JACOBS®

Broughton Bypass Model

Model Forecasting Report

10/09/15

JACOBS

Document Control Sheet

BPP 04 F8
Version 17; July 2014

Project:	Broughton Bypass Model		
Client:	Lancashire County Council	Project No:	B2237509
Document title:	Model Forecasting Report		
Ref. No:	MFR_02		

	Originated by	Checked by	Reviewed by
ORIGINAL	NAME **Tom Withey**	NAME **Colin Wright**	NAME **Leighton Cardwell**
Approved by	NAME **Sophie Kelly**	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**	INITIALS
DATE	**20th March 2015**	**Document status Draft**	

REVISION **V2**	NAME **Tom Withey**	NAME **Colin Wright**	NAME **Leighton Cardwell**
Approved by	NAME **Sophie Kelly**	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**	INITIALS
DATE	**6th August 2015**	**Document status Final following independent assurance**	

REVISION **V3**	NAME **Tom Withey**	NAME **Colin Wright**	NAME **Leighton Cardwell**
Approved by	NAME **Sophie Kelly**	As Project Manager I confirm that the above document(s) have been subjected to Jacobs' Check and Review procedure and that I **approve them for issue**	INITIALS **SEK**
DATE	**10th September 2015**	**Document status Final**	

JACOBS

Contents

1 Introduction

1.1 Background

The proposed scheme is a bypass around the village of Broughton which lies on the busy A6, three miles north of Preston.

This section of the north-south running A6 (known as Garstang Road), experiences severe peak hour traffic congestion between Station Lane, Newsham; Broughton Crossroads and Junction 1 of the M55 motorway, a total distance of approximately 2.6km or 1.7 miles. Journey times along the west-east running Whittingham Lane to Broughton Crossroads also suffer from significant peak hour delay over a distance of 1.4km or 0.9 miles. The environmental and social impacts of this congestion on the residential area of Broughton are compounded by the narrow width of the A6 road as it runs through the village which limits the scope for online improvements.

The high annual mean levels of nitrogen dioxide (NO_2) attributed to vehicle emissions in the village led to Broughton's designation as an Air Quality Management Area (AQMA). As a result of the impact of A6 traffic on the village and surrounding areas which use Broughton as a community centre, Lancashire County Council (LCC) has been promoting a bypass solution to remove through traffic since 1986.

Planning permission for the construction of a Broughton Bypass was first granted in July 2001. Due to the five year time limit under the Town and Country Planning Act and a lack of funding to materially construct the scheme at that time, the local authority had to reapply for renewals every five years. LCC last successfully resubmitted the planning application in July 2013.

The 2013 planning application was largely informed by an Environmental Statement which used outputs from the Broughton Transport Model, a strategic traffic model which was constructed in early 2013. The agreed methodology for construction of this model was that it should be proportionate to the timescale of the project and the purpose of planning permission scrutiny.

As part of the planning application, a non-technical summary was produced, which detailed alternative options to mitigate the problem. These were:

- *On-line improvements to the A6 Garstang Road*
- *Park and Ride facility in the Broughton Area*
- *New junction on the M6 in the Garstang/Brock area*
- *Bypass of Broughton to the west of the village*
- *A bypass to the east of the village close to the primary school and Marriott hotel*

The alternative options were discarded in favour of the proposed scheme comprising a bypass to the east of the village. More information on the alternative options is provided in the 2013 planning application.

In March 2014, LCC advised that a Business Case for Broughton Bypass was to be submitted to Transport for Lancashire (TfL) in 2015 in order to access devolved local major transport scheme funding (now Local Growth Fund) which had been indicatively allocated subject to a DfT compliant business case demonstrating the

scheme offers high value for money. In order to support the business case, the Broughton Transport Model (used to inform the planning application re-submission and subsequent approval) needed updating to ensure it was in line with current best practice contained within the DfT's web based Transport Appraisal Guidance known as WebTAG.

The process proposed to update the model was detailed in an Appraisal Specification Report (ASR), issued to LCC in June 2014.

Work on improving the model's base year was detailed in the Local Model Validation Report (LMVR), March 2015.

This report details the methodology used in building forecast models used to appraise the proposed scheme. It also details the outputs of the forecast models.

1.2 Report structure

The remainder of this report is set out as follows:

Chapter 2- Gives an overview of the forecast methodology

Chapter 3- Details the updates to the modelled networks

Chapter 4- Describes the creation of the forecast matrices

Chapter 5- Details the key outputs from the model

2 Forecasting methodology

2.1 Forecasting approach

The approach to forecasting was set out in the Appraisal Specification Report, June 2014, and is consistent with WebTAG guidance. Some minor changes to the specified methodology have been made in the course of producing the forecasts.

These concern references to earlier versions of WebTAG and the TAG data book which were superseded during the course of the project, and also the calculation of latent demand with respect to variable demand modelling (variable demand modelling was not undertaken). Two forecast years were modelled, and for each year a “with scheme” and “without scheme” model was built. The “scheme” referred to being the proposed Broughton bypass. The methodology is set out in detail below.

2.2 Forecast years

The proposed opening year for the scheme is 2017; that has therefore been used as the first forecast year. A second forecast year of 2032, being 15 years after the opening year has also been modelled. Data from these two forecast years will be used to inform the 60 year appraisal.

2.3 Forecast demand

Forecast demand for travel was generated using national, regional and local data sets to inform the amount of travel growth that could be expected from the base year. Planning data from local authorities in the region was used to identify the locations of new development, and the size and type of development proposed. The likelihood of each development being realised was also indicated, allowing an uncertainty log to be compiled. Based on this, future land uses at a local level could be identified.

Information on future land use was used together with national data from CTripEnd and NATCOP, (a part of the National Trip End Model – NTEM) to infer trip generation for the modelled forecast years. This trip generation was compared with the trip generation calculated in the base year to derive growth factors for the trip ends for each zone. The growth factors were applied to trip ends from the final set of matrices in the validated base year model to give target trip ends to use in a Furness process. The base year matrices were furnessed to match the target trip ends. This process ensures that the trip distribution used in the base year model is preserved. For new developments on green field sites – where there are very few trips in the base year on which to base the trip distribution – the trip distribution was based on that of nearby zones.

As the forecast demand is fixed (a variable demand model is not used) adjustment factors for fuel price and income growth was also applied to the trip matrices.

The process for factoring up LGV and HGV trips was slightly different. In those cases, Road Traffic Forecasts 13 based on the National Transport Model were used in place of CTripEnd and NATCOP, which was the most up to date source on goods vehicle trip growth available at the time. Those latter data sources do not include goods vehicle trips.

