can be addressed on the priority east – west highway links is that of journey time reliability.

The east coast communities and Craven district have been dis-advantaged for many years by poor transport links and action is needed urgently. On both the A64 and A59 routes journey times can be very varied. Summer time holiday traffic (including caravans) can cause major delays as can agricultural vehicles and to a lesser extent, heavy commercial vehicles.

The County Council has therefore adopted an approach of identifying and developing proposals to increase overtaking opportunities on these roads through selective provision of dual carriageway and 2+1 single carriageway climbing lanes and overtaking lanes.

This includes proposals for dual carriageway on the A64 between Malton and York and overtaking lanes on the A64 between Scarborough and Malton. This is supplemented by the Highways England proposals to develop a scheme costing up to £250m for Hopgrove Roundabout and associated dualling on the A64 for inclusion in the second Roads Investment Strategy.

On the A59 we have identified 3 additional climbing lanes between Harrogate and Skipton including a major re-alignment at Kex Gill which also addresses a major landslip risk. These supplement the existing climbing lane and will provide two three lane overtaking opportunities in each direction. In addition we have identified a scheme to improve capacity at the A1(M) / A59 Junction 47 (provisional LGF funding agreed) and will be reviewing our Harrogate Northern Relief Road proposals later in 2015/16 to bring forward a scheme which contributes towards both east – west connectivity and addressing urban traffic congestion.

Also crucial to improved east-west linkages is the A1237 York Outer Ring Road. Whilst not within North Yorkshire provision of dual carriageway for this road would make a significant contribution to improving sub regional East – West connectivity and as such the County Council fully supports these proposals. Proposals by the East Riding of Yorkshire for selective dualling of the A1079 between York and Hull would bring significant benefits to North Yorkshire by improving connectivity to the Humber ports and the County Council also fully supports these proposals.

An additional investment of between approximately £125m to £250m (excluding the A64 Hopgrove scheme which is provisionally committed as part of RIS2) over the next 15 years would make a major contribution to improving the A64 and A59 east – west corridor and maximise the impact of the c£2bn private sector investment in potash, contribute towards the long term servicing and supply chain industries supporting offshore wind power as well as improving links to the FERA Sand Hutton campus and to SME's in Craven, Ryedale and Scarborough.

Improving access to High Speed and

conventional rail - Specific highway based initiatives to address this priority have yet to be developed. However in the near future and working with partners (especially Network Rail) the County Council will commence a wide ranging 'Access to HS2 and Rail' study which will look comprehensively at how we link our rural areas into rail. This will be a multi modal study and will include consideration of parkway stations, improved car parking and better highway links and the potential for the rationalisation of stations to provide one good station rather than two or three poor ones.

Improving long distance connectivity to the north and south – For North Yorkshire long distance highway connectivity to the north and south is primarily provided by the strategic (trunk road) network including the M1/A1(M) and A19/A168 corridor. North Yorkshire County Council will work with and support Highways England on any proposals to upgrade these routes including the proposals to improve the A19/A168 to expressway standard by 2040 as included in the Roads Investment Strategy.¹³

¹³ Road Investment Strategy: for the 2015/16 – 2019/20 Road Period - page 49

Our Freight and Logistics Plan

North Yorkshire has a strong freight, logistics and distribution industry especially along the A1(M) and ECML central corridor. North Yorkshire companies such as Reed Bordall at Boroughbridge, Alfred Hymas near Knaresborough, the Potter Group in Selby and Prestons of Potto near Northallerton are national players in the haulage and distribution industry operating over 500 vehicles between them. There are also major industrial estates specialising in warehousing and distribution most notably at Sherburn in Elmet near Selby which includes a major distribution depot for Eddie Stobart. North Yorkshire is also a major source of raw materials, an industry which is heavily dependent on freight transport. There are large limestone quarries in the Yorkshire Dales National Park, gravel extraction in the A1(M) corridor, major areas of commercial timber extraction and the potential York Potash mine.

The County Council endorses and supports the aspirations for a single plan for the needs of the freight and logistic industry and welcomes the opportunity afforded by The Northern Powerhouse proposals to engage with the industry and other public sector organisations to help to develop such a plan. The County Council has a number of transport planning staff who have previously worked in the logistics industry and as such would be willing and eager to take a lead role in the development of the logistics plan.

Recognising that freight and logistics is not just about the strategic transport network we will continue and where appropriate expand our approach to addressing the issues of freight at its local origins and destination including the highly acclaimed North Yorkshire Timber Freight Quality Partnership.

Rail Freight represents an effective way of moving large volumes of heavy goods and with a high percentage of the national rail freight travelling through North Yorkshire, the county's strategic railways are important to the industry. Recognising northern ports investment we are examining opportunities for additional freight to be transferred to rail, for improvements to the network that improve speed of freight and new opportunities for new freight routes.



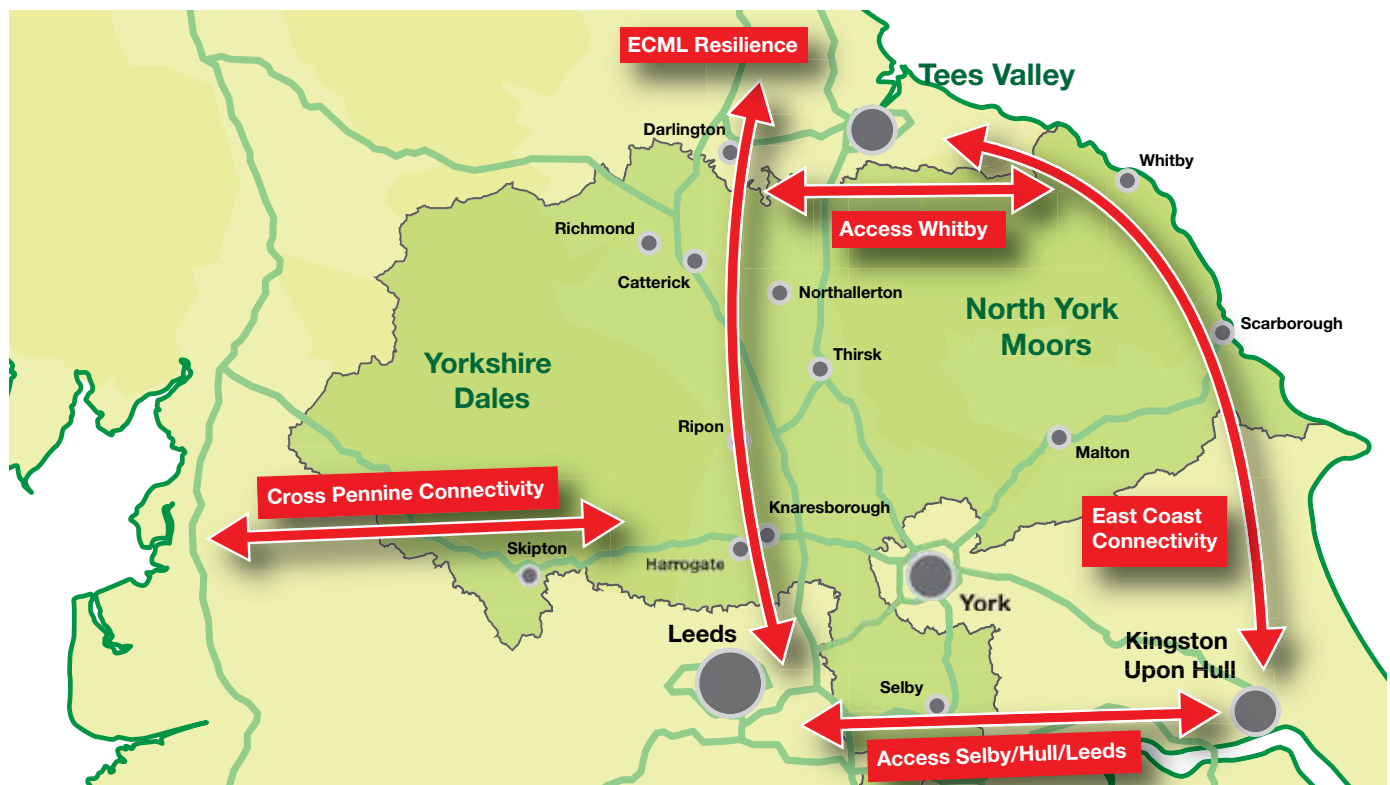


5. Strategic Transport Aspirations 2030 to 2045 – Looking into the future

In section 4 we identified the main transport improvements we are aiming to achieve by 2030. Looking to the longer term our headline Strategic Transport Priorities are likely to remain the same, however our geographical areas of focus are likely to have moved on. At this early stage of development the County Council has not yet identified any specific schemes or interventions but our next set of priorities are likely to include the following:

- Improved east – west road and rail links to Whitby to further enhance access to the rural economy, York Potash and off shore wind industry
- Improved east - west road and rail linkages between the A1(M), Selby and Hull to contribute to further agglomeration benefits by better linking West Yorkshire and the Humber.
- Improved north – south road and rail access between Teesside – Whitby - Scarborough – Bridlington and Hull better linking the east coast economies.
- Cross Pennine links between Craven District and East Lancashire including the potential re-opening of the Skipton – Colne railway
- Potential re-opening of the Harrogate – Ripon – Northallerton railway to provide additional strategic capacity on the ECML corridor (continuation from pre 2030).
- Roll out of ‘parkway’ stations across North Yorkshire to improve access to rail.

Aspirations Plan





6. Working Together – Our ‘offer’ and ‘ask’ of Transport for the North

We will:

- Continue to take a lead role on Strategic Transport for North Yorkshire in partnership with the Local Planning Authorities covering the County.
- Continue to work with Local Planning Authorities to help with the preparation of local development plans and ensure land use and transport planning are integrated.
- Provide support and assistance on transport matters to the York, North Yorkshire and East Riding Local Economic Partnership.
- Proactively and positively engage with Transport for the North to help achieve the ambitions of The Northern Powerhouse.
- Commit County Council funding towards the identification, development and advanced design of strategic transport improvements that will contribute towards achieving the ambitions of The Northern Powerhouse as well as local objectives.
- Utilise our transport planners with logistics experience to take a lead role on engaging with the industry to develop a northern freight and logistics plan.
- Continue to support Rail North and promote our collective ambition for further devolution.
- Continue to work with and support the East Coast Main Line Authorities (ECMA) (which represents Local Authorities and Scottish Regional Transport Partnerships throughout the area served by the East Coast Main Line).

We would like:

- Recognition of the importance to The Northern Powerhouse of ‘the places in between’ the City Regions.
- Access to long term (15 to 30 years) secure capital funding streams to help improve the planning and preparation of major transport infrastructure schemes and reduce the risk of investment in advanced planning and design.
- Appropriate full representation for rural LEP’s on Transport for the North governance bodies.

Annex 1 – North Yorkshire Initiatives (to 2030)

Contributions to Priorities

Initiative	Priority			
	Approx. Cost £m	East - West Connectivity	North - South Connectivity	HS2 and Rail Access
In North Yorkshire				
Transformational change on Leeds – Harrogate – York Line.	£170m	✓✓✓	✓	✓✓
Strategic new North Leeds railway infrastructure	£210m	✓✓✓	✓✓✓	✓✓
Access to HS and Conventional Rail	TBA	✓✓	✓✓✓	✓✓✓
A1(M) / A59 Junction 47 Upgrade*	£1m	✓✓✓	✓✓	✓✓
A64 Crambeck to Malton Dualling	£40m - £100m	✓✓✓	-	✓
A64 Malton to Scarborough Improvements	£12m -£24m	✓✓✓	-	✓
A64 Hopgrove Improvements (Highways England)*	£50m - £250m	✓✓✓	-	✓✓
A59 Harrogate to Skipton Overtaking Opportunities Package (inc. Kex Gill Diversion)	£25m -£30m	✓✓✓	-	✓
Harrogate Relief Road	£50m - £75m	✓✓✓	✓	✓
In other YNY&ER Authorities				
A1237 York Outer Ring Road Dualling (CYC)	c£150m	✓✓✓	✓	✓✓
A1079 selective dualling (ERYC)*	£14m	✓✓✓	✓✓	✓

* - Funding provisionally approved

Contact us

North Yorkshire County Council, County Hall, Northallerton, North Yorkshire, DL7 8AD

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Part VI: Central Trans-Pennine Corridor East – West Connectivity
March 2017

Central Trans-Pennine Corridor East – West Connectivity

An Economic Study

ON BEHALF OF THE LANCASHIRE ENTERPRISE PARTNERSHIP

IN CONJUNCTION WITH THE WEST YORKSHIRE COMBINED

AUTHORITY AND THE YORK NORTH YORKSHIRE & EAST RIDING LEP

March 2017

FINAL REPORT



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1.0 Executive Summary

Introduction and overview

- 1.1 Cushman & Wakefield (C&W) and SYSTRA have been commissioned by the Lancashire Enterprise Partnership, together with the West Yorkshire Combined Authority (WYCA) and the York, North Yorkshire and East Riding LEP to explore the potential economic benefits that might arise across the North of England from enhanced connectivity between Lancashire and North and West Yorkshire. The purpose of this is to develop a strategic economic narrative to support the case for potential investment and intervention in road/rail based connectivity across these three functional and connected economies comprising the Central Trans-Pennine Corridor. The study focus has been on a wider economic impact case to understand the likely impacts of enhanced connectivity on the “real” economy and an evidence based quantitative and qualitative assessment to support the economic case for improved connectivity has been set out.
- 1.2 In summary, this report identifies that:
- **The “Central Trans-Pennine Corridor” is already a major economic driver of the Northern Powerhouse and UK economies** - the three LEP areas together have a combined annual GVA output of around £100bn, representing around 7% of national GVA output and one third of the Northern Powerhouse economy GVA output¹. They comprise around 8.5% of the national population² and are home to over 210,000 businesses. The defined ‘Corridor’ for the purposes of this study (see paragraph 2.8) is estimated to have an annual GVA output of around £70bn³, representing around 22% of the overall Northern Powerhouse economy GVA output and circa 5% of national GVA output. It is therefore evident that this is already a Corridor of national economic significance and value.
 - **The Corridor is home to globally significant businesses, supply chains and economic assets** – it is home to the largest aerospace cluster in the UK (BAE Systems, Rolls Royce etc), with major sector representation and internationally competitive advantages in sectors such as automotive and other advanced manufacturing, digital, health/life sciences and low carbon/energy. These fully align with the Northern Powerhouse’s ‘Prime Capabilities’ as per the Northern Powerhouse Independent Economic Review (IER). It comprises a portfolio of economic assets and drivers that no other region in the UK can offer, including 14 nationally designated Enterprise Zone sites within or adjacent to the Corridor. It is home to world class businesses and industry clusters in key national priority sectors, world leading research-intensive Russell Group/N8 Group universities, growing and dynamic European cities and a quality of life and visitor economy offer that is second to none. There are wholly complementary sectoral strengths and existing economic activities across the Corridor and opportunities to both enhance the resilience of existing businesses and attract new inward investment in key sectors at all spatial scales.
 - **There is significant ambition and ‘untapped’ economic growth potential** – this is a unique and diverse economy with major growth potential offered by its globally recognised economic assets, but which is currently constrained by the lack of east-west connectivity. The three LEP

¹ Based on ONS GVA NUTS 3 data (2015 estimates)

²

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/latest>

³ Based on ONS GVA NUTS 3 data (2015 estimates) where applicable although in some instances (Harrogate/Craven/Calderdale) estimates are based on other local sources (such as the Regional Econometric Model) with assumptions applied as necessary as ONS data is not readily available at this spatial scale

areas have ambitions to together deliver over circa 100,000 new jobs and over 100,000 homes within the next ten years. Improving connectivity would accelerate employment and housing delivery, increase the scale of the overall growth opportunity (jobs, homes and GVA) and improve additionality prospects. Economic output and productivity on a per head basis across the LEP areas is reported to be below the national average and there is a need to continue to seek to narrow this gap through productivity and output growth.

- **Investment in East-West physical connectivity could assist to deliver the IER's transformational economic growth scenario** – according to the IER, this is based on substantial improvements in the skills base, in innovation performance, and in transport connectivity, with GVA projected to be some 15% higher than a 'business as usual' projection. There has been an acknowledged lack of investment in strategic transport infrastructure in the Corridor and this is constraining its economic potential. There is no East-West Strategic Road Network link and the recent focus has been on HS2/NPR in the Core Cities and the M62 Corridor to the South. Without intervention, the Corridor will not reach its potential to deliver against TfN's transformational growth scenario as set out within the IER. There is an identified need to invest in both road and rail infrastructure at strategic and local levels.

Improved connectivity could be highly likely to increase the size and quality of the labour market through enhanced accessibility; increase the efficiency of supply chains; increase the size of the customer base; promote increased Research & Development (R&D) activity and the commercialisation of intellectual property; reduce transport and overall costs of production; and increase overall business productivity through increased agglomeration. The travel to work analysis points to geographically proximate but economically detached/self-contained labour markets which is constraining the Corridor's economic potential. Economic benefits will be realised through better connecting economies and businesses/people within them – the evidence base for this is widely acknowledged. There are also distinct mismatches between areas of distinct socio-economic need (e.g. in parts of East Lancashire) and areas of economic opportunity (e.g. Enterprise Zone sites/key urban areas) which enhanced physical connectivity could address.

- **Enhancing the Corridor's economic potential fully aligns with Government policy** - this is an identified Corridor of unique opportunity with significant latent growth and output potential. Enhancing East West connectivity is a recognised key priority for all three LEPs as defined within the existing policy and strategy base and their respective SEPs, the Northern Powerhouse Strategy, TfN strategy and the Government's emerging Industrial Strategy and recent Housing White Paper. Addressing the existing East-West connectivity constraints will enable the Northern Powerhouse economy to achieve its growth ambitions in accordance with national Government agendas. Whilst this analysis has sought to capture *current* economic activity and *real* evidence of East-West inter-relationships where possible, it is imperative that the economic *potential* of the Corridor is acknowledged. It is considered that the current connectivity issues are restricting the realisation of the scale and extent of potential economic opportunities that exist.

- 1.3 Our analysis has explored both the quantitative and qualitative economic case for enhanced connectivity. Key headline messages are presented below from this analysis.

Qualitative case for enhanced connectivity

- 1.4 The qualitative case for investment in enhanced east-west connectivity is based around the following seven key potential benefits:

1. Supporting complementary high growth, high value economic sectors and clusters

Across the Central Corridor and the three functional LEP areas more generally, there are a number of key complementary economic sectors which are considered to be either existing or likely future significant drivers of economic output and productivity. Enhancing the potential for the increased agglomeration of business activity within and between these key existing and growth sectors through improved physical connectivity will undoubtedly offer the potential for enhanced overall economic output across the Central Corridor as well as promote increased innovation, supply chain development, knowledge transfer and overall operational efficiencies. The evidence base to support this relationship between improved physical connectivity and business agglomeration is widely accepted. The economic sectors where we consider there to be key current commonalities/complementarities and significant opportunities for growth across the Corridor based on current economic assets and activity and growth opportunities include the following, which include all four of the IER's identified 'Prime' capabilities:

- Advanced/High Value Manufacturing and Engineering (particularly aerospace, automotive and advanced/technical textiles)
- Health/Med-tech/Life Sciences
- Digital
- Low carbon/energy
- Logistics/distribution
- Food and drink

2. Unlocking the skills, R&D and innovation potential of Corridor economy

The Corridor is home to 9 Higher Education Institutions (HEIs) including a number which are ranked globally as leading institutions in particular taught and research areas. The Universities of York and Leeds form part of the 24 research-intensive, world-class universities that make up the Russell Group and the N8 Research Group includes these as well as Lancaster University. Through the recent Science and Innovation Audit (SIA) and the proposals for a Northern Powerhouse Advanced Manufacturing Corridor, there are plans to further enhance collaborations between the Lancashire and the Sheffield City Region economies including the planned new Advanced Manufacturing Research Centre (AMRC) on the Samlesbury Enterprise Zone site, linked to the existing highly successful operation in Rotherham. Improved Corridor connectivity could deliver increased opportunities for collaboration not only between the universities but also increased opportunities for University-business collaboration and for the Universities to work more closely with the FE sector, particularly in areas where there is no physical HEI presence, a key issue for a large part of the area. Enhanced connectivity could therefore also increase the attractiveness and accessibility of higher level skills development to learners which may have otherwise not been willing/able to consider skills development opportunities and also assist to enhance rates of graduate retention through improving access to employment opportunities, again a key issue for many areas. The Corridor's existing FE/HE offer has a strong focus on key IER and identified growth sectors including advanced manufacturing and Science, Technology, Engineering and Mathematics (STEM) based curriculums and this is evidenced through recent

and proposed initiatives for example in Lancashire such as the Blackpool Energy HQ facility on the Blackpool Airport Enterprise Zone.

3. Supporting the growth potential of other key transport hubs

Enhanced road and rail connectivity could deliver significant benefits to other modes of transport and established transport hubs within the Corridor and the wider North of England, including the following:

- Leeds Bradford International Airport (LBIA) – a rapidly expanding airport with plans to double passenger numbers to 7m per annum by 2030 and to explore freight opportunities.
- Manchester Airport – a nationally significant airport with the designated Airport City Enterprise Zone seeking to promote a global business destination including a MediPark focused on the life science sector opportunity.
- Leeds, Preston and York Rail Stations – all existing major rail hub stations with proposals for major expansion and connectivity enhancement at Leeds and Preston as proposed HS2 station hubs.
- Port of Heysham and other East/West coast ports outside of the Corridor (e.g. Liverpool, Hull, Immingham, Teesport).

4. Supporting the needs and expansion of existing major employers and their supply chains

The Corridor is home to a number of major, globally important businesses and employers, responsible for significant levels of employment and economic output. These are critical to the Northern economy, not only due to their direct employment and economic output but the wider supply chains that they create and support. It is also home to a number of major supply chains in key sectors which are key to the future economic growth of the Northern economy and increased mobility and connectivity across the North will be a key driver of the success of these supply chains and wider economic growth prospects.

With the uncertainty of what Brexit could mean for these businesses and wider global competition within the industry (particularly from lower cost base locations), there is a need to ensure that the local and regional physical infrastructure that these businesses require to meet their operational needs is adequate, otherwise this could be another push factor in favour of relocations to other locations globally. With increasing globalisation and overseas competition across a number of sectors, businesses are under significant pressure to enhance the efficiency of their supply chain operations. With an increasing focus on 'just in time' manufacturing strategy, ensuring supply chain efficiency is key. Supporting the needs of businesses and their supply chains to safeguard existing activity as well as supporting future investment/expansion activity is therefore critical particularly given the scale of operations in sectors such as aerospace and automotive and others in this Corridor. The Lancashire SEP identifies that the failure to deliver the transport infrastructure needed to support sustained business success, accounts for one-quarter of Lancashire's current economic performance gap with the rest of the UK.

5. Attracting new high value business activity and inward investment to the Corridor and wider Northern Region

There is also a case for investment to enhance east-west connectivity from the perspective of attracting new businesses and inward investment to the Corridor and the wider Northern region to strengthen existing clusters in key sectors. The quality and provision of transport infrastructure is likely to be a key factor accounted for by inward investors when assessing the merits of location

options as this can impact upon both labour supply and supply chain operations as well as the accessibility of the location to other company locations across the UK and internationally.

Place marketing and the promotion of wider quality of life is also an integral component of securing inward investment and transport connectivity is key to ensuring that people can live in attractive areas and commute to their workplaces efficiently and effectively on modern and reliable transport networks. Promoting accessibility to high quality cultural, leisure and visitor economy assets will also be important as part of this. For example, the Corridor links together a number of designated national parks, areas of outstanding natural beauty (e.g. the Forest of Bowland and Nidderdale) and coastlines with a number of highly popular coastal resorts such as Blackpool, Scarborough and Whitby which are key economic drivers in their own right. Ensuring that people can access these assets efficiently via road/rail will enhance the attractiveness of the Corridor and assist to drive levels of visits and associated net additional expenditure from both residents within the Corridor and those further afield.

6. Supporting housing and employment growth proposals and requirements

The Central Trans-Pennine Corridor as a whole is likely to experience significant population growth over the medium term in line with wider UK projections and local authorities are planning for this through allocating land for development in conjunction with key national drivers such as the Government's recent Housing and Planning Act (2016) and Housing White Paper (2017) and proposed Government interventions to drive housing supply. It is not only important that there are sufficient new homes and jobs to meet the needs of a growing population, but also that people can physically access employment opportunities. The delivery of transport infrastructure can also directly unlock housing and employment land for development through serving as critical enabling infrastructure.

It is essential that existing and proposed employment sites are supported with the necessary transport infrastructure to maximise their potential. It has already been identified that a number of businesses in the Corridor rely on east west movements as part of their business operations and with such significant growth planned, the emphasis on east west movement is only likely to increase.

It is also recognised that many of the proposed strategic housing and employment sites are located on the either side of the Corridor (i.e. around Leeds/Bradford/York/Harrogate and Preston/Lancaster). This is particularly evident with the locations of the 14 nationally important Enterprise Zone sites – these are all located on the fringes of the Corridor. This is reflective of the larger urban settlements on the fringes of the Corridor and the stronger North-South links in these areas. It is therefore critical that East-West connectivity is enhanced to enable people to access suitable and available employment opportunities, particularly from identified areas of socio-economic need which are concentrated in the heart of the Corridor (see below).

7. Addressing socio-economic inequalities

Parts of East Lancashire (e.g. Burnley, Pendle, Blackburn) and West Yorkshire (e.g. Bradford) represent some of the most deprived communities nationally, based on the 2015 Index of Multiple Deprivation (IMD). Enhanced East-West connectivity (in terms of journey times, cost and resilience) across the Corridor would assist to address the identified socio-economic inequalities and disparities and to enable people to access economic opportunities across the geography of the Corridor. It would enable increased cross boundary/cross county flows and movements and would provide increased opportunities to better connect people to employment and skills/learning and maximise the potential of the Corridor's economic asset and business base. There is no doubt

that the current physical connectivity issues on an East-West basis are restricting the horizons of people, particularly from a travel to work and business to business perspective. Given the relatively small point to point distances between key locations within the Corridor, the transport connectivity issue should not be as significant as it appears to be and needs to be addressed if the economic potential of the Corridor and wider Northern Powerhouse economy is to be fully realised and the productivity gap with the rest of the UK closed.

Quantitative case for enhanced connectivity

- 1.5 In addition to the above qualitative benefits of enhanced East West connectivity, a quantitative assessment, based on a bespoke wider economic impacts model was developed in accordance with the Department for Transport's (DfT) WebTAG.
- 1.6 The modelling work examines two key areas of potential benefit:
 - Firstly "agglomeration" benefits – the benefits of businesses being located closer together and the associated increases in productivity that arise from this; and,
 - Secondly the "employment" effects, which look at the benefits to the labour market of improvements in connectivity where employers and employees can be better matched increasing productivity and better matching skills. In turn this brings additional employees into the system who may not previously have been in work.
- 1.7 To provide an understanding of the potential wider economic impacts of future strategic transport investment across the area, nine "tests" have been conducted covering a range of scenarios reflecting improvements to road and rail, both separately and in combination across the defined study area. The tests also include consideration of the impacts of different scales of intervention. The tests avoid identifying and testing specific schemes. Instead the modelling has focused on what the overall output would be, in terms of generalised cost or journey time reduction. The outcomes of these scenario tests in terms of annual Gross Domestic Product (GDP) benefits are presented below in Figure 1.1:

Figure 1.1. Agglomeration and Employment Model £m GDP per annum

	Description	Agglomeration Model	Employment Model	Total	Rank
Test 1	10% GC Reduction	£30.16	£4.42	£34.58	3
Test 2	20% GC Reduction	£61.52	£9.77	£71.30	1
Test 3	10% GC Reduction (Highways)	£18.77	£3.62	£22.4	5
Test 4	20% GC Reduction (Highways)	£30.32	£8.30	£36.63	2
Test 5	Average to Minimum JT	£15.70	£2.08	£17.79	6
Test 6	Maximum to Average JT	£6.98	£2.09	£9.08	9
Test 7	10 minute Cross Pennine Reduction	£10.92	£0.90	£11.82	8
Test 8	20 minute Cross Pennine reduction	£11.25	£1.01	£12.26	7
Test 9	25% Rail GC Reduction	£30.75	£1.74	£32.49	4

- 1.8 The following key conclusions can be drawn from this:

- There is likely to be a significant level of net additional economic benefit from wider economic impacts attributable to enhanced East-West transport connectivity across the corridor;
- Investment in both road and rail will be beneficial considering the wider economic impacts identified. Indeed, the difference between the modelled outputs from tests 1 & 2 (generalised cost reduction on both road and rail) and tests 3 & 4 (highways only) suggests that the scale of benefit from a reduction of generalised cost on rail is in the same order to that from road. The results of test 9 confirm that potentially significant benefits may accrue from investment in rail. In terms of distribution, investment in highways spreads the benefits across the study area, while rail provides significant benefits at key 'nodes' (those larger town and city centres with a rail service);
- This distribution is intuitive given the nature of the road and rail networks, but the fact that the scale of benefits from rail is similar to that from road is noteworthy, as the rail network is relatively limited in the corridor, suggesting there is 'more bang' in terms of wider economic impacts from a limited number of opportunities to improve rail travel. This is perhaps reflective of the very poor quality of rail services in East Lancashire at present, which presents a large opportunity for transformational change. One caveat on the difference between road and rail is that some benefits may have been lost, potentially significant in scale, as no account of entirely 'external' trips (starting and finishing outside the modelled area, for example, Blackpool to Scarborough) is taken within the modelling work. It is likely that this will affect the road element more than rail, as there are potentially significant numbers of long distance road trips in the corridor;
- There is little additional marginal economic benefit of increasing cross Pennine journey time savings from 10 minutes to 20 minutes. This is a function of the fact that in practical terms, reducing journey times by 20 minutes results in unrealistic average speeds for many road trips (i.e. in excess of legal limits). This also suggests that the main benefits are gained from shorter trips in the immediate cross-boundary area of the corridor.
- The reliability tests (tests 5 & 6) generate a relatively lower level of wider economic benefits than others, suggesting that many of the trips that are affected by poor reliability are relatively short trips. These results suggest that the main reliability benefits may be localised, not from 'end-to-end' or longer journeys. It may therefore be that investments in critical 'pinch point' resilience issues in the network may be the answer to this issue;
- This point regarding local issues is reinforced by the finding that there are diminishing returns on highways improvements - a 20% generalised cost reduction doesn't double the wider economic benefits gained by a 10% generalised cost reduction on highways.

Summary

- 1.9 Overall, there is considered to be a robust and compelling quantitative and qualitative economic case for enhanced East-West Connectivity across the Central Corridor. Improved connectivity would not only address the economic challenges and ambitions of the Corridor itself but it could also enhance the wider economic prosperity of the North as a whole and enable the Corridor to provide a complementary route to the M62 corridor to provide additional resilience to Trans-Pennine connectivity more generally, a key pan-Northern objective in terms of road and rail, passenger and freight movements. A failure to improve East-West connectivity and address current connectivity constraints would be likely to critically restrict the growth potential of the Corridor economy, as a key driver of the wider Northern Powerhouse economy.
- 1.10 The analysis has demonstrated that there will naturally be significant economic benefits of investing

in both road and rail infrastructure and both modes are important to meeting current and future economic needs. An optimum investment strategy would require a comprehensive approach to developing and delivering a phased multi-modal investment programme to address both strategic transport connectivity and critical 'pinch point' resilience issues.

- 1.11 There is a limited rail network across the Corridor, particularly in East Lancashire and the provision of an enhanced rail network would need to be aligned with local demographic and business/economic need and growth opportunities. Rail flows are typically targeted at major settlements where there are more likely to be high value jobs, for example in the producer services and consumer services sectors, and rail networks can also significantly enhance accessibility to urban centres to improve the mobility of labour supply. The case for transport investment within the Corridor needs to relate to the current and future economic drivers of the Corridor and these are varied, although appear to focus significantly on advanced and innovative manufacturing based activity, which is likely to continue to be dependent upon an efficient road transport network, along with other key sectors such as logistics, food and drink and energy. However, other professional service based growth sectors such as digital and health/life sciences may be more reliant upon enhanced rail services to enhance their output and growth prospects, particularly through enhanced agglomeration and access to skilled labour.

2.0 Introduction

Purpose of this report and background

- 2.1 Cushman & Wakefield (C&W) and SYSTRA have been commissioned by the Lancashire Enterprise Partnership together with the West Yorkshire Combined Authority (WYCA) and the York, North Yorkshire and East Riding LEP to explore the potential economic benefits that might arise across the North of England from enhanced connectivity between Lancashire and North and West Yorkshire. The purpose of this is to develop a strategic economic narrative to provide an evidence base to support the case for potential investment and intervention in road/rail based connectivity across these three functional economic geographies.
- 2.2 This report focuses on a 'Central' Trans-Pennine Corridor and includes key road routes such as the M65/A59/A65 and rail routes such as the Calder Valley line. There have been longstanding ambitions from both sides of the Pennines to enhance connectivity in this Central Corridor and a number of more local schemes have been considered and some delivered. However, none of the road routes within the Corridor form part of the national Strategic Road Network (SRN) and much of the Transport for the North (TfN) work to date on the Northern Transport Strategy has focused on the SRN and the proposals to enhance the rail connectivity of northern cities through initiatives such as Northern Powerhouse Rail (NPR) and the proposals for a Trans-Pennine Tunnel between Manchester and Sheffield.
- 2.3 Much of the recent and historic focus of transport investment across the Pennine area is on or around the M62 Corridor, either along the M62 Motorway or the Trans-Pennine Express rail route between Leeds and Manchester. Road and rail links in the Central Corridor have generally tended to follow historic trade routes dictated by topography rather than user demand or economic geographies and are generally considered to be fairly constrained in terms of their alignments, suitability, capacity and reliability. The routes are certainly of an inferior overall quality compared to those along the M62 Corridor between Leeds and Manchester and this report presents an economic evidence base to support potential connectivity enhancements in this Central Corridor.
- 2.4 This report provides a summary of our findings, based on research, key stakeholder consultations and economic modelling work. It is intended to be a 'strategic' advocacy report to inform and influence policy and funding decisions based on existing economic evidence. It is intentionally non-scheme specific and rather presents an economic narrative and justification for enhanced East-West connectivity between Lancashire and North/West Yorkshire across the 'Central' Corridor to support potential future transport infrastructure based interventions.

Context – the links between transport connectivity and economic growth

- 2.5 The inter-relationships between transport connectivity and economic growth have been well documented over the years and there has for some time been a generally accepted view that strong transport links are critical to supporting economic growth. Research undertaken in 2014, commissioned by the Department for Transport (DfT)⁴, identified that the impacts of a transport improvement are wide-ranging and can be grouped into three types; user benefits, productivity effects, and investment and employment effects. In terms of productivity benefits, it is suggested that transport investment can result in:

⁴ Venables, Laird, Overman, 2014, *Transport investment and economic performance: Implications for project appraisal*, Paper commissioned by UK Department for Transport.

- Improved economic interactions between firms (and between firms and consumers)
 - increased specialisation and sector specific advantages
 - Improved access for workers to concentrated and productive centres of activity.
- 2.6 In recent years there has been an increasing policy and economic focus on transport and connectivity investment as a direct driver of economic growth in its own right. The DfT and HM Treasury have become increasingly interested in the wider economic benefits associated with transport-based investment, particularly in terms of agglomeration benefits (i.e. the quantification of economic value associated with the geographical/spatial concentrations of businesses and people through enhanced connectivity). Developing a successful case for public sector investment in major strategic transport schemes now needs to be based on far more than the articulation of congestion relief/journey time savings and the wider economic benefits case is key to this.
- 2.7 As identified within the 2006 Eddington Transport Study (commissioned by the Secretary of State for Transport), *“good transport systems support the productivity of urban areas, supporting deep and productive labour markets, and allowing businesses to reap the benefits of agglomeration”*. The report goes on to suggest that *“transport corridors are the arteries of domestic and international trade, boosting the competitiveness of the UK economy”*⁵. This principle is now well accepted and the wider economic benefits of transport investments form an integral component of the case for investment and intervention from a public sector perspective.
- 2.8 There is a substantial evidence base that supports the principle of transport infrastructure as a key driver and component of economic growth, particularly in terms of the “wider economic” agglomeration based benefits that it can deliver. Developing an economic case based upon this and the wider economic development and growth prospects of the economy over and above a journey time/cost saving will therefore be an important of the rationale for investment in this Central Trans-Pennine Corridor. Key to this is an understanding of the economic inter-relationships between the identified functional economic LEP areas and extent to which the current infrastructure may serve as a current or future barrier to economic growth and competitiveness potential.

