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Lancashire County Council

M65 to Yorkshire Corridor Study

Stage 1: Data Collection and Problem Identification Report

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Executive Summary

The County Council has a longstanding proposal to construct a new, modern standard single carriageway road between the M65 terminus in Colne and the Lancashire / North Yorkshire boundary north of Earby. This would remove a significant volume of through traffic from Colne and the villages of Foulridge, Kelbrook and Earby. However, traffic movements between the M65 and West Yorkshire via the A6068 would continue to use the existing route through the North Valley area of Colne. Historically, it was anticipated that the A56 Villages Bypass scheme would benefit the local communities in terms of improved road safety, reduced noise, improved air quality and reduced severance, and would enable the introduction of priority measures for public transport along the old road, together with improved facilities for cyclists.

Much of the work previously undertaken started from the premise that a bypass of Colne and the villages of Foulridge, Kelbrook and Earby was the most appropriate solution. The need for the M65 to Yorkshire Corridor Study has been identified in Lancashire County Council's Local Transport Plan (LTP) Implementation Plan 2012/13 - 2014/15.

The rationale for the M65 to Yorkshire Corridor Study is twofold:

(i) Identify and assess whether there are smaller scale interventions that the County Council and other agencies could introduce to mitigate traffic and environmental problems in Colne that are affordable and deliverable in advance of any bypass or if a bypass in this corridor does not emerge as a priority for major scheme funding, and

(ii) Undertake a desk based review of the existing proposals for an A56 Villages Bypass scheme and potential alternative options and alignments, including an assessment of engineering and environmental constraints and the provision of cost estimates using appropriate assumptions and sources of information.

The study will also advise whether a package of smaller scale interventions could collectively remove the need for the bypass or reduce the scale of the existing proposals. If the study concludes that new road construction is still necessary, the study will provide an initial recommendation on the optimum solution to take forward for possible major scheme development. As is the case now, any new or revised highway proposals should not prejudice future re-instatement of the Colne to Skipton railway line.

The purpose of this report is to summarise the outcome of the Data Collection and Problem Identification Stage (Stage 1) of the M65 to Yorkshire Corridor Study. Key observations have been highlighted throughout this report which is structured under the following chapters:

- *Chapter 1: Introduction*
- *Chapter 2: Study Area*
- *Chapter 3: Data Collection and Problem Identification Stage*
- *Chapter 4: Previous Work*
- *Chapter 5: Strategic Highway Network*
- *Chapter 6: Congestion Issues*
- *Chapter 7: Accident Data Analysis*

- *Chapter 8: Public Transport*
- *Chapter 9: Development and Transport Proposals*
- *Chapter 10: Socio-Economic Analysis*
- *Chapter 11: Engineering and Environmental Constraints*
- *Chapter 12: Problems and Issues Workshop*
- *Chapter 13: Existing / Future Problems and Study Objectives*
- *Chapter 14: Next Steps*
- *Chapter 15: Summary and Conclusions*

The key problems in the M65 to Yorkshire Corridor study area, identified during the Data Collection and Problem Identification Stage, can be categorised under the following headings:

- *Strategic Highway Network Issues*
- *Congestion Issues*
- *Signing Strategy*
- *Environmental Issues*
- *Accident History*
- *Pedestrian and Cycling Facilities*
- *Public Transport Services*
- *Development Pressures*

The key observations, data analysis, stakeholder views and local knowledge have been collated into a single database in order to identify common themes. This process resulted in the identification of the following five study objectives.

1. *Improve journey time reliability for vehicles travelling between the M65 and Yorkshire.*
2. *Improve air quality within the designated AQMA in Colne.*
3. *Reduce the impact of traffic using inappropriate roads.*
4. *Ensure any new transport infrastructure does not have a negative impact on the built environment within Colne and the surrounding villages.*
5. *Maximise the effectiveness of the public transport network and facilities within the study area.*

In addition to these specific study objectives, Lancashire County Council's LTP priorities for transport will be used to inform the development and appraisal of potential options.

1 Introduction

1.1 Background

The County Council has a longstanding proposal to construct a new, modern standard single carriageway road between the M65 terminus in Colne and the Lancashire / North Yorkshire boundary north of Earby. This would remove a significant volume of through traffic from Colne and the villages of Foulridge, Kelbrook and Earby. However, traffic movements between the M65 and West Yorkshire via the A6068 would continue to use the existing route through the North Valley area of Colne.

Historically, it was anticipated that the A56 Villages Bypass scheme would benefit the local communities in terms of improved road safety, reduced noise, improved air quality and reduced severance, and would enable the introduction of priority measures for public transport along the old road, together with improved facilities for cyclists.

The existing proposals for an A56 Villages Bypass scheme are shown in Figure 1-A.

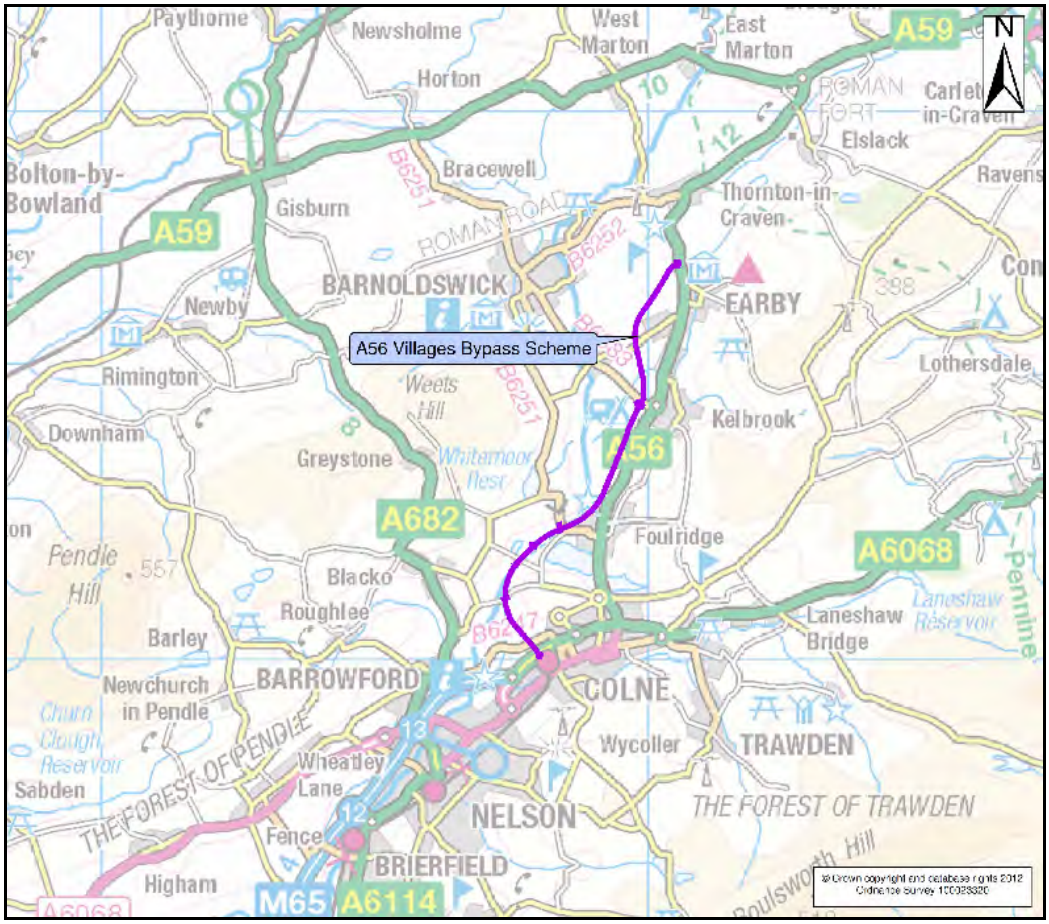

Figure 1-A: Route of Existing Proposals for an A56 Villages Bypass Scheme

The proposed scheme did not emerge as a priority through the work undertaken to inform the Regional Funding Allocations (RFA) advice submitted to the previous Government by the North West region in January 2006. Furthermore, the Department for Transport (DfT) is not accepting any new funding bids for local major transport schemes before 2015. However, the coalition Government is developing a

new local major schemes funding framework for introduction from 2015/16, focused around the creation of Local Transport Bodies contiguous with Local Enterprise Partnership (LEP) areas. The principal role of a Local Transport Body is to agree, manage and oversee the delivery of a programme of transport schemes from 2014/15 up to, as a minimum, 2018/19, on behalf of its LEP area.

1.2 Rationale for Study

The need for this study has been identified in Lancashire County Council's Local Transport Plan (LTP) Implementation Plan 2012/13 - 2014/15.

Much of the work previously undertaken started from the premise that a bypass of Colne and the villages of Foulridge, Kelbrook and Earby was the most appropriate solution. The rationale for this study is twofold:

(i) Identify and assess whether there are smaller scale interventions that the County Council and other agencies could introduce to mitigate traffic and environmental problems in Colne that are affordable and deliverable in advance of any bypass or if a bypass in this corridor does not emerge as a priority for major scheme funding, and

(ii) Undertake a desk based review of the existing proposals for an A56 Villages Bypass scheme and potential alternative options and alignments, including an assessment of engineering and environmental constraints and the provision of cost estimates using appropriate assumptions and sources of information such as SPON's price books. All cost assumptions to be justified including the use of an appropriate optimism bias uplift for a scheme of this scale. Supporting information to include a commentary on any risks associated with the estimate.

The study will also advise whether a package of smaller scale interventions could collectively remove the need for the bypass or reduce the scale of the existing proposals. If the study concludes that new road construction is still necessary, the study will provide an initial recommendation on the optimum solution to take forward for possible major scheme development. As is the case now, any new or revised highway proposals should not prejudice future re-instatement of the Colne to Skipton railway line.

1.3 Methodology

The key stages to be adopted as part of the development of the M65 to Yorkshire Corridor Study are summarised in Figure 1-B.

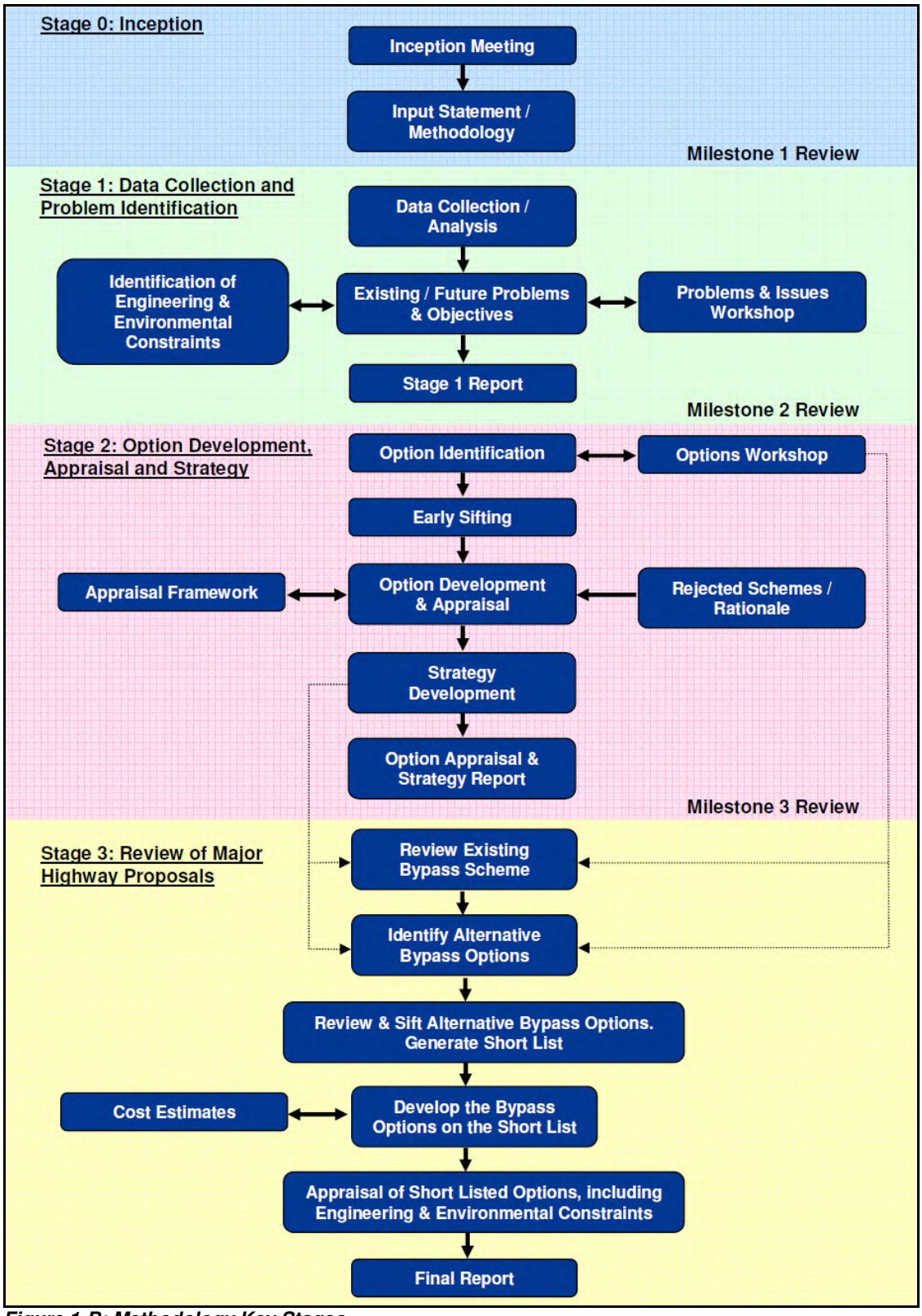

Figure 1-B: Methodology Key Stages

1.4 Report Purpose

The purpose of this report is to summarise the outcome of the Data Collection and Problem Identification Stage (Stage 1) of the M65 to Yorkshire Corridor Study.

1.5 Sources of Information

The following sources of information were used to inform this report:

- *Local Transport Plan 2006/7-2010/11: Major Transport Schemes - Prioritisation (Pendle BC, April 2003)*
- *Replacement Pendle Local Plan 2001-2016 (Pendle BC, May 2006)*
- *Local Transport Plan 2011 - 2021: A Strategy for Lancashire (Lancashire County Council, May 2011)*
- *2011 Air Quality Progress Report for Pendle Borough Council (Pendle BC, May 2011)*
- *2012 Air Quality Updating and Screening Assessment for Pendle Borough Council (Pendle BC, April 2012)*
- *Lancashire LTP: Implementation Plan 2012/13 - 2014/15 (Lancashire County Council, July 2012)*
- *Highway Assignment Modelling (DfT TAG Unit 3.19, August 2012)*
- *Reported Road Casualties in Great Britain: 2011 Annual Report' (DfT, September 2012)*
- *Pendle Core Strategy: Publication Report (Pendle BC, September 2012)*
- *Infrastructure Study (Pendle BC, September 2012)*

1.6 Structure

The remainder of this report is structured as follows:

- *Chapter 2: Study Area*
- *Chapter 3: Data Collection and Problem Identification Stage*
- *Chapter 4: Previous Work*
- *Chapter 5: Strategic Highway Network*
- *Chapter 6: Congestion Issues*
- *Chapter 7: Accident Data Analysis*
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2 Study Area

2.1 Introduction

This chapter of the report sets out the extent of the study area to be considered as part of the development of the M65 to Yorkshire Corridor Study and summarises some of the key routes identified within the County Council's outline brief.

2.2 Study Area

The study will focus primarily on the key issues affecting Colne and the villages of Foulridge, Kelbrook and Earby. However, to ensure that issues are fully understood and that appropriate solutions are suggested, the surrounding strategic highway network will also be considered.

The extent of the study area is illustrated in Figure 2-A

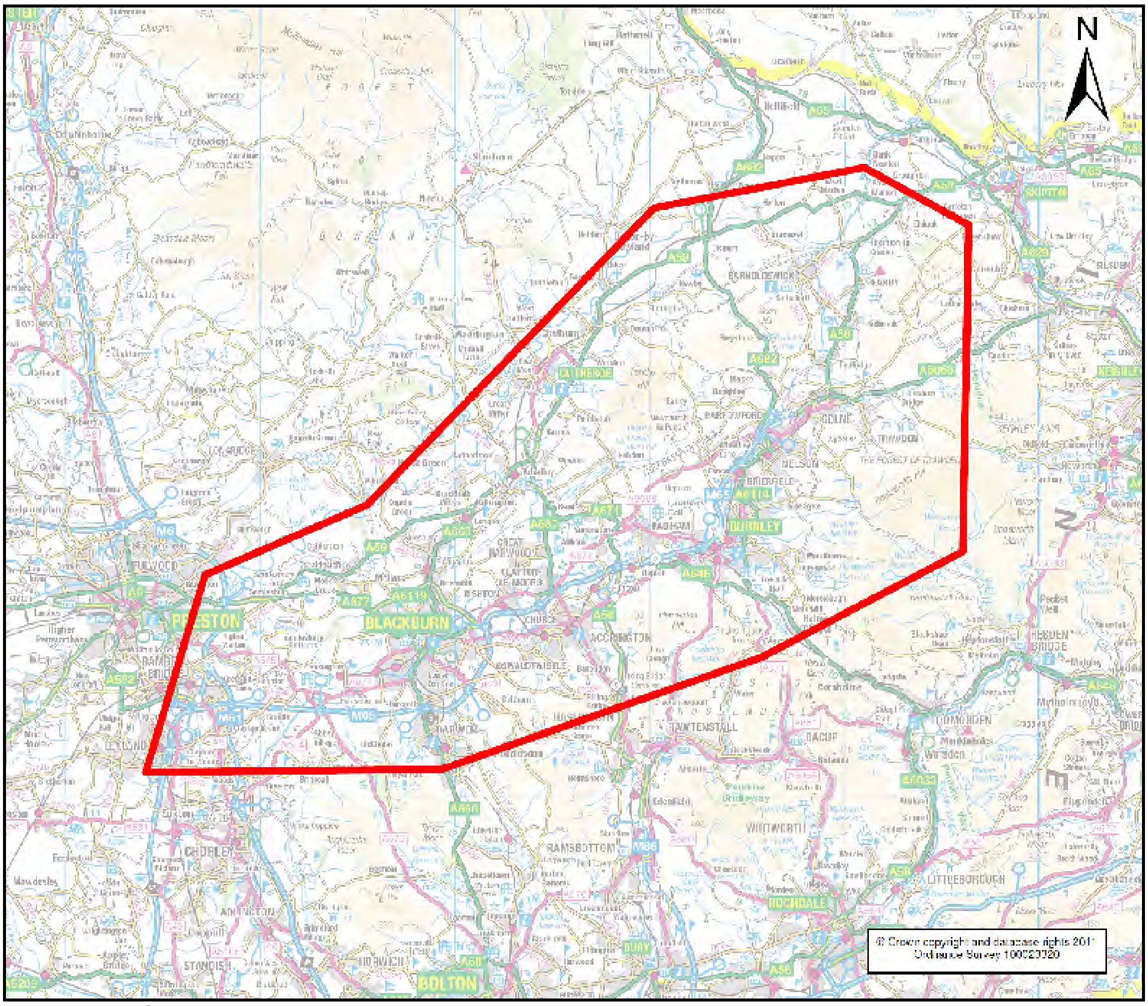


Figure 2-A: Study Area

The study area includes the length of the M65 motorway from Preston to Colne and also extends eastward to the county boundary with North Yorkshire.

2.3 Key Routes

The M65 motorway is the main route linking the east Lancashire towns of Blackburn, Accrington, Burnley, Nelson and Colne with the M6 and M61 at Bamber Bridge near Preston. The M65 motorway plays an essential role in the economy of this part of the county, connecting people and businesses internally as well as providing the primary means of access to the M6, particularly for freight. The motorway varies between being either two or three lanes wide in both directions. Between Preston (Junction 1) and Burnley (Junction 10) the M65 motorway is managed by the Highways Agency. However, between Burnley and Colne (Junction 14) the M65 motorway becomes the responsibility of Lancashire County Council.

East of Preston, the A59 is a former trunk road which runs generally in a north-easterly direction from the M6 at Junction 31 through the Ribble Valley to Whalley and Clitheroe before crossing into North Yorkshire, where it is joined by the A56 at Broughton to the west of Skipton. However, following completion of the M65 Blackburn Southern Bypass in December 1997, the M65 / A6068 / A56 route has effectively replaced the A59 as the main route between the M6 and Skipton. The A59 was de-trunked as part of the New Deal for Trunk Roads (*Department of the Environment, Transport and the Regions, 1998*). There are therefore no trunk roads in close proximity to the existing proposals for an A56 Villages Bypass scheme.

In Lancashire, the route has been improved considerably over the last 30 years, and for much of its length is a high standard single carriageway road with the effects of long inclines relieved by climbing lanes. Apart from Copster Green and Gisburn, all communities along the route in Lancashire have been bypassed. The A59 retains an important role in linking the scattered communities of the Ribble Valley, including Clitheroe, to the motorway network.

The A6068 / A56 route heads in a north-easterly direction from the eastern terminus of the M65 through Colne to join the A59 at Broughton, west of Skipton. The A59 then continues eastward via Harrogate to York, crossing the A1(M) north of Wetherby. The A6068 also links the eastern terminus of the M65 with the A629/A650 dual carriageway Airedale route at Cross Hills, north-west of Keighley.

The A6068 passes through the North Valley area of Colne, and is a part dual, part single carriageway urban road. This part of the A6068 experiences the most severe problems, with traffic signal-controlled junctions and conflicting traffic movements interrupting the traffic flow and resulting in congestion and delays throughout much of the day. Standing traffic on the A6068 affects local air quality. In addition, the A6068 effectively severs the North Valley housing estate from all amenities in Colne.

The A56 continues the route northward from Colne through the communities of Foulridge, Kelbrook and Earby before crossing into North Yorkshire. Significant lengths of this single carriageway road are subject to a speed limit of 40mph or less with limited opportunities for safe overtaking. In the villages of Foulridge, Kelbrook, Sough and Earby there are potential issues related to road safety, noise, air quality and severance due to the conflict between through traffic and the needs of the local communities. The County Council has introduced traffic calming measures to help reduce the potential for accidents; however, the hazards associated with frontage properties, schools, accesses and side roads remain.

East of Colne the A6068 is a single carriageway road of variable standard, rising to an altitude of 270 metres where it crosses into North Yorkshire. In North Yorkshire the route passes through the communities of Cowling and Glusburn where the

County Council rescinded bypass proposals a number of years ago. It is understood that North Yorkshire County Council does not consider the A6068 route to be of an appropriate standard to function as an inter-regional link.

The M65 to Yorkshire Corridor Study will only consider schemes within the Lancashire County Council boundary. Therefore, the study will not consider a Thornton in Craven Bypass scheme, which falls within North Yorkshire County Council's boundary. The settlements of Colne, Foulridge, Kelbrook and Earby, which form the focus of the study, are all part of Pendle Borough Council (which lies within the administrative area of Lancashire County Council).

3 Data Collection and Problem Identification Stage

3.1 Introduction

The Data Collection and Problem Identification Stage (presented within this report) forms a key phase in the development of the overall strategy. It has provided an opportunity to gain a greater understanding of the current situation and helped to quantify and validate historic perceptions.

The key elements of the Data Collection and Problem Identification Stage are shown in Figure 3-A and discussed below.

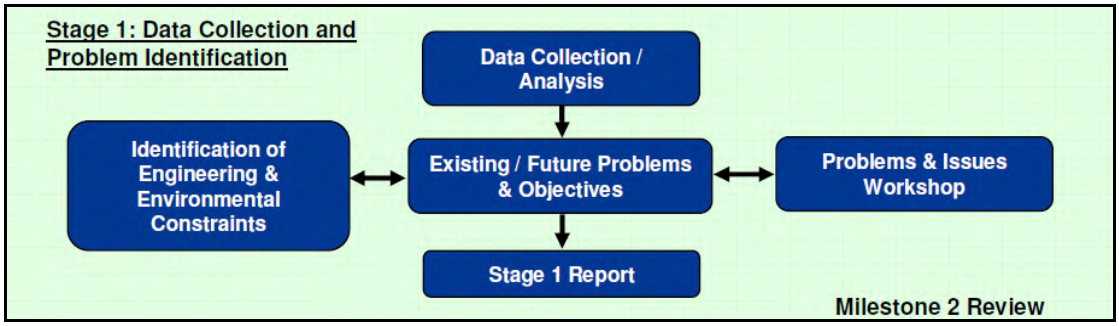


Figure 3-A: Data Collection and Problem Identification Stage

3.2 Data Collection and Analysis

One of the key issues identified within the County Council's *LTP Implementation Plan 2012/13 -2014/15 (Lancashire County Council, July 2012)* is that Colne suffers from significant congestion due to the high levels of traffic within the town. This is in part due to the sudden change from motorway to urban carriageway as a result of the M65 motorway terminating just west of Colne.

The focus of the data collection process has been on the key issues on the A56 / A6068 routes and how they are influenced by the wider strategic highway network. In addition, consideration has been given to key public transport links within the study area.

A wide range of data sets have been collected, analysed and presented using the Geographical Information System (GIS) software ArcGIS. The GIS database which has been compiled has enabled an efficient and comprehensive analysis of the M65 to Yorkshire corridor as well as the associated impacts on the surrounding transport network.

The data collection and analysis work which has been undertaken is discussed in more detail in the following chapters of this report:

- *Chapter 4: Previous Work*
- *Chapter 5: Strategic Highway Network*
- *Chapter 6: Congestion Issues*
- *Chapter 7: Accident Analysis*
- *Chapter 8: Public Transport*
- *Chapter 9: Development and Transport Proposals*
- *Chapter 10: Socio-Economic Analysis*

3.3 Identification of Engineering and Environmental Constraints

Given the rural nature and local topography within the study area, engineering and environmental constraints have been identified and corresponding GIS plans produced.

The engineering and environmental constraints plans and supporting commentary are summarised in Chapter 11 of this report.

The engineering and environmental constraints will be used to guide the Option Development Stage (Stage 2) and the Review of Major Highway Proposals Stage (Stage 3) of the M65 to Yorkshire Corridor Study.

3.4 Problems and Issues Workshop

The Problems and Issues Workshop provided an opportunity to discuss the initial data collection findings with the County Council and Pendle Borough Council Officers and a wider audience of key stakeholders (including public transport providers, emergency services and the Highways Agency). The workshop also enabled further views and opinions to be sought on the key problems and issues affecting the M65 to Yorkshire corridor.

The Problems and Issues Workshop was also used to gather information on both historic proposals not already identified and any early views on potential proposals to be considered going forward.

The list of stakeholders invited to attend the Problems and Issues Workshop was identified through liaison with the County Council. The workshop was held on the 29th November 2012 at County Hall. The format and findings of the workshop are discussed in detail in Chapter 12 of this report.

3.5 Existing / Future Problems and Objectives

The existing and future problems have been defined based upon the knowledge gained through the data collection exercise and discussions with County Council Officers and key stakeholders at the Problems and Issues Workshop. This approach has ensured that there is a robust audit trail in place to support any future decision making processes.