2.4 Forecast network

For each forecast year, a list of committed highway schemes was drawn up in cooperation with the relevant highway authorities. These were modelled in the forecast network using drawings made available to the project team, provided by the authorities. The schemes were added to the network in a manner consistent with the network coding employed in the base year. All schemes which have a sufficient level of certainty of being realised were coded into the forecast networks. Between the modelled networks for the “with scheme” and “without scheme” the only difference was the inclusion (or not) of Broughton bypass and traffic calming on the A6. The latter was modelled by reducing traffic speeds and capacities on the A6 in Broughton.

The D’Urton Lane-Eastway Link is anticipated to be complete by 2032 and would complement the bypass scheme by providing an alternative north-south link to the A6 via M55 J1. That scheme would only be in place in the do something scenario. However, since funding for that scheme is not a part of the business case bid, based on advice from, and in agreement with the independent assurer, in order that the benefits of the bypass scheme are not enhanced by the D’Urton Lane-Eastway link, the link has not been included in any of the forecast models.

2.5 Forecast assignment

The forecast demand matrices were assigned to the forecast networks using the same methodologies used in the base year assignment. The generalised cost parameters were however updated to reflect the changes in value of time and vehicle operating costs anticipated in the November 2014 version of the WebTAG databook, as referred to in TAG Unit M4 (November 2014). When initially assigned, it was found that the model convergence was not as good as in the base year; this is to be expected given the increased travel demand (and therefore increased congestion) in the future. The assignments were run for longer, with additional iterations, to ensure the convergence was at least as good as that of the base year, in terms of matching the % GAP criteria as outlined in the LMVR.

3 Forecast network

3.1 Committed highway infrastructure schemes

The proposed bypass scheme is within Preston City Council boundaries. Data on committed highway schemes has been submitted by the council, as well as by the neighbouring South Ribble Borough Council. In addition, Highways England was consulted for advice on any schemes on the M55 and M6, which would have an impact on trips through the study area. Consultation with those authorities took place in September and October 2014.

A full list of all schemes considered for inclusion in the model, and for which information was received, is given below:

Highway Authority	Scheme	Likelihood
National	HGV Speed Limit Change	Certain
HA	M6/M55 J32 Improvements NB and M55 Jn1 signals	Certain
HA	M65 J4-J6 widening 2 lane sections to 3 lanes	Reasonably Foreseeable
HA	M65 J2-J4 widening 2 lane sections to 3 lanes	Hypothetical
HA	M65 J5 Full signalisation	Certain
HA	M65 J4 Full signalisation	Near Certain
HA	M60 Smart motorway	More than likely
HA	M6 J 32a New junction	Hypothetical
HA	M6 J29 - J32 Smart Motorway	Hypothetical
HA	A585/A586 Windy Harbour Junction Improvement	Near Certain
HA	A585 Singleton Crossroads	Hypothetical
HA	M6/M61 Improvement to Northbound Merge	More than likely
HA	M6 J33 Re-modelling of J 33	Hypothetical
Preston	M55 to A583 PWD	More than likely
Preston	A6/A59 North Road junction improvements	In progress
Preston	Fishergate	In progress
Preston	Lea Gate/Penwortham New Ribble Bridge	Hypothetical
Preston	A59 New Hall Lane Public Realm	Reasonably Foreseeable
Preston	B6243 Ribbleton Lane Public Realm	Reasonably Foreseeable
Preston	A5085 - Lane Ends, Preston Public Realm	Reasonably Foreseeable
Preston	East West Link Road (NW Preston)	Near Certain
South Ribble	A582 South Ribble Western Distributor (completion)	Near Certain
South Ribble	A582 SRWD - Oakswood rbt improvements	In progress
South Ribble	A582 SRWD - Chainhouse Ln signals	In progress
South Ribble	A582 Stanifield Lane Junction	Near certain
South Ribble	A582 Golden Way (South)	Near certain
South Ribble	A582 B5253 Flensburg Way Junction (Tank Rbt)	Near certain
South Ribble	A582 Croston Road Junction	Near certain
South Ribble	A582 Pope Lane Junction	Near certain
South Ribble	A582/A59 Penwortham Bypass Completion	More than likely
South Ribble	Penwortham Triangle	Reasonably Foreseeable
South Ribble	B5254 Roundabout	Reasonably Foreseeable
South Ribble	Cuerden Strategic Site Access	Hypothetical

Table 3-A List of Schemes

Of the schemes listed above, only those that were considered “In Progress”, “Certain”, “Near Certain” and “More than likely” were added to the model. Scheme drawings were provided to the project team by the relevant authority, and formed the basis of the network coding for the scheme. The coding of the more notable schemes is illustrated below:

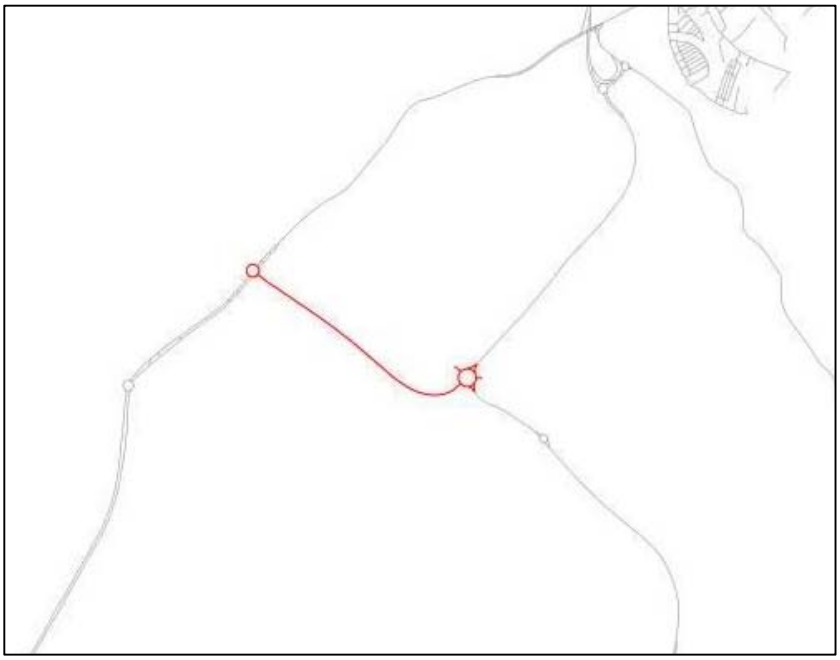


Figure 3-A Penwortham Bypass Completion

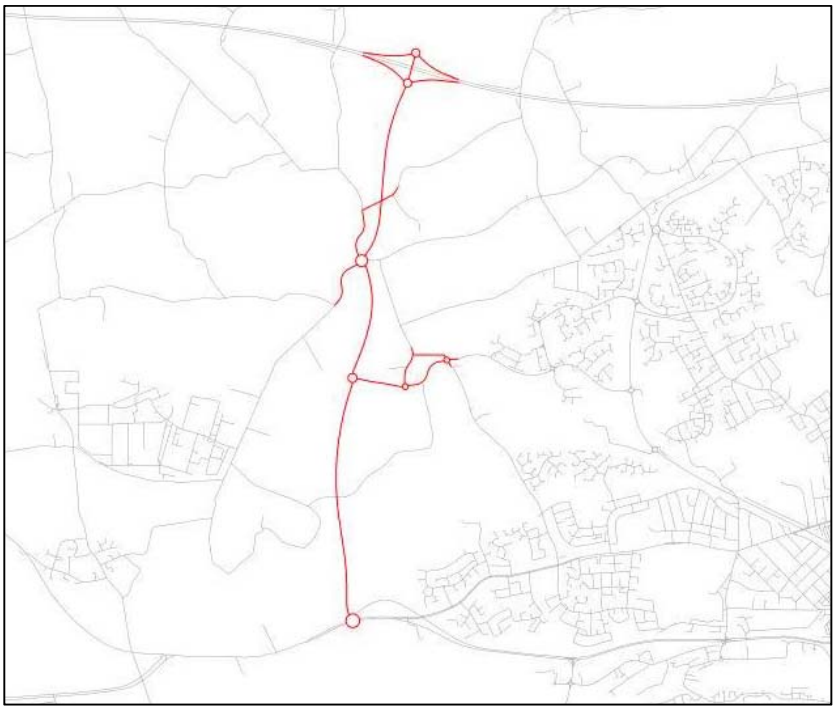


Figure 3-B M55 to A583 Preston Western Distributor (PWD)

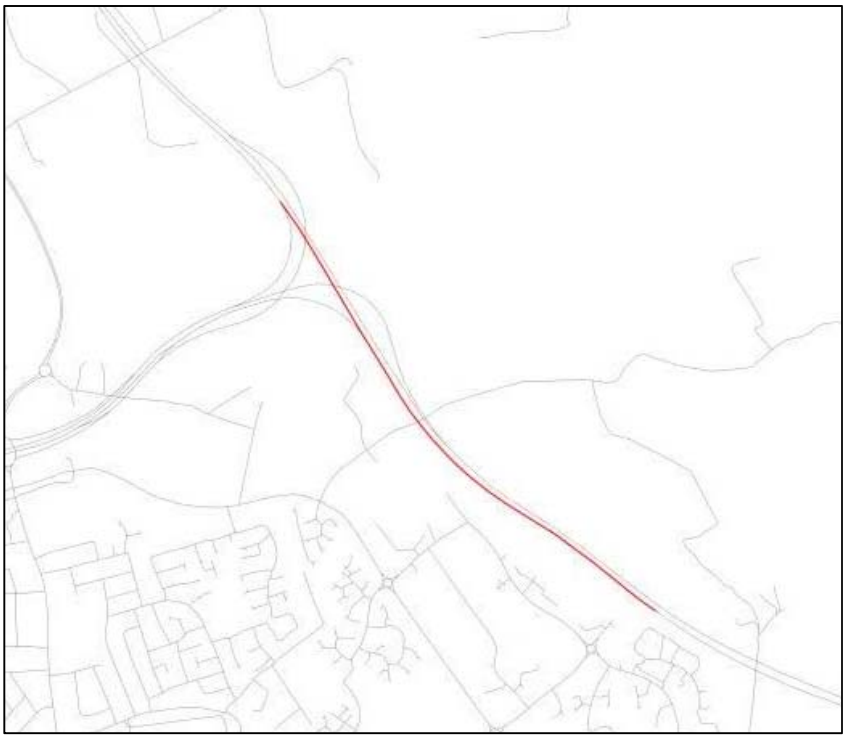


Figure 3-C M6 J32 Northbound improvements

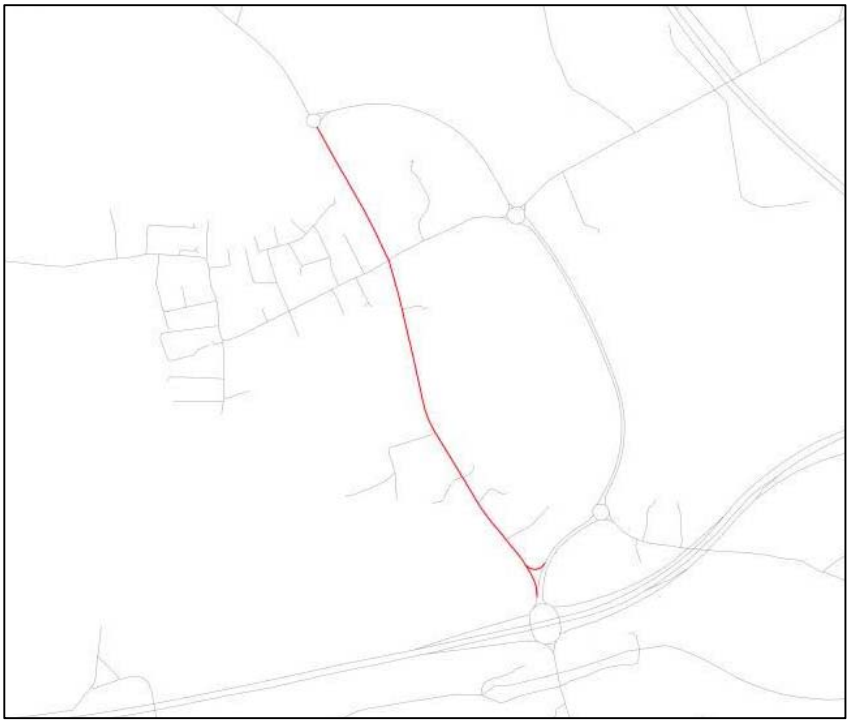


Figure 3-D Garstang Road (2032 Do Something scheme only)

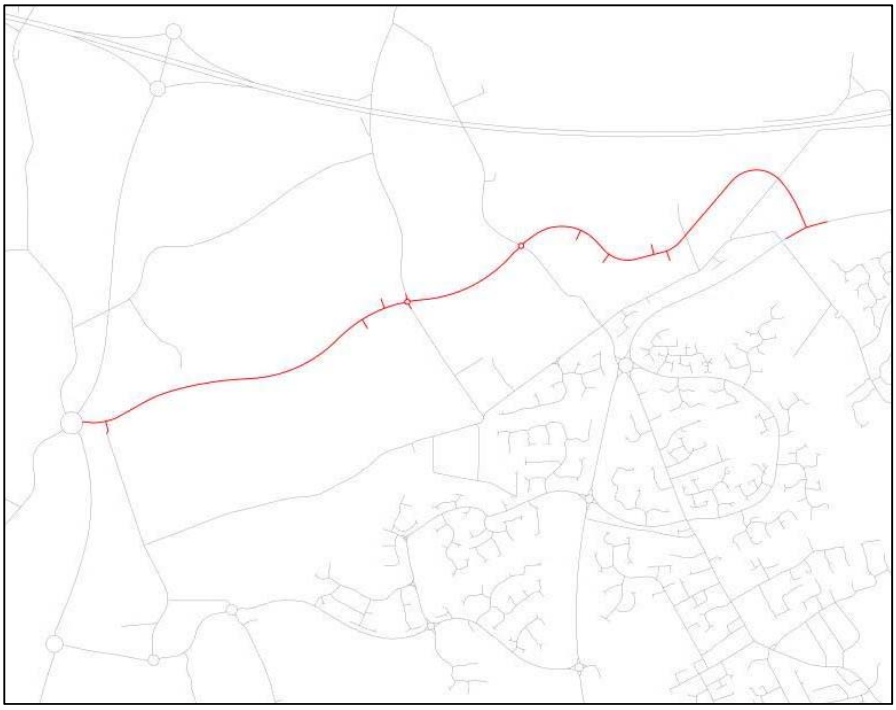


Figure 3-E East West Link Road (NW Preston)