The study area

- 2.9 It is important to articulate the boundary study area that was used for the purposes of our quantitative modelling although the economic benefits of enhanced connectivity will extend far beyond this across the North of England. The study focuses on East-West connectivity in the ‘Central Trans-Pennine’ Corridor. The client brief described the study area Corridor as follows:
- “This ‘Central’ Trans-Pennine Corridor comprises the M65/A56/A6068, A59 and A683/A687/A65 roads and parallel railways, including the Calder Valley line linking Preston, Blackburn and Burnley with Bradford and Leeds via Hebden Bridge and the line linking Lancaster with Leeds via Skipton”.*
- 2.10 Our modelling was undertaken within this Corridor, focusing on these key east-west routes. We avoided east west movements in adjacent corridors (essentially the M62) or where north-south movements have a significant role in connectivity. This last point essentially means the A1 corridor to the east, and the M6 to the west, but also the M66 to Manchester. We therefore sought to exclude places that were strongly influenced by these neighbouring east-west and north-south corridors. Discussions took place with respect to Selby (A1), Rossendale (M66), Blackpool and significant growth sites in the west of Lancashire (M6), and Huddersfield (M62), all of which were excluded in order not to skew the analysis with the influence of movements that were not essentially about east-

⁵ The Eddington Transport Study, December 2006, Main Report, *Transport’s role in sustaining the UK’s productivity and competitiveness*

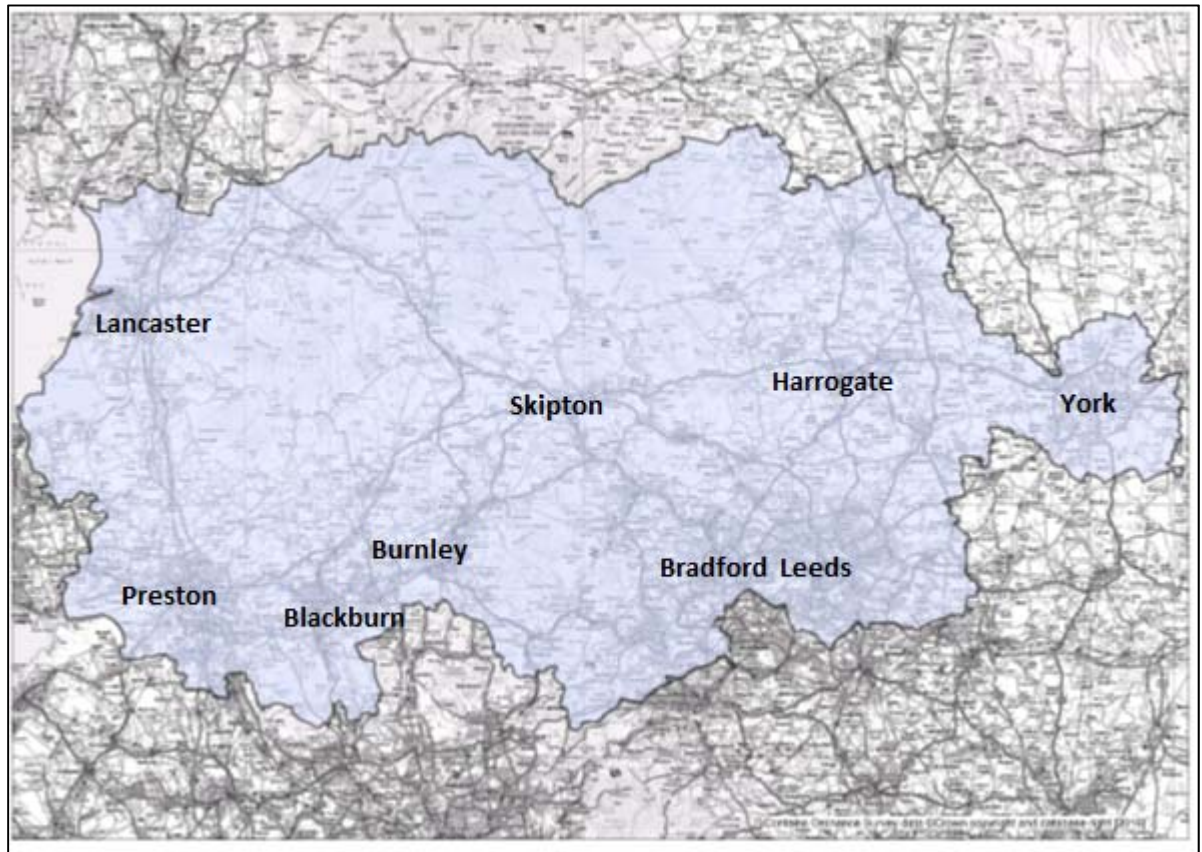
west business travel in the corridor in question.

2.11 For the purposes of this work we have assumed the below for the wider economic quantitative modelling only. This is presented further within Figure 2.1 below:

- Given Huddersfield's location and current transport connectivity, the majority of its east-west movements into the corridor will be likely to be along the M62/TPE rail route to Leeds or Manchester and then up, which is outside of the scope of this study;
- The stretch of the A64 (A1(M) to York), and Selby district more generally, is not considered within scope for this work largely because routing would tend to be via the M62 corridor from a number of places, rather than via the A59-M65 corridor. It is this latter corridor that is the focus for this work.
- Rossendale is excluded from the wider economic modelling as are Kirklees and Wakefield as these are considered to be too far south and fall within the M62 Corridor as per Huddersfield above;
- The unitary authority of Blackpool as well as the western parts of Fylde (west of Poulton-le-Fylde) and Wyre (to the west of the River Wyre Estuary) have been excluded from the wider economic impact modelling. It is important to note that the wider economic impacts modelling undertaken focuses on two very specific aspects of the economy, namely the agglomeration effects (which are derived from improved connectivity on business-to-business journeys) and the employment effects (derived from improvements to connectivity that widen the labour market). The importance of the visitor economy to Blackpool, and the influence of visitor trips as one of the principal sources of journeys to and from Blackpool would not be reflected significantly in either of these 'slices of the economy' which are captured within the modelling. The inclusion of Blackpool could therefore 'skew' the modelling outputs which do not pick up wider visitor economy based trips as they are focused on business to business movements. The western parts of Fylde and Wyre have also been excluded as they are geographically contiguous with Blackpool and the M55 remains the primary route to these areas from Preston and the wider Corridor to the East. The highway network west of the M6 along the M55 and other routes is relatively unconstrained in comparison to the central M65/A56/A6068, A59 and A683/A687/A65 corridors, and therefore, the requirement for road transport infrastructure investment is likely to be less of a priority. East West based rail connectivity to Blackpool North is via Preston and provides a regular service at present for largely local trips and visitors.

It is important to note that the qualitative economic narrative as part of this study does include the wider LEP areas beyond the immediate boundaries of the wider economic modelling study boundary. This includes narrative, for example on the Enterprise Zone sites at Blackpool Airport and Hillhouse International Enterprise Zone as well as key economic assets and drivers within the LEP areas as a whole such as the coastal resorts of Blackpool, a significant visitor economy asset for Lancashire.

Figure 2.1: Central Trans-Pennine Corridor Area as defined for the purposes of the quantitative economic modelling



Our approach

2.12 Our approach to this commission has included the following key tasks which form the structure and key sections of this report:

- Brief “snapshot” of the 3 functional economic LEP areas that form the basis of the Central Corridor;
- Review of the existing major policy/strategy drivers and evidence base from both economic and transport connectivity perspectives;
- Review of current travel to work flows across the study area;
- Consultations with key stakeholders (see below);
- Overview of key current transport challenges and constraints;
- Qualitative economic narrative for enhanced connectivity;
- Quantitative economic assessment of the case for enhanced connectivity, largely based on agglomeration and labour market impacts of improved connectivity, informed through the development of a bespoke transport economics model using the DfT’s WebTAG approach.

Stakeholder consultees

- 2.13 As part of this commission, we have undertaken an extensive process of stakeholder consultation and engagement. The purpose of this was to seek the views of local and strategic stakeholders to inform the emerging evidence base. We engaged with a range of public and private stakeholders and there was an overwhelming degree of support for the strategic principle of enhancing East-West connectivity from all stakeholders. The key purpose of these was to identify where there was anecdotal evidence available to support the case for enhanced connectivity as part of developing a wider economic narrative. The feedback from these has informed the qualitative economic narrative presented later in this report.
- 2.14 A list of the stakeholders that have been consulted as part of this commission is presented below:

Organisation
LEP/CAs
Lancashire LEP/CC
North Yorkshire LEP/CC
WYCA/Leeds CR LEP
Lancashire Local Authorities
Preston City Council
Burnley Council
Lancaster City Council
Pendle Borough Council
Hyndburn Council
Ribble Valley Borough Council
Blackburn with Darwen
South Ribble Borough Council
West and North Yorkshire Local Authorities
Craven District Council
Harrogate Borough Council
Leeds City Council
Selby District Council
York City Council
Bradford Metropolitan District Council
Wakefield Metropolitan District Council
Calderdale Metropolitan Borough Council
Kirklees Metropolitan Borough Council
Private Sector/Other
North West Aerospace Alliance
Northern Automotive Alliance
East Lancashire Chamber of Commerce
West and North Chamber of Commerce
SELRAP
Lancaster University
NW Texnet
Leeds Bradford International Airport
Drax Group plc
Wincanton plc

3.0 'Snapshot' of the 'Central Corridor' functional economic areas

Introduction and overview

- 3.1 This section presents a brief 'snapshot' overview of each of the three functional economic LEP areas within the defined 'Central Corridor' study area. The purpose of this is to provide background economic context to the later sections of the report and this section is informed largely by the three respective Strategic Economic Plans (SEPs) and their evidence base for each of the three areas.

Overview

- The 3 LEP areas together have a combined annual GVA output of around £100bn, representing around 7% of national GVA output and one third of the Northern Powerhouse economy's GVA output⁶. They comprise around 8.5% of the national population⁷ and are home to over 210,000 businesses.
- The defined 'Corridor' for the purposes of this study is estimated to have an annual GVA output of around £70bn⁸, representing around 22% of the overall Northern Powerhouse economy's GVA output and circa 5% of national GVA output. It is therefore evident that this is a Corridor of national economic significance and value.

It is clear from the above that there are a number of similar and complementary economic opportunities and challenges facing each of these functional economic areas, including the following:

- Economic output and productivity on a per head basis across all 3 LEP areas is reported to be below the national average and whilst GVA per head output has been increasing there is a need for a focus on driving productivity to narrow this gap with the national average.
- There are a number of identified high growth and important economic sectors which are consistent across the 3 functional economies, for example, advanced manufacturing, food manufacturing, health and energy. It is evident that there are a number of complementary sector strengths and this is considered to be a key driver for the need for enhanced connectivity.
- There are gaps/'mismatches' between the supply and demand for skills, particularly in relation to the sectors of the economies which are identified as having the greatest growth potential as above.
- There is a recognised need to drive innovation and R&D to maximise business growth and productivity.
- There is a need to drive additional high wage, high value employment opportunities and to attract inward investment, levels of which are reported to be comparatively 'low'.
- There are pockets of severe socio-economic deprivation in all 3 areas which need to be addressed.
- Each of the SEPs places a significant emphasis on the need to invest in economic infrastructure, particularly transport infrastructure, to achieve their economic ambitions. East-West connectivity is specifically identified as a critical challenge and this is explored further in Section 6 of this report.

⁶ Based on ONS GVA NUTS 3 data (2015 estimates)

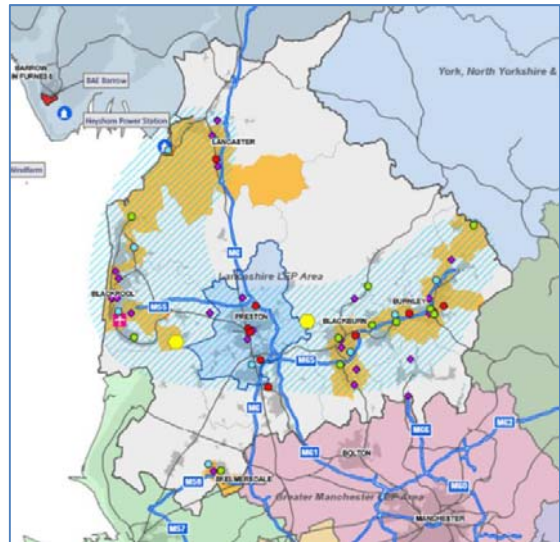
⁷

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/latest>

⁸ Based on ONS GVA NUTS 3 data (2015 estimates) where applicable although in some instances (Harrogate/Craven/Calderdale) estimates are based on other local data sources (such as the Regional Econometric Model) with assumptions applied as necessary, as ONS data is not readily available at this spatial scale

Lancashire LEP economy

- 3.2 The functional LEP area of Lancashire covers the Lancashire County Council spatial area which includes 12 districts and the 2 unitary authorities of Blackpool and Blackburn with Darwen. These are illustrated in the plan in Figure 3.1 opposite. It is a large and diverse area with Lancaster as its County Town, although Preston as its administrative centre and key urban centre. Lancashire emerged as a major industrial area during the Industrial Revolution when it was a global centre for cotton processing, largely focused around the textile mill towns to the east of the County. Manufacturing remains the predominant economic sector although the focus of this has shifted towards key advanced manufacturing growth sectors such as the aerospace and automotive sectors.

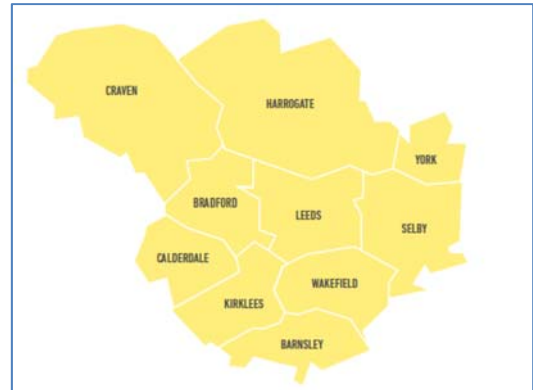


- 3.3 The Lancashire SEP identifies that the annual GVA output of the LEP economy is currently valued at over £23 billion and that it is home to over 40,000 businesses employing in excess of 600,000 people, with a population of 1.4m. The SEP recognises that although Lancashire has economic 'hotspots' such as the cities of Preston and Lancaster, the economy's average performance still consistently lags behind that of the UK and neighbouring city regions. It is suggested that between 2007 and 2011, Lancashire's economy grew by 4.4% compared to 6.5% nationally and 4.9% regionally; with Lancashire's GVA per capita being 77% of the UK average⁹. The SEP reports that the economic performance of Lancashire is more than 20% below the national average, in terms of GVA per resident. Narrowing this GVA gap with the rest of the country is a key ambition and the SEP suggests that *"if Lancashire is to maximise its economic potential it will need to fully exploit its key innovation, skills, sector base and transport assets"*.
- 3.4 There are a number of identified skills issues within the economy, particularly relating to a mismatch between the selected pathways of local people and the sectors of the economy which have the greatest growth potential and there are also identified pockets of very low skills levels in corresponding areas of social and economic deprivation. It is clear that these skills issues need to be addressed, particularly in light of the priority growth sectors below and the skills implications of realising this growth. Despite this, the SEP recognises that in addition to a number of leading Universities, Lancashire is the only LEP area in the country where all FE colleges and locally-based training providers are recognised as good or outstanding.
- 3.5 The SEP identifies 3 key priority sectors for growth in Lancashire: Aerospace, Automotive and Energy. It also identifies a number of 'developing sectors', including: Health, Aerospace – unmanned aerial vehicles, Digital and Business Process Outsourcing as well as existing key employment sectors including: food manufacturing, the visitor economy and business and financial services. It is suggested that the economy has the potential to develop and grow a number of clusters of international importance in these sectors, particularly aerospace and automotive where it has a longstanding leading European and global role in these industries. The SEP identifies that these sectors have the potential to deliver a scale of growth which will have a transformative impact on the local economy and are primarily focussed within the Advanced Engineering and Manufacturing (AEM) sector.

⁹ Economic Forecasts for Lancashire, Oxford Economics, 2013

Leeds City Region (LCR) LEP economy

- 3.6 The Leeds City Region economy covers a large and diverse geographical area that includes 10 local authority areas largely across West Yorkshire, but also includes parts of North and South Yorkshire, as illustrated in figure 3.2 opposite. Leeds is the largest city in terms of geographical area, economy and population. The City Region comprises a distinctive and polycentric mix of urban and rural areas in close proximity, with the north more rural (albeit with large centres such as York and Harrogate) and the south more urban with a number of former industrial centres).



- 3.7 The LCR is reported to be the largest city region economy outside of London and generates £62.5bn of output per annum, representing around 5% of total UK output. The SEP reports that City Region productivity is similar to most core city LEPs in the North and Midlands (at £27 per hour in 2014), but stands at just under 90% of England average. It is reported to be rising, but more slowly than average, so the gap against the rest of the UK is widening. The 2016 LCR Economic Assessment identifies that if LCR Gross Value Added (GVA) per person matched the English average, the LCR economy would be £13.8 billion larger. The SEP also identifies that the rate of economic growth is below that of England. The LCR economy grew by 73% between 2000 and 2014, compared to growth of 77% in England. It has a population of 3 million and a working age population of 1.9m and is home to around 119,000 businesses.
- 3.8 It is well known that the City Region, largely but not exclusively driven by Leeds, is the largest centre for finance and professional services outside of London. The SEP suggests that it is also the UK's largest manufacturing centre with 142,000 jobs – a number which is increasing locally, despite national decline. It is specific strengths on an international scale in polymers, turbo technologies and advanced textiles, for example. It is also widely reported that the LCR has more Higher Education Institutions than any UK economy outside of London with 9 universities, in addition to its 14 FE colleges. The SEP identifies that skills levels have continued to improve across the City Region, and are comparable to most core city region LEP areas. However, it is suggested that they have not improved quickly enough to close gaps to the national average and the shortfall in qualification levels has widened. There are also reported gaps in employability and skills and mismatches between the supply and demand for skills at sector level, including skills shortages in areas such as engineering, construction and software/coding. This is linked to the identified concern for the LCR that far fewer high income jobs have been created in relative terms than in other parts of the country with growing income inequalities as a result. The City Region still has much more than its 'fair share' of poverty and deprivation with the SEP reporting that 17% of local areas in the Leeds City Region are in the most deprived 10% in England, two-thirds higher than the national average.
- 3.9 The SEP suggests that the LCR needs more innovation, investment and exports; a stronger national and international profile; and to see more high growth companies and successful business starts. It identifies that workforce skills are below average and there are areas with high levels of deprivation. The focus is on driving 'good growth' to drive productivity and output to become an above average net contributor to the UK economy in terms of tax revenues.
- 3.10 The SEP identifies the following 6 key priority sectors for growth where it has identified particular clusters of strength and opportunity:

- Digital and Creative
- Low carbon and environmental industries
- Health and life sciences
- Innovative manufacturing
- Financial and professional services
- Food & drink

York, North Yorkshire and East Riding LEP economy

- 3.11 As the title suggests, the York, North Yorkshire and East Riding LEP area covers the breadth of the County of North Yorkshire as well as the East Riding of Yorkshire District, including nine districts in total, as per figure 3.3 opposite. The LEP area includes a significant breadth of urban, rural coastal areas and is suggested to be largest LEP area nationally by area. It is characterised by a diverse range of physical and economic landscapes from the heritage City of York and the spa town of Harrogate, both key economic drivers in their own right, through to rural and coastal hinterlands including key tourism locations such as Scarborough and Whitby on the East Coast. Quality of life is a key component of the LEP area's offer and it is home to two National Parks.
- 3.12 The LEP economy generates £24bn of annual output and it comprises over 51,000 businesses¹⁰. Its population is 1.14 million, with a higher than average percentage of those aged over 65 (22.7% compared with 17.8% nationally). LEP GVA per head is lower than national levels and narrowing the gap between the area's productivity and the national average is a key LEP objective¹¹.
- 3.13 In 5 of its 9 districts, manufacturing or accommodation/food services is the sector with the most employment, whilst agriculture remains a key source of employment (3.7 times more people employed in agriculture than the national average) (based on LEP Economic Review 2015/16). This is acknowledged within the SEP as creating wage/income challenges given the high reliance upon the tourism sector. Reflecting its natural resource base and location, the LEP area is also home to a number of unique assets and business activity such as the largest offshore wind farm proposals in the world at Dogger Bank and the proposed £1.7bn potash mine investment. The SEP identifies that its biggest distinctive strength compared with other areas are its assets around agri-food and biorenewables and bioscience. These are recognised as key UK growth sectors, with the potential to lead on an international scale.
- 3.14 The SEP reports a strong business base with above average business survival rates. 89% of businesses have less than 10 employees which is higher than national averages and the number of businesses is growing, but at a slower rate than nationally due to lower start-up rates. It has lower than average wage and productivity rates and its ageing workforce is reported as a critical issue, with 27% of its current workforce due to retire by 2022. The LEP recognises that there is a vital need to attract and retain talent but this can be challenging with the lack of available and affordable housing supply.
- 3.15 The LEP Economic Review identifies that levels of R&D/innovation are low overall (despite the existence of a significant number of highly innovative businesses and activities). It suggests that the proportion of businesses introducing new or improved products and services is the lowest of all 39



¹⁰ <http://www.businessinspiredgrowth.com/where-we-cover/>

¹¹ York, North Yorkshire and East Riding Economic Review 2015/16 (Draft)

LEPs at 12% and that this lack of innovation needs to be addressed. However, it is also recognised that the LEP area is characterised by a strong education system and high levels of skill attainment (39.6% with NVQ4+ compared with 35.8% nationally) and a low unemployment rate. There are, however pockets of deprivation, high unemployment and low skills in some coastal and urban locations.

- 3.16 Going forward, a number of LEP priority growth sectors are identified including advanced manufacturing, energy, bioeconomy, knowledge based industries and others such construction, health and social care and the visitor economy.

4.0 Strategic economic and transport policy context

Introduction and overview

- 4.1 This section provides an overview of the existing major policy and strategy drivers for enhanced East West connectivity across the Central Corridor. It draws upon a number of published economic and transport policy/strategy documents to inform this. Understanding current policy objectives is important as any emerging case for enhanced connectivity needs to build upon and support existing economic and transport policy and strategy if it is to have maximum impact. This section is split into two parts with the first providing an overview of relevant economic policy/strategy and the second focusing more on the existing transport policy/strategy evidence base.
- 4.2 It is evident from the economic and transport policy context that economic growth across key IER sectors is a key priority for all three LEP areas and that all have set ambitious employment and housing delivery targets over the short-medium term. The need for enhanced transport connectivity and infrastructure provision that supports economic growth objectives is identified across the various SEPs as being critical and the evidence base points towards decades of underinvestment that is now holding back growth ambitions. The need to enhance connectivity both within and between functional economic areas is identified across road and rail modes and East-West connectivity issues are highlighted as a particular constraint to economic growth across the Corridor. The Independent Economic Review (IER) identifies an ambition for a transformational economic future for the North whereby improvements in transport connectivity are considered critical to unlocking the potential. This is reinforced by the Northern Powerhouse Strategy, the recent Science and Innovation Audit (Lancashire/Sheffield City Regions) and the recently published Industrial Strategy Green Paper, which strongly reinforces the need to align infrastructure investment with local growth priorities.

Relevant Economic Policy/Strategy Context

Strategic Economic Plans (SEPs)

- 4.3 This section focuses on the ambitions and aims of the relevant SEPs for the Corridor economy to understand the growth objectives of the Central Corridor area. The 3 SEPs together identify ambitions to deliver over 100,000 new jobs and 100,000 new homes over the next 10 years (broad figures as each has different targets and timescales for achievement). It is widely accepted that transport infrastructure is a requirement as well as an enabler and catalyst for economic growth. It is therefore important to understand the scale and type of growth proposed to inform the extent to which transport infrastructure could unlock/enable/enhance the delivery of this in accordance with wider SEP ambitions. This section also draws out specific references within the Economic Plans to the need for investment in transport infrastructure and connectivity, particularly to improve East-West movement accessibility and reliability. Further SEP analysis is included within the narrative to support the case for enhanced connectivity in Section 6 of this report.

Lancashire LEP SEP

- 4.4 The SEP's ambition is to "*re-establish Lancashire as an economic powerhouse and a national centre of excellence in advanced manufacturing by maximising its clear competitive strengths and capabilities in the aerospace, automotive, energy and health science related sectors*". The SEP seeks to deliver the following by 2025:
- 50,000 new jobs;
 - 40,000 new houses; and
 - £3 billion additional economic activity
- 4.5 It identifies an "arc of prosperity", which currently generates around 75% of Lancashire's wealth and

4.8 In terms of transport connectivity, the SEP identifies the following points of relevance to this commission:

- East-west connectivity across Lancashire focuses on the M55 and M65 motorways and parallel railway lines that link Blackpool and Preston with Blackburn and Burnley. The M65 terminates abruptly at Colne, with onward connectivity into Yorkshire largely ineffective.
- **Road and rail links eastward into the Leeds City Region are largely ineffective and are of much lower quality than links further south** between Liverpool, Manchester and Leeds, Sheffield and the Humber ports.
- Elsewhere, **the quality of many local rail services and infrastructure leaves much to be desired**, and although some improvements are currently underway, for example, electrification of the lines linking Blackpool and Preston with Manchester and Liverpool, **East Lancashire in particular faces many more years with rail connectivity limited by speed, frequency and poor rolling stock quality. This risks significantly undermining the economic productivity and competitiveness of Lancashire as a whole.**
- In urban areas such as Preston and Lancaster, congestion has reached a point where it is reducing the reliability and therefore attractiveness of the local bus networks.
- Whilst Lancashire has benefitted in recent years from key transport and infrastructure schemes of national significance, **this masks a collective failure to secure the necessary investment in critical local transport infrastructure over recent decades.**
- **The failure to deliver the transport infrastructure needed to support sustained business success, it is estimated by the SEP, accounts for one-quarter of Lancashire's current economic performance gap with the rest of the UK**
- The LEP's work to bring forward high quality opportunities consistent with market requirements indicates East Lancashire can grow its existing advanced manufacturing clusters and attract new industrial occupiers, if there are significant improvements in the local transport infrastructure
- **There remains a strong perception locally that East Lancashire is poorly connected, with both road and rail networks hindering the efficient movement of people and goods, and that this relative isolation is having a negative impact on economic development, impeding East Lancashire's communities from fully benefiting from economic growth opportunities**
- Whilst road links to the west and south are of reasonable standard, rail links are much less adequate or non-existent. Journey times to Preston, Manchester and Leeds are lengthy and for some require a change of train. Fast, frequent and reliable access by train to Manchester Airport is of critical importance, yet there are currently no through services from east Lancashire.
- **Such factors all serve to heighten the sense of isolation and the perception of East Lancashire as an area of localised labour markets, narrow travel horizons and limited interaction with the adjacent economies of Manchester, Leeds and Central Lancashire. If Lancashire is to maintain its position as a national leader for advanced manufacturing, investment in East Lancashire's transport infrastructure will be vital to ensure the critical mass of businesses within the sector can continue to operate, invest, expand and grow, and that local people can easily access local job opportunities.**

Leeds City Region (LCR) SEP

4.9 The LCR is seeking to deliver the following by 2036:

- Creation of 35,700 net additional jobs
- Additional £3.7bn of annual economic output per annum
- Exceed the national average on high level skills
- To become a positive, above average contributor to the UK economy.

4.10 It identifies an ambition to deliver “good growth” and defines this below in figure 4.2. It is considered that enhanced transport connectivity could contribute to all of these input factors to “good growth”.

Figure 4.2: LCR SEP articulation of its ambition for “good growth”



4.11 The SEP identifies 4 key priorities as below:

- 1 - Growing Business
- 2 - Skilled People, Better Jobs
- 3 - Clean Energy and Environmental Resilience
- 4 - Infrastructure for Growth

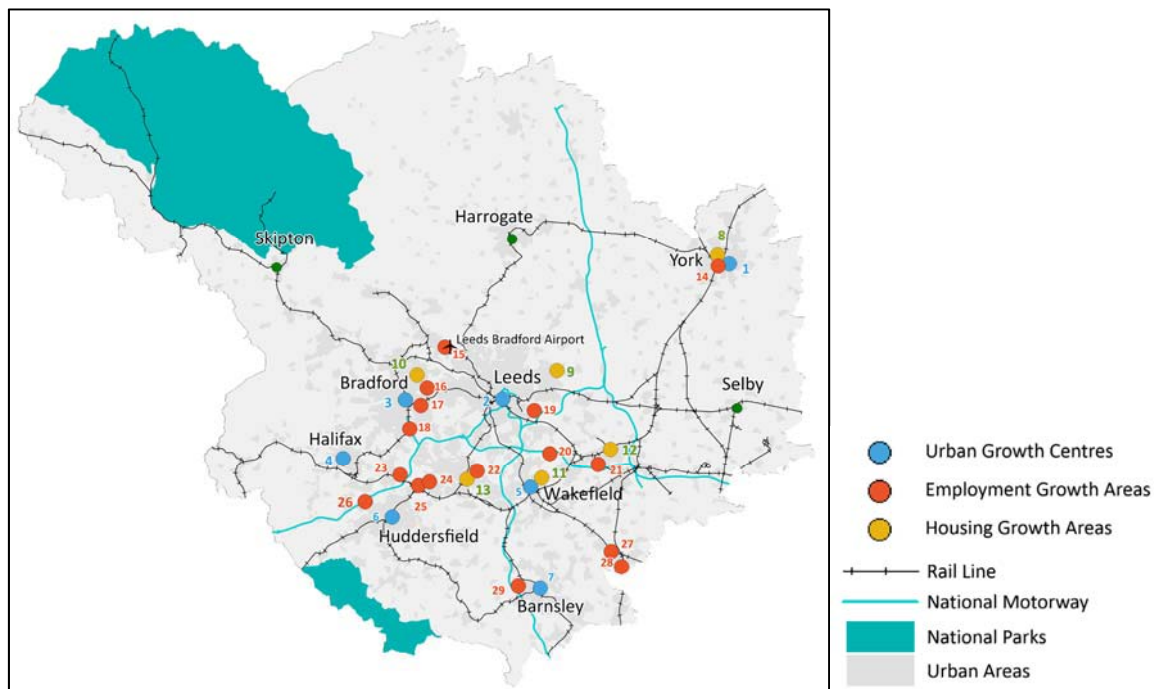
4.12 Under Priority 4, it refers to the need to focus on 3 types of spatial priority areas for growth:

- urban growth centres
- housing growth areas (refers to the need for 10-13,000 new homes per year across the LCR)
- employment growth areas

4.13 Under this priority, it also focuses on the need to focus on developing the City Region’s transport infrastructure, identifying that **high quality and connected places are intrinsic to good growth**. Priority 4 adopts an integrated approach to connecting jobs and homes, with a focus on spatial priority areas and maximising benefits from new transport investment. It suggests that a priority action is to maximise opportunities and improvements through investment across modes beyond the Transport Fund, e.g. HS2, Northern Powerhouse Rail, Transport for the North, smart motorways, smart ticketing, improved rail franchises and improved bus services.

4.14 Figure 4.3 below identifies the priority spatial areas for growth within the LCR. It is clear that many of these are clustered around the Leeds/Bradford/Wakefield/Kirklees areas but there are also strategic growth areas further afield, e.g. York City Centre with the York Central site.

Figure 4.3: Identified priority spatial areas for growth within the LCR (source: LCR SEP, May 2016)



4.15 The SEP identifies an objective that “*places will be connected by high quality transport and wider infrastructure that serves the needs of businesses and people*”. It suggests the following in terms of transport connectivity of relevance to this study:

- ***There are major challenges in road and rail congestion and intra-City Region connectivity***, but significant opportunities from delivery of the West Yorkshire plus Transport Fund, HS2 and HS3, franchise improvements, and other schemes.
- ***Connectivity remains a barrier to business growth and competitiveness***
- ***Decades of underinvestment in strategic transport infrastructure have restricted connectivity, both within the City Region and to other parts of the UK*** and the rest of the world. Transport investment per capita in Yorkshire and Humber is only 45% of that in London, for example. These issues will only partially be rectified by the West Yorkshire plus Transport Fund.
- ***High quality infrastructure is the ‘bedrock’ upon which economic success is built***

York, North Yorkshire and East Riding SEP

4.16 The SEP identifies four clear ambitions to achieve by 2021:

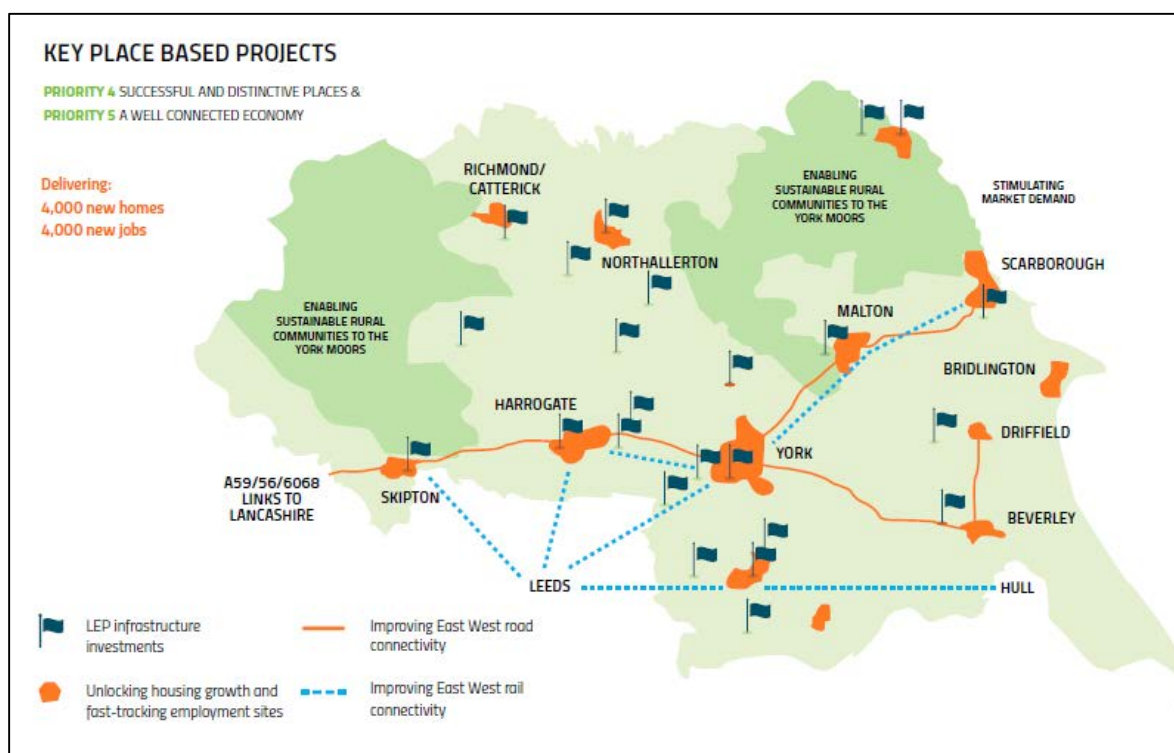
- Create 20,000 new jobs
- Deliver £3 billion growth
- Connect every student to business
- Double house building

4.17 It identifies 5 priorities to achieve this, as below:

- Priority 1 – Profitable and ambitious small and micro businesses
- Priority 2 – A global leader in food manufacturing, agri-tech and biorenewables
- Priority 3 – Inspired people
- Priority 4 – Successful and distinctive places
- Priority 5 – A well connected economy

- 4.18 Under priority 5, it is identified that businesses need to move goods, people, and information quickly, easily and reliably if they are to realise their growth potential. Under priority 2, there is a recognised need to facilitate connections between agri-food / biorenewables businesses and support supply chains interventions. Attracting investment to the LEP area is identified as being key including new businesses locating to key sites.
- 4.19 Figure 4.4 below identifies the key place based priority projects within the LEP area, with the aim of delivering 4,000 new homes and 4,000 new jobs. This includes major strategic employment sites such as the York Central Enterprise Zone and the Malton Food Enterprise Zone. This also presents the proposals for improving East-West connectivity with a focus on the A59 not only within North Yorkshire, but also across to Lancashire to the west.

Figure 4.4: Key place based projects within the LEP area (source: SEP Update, 2016).