Defining study objectives will focus the aims of the study going forward. The objectives of the M65 to Yorkshire Corridor Study will be targeted towards resolving the existing and future problems that have been identified.

The existing and future problems and objectives are summarised in Chapter 13 of this report.

3.6 Stage 1 Report

This Stage 1 Report will be used to inform a Milestone Review which will be undertaken by the County Council at the end of Stage 1. The Milestone Review will enable the delivery team to evaluate progress before proceeding to the next stage.

If required a Project Board Meeting will also be held, which is likely to make use of the LTP Implementation Monitoring Group.

4 Previous Work

4.1 Introduction

Where relevant, the M65 to Yorkshire Corridor Study makes use of information obtained from previous studies. This ensures that best use is made of available data and the study does not replicate existing work undertaken as part of other recent County Council studies. It also ensures that best use is made of the funding allocated within the *LTP Implementation Plan 2012/13 - 2014/15 (Lancashire County Council, July 2012)*.

The following studies have been identified as being pertinent to the M65 to Yorkshire Corridor Study and are discussed in the following paragraphs:

- *TRIPS Model (1999)*
- *Public Consultation Exercise (2000)*
- *Ecological Assessment A56 Villages Bypass (2000)*
- *Future of the Skipton - Colne Railway Formation (2003)*

4.2 TRIPS Model (1999)

A TRIPS traffic model was developed in 1999 as part of the development of the existing proposals for an A56 Villages Bypass scheme.

Following discussions at the M65 to Yorkshire Corridor Study Inception Meeting, it was considered that traffic flows in the TRIPS model are unlikely to be representative of current traffic conditions due to the level of development which has occurred in the Colne area in recent years. In addition, DfT guidance on *Highway Assignment Modelling (TAG Unit 3.19, August 2012)* states that survey data in traffic models which is more than six years old should not be used. Consequently, it was agreed with the County Council that the TRIPS model should not be used as an evidence base for this study. It was also agreed that no new modelling work should be undertaken as part of the M65 to Yorkshire Corridor Study.

4.3 Public Consultation Exercise (2000)

In February 2000, Lancashire County Council, in association with North Yorkshire County Council, conducted a public consultation exercise in order to gauge opinion on measures to ease traffic congestion along the A56 corridor.

Consultation brochures were deposited in the Colne area prior to public exhibitions held in various public buildings. Consultation brochures were also sent to Parish Councils, local businesses and a wide range of interest groups.

A copy of the public consultation brochure is included in **Appendix A**.

Exhibitions of the proposals were held at the following venues:

- *1st February 2000 - Colne Municipal Hall*
- *2nd February 2000 - Foulridge Village Hall*
- *3rd February 2000 - Kelbrook and Sough Parish Hall*
- *4th February 2000 - Earby New Road Community Centre*
- *5th February 2000 - Thornton-in-Craven Village Hall*

Public opinion was sought on the following options:

1) *Do Nothing*
2) *No Bypass Alternative*
3) *Construction of the "A56 Villages Bypass" scheme*

The A56 Villages Bypass option also included junction improvements and traffic management measures in the North Valley area of Colne.

The results of the public consultation exercise were documented in a report entitled, *Local Transport Plan 2006/7-2010/11: Major Transport Schemes – Prioritisation (Pendle Borough Council, April 2003)*. The results are summarised in Table 4-A.

Area	Number of Responses	% in Favour of Bypasses
Colne - NW of and including A56/A6068 (the area which would derive most benefit)	82	96
Colne - other addresses including Laneshaw Bridge & Trawden	416	52
Foulridge	214	56
Kelbrook & Sough	114	83
Earby - North Holme Estate	61	31
Salterforth	54	41
Thornton	91	90
Burnley	36	25
Nelson	43	30
Barrowford	24	46
Barnoldswick	48	40
Skipton	19	79
Others	183	27
TOTAL	**1,617**	**58**

Table 4-A: Public Consultation Results

The public consultation results indicated that an overall 58% of respondents were in favour of constructing the A56 Villages Bypass. However, as shown in Table 4-A, the percentage of responses in favour of the bypass varies significantly depending upon area.

The 2001 Census states that the population of Colne is 20,106. Therefore public opinion was only received from approximately 2% of Colne's residents. The low response rate reflects the fact that a postal consultation was not undertaken with the wider public. Instead the consultation relied upon the public attending one of the public exhibitions or collecting a public consultation brochure themselves and posting it back to the County Council.

The primary purpose of the public consultation exercise was to seek views on the principle of providing a bypass scheme as apposed to obtaining thoughts on the best alignment. Although views were not sought on the best bypass alignment, the public consultation leaflet did list the following three alternatives to the proposed bypass alignment which were considered in arriving at the preferred route for the A56 Villages Bypass:

1. *Following the old railway track bed through Kelbrook, Sough and Earby.*
2. *Taking a wider arc around the west side of Earby to cross the A56 at the top of 'The Wyswick'.*

3. *Local alternative at Kelbrook*

4.4 Ecological Assessment A56 Villages Bypass (Scott Wilson, 2000)

Lancashire County Council appointed Scott Wilson to undertake an ecological impact assessment of the proposed A56 Villages Bypass scheme from Colne to Thornton.

The aim of the ecological impact assessment was to identify potential ecological receptors and the impacts that may arise from the proposal, evaluate the significance of these for nature conservation and identify measures to avoid or mitigate impacts where possible.

The ecological assessment considered three possible route options for the A56 Villages Bypass. A study area was defined which encompassed the route corridors for the three options and the surrounding land. The key findings of the ecological assessment were as follows:

- *The study area is largely agricultural in use.*
- *The Colne / Skipton disused railway is a Biological Heritage Site (BHS). All three route options would lead to the loss of more than 50% of this BHS.*
- *The Leeds Liverpool canal, another BHS, crosses under the disused railway in two places.*

A report entitled, *'Ecological Assessment A56 Villages Bypass, Colne to Thornton (February 2000)* was produced.

4.5 Future of the Skipton - Colne Railway Formation (Steer Davies Gleave, 2003)

In 2003, Lancashire County Council appointed Steer Davies Gleave to advise on the potential for reinstating the disused railway line between Skipton and Colne.

This study included an appraisal of the rail scheme to assess potential value-for-money, affordability and performance against a wider range of economic, social and environmental objectives.

A report entitled, *'Future of the Skipton - Colne Railway Formation (Steer Davies Gleave, August 2003)* was produced. This report recommended that further work be carried out to establish the feasibility of an alignment for the A56 Villages Bypass scheme that avoided the rail track in its entirety, thus ensuring that an option to re-instate the railway would remain in the future.

Subsequently, a further report entitled, *'Assessment of an Alternative Alignment for the A56 (Steer Davies Gleave, October 2003)* was produced. This report included an assessment of the topographical constraints in the area between Colne and Thornton-in-Craven. This assessment found that the opportunities for a road design to a high geometrical standard are limited.

An alternative alignment for the A56 was established which leaves the redundant trackbed of the Skipton-Colne railway untouched. This alternative alignment was shown to be broadly feasible in engineering terms.

5 Strategic Highway Network

5.1 Introduction

Congestion in Colne, or on the M65 motorway, could encourage strategic traffic travelling in an east / west direction through the study area to use the A59.

The purpose of this chapter is to examine the alternative routes which exist when travelling between Preston and Yorkshire, in order to understand how the M65 motorway interacts with the wider strategic highway network.

The remainder of this chapter is structured as follows:

- *Alternative Routes*
- *Strategic Signing*
- *Route Choice*

5.2 Alternative Routes

There are two major routes which pass through the study area linking Preston to Yorkshire, the M65 and the A59. The two routes are illustrated in Figure 5-A.

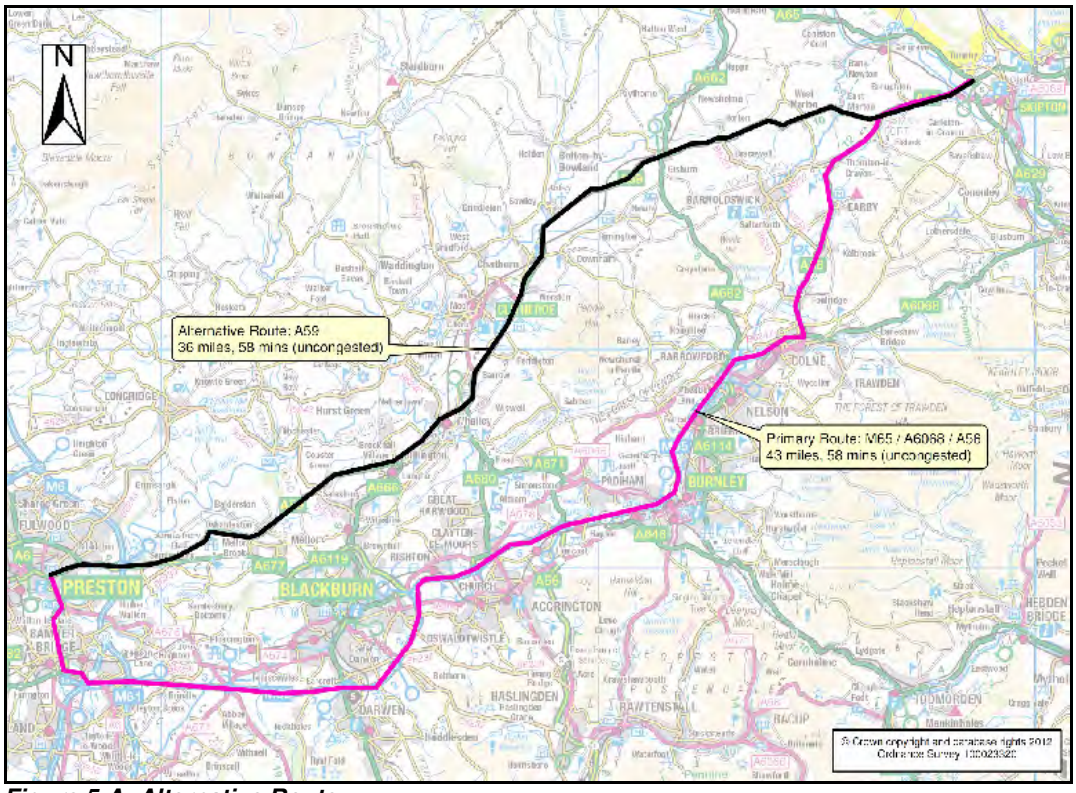


Figure 5-A: Alternative Route

The distance and approximate journey times of both the M65 and the A59 routes shown in Figure 5-A are summarised in Table 5-A.

For consistency, Skipton and Preston have been used as the starting and finishing points respectively for measuring the distance and journey times of both routes.

Route (see Figure 5-A)	Roads	Distance (From Skipton to Preston)	Journey Time (assuming no congestion)*
Primary Route	M65 / A6068 / A56	43 miles	58 mins
Alternative Route	A59	36 miles	58 mins

**Source: Google Maps*

Table 5-A: Alternative Routes

The alternative A59 route is shorter in distance than the M65 / A6068 / A56 route for the journey between Skipton and Preston, however the journey times are the same, assuming free flow conditions on both routes.

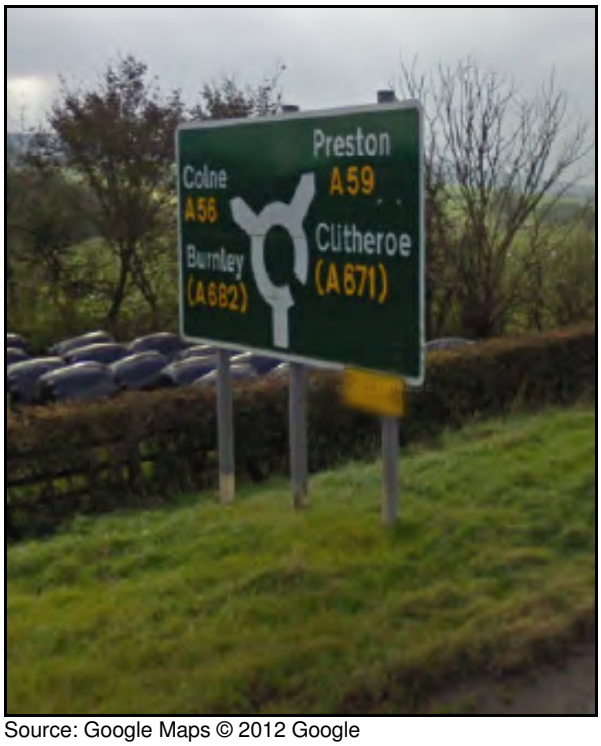
Key Observation

The A59 provides an alternative route to the M65 motorway.

5.3 Primary Route Network Signing

The presence of an alternative route to Preston (from Skipton) is reflected in the primary route network signing.

Figure 5-B illustrates the signing present at the junction of the A59 and the A56. The signing advises using the A59 to access Preston instead of the A56 / M65 motorway route. However, the signing strategy appears inconsistent as Skipton is not signed from junction 31 of the M6 motorway on the A59.



Source: Google Maps © 2012 Google

Figure 5-B: Preston Signing

By signing traffic to use the A59 (instead of the A56 / M65 motorway route) it could help to limit traffic congestion in Colne and the other villages which the A56 passes through.

Key Observation

The primary route network signing reflects the fact that the A59 provides an alternative route to the A56 / M65 motorway to access Preston (from Skipton).

5.4 Route Choice

The M65 motorway commences / terminates at Colne. There are two main roads leading in / out of Colne, the A56 and the A6068.

Figure 5-C shows the key destinations to the east / northeast of the study area.

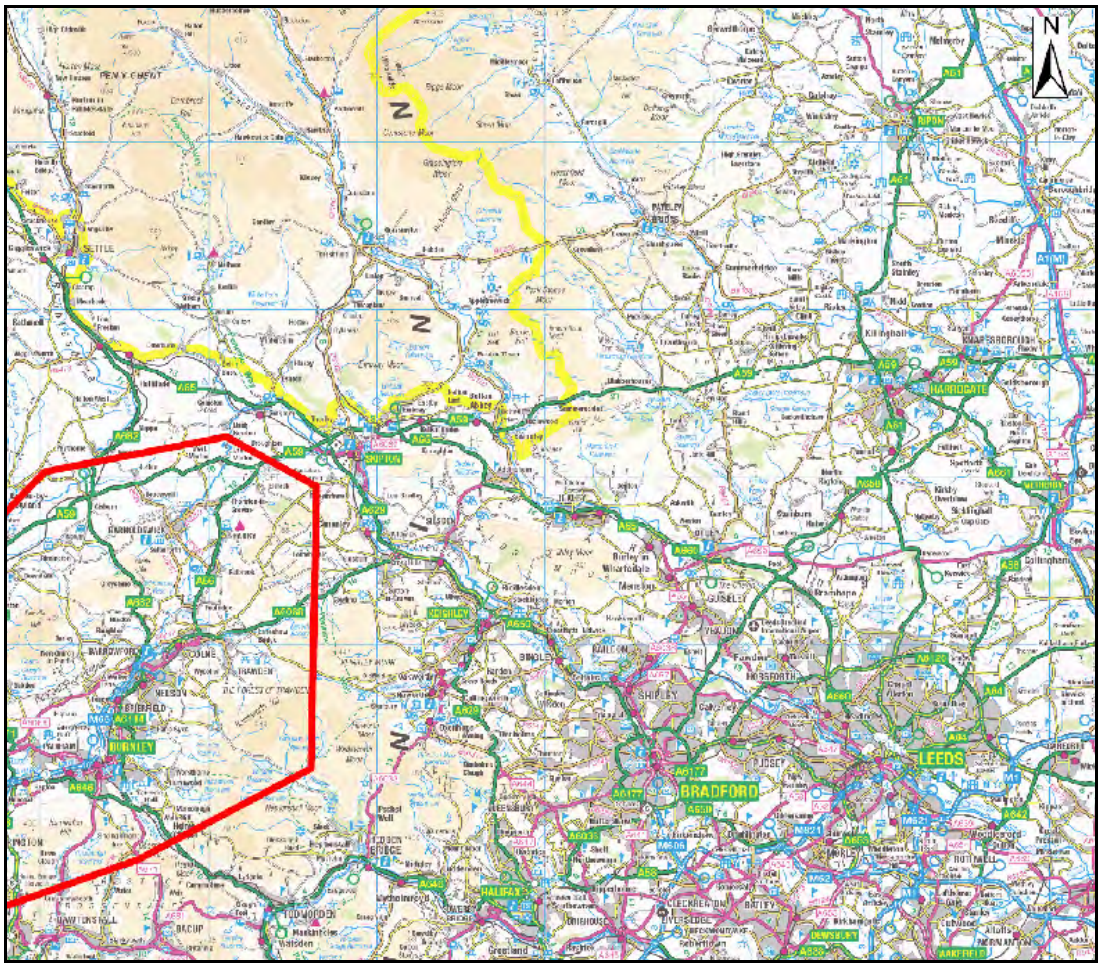


Figure 5-C: Key Destinations

The A56 heads north out of Colne through the villages of Foulridge, Kelbrook, Earby and Thornton-in-Craven before joining up with the A59. The A56 could therefore be used to reach destinations such as Skipton, Harrogate and settlements within the northeast of the country via the A1(M), which is being progressively upgraded.

The A6068 heads east out of Colne through the villages of Cowling, Glusburn and Cross Hills before joining up with the A629. The A6068 could therefore be used to reach destinations such as Keighley, Bradford and Leeds, and also settlements within the east and the south of the country via the M62 and the M1 Motorways respectively, although this route would involve passing through Bradford.

6 Congestion Issues

6.1 Introduction

One of the main priorities of the M65 to Yorkshire Corridor Study is to understand the extent of any congestion issues in Colne and on the surrounding road network.

The Strat-e-gis congestion software package, which allows the interrogation of traffic data supplied by Trafficmaster plc, has been used to analyse which parts of the road network regularly suffer from congestion.

Traffic data from Automatic Traffic Count (ATC) sites has also been analysed in order to investigate the impact of traffic volumes on congestion.

In addition, the impact of congestion on local air quality has been considered through the identification of Air Quality Management Areas within the M65 to Yorkshire Corridor study area.

The remainder of this chapter is structured as follows:

- *Congestion*
- *Colne Town Centre*
- *Annual Traffic Volumes*
- *Peak Hour / AADT Flow Split*
- *Site Visit Observations*
- *Traffic Count Data*
- *Through Traffic in Colne*
- *HGV Traffic*
- *Air Quality Management Areas*

6.2 Congestion

Congestion on the road network has been analysed using the Strat-e-gis congestion package. **Appendix B** contains several plots showing the average link speed on all of the strategic roads in the study area. To enable a complete comparison, data from June 2011 (a neutral month) has been collected for Weekdays, Saturdays and Sundays in both the AM peak hour (08:00-09:00), the inter-peak hour (average hour between 10:00-16:00) and the PM peak hour (17:00-18:00).

Traffic data from 2011 has been used as this was the most recent suitable data available at the time of writing. In addition, Friday data has been excluded from the weekday data as traffic flows on Fridays are often lower and therefore not representative of the other weekdays.

A link speed plot comparing speeds within Colne and on the A56 in both the AM and PM peak hours (the most congested time periods) has also been produced and is included in **Appendix C**.

In order to ensure confidence in the statistical accuracy of the Strat-e-gis data that has been analysed, data was only plotted on links which had more than 10 observations. Consequently, only a small amount of Strat-e-gis data was plotted in the weekend AM and PM peak periods.

Table 6-A shows the study area Strat-e-gis data sample size in each time period.

Time Period	A,B & C Roads			Motorways		
	Total Number of Links	Total Number of Links with >10 observations	Average number of Observations per link*	Total Number of Links	Total Number of Links with >10 observations	Average number of Observations per link*
Weekday AM	2494	62%	33	413	89%	139
Weekday IP	2396	82%	124	413	90%	633
Weekday PM	2407	69%	31	413	89%	127
Saturday AM	2401	1%	12	413	26%	19
Saturday IP	2401	67%	33	413	89%	94
Saturday PM	2401	4%	14	413	30%	20
Sunday AM	2401	0%	N/A	413	7%	16
Sunday IP	2401	58%	26	413	85%	88
Sunday PM	2401	3%	12	413	30%	23

** Excluding links with less than 10 observations*

Table 6-A: Strat-e-gis Data Analysis

Table 6-A shows that over half of the links on both the A, B & C roads and the motorways contain more than 10 observations in all three weekday time periods and the weekend inter-peak periods. The congestion analysis which follows focuses on these time periods to enable analysis of congestion throughout the day.

Table 6-A also shows that the average number of observations per link is highest on the motorway links.

The key observations from analysis of the link speed plots in **Appendix B** and **Appendix C** are summarised in Table 6-B.

Day	Observations
Weekday (Mon-Thur)	As expected, the lowest speeds (<10mph) occur within Colne town centre. In particular, on the A6068 North Valley Road westbound (towards M65) in AM and A6068 Vivary Way eastbound (from M65) in PM. The A56 does contain some slower links in the weekday peak periods where the route passes through the villages of Foulridge, Kelbrook and Earby. However, in general the traffic speeds appear to reflect the designated speed limits. There is some delay present on the M65 motorway near the junctions, however the majority of the motorway links appear uncongested. Both the A59 between Preston and Skipton and the A6068 to the east of Colne appear to operate with little delay.
Saturday	There was insufficient data available in both the AM and PM peak periods to enable congestion analysis to be undertaken. Congestion occurs in Colne town centre, however not as bad as in the weekday AM and PM peak periods. There are also some slower links in the A56 Villages (Foulridge, Kelbrook and Earby). The M65 motorway appears to operate with little delay.
Sunday	There was insufficient data available in both the AM and PM peak periods to enable congestion analysis to be undertaken. The link speeds in Colne and on the A56 are higher on Sundays than on weekdays and Saturdays.

Table 6-B: Link Speed Plots Observations

Key Observation

Colne town centre contains the most links that exhibit slower average speeds, in particular on North Valley Road and Vivary Way.

The A56 does contain some slower links in the weekday peak periods where the route passes through the villages of Foulridge, Kelbrook and Earby. However, in general the traffic speeds appear to reflect the designated speed limits.

6.3 Colne Town Centre

Further analysis of the average speed data for Colne town centre has been undertaken in order to gain a detailed understanding of congestion in Colne. The Strat-e-gis congestion package splits Colne town centre into approximately 200 links, the majority of which have an average speed of less than 20mph during the weekday AM and PM peak periods, which are the most congested time periods.

Figure 6-A below shows the links in Colne town centre for which average speed data has been analysed in more detail.

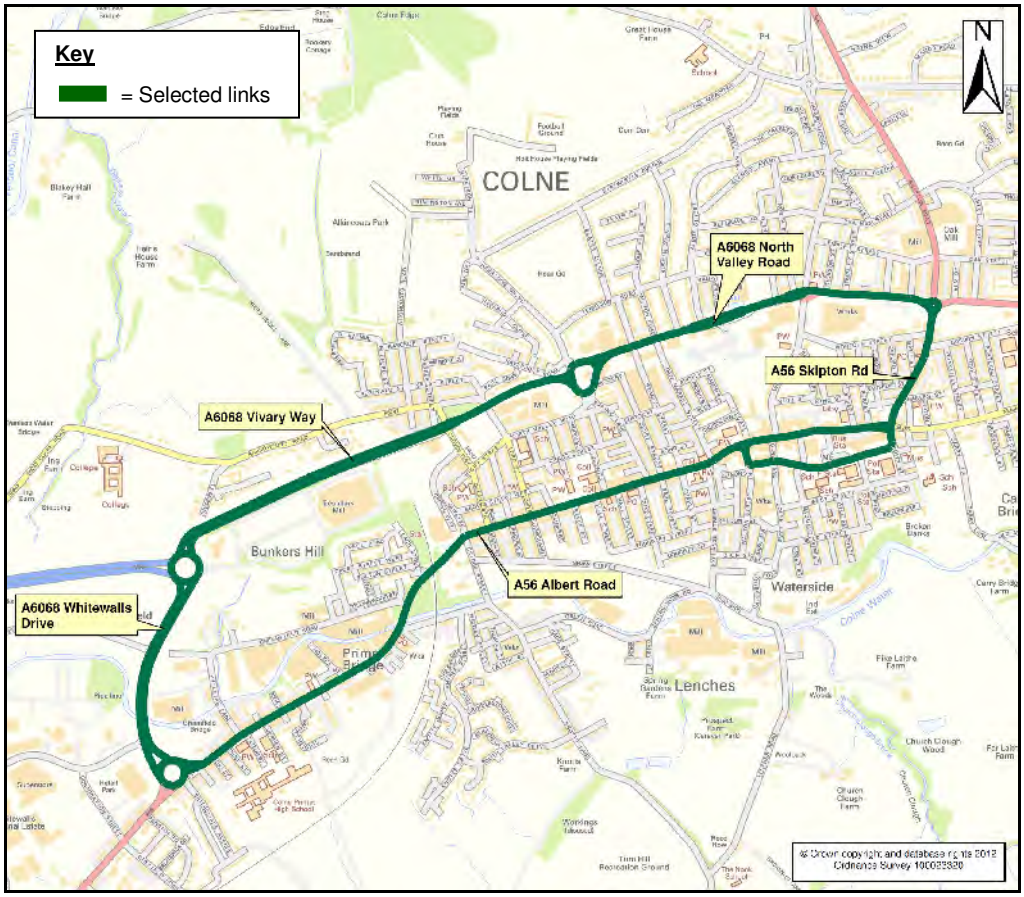


Figure 6-A: Colne Town Centre

The average weekday 2-way speeds in Colne town centre is shown in Table 6-C.

Town	Average Speed (mph)		
	AM	IP	PM
Colne	14.9	17.2	14.0

Table 6-C: Colne Town Centre Average Speed

Further analysis of Colne town centre has been undertaken in order to identify individual sections that experience the slowest traffic speeds. The town centre has been split into five clearly defined sections.

The average weekday 2-way speeds on each of the five sections in the AM peak, inter-peak and PM peak periods is displayed in Figure 6-B.