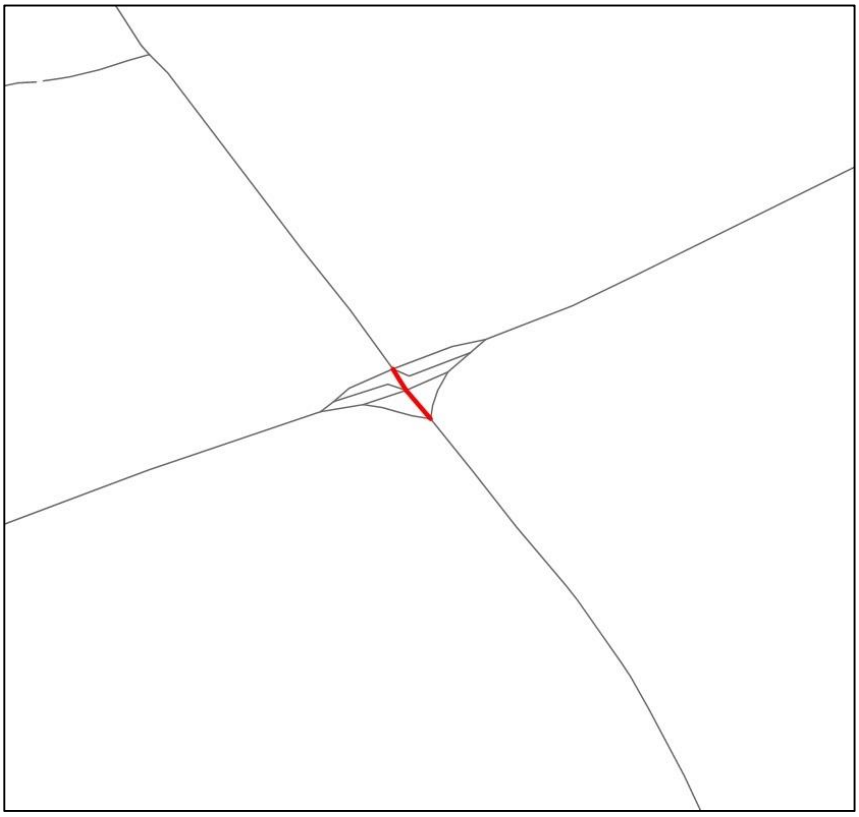


Figure 3-F A585/A586 Windy Harbour Junction improvement

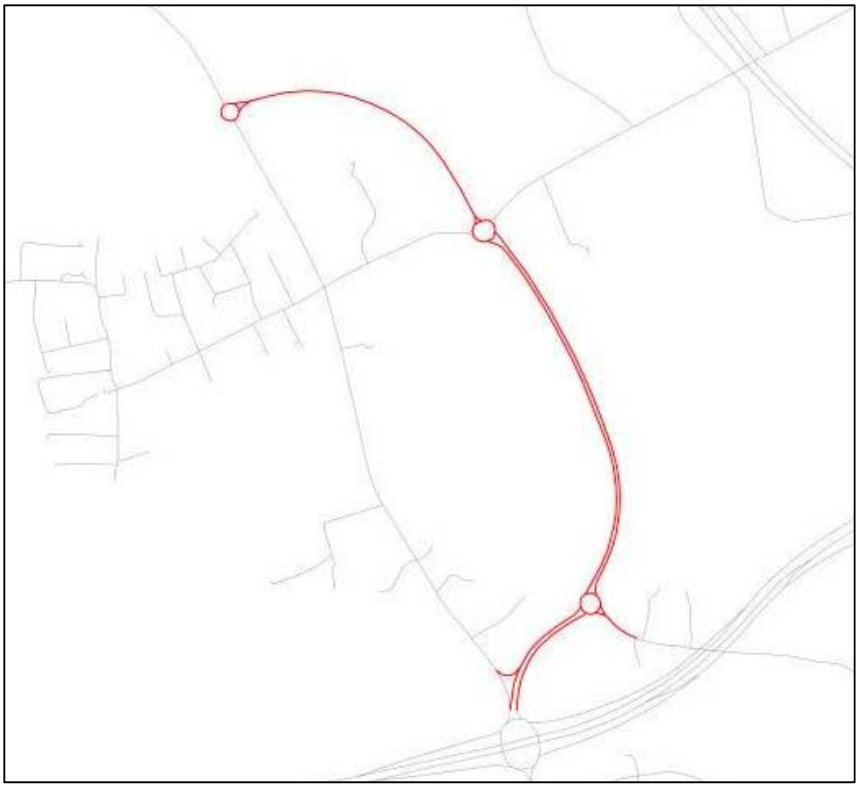


Figure 3-G Broughton Bypass (Do something scheme only)