- 4.20 The SEP suggests the following in terms of transport connectivity of relevance to this study:

- **The need to improve east west connectivity (road and rail), particularly between towns and their neighbouring cities. It is paramount to improve East-West transport connections across the entirety of the LEP area**, with the primary focus on routes between towns and cities: specifically the A64, A164, A1079, A1237 and A59 road corridors and the Leeds-Harrogate-York, York-Scarborough and Leeds-Selby-Hull rail corridors
- Ease congestion in York and Harrogate - there are major improvements needed to add capacity to A1237 around York Ring Road and A59 / A61 Harrogate Relief Road.
- **The need to enhance the resilience and reliability of the road network** and to improve journey time reliability on the A64, A1079 and A59 road corridors
- The SEP recognises the need to support the ambitions of its many great small and micro businesses. It suggests that **connectivity is key to enable small and micro businesses to grow and compete in national and international markets.**

- It is also important to recognise, that whilst our North South connections are strong, ***poor East-West connectivity to some of the towns and remote rural areas mean that major growth opportunities are less likely.***
- There is a focus in ensuring rural connectivity to North Yorkshire growth centres
- ***Businesses need to move goods, people, and information quickly, easily and reliably if they are to realise their growth potential. Ensuring our transport networks are fast and effective is therefore a vital enabler of growth.***
- Clearly, transport networks span beyond our LEP boundaries, so there is significant overlap with neighbouring areas. The LEP is therefore working closely with other LEPs and through Transport for the North to realise our ambitions.
- The LEP will continue to stimulate support rural economies by Creating excellent transport links to employment/urban hubs
- ***Accessibility is seen as a barrier to employment. Links to neighbouring areas have also been identified as key to economic growth yet hindered by underinvestment.*** One location on the A59 to the west of Skipton has average daily traffic flows of 16,000 vehicles despite being a single carriageway road. This exceeds many key east west connections in Northern England and is even higher than dualled sections of the A66.

Independent Economic Review (IER)

- 4.21 In 2015, Transport for the North (TfN) on behalf of wider partners, commissioned consultants to undertake an Independent Economic Review (IER) of the Northern Powerhouse economy. The purpose of this was to establish the Northern economy's position and the drivers underpinning its performance and to identify opportunities where 'pan-Northern' activity could drive economic outputs for the mutual benefit of all.
- 4.22 The IER reports that the North's GVA per capita has been consistently about 25% below the national average and between 10-15% below the national average excluding London. It suggests that the North's 'growth gap' widened since the recession in GVA, employment and working age population terms. It explains that this is due to lower levels of productivity as well as employment and it is suggested that some literature points to large numbers of people becoming detached from the labour market in the North of England.
- 4.23 The Review points to lower levels of agglomeration as a reason for the North's 'performance gap' with the rest of the England and references a strong link between areas with high levels of agglomeration and strong connectivity. It is suggested that "*because the North is fragmented by poor transport links between key settlements, the economy as a whole is failing to gain the agglomeration effects which would help to increase its productivity*". The IER also reports that "*Better transport connectivity can help to promote a higher employment rate, by improving access to centres of employment, and it can help to promote higher productivity, by improving the attractiveness of an area for investment, improving access to markets, increasing the pool of workers available to work in higher productivity urban locations, and increasing the effective scale of cities and the associated benefits of agglomeration*".
- 4.24 The IER identifies four 'Prime' Capabilities whereby there is considered to be a differentiated and distinctive offer at a pan-Northern level. It is suggested that these capabilities also perform well on productivity, and can compete at national and international scales and include:
- Advanced Manufacturing, with a particular focus on materials and processes
 - Energy, in particular expertise around generation, storage, and low carbon technologies and processes, especially in nuclear and offshore wind
 - Health Innovation, with a focus on Life Sciences, Medical Technologies/Devices, e-health

- Digital, focusing in particular on computation, software tools/design and content, data analytics, and simulation/modelling, and wider strengths in media.
- 4.25 In addition to these, there are three 'Enabling' Capabilities identified which will play a critical role in supporting the growth and development of the 'prime' capabilities. These are: Financial and Professional Services, Logistics, and Education (primarily Higher Education). The IER reports that overall, the 'Prime' and 'Enabling' Capabilities account for 2.1m jobs and just over £100bn in GVA, representing around 30% of all jobs in the north and just over 35% of GVA.
- 4.26 The Review points to a number of complementary sector specialisms across the Northern LEPs including Advanced Manufacturing, Advanced Materials, and Energy. Other specialisms are evident in a number of areas within – rather than across – the North, including Life Sciences and Pharmaceuticals, Healthcare Technologies, Digital, Logistics and Tourism. Other sectors which were identified as being prioritised by some LEP areas, but are less widespread across the North, include Agri-Tech and Financial and Professional Services.
- 4.27 The IER sets out a 'transformational' economic future for the North, in which it assumes improvements in the skills base, in innovation performance, and in transport connectivity, suggesting that this could raise the growth rate of the North's productivity and close the gap with the rest of England. It is suggested that transformational improvements to the North's transport connectivity are critical, both between and within cities and this should include enhanced pan-Northern city-centre to city-centre rail links, east-west and north-south to promote increased agglomeration. It is reported that better transport connectivity within and between cities matters for the North's growth prospects for a number of reasons including:
- investment in skills is more likely where there is access to well-paid jobs;
 - foreign investors are more likely to be attracted to locations that are well connected to global markets, with access to a well-qualified workforce;
 - firms are more likely to specialise and innovate in areas with deep and extensive labour markets.
- 4.28 Whilst there is a focus on city-to-city connectivity, it is also recognised that the Advanced Manufacturing and Logistics capabilities are typically located in out-of-town locations, where good access to, and connectivity between, road and/or rail networks beyond the cities is also key. It is reported that the majority of trips in the North are made by road and that targeted investment in new road infrastructure is required to "*improve the reliability and resilience of road travel, reduce journey times and improve the connections offered by the North's road networks*". The Review acknowledges that growth 'Prime' and 'Enabling' Capabilities is also expected to lead to increased demand for business-to-business travel and that global connectivity beyond the North (i.e. through ports and airports) is also key to realise the opportunities that exist.

Northern Powerhouse Strategy (November 2016)

- 4.29 This was published by Government as part of the Autumn Budget 2016 and is intended to support Government's committed focus on the principle of a Northern Powerhouse, with the objective to achieve a sustained increase in productivity across the whole of the North. The strategy sets out Government's priorities for delivering this vision and recognises the significant potential of the Northern Powerhouse, suggesting that the North of England:
- Is home to over 15 million people and over one million private sector businesses.
 - It contains five of the UK's ten largest cities.

- Has an economy worth £304 billion in 2014, accounting for 19% of the UK's output
 - Produces 19% of UK goods exports, and is connected to the rest of the world through seven international airports and 12 major ports. There are over 20 universities in the North, of which four are ranked in the top 100 universities globally.
- 4.30 The Strategy recognises that the North faces a number of barriers to productivity, one of which is connectivity. It identifies that the North's economy is fragmented and that employers in northern cities draw workers from smaller areas than in the South, suggesting that this limited reach of northern cities' labour markets means that workers choose from fewer employers, and vice versa, holding back wages and productivity. It suggests that *"commuting between towns, counties and cities in the North is constrained by the poor transport infrastructure and that this makes it harder for people to find jobs, for firms to find workers, and for ideas to be shared and developed. Ultimately, this lack of connectivity is holding back growth and productivity"*.
- 4.31 As part of its commitment to enhancing connectivity, it is suggested that Government will *"continue to consider other routes across the Pennines"*.

Science and Innovation Audit (SIAs) – Lancashire and Sheffield City Region

- 4.32 In Autumn 2015, Government announced it was to commission a number of regional Science and Innovation Audits (SIAs) as part of a new approach to regional economic development. The initial wave of 5 Government funded SIAs was undertaken in 2016, to assist regions to map their research and innovation strengths and identify areas of potential global competitive advantage. Lancashire and the Sheffield City Region (SCR) successfully bid for an SIA focused on high value manufacturing activity.
- 4.33 The joint Lancashire and SCR SIA vision is for a *"Northern Advanced Manufacturing Innovation Corridor"*, to bring *"existing, emerging and new science and innovation assets and programmes into collaboration with industry to drive productivity growth in advanced manufacturing and key linked sectors across the region to world-class levels"*. The SIA is anchored around the Advanced Manufacturing Research Centre and associated activity in Sheffield and the proposals for a new Northwest Advanced Manufacturing Research Centre at Samlesbury, as well as a wide range of other existing and proposed science and manufacturing based innovation and R&D facilities. It is considered that there is a unique opportunity between the geographies of the Sheffield City Region and Lancashire to create this 'Innovation Corridor'. It is suggested that its successful delivery requires a *"high level of interconnected physical, economic and networking assets"*, given that Innovation Districts are proposed at each end of the proposed corridor and there is a need to connect the two. This infers the requirement for enhanced East West connectivity to ensure that the two locations are physically accessible to one another to ensure that the impact of the Corridor is maximised to the benefit of the Northern and UK economies.
- 4.34 The SIA points out that in both regions, there is a focus on high value manufacturing and that the aerospace, nuclear and healthcare technology sectors are of national significance. It is reported that Lancashire and the SCR have a concentration of innovative manufacturing SMEs that operate in the supply chains of these sectors, as well as a number of globally significant primes.

Pennine Lancashire Growth and Prosperity Plan 2016-2032

- 4.35 The Pennine Lancashire Growth and Prosperity Plan was developed by Pennine Lancashire Local Authority Leaders and Chief Executives and covers the five local authority areas of Blackburn with Darwen, Burnley, Hyndburn, Pendle and Rossendale and includes Lancashire County Council. The Growth and Prosperity Plan identifies an ambition to accelerate economic growth and housing

development in Pennine Lancashire, closing the productivity gap and ensuring that the economy can capitalise upon its strengths as a major contributor to the Lancashire Economy and beyond.

- 4.36 The Plan identifies that Pennine Lancashire is home to almost half a million people, equating to a third of Lancashire's total population, with around 213,000 employee jobs, providing 29% of Lancashire's employment and contributing £7bn per annum in GVA. It is the largest contributor of GVA of any sub-area within Lancashire. It is reported that the advanced manufacturing/engineering sector accounts for 20% of all employment and is growing.
- 4.37 The Plan aims to deliver the following across Pennine Lancashire by 2032:
- 28,000 new homes
 - 1.28 million m2 of new commercial floorspace
 - 14,000 new jobs
 - £500 million additional GVA pa

- 4.38 It is evident that housing and employment growth is a critical component of the Growth and Prosperity Plan and it has identified a number of areas for spatial growth, as set out below in figure 4.4:

Figure 4.4: Key identified strategic employment and housing sites within Pennine Lancashire:



- 4.39 The Plan comprises four strategic objectives, one of which is entitled “Connectivity and Infrastructure”. The Plan acknowledges that in order to achieve its growth ambitions and to maximise the area's advantages of being located at the centre of the Northern Powerhouse, there is a need for a “major infrastructure investment programme” to ensure that it is well connected and resilient. The Plan refers to the need for improved East-West connectivity and the need to focus on connectivity to the region's strategic transport hubs (ports, airports, HS2 hubs etc). The Plan suggests that Pennine Lancashire will work with partners on both sides of the Pennines to develop options and a business case for improved connectivity between Pennine Lancashire and the Leeds City Region and to unlock new housing and employment sites.

Building our Industrial Strategy – Green Paper (January 2017)

- 4.40 UK Government published this Green Paper in January 2017 as part of its commitment to the promotion of industrial activity as a key driver of the UK economy. It recognises that in industrial sectors from automotive and aerospace to financial and professional services and the creative industries, the UK has built a global reputation but the competition for new investment is “fierce and unending”. It recognises the need to ensure that the UK is one of the most competitive places in the

world to start or to grow a business and also acknowledges that the Government has for some time worked collaboratively with industries such as aerospace and automotive to create some of the world's best environments for advanced engineering.

4.41 The Strategy identifies 10 key “pillars” as drivers of growth, two of which are particularly relevant and are presented below in brief:

- **Pillar 3 – Upgrading infrastructure** – the strategy recognises the need to upgrade the UK's digital, energy, transport, water and flood defence infrastructure and to better align central government infrastructure investment with local growth priorities. It identifies that investment in economic infrastructure is a key part of industrial strategy and that good transport infrastructure does not just reduce delays; it can raise productivity by enabling towns and cities to achieve agglomeration effects, and so support the rebalancing of our economy.

It is suggested that better connected towns and cities have deeper labour markets, greater competition and greater economies of scale, leading to higher growth and living standards and that the quality of our transport infrastructure has been rated as second lowest among G7 countries. It is suggested that infrastructure decisions will be better matched with local economic plans to boost productivity locally and support places that have suffered historical under-investment. The Strategy identifies that Government will continue to prioritise the highest value-for-money projects, address productivity weaknesses across the country and unlock the benefits of agglomeration economies.

- **Pillar 9 - Driving growth across the whole country** – the strategy identifies that Government will tackle historic underinvestment and provide development funding for major infrastructure upgrades such as the Midlands Rail Hub and Northern Powerhouse Rail. It is suggested that it will continue to support better local decision-making structures for infrastructure planning, including the new mayoral combined authorities, and regional bodies like Midlands Connect and Transport for the North. The Strategy recognises that weaknesses in infrastructure and connectivity can limit growth in areas with lower productivity and that poor transport means a shallower labour market and less choice and competition.

Relevant Transport Policy/Strategy Context

Pan-Northern transport strategy

4.42 The Northern Transport Strategy (2016) outlines that east – west links are a constraint on the northern economy:

‘The number, capacity, and reliability of east - west road connections are seen as a constraint on the Northern economy. The M62 is the only east-west motorway spanning the North and part of the EU designated trans-European network (T-TEN) linking Ireland to mainland Europe.’

4.43 On the 28th November 2016 Highways England published the *Northern Trans-Pennine Routes Strategic Study*, jointly promoted by the Department for Transport and Transport for the North. The Northern Trans-Pennine study considers the case for making improvements to the A66 and A69, the two parallel routes to the north of the east-west corridor under consideration in this study. The Northern Trans-Pennine study identifies a number of potential transport interventions for the two Trans-Pennine routes, including completion of the dualling of the A66 and A69. Both roads lie a considerable distance to the north of the corridor under consideration here, and neither is likely to be a reasonable alternative for many of the journeys currently using the M65/A59/A65 corridor. Nevertheless, this consideration of improving Trans-Pennine routes and the proposed investment detailed below serves to emphasise the importance of east-west connectivity in the North of England,

and the importance of the availability of a number of viable routes across the Pennines.

- 4.44 On the same day, the Department for Transport announced, on the back of strategic study results, that the A66 will be upgraded to create a new east to west dual carriageway (costed at £825m in the study), meaning a quicker link between Scotch Corner in North Yorkshire and Penrith, Cumbria. The Department for Transport also announced that it plans to enhance junctions on the A69 to improve the route between Newcastle and Hexham, to be complete by 2020. The A69 improvements are a major part of Highways England's £220 million to combat congestion at pinch points on motorways and major A roads. The A66 dualling enhancements are also referenced as a priority within the recently published Industrial Strategy Green Paper (January 2017).

Lancashire transport policy

- 4.45 There is growing awareness of the importance of the east-west transport corridor linking Central Lancashire with North Yorkshire and the Leeds City Region. This is focused on the M65 and A59 and parallel rail routes including the 'Calder Valley' line linking Preston, Blackburn and Burnley with West Yorkshire. The transport challenges, barriers and constraints are detailed in the East Lancashire Highways and Transport Masterplan (2014), and are discussed in more detail in chapter 5 that follows, but in combination result in routes, both road and rail, being slow, unreliable, and lacking resilience when incidents occur and during some peak flow periods. These peaks are getting longer, and traffic is growing on less suitable routes as people try and avoid traffic jams. At present around 70 per cent of commuter journeys are made by car, even in areas of low car ownership where car sharing is more common. The overriding consequence of these transport constraints is a strong perception locally that the transport network hinders the efficient movement of people and goods, and that this poor connectivity is having a negative impact on economic development and regeneration in parts of East Lancashire.

East – West connectivity interventions

- 4.46 Some investment in the transport infrastructure within the corridor has been delivered, and there are also historic proposals for further investment. In detail:
- Lancashire County Council has a longstanding proposal to construct a new single carriageway road between the M65 terminus in Colne and the Lancashire-North Yorkshire boundary north of Earby. This scheme (known as the Colne Foulridge Bypass) is referenced in the Lancashire Strategic Economic Plan;
 - The Heysham to M6 Link Road was opened in 2016. The new road completes the long awaited connection from the Heysham and Morecambe peninsula to Junction 34 of the M6, and improves east – west connectivity on this route.

North Yorkshire transport policy

- 4.47 For North Yorkshire, the York North Yorkshire & East Riding Strategic Economic Plan (SEP) identifies the A64 - A1237 – A59 linking Scarborough, York, the A1(M), Harrogate, Skipton and East Lancashire as the priority east – west highway corridor in North Yorkshire. The Strategic Transport Prospectus for North Yorkshire acknowledges that the east coast communities and Craven district are disadvantaged by poor east – west transport links. This contributes significantly to underperforming economies in both the east (Scarborough and Ryedale) and west (Craven and Richmondshire). Poor cross-Pennine links between Craven District and East Lancashire are also acknowledged as acting as a constraint on these areas.
- 4.48 The SEP outlines five priorities to support growth in the North Yorkshire economy. Priority 5 specifically outlines plans for overcoming connectivity issues in North Yorkshire. The focus for the

period 2016–2021 is to improve east – west connectivity, particularly between towns and their neighbouring cities. The primary focus will specifically be on the A64, A164, A1079, A1237 and A59 road corridors and the Leeds-Harrogate-York, York-Scarborough, and Leeds-Selby-Hull rail corridors.

East – west connectivity interventions

4.49 The Strategic Transport Prospectus for North Yorkshire outlines a range of transport interventions across two timescales – those for implementation between now and 2030, and longer term for implementation between 2030 and 2045:

- In the period 2016 – 2030 North Yorkshire will focus upon improving journey time reliability on east – west links. An approach of identifying and developing proposals to increase overtaking opportunities on these roads has been taken. This includes schemes for the A64 between Malton and York and on the A59 three additional climbing lanes have been identified between Harrogate and Skipton. Rail improvements between Scarborough and York, and York–Harrogate–Leeds will also be targeted.
- In the period 2030 to 2045 North Yorkshire will focus on improved east – west road and rail links to Whitby to further enhance access to the rural economy, York Potash and off shore wind industry. In addition, improved east - west road and rail linkages between the A1(M), Selby and Hull will be sought to better link West Yorkshire and the Humber.

4.50 The North Yorkshire LTP4 outlines further strategic future east – west improvements:

- Development of proposals for improvements to east - west corridors from the eastern boundaries to the boundary with Lancashire;
- Exploration of options for improving links from Skipton and South Craven to Lancashire along the A59, A56 and A6068 corridors;
- Review and further develop proposals for a Harrogate Relief Road, to help ease congestion through Harrogate Town Centre, which would address both urban congestion issues as well as improving journey time reliability along the A59 east - west corridor;
- In the longer term the LTP4 proposes to significantly improve cross Pennine connectivity between Craven and East Lancashire, which may include the potential reopening of the Skipton - Colne Railway.

Leeds City Region transport policy

4.51 The West Yorkshire Transport Strategy (2016 consultation draft) highlights the importance of the western parts of the Leeds City Region to the city region's future economic growth. The strategy identifies the importance of both Bradford and Calderdale to the growing economy.

4.52 The strategy notes that there will be jobs and housing growth in Airedale at Shipley, Bingley and Keighley. This is however subject to the caveat that Bradford district's relatively poor connectivity onto the regional and national road and rail networks presently constrains economic growth. While Bradford already benefits from the electrified Airedale and Wharfedale rail lines, east-west connections to the core cities of Leeds and Manchester and to Manchester Airport from both Calderdale and Bradford are less effective.

4.53 Improving transport connectivity within West Yorkshire, including on east-west routes to and from Manchester for example, is identified as being 'key to supporting Calderdale's existing economic activity and facilitating growth', again subject to the caveat that important road corridors are operating at capacity and journeys can be unreliable. Rail is also growing in importance for Calderdale residents,

particularly for longer, cross-boundary journeys. Alongside longer term transformational projects such as Northern Powerhouse Rail, the electrification of the Calder Valley line is critical in addressing these connectivity issues.

East – west connectivity interventions

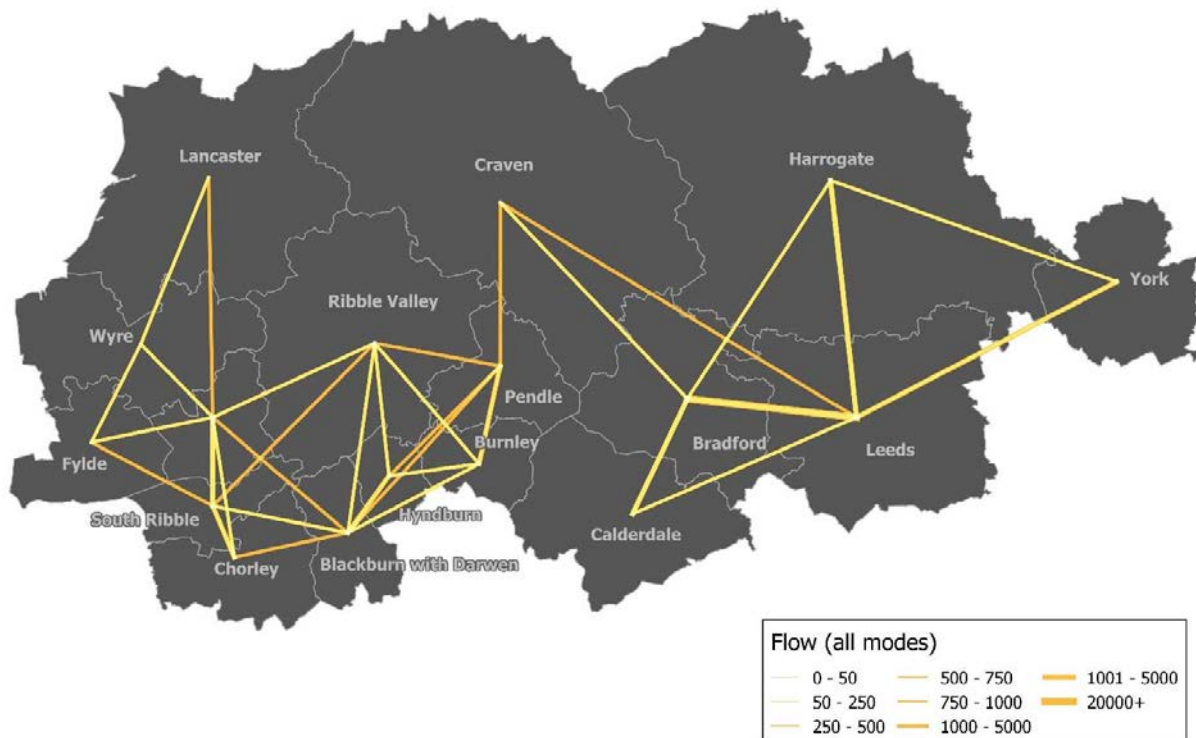
- 4.54 WYCA's Leeds City Region Metro Study (2016) identifies that amongst priorities for future scheme development should be reducing journey times and increasing frequency on the Calder Valley route linking the hubs of Halifax, Bradford and Leeds. Speed and frequency improvements and new trains expected to be in place by the end of 2019, and signalling and line speed investments on the Calder Valley Line are programmed in the West Yorkshire Transport Strategy during the period 2016-2021.
- 4.55 Nevertheless, the electrification of the Calder Valley line would improve connections to the core cities of Leeds and Manchester, and to Manchester Airport, and is identified as a priority in Leeds City region policies and plans including the West Yorkshire Transport Strategy (2016).

5.0 Current travel to work flows across the Central Corridor

Introduction and overview

- 5.1 Travel To Work (TTW) data by origin and destination has been used to analyse current labour market travel to work flows across the defined Central Corridor. It is important to understand the extent of the current movements across the Corridor, particularly on an East-West axis, as part of understanding what the potential could be going forward.
- 5.2 This travel to work data has been extracted both for all modes, and for rail users only, from Nomis at district level. GIS tools have been used to display connections between the districts. The line thickness has been graduated based on the size of the flow. In addition, orange lines represents a one-way flow, while the brighter yellow lines represent two-way flows. For this analysis internal trips, i.e. those that originate and end in the same district, have not been presented. Any references made to Yorkshire or Lancashire trip rates only include those districts present in the maps.
- 5.3 In summary, the TTW analysis clearly identifies a high level of self-containment across the Corridor across all transport modes, particularly between Lancashire and Yorkshire which appear to function in labour flow terms as two detached labour markets. This is likely to be a reflection of historic labour market/commuting patterns and the poor transport connectivity between the two (perhaps somewhat defined by the topographical challenges in part). There is increased cross border movement in the county border districts of Pendle, Calderdale and Craven, however at the eastern and western ends of the Corridor (i.e. Preston/Fylde/Wyre/York) cross county Trans-Pennine movements are very limited. Enhanced East-West connectivity is considered critical to addressing the current levels of self-containment to promote more flexible and integrated labour markets.

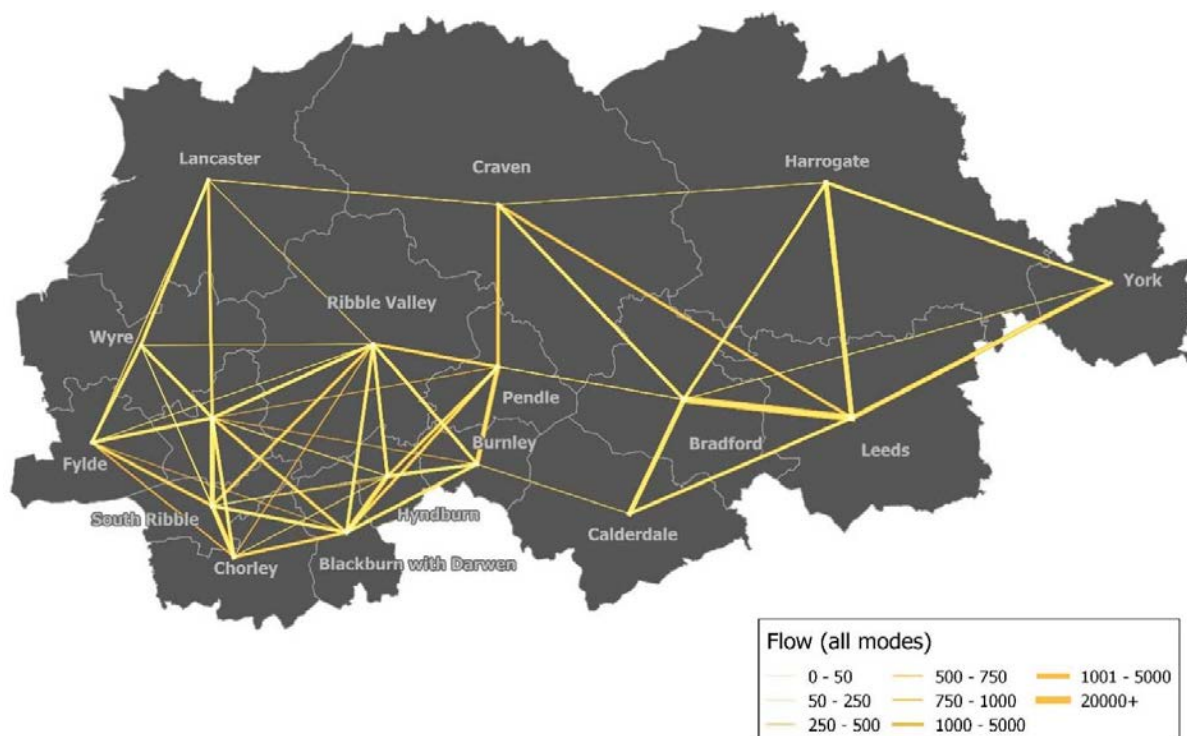
All modes analysis



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Figure 5.1 Three highest flow categories for all modes

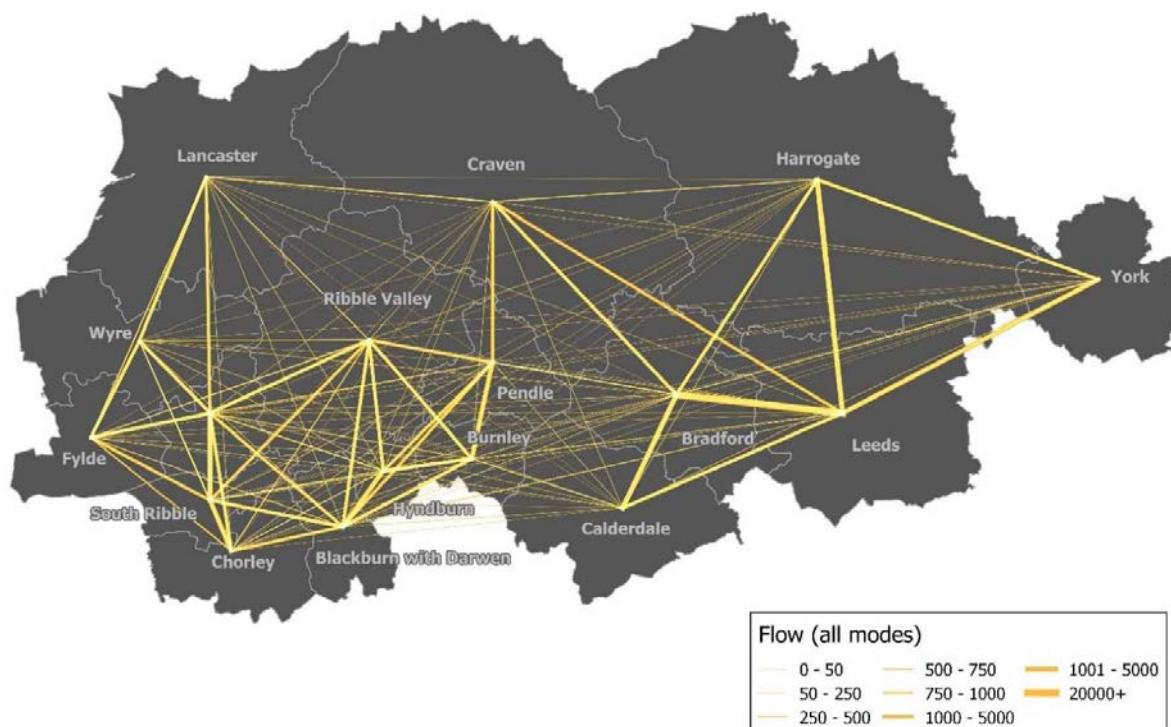
- 5.4 Figure 5.1 shows the three largest categories for daily flows defined within this study for all modes. From this, the Yorkshire and Lancashire flows appear to be fairly insular. The only interaction between Lancashire and Yorkshire at the 1,000 trip or more level is from Pendle to Craven (1,713 trips). However, to place this into perspective, this flow is dwarfed by the flows between Craven and West Yorkshire, with the two-way Craven-Bradford flow of 8,242 trips.
- 5.5 This level of self-containment is not unusual for the north of England. The Highways England report 'Trans-Pennine Tunnel Strategic Study' indicates that Leeds, Manchester, Sheffield, and Liverpool are all relatively self-contained in comparison to the Randstad in the Netherlands, where there is significant commuting between city regions. The report also notes that commuting between Leeds and Manchester is 40% below the expectations for regions of comparable size and proximity. Furthermore, Transport for the North presented a similar mapping exercise within the report 'The Northern Powerhouse: One Agenda, One Economy, One North' which showed that commuting between city regions across the north is limited. Finally, the Centre for Cities report 'Sink or Swim? What next for local enterprise partnerships?' provides a measure of containment for all Local Enterprise Partnerships (LEPs), with analysis based on the percentage of people who both live and work within the same LEP area. The three most self-contained LEPs are all located within the north (North Eastern, Cumbria, and Leeds City Region) and all have containment values above 90%.
- 5.6 To conclude on thoughts on containment, it is worth emphasising that while this significant level of self-containment is not unusual, it has been acknowledged at a pan-Northern level that this is a matter that should be addressed to help improve the economy of the north as a whole. This area should therefore be a part of any actions implemented to address the issue.



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Figure 5.2 Six highest flow categories for all modes

- 5.7 When the next three levels of daily flow are introduced, as shown in Figure 5.2, more cross movements between Lancashire and Yorkshire are evident, such as that between Bradford and Pendle. However, internal movements within Lancashire and Yorkshire remain predominant. Cross movements between Lancashire and Yorkshire for this level of daily flow only occur between districts on the border between Yorkshire and Lancashire.



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Figure 5.3 All flow categories for all modes

- 5.8 When all flow categories are introduced (Figure 5.3) many more movements between Lancashire and Yorkshire appear. At the origin level, 2% or less of the journeys that originate in a Lancashire district end in Yorkshire for all districts except for Burnley (6%), Lancaster (10%), and Pendle (23%). These patterns are similar when examining the districts as destinations. In Pendle, 86% and 84% of journeys to work to Pendle and Lancaster respectively started within Lancashire. For all other Lancashire districts this figure is over 97%.
- 5.9 Within Yorkshire, for most districts, less than 5% of flows originate from Lancashire except for Calderdale (6%) and Craven (33%). A summary of origins and destinations outside of the county by district is provided in Table 5.1.
- 5.10 The general pattern indicates that more movements across the counties occur in those districts located on the county boundary. Both Bradford and Leeds also draw in significantly sized flows from Lancashire.

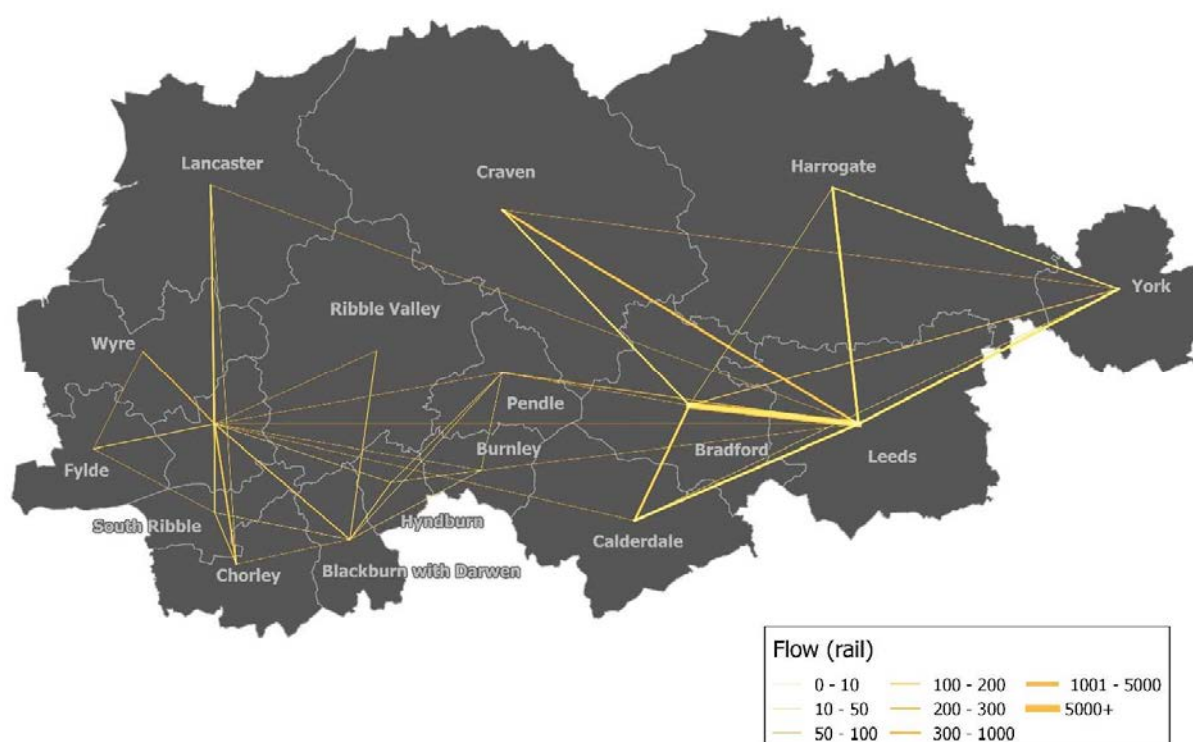
Table 5.1 All modes origins and destinations for the Lancashire authorities included in the study area

District	% of all flows that originate within the Yorkshire districts	% of all flows travelling outside of the Lancashire districts
Blackburn with Darwen	2%	2%
Burnley	6%	7%
Chorley	1%	1%
Fylde	1%	1%
Hyndburn	2%	2%
Lancaster	10%	16%
Pendle	23%	14%
Preston	1%	2%
Ribble Valley	4%	3%
South Ribble	0.7%	1%
Wyre	1%	1%

Table 5.2 All modes origins and destinations for the Yorkshire authorities included in the study area

District	% of all flows that originate within the Lancashire districts	% of all flows travelling outside of the Yorkshire districts
Bradford	2%	4%
Calderdale	7%	7%
Craven	23%	33%
Harrogate	1%	2%
Leeds	2%	2%
York	0.9%	2%
Preston	1%	2%

Rail only analysis



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Figure 5.4 Rail flows for 10 trips and above

5.11 Rail journeys to work (Figure 5.4) show a similar pattern to that presented for all flows. Internal flows within Yorkshire are more dominant in comparison to internal flows within Lancashire. This is dominated by flows to and from Leeds. There are nevertheless many smaller flows evident within Lancashire, with those to and from Preston being predominant. The analysis also illustrates the weak or absent rail services between Lancaster and Craven, and between Pendle and Craven. Overall, the rail flows do appear on the whole to be less insular than those presented for all modes as shown in Table 5.3.