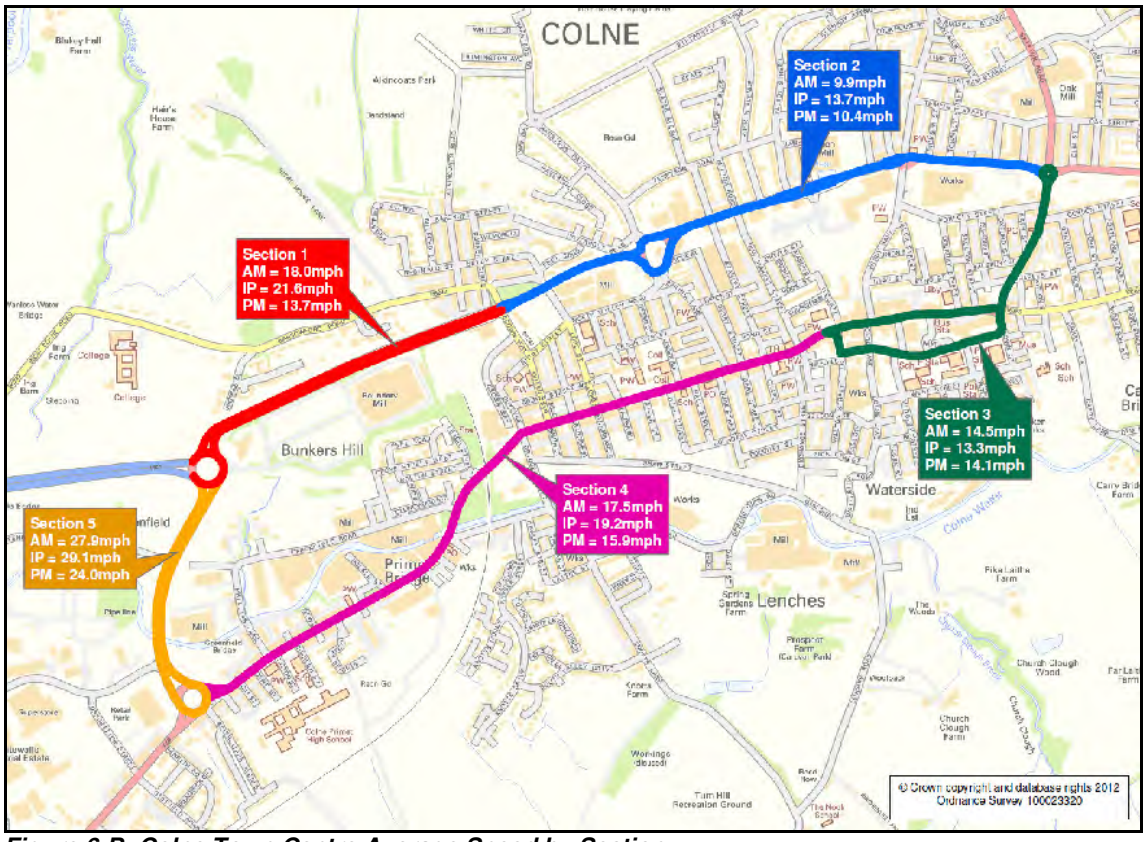


Figure 6-B: Colne Town Centre Average Speed by Section

Figure 6-B shows that the North Valley Road section (section 2) experiences the slowest average speeds in Colne town centre, with the Strat-e-gis data revealing an average speed of 9.9mph in the AM Peak and 10.4mph in the PM peak.

For comparison, the average weekday 2-way speeds experienced in other town centres in Lancashire have been investigated using the Strat-e-gis database. The routes in Lancashire investigated are shown in **Appendix D** and the comparative town centre speeds are summarised in Table 6-D below.

To ensure that sections of road of similar lengths are compared, the North Valley Road section of Colne (section 2), has been used for the purposes of this comparison.

Town	Length (km)	Average Speed (mph)		
		AM	IP	PM
North Valley Road, Colne	**1.3**	**9.9**	**13.7**	**10.4**
Ormskirk	1.4	14.1	11.0	12.0
Clitheroe	0.9	13.8	12.0	12.3
Lancaster	1.9	7.8	9.5	8.0

Source: Lancashire County Council

Table 6-D: Comparison of Town Centre Speeds

Table 6-D shows that the average weekday 2-way speeds on North Valley Road in Colne are slower than those experienced in Ormskirk and Clitheroe town centres in both the AM and PM peak, but are similar to those experienced in Lancaster, which is known to experience congestion issues.

The slow link speeds experienced on North Valley Road are likely to be caused by a combination of factors including the large volumes of traffic on this stretch of road travelling between the M65 motorway and the A56 / A6068 Byron Road and also the road layout and the number of junctions and crossings.

Further analysis on the average speed in each direction has been undertaken on Vivary Way (section 1) and North Valley Road (section 2), in order to identify if congestion is worse in one direction than the other. The results of this analysis are shown in Table 6-E.

Time Period	Direction	Average Speed (mph)	
		Vivary Way (Section 1)	North Valley Road (Section 2)
AM	Eastbound	14.8	15.1
	Westbound	21.8	7.4
PM	Eastbound	9.1	11.4
	Westbound	23.6	9.9

Table 6-E: Vivary Way & North Valley Road Average Speeds

Table 6-E shows that on Vivary Way (section 1) the average speeds are significantly lower in an eastbound direction (travelling away from the M65 motorway) in both the AM and PM peak hours.

On North Valley Road (section 2) the average speeds are lower in an westbound direction (travelling towards the M65 motorway) in both the AM and PM peak hours, in particular in the AM peak where the average speed is only 7.4mph.

Limited capacity at the Vivary Way / Barrowford Road / Crown Way junction could be one reason for the observed congestion pattern on Vivary Way and North Valley Road.

Key Observation

North Valley Road experiences the slowest average speeds in Colne town centre in both the AM and PM peak periods.

The average weekday 2-way speeds on North Valley Road in Colne are slower than those experienced in Ormskirk and Clitheroe town centres in both the AM and PM peak, but are similar to those experienced in Lancaster, which is known to experience congestion issues.

In Colne town centre, the slowest average speed (7.4mph) occurred in the AM peak on North Valley Road (section 2) in a westbound direction.

6.4 Annual Traffic Volumes

Analysis of Annual Average Daily Traffic (AADT) flows has been undertaken at four strategic locations over the past decade in order to gain a greater understanding of how traffic growth and traffic patterns have changed since the A56 Villages Bypass scheme public consultation.

Traffic flows from permanent ATC sites located at the following four locations have been analysed:

- *A56 (North of Earby)*
- *A6068 (East of Laneshaw Bridge)*
- *M65 Motorway Junction 13-14*
- *A59 (East of East Marton)*

Figure 6-C shows the location of the four ATC sites.

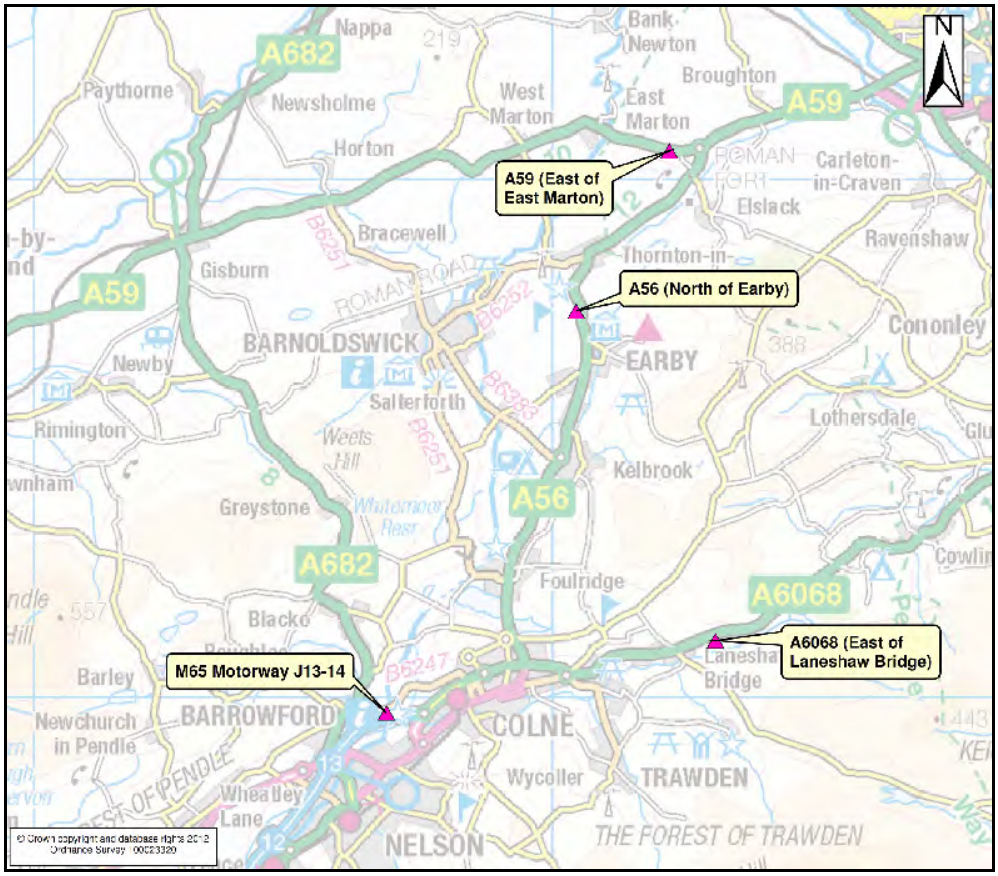


Figure 6-C: ATC Sites at Key Locations

6.4.1 A56 (North of Earby)

The A56 (North of Earby) is a single lane carriageway. Figure 6-E shows the AADT flows on the A56 (North of Earby) from 2004-2012.

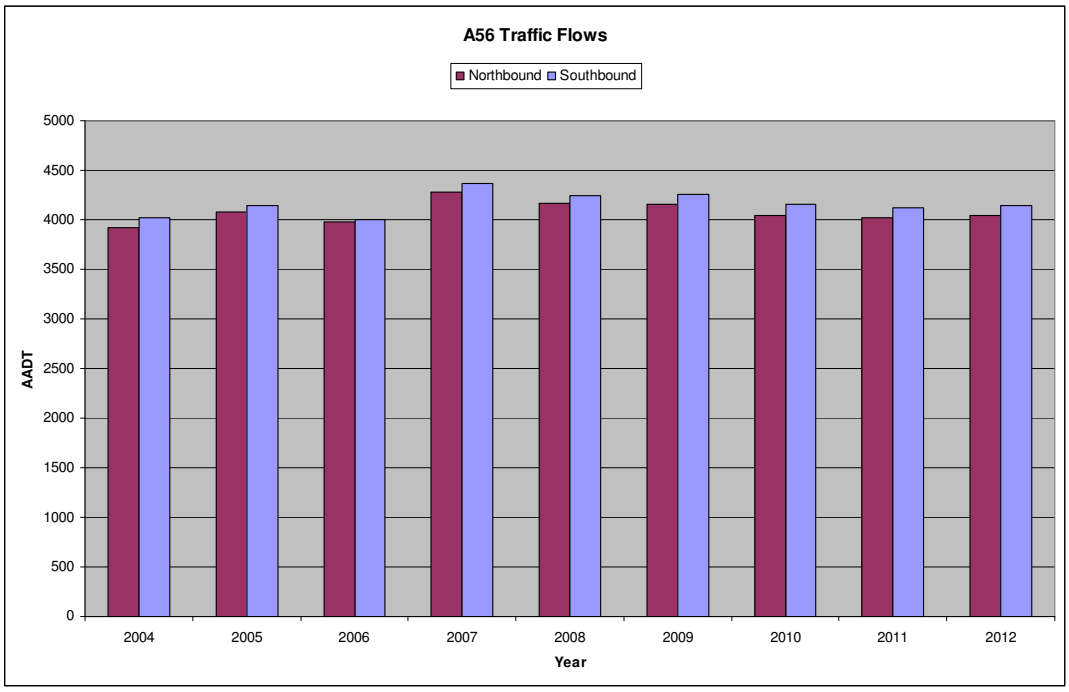


Figure 6-E: A56 AADT Flows

Figure 6-E shows that on the A56 (North of Earby):

- *Minimum AADT = 3,923 vehicles (2004 Northbound).*
- *Maximum AADT = 4,371 vehicles (2007 Southbound).*
- *Overall, AADT flows in both directions have remained broadly similar on the A56 between 2004-2012.*
- *AADT flows initially increased slightly between 2004-2007 before decreasing slightly between 2008-2012.*
- *AADT flows in a southbound direction are slightly higher than those in a northbound direction in each year investigated.*

It should be noted that the traffic flows vary along the length of the A56. For example, the traffic flows closer to Colne are considerably higher. This issue is discussed further in section 6.6 of this report.

6.4.2 A6068 (East of Laneshaw Bridge)

The A6068 (East of Laneshaw Bridge) is a single lane carriageway. Figure 6-F shows the AADT flows on the A6068 (East of Laneshaw Bridge) from 2003-2012.

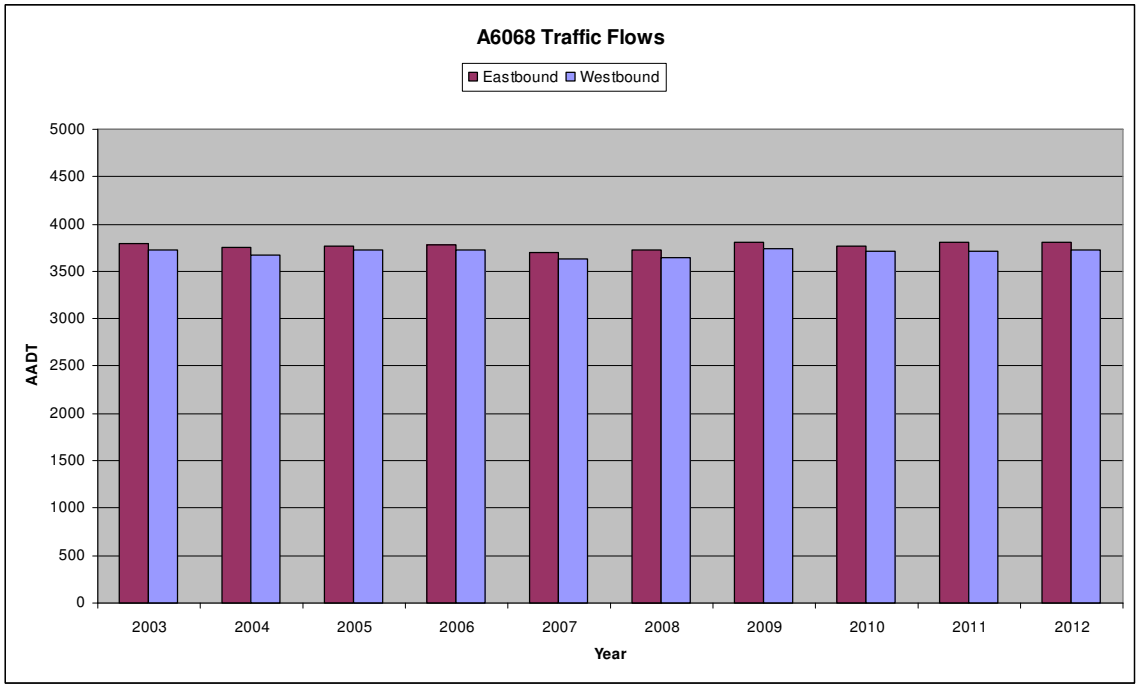


Figure 6-F: A6068 AADT Flows

Figure 6-F shows that on the A6068 (East of Laneshaw Bridge):

- *Minimum AADT = 3,634 vehicles (2007 Westbound).*
- *Maximum AADT = 3,805 vehicles (2009 Eastbound).*
- *Overall, AADT flows in both directions have remained broadly similar on the A56 between 2003-2012.*
- *AADT flows in an eastbound direction are slightly higher than those in a westbound direction in each year investigated.*
- *AADT flows on the A6068 (East of Laneshaw Bridge) are comparable with traffic flows on the A56 (North of Earby).*

6.4.3 M65 Motorway Junction 13-14

The M65 motorway between Junction 13 and Junction 14 is a two lane motorway in both directions. Figure 6-D shows the AADT flows on the M65 motorway Junctions 13-14 from 1999-2010.

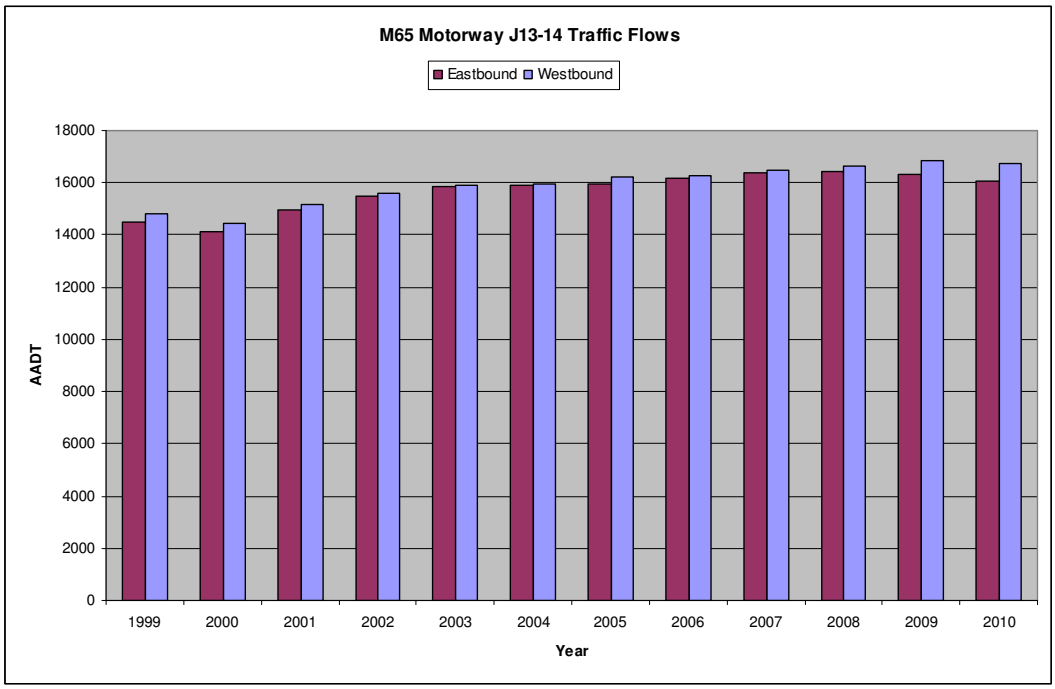


Figure 6-D: M65 Junction 13-14 AADT Flows

Figure 6-D shows that on the M65 motorway Junction 13-14:

- *Minimum AADT = 14,115 vehicles (2000 Eastbound).*
- *Maximum AADT = 16,854 vehicles (2009 Westbound).*
- *AADT flows have increased in both directions over the twelve year period between 1999 and 2010.*
- *Traffic flows in 2010 are 11% higher than the 1999 traffic flows in an eastbound direction and 13% in a westbound direction.*
- *AADT flows in a westbound direction are slightly higher than those in an eastbound direction in each year investigated.*

The fact that traffic flows on the M65 motorway Junction 13-14 have increased over the past decade, whilst flows on the A56 and the A6068 have remained broadly similar could indicate that Colne is now generating more trips. This could be due to new development within Colne, such as the relocated Boundary Mills Store.

6.4.4 A59 (East of East Marton)

The A59 (East of East Marton) is a single lane carriageway. Figure 6-G shows the AADT flows on the A59 (East of East Marton) from 2005-2011, although eastbound data is only available between 2005-2008.

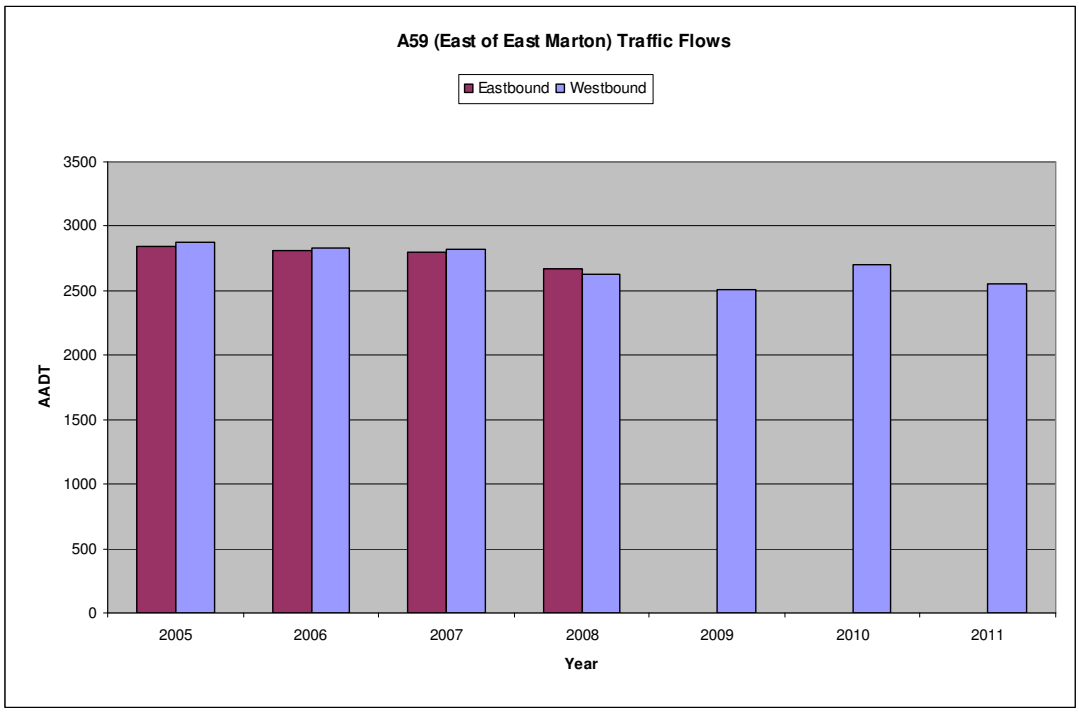


Figure 6-G: A6068 AADT Flows

Figure 6-G shows that on the A59 (East of East Marton):

- *Minimum AADT = 2,508 vehicles (2009 Westbound).*
- *Maximum AADT = 2,872 vehicles (2005 Westbound).*
- *AADT flows have decreased gradually in both directions on the A59 between 2005-2008.*
- *AADT flows on the A59 (East of East Marton) are lower than on both the A6068 (East of Laneshaw Bridge) and the A56 (North of Earby).*

Key Observation

AADT flows on the A56 (North of Earby) and the A6068 (East of Laneshaw Bridge) have remained broadly similar between 2004-2012.

The 2012 AADT flows across the Lancashire / North Yorkshire county boundary on the A56 are similar to those on the A6068.

AADT flows on the M65 motorway between Junction 13 and Junction 14 have increased gradually in both directions over the twelve year period between 1999-2010. This could be due to new development within Colne, such as the relocated Boundary Mills Store.

AADT flows on the A59 (East of East Marton) have decreased gradually between 2005-2008.

Strategic traffic patterns do not appear to have changed significantly over the last seven to twelve years.

6.5 Peak Hour / AADT Flow Split

In order to investigate whether travel behaviours have changed over the past decade, the proportion of the AADT which occurs in either the AM (08:00-09:00) or the PM (17:00-18:00) peak hour has been calculated using the above ATC data. Table 6-F compares the proportion of the AADT which occurs in either the AM or the PM peak hour at three locations, over the past decade.

Location	Years Analysed	Percentage of the AADT in either the AM or PM Peak Hour (min% - max%)
M65 Motorway Junction 13-14	1999 - 2010	14-16%
A56 (North of Earby)	2004 - 2012	16-18%
A6068 (East of Laneshaw Bridge)	2003 - 2012	13-15%
A59 (East of East Marton)	2005 - 2011	14-15%

Table 6-F: Peak hour Traffic Flow Analysis

Table 6-F shows that the proportion of the AADT which occurs in either the AM or the PM peak hour has remained fairly constant over the past decade, which suggests that there is limited evidence of peak spreading.

Key Observation

The proportion of the AADT which occurs in either the AM or the PM peak hour has remained fairly constant over the past decade which suggests that there is limited evidence of peak spreading.

6.6 Site Visit Observations

A site visit to Colne town centre and the surrounding study area was carried out by Jacobs staff on 15th November in order to observe both peak hour and inter-peak traffic conditions. The following key observations were made:

- *Congestion present on North Valley Road and Vivary Way in the morning peak period.*
- *In the morning peak, the congestion appeared to be worse when travelling in a westbound direction (e.g. travelling towards the M65 motorway).*
- *The A56 route through Colne (e.g. Albert Road and Burnley Road) did not appear as congested as the North Valley Road route.*
- *No congestion present when travelling on the on the A56 north of Colne.*
- *The A59 appeared to be a good alternative route to the M65 motorway.*

6.7 Traffic Count Data

More recent traffic data has also been collected from a wider selection of ATC sites on major roads within the study area.

Permanent ATC sites have been used to investigate the traffic flows on the major roads around Colne. The location of these permanent ATC sites and the corresponding AADT flows are shown in Figure 6-H.

In the absence of any permanent ATC sites on the roads within Colne town centre, temporary ATC sites (which collected traffic data for a one week period between June 2011 and March 2012) have been used to investigate traffic flows. The location of these temporary ATC sites and the corresponding AADT flows are shown in Figure 6-I.