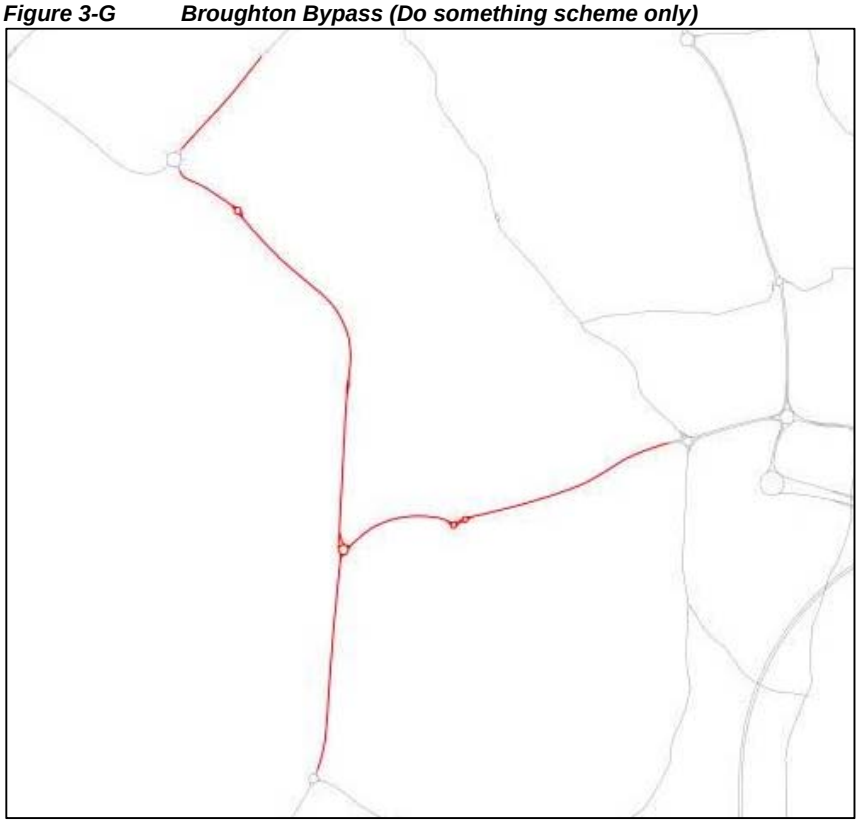


Figure 3-H A582 Dualling

The schemes were included in the forecast networks with due regard to the scheme's proposed completion year.

For the committed schemes, the proposed completion date varies. As agreed with the independent assurer, the following schemes have been included in the forecast networks:

Scheme description	Proposed completion	Included in opening year network?	Included in forecast year network?
M6 J32 NB improvements	2014	Yes	Yes
A585/A586 Windy Harbour Junction improvement	2015	Yes	Yes
M6/M61 improvements to northbound merge	2016	Yes	Yes
M55 to A583 Preston Western Distributor Road	2019	Yes	Yes
East-West Link Road (NW Preston)	2019	Yes	Yes
A582 South Ribble Western Distributor	2020	No	Yes
A582 Golden Way (South)	2016	Yes	Yes
Penwortham Bypass Completion	2018	No	Yes

Table 3-B Committed highway schemes

It was agreed with the independent assurer that with the Preston Western Distributer and East-West Link Road starting construction in 2017, it would be most pertinent to include the schemes in the opening year forecast.

No other network changes were coded. Timings at signalised junctions, in both the do minimum and do something scenarios, were kept the same as in the base year.

3.2 Generalised cost changes

The values of time (VOT) and vehicle operating costs (VOC) that were calculated for the base year and detailed in the LMVR were updated for each forecast year to represent changes in the perceived values of time and vehicle operating costs as detailed in the TAG data book. The updated forecast VOTs and VOCs are given below, along with the base year values, for reference.

Vehicle type	Trip Purpose	Time Period	Value of Time (£/hr)	Vehicle operating cost (p/km)	Generalised cost coefficient for time (per second)	Generalised cost coefficient for distance (per metre)
Car	Business	AM	33.54	13.3	1	0.0142
Car	Commute	AM	8.31	6.7	1	0.0291
Car	Other	AM	10.54	6.7	1	0.0229
LGV	Business	AM	14.91	15.2	1	0.0368
HGV	Business	AM	15.32	43.9	1	0.1031
Car	Business	IP	32.79	13.3	1	0.0146
Car	Commute	IP	8.25	6.7	1	0.0293
Car	Other	IP	10.96	6.7	1	0.0220
LGV	Business	IP	14.91	15.2	1	0.0368
HGV	Business	IP	15.32	43.9	1	0.1031
Car	Business	PM	32.25	13.3	1	0.0148
Car	Commute	PM	8.14	6.7	1	0.0297
Car	Other	PM	11.29	6.7	1	0.0214
LGV	Business	PM	14.91	15.2	1	0.0368
HGV	Business	PM	15.32	43.9	1	0.1031

Table 3-C 2017cost parameters

Vehicle type	Trip Purpose	Time Period	Value of Time (£/hr)	Vehicle operating cost (p/km)	Generalised cost coefficient for time (per second)	Generalised cost coefficient for distance (per metre)
Car	Business	AM	44.73	11.8	1	0.0095
Car	Commute	AM	11.06	5.2	1	0.0170
Car	Other	AM	13.67	5.2	1	0.0137
LGV	Business	AM	20.07	14.3	1	0.0257
HGV	Business	AM	20.63	48.2	1	0.0840
Car	Business	IP	43.84	11.8	1	0.0097
Car	Commute	IP	10.98	5.2	1	0.0171
Car	Other	IP	14.19	5.2	1	0.0132
LGV	Business	IP	20.07	14.3	1	0.0257
HGV	Business	IP	20.63	48.2	1	0.0840
Car	Business	PM	43.02	11.8	1	0.0099
Car	Commute	PM	10.87	5.2	1	0.0173
Car	Other	PM	14.70	5.2	1	0.0128
LGV	Business	PM	20.07	14.3	1	0.0257
HGV	Business	PM	20.63	48.2	1	0.0840

Table 3-D 2032 cost parameters

Vehicle type	Trip Purpose	Time Period	Value of Time (£/hr)	Vehicle operating cost (p/km)	Generalised cost coefficient for time (per second)	Generalised cost coefficient for distance (per metre)
Car	Business	AM	31.74	13.6	1	0.0154
Car	Commute	AM	7.87	7.0	1	0.0322
Car	Other	AM	10.03	7.0	1	0.0253
LGV	Business	AM	14.08	15.5	1	0.0396
HGV	Business	AM	14.47	42.9	1	0.1067
Car	Business	IP	31.01	13.6	1	0.0157
Car	Commute	IP	7.81	7.0	1	0.0325
Car	Other	IP	10.43	7.0	1	0.0243
LGV	Business	IP	14.08	15.5	1	0.0396
HGV	Business	IP	14.47	42.9	1	0.1067
Car	Business	PM	30.51	13.6	1	0.0160
Car	Commute	PM	7.70	7.0	1	0.0330
Car	Other	PM	10.73	7.0	1	0.0236
LGV	Business	PM	14.08	15.5	1	0.0396
HGV	Business	PM	14.47	42.9	1	0.1067

Table 3-E 2014 base year cost parameters

4 Forecast demand

4.1 Summary

The scheme being tested is primarily a highway scheme, the principal benefits of which are intended to be a reduction in highway travel times. There is relatively low PT usage in the area, and a test of the need for Variable Demand Modelling (VDM) indicated that the scheme did not meet the thresholds at which VDM would be required.

As a result, the forecasts use a fixed demand, derived using data from local authorities on specific land uses, and national data sets for growth trends. Those data sets will be used to calculate the future trip generation (origins and destinations) at the zonal level, which will be used as targets against which to furness the base year matrices.

4.2 Local land development data

To help identify appropriate development to be included in the forecast models, a list of prospective developments was provided by a number of planning authorities in the vicinity of the area covered by the model. These authorities included: Preston City Council, Fylde Borough Council, Wyre Council, and South Ribble Borough Council. All authorities provided a list of developments and their perceived likelihood of coming forwards. The authorities were consulted in September 2014, with responses received in October 2014.