Table 5.3 Rail flow origins and destinations for the Lancashire authorities included in the study area

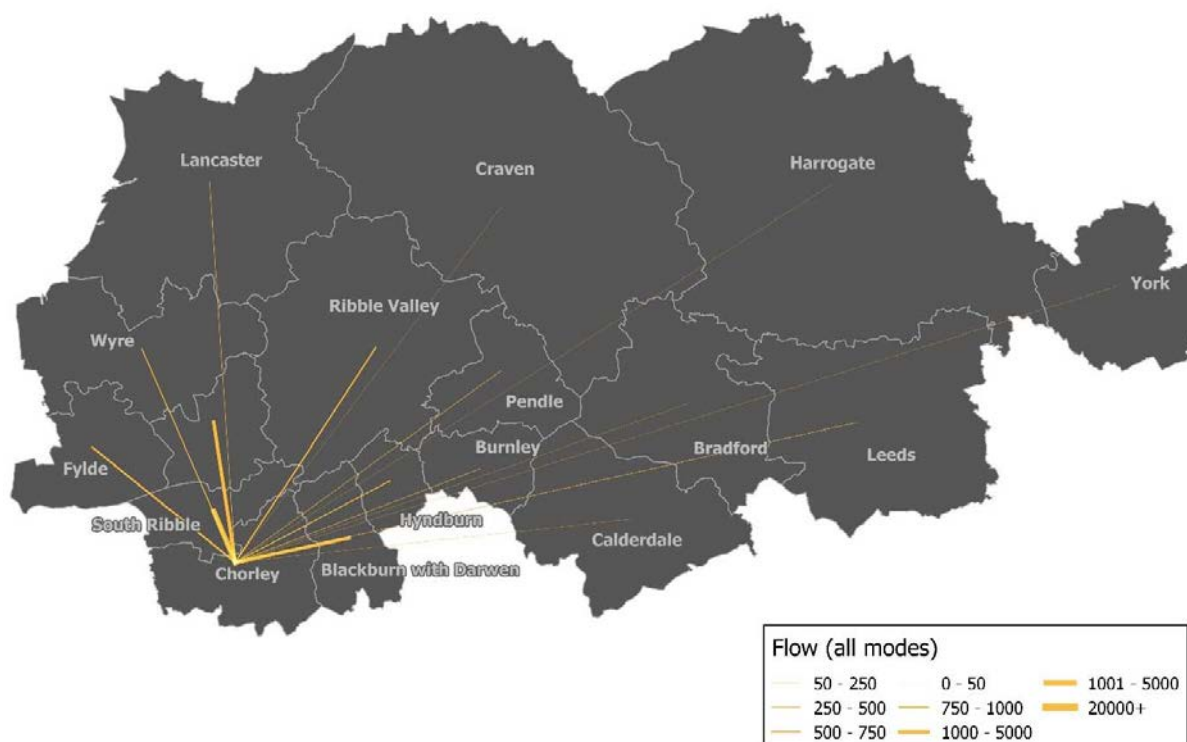
District	% of rail flows that originate within the Yorkshire districts	% of rail flows travelling outside of the Lancashire districts
Blackburn with Darwen	3%	8%
Burnley	11%	28%
Chorley	2%	3%
Fylde	3%	7%
Hyndburn	4%	7%
Lancaster	10%	4%
Pendle	8%	44%
Preston	5%	7%
Ribble Valley	3%	9%
South Ribble	1%	4%
Wyre	7%	4%

Table 5.4 Rail flow origins and destinations for the Yorkshire authorities included in the study area

District	% of rail flows that originate within the Lancashire districts	% of rail flows travelling outside of the Yorkshire districts
Bradford	2%	0.3%
Calderdale	5%	3%
Craven	4%	1%
Harrogate	1%	0.1%
Leeds	2%	1%
York	2%	0.4%
Preston	5%	7%

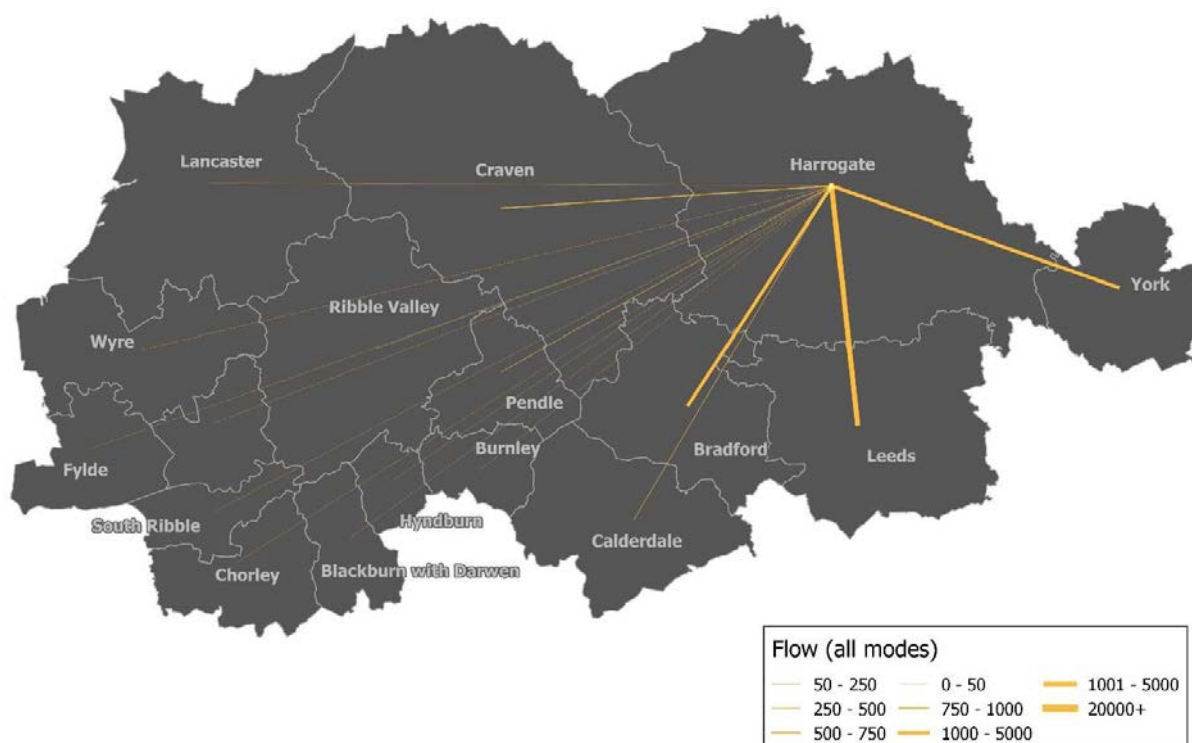
Analysis by District

- 5.12 Examining flows at an individual district level, those at the periphery of the study area (eastern Yorkshire and western Lancashire) tend to only attract and generate trips to and from the county in which they are located. This is especially prominent in York, Fylde, Wyre and South Ribble which do not have any flows above 50 trips to districts within the study area that lie outside of their county. As an illustration, daily work flows from Chorley, depicted below in Figure 5.5, only reaches Leeds at the 'over 50' level (57 trips), while Harrogate (Figure 5.6) only receives trips from Pendle at a similar level (79 trips).



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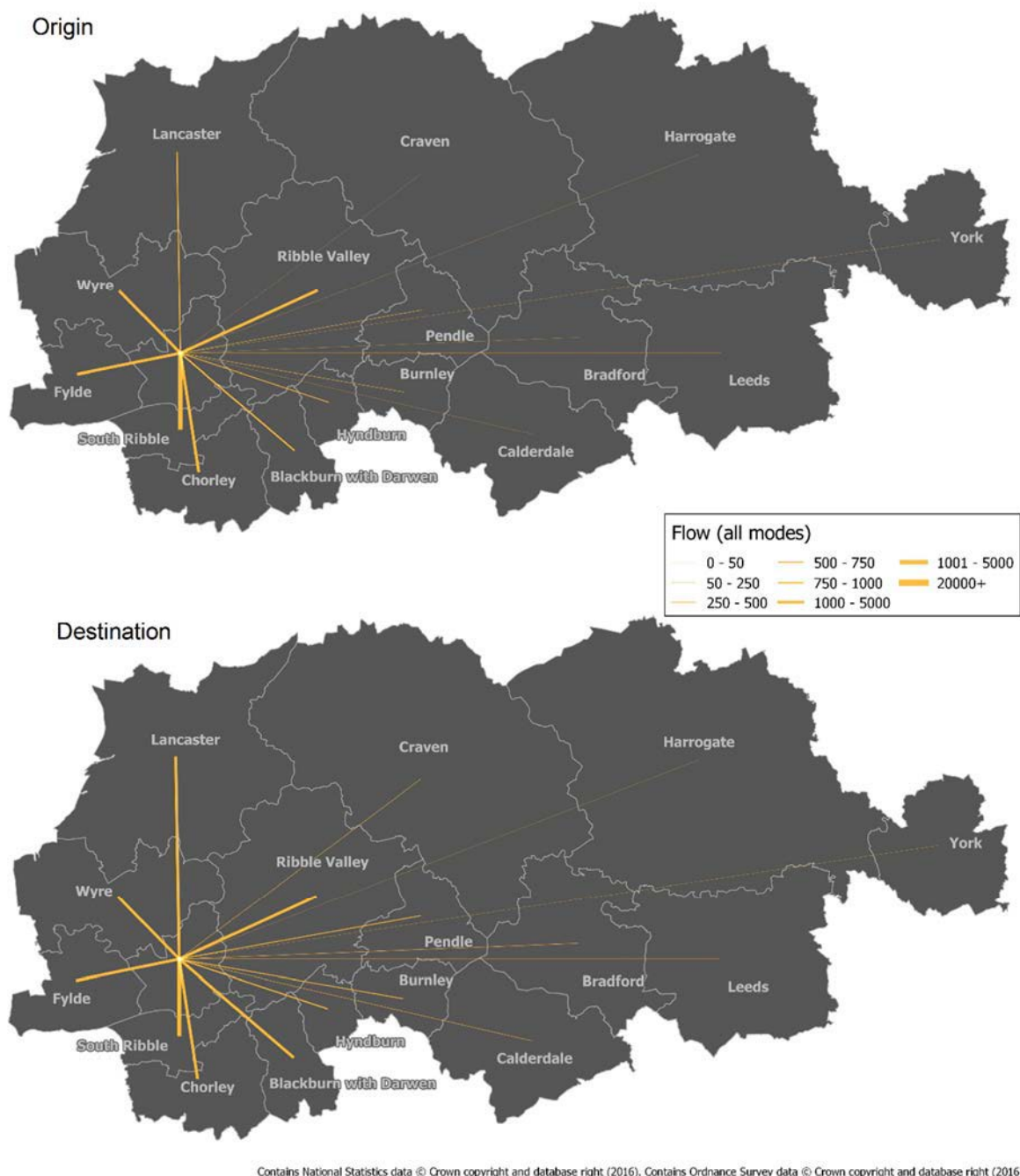
Figure 5.5 Flows from Chorley for all modes



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Figure 5.6 Flows to Harrogate for all modes

- 5.13 Even to and from Preston there is little significant interact with Yorkshire in an outbound direction. Only 198 trips (1.3% of Preston origins) end in Yorkshire. Preston does attract 477 journeys to work from the North and West Yorkshire districts included in this analysis, but this still only represents 1.2% of trips that end in Preston.

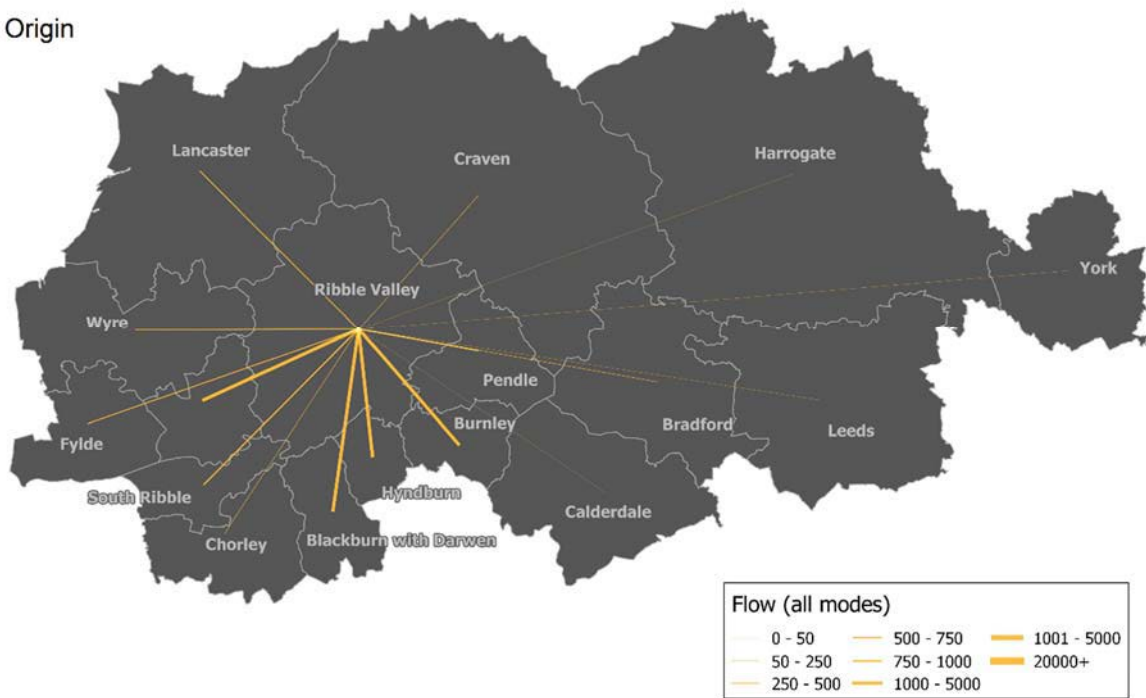


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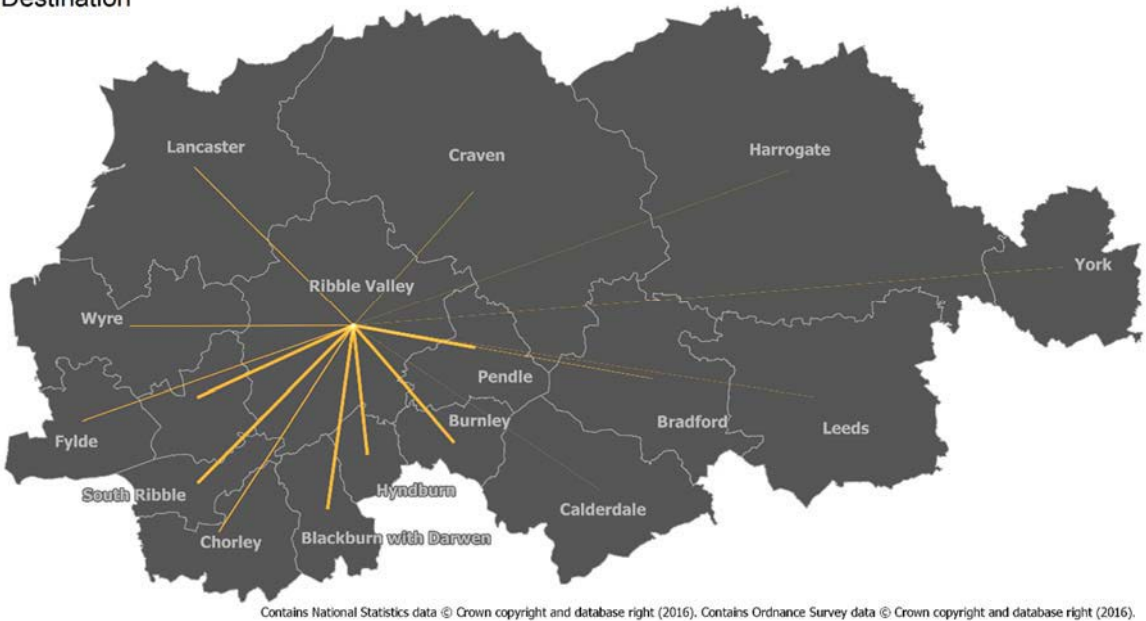
Figure 5.7 Flows to and from Preston for all modes

- 5.14 Those districts that lie at the Lancashire and Yorkshire border tend to show higher levels of cross Pennine labour movements. Nevertheless, Ribble Valley, in spite of its position on the county boundary, has very limited numbers of daily work trips to and from Yorkshire districts. In terms of inbound flows with over 50 journeys, there are 196 trips from Craven and 55 trips from Bradford. In the opposite direction over 50 trips are also made to Leeds. Burnley has a stronger relationship with Yorkshire and interacts with four Yorkshire districts at the over 50 trips level. Nevertheless, journeys to work within Lancashire predominate for both of these districts, shown in Figures 5.8 and 5.9.

Origin

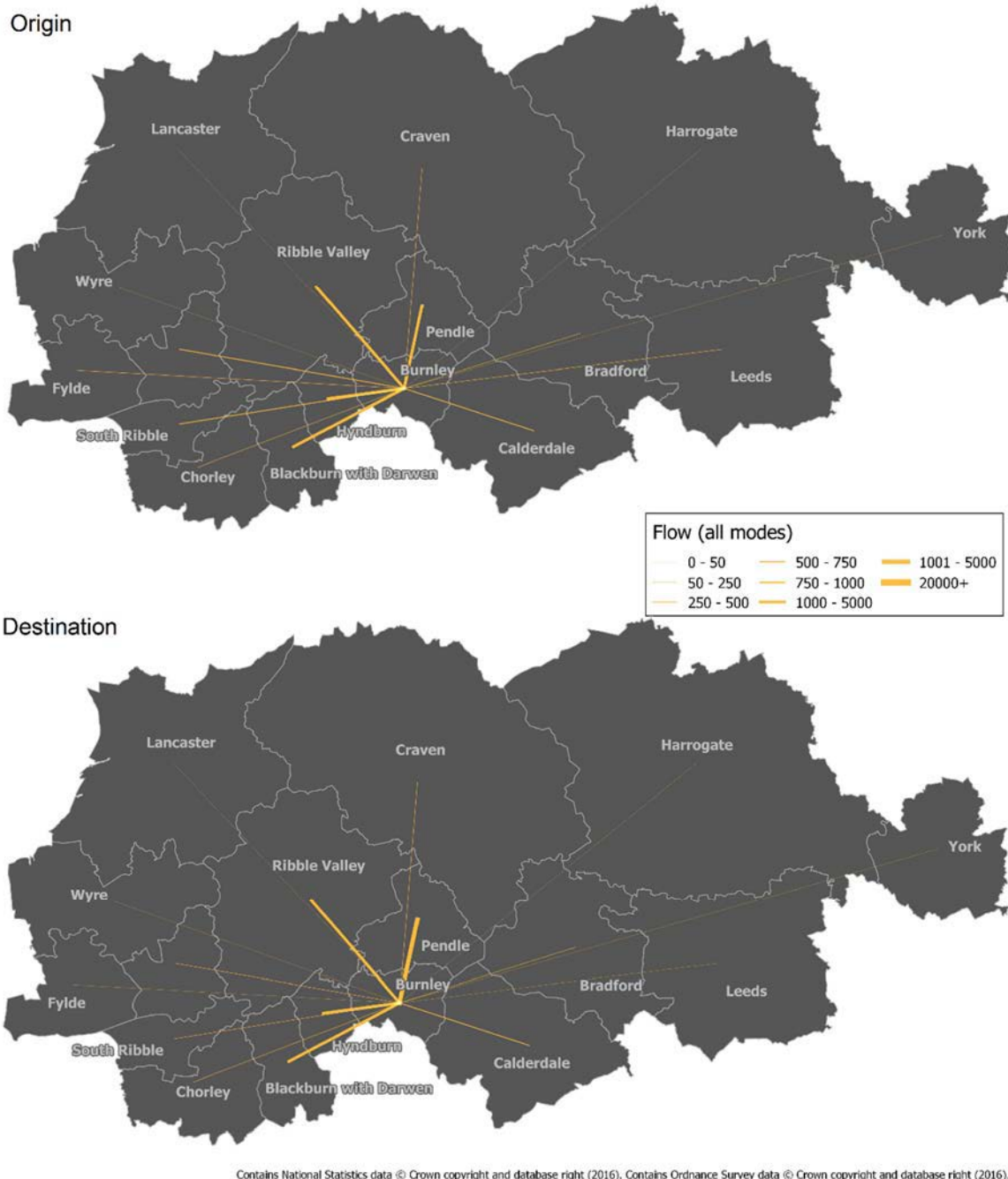


Destination



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Figure 5.8 Flows to and from Ribble Valley for all modes



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Figure 5.9 Flows to and from Burnley for all modes

- 5.15 Lancaster, which shares a border with Yorkshire to the northern end of the study area, nevertheless does not have as strong a relationship with Yorkshire in comparison to north-south flows to the other Lancashire districts. It only draws flows from Craven at the over 50 trips level (516 trips); and in the opposite direction there are 340 trips to Craven and 63 trips to Leeds. Figure 5.10 shows all flows to and from Lancaster for all modes.

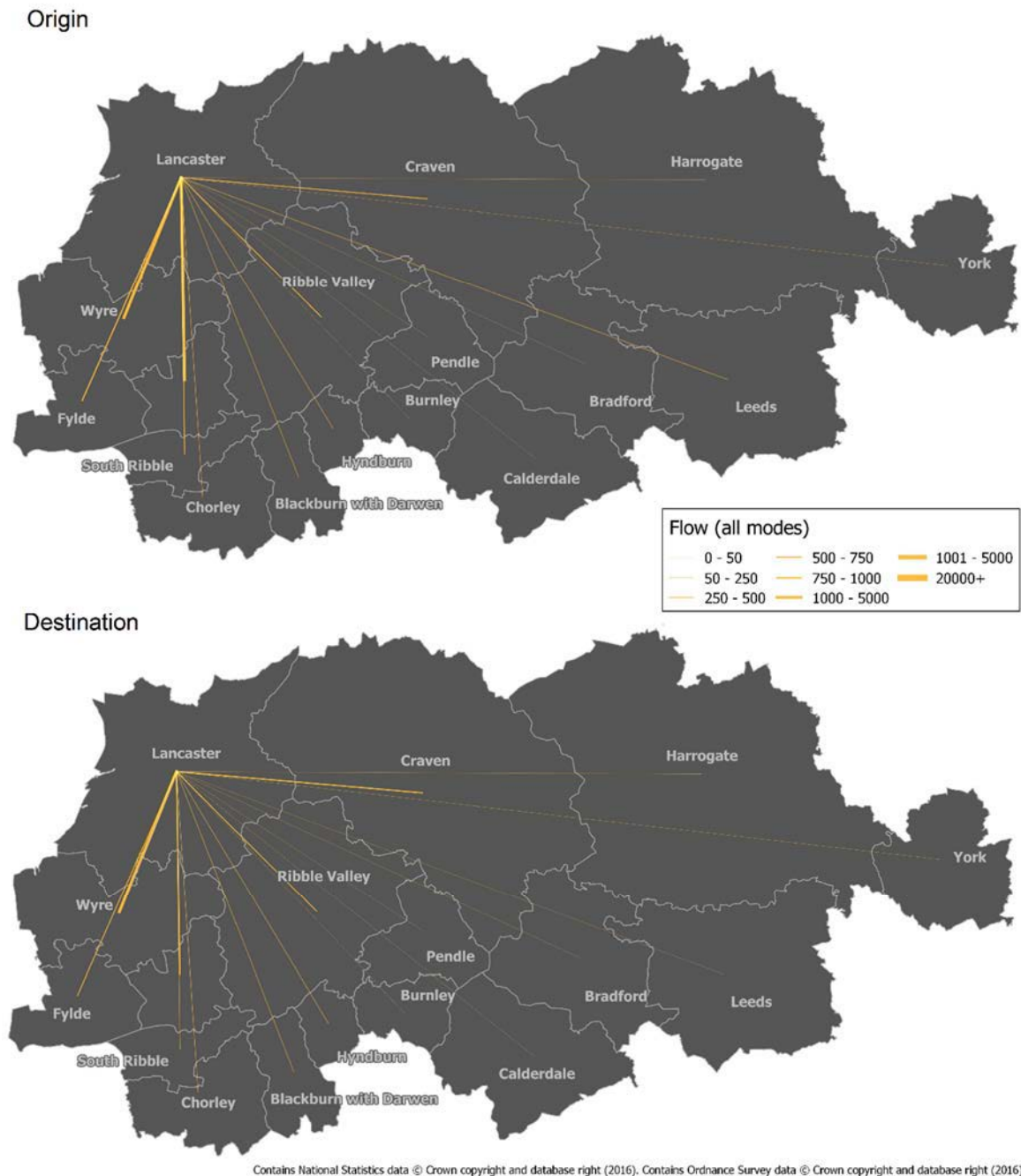


Figure 5.10 Flows to and from Lancaster for all modes

- 5.16 The largest number of significant movements across the Yorkshire and Lancashire border are to and from the border districts of Calderdale, Pendle and Craven. There are ten other districts with flows over 50 trips to and from Calderdale (half of which are in Lancashire). Overall 940 trips (7%) that originate in Calderdale end in Lancashire, predominantly to Burnley (419 trips). 645 trips that end in Calderdale (7%) originate in Lancashire. Pendle attracts 2,874 trips from the Yorkshire districts included in the analysis which equates to 23% of all of the trips from the study area ending in Pendle. Of those trips that originate in Pendle 1,196 (14%) of them end in Yorkshire. Finally, 1,695 (23%) of the trips that originate in Craven end in Lancashire whilst 2,597 (33%) travel in the opposite direction. These movements are predominantly to and from Pendle.

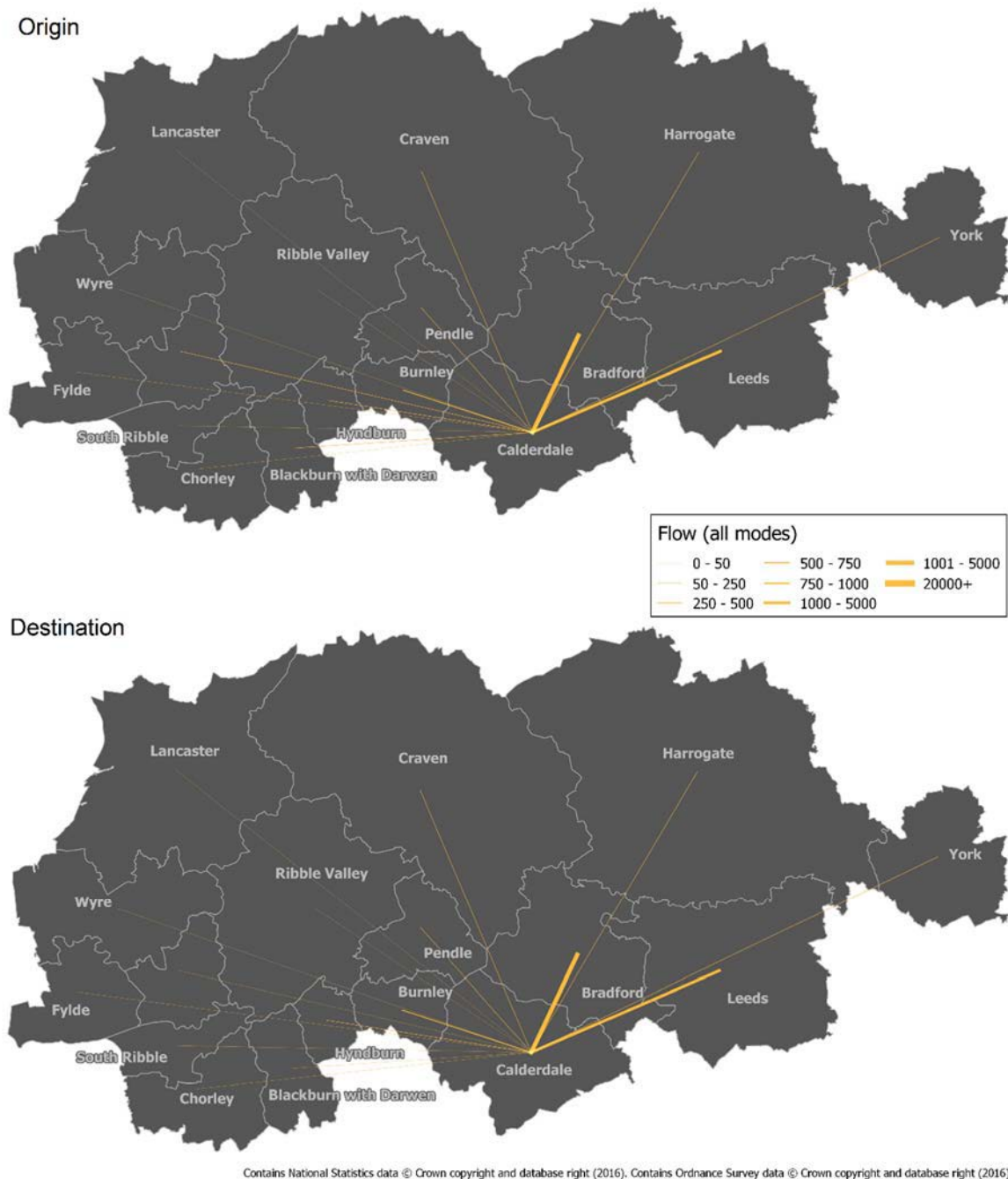


Figure 5.11 Flows to and from Calderdale for all modes

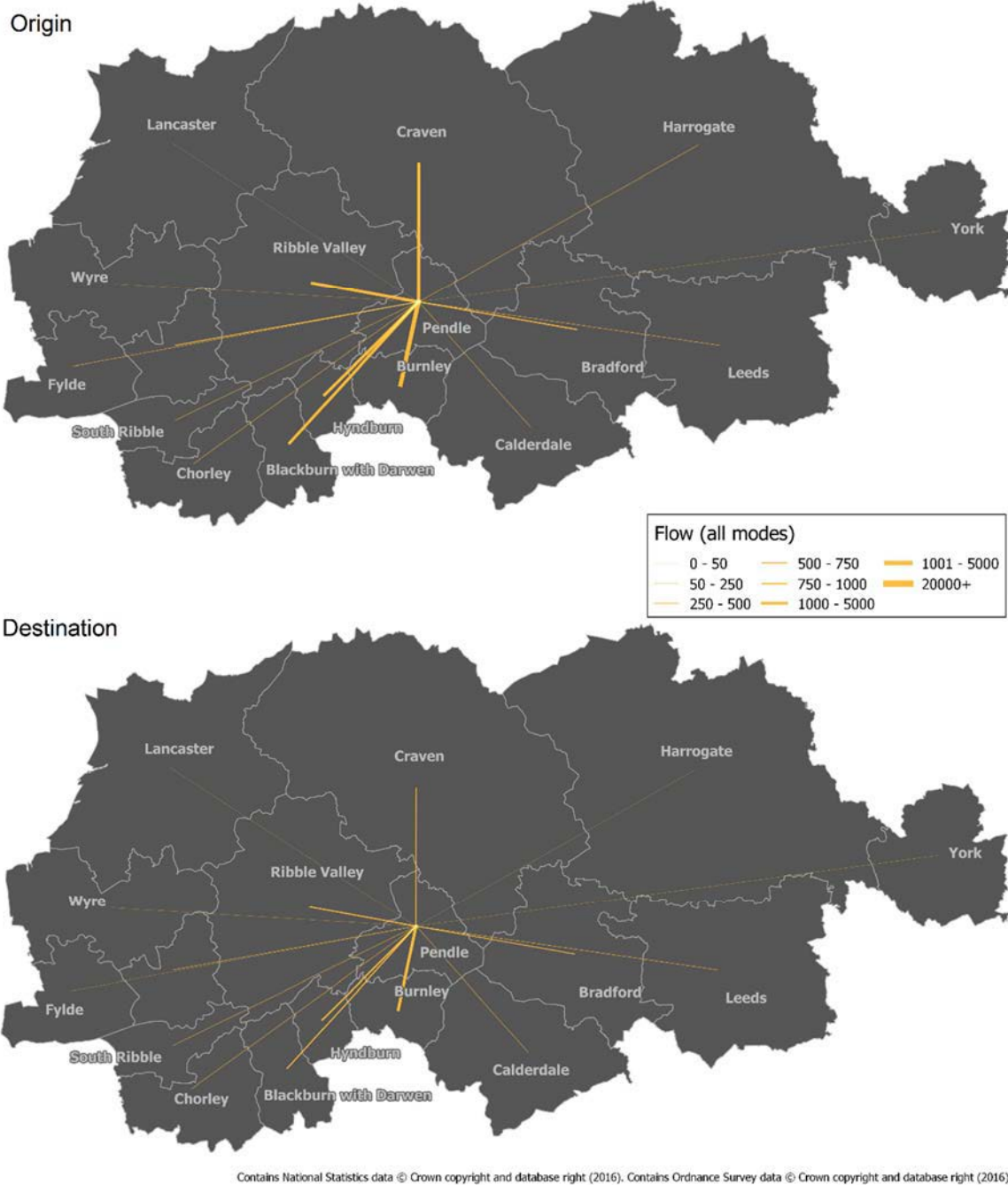


Figure 5.12 Flows to and from Pendle for all modes

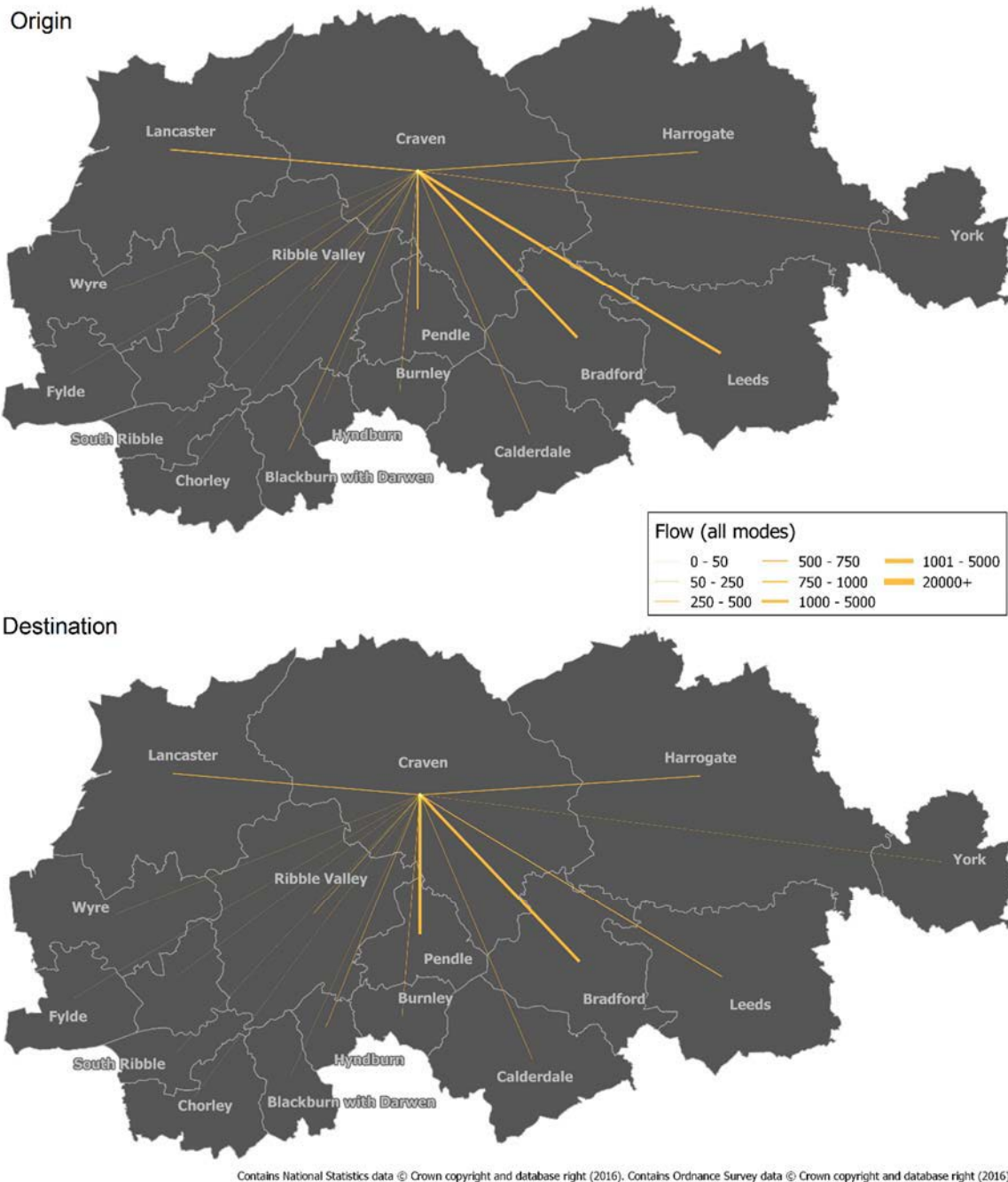
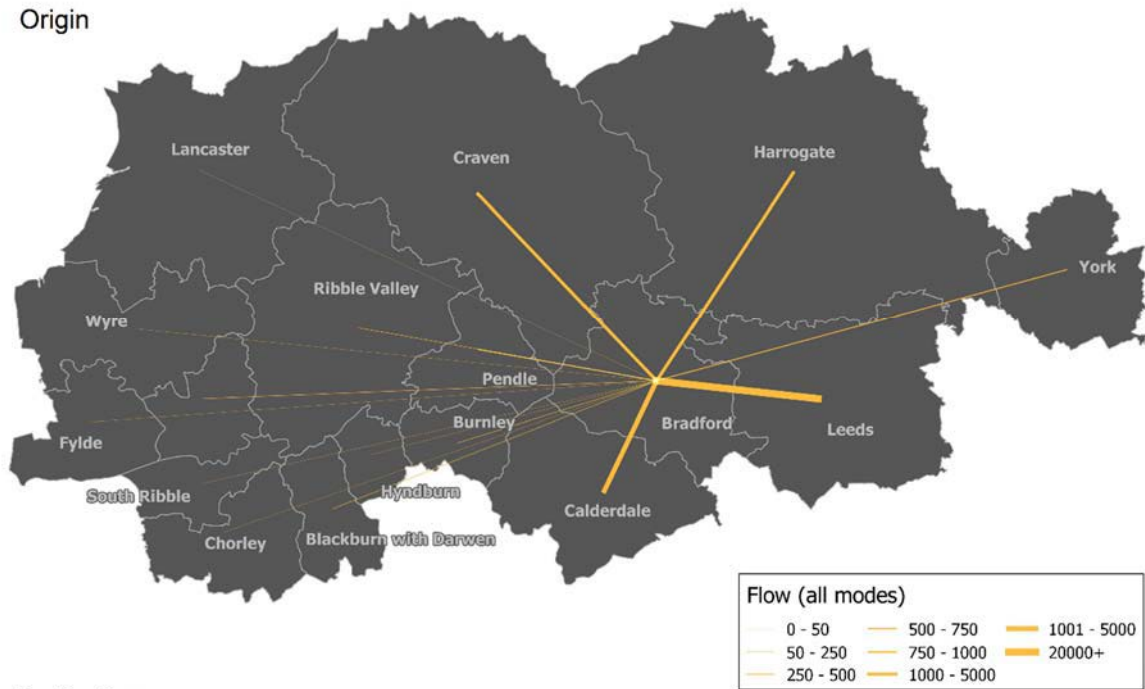