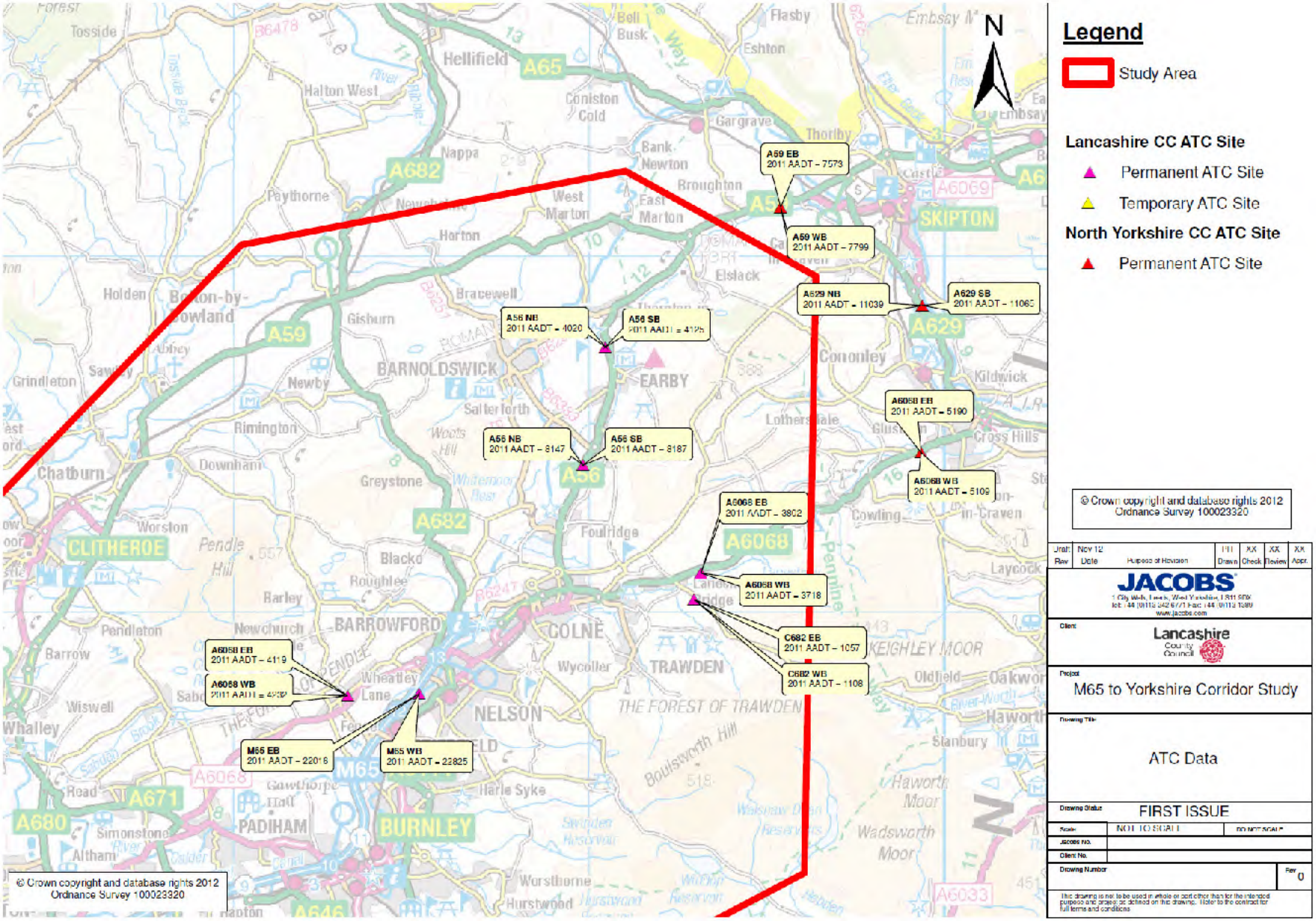


Figure 6-H: Permanent ATC Sites

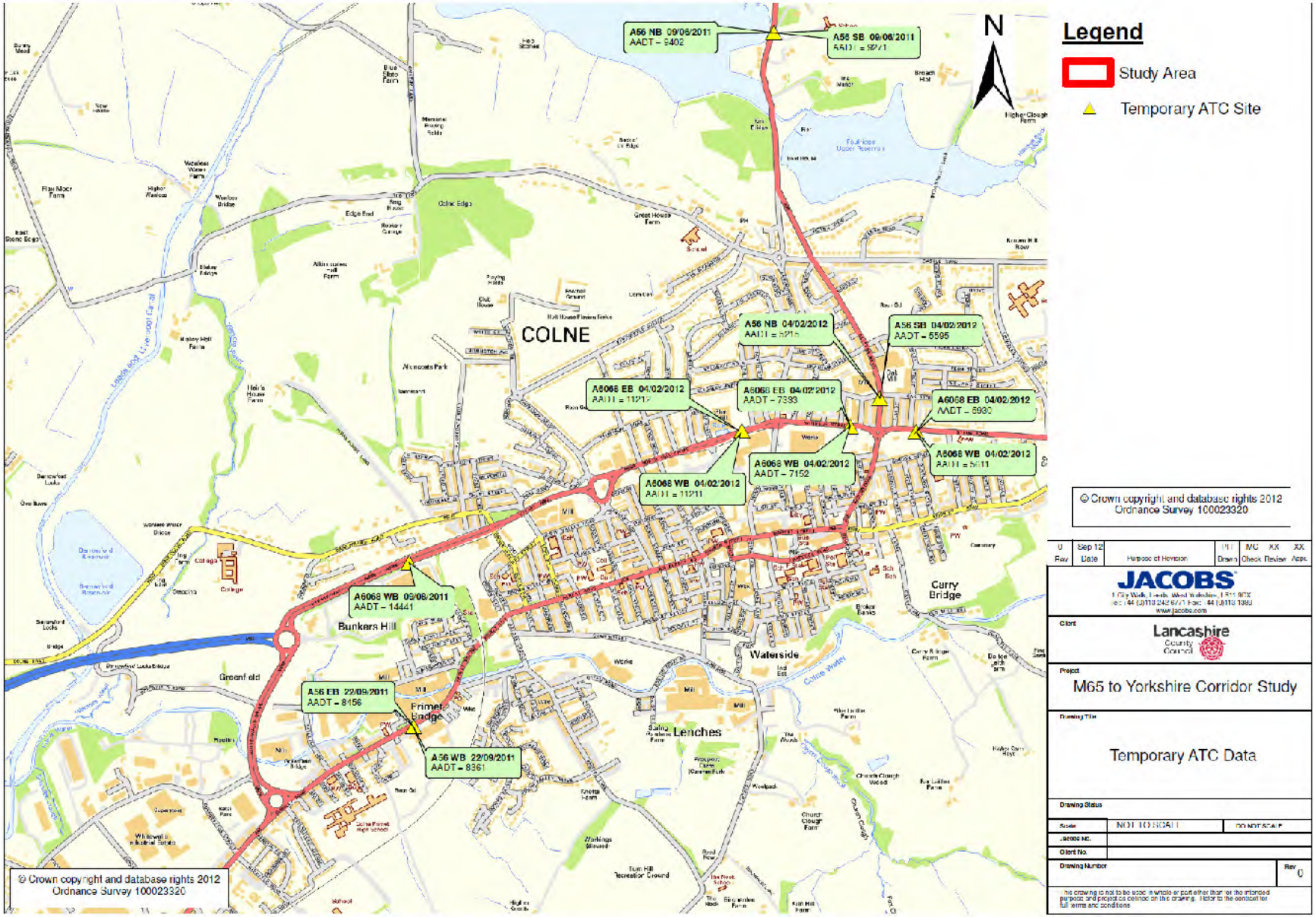


Figure 6-I: Temporary ATC Sites in Colne

The permanent ATC data in Figure 6-H shows that:

- *The volume of traffic on the A56 decreases significantly (by approximately 50%) to the north of the B6383 Barnoldswick Road.*
- *A large proportion of traffic heading northbound on the A56 turns off on to the B6383 to Barnoldswick.*
- *In both directions, the volume of traffic passing over the county boundary (between Lancashire and North Yorkshire) on the A56 is roughly equal to that on the A6068.*

The temporary ATC data in Figure 6-I shows that:

- *A comparatively large volume of traffic uses Langroyd Road to travel between North Valley Road and the A56, indicated by a significant drop in flows on North Valley Road.*
- *The highest flows in Colne are experienced on the dual carriageway Vivary Way, where the westbound AADT is 14,441 vehicles. No traffic flow data is available in an eastbound direction on Vivary Way, however the eastbound traffic flows are expected to be similar to those in a westbound direction.*

Key Observation

The volume of traffic on the A56 decreases significantly (by approximately 50%) to the north of the B6383 Barnoldswick Road.

In both directions, the volume of traffic passing over the county boundary (between Lancashire and North Yorkshire) on the A56 is roughly equal to that on the A6068.

Peak hour flows have been analysed to gain a greater understanding of traffic volumes around Colne during the busiest periods of the day. The peak hour flows have been plotted in Figure 6-J overleaf.

The peak hour ATC data in Figure 6-J shows that:

- *Peak hour flows on the A56 are approximately 800 vehicles in each direction between Colne and Foulridge. The peak hour flows fall to approximately 700 vehicles in each direction between Foulridge and Kelbrook before falling significantly to approximately 400 vehicles in each direction between Earby and Thornton-in-Craven.*
- *Peak hour flows on the A6068 are approximately 300 vehicles in each direction between Laneshaw Bridge and the County boundary.*
- *The highest peak hour flows are again found on the dual carriageway section of Vivary Way westbound, where there is a flow of 1,085 vehicles in the AM peak and 984 vehicles in the PM peak.*
- *The AM peak hour flows are similar to the PM peak hour flows at the majority of the ATC sites.*

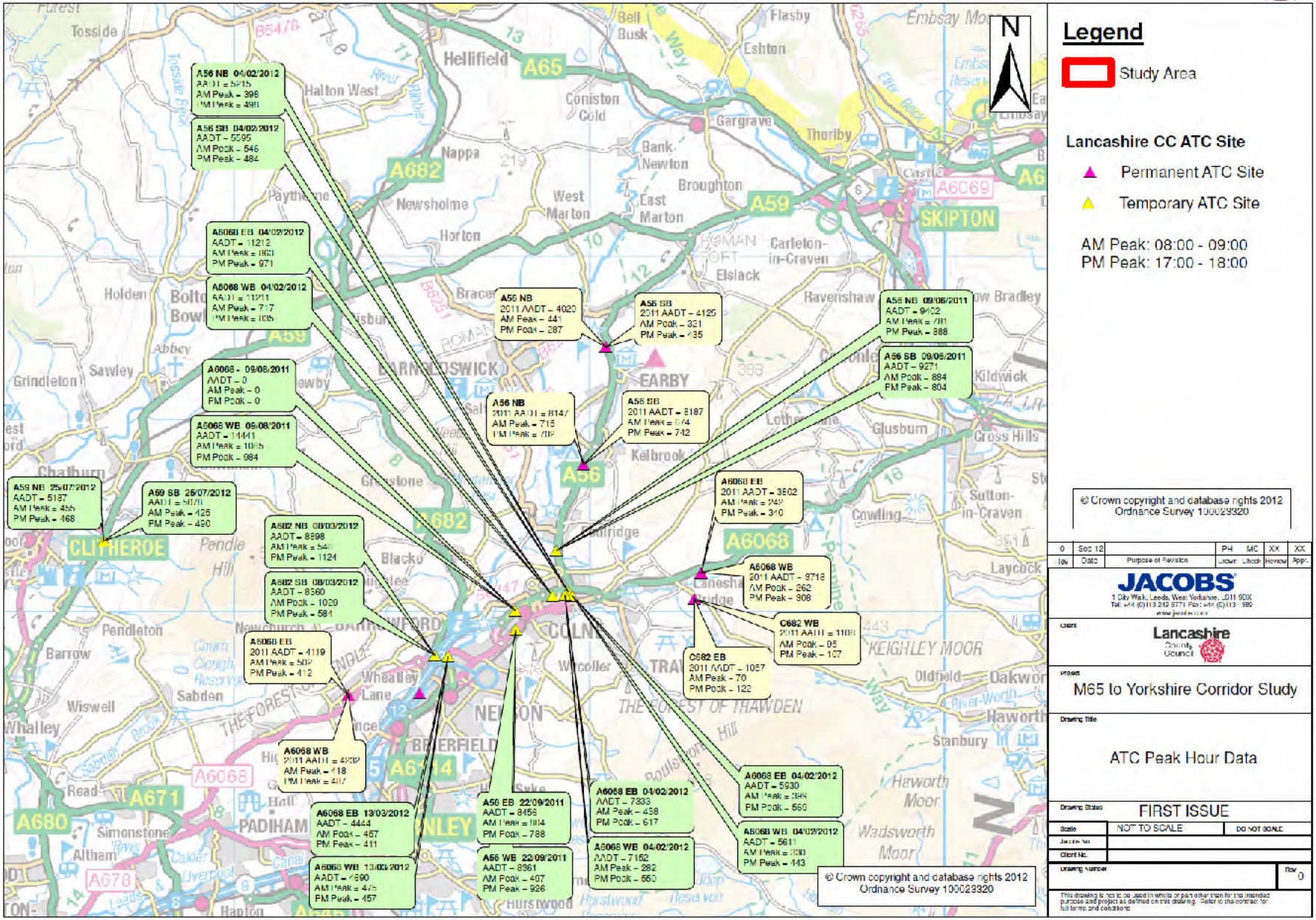


Figure 6-J: Peak hour ATC flows

Figure 6-K shows the peak hour flows around the A56 / A6068 junction in Colne.

Figure 6-K: Peak hour ATC flows in Colne

The peak hour ATC data in Figure 6-K shows that:

- *A comparatively large volume of traffic uses Langroyd Road in both directions to travel between North Valley Road and the A56, as indicated by a significant drop in flows on North Valley Road.*
- *On the A56 Skipton Road, the AM peak hour flow is higher in a southbound direction (travelling towards Colne / the M65 motorway).*
- *On the A6068 Byron Road, the AM peak and PM peak hour flows are higher in an eastbound direction (travelling away from Colne / the M65 motorway).*

Langroyd Road is a residential street, with properties fronting the road and cars parked outside the properties on the road. In addition, the road is a single lane carriageway on a steep gradient.

A temporary ATC survey was undertaken on Langroyd Road in February 2012. The traffic survey revealed that AADT flows on Langroyd Road were 5,128 vehicles in a northbound direction and 3,680 vehicles in a southbound direction. Therefore, the volume of traffic on Langroyd Road is comparable to the volume of traffic on the parallel section of the A56.

Key Observation

Langroyd Road is a residential street, with properties fronting the road and cars parked outside the properties on the road. In addition, the road is a single lane carriageway on a steep gradient.

A comparatively large volume of traffic uses Langroyd Road to travel between North Valley Road and the A56.

6.8 Through Traffic in Colne

In order to understand the causes of congestion in Colne town centre it is important to understand the travel patterns of traffic within Colne.

In the absence of a traffic model, traffic data from permanent ATC sites has been investigated to provide an indication of the maximum proportion of motorway traffic which passes through Colne.

There are two main roads entering / exiting Colne to the east, the A56 and the A6068. Traffic data from the three strategically located ATC sites referenced in Figure 6-C have been analysed to give an indication of the likely volume of through traffic in Colne.

The most recent complete year's worth of data available on the M65 motorway J13-14 is from 2009. To allow a comparative analysis, ATC data for 2009 has also been used for the A56 and the A6068. Traffic flows at the three ATC sites are shown in Table 6-G.

ATC Site	EB AADT	WB AADT
M65 Junction 13-14	16,350	16,854
A56 (North of Earby)	4,157	4,253
A6068 (Laneshaw Bridge)	3,805	3,741

Table 6-G: 2009 AADT Flows

The following calculation has been used to derive the maximum proportion of motorway traffic which passes through Colne:

Maximum % through traffic = (A56 traffic + A6068 traffic) / M65 traffic

It is acknowledged that not all the traffic on the A56 or the A6068 eastbound will have come from the M65 motorway (a proportion of traffic could have originated in Colne and some may originate from local routes).

Equally, when travelling westbound, not all traffic on the M65 motorway will have come from the A56 and the A6068 (again, a proportion of traffic could have originated in Colne and from other local routes).

Consequently, the through traffic calculation below is likely to have overestimated the proportion of through traffic, and therefore the through traffic results should be treated as an upper limit.

6.8.1 Eastbound Traffic

A maximum of 49% of motorway traffic crosses the county boundary on either the A56 or the A6068.

Maximum % through traffic = (A56 traffic + A6068 traffic) / M65 traffic
= (4157 + 3805) / 16350
= **49%**

Consequently, a minimum of 51% of motorway traffic is destined for Colne and other local routes.

6.8.2 Westbound Traffic

A maximum of 47% of traffic on either the A56 or the A6068 at the county boundary accesses the motorway.

Maximum % through traffic = (A56 traffic + A6068 traffic) / M65 traffic
= (4253 + 3741) / 16854
= **47%**

Consequently, a minimum of 53% of traffic on either the A56 or the A6068 at the county boundary is destined for Colne and other local routes.

Key Observation

A maximum of 49% of motorway traffic in Colne (eastbound) and 47% (westbound) is through traffic.

6.8.3 AM & PM Peak Hour Flows

To investigate whether the percentage of through traffic differs in either the AM or PM peak periods, the through traffic calculation detailed in section 6.8, has been repeated using the peak hour traffic flows from the same three ATC sites.

Table 6-H shows the peak hour traffic flows and the percentage of through traffic in each direction in both the AM and PM peak periods.

ATC Site	AM Peak		PM Peak	
	EB	WB	EB	WB
M65 Junction 13-14	1,054	1,211	1,284	1,283
A56 (North of Earby)	365	247	290	436
A6068 (Laneshaw Bridge)	204	235	317	278
Maximum % through traffic	**54%**	**40%**	**47%**	**56%**

Table 6-H: 2009 Peak Hour Flows

Table 6-H shows that in the AM peak, the percentage of through traffic in Colne is highest in an eastbound direction, with a maximum of 54% of motorway traffic crossing the county boundary on either the A56 or the A6068.

Table 6-H shows that in the PM peak, the percentage of through traffic in Colne is highest in a westbound direction, with a maximum of 56% of traffic on either the A56 or the A6068 at the county boundary accessing the motorway.

Key Observation

In the AM peak, the percentage of through traffic in Colne is greatest in an eastbound direction (maximum 54%), where as in the PM peak the percentage of through traffic is greatest in a westbound direction (maximum 56%).

6.9 HGV traffic

The proportion of HGV traffic on the local road network in and around Colne has been analysed using traffic data collected from the temporary ATC sites.

The HGV percentage data has been obtained from temporary ATC sites which collected traffic data for a one week period between June 2011 and March 2012. Consequently, it has not been possible to investigate how the proportion of HGVs has changed over recent years.

Figure 6-L shows the percentage of HGV traffic recorded at each of the temporary ATC sites.

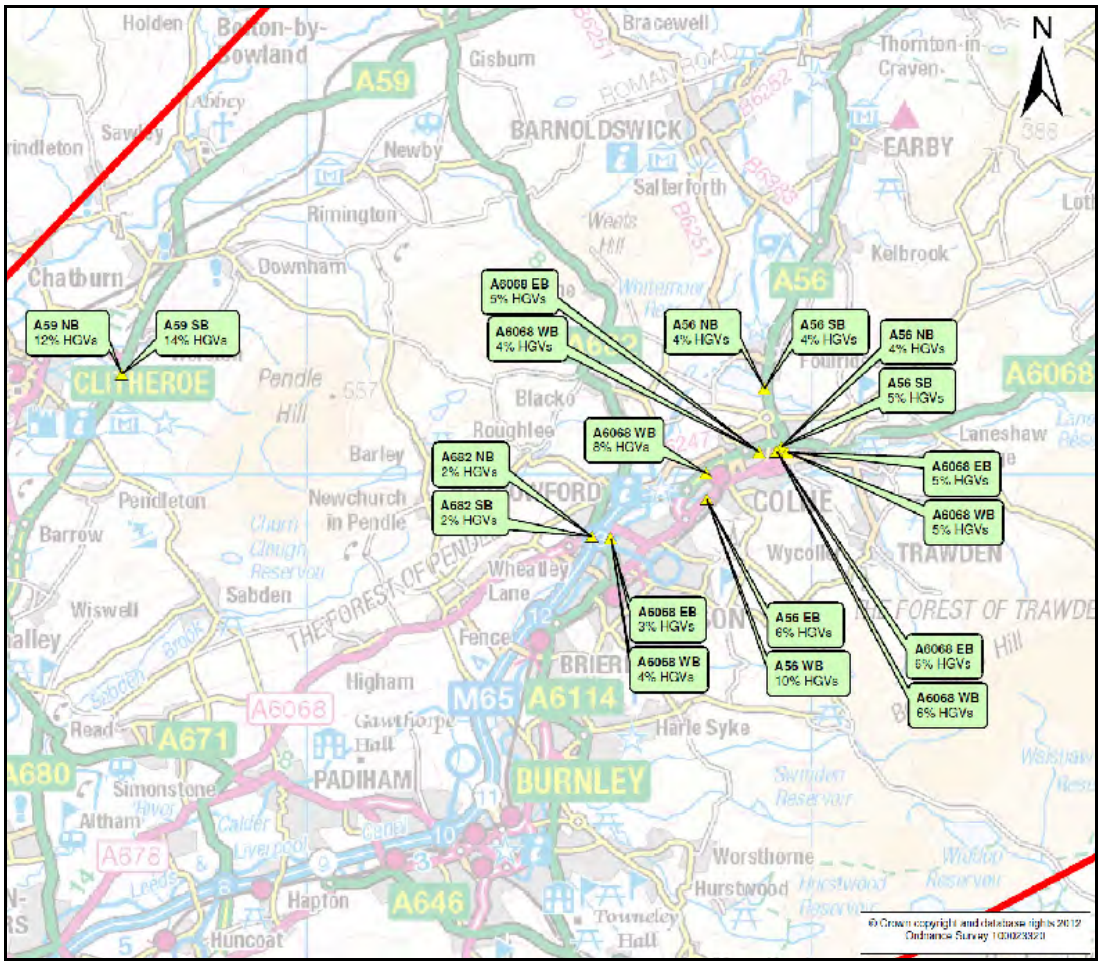


Figure 6-L: Percentage of HGV Traffic

Figure 6-L shows that the percentage of HGV traffic on routes within Colne varies between 4% and 10%.

On the A59, in Worston (near Clitheroe), the percentage of HGV traffic is higher, with 12% in a northbound direction and 14% in a southbound direction. However,

the nearby proximity of Clitheroe's Castle Cement works could be responsible for the higher proportion of HGVs on this stretch of the A59.

Figure 6-L shows that HGVs accounted for 4% of traffic in both directions on the A56 Skipton Road and 5% of traffic in both directions on the A6068 Byron Road.

Figure 6-M shows the national average traffic proportions by vehicle class, split by road classification.

CLASS OF ROAD	CARS (1)	LGV (2)	OGV1 (3)	OGV2 (4)	PSV (5)
Motorways	0.762	0.107	0.041	0.085	0.005
Built-up Trunk	0.825	0.112	0.030	0.024	0.009
Built-up Principal	0.848	0.103	0.022	0.010	0.017
Non Built-up Trunk	0.787	0.110	0.038	0.059	0.006
Non Built-up Principal	0.826	0.113	0.031	0.022	0.008
Average All Roads (Includes Minor Roads)	0.816	0.114	0.028	0.031	0.011

Figure 6-M: COBA Annual Average Category Proportions by Class of Road

Figure 6-M shows that for a 'non built-up principal road', such as the A56 or the A6068 (outside of Colne), the national average proportion of HGVs is 5.3%.

Therefore the proportion of HGVs on the A56 Skipton Road and the A6068 Byron Road is in line with national average traffic proportions.

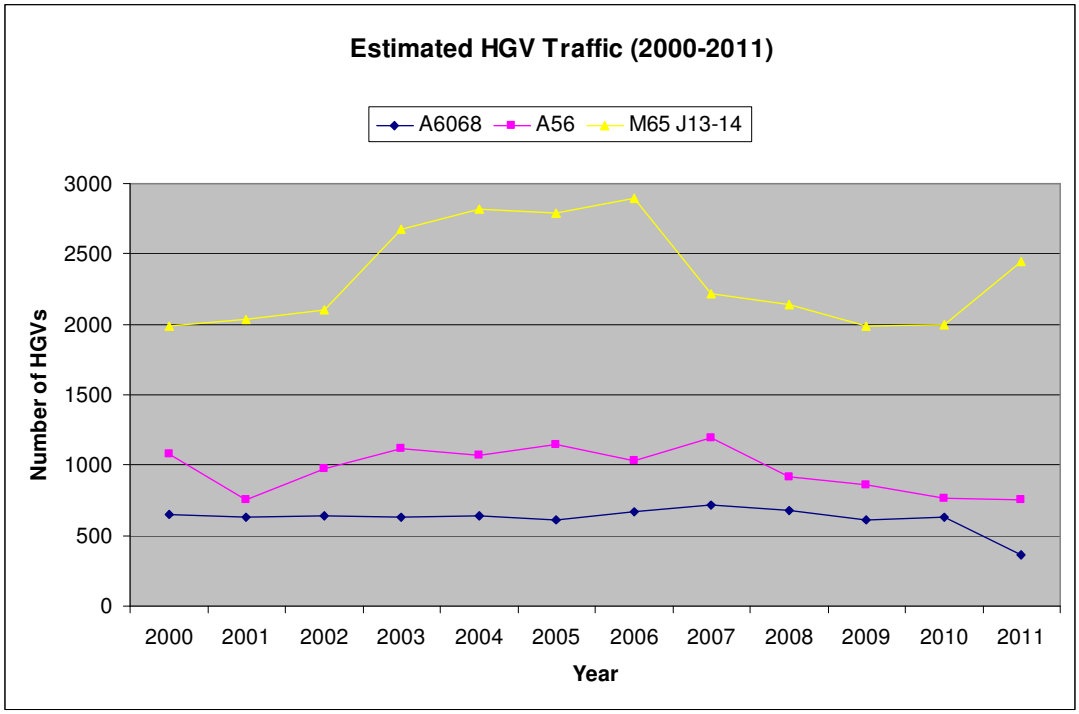
To investigate whether or not the number of HGVs on the main routes in and out of Colne has changed in recent years, estimated traffic flows from the DfT's transport statistics website have been analysed.

There are three main data sources used to calculate the DfT's annual traffic estimates. Manual traffic counts are carried out at a number of sites throughout the counting season which runs between March and October. This raw data is then combined with information from a network of automatic traffic counters to calculate a series of AADT flows for each count point. These daily flows are combined with road lengths to calculate the number of vehicle miles travelled each year by vehicle type, road category and region. Expansion factors are used to convert the manual count 12 hour totals into AADT flows. Where a manual count has not taken place in the reference year, growth factors are applied to the previous year's AADT flow in order to bring them in line with growth at the national level.

In order to obtain more accurate data on HGV proportions, new classified traffic surveys would need to be commissioned.

Figure 6-N shows the estimated number of HGVs at the following three locations:

- *A6068 (East of Laneshaw Bridge)*
- *A56 (South of Kelbrook)*
- *M65 Motorway Junction 13-14*



Source: DfT Transport Statistics Website

Figure 6-N: Estimated HGV Traffic (2000-2011)

Figure 6-N shows that the estimated number of HGVs on the A56 and the A6068 has remained relatively constant over the twelve year period from 2000 to 2011. The estimated number of HGVs on the M65 motorway Junction 13-14 increased between 2003 and 2006.

In the past five years, there has been a decrease in the estimated number of HGVs on the A56 and the A6068. The estimated number of HGVs on the A56 is higher than on the A6068 throughout the twelve year period from 2000 to 2011.

HGV traffic on the A6068 has been further investigated by analysing traffic data collected from a permanent ATC site located on the A6068 in North Yorkshire, between Cowling and Glusburn.

Figure 6-O shows how the number of HGVs on the A6068 in North Yorkshire has varied between 2004 and 2012.

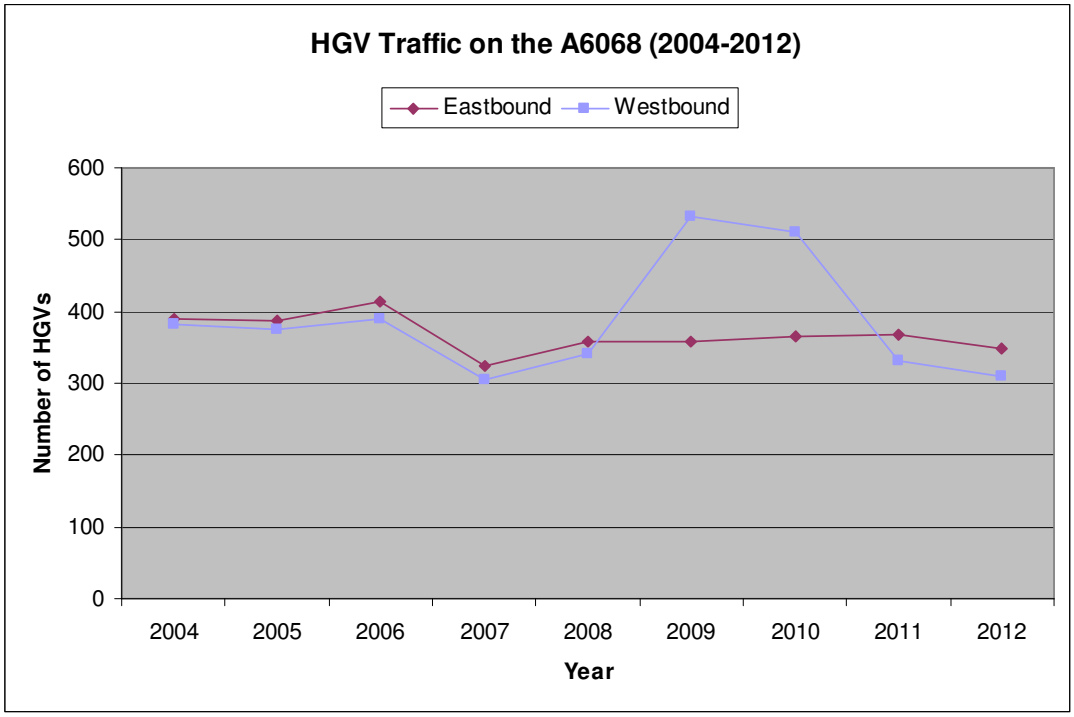


Figure 6-O: HGV Traffic on the A6068 (2004-2012)

Figure 6-O shows that the number of HGVs on the A6068, between Cowling and Glusburn, has remained relatively constant between 2004 and 2012. The only significant variation was in 2009 and 2010 when the number of HGV's travelling in a westbound direction increased. However, this peak could be due to data anomalies or as a result of issues elsewhere on the strategic road network, such as roadworks on the M62 motorway.