Of the developments identified, some (for example, all of those in South Ribble) were in areas of the model where the zone system was relatively coarse, and the level of detail required was not any greater than that already offered by NTEM. These developments were not explicitly modelled. For the others, only those considered to be “More than likely” or “Near certain” were included within the model.

A list of all developments added to the model is included in Appendix A.

Development build out rates were given in terms of identifying the amount of the development anticipated to be completed by 2014, 2018 and 2033. Linear interpolation was used to calculate the amount of development in place by the modelled forecast years of 2017 and 2032.

The key piece of development information required in order to generate trip ends were, for residential developments, number of households and population, and for employment developments, total number of jobs. All residential developments were specified according to the number of dwellings, which was taken to be a proxy for households. To derive population, an average household occupancy factor was calculated using data from Tempro, using zonal data for the Preston, in the appropriate forecast year. This gave an average occupancy of 2.23 people per household in 2017 and 2.09 in 2032.

Most of the employment development site sizes were given in terms of the site footprint in hectares, and an indicative percentage of how much of that footprint was given over to B1, B2 and B8 uses. To convert this data into jobs, the hectares were

first converted to gross floor area (GFA), from which employment density data could be used to derive jobs. To convert from hectares to GFA a range of data sources[1] (including from government departments) containing research on plot ratios were consulted. The following plot ratios were used:

Land type	Plot ratio by land use class		
	B1	B2	B8
Greenfield	0.35	0.32	0.35
Brownfield	0.6	0.33	0.4

Table 4-A Plot ratios

Once the GFA for each development had been identified, then the number of jobs could be estimated using data on employment densities from the Homes & Communities Agency (HCA)[2]. The data is reproduced below:

Use type	Area (m^2) per FTE
Light Industry	47
General Warehouse & Distribution	70
Large Scale & High Bay Warehousing	80
General Office	12
Call Centres	8
IT/Data Centres	47
Business Park	10
High Street	19
Superstores	90
Financial & Professional services	16
Amusement & Entertainment Centres	70
Education	36

Table 4-B Employment densities

Finally, for each development, the modelled zone into which it fell was identified using GIS. The total development by zone was calculated and used to generate the trip ends, as described in the following sections.

The total increase in households and jobs due to development is illustrated below, for 2017 and 2032. Zones are shaded according to the number of houses or jobs from new development within the zone. The actual number of houses or jobs is labelled.

[1] http://www.planningni.gov.uk/downloads/bmap2015-techsupp2-employment-appendix4.pdf, http://webarchive.nationalarchives.gov.uk/20120105085030/http://www.yorkshire-forward.com/sites/default/files/documents/FINAL%20REPORT.pdf

[2] http://webarchive.nationalarchives.gov.uk/20140805133148/http:/www.homesandcommunities.co.uk/employment-densities-guide-2nd-ed