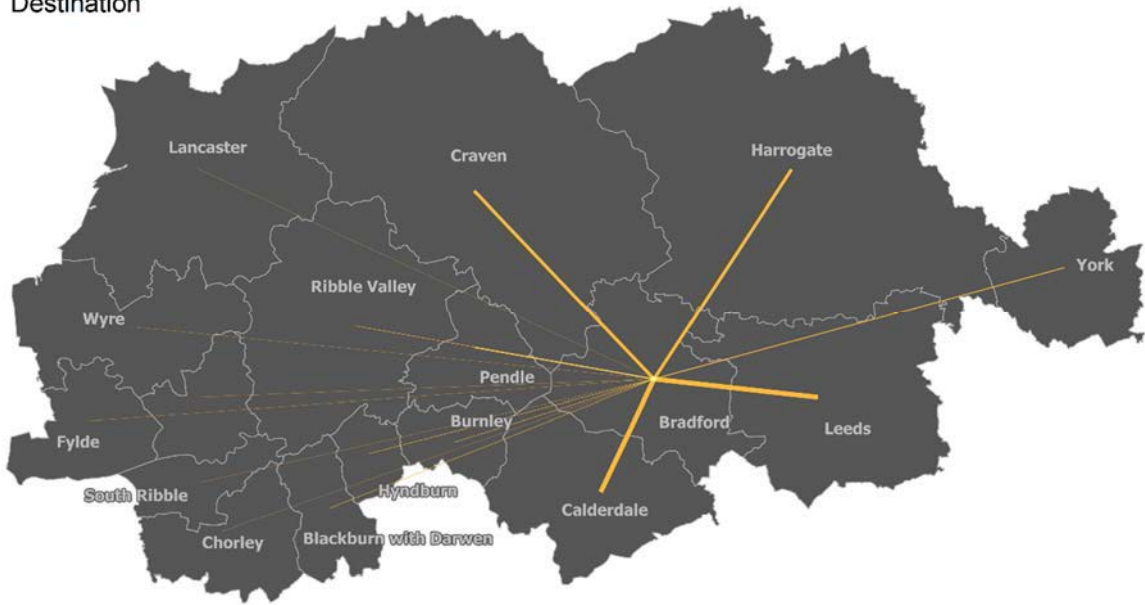
Figure 5.13 Flows to and from Craven for all modes

- 5.17 Finally, although many of the origin and destination relationships to and from Leeds and Bradford are dwarfed by journeys between the two, they do attract some trips from Lancashire. Bradford draws in 1,271 trips from Lancashire with 856 journeys in the opposite direction. Leeds attracts 833 journeys to work from Lancashire with 592 trips in the opposite direction. Flow maps for Bradford and Leeds are presented in Figures 5.14 and 5.15.

Origin



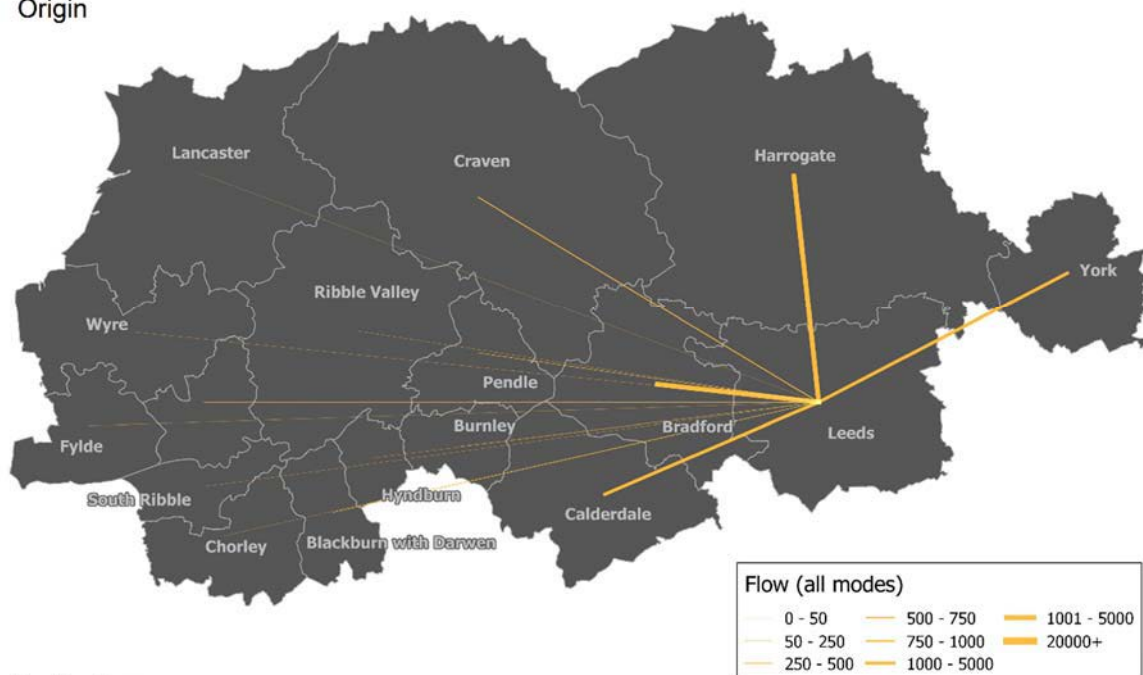
Destination



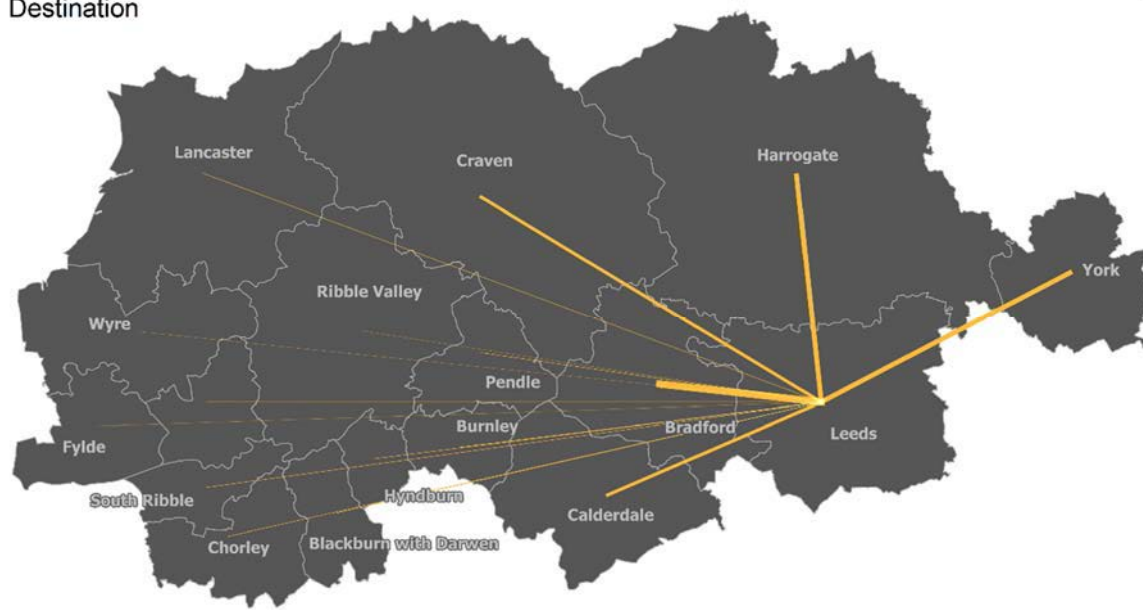
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Figure 5.14 Flows to and from Bradford for all modes

Origin



Destination



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Figure 5.15 Flows to and from Leeds for all modes

6.0 Overview of current major transport barriers and constraints

Introduction

- 6.1 Section 4 outlined the headline policy ambitions for the corridor, both in terms of the underlying economic rationale, and for transport and connectivity that supports local economies within the corridor, both east and west of the Pennines. The corridor does not, however, solely serve local communities. It forms part of the strategic network of the North, providing east-west connections within the wider northern transport system. Indeed, in this review of the transport barriers and constraints, it is worth reiterating the context of Transport for the North's (TfN) Northern Transport Strategy (2016), which outlines that east-west links, both in terms of road and rail movements, are a constraint on the northern economy. On road, TfN notes that *"the number, capacity, and reliability of east - west road connections are seen as a constraint on the Northern economy. The M62 is the only east-west motorway spanning the North and part of the EU designated trans-European network (T-TEN) linking Ireland to mainland Europe."* With respect to rail, TfN identifies that *"rail travel [enables] better access to employment and improving business-to-business connectivity. That is why the development of the Northern Powerhouse Rail network is a flagship of the Northern Transport Strategy. A network that brings the whole North closer together. Currently, this world-class network does not exist across the North."*
- 6.2 This section provides an overview of some of the more strategic transport barriers and constraints across the Corridor and is not intended to identify local 'pinch-points' and issues.

Road issues

- 6.3 In identifying existing physical transport constraints, the starting point west of the Pennines is the aforementioned East Lancashire Highways and Transport Masterplan, which highlights the following headline issues with respect to east – west highways linkages:
- Road links in this corridor tend to follow historic routes dictated by topography rather than travel demand. Many are poorly aligned and unsuitable for carrying large volumes of traffic, particularly heavy goods vehicles.
- 6.4 East of the Pennines the following key issue with east – west connectivity is identified:
- Journey time reliability issues on the A64 and A59. Summer time holiday traffic can, in particular, cause major delays, as can agricultural vehicles and slow moving heavy commercial vehicles.
- 6.5 Resilience is a major issue with current cross-Pennine routes such as the A59 and A65. The availability of suitable diversionary routes is therefore important, particularly for critical growth sectors such as the energy sector, which already has significance in North Yorkshire and the Humber. Resilience and continuity of supply and freight routes is critical, and the A59-M65-A6068-A65 corridor can play a part in providing this resilience.
- 6.6 There are a number of 'pinch point' resilience issues identified on the roads within the corridor, both east and west of the Pennines. Examination of a variety of sources such as the East Lancashire Highways and Transport Masterplan, M65 to Yorkshire Corridor Study, the Burnley/Pendle growth corridor studies, the North Yorkshire SEP, the North Yorkshire Strategic Transport Prospectus and LTP4, and the West Yorkshire Transport Strategy (2016-2036), illustrate these specific problems. These include:
- The M65 is not three lanes throughout its length, with reduced capacity on some sections, particularly between the M61 and Junction 6 at Whitebirk. Traffic has grown consistently by around 4% per annum since 1997, and evidence now suggests that the current level of demand

at peak times is causing congestion. There is some evidence to suggest that eastern sections of the M65 are relatively free flowing with delays at some but not all junctions in peak periods;

- The abrupt termination of the M65 at Colne inhibits east – west connectivity;
- The A6068 experiences the most severe problems when passing through the North Valley area of Colne, with traffic signal-controlled junctions and conflicting traffic movements interrupting the traffic flow resulting in congestion and delays throughout much of the day;
- Junctions 8 and 9 of the M65 have regionally significant employment locations, including Burnley Bridge Business Park and Network 65, which are likely to be allocated for further growth as major strategic employment sites. A number of the key employment sites on the M65 only have west facing slip roads and the majority of movements are west bound, acting as a constraint to connectivity eastwards;
- Congestion is a problem on the M65 as it reaches Preston in the peak hours;
- Landslip risk at Kex Gill on the A59 between Harrogate and Skipton. Indeed, this risk has been realised in recent months with a lengthy closure earlier in 2016;
- Congestion in Harrogate & Knaresborough on the A59 and in Malton & Norton further east of the A64 continues to be an issues in common with North Yorkshire's other main towns outside of this corridor;
- Similarly, in Calderdale the town centres (on or close to the A646) of Sowerby Bridge and Hebden Bridge suffer from major congestion, in addition to significant congestion hotspots on east-west routes to the east and south of Halifax, such as at Hipperholme Crossroads through to Stump Cross junction, and the A6026 and Copley Lane;
- Weight restrictions at Kirkby Stephen related to environmental constraints create issues for cross-Pennine movements;
- Major road improvement in Pennine areas is made difficult by the area's geography, topography and heritage considerations.

Rail issues

- 6.7 Rail links are also constrained by topography, with resulting low line speeds having a significant impact on journey times. Rail lines within the corridor are of a much lower quality than those further south that link Liverpool and Manchester with Leeds, Sheffield and the Humber ports.
- 6.8 The following east-west connectivity issues are identified in the Leeds City Region Metro study and WYCA's Rail Plan 7, part of West Yorkshire's Local Transport Plan 2011-2026:
- Peak period crowding at Leeds City Station, which affects people using every rail service into the city, including those within this corridor;
 - Connectivity issues on the Calder Valley route linking the hubs of Halifax, Bradford and Leeds due to poor journey times and inadequate service frequency. The electrification of this corridor is seen as a key strategic transport priority in the West Yorkshire Transport Strategy, and would improve Bradford's connections to the key destinations of Leeds, Manchester and Manchester Airport;
 - Ageing rolling stock on the Calder Valley corridor;
 - Although one of the best performing lines in West Yorkshire, the Airedale corridor between Leeds

and Skipton requires additional peak period commuter capacity. This would involve longer rolling stock and platform lengthening work;

6.9 The East Lancashire Rail Connectivity Study identified the following deficiencies in the local rail network:

- Issues on the local rail network include constrained connectivity due to poor linkages between services on the north-south (Clitheroe to Manchester) and east-west (Calder Valley) corridor. An interchange at Blackburn is required to link services on these lines;
- Service frequencies are low in East Lancashire. The majority of stations within East Lancashire are only served by an hourly service frequency, with only Preston, Blackburn and Accrington having a half hourly service;
- Journey times are slow. Car journey times are commonly quicker than rail journey times;
- Rail usage is as a consequence lower than might be expected from the area. The percentage of individuals travelling to work by train is lower in all ten Local Authority areas in the study area than the average for both the North West and England and Wales;
- There are poor rail links from east Lancashire to Yorkshire;

6.10 The subsequent opening of a Blackburn – Burnley – Manchester service may help provide improved connections to east-west services for some journeys.

Journey to work issues

6.11 There are also some geographically specific issues that emerge from the evidence base, including the data of current journey to work patterns:

- Lancaster currently has very limited east-west movements. This is largely a reflection of the physical landscape and topography, which has in turn historically led to poor transport routes;
- The Science and Innovation Audit identifies the potential for enhancing relationships between Lancashire and Sheffield. Current linkages to Sheffield are either via the M6 or other routes such as Woodhead and the Snake Pass which have clear resilience issues;
- Links to and from East Lancashire to Calderdale are poor, yet there are some signs of commuting.

7.0 Qualitative economic narrative for enhanced East-West connectivity

Introduction

- 7.1 Developing an evidence based economic narrative to support the case for enhanced East West connectivity is seen as being critical going forward to inform a wider case for investment. This section draws upon the existing evidence as well as the views of key stakeholders and our own analysis to inform an evidenced and justified qualitative narrative for enhanced connectivity. Whilst section 8 seeks to quantify the potential wider economic benefits (through an assessment of agglomeration and labour market/employment benefits of improved connectivity), this quantitative analysis does not capture a number of the other more qualitative economic drivers of the case for enhanced physical connectivity that are presented within this section.

Supporting complementary high growth, high value economic sectors and clusters

- 7.2 Across the Central Corridor and the three functional LEP areas more generally, there are a number of key complementary economic sectors which are considered to be either existing or likely future significant drivers of economic output and productivity. Identifying and understanding these sectors and sub-sectors and the extent to which there are commonalities (and existing inter-relationships) between different spatial and economic sub-areas is an important part of understanding the economic geography of the Corridor and a key part of the overall case for enhancing East-West connectivity. Agglomeration benefits relate to those associated with bringing businesses or workers in the same sectors/industries together and given that there are a number of similar and complementary industries and sectors across the Corridor economies, it is important to understand this further in establishing the potential for agglomeration benefits to arise through enhanced connectivity. There is a wide body of literature that points to not only the positive correlations between enhanced transport connectivity and increased levels of agglomeration but also the links between increased agglomeration and improved productivity and economic output.
- 7.3 Enhancing the potential for the increased agglomeration of business activity within and between these key existing and growth sectors through improved physical connectivity could improve overall economic output across the Central Corridor as well as promote increased innovation, supply chain development, knowledge transfer and overall operational efficiencies. The economic sectors where we consider there to be key commonalities/complementarities include the following:

1) Innovative/Advanced/High Value Manufacturing and Engineering

- 7.4 Of all sectors, it is evident that manufacturing, and particularly, advanced manufacturing, is the one which is not only already a significant contributor to economic output in all 3 functional economic LEP areas, but which is also a key priority for future growth across all 3 economic geographies. From the Central Lancashire District of South Ribble through to the East Lancashire Boroughs of Pendle and Burnley and the West and North Yorkshire Districts of Bradford, Leeds and Craven, manufacturing has been and remains a major driver of economic output and productivity.
- 7.5 Identified as one of the 4 'prime' capabilities within the IER, advanced manufacturing is clearly a pan-Northern strength and opportunity that is based on historic capabilities and competitive advantages as well the significant economic asset base that exists in the sector that is constantly evolving and progressing. The Central Trans-Pennine Corridor is home to global manufacturing assets that compete at international levels. These include not only leading multinational companies and Original Equipment Manufacturers (OEMs) such as Rolls Royce, BAE Systems and Leyland, but also leading SME supply chain businesses, HE institutions and innovation/R&D facilities, often with physical and

virtual links to other parts of the wider Northern advanced manufacturing ecosystem. Advanced manufacturing of one form or another (i.e. innovative manufacturing or advanced manufacturing) is an identified key economic priority within the Strategic Economic Plans of all 3 LEP areas and it is evident that it is a sector which is not only already a major contributor to economic growth and GVA, but one which has significant growth potential. Manufacturing is also being prioritised at a national level by Government, with an emerging national Industrial Strategy due to be published in 2017.

- 7.6 Across the Corridor there are various specific sub-sector strengths in different spatial locations. For example, in Central/East Lancashire, there is a strong focus on the aerospace and automotive sectors and this is largely founded upon the presence of the major employers in these sectors, of which selective companies have been identified above. However, there are a significant number of Tier 1 and Tier 2 and below supply chain businesses located across other parts of the Corridor, particularly towards East Lancashire and West Yorkshire which support these global businesses and some are in fact global businesses in their own right. An overview of some of the key sub-sectors within the advanced manufacturing sector is presented below:

i) Aerospace

- 7.7 According to a recent BIS Research Paper (July 2016), in 2015, the UK aerospace industry employed 116,000 people directly, and generated a revenue of nearly £29bn, £9.2bn of which was value-added revenue. Gross value added grew on average by 4% per annum between 2009 and 2015 (in real terms), compared with 2% for the manufacturing industry as a whole, and 1% for the UK economy overall¹². According to the North West Aerospace Alliance (NWAA), the North West aerospace cluster is the 4th largest globally, the largest in Europe and contributes over £7 billion to the UK economy, accounting for one quarter of the UK aerospace turnover.
- 7.8 The majority of the NW aerospace cluster is located in Lancashire and the Lancashire SEP reports that Lancashire has the single largest concentration of aerospace production in the UK, employing over 20,000 people. Major employers include global firms such as Rolls Royce, BAE Systems and Safran Nacelles. Safran Nacelles employs a workforce of around 750 people directly. It is one of the two main integrators of aircraft engine nacelle systems in the world and a major supplier to the Rolls Royce aerospace manufacturing operations in Barnoldswick, which directly employs c.1,300 people and draws its employees from across Lancashire, Yorkshire and beyond. The Rolls Royce operations at Barnoldswick manufacture fan blades for aircraft and it is understood that these are largely transported via road to the manufacturing HQ facility in Derby via Skipton and down to the M1. Adjacent to the Safran site is 'Innovation Drive', a rapidly expanding cluster of hi-tech supply chain businesses to the aerospace and automotive supply chains, including BCW Engineering, suppliers to business such as Aston Martin and Lotus and Kaman Tooling, a supplier to Tier 1 and Tier 2 businesses within the aerospace sector. There is also the West Craven Business Park at Earby – companies here are aerospace supply chain business to the Rolls Royce operations at Barnoldswick and this has attracted significant inward investment e.g. Curtis Wright. In the Pendle area around Nelson and Colne, there are also businesses which supply the aerospace and other manufacturing businesses in Preston and Manchester.
- 7.9 The NWAA has developed considerable technical expertise to support aerospace companies through the delivery of supply chain improvement programmes such as Aerospace Supply Chain Excellence (ASCE), Growing Autonomous Mission Management Applications (GAMMA) and the National Aerospace Technology Programme (NATEP) and the North West aerospace sector, of which Lancashire is a key driver, is performing very strongly.

¹² https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/536903/bis-16-310-aerospace-supply-chain-study.pdf

- 7.10 Across the Pennines in West Yorkshire, there are also a number of major aerospace assets and employers. These include leading manufacturing supply chain businesses such as Klinger Ltd in Bradford, a world leader in the development, manufacture and distribution of quality sealing products to the aerospace and other sectors such as the oil/gas industry; Dytel Technologies Ltd, based in Leeds, which focuses on the design and manufacture of inspection equipment for the dimensional measurement of turbine blades and other aero engine parts used in the aerospace industry and PCC Airfoils based by Leeds Bradford Airport which manufactures complex castings for turbine engine applications used in commercial jet engines, military jet engines and helicopters. The University of Leeds is also reported to be ranked 4th in the UK for Aeronautical and Manufacturing Engineering. There are also a significant number of other leading precision engineering businesses supplying to the aerospace and automotive sectors based across West and North Yorkshire.
- 7.11 In South Yorkshire, as referenced within the SIA, there is a significant cluster of aerospace activity in the Sheffield/Rotherham area anchored around the Advanced Manufacturing Research Centre (AMRC), a High Value Manufacturing Catapult Centre. Boeing is a key partner in this, alongside the University of Sheffield, and other partners include Rolls Royce, BAE Systems, Airbus and Safran. With rapidly developing assets which now include the Rolls Royce Factory of the Future Building, the AMRC Composite Centre and the AMRC Factory 2050, there is a major cluster of Tier 1 and Tier 2 business activity in this area. This already has strong links to the aerospace sector in Lancashire through businesses such as BAE Systems and Rolls Royce and their supply chain businesses, and SIA vision for an Advanced Manufacturing Corridor. The development of a Northwest Advanced Manufacturing Research Centre at Samlesbury will only enhance this relationship and need for enhanced physical connectivity. In East Yorkshire, there are firms such as Gardner Aerospace, one of Europe's largest independent manufacturers of metallic aerospace detailed parts, headquartered in Derby, UK with a manufacturing base in Hull. In North Yorkshire, Kirkbymoorside is home to Marshall Aerospace and Defence Group, one of the UK's largest independent aerospace and defence companies which supplies components to OEMs such as Boeing, Airbus, BAE Systems, and Bombardier.
- 7.12 BAE Systems currently focuses its manufacturing activity on sites including Warton in Lancashire (a designated Enterprise Zone site) and Brough in East Yorkshire, Aircraft components are transported via at least two trucks per day from Brough to Warton where they are assembled, through BAE's logistics contract with Wincanton, the largest UK owned logistics provider nationally. Wincanton has recently completed phase 1 of the construction of a new Defence Logistics Centre on the Samlesbury Enterprise Zone site, which comprises 165,000 sqft of logistics floorspace and from where large aircraft will be transported nationally and internationally and significant components brought into via Wincanton's haulage fleet from across the UK. As identified within the IER, the 'Taranis' semi-autonomous Unmanned Aerial Vehicle (UAV) was also developed at Warton. Lancaster University has strengths in technology management, analysis of big data and is a partner in the Growing Autonomous Mission Management Applications (GAMMA) Programme. UCLan also has distinct engineering strengths and offers undergraduate and postgraduate courses in Aerospace Engineering, with an Engineering Innovation Centre under construction in Preston which will directly support the aerospace and wider engineering sectors.

ii) Automotive

- 7.13 According to the Northern Automotive Alliance (NAA), the North West automotive cluster directly generates some £9bn of the total UK automotive manufacturing economy which relates to approximately 12% of the UK total, placing it as the second most significant region for automotive manufacturing in the UK. Employment in the North West automotive cluster is currently estimated to

be approximately 16,200¹³. There are a number of global OEMs within the North, including Bentley, JLR, Nissan, General Motors and Leyland DAF (PACCAR). Whilst the majority of these are based in the North West, there are a significant number of supply chain businesses in this sector located across Lancashire, West and North Yorkshire and beyond. An example of is BorgWarner, a US owned global automotive business which has a major manufacturing site on the Euroway Industrial Estate in Bradford from where it supplies turbochargers to Leyland DAF (PACCAR) in Leyland, which assembles trucks and distributes them globally from Lancashire via road with a number understood to be exported from the Port of Hull on the east coast. Leyland DAF (PACCAR) also has a dedicated R&D facility on site.

- 7.14 The US engineering business, Cummins, has its global turbo technologies research and development headquarters in Huddersfield and again is closely integrated to supply chains across the North of England, supplying engines to Leyland DAF (PACCAR) in Central Lancashire. Sanko Gosei, manufacturer of component parts to the automotive sector is also based in Huddersfield, as are a number of other turbo charger businesses such as SCM Turbomotive, a distributor to Borgwarner. From an HE and R&D perspective, the University of Bradford is home to the Automotive Research Centre, whilst there is the Turbocharge Research Institute at the University of Huddersfield and the Universities of Leeds and UCLan in Preston also both have specialist leading automotive based research and teaching facilities and provision. West Yorkshire is also home to bus manufacturer Optare (based in Sherburn in Elmet) and Ginetta (racing car manufacturer) based in Leeds.
- 7.15 West Yorkshire has a number commonalities with Lancashire in terms of the automotive sector and both have an historic legacy in commercial vehicles and heavy diesel engine manufacturing. The North East region also has a strong automotive industry (largely being driven by Nissan in Sunderland) and there are linkages between the North East, Yorkshire and Lancashire in this sector, as there are with businesses located in South Yorkshire as well. The ambition for the sector is to attract additional Tier 1 supply chain businesses, many of which are internationally owned businesses, to the North of England and addressing current East-West connectivity issues is likely to be able to enhance its ability to do this.

iii) Advanced/technical textiles

- 7.16 The Alliance Project was established and commissioned by the Greater Manchester Combined Authority and Lord David Alliance to examine the potential for repatriating textiles manufacturing to the UK. According to its report published in 2015, the UK textile industry is worth £9 billion to the economy and is experiencing year-on-year export and domestic growth. The report identifies that in 2012, the textiles sector employed over 10,000 people in West Yorkshire (12% of Great Britain total), just under 8,000 in Greater Manchester (9% of national total) and 5,000 in Lancashire (6% of UK total). Together the combined area of West Yorkshire, Lancashire and Manchester accounts for around 23,000 workers, representing just over a quarter of the national textiles manufacturing workforce¹⁴. According to NW Texnet, the North West and Yorkshire are the leading national centres for textile manufacturing (as well as the East Midlands) and the UK is the 15th largest textile manufacturer globally.
- 7.17 The economies of West Yorkshire and Lancashire have historically developed on the back of the textile industries, with West Yorkshire leading the worsted/woollen sector and Lancashire being a leading cotton manufacturing location. In the mid-20th Century, increased competition from overseas

¹³ <http://northernautoalliance.com/about/nw-automotive-industry/>

¹⁴ <http://neweconomymanchester.com/media/1467/3234-j2747-alliance-project-report-lb-low-final.pdf>

and the invention and popularity of synthetics led to a relative decline in the industry. However, the sector across West Yorkshire and Lancashire is still strong and although reduced in capacity compared to what it was, is still highly skilled, highly innovative, technologically capable and focused on quality. There are a number of mills that continue to produce fabric and materials for a wide range of end uses from clothing/fashion through to healthcare and the automotive and aerospace sectors. Trends for shorter fashion manufacturing lead-in times and increasing overseas production costs as well as increased awareness of ethical issues have all assisted UK textile businesses.

7.18 The sector has progressed in many ways and there is an emerging 'technical/advanced textile' industry across the two LEP areas which is closely integrated to wider growth sectors with strong functional relationships. Allied Textiles is a good example of a Transpennine advanced textiles business. It is headquartered in Barnsley with company operations located in Rawtenstall (Coating Applications Group) and in Nelson (William Reed). Examples of other existing businesses in this technical textiles sector include:

- Parkhill Textiles (Burnley) - manufacturer of reinforcements for the composites industry and was the first UK company to manufacture zero crimp fabrics in the UK
- James Dewhurst Reinforcement Solutions (Altham) – global technical textile business with R&D facility
- Blackburn Yarn Dyers (Blackburn)
- Simon Jersey (Altham) – work uniform manufacturer
- William Reed Weaving (Nelson) – filament fabric manufacturer serving a range of industries
- Cloverbrook Fabrics Ltd (Burnley) – global performance fabric manufacturer
- THS Industrial Textiles (Elland) – leading industrial textile supplier
- Arville Textiles Ltd (Wetherby) – technical textiles manufacturer serving sectors such as automotive, aerospace and healthcare
- Mitchell Interflex Ltd (Colne) - weavers of fabrics for industry, furnishing, fashion, leisure, military

7.19 Huddersfield is also home to the Textile Centre of Excellence and the University of Leeds is strong in this sector, with a range of courses on offer. Burberry has also recently announced plans to develop a new global manufacturing HQ in Leeds City Centre as part of a wider City Centre regeneration scheme. It is evident that there are significant sector growth opportunities across the Corridor in this sector and that there a number of well-established and leading businesses with key economic relationships with businesses in wider growth sectors within the pan-LEP area including aerospace, automotive and healthcare.

Health/Med-tech/Life Sciences

7.20 Health Innovation is identified with the IER as a 'prime' capability and is also a key growth sector for all 3 LEPs as per their SEPs. With an ageing population nationally and the pace of technological change that we are experiencing, the need for increased R&D, innovation and the delivery of new products to the market is growing. The health innovation and life science sectors are nationally significant and whilst the leading clusters are around Cambridge/London, Manchester/Cheshire and Birmingham/Nottingham, there are considered to be major growth opportunities for further cluster development to respond to industry requirements. Existing current and proposed health innovation assets in the 3 LEP areas are presented below:

West and North Yorkshire

7.21 Key spatial areas of health innovation strength include Leeds, Bradford and York, although the sector is diverse both spatially and in terms of its offer. Current and prospective future assets and strengths within the LEP area include:

- Leeds NHS Teaching Hospital Trust, the largest NHS Trust in the UK and the largest teaching hospital in Europe (with the University of Leeds)
- Digital Health Enterprise Zone at the University of Bradford
- two market leading primary healthcare health IT systems (EMIS and TPP)
- the largest healthcare data platform in the world (NHS Spine)
- the NHS Health and Social Care Information Centre HQ (HSCIC) (LCR has the highest number of health informaticians in the UK through this)
- Leeds University is developing a new innovation centre focused on life sciences and health care
- Centres of excellence for medical research in Leeds, York, Huddersfield and Bradford Universities
- Home to some of the leading international medical manufacturing companies (Smith & Nephew, Covance, Surgical Innovations, DePuy International, RSL Steeper, Brandon Medical), with a particular reputation in the manufacture of orthopaedic devices, wound care, surgical instruments and medical equipment.

7.22 According to the Leeds LEP, the healthcare sector employs 196,000 people and is a sector forecast to grow significantly. There are 138 Centres of Excellence in healthcare across the Leeds City Region and it is home to 4 of the 5 NHS headquarters¹⁵.

Lancashire

7.23 The health sector in Lancashire is already a major employer and as identified within the SEP, activities range from high level research and medical product manufacture, through to employment in the NHS, and in a significant and growing health and social care workforce which is increasingly migrating from the public to private sector. According to the IER, it employs 61,000 people. Current and prospective future assets and strengths within the LEP area include:

- Lancashire Teaching Hospitals NHS Trust
- Lancaster Health Innovation Campus - Lancaster University, together with partners Lancaster City Council and Lancashire County Council, is developing a Health Innovation Campus on land currently allocated for a Science Park development and which adjoins the University. The Campus is a new knowledge based initiative on an 11ha site immediately adjacent to the University campus. At the heart of the Campus is the University's Faculty of Health & Medicine which will work with international healthcare providers and companies.
- Lancaster University Centre for Ageing Research
- UCLAN – offers health related course provision as well as the Lancashire Clinical Trials Unit, focusing on research in the treatment of patients with complex needs and the Health Research Methodology and Implementation Hub (HERMI).
- University of Cumbria Lancaster Campus – offers a wide range of healthcare related education courses including degree provision.

7.24 It is evident that there is a significant, established and rapidly expanding cluster of nationally significant health and life science related activity in the Leeds City Region, based around Leeds/Bradford but also including wider areas such as York. The sector is perhaps less significant to the west in Lancashire particularly in terms of current private sector activity. However, there is a strong HE focus

¹⁵ http://www.investleedscityregion.com/system/files/uploaded_files/Leeds%20City%20Region%20-%20Healthcare%20Factsheet.pdf

on healthcare innovation, particularly through Lancaster University but also UCLAN, which, for example, is opening a new medical school at its Burnley Campus. The proposed Lancaster Health Innovation Campus also has the potential to place Lancaster on the map in the health sector, with the potential to accommodate up to 2,000 new jobs and deliver new significant new R&D advancements in the health sector, particularly in relation to integrated approaches to the addressing the challenges of an ageing society. This could tie into existing and proposed initiatives in Yorkshire such as the Leeds Academic Health Partnership as well as other R&D activity and also facilities further afield such as the proposed Campus for Ageing and Vitality in Newcastle, a facility of national significance being developed with Newcastle University and the Newcastle Hospitals' NHS Foundation Trust. Newcastle City Council, working in conjunction with the University, has also recently secured planning permission for a new SME laboratory facility on the Science Central site targeting start-up and high growth life science businesses.