In addition, analysis of the AADT flows from the permanent ATC site located on the A6068 in North Yorkshire, between Cowling and Glusburn, revealed that traffic volumes have remained very similar between 2004 and 2012 in both directions.

Key Observation

The percentage of HGV traffic on routes within Colne varies between 4% - 10%.

The proportion of HGVs on the A56 Skipton Road and the A6068 Byron Road is in line with national average traffic proportions.

The estimated number of HGVs on the main routes in and out of Colne has remained relatively constant over the twelve year period from 2000 to 2011.

The number of HGVs on the A6068, between Cowling and Glusburn, has remained relatively constant between 2004 and 2012.

6.10 Air Quality Management Areas

Congestion on the road network impacts on air quality. If an area is identified as being at risk of exceeding an air quality objective, the local authority must declare an Air Quality Management Area (AQMA) and take action to reduce the air pollution in that area.

Pendle Borough Council's *'2011 Air Quality Progress Report'* indicated that the Windsor Street / Skipton Road area of Colne had breached the annual air quality objective for nitrogen dioxide. Following a detailed assessment which was completed in December 2010, an AQMA was designated in April 2011.

Figure 6-P shows the extent of the Windsor Street / Skipton Road AQMA, which consists of a mixture of residential and retail land use.

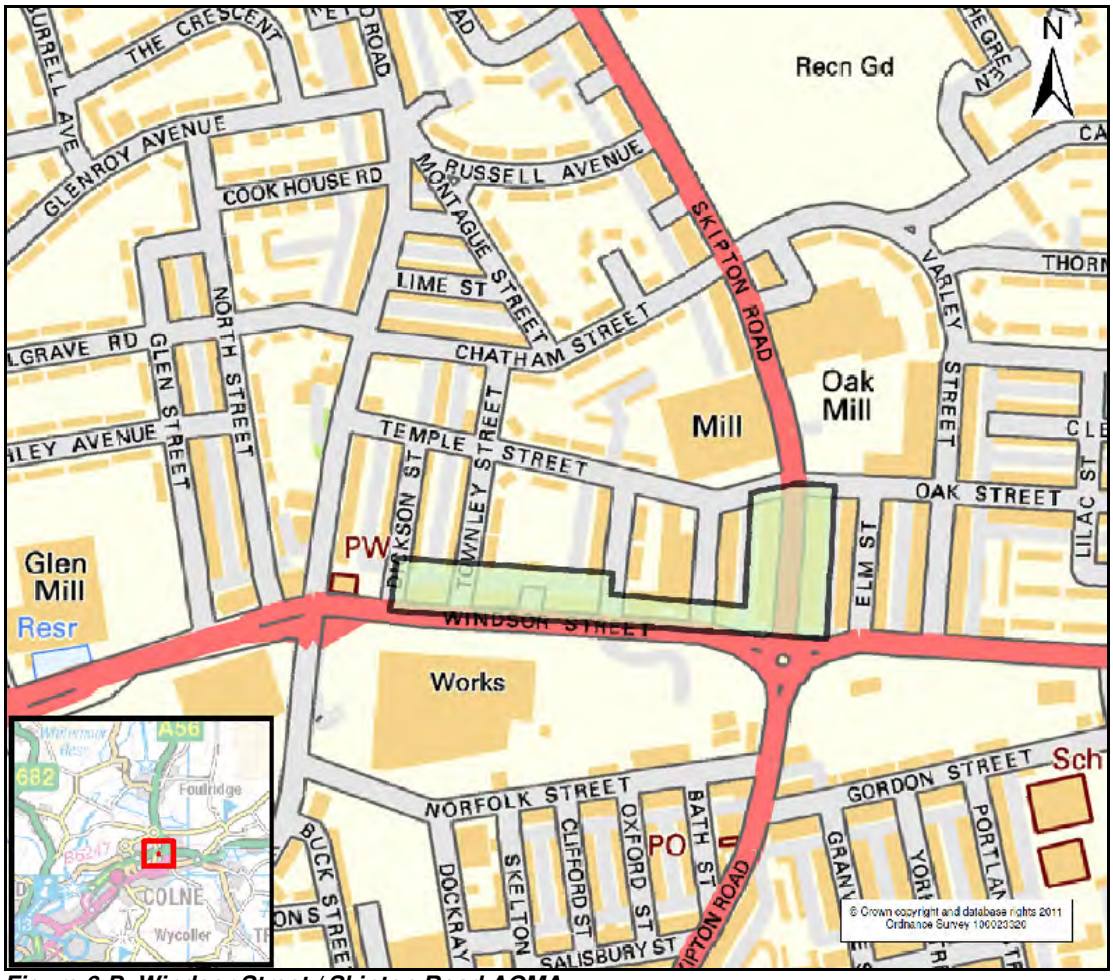


Figure 6-P: Windsor Street / Skipton Road AQMA

In order to try and improve the air quality in the Windsor Street / Skipton Road AQMA, an air quality action plan is being developed.

Pendle Borough Council's '2011 Air Quality Progress Report' also highlighted that the nearby new Sainsbury's supermarket development on Windy Bank may impact on air quality in the local authority area.

The *'2012 Air Quality Updating and Screening Assessment for Pendle Borough Council' (Pendle BC, April 2012)* has since reported that traffic using the recently opened Sainsbury's supermarket in Colne does not appear to be having an adverse

affect on nitrogen dioxide levels in the area as they are generally lower than the previous year. No new sites for monitoring air quality were identified as part of the updated screening assessment.

Key Observation

An AQMA has been declared on the Windsor Street / Skipton Road area of Colne due to the high traffic volumes and poor air quality in that area.

Therefore, any suggested improvement schemes for Colne town centre should not have a detrimental impact on the Windsor Street / Skipton Road AQMA.

7 Accident Data Analysis

7.1 Introduction

The purpose of this chapter is to analyse accident data within the M65 to Yorkshire Corridor study area in order to identify any areas of particular concern that should be considered further as part of this study.

The accident analysis in this chapter is discussed under the following sub headings:

- *Study Area Accidents*
- *A56 Accidents*
- *A56 Accident Rate*
- *A6068 Accidents*
- *A6068 Accident Rate*
- *Colne Town Centre Analysis*
- *Road Safety Schemes*
- *Summary of Accident Data Analysis*

7.2 Study Area Accidents

Personal Injury Accident (PIA) data for Lancashire has been obtained from the STATS 19 accident database. This database is collated from police records and details all reported accidents in the UK in which a person has been injured or killed. Following common practice, accident data has been collected for the most recent complete five year period, which at the time of writing was from 2007 to 2011.

Table 7-A provides a summary of all the recorded accidents within the study area over the five year period from 2007 to 2011, split by severity. Slight accidents are defined as those in which a casualty only requires roadside attention (e.g. cuts and bruises). Serious injuries are defined as those in which a casualty is detained in hospital or sustains serious injuries (e.g. fractures or internal injuries). Fatal accidents are defined as those in which a casualty sustains injuries which cause death in less than thirty days after the accident. Accidents are classified based upon the highest severity casualty involved.

	Number of Accidents			
Year	Slight	Serious	Fatal	Total
2007	1121	212	14	**1347**
2008	1059	174	23	**1256**
2009	907	154	11	**1072**
2010	886	168	12	**1066**
2011	797	163	8	**968**
Total	**4770**	**871**	**68**	**5709**

Table 7-A: Study Area Accidents (2007-2011)

During the period 2007 to 2011, a total of 5709 PIAs were recorded within the study area. It should be acknowledged that each accident could involve multiple casualties. Since 2007, the total number of accidents has decreased each year. However 2008 experienced the highest number of fatal accidents in the five year period investigated.

It is possible that there may have been other damage only accidents that were unreported and are as such not included in these figures.

Accident plots showing the location of all the reported accidents in the study area, split by the year in which the accident occurred and also by the severity of the accident, are included in **Appendix E**.

During the period 2007 to 2011, 4 fatal accidents occurred on the A682 and 3 fatal accidents occurred on the B6383 in relatively close proximity to each other.

7.3 A56 Accidents

Further analysis has been undertaken with a focus upon the A56 corridor in order to better understand any accident issues along its length.

Table 7-B provides a summary of all the reported accidents which have occurred on the 8km section of the A56 from its junction with the A6068 in Colne to the Lancashire County Council boundary to the north of Earby.

Year	Number of Accidents			
	Slight	Serious	Fatal	Total
2007	18	2	0	20
2008	9	1	0	10
2009	3	1	0	4
2010	10	2	0	12
2011	7	0	0	7
Total	**47**	**6**	**0**	**53**

Table 7-B: A56 Accidents (2007-2011)

During the period 2007 to 2011, a total of 53 PIAs were recorded on the A56 between its junction with the A6068 in Colne and the Lancashire County Council boundary to the north of Earby. The highest number of PIAs occurred in 2007. No fatal accidents have occurred on this stretch of road during the time period 2007 to 2011.

Accident plots showing the location of all the accidents that have occurred on the A56, split by the year in which the accident occurred and by severity, are included in **Appendix F**.

The accident plots in **Appendix F** show that the accidents which have occurred on the A56 have happened both at junctions and on the links between the junctions.

To enable a more detailed analysis of accidents on the A56, it has been split into four sections based upon changes in speed limits and road type. The four sections are shown in Figure 7-A and described below.

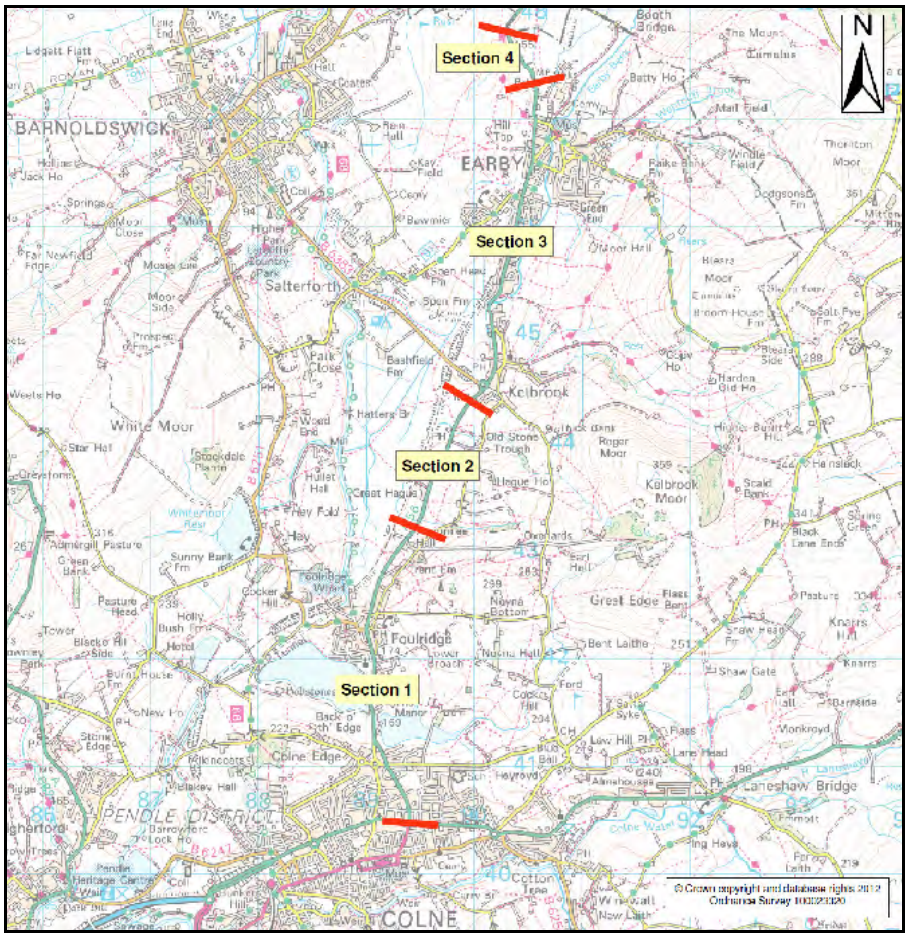


Figure 7-A: A56 Accident Analysis Sections

- *Section 1: A56 / A6068 junction in Colne to Trent Farm (North of Foulridge)*
- *Section 2: Trent Farm to Kelbrook*
- *Section 3: Kelbrook to Punch Bowl Pub (North of Earby)*
- *Section 4: Punch Bowl Pub to County Boundary*

The number of accidents occurring between 2007 and 2011 on each of the four sections is shown in Table 7-C and discussed below.

Section	Location	Severity of Accidents			
		Slight	Serious	Fatal	Total
1	Colne to Trent Farm	31	2	0	**33**
2	Trent Farm to Kelbrook	3	1	0	**4**
3	Kelbrook to Punch Bowl Pub	9	2	0	**11**
4	Punch Bowl Pub to County Boundary	4	1	0	**5**

Table 7-C: A56 Accidents (2007-2011) split into sections

Section 1: A56/A6068 junction in Colne to Trent Farm (North of Foulridge)

The majority of the slight accidents (66%) and two of the serious accidents have occurred on this section of the A56 to the north of Colne. Both of the serious accidents (and several slight accidents) occurred in close proximity to each other, adjacent to Lake Burwain.

Section 2: Trent Farm to Kelbrook

A total of 6% of the slight accidents and 17% of the serious accidents occurred on the section of the A56 between Trent Farm and Kelbrook.

Section 3: Kelbrook to Punch Bowl Pub (North of Earby)
A total of 19% of the slight accidents and 33% of the serious accidents on the A56 occurred between Kelbrook and the Punch Bowl Pub to the North of Earby.

Section 4: Punch Bowl Pub to County Boundary
The section of the A56 between the Punch Bowl Pub and the Lancashire County Council boundary has experienced a relatively high number of accidents (4 slight and 1 serious) given its short length.

Key Observation

The majority of the slight and serious accidents which have occurred happened within Section 1 of the A56, between Colne and Foulridge.

7.4 A56 Accident Rate

The number of accidents occurring on the A56 has been compared against national average figures for the road type to give a greater understanding of the scale of accident numbers.

National accident rates, based upon historic accident statistics, were extracted from the Department for Transport's industry standard software package COBA. One element of COBA is that it is used to forecast changes in the number of accidents and casualties as a result of transport interventions. It is also used to estimate the monetary value of estimated changes in accident numbers.

A summary of the total number of observed and predicted accidents on the A56 from 2007 to 2011 is given in Table 7-D. Full details of the accident rate calculation which has been undertaken is included in **Appendix G**.

	Total Accidents	Fatal Accidents	Serious Accidents	Slight Accidents
Predicted	121	1	13	107
Observed	53	0	6	47

Table 7-D: Predicted and Observed A56 Accident Numbers (2007-2011)

The A56 accident rate calculation shows that the number of observed accidents on the A56 between 2007 and 2011 is less than half of the number of accidents predicted to occur based upon national accident rates for the corresponding road types. Therefore, the evidence suggests that the A56 does not have an above average accident problem.

However, accident rates vary depending upon the type of road, the number of junctions present and the speed limit. In order to determine whether or not there are sections on the A56 where significantly more accidents are being observed than predicted, the A56 corridor has been split into four sections, as per the accident analysis in Section 7.3 of this report.

The number of predicted and observed accidents occurring on each of the four sections is shown in Table 7-E and discussed below.

Section	Location	Predicted	Observed
1	Colne to Trent Farm	72	33
2	Trent Farm to Kelbrook	12	4
3	Kelbrook to Punch Bowl Pub	35	11
4	Punch Bowl Pub to County Boundary	2	5

Table 7-E: Predicted and Observed A56 Accidents by section (2007-2011)

The only section of A56 which has experienced more accidents than were predicted to occur based upon national accident rates was section 4, between the Punch Bowl Pub and the County Boundary.

Key Observation

The A56 accident rate analysis suggests that the A56 overall does not have an above average accident problem.

7.5 A6068 Accidents

Detailed accident analysis has been undertaken on the A6068 in order to better understand any accident issues along its length.

Table 7-F provides a summary of all the reported accidents which have occurred on the 8km section of the A6068 from Junction 14 of the M65 motorway in Colne to the Lancashire County Council boundary to the east of Laneshaw Bridge.

	Number of Accidents			
Year	Slight	Serious	Fatal	Total
2007	19	5	0	24
2008	24	0	1	25
2009	14	0	0	14
2010	16	2	0	18
2011	11	1	0	12
Total	**84**	**8**	**1**	**93**

Table 7-F: A6068 Accidents (2007-2011)

During the period 2007 to 2011, a total of 93 PIAs were recorded on the A6068 between Junction 14 of the M65 motorway in Colne and the Lancashire County Council boundary to the east of Laneshaw Bridge. The highest number of PIAs, occurred in 2007 and 2008. One fatal accident has occurred on this stretch of road during the period 2007 to 2011.

Accident plots showing the location of all the accidents that have occurred on the A6068, split by the year in which the accident occurred and by severity, are included in **Appendix H**.

The accident plots in **Appendix H** show that the accidents which have occurred on the A6068 have happened both at junctions and on the links between the junctions.

To enable a more detailed analysis of accidents on the A6068, it has been split into four sections based upon changes in speed limits and road type. The four sections are shown in Figure 7-B and described below.

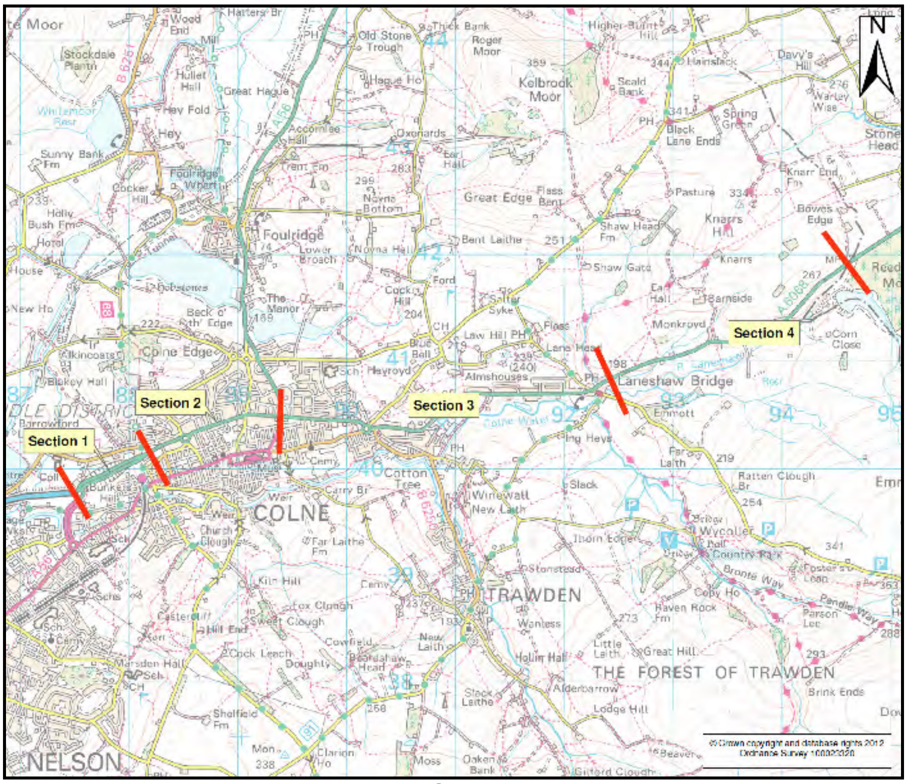


Figure 7-B: A6068 Accident Analysis Sections

- *Section 1: M65 Motorway J14 to west of Barrowford Road.*
- *Section 2: West of Barrowford Road to the A56 junction.*
- *Section 3: A56 junction to Laneshaw Bridge.*
- *Section 4: Laneshaw Bridge to the County boundary.*

The number of accidents occurring between 2007 and 2011 on each of the four sections is shown in Table 7-G and discussed below.

Section	Location	Severity of Accidents			
		Slight	Serious	Fatal	Total
1	M65 Motorway to Barrowford Road	19	1	0	20
2	Barrowford Road to the A56 junction	36	5	0	41
3	A56 junction to Laneshaw Bridge	20	1	0	21
4	Laneshaw Bridge to County boundary	9	1	1	11

Table 7-G: A6068 Accidents (2007-2011) split into sections

<u>Section 1: M65 Motorway J14 to west of Barrowford Road</u>
This section of the A6068 has experienced a relatively high number of slight accidents (23%) given its short length. One serious accident has also occurred.

<u>Section 2: West of Barrowford Road to the A56 junction</u>
A large proportion of the slight accidents (43%) and the majority of the serious accidents (63%) occurred on the section of the A6068 between Barrowford Road and the A56 junction. This is likely to be due to the relatively high traffic volumes and the numerous conflict points on this section of the A6068.

<u>Section 3: A56 junction to Laneshaw Bridge</u>
Given that this is the longest section, a relatively low proportion of the slight accidents (24%) occurred between the A56 junction in Colne and Laneshaw Bridge. Only one serious accident has occurred on this section.

Section 4: Laneshaw Bridge to County Boundary

A low proportion of the slight accidents (11%) occurred on the section of the A6068 between Laneshaw Bridge and the County Boundary. One serious accident has occurred. The one fatal accident which occurred on the stretch of the A6068 being investigated (between 2007 and 2011) occurred at the A6068 / Moss End Lane junction within Section 4.

Key Observation

The majority of the slight and serious accidents which have occurred on the A6068 happened in Colne between the M65 motorway and the A56 (e.g. Vivary Way and North Valley Road). This is likely to be due to the relatively high traffic volumes and the numerous conflict points on this section of the A6068.

7.6 A6068 Accident Rate

The number of accidents occurring on the A6068 has been compared against national average figures for the road type to give a greater understanding of the scale of accident numbers.

A summary of the total number of observed and predicted accidents on the A6068 from 2007 to 2011 is given in Table 7-H. Full details of the accident rate calculation which has been undertaken is included in **Appendix I**.

	Total Accidents	Fatal Accidents	Serious Accidents	Slight Accidents
Predicted	96	1	13	82
Observed	93	1	8	84

Table 7-H: Predicted and Observed A6068 Accident Numbers (2007-2011)

The A6068 accident rate calculation shows that the number of observed accidents on the A6068 between 2007 and 2011 is very similar to the number of accidents predicted to occur based upon national accident rates for the corresponding road types. Therefore, the evidence suggests that the A6068 does not have an above average accident problem.

However, accident rates vary depending upon the type of road, the number of junctions present and the speed limit. In order to determine whether or not there are sections on the A6068 where significantly more accidents are being observed than predicted, the A6068 corridor has been split into four sections, as per the accident analysis in Section 7.5 of this report.

The number of predicted and observed accidents occurring on each of the four sections is shown in Table 7-I and discussed below.

Section	Location	Predicted	Observed
1	M65 Motorway J14 to west of Barrowford Road	7	20
2	West of Barrowford Road to the A56 junction	29	41
3	A56 junction to Laneshaw Bridge	49	21
4	Laneshaw Bridge to County Boundary	11	11

Table 7-I: Predicted and Observed A6068 Accidents by section (2007-2011)

The A6068 accident rate analysis has revealed that the sections 1 and 2 of the A6068 in Colne between the M65 motorway and the A56 (e.g. Vivary Way and North

Valley Road) experienced significantly more slight accidents than were predicted to occur based upon national accident rates.

It should be acknowledged that section 1 of the A6068 (Vivary way) has been classified as a dual carriageway for the accident rate calculation. However, this stretch of road is not a typical dual carriageway due to the proximity of the M65 motorway and also the lane marking causing unequal queuing, resulting in vehicles changing lanes. Consequently, it's not surprising that the observed number of accidents on section 1 of the A6068 is higher than the number predicted to occur.

Key Observation

The A6068 accident rate analysis suggests that the A6068 overall does not have an above average accident problem.

However, the sections of the A6068 in Colne between the M65 motorway and the A56 (e.g. Vivary Way and North Valley Road) experienced significantly more slight accidents than were predicted to occur based upon national accident rates.

7.7 M65 Motorway Junction 14 Accidents

The M65 motorway terminates at junction 14 to the west of Colne, with the motorway link connecting directly into the A6068 Vivary Way via a roundabout.

Analysis of the accident data has revealed that 22 vehicle accidents have occurred either on or within close proximity (approximately 50 metres) to the junction of the M65 motorway (Junction 14) and the A6068 Vivary Way, between 2007 and 2011.

Safety measures have been introduced at this junction already, including lowering the speed limit on the motorway to 50mph and adding yellow rumble strips on the approach to the roundabout.

Key Observation

Between 2007 and 2011, 22 vehicle accidents have occurred at the junction of the M65 motorway (Junction 14) and the A6068 Vivary Way.

7.8 Colne Town Centre Accidents

Analysis of the different types of accidents in Colne has been undertaken to identify vulnerable road users.

Figure 7-C shows the location of all the accidents which have occurred in Colne town centre, split by accident type, between 2007 and 2011.

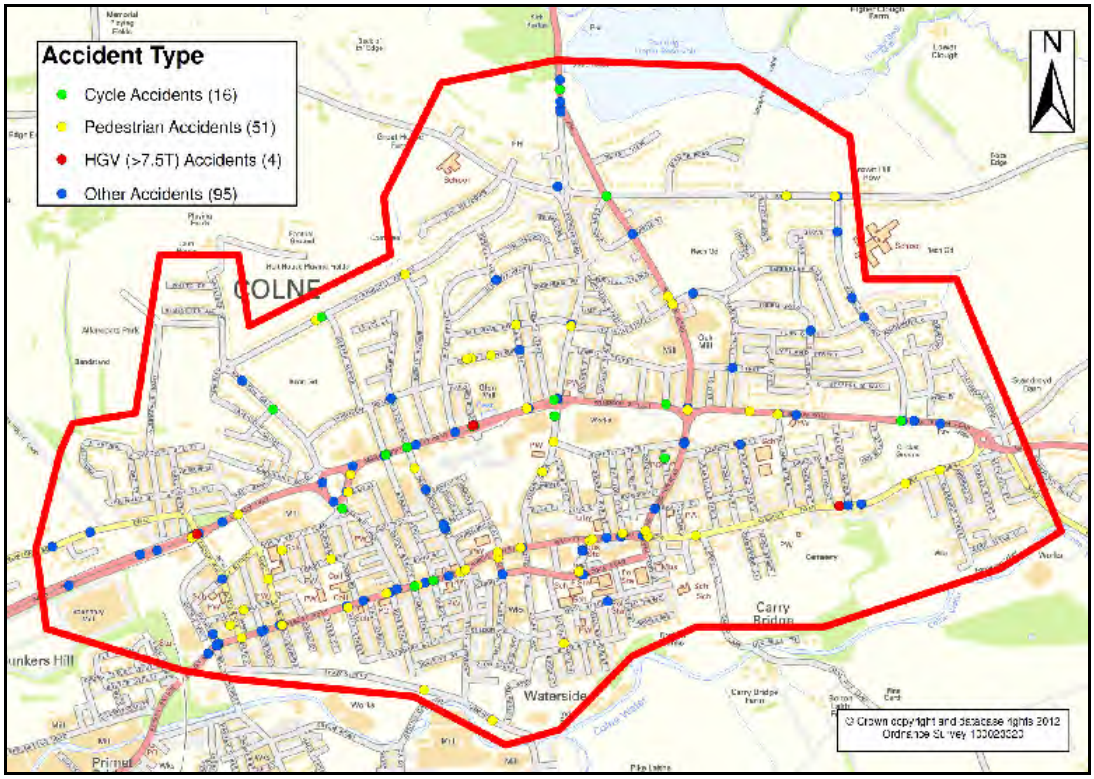


Figure 7-C: Colne Town Centre Accident Analysis (2007-2011)

Figure 7-C shows that a significant proportion of the total number of accidents which occurred in Colne town centre between 2007 and 2011 involved pedestrians (31%), whilst cyclists were involved in 10% of all reported PIAs.

For comparison, the *'Reported Road Casualties in Great Britain: 2011 Annual Report' (DfT, September 2012)* reports that pedestrians account for 12.8% and cyclists account for 9.4% of all casualties on Great Britain's roads. However it should be acknowledged that these figures cover all road types and therefore the percentage of pedestrian and cycle accidents in a town centre would be expected to be higher.

Analysis of the 2007 to 2011 accident reports for Colne town centre revealed that 4 of the 165 accidents (2.4%) involved a Heavy Goods Vehicle (>7.5T). Of these 4 accidents involving a HGV, one involved a pedestrian as well.

As expected, a large proportion of the accidents in Colne town centre occurred in close proximity to junctions, where there are numerous conflict points between pedestrians / vehicles and vehicles / vehicles.

The majority of the recorded PIAs involving cyclists occurred at junctions. However, it is recognised that there may have been additional minor accidents involving cyclists that were not reported and are as such not included in these figures.

There are several locations within Colne town centre where multiple vehicle PIAs have occurred between 2007 and 2011. They include:

- *A6068 Vivary Way / Barrowford Road junction (8 vehicle accidents)*
- *A56 Albert Road / Bridge Street junction (5 vehicle accidents)*
- *A56 Skipton Rd / Langroyd Road junction (4 vehicle accidents)*
- *A6068 Vivary Way / A6068 North Valley Road junction (4 vehicle accidents)*

Key Observation

A significant proportion of the total number of accidents which occurred in Colne town centre between 2007 and 2011 involved pedestrians (31%), whilst cyclists were involved in 10% of all reported PIAs.

Analysis of the 2007 to 2011 accident reports for Colne town centre revealed that 4 of the 165 accidents (2.4%) involved a Heavy Goods Vehicle (>7.5T). Of these 4 accidents involving a HGV, one involved a pedestrian as well.

7.9 Road Safety Schemes

The County Council is part of the *Lancashire Partnership for Road Safety* which is a multi-agency partnership committed to reducing the numbers of deaths and injuries on Lancashire's roads. The partnership concentrates on the three primary causes of death on the county's roads:

- *Speeding*
- *Drink Driving*
- *Not wearing seat belts / child restraints*

The partnership's priority is to change the behaviour of drivers through education, training and on-going publicity campaigns. Two initiatives which are currently being publicised across the county are the '*Wasted Lives*' programme (which targets young drivers) and the '*RideSafe BackSafe*' programme (which targets motorcyclists).

In order to provide additional pedestrian crossing facilities at the signalised Keighley Road / Market Street / Skipton Road junction in Colne town centre, funding has been made available through the Pendle Commissioning Plan.

Key Observation

In order to provide additional pedestrian crossing facilities at the signalised Keighley Road / Market Street / Skipton Road junction in Colne town centre, funding has been made available through the Pendle Commissioning Plan.

7.10 Summary of Accident Data Analysis

During the period 2007 to 2011, a total of 53 PIAs were recorded on the 8km section of the A56 from its junction with the A6068 in Colne to the Lancashire County Council boundary to the north of Earby.

A significant proportion of the slight and serious accidents which have occurred happened on the section of the A56 between Colne and Foulridge.

The A56 accident rate analysis suggests that the A56 overall does not have an above average accident problem.

During the period 2007 to 2011, a total of 93 PIAs were recorded on the A6068 between Junction 14 of the M65 motorway in Colne and the Lancashire County Council boundary to the east of Laneshaw Bridge. One fatal accident has occurred on this stretch of road between 2007 and 2011.

The majority of the slight and serious accidents which have occurred on the A6068 happened in Colne between the M65 motorway and the A56.

The A6068 accident rate analysis suggests that the A6068 overall does not have an above average accident problem. However, the sections of the A6068 in Colne between the M65 motorway and the A56 experienced significantly more accidents than were predicted to occur based upon national accident rates.

A significant proportion of the total number of accidents which occurred in Colne town centre between 2007 and 2011 involved pedestrians (31%), whilst cyclists were involved in 10% of all reported PIAs.

Analysis of the 2007 to 2011 accident reports for Colne town centre revealed that 4 of the 165 accidents (2.4%) involved a Heavy Goods Vehicle (>7.5T). Of these 4 accidents involving a HGV, one involved a pedestrian as well.

In order to provide additional pedestrian crossing facilities at the signalised Keighley Road / Market Street / Skipton Road junction in Colne town centre, funding has been made available through the Pendle Commissioning Plan.

8 Public Transport

8.1 Introduction

In order to understand the full extent of any congestion or accessibility issues in the M65 to Yorkshire Corridor study area, it is important to consider the public transport options that are available to the people living in the study area.

The purpose of this chapter is to outline the bus and rail services that are available in the M65 to Yorkshire Corridor study area.

8.2 Bus Services

Using information obtained from the County Council, all of the bus routes and bus stations in the study area have been plotted using GIS software.

A plan showing all of the bus routes and bus stations in the study area is included in **Appendix J**.

The plan shows that the majority of the study area is well connected in terms of bus routes, with all of the major towns being linked.

Bus services can play a significant part in improving connectivity, with high frequency services operating along the east-west axis through East Lancashire. The success of the X43 ‘The Witch Way’ bus service between Nelson and Manchester provides clear evidence that the right service can attract customers and extend travel opportunities.

Colne bus station is located in the centre of Colne, just off Craddock Road, approximately 0.7miles to the east of Colne Railway station.

The frequency of bus services in the study area varies dependent upon location and the demand for a bus route. Looking specifically at the A56 corridor, The Burnley & Pendle 'Mainline' 28 bus service runs every 30 minutes Monday - Saturday (and hourly on a Sunday) from Skipton to Burnley via Thornton in Craven, Barnoldswick, Earby, Kelbrook, Foulridge, Colne, Nelson and Brierfield.

It takes approximately 50 minutes to travel the 12 miles between Colne and Skipton by bus, during the weekday peak hours.

In addition, Pennine Motor Services operate the 215 bus service which also runs twice an hour during the day on weekdays (and hourly at weekends) on a similar route between Skipton and Burnley and at similar times to the Burnley & Pendle 'Mainline' 28 bus service.

The timetable for the Burnley & Pendle 'Mainline' 28 bus service has been studied to see if any delay has been built into the timetable due to congestion in Colne. The timetable allows 9 minutes for buses to travel between the Burnley Road, Golden Ball stop (in the west of Colne) to the Market Street stop (in the east of Colne). The distance between these two stops is approximately 1.5miles, therefore it would appear that some time has been included in the timetable to allow for congestion.

Key Observation

The majority of the study area is well connected in terms of bus routes, with all of the major towns being linked.

Two bus companies, Burnley & Pendle and Pennine Motor Services, both operate their own bus service which runs twice an hour during the day on weekdays between Skipton and Burnley.

8.3 Rail Services

A plan showing all of the railway lines and railway stations in the M65 to Yorkshire Corridor study area is included in **Appendix K**.

Northern Rail operates all of the train services in the study area. There are two train lines intersecting the study area:

- *The East Lancashire Line (runs east to west, from Colne to Preston)*
- *The Clitheroe Line (runs north to south, from Clitheroe to Bolton)*

The train service which currently operates between Colne and Preston provides access to all of the local stations along the line, however the service is relatively slow (the journey takes 1 hour 10 minutes) and has limited rolling stock. There is only a single track railway line Between Colne and Rose Grove station at Burnley.

The railway line between Colne and Skipton has been closed since 1970 but the railway track bed has largely been protected from development since this time. Consequently rail connectivity between the study area and Yorkshire is poor. There is a long standing aspiration to re-instate the Colne to Skipton railway line. Skipton East Lancashire Railway Action Partnership (SELRAP) is currently campaigning for the Colne to Skipton railway line to be reinstated.

There is no regular rail service between Clitheroe and Hellifield. However, a railway line does exist and on Sundays throughout the summer, Dalesrail operate one train which runs from Blackpool to Blackburn and then along the Ribble Valley Line via Clitheroe and Hellifield and onwards towards Carlisle. The Ribble Valley Rail group is campaigning for the reinstatement of regular passenger services on this line.

Interchange facilities between bus and rail have recently been improved in Nelson but rail frequencies are relatively low (hourly), with long journey times to other parts of Lancashire.

Although remote from Pendle, the reinstatement of the Todmorden Curve could deliver better transport links to Manchester via an interchage at Rose Grove station with the new service that will run between Blackburn and Manchester Victoria via Accrington and Burnley.

The *Lancashire LTP: Implementation Plan 2012/13 - 2014/15* (Lancashire County Council, July 2012) states that the County Council will continue to provide financial support for the Community Rail Partnership (CRP) Programme Improvements, in particular the East Lancashire CRP in Pendle.

Colne railway station is located towards the west end of Colne town centre, approximately 0.7miles from Colne's bus station. Colne railway station has 15 car parking spaces which are free for rail users. The 2010/11 railway station usage

figures (*DeltaRail, February 2012*) indicate that a total of 89,148 passengers either entered or exited Colne railway station in the financial year 2010/11. Table 8-A compares the railway station usage figures for Colne with other railway stations in Lancashire.

Railway Station	Passenger Entries & Exits (2010/11)
Colne	**89,148**
Nelson	116,814
Burnley Central	145,892
Burnley Manchester Road	216,244
Lancaster	1,787,698
Preston	4,168,974

Source: DeltaRail

Table 8-A: Railway Station Usage Figures

The frequency of the rail services from Colne railway station to other major settlements within and nearby to the study area is summarised in Table 8-B.

Origin	Destination	Approximate Journey Time	Number of Changes (minimum)	Service Frequency (peak hour)
Colne	Preston	70 mins	0	60 mins
	Skipton	210 mins	2	60 mins
	Liverpool	170 mins	1	60 mins
	Leeds	170 mins	1	60 mins
	Manchester	110 mins	1	60 mins

Source: National Rail

Table 8-B: Colne Rail Services

Key Observation

There are two train lines intersecting the study area, the East Lancashire Line and the Clitheroe Line.

The train service which currently operates between Colne and Preston provides access to all of the local stations along the line, however the service is relatively slow and has limited rolling stock.

The railway line between Colne and Skipton has been closed since 1970, however there is a long standing aspiration to re-instate the Colne to Skipton railway line.

8.4 Summary

In summary, public transport provision in the M65 to Yorkshire Corridor study area appears to be fairly comprehensive.

An extensive range of bus services operate throughout the study area.

There are two train lines intersecting the study area, the East Lancashire Line and the Clitheroe Line. The train service which currently operates between Colne and Preston provides access to all of the local stations along the line, however the service is relatively slow and has limited rolling stock.

9 Development and Transport Proposals

9.1 Introduction

The analysis of the AADT data, in section 6.4 of this report, revealed that traffic volumes in and around Colne have remained broadly similar in recent years. However, any significant sized developments will generate traffic and are therefore likely to place additional pressures on the local road network.

The purpose of this chapter is to provide a review of Pendle's *'Core Strategy' (Publication Report)* in order to summarise the potential future development in the M65 to Yorkshire Corridor study area.

Proposed developments in East Lancashire have also been reviewed in order to identify any major developments.

Lancashire County Council's LTP has been consulted in order to identify any proposed schemes in the M65 to Yorkshire Corridor study area that may influence traffic conditions.

In addition, recent developments in Colne which may have impacted upon local traffic volumes and patterns in recent years have been identified.

9.2 Pendle BC Core Strategy

In September 2012, Pendle Borough Council (BC) released its *Core Strategy (Publication Report)*.

The *Core Strategy (Publication Report)* represents the proposed strategy for managing development and growth in Pendle over the next 15 years. It is the first of two documents that will succeed the Replacement Pendle Local Plan 2001-2016, which was adopted by Pendle Council in May 2006.

The *Core Strategy (Publication Report)* has already been out for a six week public consultation which closed in December 2012. The evidence base and Core Strategy are currently being updated, in response to comments received. The intention is to re-publish the Core Strategy in autumn 2013 for a further six-week consultation, before submitting it to the Secretary of State for independent examination. The adopted version of the Core Strategy will establish where future development sites in Pendle should be located.

A final 'Call for Sites' will be held in early 2014, with the *Site Allocations & Development Policies (Preferred Options Report)*, showing those sites that Pendle BC proposes to allocate for development, being made available for public comment towards the end of summer 2014.

The *Core Strategy (Publication Report)* contains the employment and housing targets for Pendle as well as providing an overview of how they will be distributed throughout Pendle. The employment and housing distribution targets are discussed below.

9.2.1 Employment Distribution

Employment targets for the borough of Pendle as a whole are included within Policy WRK 2 of the *Core Strategy (Publication Report)*.

The spatial distribution of new employment will be guided by Policy SDP3 of the *Core Strategy (Publication Report)*, which set out how employment should be distributed across the following three spatial areas:

- *M65 Corridor*
- *West Craven Towns*
- *Rural Pendle*

Table 9-A summarises the employment targets and distribution for the borough of Pendle over the plan period (2013-2028).

	Total	Spatial Area		
		M65 Corridor	West Craven Towns	M65 Corridor
Employment Land Target (ha)	50.58	39.71	7.35	0.22
Employment Distribution		78.5%	18.5%	3%

Table 9-A: Employment Targets and Distribution

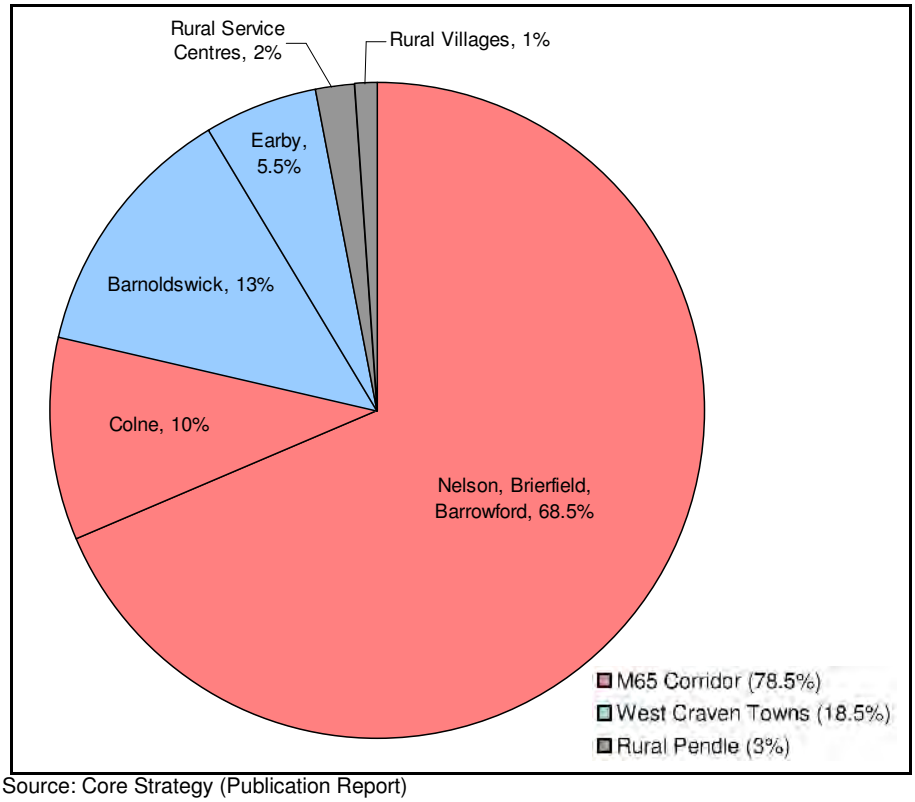
In addition, policy WRK 2 of the *Core Strategy (Publication Report)* states that employment distribution should be guided by:

- *Directing new employment development to locations that are accessible by a variety of means of transport, or support neighbourhood regeneration, thereby contributing to sustainable development objectives.*
- *Identifying a range of employment sites in the Pendle Local Plan Part 2: Site Allocations and Development Policies.*
- *Protecting the best of our existing employment areas from competing forms of development.*
- *Phasing delivery in those areas of the borough where the capacity of the existing infrastructure is unable to cope with the projected level of development, particularly on Greenfield sites.*

Currently, there is no information available on the type of employment that will be created in the borough of Pendle. However, using TRICS land uses, if the 50.58ha of employment land was developed to be Offices (which is the land use with the highest job density) then a maximum of 9,600 jobs could be created in Pendle.

It should be acknowledged that this calculation has only been undertaken for this report in order to provide an estimate of the maximum number of jobs that may be created in Pendle. The number of jobs created could be significantly less if the land use differs or the employment land target is not realised.

A detailed breakdown of the employment distribution within the three spatial areas (M65 Corridor, West Craven Towns and Rural Pendle) is included in Figure 9-A.



Source: Core Strategy (Publication Report)

Figure 9-A: Employment Distribution by Towns

Figure 9-A shows that Colne should receive 10% (5.05ha) of the employment land targeted over the plan period (2013-2028).

9.2.2 Housing Distribution

Housing targets for the borough of Pendle as a whole are included within Policy LIV 1 of the *Core Strategy (Publication Report)*.

The spatial distribution of new housing will be guided by Policy SDP2 which sets out how housing should be distributed across the following three spatial areas:

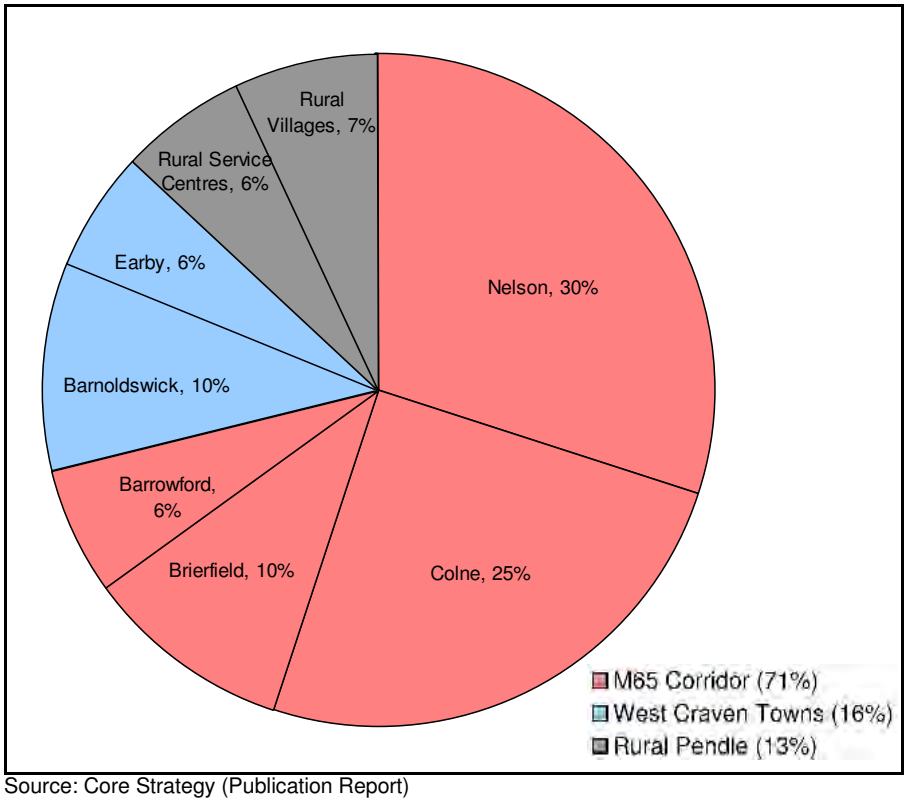
- *M65 Corridor*
- *West Craven Towns*
- *Rural Pendle*

Table 9-B summarises the housing targets and distribution for the borough of Pendle over the plan period (2013-2028).

	Total	**Spatial Area**		
		M65 Corridor	West Craven Towns	M65 Corridor
Housing Target (new dwellings)	3375	2396	383	50
Housing Distribution		71%	16%	13%

Table 9-B: Housing Targets and Distribution

A detailed breakdown of the housing distribution within the three spatial areas (M65 Corridor, West Craven Towns and Rural Pendle) is included in Figure 9-B.



Source: Core Strategy (Publication Report)

Figure 9-B: Housing Distribution by Towns

Figure 9-B shows that Colne should receive 25% (844 dwellings) of the new housing targeted over the plan period (2013-2028).

In Colne, 7.85ha of land on Knotts Lane, to the south of the railway station (including the former cement works) was included in Pendle's '*Replacement Pendle Local Plan 2001-2016' (May 2006)* as a Housing Market Renewal (HMR) reserved housing land site. HMR sites can be developed if there is insufficient previously developed land within a settlement boundary to meet the annual housing requirement proposals.

Key Observation

The M65 Corridor has a target of approximately 40ha of new employment land and 2400 new dwellings over the plan period (2013-2028).

Colne is targeted to receive 10% (5.05ha) of Pendle's employment land target and 25% (844 dwellings) of Pendle's housing target over the plan period (2013-2028).

9.2.3 Location of Development

Pendle's *Core Strategy (Publication Report)* also includes a plan showing the location of local development in the three spatial areas (M65 Corridor, West Craven Towns and Rural Pendle).

A copy of this plan is included in Figure 9-C.

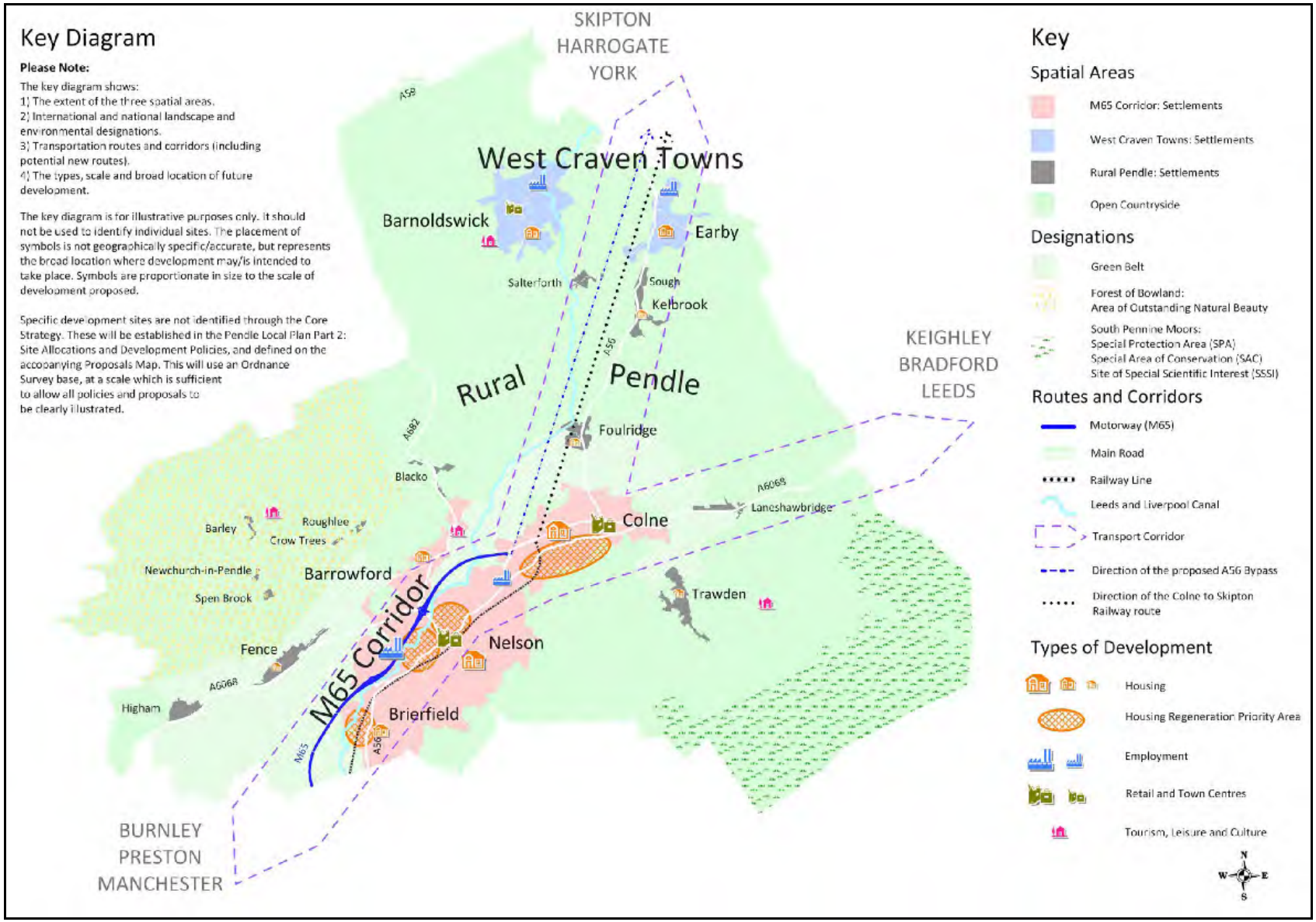


***Figure 9-C: Key Diagram** (Source: Core Strategy (Publication Report))*

9.3 Development in East Lancashire

Major development proposals in East Lancashire have the potential to impact traffic conditions on the M65 corridor and travel between Lancashire and Yorkshire.