Digital

- 7.25 The Digital Sector is another IER prime capability, a key growth sector for the Leeds City Region and a 'developing sector' for Lancashire, which could also benefit from the agglomeration impacts of enhanced connectivity. The Leeds City Region, largely focused around Leeds and Bradford and the wider Airedale area, is developing a niche in this sector in areas such as gaming, big data, data analytics and financial technologies, linked to the strength of the financial services industry in Leeds and also Bradford/York/Skipton. According to the LEP, the sector employs c.70,000 people and contributes over £3bn of annual GVA¹⁶. The sector is closely aligned to other key sectors such as health (e.g. Health and Social Care Information Centre in Leeds) and professional services and there are very strong links between academia and business in the sector. Universities such as Bradford and Leeds Beckett offer nationally leading courses in highly innovative areas such as cyber security and the City Region is home to a number of leading digital agencies and technology businesses as well as the Leeds Institute for Data Analytics. Sky has a major presence in Leeds City Centre, which is home to its national technology hub. Leeds is also home to the only independent Internet Exchange Provider outside of London, meaning it has a highly resilient and secure infrastructure to attract digital businesses to the area.
- 7.26 Further to the north of the Corridor, Middlesbrough has a strong reputation in the digital sector with DigitalCity, lined to the academic strengths of Teesside University in this sector. Further north again is Sunderland Software City and there are particular digital strengths in Newcastle and Gateshead (e.g. VRTGO Labs – Europe's first centre of excellence for virtual reality). Whilst these are outside of the 'Corridor' there are nonetheless opportunities to enhance economic relationships with these 'centres of excellence' through improved east-west physical connectivity.
- 7.27 To the West in Lancashire, digital is a growing sector. Lancaster University provides Lancashire with a number of specific strengths in this sector, particularly in cyber security and big data. Businesses in Lancashire form part of the North West Cyber Security Cluster and there are plans to develop a Cyber Security Innovation Centre in conjunction with industry partners in Lancaster. Preston is home to firms such as Realtime UK, Xyone Cyber Security Services and a number of digital agencies. Again, the digital agenda also forms an important part of the wider health innovation plans that Lancaster University is at the forefront of delivering.
- 7.28 Despite the fact that digital technology advancements will be likely to continue to reduce the need for physical movements (e.g. through enhanced telecommunications and online interaction), there is likely to remain a critical need for businesses to still engage with other businesses, suppliers and customers

¹⁶ http://www.investleedscityregion.com/system/files/uploaded_files/Leeds%20City%20Region%20-%20Digital%20Factsheet_0.pdf

on a face to face basis as part of their operations.

Low carbon/energy

- 7.29 Energy is the final IER prime capability and combined with the low carbon sector and is a priority area of focus for all 3 LEP economies within the Corridor. The spatial focus varies, with more of a focus on nuclear and offshore wind in Lancashire, bio-renewables and offshore wind in North Yorkshire and low carbon energy generation and technologies in West Yorkshire, with more of a focus on the professional services end of the industry.

In Lancashire, energy is identified as a key growth sector within the SEP (which suggests that it already employs 37,000 people) and key energy sector assets and activities include the following:

- Port of Heysham - important UK offshore supply and servicing base
- Blackpool and Fylde College activities e.g. the Energy HQ on the Blackpool Airport EZ site (being developed) and the oil/gas sector training facilities
- Springfields Nuclear Plant (Preston) (includes the National Nuclear Laboratory)
- Offshore wind farms (e.g. Walney Island)
- Energy Lancaster – Lancaster University Research Institute
- Heysham 1 and 2 Nuclear Power Stations
- Future potential links to the Nuclear Advanced Manufacturing Research Centre (NAMRC) in Sheffield on the back of the recent SIA
- Potential shale gas opportunities

- 7.30 On the eastern side of the Pennines, energy is also a key growth opportunity focused around low carbon and environmental technologies. The LCR has a number of academic assets including the University of York's Biorenewables Development Centre and BioHub Innovation Centre proposals and the University of Leeds Centre for Low Carbon Future and Centre for Integrated Energy Research. It is home to Drax at Selby (biofuel power station responsible for generating 7% of the UK's electricity) and there are also plans for shale gas fracking at Kirby Misperton in North Yorkshire. On the East Coast, there are a number of major energy developments being progressed including the Able Marine Energy Park, Siemens' proposed investment at the Green Port Hull and major plans for offshore wind farms off the Humber into the North Sea.

- 7.31 This is a rapidly changing sector and one in which R&D and innovation is a key driver, with clear potential benefits of increased knowledge transfer and new technologies

Logistics/distribution

- 7.32 Identified within the IER as an 'enabling' capability, this sector is not seen a key priority growth sector within individual SEPs, but is clearly critical to supporting other sector growth objectives. There are a number of established logistics and distribution sites along key arterial road routes within the Corridor and these are important components of wider supply chain activities. The key 'hotspots' for this type of activity in the Corridor include sites adjacent to or within close proximity to the A1, M65, M6 and M606. With growing trends for last mile distribution to support e-commerce activity, there are also an increasing number of distribution hubs located on the fringes of the urban centres, not necessarily directly on these strategic road routes.

- 7.33 It is very difficult to understand and map sector supply chain movements in detail as selected routes will account for a wide range of factors and will change frequently to maximise the efficiency of operations. We have spoken to distribution businesses within the Corridor who suggested that each day their selected East-West routes may vary through the Corridor in response to particular congestion/resilience issues not only within the Corridor but also on strategic routes around it. If, for example, the M62 is heavily congested for whatever reason, it may be preferable to use an alternative route such as the M65, for example.
- 7.34 It is evident that there are a number of significant and strategic logistics operations and businesses located within the Corridor that are highly likely to use east-west routes. We are aware of anecdotal evidence that suggests that in some instances there is a focus on the M62 as the primary means of east-west movement for businesses that may be located some way north of the M62 Corridor itself, due to the challenges associated with navigating east-west on road routes north of this and particularly the lack of resilience if there is an incident of any form.
- 7.35 Whilst the M62 Corridor is and is likely to remain as the key east-west axis for logistics operators, there are a number of operators choosing to locate on the M65 Corridor as well, both around its junction with the M6 and further east. There are businesses such as Boohoo (major fashion retailer) located at Heasonford (1m sqft with over 1,000 employees), Exertis (500,000 sqft at Bamber Bridge, with over 800 employees), Waitrose (Northern Regional Distribution Centre at Leyland), Amazon (168,000 sqft distribution facility at the Lancashire Business Park in Leyland) and Express Gifts (located in Accrington with c.2,500 employees), Fagan & Whalley (distribution business located in Padiham) and Spar (Northern Distribution Centre at Preston East). The M65 Corridor is proving to be an attractive location for these types of occupier and there are a number of additional distribution and logistics sites planned for this area. Elsewhere across the Corridor, there are major logistics operations on routes such as the A1(M) (e.g. Potter Logistics and Wolseley, the world's largest trade distributor of plumbing and heating products, both of which are based on the edge of Ripon). There are also businesses such as M&S which has a 1m sqft distribution centre at Euroway Industrial Estate on the M606 in Bradford.
- 7.36 Whilst the M1/M62/M6 corridors are likely to remain as the location of choice for a number of the larger national logistics operators, there is a clear rationale as to why sites along the M65 will continue to be attractive to the market, particularly for mid-size units. Land costs are likely to be lower and with the growth of e-commerce and the requirement for next day deliveries and 'click and collect' deliveries, there is likely to be a continued growth in 'last mile distribution centres closer to urban conurbations to enable this. We are also seeing a move towards more parcel led delivery methods which require increased responsiveness and agility to respond to consumer needs.
- 7.37 With the significant presence of manufacturing businesses across the Corridor, these also generate the need for supply chain movements, often of large and bulky goods and components. The completed Defence Logistics Centre on the Samlesbury Enterprise Zone site, which comprises 165,000 sqft of logistics floorspace, is a good example of a logistics facility being located adjacent to a major manufacturing facility and this will be operated by Wincanton, a national plc logistics business.
- 7.38 Enhancing east-west road connectivity would certainly increase the attractiveness of the Corridor as a whole to logistics providers and would enhance the operations of existing logistics businesses. With the continued growth of e-commerce, the sector is likely to continue expanding and connectivity improvements could enhance its ability to attract investment in this sector. The logistics sector will need to become increasingly agile and responsive to meet business and consumer needs and road connectivity and reliability will be key to this. Enhancing the Corridor's connectivity to key transport hubs such as ports and airports will also increase its ability to develop its logistics and distribution offer.

- 7.39 Rail freight has also been identified as an area for improvement and existing rail capacity issues are understood to be limiting the scope for rail freight. Increased rail freight opportunities could deliver positive impacts upon sectors such as the aggregates sector (large concentration of quarrying/aggregate businesses in North Yorkshire) as well as the energy sector and others. A good anecdotal example is Drax Power Station in North Yorkshire. This currently produces between 7-8% of the UK's electricity and approximately 50% of this is from biomass which is brought in via rail from either Immingham Port or the Port of Liverpool. It is critical for the Drax operations to have these options to provide resilience. Typically, circa 12 trains are required each day to Drax to provide the required biomass (1,700 tonnes of biomass per train). Trains coming from the Port of Liverpool route through either Manchester, Liverpool or Derbyshire depending on the time of day and route availability and are typically taking around 7 hours to reach Selby at an average speed of between 10-12mph, when it should take less than half this time. This is a result of passenger trains taking priority through track access arrangements but also the inefficiencies on the rail network itself in terms of the infrastructure. To develop further, rail freight needs efficient routes that are direct and which avoid conflict with passenger rail services. It also requires route availability (i.e. permitted axle weights), reasonable grade profile, loading gauges and permitted train lengths.
- 7.40 With the planned growth of the energy and construction sectors across the Corridor and beyond it is important to consider the extent to which there will be an increased need for rail freight movements going forward, to distribute materials and fuels accordingly. East-west freight movements could be important going forward in terms of meeting wider freight distribution needs. The National Rail Freight Strategy (DfT, 2016) refers to the rail freight industry generating £1.6 billion per year in productivity gains for UK businesses as well promoting reduced road congestion and environmental benefits. There could also be a move away from rail freight as a mechanism for only transporting heavy bulk materials to more of a focus on fast moving consumer goods (e.g. food/fashion) given the growth in e-commerce.

Food and drink

- 7.41 The food and drink sector is not identified within the IER as a prime or enabling capability but is considered to be a strong and well represented sector in terms of business and R&D activity across the Corridor. It may not offer the growth potential or GVA output delivery of other sectors but it is a major employer across the Corridor. It is one of six priority sectors for the Leeds City Region, is identified as a key existing sector for Lancashire and a key growth priority for North Yorkshire, particularly focused on agri-food/tech and the bioeconomy. Across the Corridor there is a very diverse food and drink sector, spanning supermarket HQs, major manufacturers and innovative bioscience businesses and assets. The rural nature of large parts of the Corridor means that agriculture and food production is an important part of the economy, particularly in North Yorkshire and Lancashire. There is also a growing focus on local product initiatives such as 'Made in Lancashire' and DeliciouslyYorkshire.
- 7.42 In Lancashire, as per its SEP, food manufacturing is a key sector with a workforce of over 13,000 (higher proportion than nationally), and is home to global brands including Dr Oetker and PepsiCo. Dr Oetker, for example, has its only UK manufacturing facility based in Leyland from where it manufactures frozen pizzas and then transports these to Yorkshire for frozen storage purposes prior to their distribution to retailers. It also has its UK Head Office and Commercial Centre at Thorpe Park Business Park to the east of Leeds City Centre. Its operations therefore necessitate east west movements. Other key food/drink businesses in Lancashire include Burton Biscuits (manufacturing facility and subsidiary office in Blackpool), Fox's Biscuits (manufacturing facilities in Blackpool and Batley, West Yorkshire), Warburtons (Burnley and Blackpool) and InBev brewery (Samlesbury). Preston is also home to the Booths Supermarket HQ. Booths has around 28 stores of which around

half are in Lancashire but also has stores in Cumbria, Yorkshire, Cheshire and Manchester and there is clear evidence of Booths utilising east-west routes across the Corridor to deliver goods to stores in locations such as Ilkley, Settle, Kirkby Lonsdale and Barrowford.

- 7.43 In North Yorkshire, the food sector is seen as a major growth opportunity. Sand Hutton near York is home to the National Agri-Food Innovation Campus which includes tenants such as Fera Science Ltd a joint venture between DEFRA and Capita, and a number of private sector organisations. The site is home to two National Centres for Agricultural Innovation and several public organisations. Further north in Leeming Bar there is a well-established food cluster of international importance. This includes the Leeming Bar Food Enterprise Centre as well as major businesses such as R&R Ice Cream plc (also have a base in Skelmersdale, Lancashire), Sarnia Food & Drink Manufacturing and ABP Food Group. Further to the east is McCain Foods with its global HQ in Scarborough and also the Malton Food Enterprise Zone and to the south is the Nestle facility in York (manufacturing and distribution) and the Sam Smiths and John Smiths breweries in Tadcaster.
- 7.44 The sector is also strong in West Yorkshire with businesses such as Arla Foods (Leeds) which also has a creamery facility in Settle, Coca Cola (Wakefield), Kerry Foods (Ossett) and a number of key national retailer HQs including Asda (Leeds) and Morrisons (Bradford).
- 7.45 The food and drink manufacturing sector is one which employs a high number of people and which has trans-Pennine relationships and movements, the vast majority of which are likely to result in large bulky movements via road, a number of which are likely to go to ports for exporting overseas. The sector's labour supply is also supported by a number of Eastern European workers which could be impacted by the recent Brexit vote subject to the actual implications of this. Enhanced physical connectivity could improve labour market resilience through making employment opportunities more accessible and attractive to existing and prospective skilled workers.

Unlocking the skills, R&D and innovation potential of the Corridor economy

- 7.46 The Corridor is home to 9 Higher Education Institutions (HEIs) including a number which are ranked globally as leading institutions in particular taught and research areas. The Universities of York and Leeds form part of the 24 research-intensive, world-class universities that make up the Russell Group. However, all of the other universities also have particular strengths in different areas. The University of Lancaster is now in the 'top 10' in the UK in the major 3 UK university league tables and is highly regarded for the quality of its research. Together with others such as UCLAN and Leeds, it is highly regarded in the field of advanced engineering. A number of these universities are already working together in specialist areas, collaborating with businesses and other organisations to develop new technologies and solutions to the current and future needs of society across all identified priority growth sectors. This cutting edge R&D and its collaboration with business is critical to the Corridor's economy and provides it with a major USP. The Universities are also working internationally with other businesses and academic institutions and their potential ability to contribute further to economic growth is significant.
- 7.47 The N8 Research Partnership is a collaboration of the eight most research intensive Universities in the North of England and includes Leeds, Durham, Lancaster, York, Liverpool, Manchester, Newcastle and Sheffield Universities. Its aim is to promote increased University collaboration in research and it is focusing at present on a number of research themes including agrifood and urban/community transformation. These Universities want to work with not only each other but also the 'best businesses' regardless of administrative boundaries.
- 7.48 It would appear wholly logical to suggest that if there was improved connectivity within the Corridor that there could be increased opportunities for collaboration not only between the universities on either

side of the Pennines (including facilities “in the middle” such as the UCLAN Burnley Campus which is expanding) but also increased opportunities for University-business collaboration and for the Universities to work more closely with the FE sector, particularly in areas where there is no physical HE presence. Enhanced connectivity could therefore also increase the attractiveness and accessibility of higher level skills development to learners which may have otherwise not been willing/able to consider skills development opportunities. It could enhance HE recruitment potential and also seek to address the ‘brain drain’ issues that many of the norther HE institutions face through enhancing graduate retention rates through improved access to employment opportunities.

- 7.49 We engaged with Lancaster University as part of this work, which suggested that whilst it has strong relationships with the N8 Universities and others within the Corridor, it could be doing more with the likes of Leeds, York and Bradford Universities and that the poor physical links across the Pennines are undoubtedly a factor in this. Lancaster University is a partner in the Round 2 SIA with York University linked to the Bioeconomy.
- 7.50 A key component and driver of the recent Lancashire/SCR SIA was the two Universities (Sheffield and Lancaster) and the existing connectivity issues between the two cities were also identified by Lancaster University as a potential barrier to maximising the impact of the ambitions for an Advanced Manufacturing Corridor.
- 7.51 A number of key innovation and R&D assets have already been identified in previous sections of this report, a number of which are associated with HEIs. The success of these is wholly reliant upon academic-business engagement/collaboration, knowledge transfer and the commercialisation of intellectual property at local, sub-regional, national and international scales and connectivity is key to supporting this through bringing the business and academic communities closer together.

Supporting the growth potential of other key transport hubs

- 7.52 Enhanced road and rail connectivity could deliver significant benefits to other modes of transport and established transport hubs within the Corridor and the wider North of England, including the following:
 - **Leeds Bradford International Airport (LBIA)** – LBIA is a major economic asset for the Leeds City Region and wider North of England economy, with around 3.5m passengers per annum and employs c.2,500 people directly on site. The ambition is for this this to double to 7m by 2030 and this is not considered unrealistic, with the airport seeking to deliver this before then. There are significant opportunities for it to develop its offer for leisure and business passengers and also to develop its air freight capabilities. A key challenge for the Airport is its surface access given that it is has no rail link and the road infrastructure and connectivity is below adequate for an airport of this scale and ambition. Whilst the airport is exploring enhanced access solutions within its immediate vicinity, there is a clear case for more generally improving east west connectivity to enhance the airport’s accessibility and catchment area. At present there are high levels of leakage to other regional airports, particularly Manchester and East Midlands and this is due to the more limited routes on offer at LBIA. In order to attract additional airlines and routes to grow the airport as a key asset of city regional importance, there is a need to ensure that people (and possibly freight) can access the airport as part of its wider ‘sell’ to the airlines. Enhancing the ability for people living and working to the west and into Lancashire would be a key benefit to the growth of this regional economic asset. If the ambitions for expanding freight operations are also progressed then this could also benefit significantly from enhanced connectivity to the west.

LBIA is also seeking to develop a c.40 hectare commercial employment hub on land adjacent to the airport. This could comprise a mix of airport and non-airport related business activity and is seeking to mirror the success of similar strategic sites adjacent to airports elsewhere as well as to capitalise on the lack of employment land in this part of the City Region. Clearly, the success

of this commercial hub could also be enhanced as a result of improved east west connectivity to increase its connectivity with other business locations and also areas of workforce residence.

- **Manchester Airport** – enhanced east west connectivity could also support the growth of Manchester Airport. As the 3rd largest airport in the UK in terms of passenger numbers with over 23m passengers per annum, it directly employs more than 19,000 people directly employed on site, supporting a further 42,500 jobs in the North West of England¹⁷. Whilst it is not located directly within this Corridor, users of the airport travel along Corridor routes to access it for both leisure and business purposes. Currently, connectivity to the airport via road and rail from parts of East Lancashire and North Yorkshire particularly, is poor and enhanced east west connectivity could assist to improve routes across the Pennines to enhance ease of access to the airport and the efficiency of travel, particularly from a business user perspective.
- **Leeds, Preston and York Rail Stations** – all existing major rail hub stations with proposals for major expansion and connectivity enhancement at Leeds and Preston as proposed HS2 station hubs.
- **Port of Heysham and other East/West coast ports (e.g. Liverpool, Hull, Immingham, Teesport).**

The Port of Heysham is owned by Peel Ports and is located in close proximity to the M6 Motorway approximately half way along the west coast of mainland Britain. It is advantageous in that it is not tidal dependent. The Heysham Link Road/Bay Gateway has recently opened and the Port now has direct access via a new 4.8km dual carriageway straight to Junction 34 of the M6. Via Seatruck, the Port currently provides freight/cargo trips to and from Northern (Warrenpoint) and Southern Ireland (Dublin) and automotive/energy based freight forms a key component of the freight traffic. Whilst the origins/destinations of the cargo are likely to be varied, it is inevitable that it travels to/from Heysham via the M6. East west routes at this point are very limited and there is no easy east west route for HGVs. The port's main activity is container traffic going to and from Ireland. Most traffic goes straight onto the M6 and heads either North or South – very little goes east from Lancaster. It is very difficult to go east and has to go North or South (i.e. up to Carlisle north on the M6 and onto the A69/A66 or down to the M60 and onto the M62). With the new link road, the Port has an opportunity to capitalise upon this to further develop its offer, although the current limited east west connectivity prohibits this to an extent where cargo needs to travel in an east west direction.

Outside of the Corridor there are much more significant ports in locations such as Hull, Grimsby, Immingham and Liverpool, all of which could also benefit significantly from enhanced east west connectivity in this Corridor. The likelihood is that these ports rely on the M62 for road related east west movements, however this may not always be the most direct route and clearly there are resilience issues with having to rely on this single route. Improved east west road connectivity to the north of the M62 Corridor could therefore provide a complementary transport solution for cargo going to and from these ports and this could also release capacity on the M62 itself. Further afield, Teesport, the 3rd largest port in the UK, is also an important location for imports and exports and goods using this originating from or destined for locations in Lancashire or towards North Manchester may be reliant upon movements through the Corridor. East-West rail freight connectivity could also be important to unlocking the growth aspirations of the ports and to supporting wider economic growth ambitions.

¹⁷ <http://www.manchesterairport.co.uk/about-us/media-centre/fact-sheets/airport-summary/>

Supporting the needs and expansion of existing major employers and their supply chains

- 7.53 The sector analysis above has already identified that the Corridor is not only home to a number of key growth sectors but that there are also a number of major businesses and employers within the Corridor responsible for significant levels of employment and economic output. Some of these include, for example:
- Rolls Royce (Barnoldswick)
 - Leyland DAF (PACCAR) (Leyland)
 - BAE Systems (Samlesbury/Warton)
 - Silentnight (Barnoldswick – national HQ)
 - Skipton Building Society (Skipton - national HQ)
 - Asda (Leeds- national HQ)
 - Morrisons (Bradford - national HQ)
 - Boohoo (Burnley – national HQ)
 - Jet 2 (Leeds – national HQ)
 - Pace (Arris Group) – (Saltaire – national HQ)
- 7.54 These businesses and others of a similar scale are critical to the Northern economy, not only due to their direct employment and output but the wider supply chains that they create and support. These supply chains in key sectors are key to the future economic growth of the Northern economy and it is considered that increased mobility and connectivity across the North will be a key driver of the success of these supply chains and wider economic growth prospects.
- 7.55 Some parts of the Corridor are very reliant on one or two major employers and the impacts of them downsizing or relocating would be significant. For example, in some of the East Lancashire districts, there is a significant agglomeration of supply chain companies within the aerospace sector. These supply chains are often dependent upon Tier 1 and Tier 2 companies and the OEMs that these supply and the importance of ensuring that the Tier 1/2 businesses and OEMs remain committed to the area is paramount to local economic growth and sustainability. For example, in the Pendle-Burnley area (e.g. Innovation Drive – 40 acre established employment site), a number of aerospace supply chain businesses are located here solely due to their proximity to Tier 1/Tier2/OEMs as Safran Nacelles and Rolls Royce to whom they supply either directly indirectly. In the case of the automotive sector, for example, many of the larger businesses that have a presence in the Corridor are foreign owned. With the uncertainty of what Brexit could mean for these businesses and wider global competition within the industry (particularly from lower cost base locations), there is a need to ensure that the local and regional physical infrastructure that these businesses require to meet their operational needs is adequate, otherwise this could be another push factor in favour of relocations to other locations globally.
- 7.56 With increasing globalisation and overseas competition across a number of sectors, businesses are under significant pressure to enhance the efficiency of their supply chain operations. Supporting the needs of businesses and their supply chains to safeguard existing activity as well as supporting future investment/expansion activity is therefore critical particularly given the scale of operations in sectors such as aerospace and automotive and others in this Corridor.

Attracting new high value business activity and inward investment to the Corridor and wider Northern Region

- 7.57 In addition to retaining and safeguarding existing business activity and output, there is also a case for investment to enhance east west connectivity from the perspective of attracting new businesses and inward investment to the Corridor and the wider Northern region. The quality and provision of transport infrastructure is likely to be a factor accounted for by inward investors when assessing the merits of location options as this can impact upon both labour supply and supply chain operations as well as the accessibility of the location to other company locations across the UK and internationally (access to airports is likely to be an important part of this). Cushman & Wakefield recently undertook a location analysis for a US based pharmaceutical business exploring site options in the Leeds and Manchester areas for a new HQ office and manufacturing facility. We were asked to compare the offer of both city regions against a wide range of criteria including proximity to relevant University assets and existing pharma clusters but one of the main criteria for the business was proximity and accessibility to an international airport to enable ease of access for its US based management team. This is just one example of where connectivity plays a key role in inward investment decision making.
- 7.58 Businesses, particularly larger Tier 1/2 businesses will want to locate close to their supply chains and/or clusters of similar activity as well as to relevant R&D/skills/training facilities and to skilled workforces. Strong connectivity is therefore critical to ensuring that these facilities are accessible from a wide range of locations, to maximise the potential for inward investment opportunities.
- 7.59 In the context of inward investment, a key driver of economic growth and additionality, it is important to consider how an area's infrastructure compares and competes with other locations that may have otherwise similar 'pull' factors. It is likely that if an area is able to offer a resilient, agile, responsive and 21st Century transport system that meets industry needs and responds to changing travel and logistics behaviours and trends, this is more likely to set an area apart from one which has a backward and dated network that suffers from resilience and reliability issues which results in less agglomeration and more dispersed supply chains. Looking ahead and being visionary to be able to provide a transport system for the future is therefore an important consideration in this regard to provide the Corridor with a competitive advantage over other areas nationally and internationally when competing for new occupiers and inward investment.
- 7.60 Place marketing and the promotion of wider quality of life is also an integral component of securing inward investment. Ultimately, the decision makers who may be relocating to the new business location will want to ensure that there are attractive places in which to live and enjoy either adjacent to or within a reasonable commuting distance of the inward investment location. This is important to attracting and retaining the right calibre of staff and some inward investors will place more of an emphasis on this than others. However, if it can be demonstrated that through good transport links there are desirable locations in which people enjoy a high quality of life within a distance perceived to be commutable, this can be a key locational selling point. The physical and economic characteristics and diversity of the Central Trans-Pennine Corridor and the largely rural nature of large expanses of land, means that there are many attractive locations with a high quality of life, which are seen as desirable places to live. The key to maximising the 'sell' to inward investors is to be able to demonstrate that these places are accessible to centres of business and economic activity and this supports the rationale for enhancing connectivity to achieve this. Promoting accessibility to high quality cultural, leisure and visitor economy assets will also be important as part of this. For example, the Corridor is home to a number of designated national parks, areas of outstanding natural beauty and coastlines with a number of highly popular coastal resorts such as Blackpool, Scarborough and Whitby which are key economic drivers in their own right. Ensuring that people can access these assets efficiently via road/rail will enhance the attractiveness of the Corridor and assist to drive levels of visits and associated net additional expenditure from both residents within the Corridor and those further afield.

Supporting housing and employment growth proposals and requirements

- 7.61 Transport infrastructure is an 'enabler' and a catalyst as well being a means of getting from A to B. By this, we mean that it cannot only directly address an immediate highways related capacity or resilience issue, but it can also be a major catalyst for wider economic growth in its own right. The Central Trans-Pennine Corridor as a whole is likely to experience significant population growth over the medium term in line with wider UK projections and policy objectives, as defined within the Housing & Planning Act 2016 and the 2017 Housing White Paper "Fixing our Broken Housing Market". For example, Leeds is the fastest growing UK City¹⁸ and over the medium term, the entire Corridor area is likely to experience net growth in terms of population. Local authorities are planning for significant population growth through their Local Plans and as part of this are allocating areas of land for specific end uses to meet projected need, based on the evidence base that exists. It is not only important that there are sufficient new homes and jobs to meet the needs of a growing population, but also that people can physically access employment opportunities. Ensuring there is a transport network in place that enables people to access jobs and skills/training from the new homes is key to the promotion of sustainable economic growth. Clearly, with increasing populations there will be more people movements and it needs to be ensured that there is sufficient capacity in the networks to accommodate these increased flows.
- 7.62 As already stated above, transport infrastructure can be an enabling investment. This means that the delivery of transport infrastructure can directly unlock housing and employment land for development. This in itself is an important consideration given the requirement for additional housing and employment land and floorspace and means that through, for example, interventions to enhance east west connectivity, this could directly unlock sites for development and therefore maximise the economic benefits of the infrastructure investment and the case for investment.
- 7.63 An overview of some of the key housing growth areas within the Corridor is presented below to illustrate the scale and extent of housing being proposed. The 3 SEPs have ambitions to deliver over 100,000 new homes within the next 10 years.
- The Preston, South Ribble and Lancashire City Deal aims to deliver over 17,000 new homes over the next 10 years.
 - The Leeds Local Plan Core Strategy (adopted) identifies the need for c.70,000 new homes over the next 16 years
 - Bradford Local Plan Core Strategy (draft) (40,000 new homes over the next 15 years)
 - South Lancaster Urban Extension (c.3,000 new homes)
 - Blackburn Housing Zone (850 new homes over the next 10 years)
 - Significant housing growth around Harrogate and for new 'Garden Town/Villages' around Flaxby/Hammerton
 - Housing growth around York, again with a Garden Town proposal at Whinthorpe to the south of York and proposals for over 2,000 new homes on the York Central Enterprise Zone site
 - Skipton has around 2,500 new homes allocated in the current local plan;
 - Significant housing growth is planned in Pendle with 5,660 new homes required by 2030. The majority of these will be in the Barrowford/Colne area.
- 7.64 As with many other parts of the country, it is evident that major housing growth is planned across the Corridor. Some of these developments will be reliant upon new transport investment to unlock specific sites, particularly given the scale of the proposals. For example, we are aware that the York Central site will require a major transport investment to unlock this, as will the proposed urban

¹⁸ <http://www.leeds.gov.uk/Business/Pages/Leeds-economy.aspx>

extensions/Garden Towns, given the scale of new development proposed. There will also be a need to provide an enhanced transport network to ensure that the new residents can access employment/skills opportunities and other services. Congestion is already identified as an issue on a number of road and rail routes within the Corridor and the additional housing numbers proposed are only going to put further pressure on existing congestion hotspots within the network. This alone supports a more general case for investment in transport infrastructure within the Corridor.

7.65 There are also a number of major existing and proposed strategic employment sites across the Corridor, some of which are of national and international significance, particularly the designated Enterprise Zone (EZ) sites. An overview of these is presented below, again to support the strategic case for improved transport connectivity to support their delivery prospects and to maximise their economic impact. There are 18 EZ sites across the 3 LEP areas, of which 14 are broadly located within or adjacent to the defined Corridor boundary. These include the below (see the EZ site plan in figure 7.1):

- 4 EZs in Lancashire:
 - Hillhouse – 138 ha former ICI chemical site located at Thornton Cleveleys, with a number of occupiers already on site. Focus on chemicals, advanced manufacturing and energy/low carbon
 - Blackpool Airport – 144 ha site - focus on energy, advanced manufacturing and food/drink manufacturing
 - Warton/Samlesbury EZ sites – 125 ha in total – focus on aerospace linked to BAE activity as well as automotive and other advanced manufacturing activity
- 2 EZs in West Yorkshire
 - Leeds/Aire Valley EZ – 4 sites totaling 138 ha. Focus on advanced manufacturing and logistics
 - M62 Corridor EZ – 9 sites totaling c.93ha. Focus on advanced manufacturing and logistics
- 1 EZ in North Yorkshire – York Central – 72 ha. Focus on office based development with supporting ancillary uses. (Note there is also a Food EZ in Malton).

7.66 There are clearly a number of complementary target sectors across the EZ sites and with the 100% business rate income retention benefits to the LEPs as well as the occupier incentives on offer through business rate discounts, there is a clear case for promoting development on these sites as a priority. The vast majority of the EZ sites are focused on the advanced manufacturing sector in some way or another and given that they have already attracted and are likely to continue to attract large national and global manufacturing occupiers, there are likely to be increasing synergies between the EZs across the Corridor which could necessitate physical movements between the sites and other key employment locations which could support wider cluster development within key sectors and industries.

7.67 There are also a wide range of additional existing and proposed major strategic employment sites across the Corridor, some of which are presented below by way of examples. A number of these sites are specifically focused on key growth sectors aligned to IER priorities such as advanced manufacturing, health and digital.

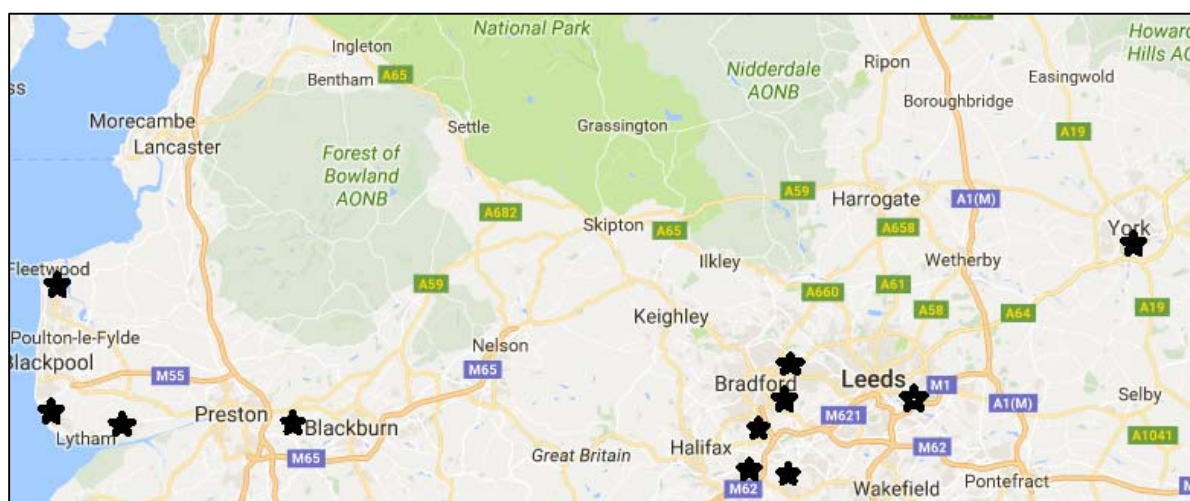
- Frontier Park (Blackburn)
- Network 65 (Burnley)
- Burnley Bridge (Burnley)
- Lomeshaye Business Park
- Barrowford Business Park
- Innovation Drive (Burnley)
- Whitebirk (Hyndburn)

- South Skipton Employment Zone (Skipton)
- Flaxby (Harrogate)
- Olympia Park (Selby)
- Briarfield Mill, Burnley
- Cuerden (South Ribble)
- Altham Business Park (Accrington)
- Junction 7 Business Park (Hyndburn)
- Huncoat (Hyndburn)
- Whitewalls Industrial Estate (Colne)
- West Craven Business Park (Earby)
- Crows Nest Industrial Estate (Barnoldswick)
- Euroway Industrial Estate (Bradford)
- Thorpe Park (Leeds)
- Kirkstall Forge (Leeds)

7.68 In addition to these, there is significant commercial development planned in some of the urban centres including for example, in Leeds City Centre (e.g. South Bank proposals to double the size of the existing City Centre) and in Bradford (plans for the redevelopment of 6ha of land/buildings within the City Centre for office and other commercial uses). As with the housing sites, a number of these sites will be dependent upon improved transport infrastructure to be deliverable. On others, enhanced transport connectivity is likely to be a key determinant of scheme viability and deliverability, based on the accepted premise that better connected sites are likely to be more attractive to occupiers and therefore drive higher demand and property/land values as a result. Land value uplift is becoming an increasingly important metric for determining the value for money of transport investment from a public sector perspective and there is evidence that can demonstrate the positive impact that transport investments can have on land and property values.

7.69 It is essential that these existing and proposed employment sites are supported with the necessary transport infrastructure to maximise their potential. It has already been identified that a number of businesses in the Corridor rely on east west movements as part of their business operations and with such significant growth planned, the emphasis on east west movement is only likely to increase. It is also recognised that many of the proposed strategic housing and employment sites are located on the either side of the Corridor (i.e. around Leeds/Bradford/York/Harrogate and Preston/Lancaster). This is particularly evident when one assesses the locations of the strategically important Enterprise Zone sites – these are all located on the fringes of the Corridor, as illustrated in Figure 7.1 below. This therefore raises an immediate question around the extent to which people are going to be able to access the significant employment opportunities that these sites will provide, particularly those than reside in the areas of greatest socio-economic need in the heart of the Corridor in East Lancashire. A spokesperson for Sky in Leeds recently reported to the press the challenges they have in recruiting the levels of staff they require for a range of job types and skill levels. At the same time, there are a high number of people in East Lancashire that are out of work, perhaps as a result of not being able to access suitable employment opportunities.