Table 9-C summarises the three major developments proposed in East Lancashire which could impact traffic volumes on the M65 corridor. It is acknowledged that there are other developments proposed in the study area which may impact traffic volumes on the M65 corridor in the future.

Development	Location	Comments
Burnley Bridge Business Park	M65 Jct 9	Currently under construction. Once the 70 acre business park is open it will deliver 650,000 ft of new employment space and create 1600 new jobs. The park will also provide a new direct access to the M65 motorway and Burnley town centre. The Lancashire Local Enterprise Partnership was awarded £12.9m from the Government's Growing Places Fund in November 2011. The fund is designed to make economic development schemes happen by tackling immediate infrastructure and site constraints to unlock jobs, development and housing growth. In March 2012 it was announced that the Burnley Bridge Business Park will receive £2 million of funding as part of Lancashire's allocation from the Growing Places Fund.
Weavers' Triangle	Burnley town centre	Burnley is currently undertaking a major project of regeneration of the Weavers' Triangle, a historic collection of mill buildings sitting astride the Leeds-Liverpool canal In 2011, the Lancashire Local Enterprise Partnership endorsed the Weavers' Triangle development for Regional Growth Fund (RGF) funding. The Weavers' Triangle development has since been successful in its RGF bid. In addition, Slater's Terrace in the Weavers' Triangle will receive £2 million of funding as part of Lancashire's allocation from the Growing Places Fund.
Whitebirk Employment Site	Whitebirk (M65 Jct 6)	The Hyndburn Borough Council Core Strategy (January 2012) identifies Whitebirk as a strategic regional employment site. There is an existing commitment for a 35 ha site at Whitebirk with a focus on aerospace, advanced manufacturing, medical, creative and environmental technologies.

Table 9-C: East Lancashire Developments

Table 9-C shows that there is development planned in East Lancashire which could impact the volume of traffic using the M65 corridor.

The current congestion present in Colne could inhibit access to these major development sites for both residents of Colne and also those living in Yorkshire who would have to travel through Colne to access the development sites.

Key Observation

Proposed development in East Lancashire could impact the volume of traffic using the M65 corridor.

9.4 LTP Schemes

The Local Transport Plan sets out Lancashire County Council's priorities and broad activities for transport and the way people travel, over the ten year period from 2011-2021.

The *LTP Implementation Plan 2012/13 - 2014/15 (Lancashire County Council, July 2012)* outlines how the LTP strategy will be delivered over this three year period. The Implementation Plan identifies the following improvement schemes for the Pendle region:

- *Improvements to M65 Junction 13 will be required if development at this location exceeds 15,000 m^2.*
- *To improve connectivity towards Manchester, a study to be carried out on the Nelson-Rawtenstall bus corridor to determine what improvements will provide the greatest benefit.*
- *The reinstatement of the Todmorden Curve.*
- *The County Council will continue to provide financial support for the Community Rail Partnership Programme Improvements, in particular the East Lancashire CRP in Pendle.*
- *Introduce 20 mph limits in all residential areas and outside all schools over the lifetime of the LTP Implementation Plan.*
- *Continue to support Nelson Bus Station and provide financial support to key non-commercial bus services.*
- *Provide concessionary travel through the roll out of discount travel smartcards to Pendle's residents.*
- *The issue of connectivity between East Lancashire and Preston will be considered by a corridor study which will examine east-west connections from Preston to Colne / Burnley.*

The location of all the Pendle LTP schemes in the M65 to Yorkshire Corridor study area have been plotted on a plan contained in **Appendix L**.

The majority of the Pendle LTP improvement schemes or studies focus upon improving public transport facilities and services within the study area. If successful, these improvement schemes may contribute to alleviating congestion within the M65 to Yorkshire Corridor study area.

Key Observation

Lancashire's LTP Implementation Plan 2012/13 - 2014/15 outlines a number of initiatives which may have a positive impact upon travel conditions within the Pendle region. The majority of these initiatives focus upon improving public transport facilities.

9.5 Recent Developments

There have been a number of significant developments in and around Colne in recent years (since the A56 Villages Bypass scheme public consultation), which could have impacted upon local traffic volumes and patterns.

Table 9-D details the most significant recent developments.

Development	Location	Comments
Boundary Mills Store	Relocated from its store off Whitewalls Drive to a purpose built store off Junction 14 of the M65 motorway	The new Boundary Mills store opened in 2008, employing approximately 700 people.
Sainsbury's Superstore	A6068 Windsor Street / Windybank	The new Sainsbury's superstore opened in 2010, employing approximately 240 people.
North Valley Retail Park	Adjacent to A6068, North Valley Road	Includes Matalan, McDonalds and Instore developments.
Riverside Business Park	Junction 13 of the M65 motorway	9.71ha with planning consent for almost 300,000 sq ft of high quality office accommodation.
West Craven Business Park	North of Earby, accessed via the A56	A greenfield industrial development

Table 9-D: Recent Developments

Key Observation

There have been a number of significant new developments in and around Colne in recent years.

10 Socio-Economic Analysis

10.1 Introduction

The purpose of this chapter is to analyse available socio-economic data for Pendle in order to gain a greater understanding of how the local economy operates.

The following data sets have been collated and analysed for Pendle, and for comparison, the North West region and Great Britain:

- *Population*
- *Employment*
- *Travel to Work Patterns*
- *Car Ownership*
- *Index of Multiple Deprivation*

Figure 10-A shows the boundary of the Pendle local authority area, which has been chosen as the focus of the socio economic analysis in this chapter.

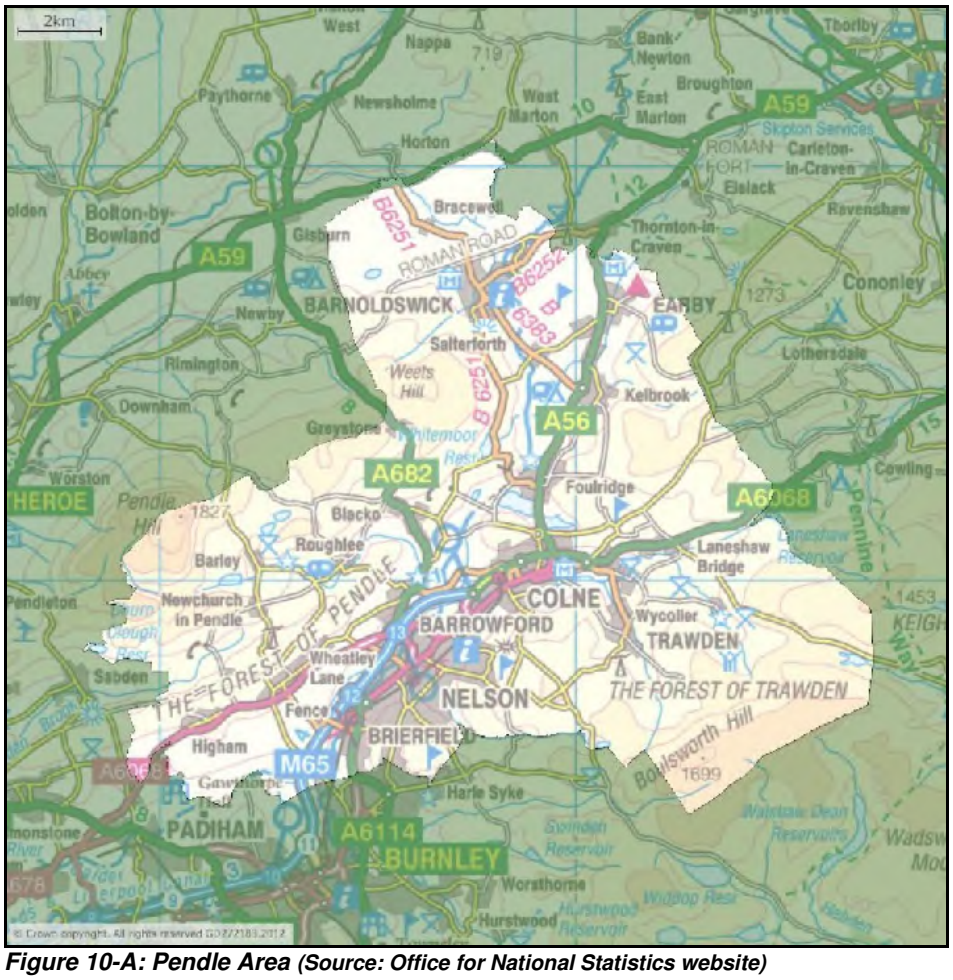


***Figure 10-A: Pendle Area** (Source: Office for National Statistics website)*

10.2 Population

Table 10-A shows the Total Population of Pendle (in 2011) compared to the North West region and the whole of Great Britain. The percentage of people of working age (16-64) is also included.

	Pendle	North West	Great Britain
All People	89,600	7,056,000	61,425,700
All People aged 16-64	63.4%	64.5%	64.7%

(Source: ONS mid-year population estimates)

Table 10-A: Population (2011)

Table 10-A shows that the percentage of people of working age (16-64) is slightly lower in Pendle than both the North West region and the whole of Great Britain.

Table 10-B shows the age structure of the population of Pendle (in 2011) compared to the North West region and the whole of Great Britain.

	Pendle	North West	Great Britain
Aged 0-14	19%	18%	18%
Aged 15-29	19%	20%	20%
Aged 30-44	20%	20%	20%
Aged 45-64	26%	26%	26%
Aged 65 and over	16%	17%	17%

(Source: ONS mid-year population estimates)

Table 10-B: Age Structure (2011)

Table 10-B shows that the age structure of the population of Pendle is broadly in line with the North West region and Great Britain.

10.3 Employment

Table 10-C shows the percentage of all people in Pendle aged 16-64 who are in employment and the percentage that are unemployed, compared to the North West region and the whole of Great Britain.

	Pendle	North West	Great Britain
In Employment	64.1%	68.5%	70.5%
Unemployed	9.4%	8.8%	7.9%

(Source: ONS annual population survey)

Table 10-C: Employment (Oct 2011-Sept 2012)

Table 10-C shows that the percentage of people of working age in Pendle who are in employment is lower than both the North West region and the whole of Great Britain. The percentage of people in Pendle who are classified as being unemployed is higher than the average for both the North West region and the whole of Great Britain.

The remainder of the working age population (aged 16-64) are classified as economically inactive. Economically inactive people are those who are neither in employment nor unemployed. This group includes, for example, students and those who are looking after a home or are retired.

Table 10-D shows the type of employment present in Pendle (in 2008) compared to the North West region and the whole of Great Britain.

	Pendle	North West	Great Britain
Manufacturing	26.9%	11.6%	10.2%
Construction	7.1%	5.2%	4.8%
Services	65.3%	82.1%	83.5%
Tourism-related	7.7%	8.2%	8.2%

(Source: ONS annual business inquiry employee analysis)
Table 10-D: Employment Type (2008)

Table 10-D shows that the proportion of people in Pendle employed in the manufacturing industry is significantly higher than in both the North West region and Great Britain.

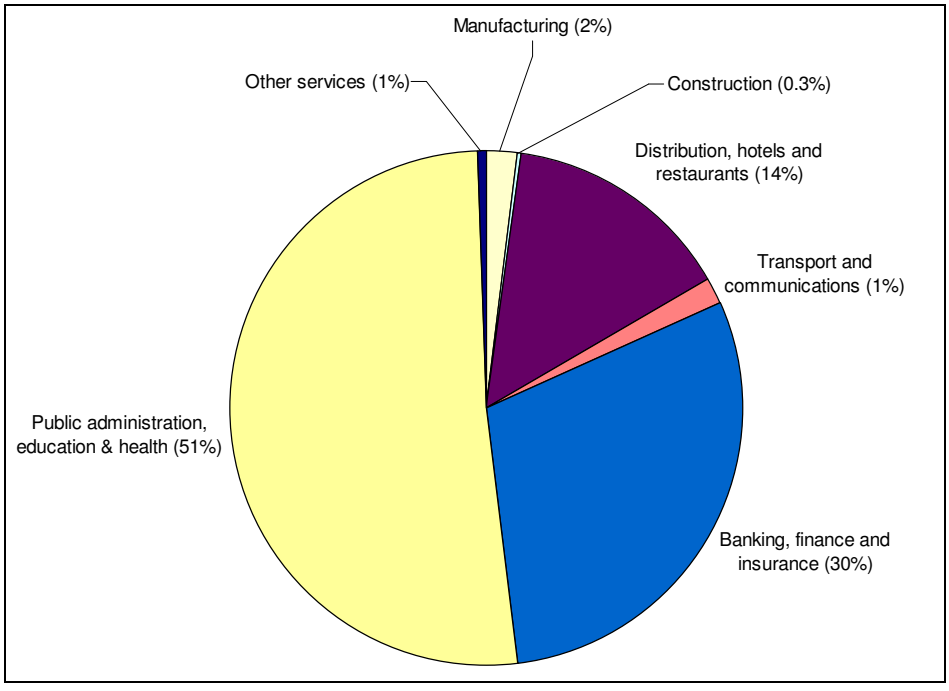
Table 10-E shows the number of unfilled jobcentre vacancies in Pendle (in October 2012) compared to the North West region and the whole of Great Britain.

	Pendle	North West	Great Britain
Unfilled Jobcentre Vacancies	502	52,920	389,889
JSA claimants per unfilled jobcentre vacancy	4.0	3.6	3.7

(Source: Jobcentre Plus vacancies)
Table 10-E: Jobcentre plus vacancies (November 2012)

Table 10-E shows that there were 502 unfilled jobcentre vacancies in Pendle in November 2012. The number of Job Seekers Allowance (JSA) claimants per unfilled jobcentre vacancy in Pendle is comparable to both the North West region and the whole of Great Britain.

Figure 10-B shows the industry of the unfilled jobcentre vacancies in Pendle.



(Source: Jobcentre Plus vacancies)
Figure 10-B: Pendle Vacancies by Industry (November 2012)

Figure 10-B shows that the majority of the vacancies in Pendle are within the 'public administration, education and health' industry sector. Very few of the vacancies are within the manufacturing industry (2%), which is one of the major types of employment in Pendle.

10.4 Travel to Work Patterns

The most recent travel to work data available is from the 2001 Census. Although the census data is older, it does allow smaller areas to be analysed. Therefore the travel to work patterns for Colne have also been included (in addition to Pendle and the North West region) to allow further analysis to be undertaken.

Figure 10-C shows the boundary of the Colne urban area subdivision.

***Figure 10-C: Colne Area** (Source: Office for National Statistics website)*

Table 10-F compares the travel to work patterns by mode for residents of Colne, Pendle and the North West region.

	Colne	Pendle	North West
All people aged 16 to 74 in employment	**8559**	**37,041**	**2,900,020**
Driving a car or van	58%	59%	58%
On foot	14%	14%	10%
Passenger in a car or van	9%	9%	8%
Work mainly at or from home	7%	8%	8%
Bus, minibus, coach	8%	6%	9%
Bicycle	2%	2%	2%
Train	1%	0%	2%
Motorcycle, scooter or moped	1%	1%	1%
Taxi or minicab	1%	1%	1%
Underground, metro, light rail, tram	0%	0%	1%
Other	0%	0%	0%

***Table 10-F: Travel to Work Method (2001)** (Source: 2001 Census)*

Table 10-F shows that:

- *Driving is the most popular mode of travel to work across Colne, Pendle and the North West region, with over half of all people choosing this mode.*
- *Public Transport accounts for 9% of travel to work in Colne.*
- *The percentage of people in Colne using other travel to work modes is broadly in line with Pendle and the North West region.*

Table 10-G compares the travel to work distances in Colne, Pendle and the North West region.

	Colne	Pendle	North West
All people aged 16 to 74 in employment	8,564	37,041	2,900,020
Less than 2km	26%	29%	21%
2km to less than 5km	22%	21%	23%
5km to less than 10km	22%	18%	20%
10km to less than 20 km	11%	11%	14%
20km to less than 40km	6%	6%	7%
40km to less than 60km	2%	2%	2%
60km and over	1%	1%	2%
Working at or from home	7%	8%	8%
Other	3%	3%	4%

(Source: 2001 Census)

Table 10-G: Travel to Work Method (2001)

Table 10-G shows that a large proportion of people living within Colne (48%) work less than 5km away. This figure is comparable with people living in Pendle and the North West region. Consequently, there is potential for more journey to work trips in Colne to be made using more sustainable transport modes such as walking and cycling.

10.5 Car Ownership

As per the travel to work pattern analysis, car ownership statistics have been obtained from the 2001 Census data.

Table 10-H compares the number of households that have access to a car / van in Colne, Pendle and the North West region.

	Colne	Pendle	North West
All Households	8479	35,960	2,812,789
No car or van	33%	30%	30%
1 car or van	45%	46%	44%
2 or more cars or vans	22%	24%	26%

(Source: 2001 Census)

Table 10-H: Car Ownership (2001)

Table 10-H shows that a significant proportion of households in Colne (33%) do not have access to a car or van. This figure is slightly higher than in the Pendle area and the North West region and consequently the proportion of households in Colne who are reliant upon public transport is slightly higher.

10.6 Index of Multiple Deprivation

The Index of Multiple Deprivation (IMD) is a measure used to identify deprived areas across the country.

The IMD uses 38 separate indicators, organised across seven distinct domains of deprivation which can be combined, using appropriate weights, to calculate the IMD. This is an overall measure of multiple deprivation experienced by people living in an area and is calculated for every Lower layer Super Output Area (LSOA) in England. The IMD can be used to rank every LSOA in England according to their relative level of deprivation.

The seven domains are as follows:

- *Income*
- *Employment*
- *Health deprivation and disability*
- *Education skills and training*
- *Barriers to housing and services*
- *Crime and the living environment*
- *The living environment*

The IMD scores for all 32,482 LSOAs in England have been ranked and then for the purposes of this study split into five equal quintiles in order to identify deprived areas. Quintile 1 contains the 20% most deprived areas and quintile 5 contains the 20% least deprived areas.

Appendix M plots the LSOAs within the M65 to Yorkshire Corridor Study and displays which IMD quintile each LSOA is ranked within.

Appendix M shows that the most deprived LSOAs in the study area are within the major settlements located along the M65 motorway. For example, Blackburn, Accrington, Burnley, Nelson and Colne.

The A56 corridor contains LSOAs from a range of quintiles. Earby and Barnoldswick contain LSOAs from quintile 2 (the second most deprived quintile), where as Foulridge and Thornton in Craven are located within LSOAs ranked in quintile 4.

The majority of the A6068 and the A59 route, within the M65 to Yorkshire study area, pass through less deprived LSOAs (i.e. LSOAs from quintiles 3 and 4).

Key Observation

The proportion of people in Pendle employed in the manufacturing industry is significantly higher than in both the North West region and Great Britain.

Driving is the most popular mode of travel to work across Colne, Pendle and the North West region, with over half of all people choosing this mode.

A large proportion of people living within Colne (48%) work less than 5km away. Consequently, there is potential for more journey to work trips in Colne to be made using more sustainable transport modes such as walking and cycling.

A significant proportion of households in Colne (33%) do not have access to a car or van.

11 Engineering and Environmental Constraints

11.1 Introduction

Given the rural nature and local topography within the M65 to Yorkshire Corridor study area, the engineering and environmental constraints have been identified and corresponding GIS plans produced.

11.2 Engineering Constraints

A plan showing the major engineering constraints within the study area is included in **Appendix N**.

Appendix N shows that the major engineering constraints include:

- *Relief / topography (the A56 runs through a valley).*
- *Railway lines (the old Skipton to Colne track bed).*
- *Canals / Rivers (e.g. Leeds Liverpool Canal).*
- *Lakes / Reservoirs (e.g. Lake Burwain, Foulridge Upper Reservoir and the Barrowford Reservoir).*
- *Settlements (e.g. Foulridge, Kelbrook, Earby).*

The engineering constraints will be examined in more detail later on in this study to guide the Option Development Stage (Stage 2) and the Review of Major Highway Proposals Stage (Stage 3).

11.3 Environmental Constraints

A plan showing the major environmental constraints within the study area is included in **Appendix O**.

Appendix O shows that the major environmental constraints include:

- *Heritage Sites (there are several listed properties nearby)*
- *Air Quality Management Areas (AQMA in Colne)*
- *Floodplains*
- *Local Nature Reserves (e.g. south of Lake Burwain)*
- *County Park (e.g. east of Lake Burwain)*
- *Ancient Woodland (east of Kelbrook)*
- *Scheduled Monument (west of Elslack)*
- *Biological Heritage Site (the old Skipton to Colne track bed).*

As with the engineering constraints, the environmental constraints will be examined in more detail later on in this study to guide the Option Development Stage (Stage 2) and the Review of Major Highway Proposals Stage (Stage 3).

12 Problems and Issues Workshop

12.1 Introduction

In order to gain a greater understanding of the perceived problems and issues in the M65 to Yorkshire Corridor study area, key local stakeholders were invited to a workshop held at County Hall on Thursday 29th November 2012.

The aim of this chapter is to summarise the workshop purpose, attendees, agenda and outline the problems and issues which were identified and discussed.

12.2 Workshop Purpose

The purpose of the Problems and Issues Workshop was to brief key external stakeholders on the aim of the study, the stages involved in the study and to gain their support.

The Problems and Issues Workshop also provided an opportunity to utilise the local knowledge and experience of the key stakeholders and to gather their thoughts on the key issues affecting the area that should be considered as part of the study.

12.3 Attendees

The Problems and Issues Workshop was facilitated by Jacobs staff and attended by a variety of Lancashire County Council (LCC), North Yorkshire County Council (NYCC), Pendle BC Officers and key stakeholders. A list of attendees is provided below:

- *Mike Cammock* *(Jacobs Project Manager)*
- *Peter Hibbert* *(Jacobs Assistant Project Manager)*
- *Dave Colbert* *(LCC: Project Sponsor)*
- *Helen Norman* *(LCC: Strategy and Policy)*
- *Martin Porter* *(LCC: Transport & Strategic Highways)*
- *Louise Nurser* *(LCC: Planning Manager)*
- *Emma Prideaux* *(LCC: Economic & External Relations Team)*
- *Tom Gilbert* *(LCC: Planning in Pendle)*
- *Peter Atkinson* *(Pendle BC)*
- *Neil Watson* *(Pendle BC: Planning Officer)*
- *Colin Peacock* *(Lancashire Police: Traffic Management Officer)*

Representatives from the following organisations were also invited but were unable to attend:

- *North Yorkshire County Council*
- *Highways Agency*
- *Freight Transport Association (FTA)*
- *Confederation of Passenger Transport UK (CPT)*
- *TransDev - Burnley Pendle*
- *Pennine Motor Services*

The minutes from the Problems and Issues Workshop were circulated to all stakeholders that were invited for comment. This ensured that everyone was given an opportunity to express their views on the problems and issues in the study area.

12.4 Meeting Agenda

The agenda used to structure discussions at the Problems and Issues Workshop was as follows:

1. Introductions
2. Background to the study
3. Problems and issues discussion
4. Next steps

The problems and issues discussion was an open forum in which attendees described what they perceived to be the problems and issues in the study area. The range of problems and issues discussed included:

- *Congestion issues*
- *Accident issues*
- *Public Transport issues*
- *Large trip generators*
- *Development pressures*
- *Future pressures*
- *Potential schemes and measures*

Study area maps were used to prompt discussions and ensure that problems and issues in all towns, villages and routes within the study area were covered.

12.5 Problems and Issues

Table 12-A below details the problems and issues which were identified and discussed at the Problems and Issues Workshop. Table 12-A also includes information on any schemes, historic or current, that have been proposed to address defined problems and issues.

Table 12-A will be further developed as the study progresses and will be used as an audit trail throughout the development of the strategy to record the consideration of particular issues and the development of potential solutions.

Ref	Problems and Issues	Any Proposed Schemes (historic / current)	General Comments	Location
W1	Congestion in Colne due to the large volumes of traffic accessing / exiting the M65 motorway.	Historic proposals for an A56 Villages Bypass scheme.	Congestion is highlighted as an issue in both the morning and evening peak in both directions. Congestion issues have been present in Colne for a number of years, however it is recognised that travel patterns and traffic composition may have changed. Any initiatives implemented in Colne should consider the impact they have on Cowling, Glusburn and Crosshills on the A6068, including the Kildwick Level Crossing and the A6068 / A629 junction.	Colne
W2	Congestion at junctions on Vivary Way and North Valley Road.	A study looking at the management of traffic signals on Vivary Way, North Valley Road and Windsor Street was undertaken as part of the Sainsbury's development. MOVA was consequently installed at the signalised junctions. However there is potential for the traffic light signals to be linked (e.g. install SCOOT).	Westbound: Vivary Way (between the Crown Way junction and the motorway) is now 2 lanes which has improved the situation. Eastbound: There will always be a pinch point where 2 lanes go into 1 lane. Insufficient room within the highway boundary to widen the section of Vivary Way between Barrowford Road and Harrison Drive. It was noted at the workshop that it can take up to 15-20 minutes to travel between the M65 motorway and the A56 during peak periods. Congestion in Colne is also experienced outside of the traditional weekday peak hours and at weekends.	Colne
W3	Boundary Mills attracts a large number of visitors. Reported by the owners to be three million a year. The numbers of visitors are thought to increase significantly during discount sale periods. This adds to the congestion on the road network in Colne.		The Boundary Mills Store relocated in 2008 to a purpose built store off Junction 14 of the M65 motorway, where it employs almost 700 people. Previously it was located close to the Asda development in Colne. Boundary Mills draws visitors from a wide catchment area.	Colne
W4	Capacity Issues at the Crown Way / Vivary Way junction	Some improvements have already been made at this junction including widening and improvements to the traffic signals.		Colne
W5	Air Quality issues in Colne due to congestion	An AQMA has already been designated at the Skipton Rd / Windsor St junction in Colne town centre (designated an AQMA in April 2011).		Colne
W6	Uneven lane usage on Vivary Way. Lane discipline is also an issue. The right turn lane into Crown Way when travelling eastbound on Vivary Way is under-utilised.			Colne

Ref	Problems and Issues	Any Proposed Schemes (historic / current)	General Comments	Location
W7	Standing traffic on the M65 motorway eastbound can back up from Junction 14 as far as Junction 12 (approximately 2 miles).			M65 motorway
W8	Rat running is common within and around Colne, resulting in traffic using unsuitable routes. Common routes include: - Exiting the M65 motorway at J13 and using the A682 through Barrowford. - Using the A56 through Colne town centre instead of Vivary Way. - Harrison Drive / Birtwistle Avenue / Red Lane - Crown Way / Rigby Street / North Valley Road		Without the rat running, congestion in Colne town centre would be even worse. Speeding on Harrisons Drive - could be a perception issue.	Colne
W9	Queuing on the J13 motorway exit slip road (eastbound) due the large volume of traffic exiting the motorway.		The Riverside Business Park development at J13 is a Peel Holdings development. A development planning clause will be triggered if the development exceeds a certain size, resulting in improvements being made to the existing roundabout at J13.	M65 motorway
W10	The opening of the Sainsbury's petrol station on North Valley Road (which is currently under construction) is likely to result in traffic queuing to enter. The number of pumps has been increased to try and reduce queuing time.		The Sainsbury's supermarket store appears relatively quiet. However the petrol station may attract more customers.	Colne
W11	The volume of HGVs on the A6068 is thought to have increased over the years. Supermarket lorries are common.		The Aire Valley Route to Bradford has been improved in recent years (east of Kildwick), with bypasses of Keighley and Bingley now present. However, significant problems still exist on the A629 (north of Kildwick) and on the A6068 (west of Kildwick) which passes through the communities of Cowling, Glusburn and Crosshills. These are essentially old mill villages and as such the road widths and proximity to properties (residential, shopping and schools) makes it unsuitable for large volumes of HGV traffic. Notwithstanding an A56 Villages Bypass, it is generally accepted that there is no easy solution as alternative routes are either a very long diversion or come with their own problems (e.g. diversion onto the A56 through other communities).	A6068
W12	There is thought to be a large volume of through traffic in Colne. Vehicles travelling between Junction 14 of the M65 motorway and the A56/A6068.	Through traffic signing could potentially be reviewed.		Colne

Ref	Problems and Issues	Any Proposed Schemes (historic / current)	General Comments	Location
W13	Future traffic growth in Colne due to development (and population growth) could make traffic conditions worse.		Potential development sites exist on North Valley Road. West Craven business park to the north of Earby could also be expanded. In addition, there are a number of other potential development sites in Colne that may potentially feed additional traffic into the North Valley.	Colne
W14	Langroyd Road is very busy and is used as a shortcut for traffic between the A56 and the A6068. Alignment of junction at northern end is poor. Accidents have occurred.	A historic proposal was to make Langroyd Road one-way (northbound). A public meeting has been held in the past to discuss this issue.	A 7.5T HGV ban is currently in place on Langroyd Road. The green time at the southern end of Langroyd Road is short to try and discourage people from using this route. On-street parking on the A56 Skipton Road limits capacity on the approach to the A56 / A6068 junction.	Colne
W15	Congestion was not seen to be a problem on the A56 through the villages of Kelbrook, Foulridge and Earby. However, it was noted that there is a lack of a diversion route if there is an accident on the A56.	The A56 Villages Bypass scheme would bypass the villages of Kelbrook, Foulridge and Earby.	Traffic does have to slow down as it passes through the villages due to alignment and speed limits. However congestion is not seen as an issue.	A56
W16	Pedestrian crossing facilities on Market Street.	Potential to put pedestrian guard rails up to channel pedestrians to the crossing point. In addition, a puffin crossing has been considered.		Colne
W17	Congestion at the North Valley Retail & Business Park junction.	An old version of MOVA is installed on the traffic signals at this junction. Potential to update.		Colne
W18	Accidents on the roundabout at the end of the M65 motorway (junction 14)	Yellow rumble strips have been painted on the road. 50mph speed limit.	There have been 22 accidents at this junction in the past five years.	M65 motorway
W19	The A59 is generally considered to be a good route and relatively quiet. However, there are a few pinch points on the route which can become congested at times (e.g. Gisburn).	Prior to the A59 being de-trunked, a number of improvements were made to the road.	Satellite navigation routing (A59 versus M65) could be an issue. The A59 in North Yorkshire has not been improved to the same standard as in Lancashire. It has been reported that there are problems on the North Yorkshire section specifically at East and West Marton. The problems are primarily environmental issues due to the A59 passing through these villages and subsequently some properties are very close to the traffic. There was also a safety issue in the past.	A59

Table 12-A: Workshop Problems and Issues

Figure 12-A shows the location of all the identified problems and issues, using the reference numbers from Table 12-A.