Figure 7.1: Plan of EZ sites within the 'Central' Trans-Pennine Corridor



**note – this excludes M62 Corridor EZ sites around Huddersfield (Lindley Moor East and West) and two EZ sites to the south of the Wakefield District as these are located outside of the Corridor. Also note, the Leeds Enterprise Zone comprises 4 adjacent sites.*

Addressing socio-economic inequalities

- 7.70 It is evident that there are a number of socio-economic disparities across the Corridor with some pockets of relative deprivation in locations across East Lancashire and within the larger urban centres particularly. Parts of East Lancashire (e.g. Burnley, Pendle, Blackburn) and West Yorkshire (e.g. Bradford) represent some of the most deprived communities nationally, based on the 2015 Index of Multiple Deprivation (IMD). On the whole, wage levels and output per worker is below national averages and there is a need to drive economic growth and productivity and address specific issues in relation to unemployment and skills and 'gaps' in employability. A key theme across the Corridor is the need to address the mismatch between the supply and demand for skills within key growth sectors. There is also evidence, both anecdotally and through the travel to work flow analysis, of very self-contained labour and housing markets and limited travel to work 'horizons' in parts of the Corridor, particularly across East and Central Lancashire. This is reported to be due to a combination of generational perceptions and the lack of connectivity/accessibility as a result of the physical topography, with the two considered to be intrinsically linked.
- 7.71 Enhanced East-West connectivity (in terms of journey times, cost and resilience) across the Corridor would assist to address the identified socio-economic inequalities and disparities and to enable people to be able to access economic opportunities across the geography of the Corridor. It would enable increased cross boundary/cross county flows and movements and would provide increases opportunities to better connect people to employment and skills/learning (i.e. access to further education and qualification attainment in key IER sectors etc) and maximise the potential of the Corridor's economic asset and business base. There is no doubt that the current physical connectivity issues on an East-West basis are restricting the horizons of people, particularly from a travel to work and business to business perspective. Given the relatively small point to point distances between key locations within the Corridor, the transport connectivity issue should not be as significant as it is and needs to be addressed if the economic potential of the Corridor and wider Northern Powerhouse economy is to be fully realised and the productivity gap with the rest of the UK closed, as per the ambitions of TfN and each of the LEPs.

8.0 Quantitative economic benefits of enhanced east-west connectivity

Introduction

- 8.1 A wider economic impacts model for the study area has been developed by SYSTRA, in order to assist in understanding the potential quantitative impacts on the wider economy that improvements to east – west connectivity could promote.
- 8.2 The model has been developed following the principles and approaches set out by the Department for Transport in its WebTAG (Unit A2.1 Wider Impacts). The modelling work examines two key areas of potential benefit:
- Firstly “agglomeration” benefits – the benefits of businesses being located closer together and the associated increases in productivity that arise from this; and,
 - Secondly the “employment” effects, which look at the benefits to the labour market of improvements in connectivity where employers and employees can be better matched increasing productivity and better matching skills. In turn this brings additional employees into the system who may not previously have been in work.
- 8.3 The work examines a range of scenarios for the future development of the transport network to try and understand where the greatest levels of benefit exist across the study area. The remainder of this chapter sets out the approach taken to modelling in more detail, a description of the scenarios tested, and the presentation and interpretation of the results.

Defining & Modelling Wider Economic Impacts

- 8.4 Within conventional transport appraisal there is a focus on the transport user benefits, for example journey time and vehicle operating cost savings. Traditionally these form the bulk of benefits arising from transport investment schemes. However in recent years there has been a growing interest in the impact of transport investment on the wider “real” economy. There are a number of potential sources of benefit to the real economy arising from transport investments. However the main ones, and the focus of modelling work within this study, are the following:
- Agglomeration Impacts
 - Employment impacts

Agglomeration Economies

- 8.5 At their broadest level, agglomeration economies occur when individuals benefit from being “near” to other individuals, and exist when the spatial concentration of economic activity gives rise to increasing returns in production. Transport and communications play a crucial role because, in most contexts, speed and low costs in transportation and communication provide a direct substitute for physical proximity¹⁹.
- 8.6 Recent research²⁰ identifies where improved rail connectivity between places of different size may provide economic benefits. The obvious example in UK terms is the difference between London and provincial cities where better connectivity will enable the smaller centre to become “a more attractive

¹⁹ Daniel Graham & Patricia Melo, *Advice on the Assessment of Wider Economic Impacts: a report for HS2*, March 2010

²⁰ Bridget Rosewell (Volterra Partners) and Tony Venables (University of Oxford) *High Speed Rail, Transport Investment and Economic Impact*, 2013

location; it starts off with lower wages and rents, and improved connectivity means that it will get better access to London's large economic market and large base of suppliers".

Employment Impacts

- 8.7 An improvement in accessibility, for example through a reduction in generalised travel costs, is equivalent to an increase in the effective return to labour and capital. In relation to the effective return to labour, this may change outcomes in the following ways²¹:
- Better job matching as travel to work areas expand;
 - Changes in the number of working hours; or,
 - Reduction in inactivity as people enter the labour market.
- 8.8 In the case of changes to the returns to capital this could also change a firm's demand for labour in the following ways:
- Increased demand for labour as firms seek to expand production; or,
 - Reduced demand for labour as firms strive to achieve cost efficiencies.

Modelling Agglomeration and Employment Impacts

- 8.9 The approach taken to modelling these impacts utilises the approach set out by the Department for Transport (DfT) within its WebTAG. This is currently contained within Unit A2-1 Wider Impacts. However, this guidance is likely to be superseded by a new suite of WebTAG Units, which at the time of writing are the subject of consultation. Nevertheless, the details of the quantitative approach is consistent across the two sets of guidance.
- 8.10 The DfT guidance also provides data on employment and GDP at a local authority level, both important inputs into the modelling undertaken.

Study Specific Methodology

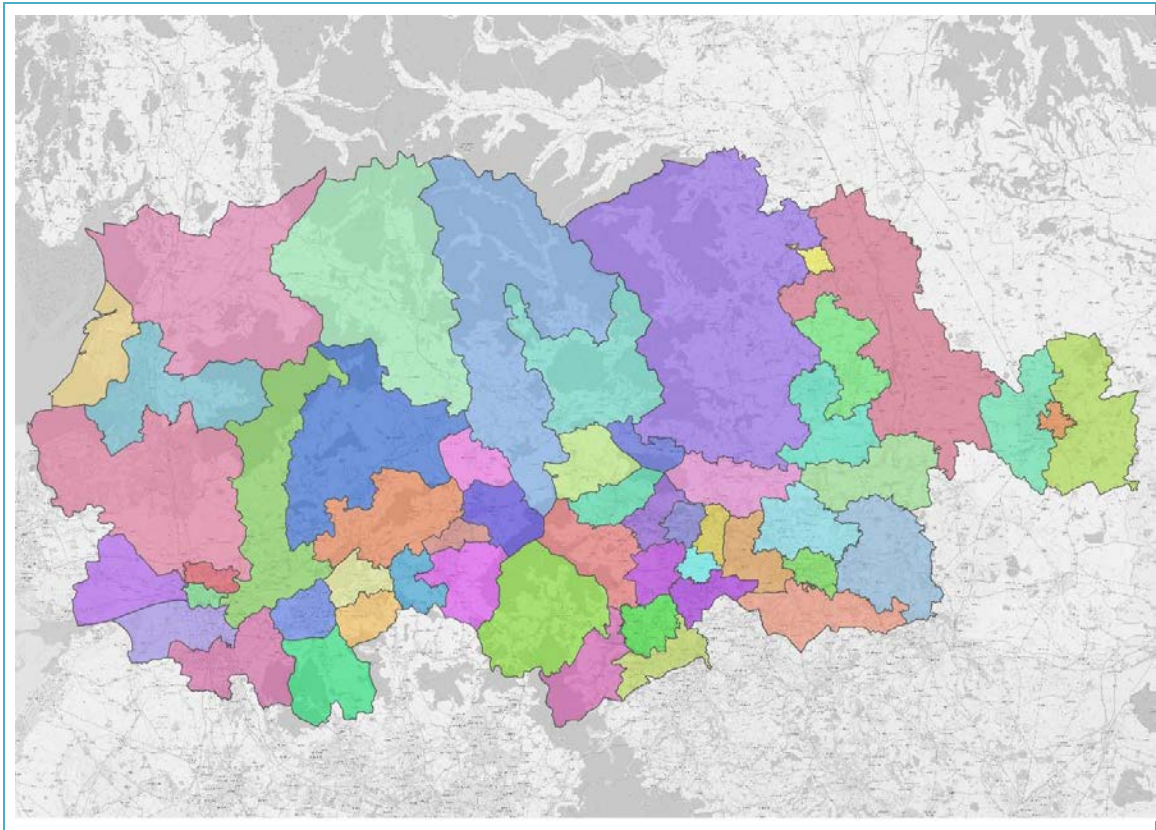
- 8.11 In developing the modelling approach there are a number of study specific issues that have had to be addressed. The details of these are described below.

Zoning Structure

- 8.12 The east – west connectivity study area covers a large and mixed geography across the north of England, broadly from Preston in the west to York in the east and from north of the M62 Corridor in the south to of the A66 Corridor to the north. Within this there is a broad mix of areas, ranging from dense urban regional centres such as Leeds and Bradford, to very rural areas such as North Craven or the Forest of Bowland. To therefore provide a representative analysis the study area was divided into 53 zones based on groups of Middle-layer Super Output Areas (MSOAs), shown in Figure 8.1. The colours within the figure are merely illustrative to allow the reader to see the zone structure.
- 8.13 These zones, rather than being based purely on administrative and political geography, instead followed the transport geography of the area. Where possible, rural and urban areas have been separated. This allows a relatively detailed model to be produced, with some areas having a very high density of zones, for example parts of East Lancashire and West Yorkshire, while other areas including rural North Yorkshire and parts of Lancashire were divided into a smaller number of large zones.

²¹ Source: WebTAG Unit A2.3 Appraisal of Employment Impacts (Draft for Consultation). DfT September 2016

Figure 8.1 East – West Connectivity Modelling Zones



8.14 The client brief described the study area Corridor as follows:

“This ‘Central’ Trans-Pennine Corridor comprises the M65/A56/A6068, A59 and A683/A687/A65 roads and parallel railways, including the Calder Valley line linking Preston, Blackburn and Burnley with Bradford and Leeds via Hebden Bridge and the line linking Lancaster with Leeds via Skipton”.

8.15 Our modelling was undertaken within this Corridor, focusing on these key east-west routes. We avoided east west movements in adjacent corridors (essentially the M62) or where north-south movements have a significant role in connectivity. This last point essentially means the A1 corridor to the east, and the M6 to the west, but also the M66 to Manchester. We therefore sought to exclude places that were strongly influenced by these neighbouring east-west and north-south corridors. Discussions took place with respect to Selby (A1), Rossendale (M66), Blackpool and significant growth sites in the west of Lancashire (M6), and Huddersfield (M62), all of which were excluded in order not to skew the analysis with the influence of movements that were not essentially about east-west business travel in the corridor in question.

8.16 For the purposes of this work we have assumed the below for the wider economic quantitative modelling only:

- Given Huddersfield's location and current transport connectivity, the majority of its east-west movements into the corridor will be likely to be along the M62/TPE rail route to Leeds or Manchester and then up, which is outside of the scope of this study;
- The stretch of the A64 (A1(M) to York), and Selby district more generally, is not considered within scope for this work largely because routing would tend to be via the M62 corridor from a number

of places, rather than via the A59-M65 corridor. It is this latter corridor that is the focus for this work.

- Rossendale is excluded from the wider economic modelling as are Kirklees and Wakefield as these are considered to be too far south and fall within the M62 Corridor as per Huddersfield above;
- The unitary authority of Blackpool as well as the western parts of Fylde (west of Poulton-le-Fylde) and Wyre (to the west of the River Wyre Estuary) have been excluded from the wider economic impact modelling. It is important to note that the wider economic impacts modelling undertaken focuses on two very specific aspects of the economy, namely the agglomeration effects (which are derived from improved connectivity on business-to-business journeys) and the employment effects (derived from improvements to connectivity that widen the labour market). The importance of the visitor economy to Blackpool, and the influence of visitor trips as one of the principal sources of journeys to and from Blackpool would not be reflected significantly in either of these 'slices of the economy' which are captured within the modelling. The inclusion of Blackpool could therefore 'skew' the modelling outputs which do not pick up wider visitor economy based trips as they are focused on business to business movements. The western parts of Fylde and Wyre have also been excluded as they are geographically contiguous with Blackpool and the M55 remains the primary route to these areas from Preston and the wider Corridor to the East. The highway network west of the M6 along the M55 and other routes is relatively unconstrained in comparison to the central M65/A56/A6068, A59 and A683/A687/A65 corridors, and therefore, the requirement for road transport infrastructure investment is likely to be less of a priority. East West based rail connectivity to Blackpool North is via Preston and provides a regular service at present for largely local trips and visitors.

8.17 Centroid locations for each zone were identified based approximately on the centre of the zone, or in the case of more rural zones the most appropriate settlement.

8.18 Each zone was populated with local employment information taken from the 2011 Census. Employment numbers within each zone are distinguished by type, and allocated to one of four economic sectors for use in the agglomeration model. These sectors are:

- Manufacturing
- Construction
- Consumer Services
- Producer Services

8.19 GDP data at employee level was calculated for each zone based on the GDP per employee for the local authority area in which the zone is located. For zones which cross a local authority boundary an appropriate weighted average has been calculated.

8.20 In addition to the zones within the study area, zones external to the study area have been created to allow the agglomeration model to function correctly. These zones cover the rest of the England and Wales and are based on government office region geographies.

Modes

- 8.21 The model contains the capability to model five principal modes for journeys within the study area. The modes included are:
- Car
 - Rail
 - Bus
 - Cycle
 - Walk
- 8.22 Bus, cycle, and walk are included to ensure that all commute trip types can be included within the model, although none of the test scenarios include changes to these modes. The inclusion of walking and cycling modes are especially important for the purpose of correctly calculating the level of economic activity within individual zones, where these modes represent a significant proportion of trips.

Trip Data

- 8.23 Fundamental to this assessment is the calculation of the number of trips across the study area. In the absence of data from an appropriate traffic or multi modal model covering the area, Census data has been used to provide a partial understanding of the movements in the area. While this data is satisfactory for use in the employment model, data on business trips is also required to operationalise the agglomeration model. Using data from the National Travel Survey it has been possible to estimate the relationship between the volumes of business and commute trips over distance. Having identified this relationship it is then possible to estimate the number of business trips from the number of commute trips, the latter obtained from Census data.
- 8.24 A caveat to this approach is the distribution of commute trips over longer distances. In most cases there are a small number of commute trips to the key settlements from a large number of zones. Consequently the greatest weakness lies in linkages to more rural zones.

Calculation of Generalised Costs

- 8.25 Fundamental to the calculation of the wider economic impacts is the calculation of generalised costs across the modes. For bus, cycle and walk trips, average generalised costs are estimated based on distances and the average speeds of these modes taken from other data sources, plus money costs such as fuel and fares as appropriate.
- 8.26 However for rail and highway trips generalised costs have been estimated using data from journey planners. In the case of highway trips it was possible from journey planners to obtain minimum and maximum journey times, which in turn has allowed an assessment of the impact of journey time variability to be made, as minimum, average, and maximum generalised costs have been calculated from these data.
- 8.27 For rail trips the use of journey planning software (as opposed to rail timetables) has allowed a greater coverage of potential rail trips, enabling the inclusion of some areas where rail is only part of a journey. For example, for trips from parts of East Lancashire (such as Barnoldswick) to Leeds, a bus journey to Skipton combined with a rail journey to Leeds can be relatively competitive with a car trip.

Treatment of External Zones and Irrelevant Zone Pairs

- 8.28 To complete the model within the requirements of the DfT's WebTAG it was necessary to estimate links to a range of external zones, the inclusion of which has been previously described above.

However, as these areas lie outside the study area, no changes were estimated for these zones when tests were completed in the model.

8.29 In addition it was necessary to identify a number of pairs of zones within the study area that, although required to make the model function, did not meet to the overall objectives of the study to examine east – west strategic connectivity. To this end all zone pairs that met the following criteria were excluded from the study:

- All zone pairs less than 10 miles apart;
- Zone pairs on the boundary of the modelled area that ran north – south rather than east – west, for example Preston – Lancaster, Leeds – York, and Leeds – Bradford.

8.30 Within the model tests the generalised costs for all of the zone pairs were held constant.

The model tests

8.31 To provide an understanding of the potential wider economic impacts of future strategic transport investment across the area, nine tests have been conducted covering a range of scenarios reflecting improvements to road and rail, both separately and in combination. The tests also include consideration of the impacts of different scales of intervention.

8.32 The tests avoid identifying and testing specific schemes. Instead the modelling has focussed on what the overall output would be, in terms of generalised cost or journey time reduction. The tests undertaken, together with their respective sensitivity tests are described below.

Tests 1 & 2: Rail & Road 10% & 20% Reduction in Generalised Cost

8.33 The first tests examine the impact of lowering total journey costs for rail and road trips by 10% and 20%. The focus of these tests is on strategic flows, defined as those over 10 miles, with the aim of gaining an understanding of the impact of a blanket reduction in travel costs across a large area. A reduction in generalised cost could cover a broad mixture of measures, as it includes both time and cost elements of journeys. For example it could involve the delivery of a small number of large schemes, a broad package of smaller measures over a large area, fares reductions in rail services, or frequency enhancements on rail services. Testing both 10% and 20% reduction enables some understanding of the impact of scale, and whether or not returns diminish or increase with scale.

Tests 3 & 4: Highways Only 10% & 20% Reduction in Generalised Cost

8.34 These tests are very similar to Tests 1 and 2 above. However these tests focus exclusively on the highway network. This is in recognition of the dominant role that the highway network plays in the area. As with the all modes tests above, such scenarios might be delivered through a mixture of measures such as large schemes dealing with bottlenecks, or a package of smaller schemes across a large area. Again, testing both 10% and 20% reduction enables some understanding of the impact of scale, and whether or not returns diminish or increase with scale.

Tests 5 & 6: Impact of Highway Reliability

8.35 A particular issue with the highway network across the defined study area is journey time variability. There are a range of reasons for this, dealt with elsewhere in this study, but can broadly be summarised as being related to one of two circumstances:

- A small number of major bottlenecks where journey reliability is poor and journey times vary significantly by time of day; and,
- A number of key routes that have a mixture of traffic with differing speed profiles, particularly HGVs and agricultural vehicles that can cause random patterns of delay across the network.

- 8.36 To understand this impact, minimum and maximum journey time data was collected for highways trips, in turn allowing average journey times to be estimated. Using this information Test 5 examines the impact of moving all highways journey times from average to minimum journey times, effectively introducing free flows conditions for highway movements across the whole network. Whilst this is theoretical in the sense that it is unlikely that free flow conditions could be introduced across the whole network it is useful to understand the effect of such a change over a large area. Test 6 compares the effect of moving from maximum to average journey times. This is examined as it is likely that users making important journeys such as business trips will plan based around maximum rather than average or minimum journey times to ensure reliability. This test therefore examines a situation where users could plan based around existing average rather than maximum journey times.

Tests 7 & 8: Cross Pennine Highway Journey Time Reductions

- 8.37 Given the focus of this study on East – West Connectivity between Lancashire and Yorkshire it is appropriate to conduct tests focussed solely on cross Pennine journey time reductions. This provides a particular focus on the key links in the road network linking Lancashire and Yorkshire in this area, notably the A65, the A59, the M65/A56/A6068, and the A646. These links have a broad mixture of characteristics, and there are known congestion and journey time reliability issues.
- 8.38 The tests implemented here involve applying a 10 minute journey time reduction to all links crossing between Lancashire and Yorkshire on these routes, and repeating this for a 20 minute journey time reduction to enable understanding of the impact of more substantial change on the network. For shorter distance links a cap has been applied of a maximum average speed of 60mph. This avoids any issues relating to the creation of implausible journey times. This approach is useful for identifying the scope for the development of the east – west economy as a whole, especially as analysis of Census data suggests that cross boundary commuting is relatively limited at present.

Test 9: Rail Only Test

- 8.39 Having examined a number of highway only options, Test 9 examines a rail only option to try and enable understanding of the value of transformational change in the quality of the rail network. To achieve this a 25% reduction in generalised cost has been applied to all zone pairs where rail is an available option. Given the nature of the rail network and its existing usage this tends to focus on access to principal centres such as Leeds, Bradford and Preston. This therefore tests the impact of a large change in journey times on a smaller group of zone pairs. A 25% reduction has been adopted as this has been identified by Rail North as an aspiration for the reduction in generalised cost across the whole of the rail network in the north. This defined aspiration from Rail North has set the standard for the desired level of improvement within the northern rail network, reflecting the slow journey times and low frequencies prevalent on many services at present.

Results of the analysis

- 8.40 The following sections present the finding of the modelling work. The first section provides a headline summary of the results, followed for each test in turn by evidence on the spatial impacts. The table below presents the summary results for both the agglomeration and employment models.

Table 8.1: Agglomeration and Employment Model £m GDP per annum

	Description	Agglomeration Model	Employment Model	Total	Rank
Test 1	10% GC Reduction	£30.16	£4.42	£34.58	3
Test 2	20% GC Reduction	£61.52	£9.77	£71.30	1
Test 3	10% GC Reduction (Highways)	£18.77	£3.62	£22.4	5
Test 4	20% GC Reduction (Highways)	£30.32	£8.30	£36.63	2
Test 5	Average to Minimum JT	£15.70	£2.08	£17.79	6
Test 6	Maximum to Average JT	£6.98	£2.09	£9.08	9
Test 7	10 minute Cross Pennine Reduction	£10.92	£0.90	£11.82	8
Test 8	20 minute Cross Pennine reduction	£11.25	£1.01	£12.26	7
Test 9	25% Rail GC Reduction	£30.75	£1.74	£32.49	4

- 8.41 The table shows, unsurprisingly, that the 20% reduction in generalised cost across both rail and road trips has a substantial impact on GDP generating an additional £71.3m per annum across the two models. A 10% reduction brings just under 50% of the benefits of a 20% reduction suggesting that there are still increasing returns to a reduction in generalised cost across both modes. The test that generates the highest annual GDP uplift (i.e. Test 2) is unsurprising given the scale of the change to the transport network that a 20% reduction in generalised cost implies. It also strongly demonstrates that investment in road and rail together are complementary, and both have a place in resolving the transport issues in this corridor. It is important to note that this analysis ignores the capital costs of delivering the assumed scenarios at this stage and clearly this will need to be accounted for as specific interventions are identified and developed going forward.
- 8.42 The second highest result is from a 20% reduction in generalised costs for highway trips, followed in third place (as noted above) by a 10% reduction in generalised cost for road and rail.
- 8.43 The fourth highest valued test is a 25% reduction in rail journey costs. Rail flows are typically targeted at major settlements where there are more likely to be high value jobs, for example in the producer services and consumer services sectors. In addition rail services do not suffer from time related congestion issues on the approach to major centres in the same way that road trips do. This test, in spite of the relatively limited rail network in terms of the connections it provides, illustrates the potential transformational benefits of investment in rail for those places served.
- 8.44 The impact of improving journey time reliability is more limited in terms of GDP benefits. This is thought likely to be a reflection of the pattern of journey time reliability issues. In particular those longer journeys that suffer the most from significant journey time variability (often having to pass through a number of congestion hot spots or of increased likelihood of suffering from slow moving vehicles) are relatively fewer in number in comparison to the number of shorter highway journeys. For

example trips falling into this test might include Preston to York, which potentially have to deal with issues on the M65, plus congestion around both Colne and Harrogate, and on the approaches to York. In spite of this, the results of the test, from which short trips with potentially huge variability in journey times have been removed, shows relatively lower benefits in comparison to network wide improvements. It also illustrates the potential importance of addressing reliability issues on short trips.

- 8.45 The 10 minute and 20 minute highway journey time reductions for cross Pennine movements show quite limited impacts compared to other options. However the results are more positive than they initially appear. Firstly, the total number of potential zone pairs is significantly reduced in these options compared to the other tests. In addition, for some zone pairs close to the boundary line a maximum speed cap will limit the potential growth in these areas. This model test is also influenced by the existing pattern of trip making, and that existing pattern of trip making across the boundary between the two areas is relatively limited, and therefore the model is uplifting from a relatively low base.
- 8.46 The scale of agglomeration benefits is significantly larger than the employment benefits estimated. This is in large part due to the exclusion of zone pairs that are less than 10 miles apart. These zone pairs are likely to contain the bulk of commute trips, with the proportion of commute trips over 10 miles being much lower.
- 8.47 Overall the results suggest that there would be considerable benefits to the wider economy from investment in improved east – west connectivity. And, in all cases there is the potential for additional benefits from movements further afield to other areas of the country, including entirely external movements that pass through the study area (e.g. from Scarborough to Blackpool, for example). These benefits are not modelled within this study.

Tests 1 & 2: 10% & 20% Generalised Cost Reductions

- 8.48 The 20% generalised cost reduction option provides the greatest level of benefit of the 9 tests, with the 10% scenario showing the third largest benefits. These scenarios spread the benefits over a very wide area. The maps presented below show the scale of benefits for agglomeration, employment, and total benefits at zone level for the 20% scenario. The pattern for the 10% scenario is similar but with lower absolute values.

Figure 8.2 20% Generalised Cost Reduction – Agglomeration Spatial Impact

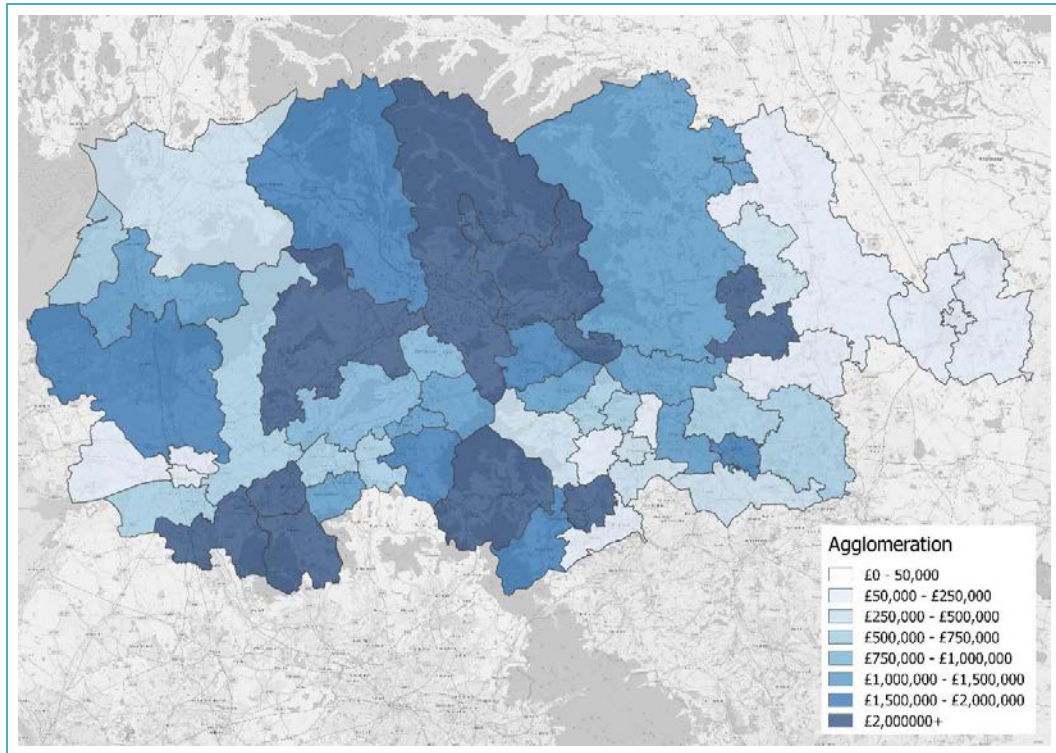


Figure 8.3 20% Generalised Cost Reduction – Employment Spatial Impact

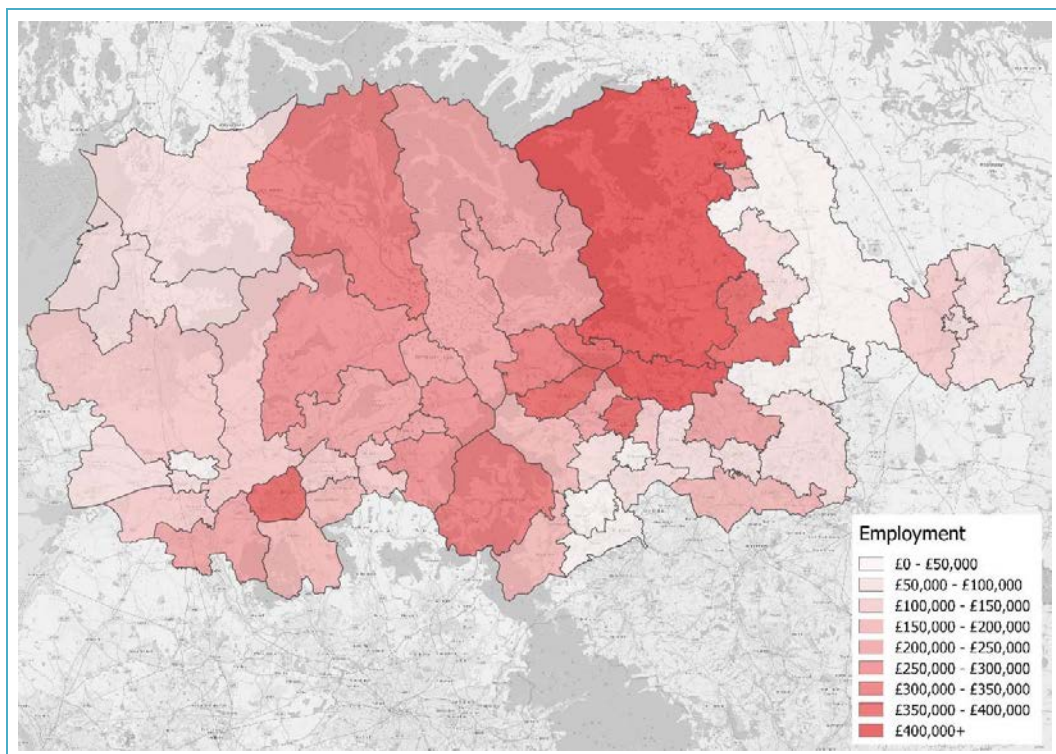
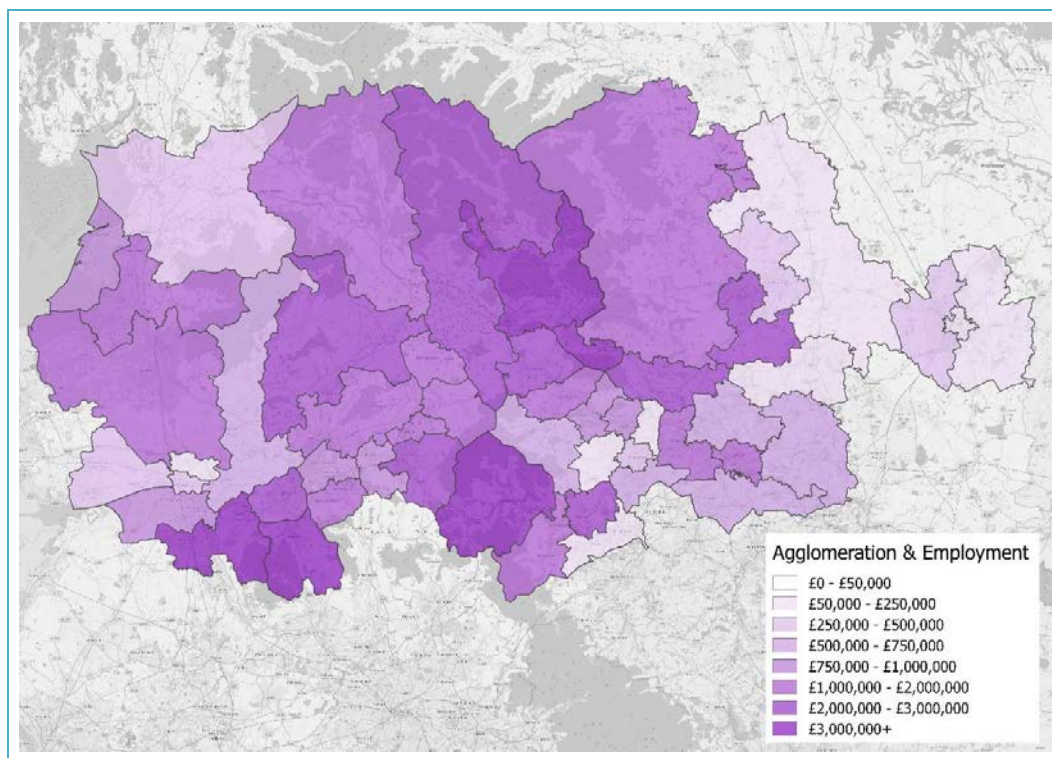


Figure 8.4 20% Generalised Cost Reduction – Total Impact



- 8.49 The results presented are relatively intuitive. Areas towards the centre of the study area tend to benefit most in this scenario as they have comparatively good access to all areas of the study area, particularly after a reduction of 20% in generalised cost.
- 8.50 Within the agglomeration results it is noticeable that Skipton, Clitheroe, the area south of Preston, the Upper Calder Valley, and Harrogate all benefit. In contrast the results of the employment model tend to favour the Harrogate and Skipton area, Blackburn, and Hebden Bridge. The agglomeration results in particular show the impact of bringing the area closer together with nodes in the network such as Skipton, Harrogate, and the area south of Preston, close to the Motorway network benefiting in particular.
- 8.51 The employment map does show evidence of some rural areas benefiting. This is likely to be due to the improved access to areas with a larger number of jobs especially where out commuting is already significant.

Tests 3 & 4: Highways only 10% & 20% Generalised Cost Reductions

- 8.52 These tests are very similar to tests 1 and 2, but are limited to improvements to the highways network only. The maps presented below show the scale of benefits for agglomeration, employment, and total benefits at zone level for the 20% scenario. The pattern for the 10% scenario is similar but with lower absolute values.