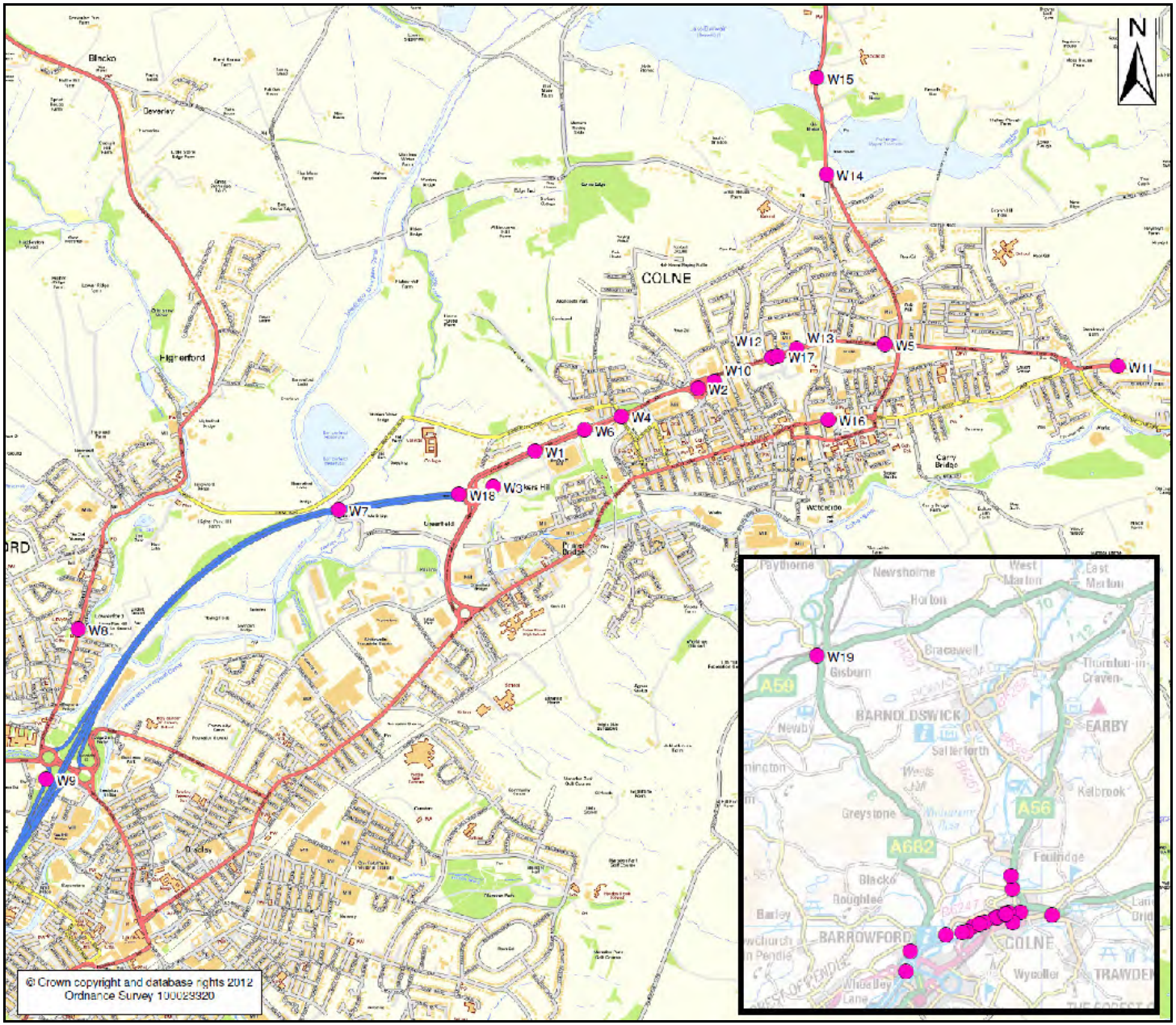


Figure 12-A: Problems and Issues Location Plan

A total of 19 problems and issues were identified within the study area. The problems and issues covered a range of different transport modes and covered multiple areas of the study area.

Figure 12-A does however show that the majority of the identified problems and issues are located within Colne town centre, in particular along Vivary Way and North Valley Road.

Key Observation

The Problems and Issues Workshop identified a total of 19 problems and issues within the study area, the majority of which are located within Colne town centre.

13 Existing / Future Problems and Study Objectives

13.1 Introduction

The existing and future problems and issues have been identified based upon the knowledge gained through the data collection exercise and discussions with the County Council and Pendle BC Officers and key stakeholders at the Problems and Issues Workshop.

The key problems in the M65 to Yorkshire Corridor study area, identified during the Data Collection and Problem Identification Stage, can be categorised under the following headings:

- *Strategic Highway Network Issues*
- *Congestion Issues*
- *Signing Strategy*
- *Environmental Issues*
- *Accident History*
- *Pedestrian and Cycling Facilities*
- *Public Transport Services*
- *Development Pressures*

A total of 19 more specific problems were identified at the Problems and Issues Workshop, details of which were provided in Table 12-A. These more specific problems can be grouped into one of the key problem categories outlined above.

This approach has ensured that there is a robust audit trail in place to inform the development of the study and support any future decision making processes.

The purpose of this chapter is to draw together the knowledge gained as part of the data collection exercise in order to define a focussed set of study objectives.

The study objectives along with the identified problems and issues will be used to inform the development and appraisal of potential improvement options going forward as part of the M65 to Yorkshire Corridor Study.

13.2 Study Objectives

The following sources of evidence have been used to define the study objectives:

- *Key observations from the data collection exercise.*
- *Problems and issues that were raised at the Problems & Issues Workshop.*

The key observations, data analysis, stakeholder views and local knowledge were collated into a single database, which is contained within **Appendix P**.

The study objectives were then derived by identifying common themes in the database. This process is illustrated in Figure 13-A.

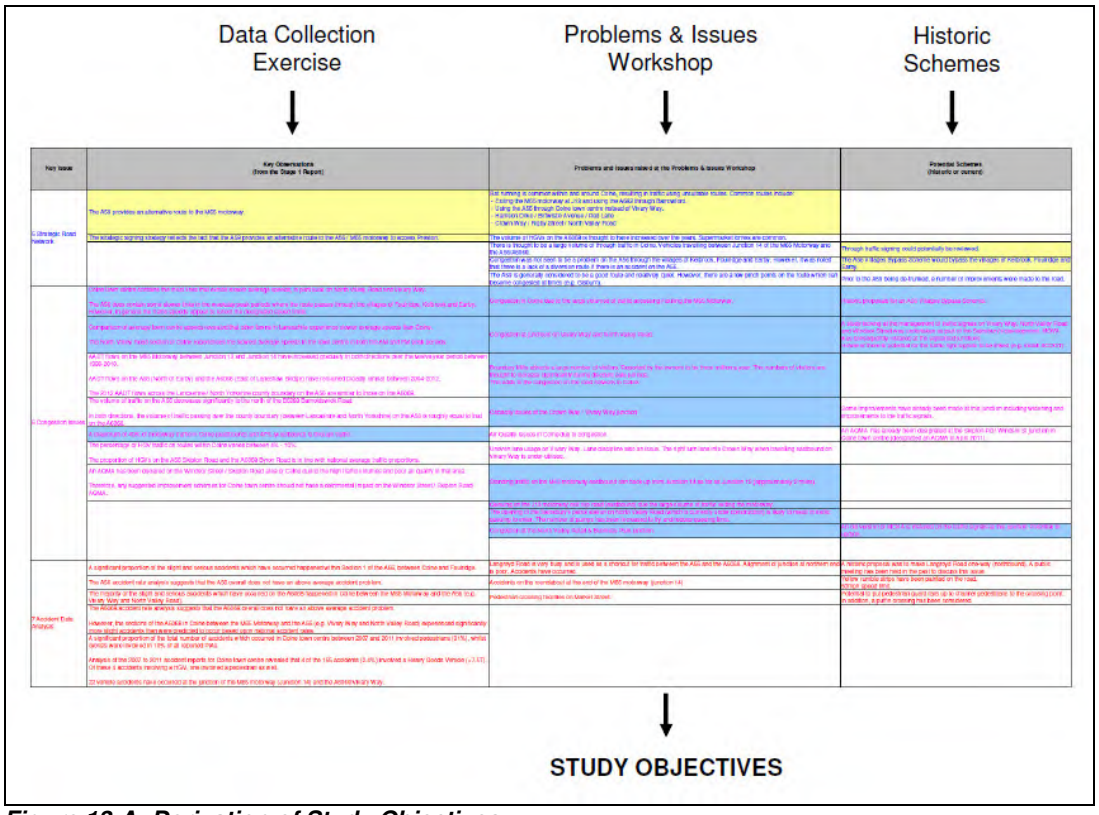


Figure 13-A: Derivation of Study Objectives

This process resulted in the identification of the following five study objectives, which have been agreed with the County Council. The study objectives will be discussed in more detail at the Options Workshop that will be held as part of Stage 2 of the M65 to Yorkshire Corridor Study. The finalised study objectives will be confirmed in the *M65 to Yorkshire Corridor Study: Stage 2 Report*.

1. ***Improve journey time reliability for vehicles travelling between the M65 and Yorkshire.***

   Reason: A number of strategic routes converge in Colne, resulting in congestion, particularly during peak periods. Currently vehicles travelling between the M65 and Yorkshire experience congestion and consequently unreliable journey times. Evidence confirms that the A6068 North Valley Road / Vivary Way has the highest traffic flows in Colne and suffers the worst congestion.

2. ***Improve air quality within the designated AQMA in Colne.***

   Reason: An AQMA has been declared on the Windsor Street / Skipton Road area of Colne due to the high traffic volumes and poor air quality in that area.

3. ***Reduce the impact of traffic using inappropriate roads.***

   Reason: Rat running is common within and around Colne. Congestion in the town results in traffic using unsuitable routes.

4. ***Ensure any new transport infrastructure does not have a negative impact on the built environment within Colne and the surrounding villages.***

   Reason: The proximity of urban areas to the strategic routes.

5. ***Maximise the effectiveness of the public transport network and facilities within the study area.***

   Reason: Public transport improvements could encourage more people to use public transport, potentially reducing congestion in Colne.

13.3 LTP Priorities

In addition to the specific study objectives defined above, Lancashire County Council's LTP priorities for transport will be used to inform the development and appraisal of potential options.

The LTP priorities for transport have been informed by national transport policies, consultation feedback and specially commissioned local research. The seven LTP priorities for transport are:

- *Priority 1: Improving access to areas of economic growth and regeneration.*
- *Priority 2: Providing better access to education and employment.*
- *Priority 3: Improving people's quality of life and wellbeing.*
- *Priority 4: Improving the safety of our streets for our most vulnerable residents.*
- *Priority 5: Providing safe, reliable, convenient and affordable transport alternatives to the car.*
- *Priority 6: Maintaining our assets.*
- *Priority 7: Reducing carbon emissions and its effects.*

In the early years of the LTP strategy, three priorities will be prioritised as a matter of urgency and importance. The three key drivers will be economic growth, child safety and the maintenance of the County Council's transport assets.

14 Next Steps

14.1 Introduction

This report represents the conclusion of the Data Collection and Problem Identification Stage. A milestone review of the study will now be undertaken by the County Council.

Following the milestone review the study will move into Stage 2. The key elements of Stage 2 are illustrated in Figure 14-A and discussed below.

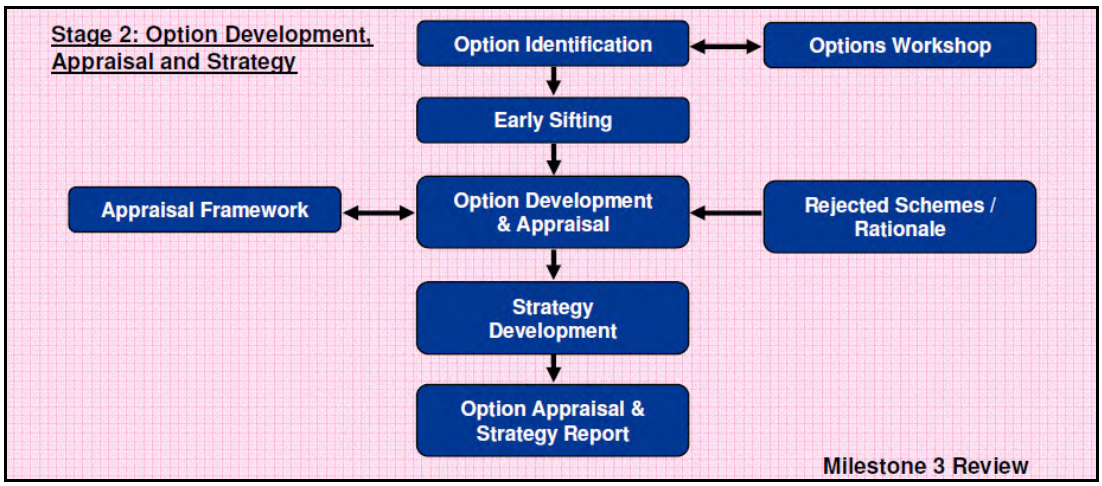


Figure 14-A: Option Development, Appraisal and Strategy Stage

14.2 Option Identification

In line with best practice contained within DfT guidance, a range of potential solutions to the defined problems and issues will be identified.

This will include consideration of both highway infrastructure and public transport interventions aimed at resolving the identified network issues. As discussed previously, the main focus will be the M65 to Yorkshire corridor however it will also include consideration of the strategic issues on the surrounding network.

This stage in the process will generate a list of potential interventions to be considered for further development. It will include liaison with County Council Officers, Pendle BC Officers and key stakeholders at an Options Workshop to ensure that a wide range of solutions are identified. This will also include consideration of historic proposals that have not been progressed in the past.

14.3 Early Sifting

Each option will be screened to ensure it is appropriate for further consideration as part of the study. The broad criteria on which this filtering process will focus is:

- *Feasibility*
- *Deliverability (including political issues, planning issues, timescales and third parties)*
- *Affordability / perceived value*

A spreadsheet will be used to assess each option based upon the early sifting criteria. This exercise will be done in consultation with County Council and Pendle BC Officers as necessary.

All options that meet the sifting criteria will be added to the shortlist of options to be taken forward to the next stage of option development / appraisal. Any options that clearly do not achieve one or more of the above criteria will be discounted and not considered further as part of this study.

14.4 Option Development and Appraisal

Each option on the shortlist will be developed to provide a clear outline of the proposed measures and allow a full appraisal to be undertaken.

An appraisal framework will be developed in parallel to the option development process. It will be developed to an appropriate level of detail for the study and will be based upon the underlying principles set out within best practice DfT Guidance and the DfT's Early Assessment and Sifting Tool (EAST).

The appraisal framework will also be developed in conjunction with the County Council to be consistent with the County Council's Scheme Prioritisation System. It will provide a predominantly qualitative appraisal of each of the options put forward and will be used as the basis of selecting and prioritising the most appropriate solutions and recommendations going forward.

The exact appraisal framework to be used will be agreed with the County Council, but it is anticipated that this will focus on the following themes:

- *Appraisal against LTP priorities for transport*
- *Appraisal against study objectives*

It is proposed that each option is scored on a five point scale (from -2 to +2) against all of the above, but this will be confirmed with the County Council prior to finalising the appraisal framework.

14.5 Strategy Development

A factual account of the likely benefits and the deliverability of a bypass scheme will be presented, based upon the evidence and analysis which has been collated as part of the M65 to Yorkshire Corridor Study.

In line with the project brief, the strategy development stage will also consider whether there are alternative (lower cost) measures that could be implemented to mitigate identified problems and issues and potentially remove the need for a bypass scheme.

A Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis of both a bypass scheme and an alternative strategy will be undertaken in order to help analyse the merits and challenges of both strategies.

14.6 Stage 2 Report

Stage 2 will culminate in the production of an Option Appraisal and Strategy Report, which will bring together the findings of the Option Development and Appraisal Stage as well as discussing the strategy development process.

The Stage 2 Report will be used to inform a Milestone Review which will be undertaken by the County Council at the end of Stage 2. The Milestone Review will enable the delivery team to evaluate progress before proceeding to the next stage.

If required a Project Board Meeting will also be held, which is likely to make use of the LTP Implementation Monitoring Group.

15 Summary and Conclusions

15.1 Summary

The M65 to Yorkshire Corridor Study has been broken down into four key stages:

- *Stage 0: Inception*
- *Stage 1: Data Collection and Problem Identification*
- *Stage 2: Option Development, Appraisal and Strategy*
- *Stage 3: Review of Major Highway Proposals*

This Stage 1 Report summarises the findings of the Data Collection and Problem Identification Stage.

A Problems and Issues Workshop, attended by key stakeholders in the study area, was held on the 29th November 2012 at Lancashire County Hall. The workshop provided an opportunity to discuss initial data collection findings with a wider audience and seek the views and opinions on the key problems and issues affecting the M65 to Yorkshire Corridor study area.

Previous studies undertaken by the County Council and Pendle BC to investigate the issues surrounding Colne have been reviewed and summarised. The conclusions drawn in this Stage 1 Report build upon the findings of the previous studies which have been undertaken.

The existing and future problems have been defined based upon the knowledge gained through the data collection exercise and discussions with County Council Officers and key stakeholders at the Problems and Issues Workshop. This approach has ensured that there is a robust audit trail in place to inform the objectives of the study and the future decision making process.

15.2 Conclusions

The M65 motorway is the main route linking the East Lancashire towns of Blackburn, Accrington, Burnley, Nelson and Colne with the M6 and M61 at Bamber Bridge near Preston. However, the A59 provides a viable alternative depending upon the journey origin and destination, this is reflected in the primary route network signing.

The Strat-e-gis congestion software package has been used to analyse which parts of Colne and the surrounding road network regularly suffer from congestion. The Strat-e-gis data revealed that congestion is worst in Colne, in particular on North Valley Road and Vivary Way. The average weekday 2-way speeds on North Valley Road are slower than those experienced in Ormskirk and Clitheroe town centres in both the AM and PM peak periods, but are similar to those experienced in Lancaster, which is known to experience congestion issues.

The Strat-e-gis congestion software package shows that the A56 does contain some slower links in the weekday peak periods where the route passes through the villages of Foulridge, Kelbrook and Earby. However, in general the traffic speeds on the A56 appear to reflect the designated speed limits.

Analysis of AADT flows over the past decade has revealed that flows on the A56 (North of Earby) and the A6068 (East of Laneshaw Bridge) have remained broadly similar.

The volume of traffic on the A56 decreases significantly (by approximately 50%) to the north of the B6383 Barnoldswick Road. Subsequently, traffic flows across the Lancashire / North Yorkshire county boundary on the A56 are similar to those on the A6068.

In the absence of a traffic model, AADT data from permanent ATC sites has been investigated to provide an indication of the maximum proportion of motorway traffic which passes through Colne. It has been calculated that a maximum of 49% of motorway traffic in Colne (eastbound) and 47% (westbound) is through traffic.

Analysis of HGV traffic proportions on routes within Colne showed that HGVs account for between 4-10% of all traffic. The proportion of HGVs on the A56 Skipton Road and the A6068 Byron Road is in line with national average traffic proportions.

During the period 2007 to 2011, a total of 53 PIAs were recorded on the A56 between its junction with the A6068 in Colne and the Lancashire County Council boundary to the north of Earby. A significant proportion of the slight and serious accidents which have occurred happened between Colne and Foulridge. The A56 accident rate analysis suggests that the A56 overall does not have an above average accident problem.

During the period 2007 to 2011, a total of 93 PIAs were recorded on the A6068 between Junction 14 of the M65 motorway in Colne and the Lancashire County Council boundary to the east of Laneshaw Bridge. The majority of the slight and serious accidents which have occurred on the A6068 happened in Colne between the M65 motorway and the A56 (e.g. on Vivary Way and North Valley Road). The A6068 accident rate analysis suggests that the A6068 overall does not have an above average accident problem. However, the sections of the A6068 in Colne between the M65 motorway and the A56 experienced significantly more slight accidents than were predicted to occur based upon national accident rates.

Further analysis of the accident data revealed that a significant proportion of the total number of accidents which occurred in Colne town centre between 2007 and 2011 involved pedestrians (31%), whilst cyclists were involved in 10% of all reported PIAs.

Public transport provision in the M65 to Yorkshire Corridor study area appears to be fairly comprehensive. An extensive range of bus services operate throughout the study area. Two bus companies, Burnley & Pendle and Pennine Motor Services, both operate their own bus service which runs twice an hour during the day on weekdays between Skipton and Burnley.

There are two train lines intersecting the study area, the East Lancashire Line and the Clitheroe Line. The train service which currently operates between Colne and Preston provides access to all of the local stations along the line, however the service is relatively slow and has limited rolling stock.

There have been a number of significant new developments in and around Colne in recent years. Pendle's *Core Strategy (Publication Report)* contains the employment and housing targets for Pendle as well as providing an overview of how they will be distributed throughout Pendle. The M65 Corridor area has a target of approximately

40ha of employment development and 2400 new dwellings over the plan period (2013-2028).

Lancashire's LTP Implementation Plan 2012/13 - 2014/15 outlines a number of initiatives which may have a positive impact upon travel conditions within the Pendle region. The majority of these initiatives focus upon improving public transport facilities.

Analysis of socio-economic data for Pendle, in order to gain a greater understanding of how the local economy operates, revealed that:

- *The proportion of people in Pendle employed in the manufacturing industry is significantly higher than in both the North West region and Great Britain.*
- *Driving is the most popular mode of travel to work across Colne, Pendle and the North West region, with over half of all people choosing this mode.*
- *A large proportion of people living within Colne (48%) work less than 5km away. Consequently, there is potential for more journey to work trips in Colne to be made using more sustainable transport modes such as walking and cycling.*
- *A significant proportion of households in Colne (33%) do not have access to a car or van.*

Given the rural nature and local topography within the M65 to Yorkshire Corridor study area, a variety of engineering and environmental constraints exist. These constraints will be examined in more detail later on in this study to guide the Option Development Stage (Stage 2) and the Review of Major Highway Proposals Stage (Stage 3).

A total of 19 problems and issues were identified within the M65 to Yorkshire Corridor study area at the Problems and Issues Workshop, the majority of which are located within Colne town centre.

The key observations, data analysis, stakeholder views and local knowledge have been collated into a single database in order to identify common themes. This process resulted in the identification of the following five study objectives.

1. *Improve journey time reliability for vehicles travelling between the M65 and Yorkshire.*
2. *Improve air quality within the designated AQMA in Colne.*
3. *Reduce the impact of traffic using inappropriate roads.*
4. *Ensure any new transport infrastructure does not have a negative impact on the built environment within Colne and the surrounding villages.*
5. *Maximise the effectiveness of the public transport network and facilities within the study area.*

In addition to these five specific study objectives, Lancashire County Council's LTP priorities for transport will be used to inform the development and appraisal of potential options.

The next steps in the M65 to Yorkshire Corridor Study are:

- *Option Identification*
- *Option Development and Appraisal*
- *Strategy Development*
- *Stage 2 Report*

Appendix A Public Consultation Brochure

Appendix B Study Area Link Speed Plots

Appendix C Colne & A56 Link Speed Plots

Appendix D Comparative Town Centre Average Speeds

Appendix E Study Area Accident Plots

Appendix F A56 Accident Plots

Appendix G A56 Accident Rate Calculation

Appendix H A6068 Accident Plots

Appendix I A6068 Accident Rate Calculation

Appendix J Bus Routes

Appendix K Rail Network

Appendix L LTP Schemes

Appendix M IMD Analysis

Appendix N Engineering Constraints

Appendix O Environmental Constraints

Appendix P Derivation of Study Objectives