Figure 8.5 20% Generalised Cost Reduction (Highway Only) – Agglomeration Spatial Impact

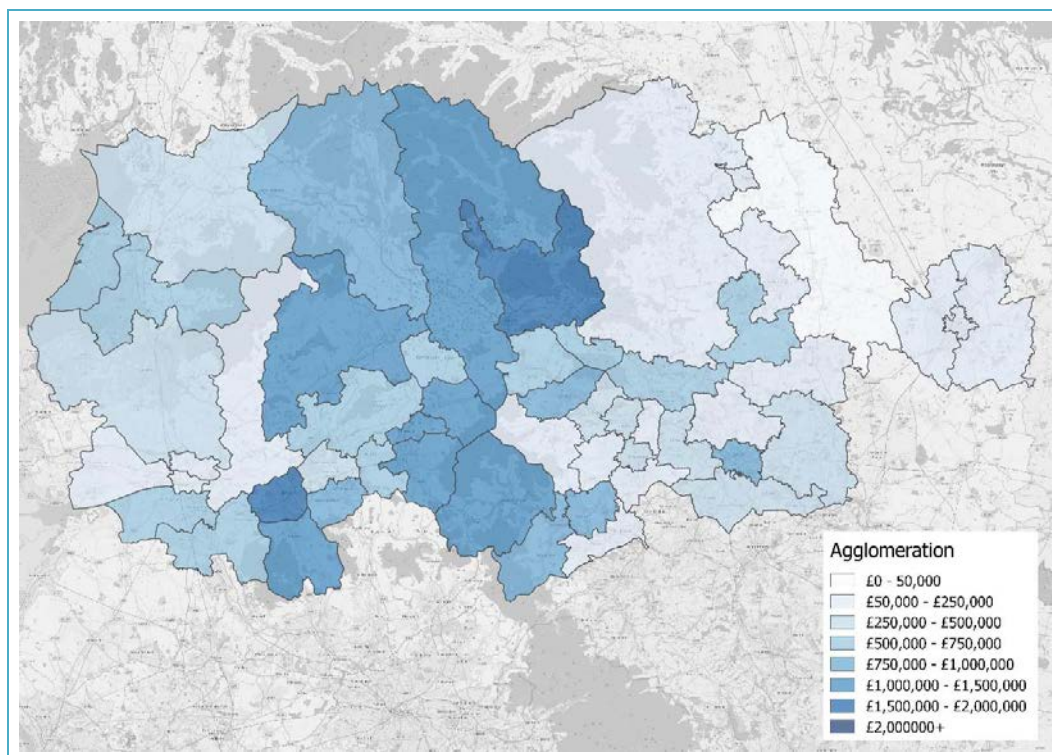


Figure 8.6 20% Generalised Cost Reduction (Highway Only) – Employment Spatial Impact

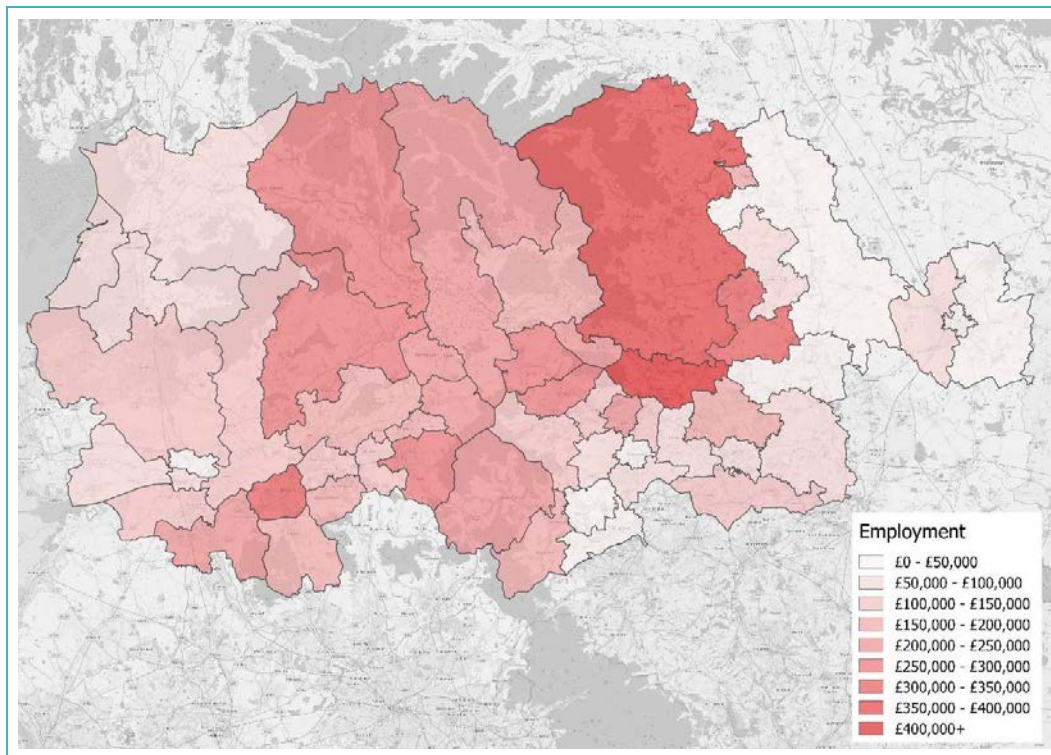
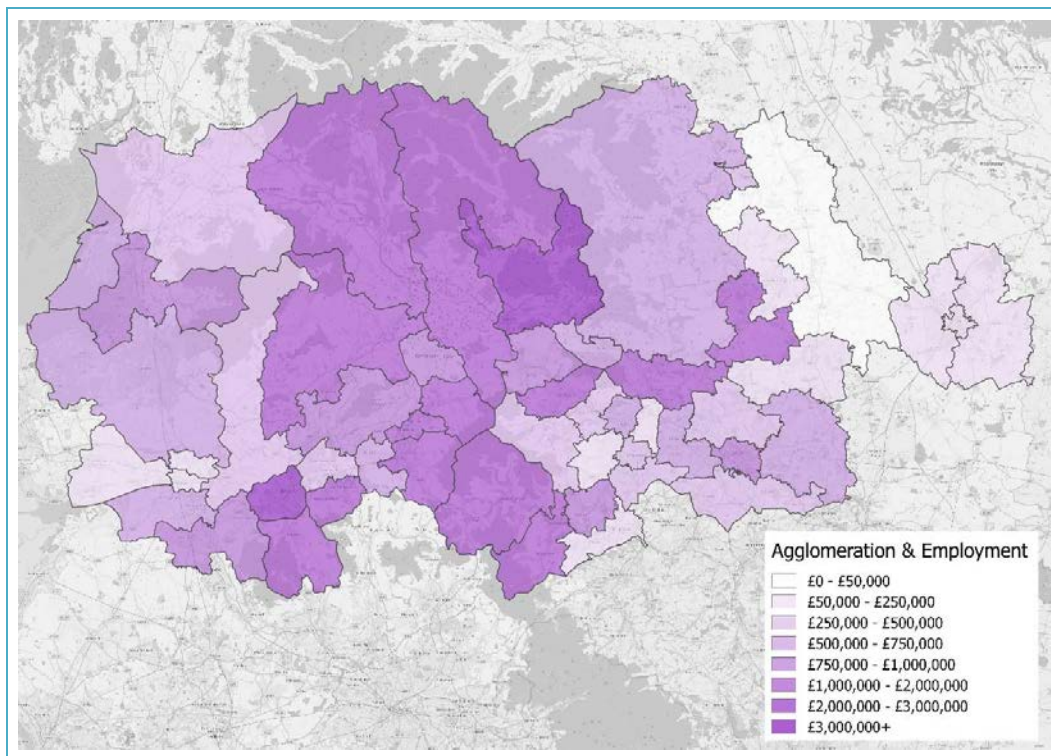


Figure 8.7 20% Generalised Cost Reduction (Highway Only) – Total Impact



8.53 The agglomeration impact of the highways only tests presents a slightly different pattern to tests 1 and 2, showing the impact of the differing geography of the road and rail networks in the area. The employment map is however very similar to the all modes tests employment map with areas around

Harrogate and also Blackburn showing benefits. It is also clear that there are relatively limited benefits within West Yorkshire and the York area, largely because cross boundary commuting trips are relatively limited from this area. The map showing total benefits indicates that Harrogate, Skipton, and Blackburn have the most significant benefits, along with other parts of the more central area, notably the Calder Valley.

Tests 5 & 6: Journey Time Reliability

- 8.54 Tests 5 and 6 examine journey time reliability across the highway network. The results for these tests do not show large benefit, potentially reflecting the issue that longer journeys will have greater variability in journey times, but that there are fewer of these journeys overall. In addition very short trips subject to variability due to local issues are excluded from this assessment. The maps below show the spatial impact of the option for moving from average to minimum journey times (Test 5). The maps clearly indicate how much weaker the overall impact of journey reliability is relative to the four earlier tests. Part of this is related to the way in which the impacts are distributed across the area. Overall the greatest reliability benefits appear to come from Leeds, Skipton, Halifax, Lancaster and Clitheroe.

Figure 8.8 Journey Time Reliability – Agglomeration Spatial Impact

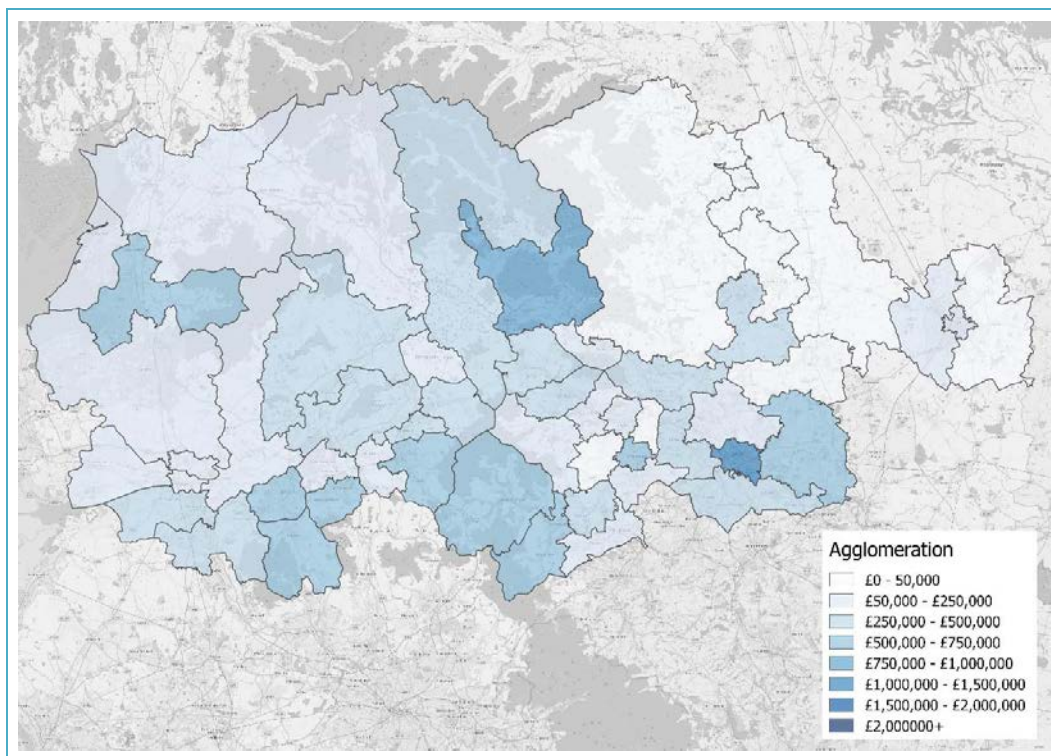


Figure 8.9 Journey Time Reliability – Employment Spatial Impact

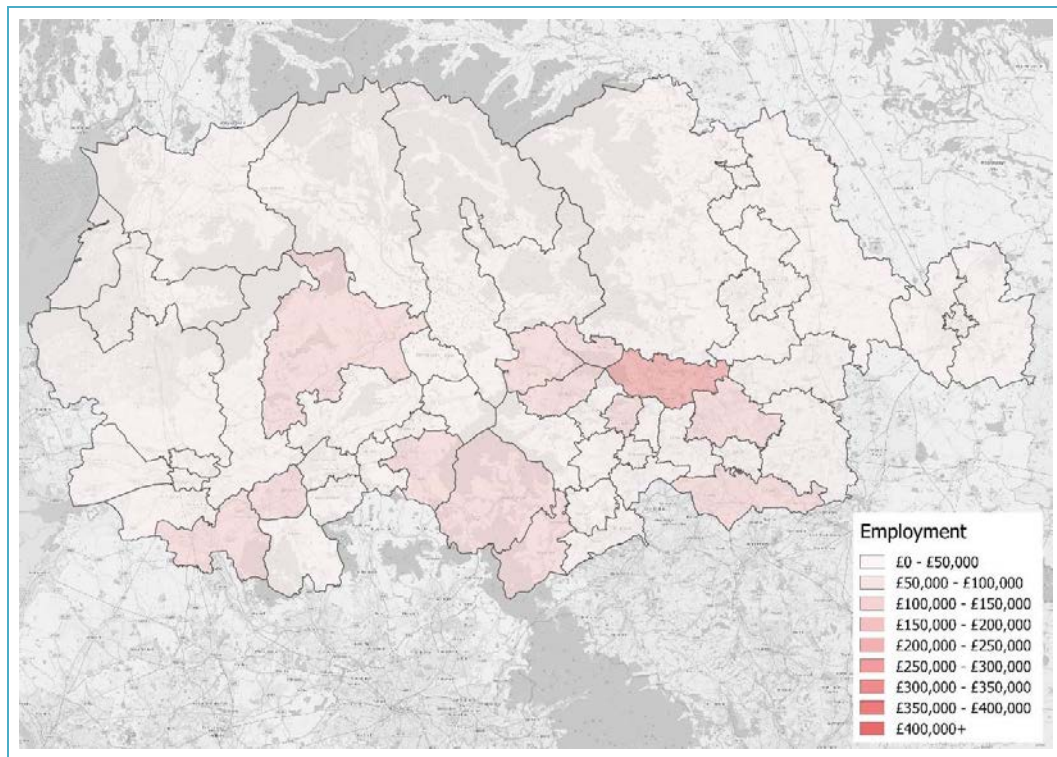
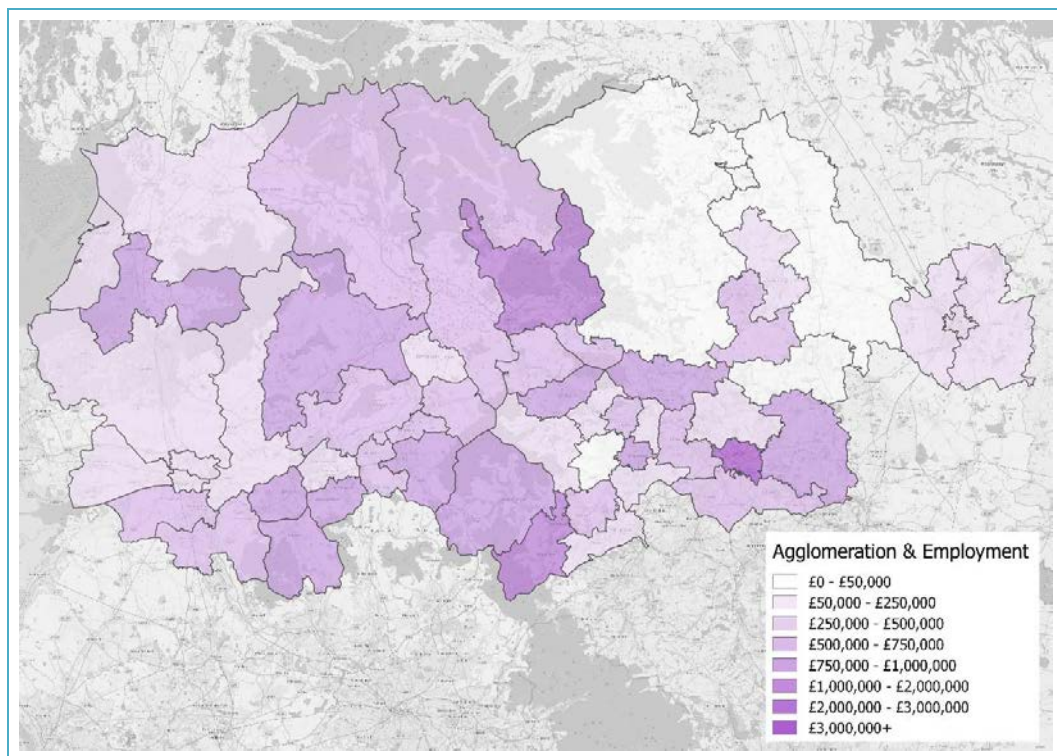


Figure 8.10 Journey Time Reliability – Total Impact



Tests 7 & 8: Cross Pennine Journey Time Reductions

8.55 Tests 7 & 8 look at the impact of reducing journey times for east – west journeys crossing between Lancashire and Yorkshire. This looks at an area where connectivity may be at its weakest, and where Census data shows that at the current time there is divide in travel to work patterns. The tests examine a 10 minute and 20 minute reduction in journey times for cross Pennine trips – with a cap applied preventing average speed rising above 60mph, the latter being relevant for short trips. Overall the total results for this were poorer than for other tests. However the approach excludes large numbers of zone pairs that do not cross the boundary between the east and west areas. The maps below present the results for the 10 minute cross Pennine journey time reduction by origin zone.

Figure 8.11 Cross Pennine Journeys – Agglomeration Spatial Impact

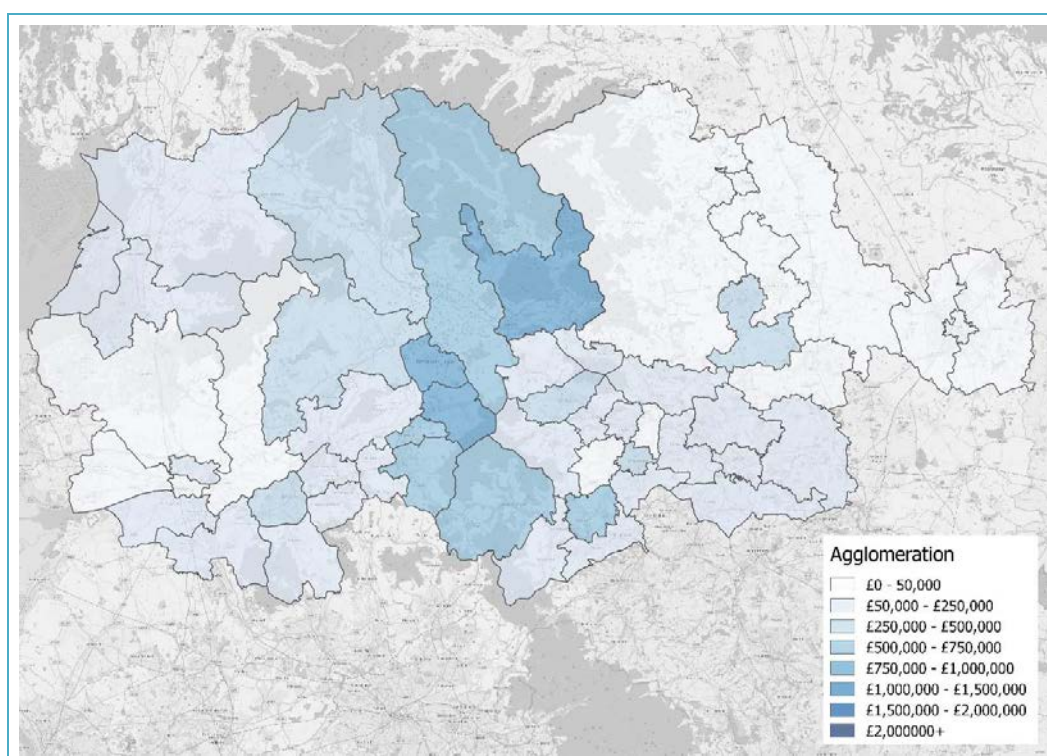


Figure 8.12 Cross Pennine Journeys – Employment Spatial Impact

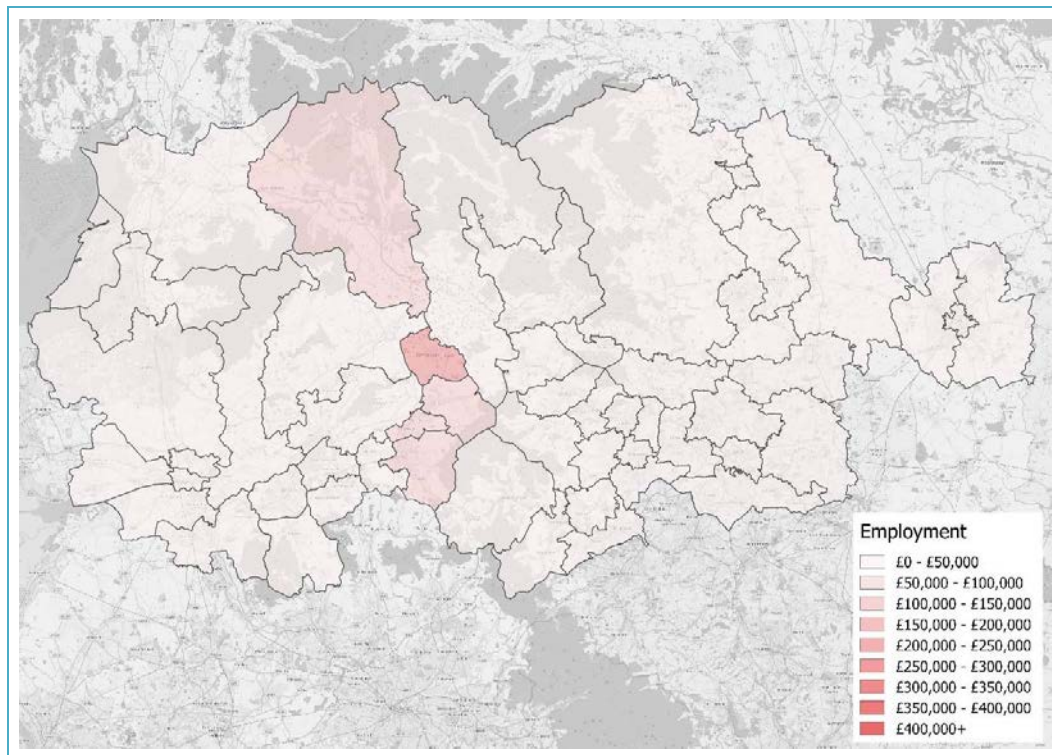
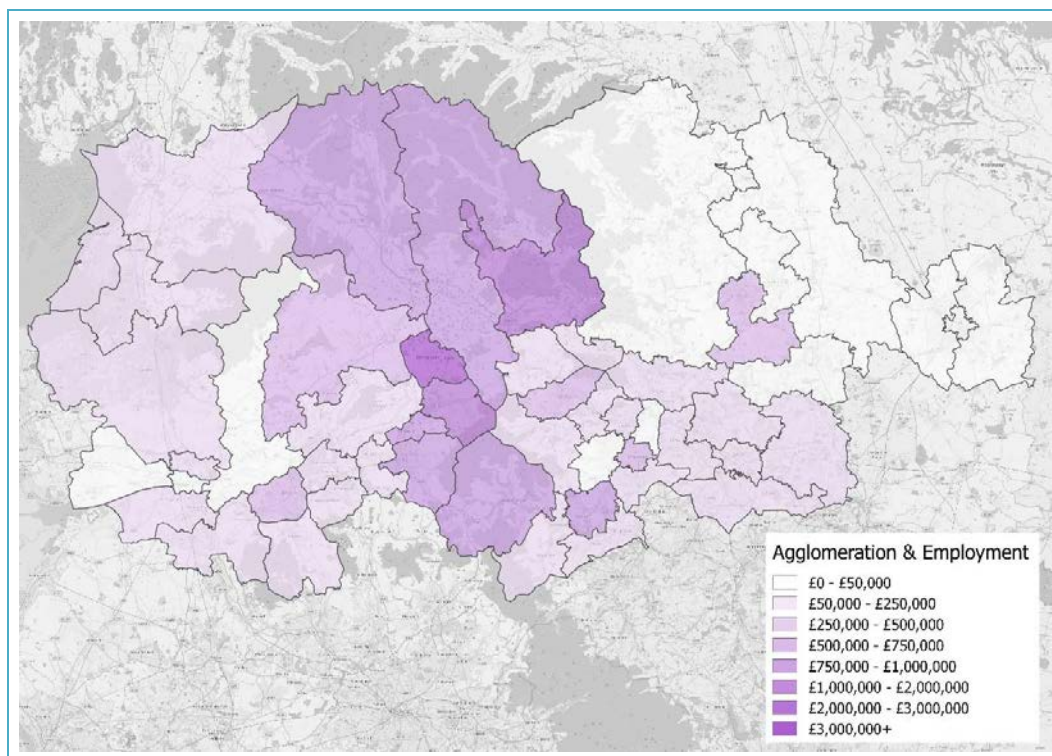


Figure 8.13 Cross Pennine Journeys – Total Impact



8.56 The results for a 10 minute journey time reduction clearly show how the areas close to the centre of the study area benefit with zones in Craven, Calderdale, and Pendle benefitting the most. Areas further west and east gain less benefit as a 10 minute journey time reduction forms a lower proportion

of total journey costs. Given that the closest zone pairs are excluded (i.e. those less than 10 miles apart) the types of trip that benefitting the most from these options would include Skipton to Blackburn, or Colne to Harrogate. A 20 minute reduction in journey times does not show a significant increase in benefits over the 10 minute scenario. This may be because a large number of shorter movements are excluded by the 60 mph maximum speed cap, leaving only longer journeys with a lower number of total trips included within the methodology.

Test 9: 25% Rail Generalised Cost Reduction

- 8.57 This test examines the potential impacts of transformational investment in the rail network across the study area. The test involves a 25% reduction in generalised cost across the whole of the rail network, which could be delivered through a combination of journey time reductions, improvements in frequency, reductions in the need to interchange and improvements in access to rail stations. The spatial outcomes are shown in the suite of maps that follow.

Figure 8.14 25% Rail Generalised Cost Reduction – Agglomeration Spatial Impact

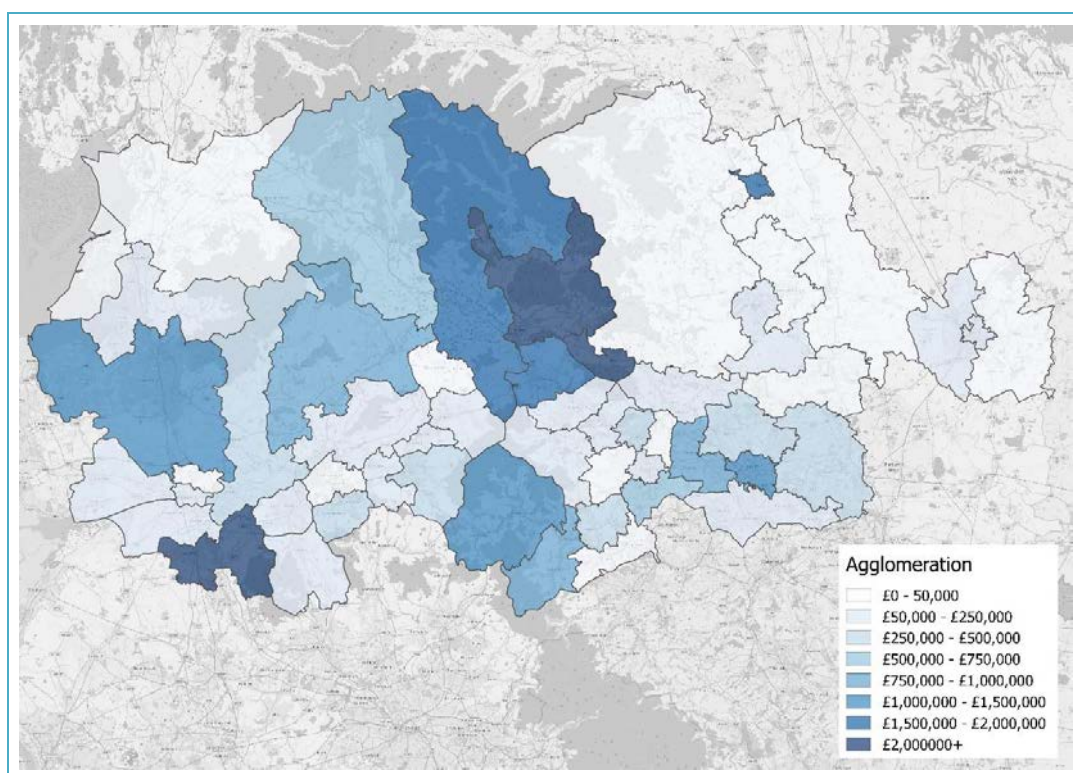


Figure 8.15 25% Rail Generalised Cost Reduction – Employment Spatial Impact

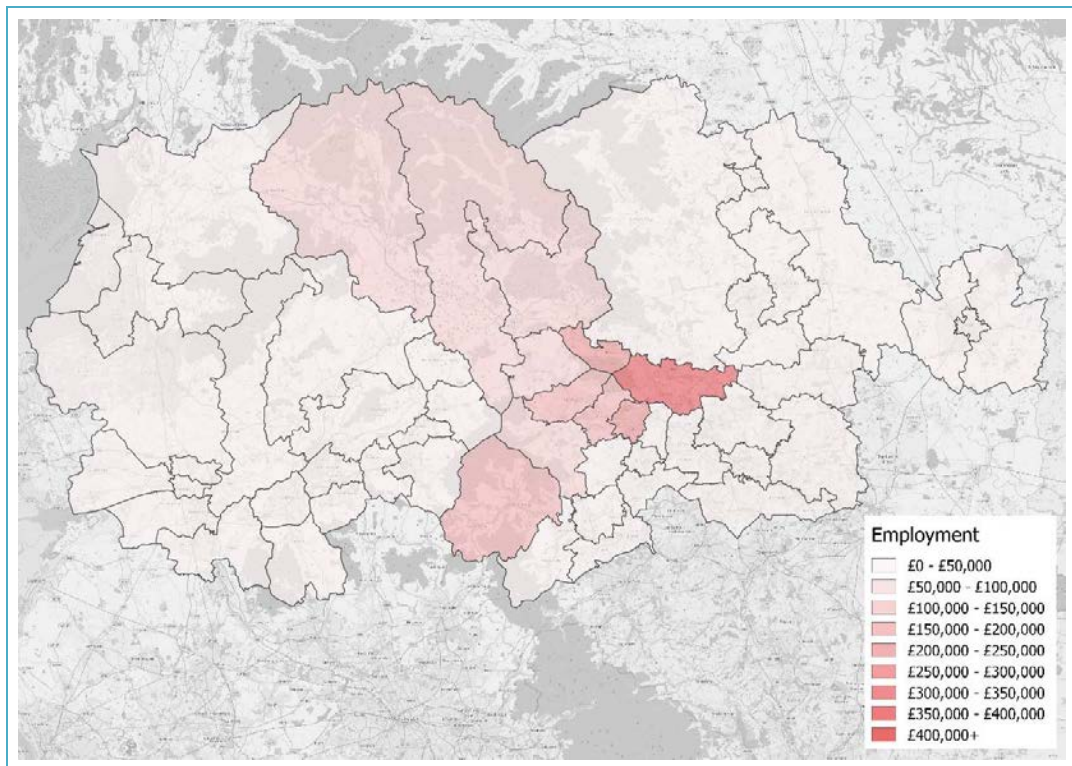
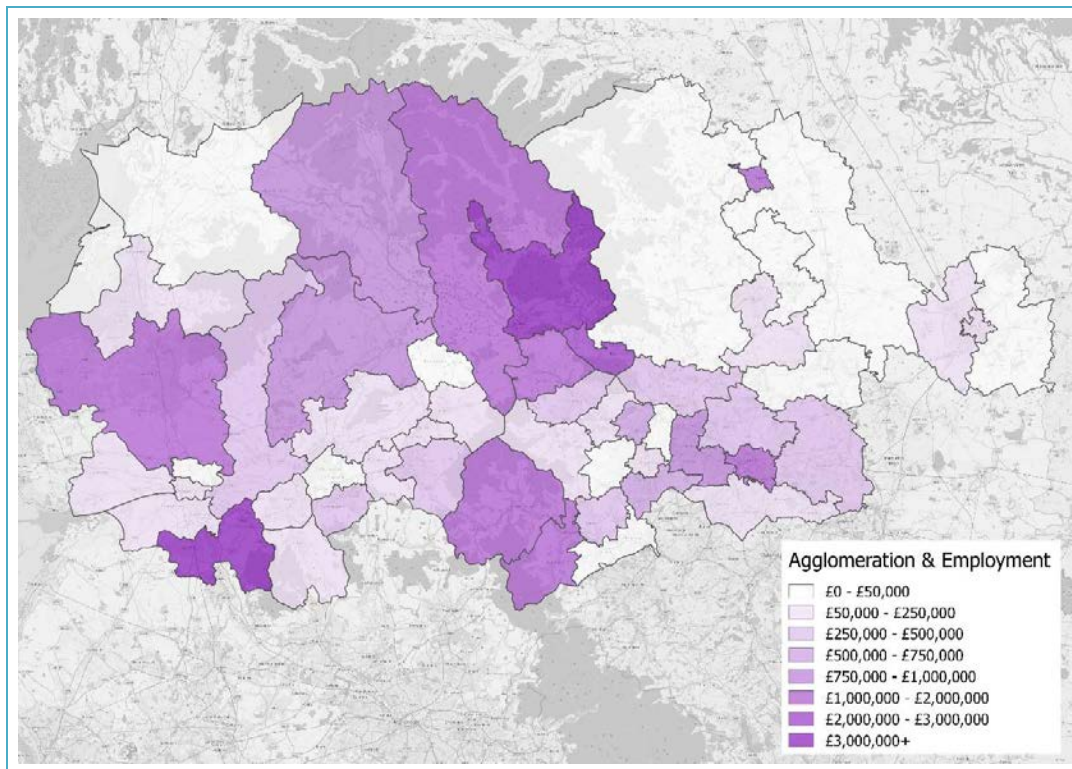


Figure 8.16 25% Rail Generalised Cost Reduction – Total Impact



8.58 The maps show that the strongest benefits accrue from areas where the rail service is already relatively good, notably Skipton, South Craven, parts of Calderdale, Harrogate and Preston. In

contrast there is little benefit in East Lancashire. This is possibly because the existing rail service (especially on the Preston – Colne route) is so poor that a 25% change in generalised cost does not improve matters significantly.

Sensitivity Test for Test 9: A new rail route

- 8.59 The research is intended to show in strategic terms the importance of improving transport networks in the corridor. The work illustrates the potential scale of wider economic benefits that might be gained from investments to deliver such improvements, but has remained deliberately scheme agnostic, so as not to pre-judge what any solutions might be.
- 8.60 However, there is a long standing ambition amongst stakeholders in the area to re-open the former Skipton to Colne rail link. A sensitivity test was therefore applied to the rail only test (test 9) assuming that the rail link between Skipton and Colne were to be re-opened. This sensitivity test takes as its starting point test 9 as reported above, namely a 25% reduction in generalised cost across the existing rail network, in itself a substantial improvement. The sensitivity test acknowledges the long standing proposal that would in effect join two discrete parts of the rail network and provide a more coherent rail network across the study area as a whole.
- 8.61 The impact on public transport generalised costs of this sensitivity test is very significant in some cases, particularly for links from those parts of East Lancashire located east of Burnley to locations in West Yorkshire. Indeed, this would result in a reduction of generalised costs significantly in excess of the other tests undertaken within the study. The re-opening of Skipton to Colne would also assist with the delivery of a 25% reduction in generalised cost for some existing rail flows where rerouting would be possible with opening of a new line.
- 8.62 The modelled outcome of adding Skipton-Colne reopening to the 25% network wide reduction in rail generalised costs would be to generate £43.47m of GDP benefits per annum. Given the scale of the changes modelled (opening a new transport link has transformational potential not included in any of the other central tests modelled) this result is intuitive, and is amongst the highest of the tests modelled. The sensitivity test builds on the 25% reduction in generalised costs across the whole rail network, and shows that there is the potential to add a third more in additional benefits over and above those generated by investment across the network, again an intuitive outcome given that this adds a totally new link into the rail modelling. It should not diminish the case to argue for network wide improvements that show such widespread benefits in test 9.

Summary

- 8.63 Overall, there is considered to be a robust and compelling quantitative and qualitative economic case for enhanced East-West Connectivity across the Central Corridor. Improved connectivity would not only address the economic challenges and ambitions of the Corridor itself but it could also enhance the wider economic prosperity of the North as a whole and enable the Corridor to provide a complementary route to the M62 corridor to provide additional resilience to Trans-Pennine connectivity more generally, a key pan-Northern objective in terms of road and rail, passenger and freight movements. A failure to improve East-West connectivity and address current connectivity constraints would be likely to critically restrict the growth potential of the Corridor economy, as a key driver of the wider Northern Powerhouse economy.
- 8.64 The analysis has demonstrated that there will naturally be significant economic benefits of investing in both road and rail infrastructure and both modes are important to meeting current and future economic needs. An optimum investment strategy would include a phased approach comprising multi-modal investment to address both strategic transport connectivity and 'pinch point' resilience issues, the latter particularly from a road perspective.

- 8.65 There is a limited rail network across the Corridor, particularly in East Lancashire and the provision of an enhanced rail network would need to be aligned with local demographic and business/economic need and growth opportunities. Rail flows are typically targeted at major settlements where there are more likely to be high value jobs, for example in the producer services and consumer services sectors, and rail networks can also significantly enhance accessibility to urban centres to improve the mobility of labour supply. The case for transport investment within the Corridor needs to relate to the current and future economic drivers of the Corridor and these are varied, although appear to focus significantly on advanced and innovative manufacturing based activity, which is likely to continue to be dependent upon an efficient road transport network, along with other key sectors such as logistics, food and drink and energy. However, other professional service based growth sectors such as digital and health/life sciences may be more reliant upon enhanced rail services to enhance their output and growth prospects, particularly through enhanced agglomeration and access to skilled labour.
- 8.66 The wider economic impact modelling work shows that there are potentially large economic benefits from making significant (non-marginal) changes to the transport network across the East – West Connectivity study area. There are a variety of ways that this could be delivered and the modelling has shown strong positive impacts for both road and rail investment and a mixture of the two. The areas that benefit most consistently from such investment are towards the centre of the study area, reflecting the pattern of trip making and their central location. The analysis points to a need to focus on both rail and road investments, ensuring that the business case for investment is fully aligned to the economic needs and opportunities of the economy.

Craven District Council

1 Belle Vue Square | Skipton | BD23 1FJ | www.cravendc.gov.uk

Planning Policy Team | 01756 706472 | localplan@cravendc.gov.uk



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