Table 4-C New dwellings by 2017

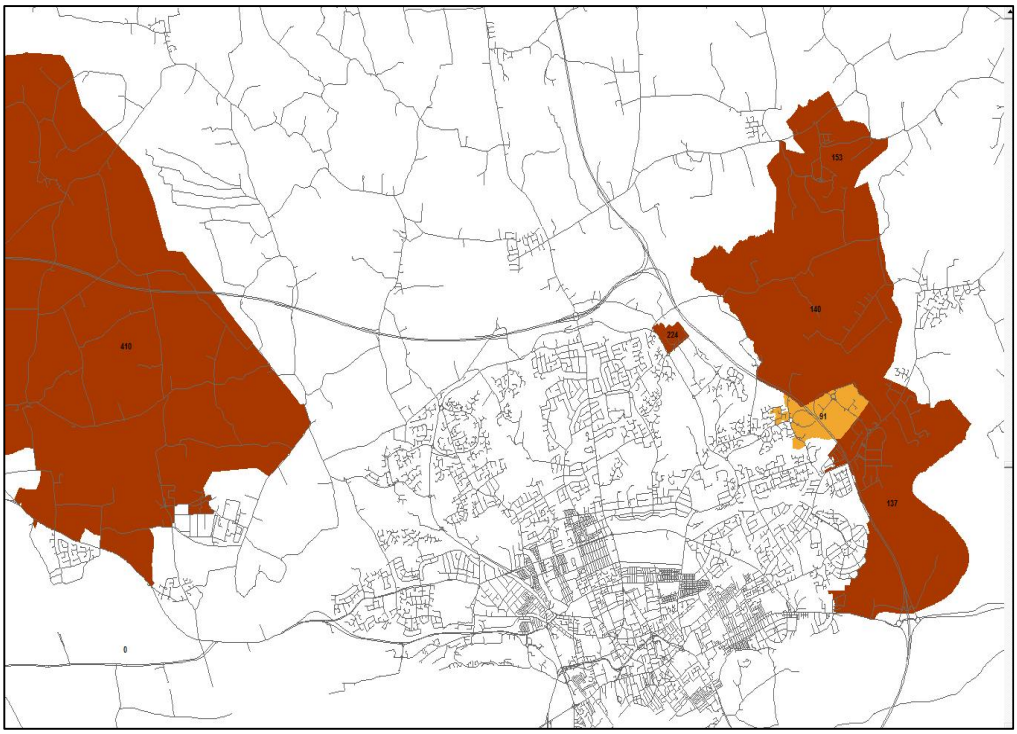


Table 4-D New jobs by 2017

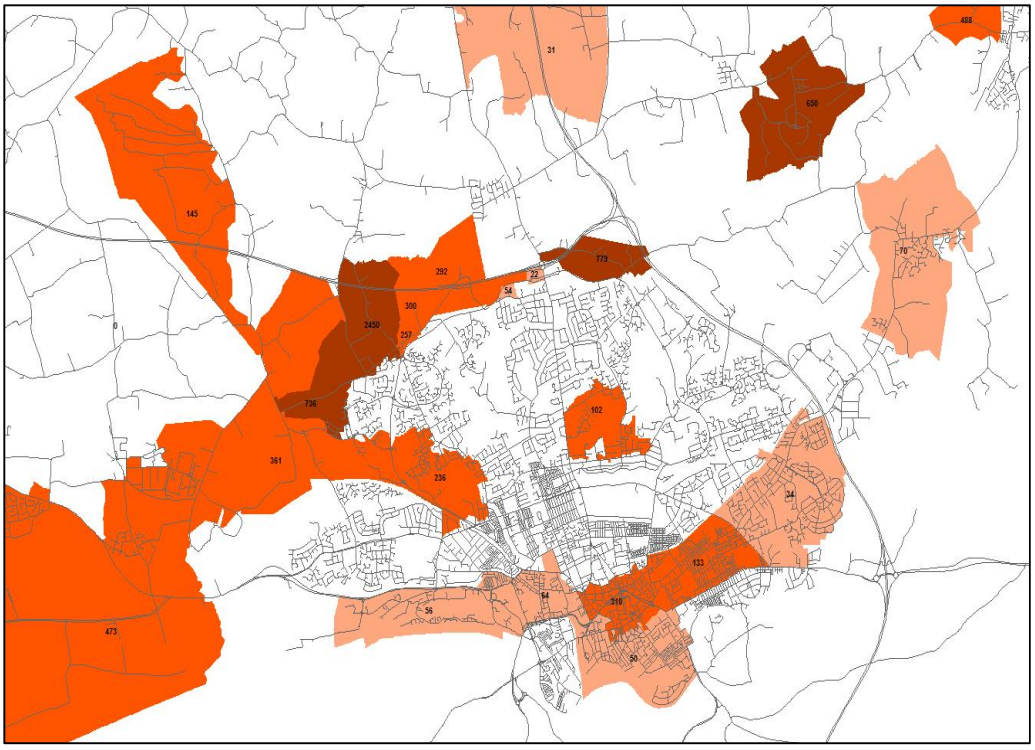


Table 4-E New dwellings by 2032

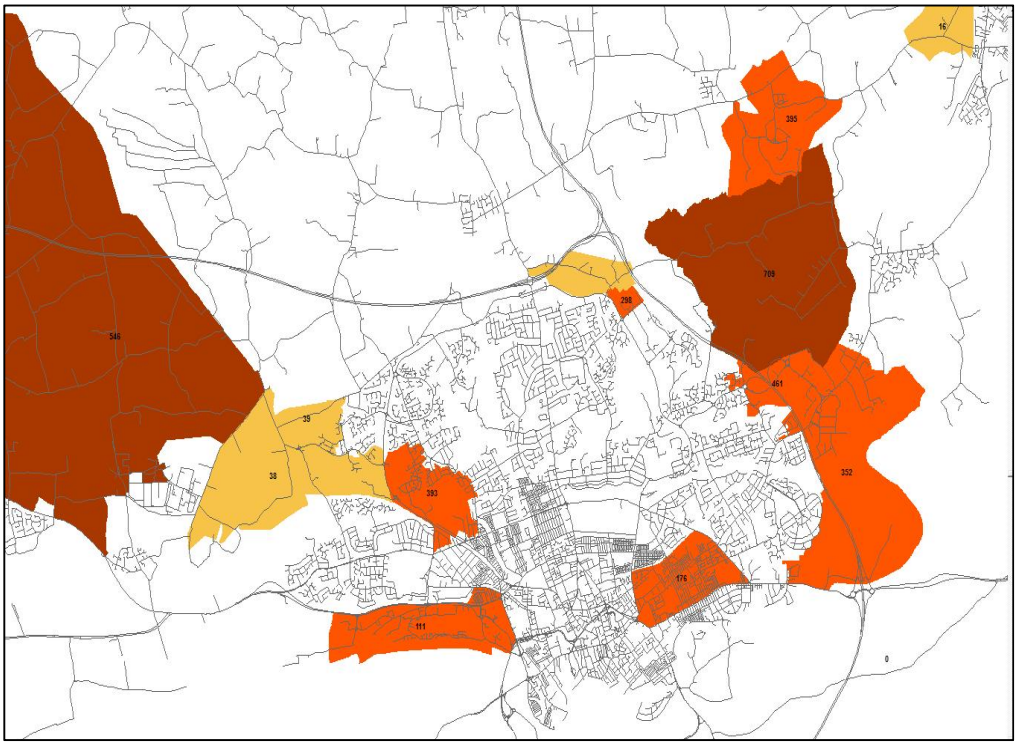


Table 4-F New jobs by 2032

Developments around Whittingham Hospital will be making a contribution to the funding of the bypass. As they may be considered dependent development, as defined in TAG unit A2-3 paragraph 4.1.7, they have been excluded from the core

forecast for the purposes of the economic assessment. This ensures that the economic case for the scheme is not overly enhanced by including development that could not realistically be delivered without the scheme being in place.

The total households and jobs assumed in the NTEM zone covering Preston is summarised in the table below:

	2017		2032	
	Households	Jobs	Households	Jobs
Unadjusted NTEM (A)	57,721	95,985	69,175	102,007
Development totals – internal study area (B)	1,281	451	5,270	1,829
Adjusted NTEM (C)	56,440	95,534	63,905	100,177
Differences (A-B-C)	0	0	0	0

Table 4-G Household and jobs totals

4.3 Trip generation by zone

Forecast development data was input into Jacobs' bespoke trip generation programme, known as "JTREND". This incorporates CTripEnd and NATCOP (both elements of NTEM) and generates trip ends by zone, capped to Tempro v6.2 levels. The trip ends are in production-attraction format, split by time period and trip purpose. The 'phi factors' used within CTripEnd were used to convert these to origin destination trip ends.

The trip ends for 2017 and 2032 were compared with trip ends from the 2014 synthetic matrices (which are also derived from JTREND) to identify the trip end growth between the base and forecast years. It was noted that for some zones the growth was extremely high – a growth factor of 2.0 or more – and this was due to the presence of new development in a zone that previously had relatively little trip generation. Noting that the growth was derived by comparison with the base year synthetic matrix, rather than the final base year matrix (the difference between the two being the inclusion of observed data and then matrix estimation) applying relative growth in those instances would lead to small deviations in the synthetic trips (due to observed trip data or matrix estimation) being magnified when the growth factor was applied. To avoid this, absolute growth was applied whenever the relative growth for a zone was greater than 1.5 or less than 0.75. The trip end growth that was eventually applied was compared with the growth derived from unadjusted NTEM v6.2 forecasts, for the NTEM zone covering the proposed scheme, and for the model as a whole. The comparison is shown below:

Year	Time period	Trip purpose	Trip type	Preston NTEM zone growth		GB growth	
				Model	Tempro	Model	Tempro
2017	MP	Business	Origin	2%	3%	2%	3%
2017	MP	Business	Destination	1%	2%	2%	3%
2017	MP	Commute	Origin	2%	3%	1%	3%
2017	MP	Commute	Destination	1%	2%	1%	3%
2017	MP	Other	Origin	1%	2%	3%	3%
2017	MP	Other	Destination	1%	1%	3%	3%
2017	IP	Business	Origin	1%	2%	2%	3%
2017	IP	Business	Destination	1%	2%	2%	3%
2017	IP	Commute	Origin	1%	2%	1%	2%
2017	IP	Commute	Destination	1%	2%	1%	2%
2017	IP	Other	Origin	1%	1%	3%	3%
2017	IP	Other	Destination	1%	2%	3%	3%
2017	EP	Business	Origin	1%	2%	2%	3%
2017	EP	Business	Destination	2%	3%	2%	3%
2017	EP	Commute	Origin	1%	2%	1%	2%
2017	EP	Commute	Destination	1%	3%	1%	2%
2017	EP	Other	Origin	1%	2%	3%	3%
2017	EP	Other	Destination	1%	2%	3%	3%
2032	MP	Business	Origin	12%	13%	9%	10%
2032	MP	Business	Destination	8%	9%	9%	10%
2032	MP	Commute	Origin	11%	14%	8%	10%
2032	MP	Commute	Destination	7%	9%	8%	10%
2032	MP	Other	Origin	7%	9%	16%	16%
2032	MP	Other	Destination	4%	6%	16%	16%
2032	IP	Business	Origin	8%	10%	10%	10%
2032	IP	Business	Destination	8%	9%	10%	10%
2032	IP	Commute	Origin	8%	10%	8%	9%
2032	IP	Commute	Destination	9%	11%	8%	9%
2032	IP	Other	Origin	7%	9%	16%	18%
2032	IP	Other	Destination	7%	9%	16%	18%
2032	EP	Business	Origin	8%	10%	10%	10%
2032	EP	Business	Destination	11%	13%	10%	10%
2032	EP	Commute	Origin	7%	8%	8%	9%
2032	EP	Commute	Destination	10%	13%	8%	9%
2032	EP	Other	Origin	7%	9%	14%	16%

Table 4-H Trip End growth

At the GB level and at the level of the NTEM zone covering Preston (in which the proposed scheme lies) there are small differences of around two percentage points in the growth in the matrices and in Tempro. This small difference is accounted for by those zones for which absolute, rather than relative, growth was applied.

For goods vehicles, alternative methods have to be employed as NTEM only provides trip end data for car trips. Trip generation due to new developments was based on TRICS derived trip rates applied to land use data. The trip rates used were the same as those in the base year. Growth factors were calculated from the Regional Traffic Forecasts 2013 provided by the DfT's TASM division. The

calculated growth for the North West region from 2014 to 2017 was 6.8% for LGVs and 1.0% for HGVs. The growth from 2014 to 2032 was calculated as 50% for LGVs and 13% for HGVs. These growth factors were applied to the base year trips, with the development trip generation then added on top.

The HGV and LGV trip end growth is summarised below:

Year	Time period	Trip purpose	Trip type	North West region growth		GB growth	
				Model	RTF13	Model	RTF13
2017	MP	LGV	Origin	7%	7%	7%	7%
2017	MP	LGV	Destination	7%	7%	7%	7%
2017	MP	HGV	Origin	1%	1%	1%	1%
2017	MP	HGV	Destination	1%	1%	1%	1%
2017	IP	LGV	Origin	7%	7%	7%	7%
2017	IP	LGV	Destination	7%	7%	7%	7%
2017	IP	HGV	Origin	1%	1%	1%	1%
2017	IP	HGV	Destination	1%	1%	1%	1%
2017	EP	LGV	Origin	7%	7%	7%	7%
2017	EP	LGV	Destination	7%	7%	7%	7%
2017	EP	HGV	Origin	1%	1%	1%	1%
2017	EP	HGV	Destination	1%	1%	1%	1%
2032	MP	LGV	Origin	50%	50%	50%	50%
2032	MP	LGV	Destination	50%	50%	50%	50%
2032	MP	HGV	Origin	13%	13%	13%	13%
2032	MP	HGV	Destination	13%	13%	13%	13%
2032	IP	LGV	Origin	50%	50%	50%	50%
2032	IP	LGV	Destination	50%	50%	50%	50%
2032	IP	HGV	Origin	13%	13%	13%	13%
2032	IP	HGV	Destination	13%	13%	13%	13%
2032	EP	LGV	Origin	51%	50%	50%	50%
2032	EP	LGV	Destination	51%	50%	50%	50%
2032	EP	HGV	Origin	14%	13%	13%	13%
2032	EP	HGV	Destination	14%	13%	13%	13%

Table 4-I Goods Vehicle Trip End Growth

At a GB level, the growth in trip matrices exactly matches that of the RTF13 values. Within the Preston NTEM zone, the modelled growth is slightly higher. This is due to the additional trip generation of new development.

4.4 Trip Distribution

In principle, the creation of the forecast trip matrices would preserve the trip distribution of the base year matrices. Where a zone has a large increase in trip generation, the furness process will effectively alter the trip distribution of other zones as it factors up trips from those zones to the zone with the large increase.

However, there are some zones, covering greenfield areas, which have large amounts of new development, which had relatively little trip generation in the base year and relatively large in the forecast years. In the base year, these zones have only a very small number of trips, distributing to a relatively small collection of zones.

Simply furnessing up the trips in these zones and preserving the base year distribution would have led to a much distorted trip distribution in the forecast matrix.

To ensure each zone with greenfield developments had appropriate trip distributions in the forecast, three “donor zones” were identified for each. These donor zones were close to the zone with new development, and had similar land uses. A weighted average of the trip distribution in the three donors was used to provide the forecast trip distribution for the developed zone. This was effected by copying the rows and columns of the appropriate donor zones in the base year matrix, into the row and column for the developed zone. That matrix was the one used in the furness process.

4.5 Fuel and Income adjustment factors

Because the model uses fixed highway demand, it is necessary to adjust the matrices to take account of future changes in income and fuel price. The factors applied were derived in accordance with WebTAG2, using the TAG data book. The income adjustment factors for the base year and two forecast years are given below:

Year	Income adjustment factor (A)	Fuel cost adjustment factor (B)	Combined adjustment (C= AxB)	Applied adjustment
2014	1.006	1.02	1.03	1.00
2017	1.013	1.053	1.07	1.04
2032	1.051	1.076	1.13	1.10

Table 4-J Fuel and Income adjustment factors

The factor that was applied for 2017 was therefore 1.04 (i.e. 1.07/1.03), and for 2032, 1.10 (1.13/1.03).

4.6 Trip matrix comparisons

Trip totals for the base year and two forecast years, for all time periods are presented below. The percentage growth is also given.

Vehicle Type	2014 Base	2017 Forecast	2032 Forecast	% Change 2017	% Change 2032
AM					
Car	6611853	7007452	8061318	6	22
LGV	344400	367989	517088	7	50
HGV	238709	241850	270129	1	13
IP					
Car	4531190	4828269	5695428	7	26
LGV	404056	431751	606734	7	50
HGV	258175	261585	292207	1	13
PM					
Car	7685944	8151355	9415287	6	23
LGV	672807	718970	1010495	7	50
HGV	321642	325912	364137	1	13

Table 4-K Trip Matrix Totals

The growth shown above is consistent with the trip end data, and the fuel and income adjustment factors as detailed in previous sections.

Appendix B details the forecast matrices on a sector to sector basis.

4.7 Assignment convergence

The assignment convergence that was reached in the 2032 PM peak do minimum forecast is given below:

Outer iteration	Proportion of turns with GEH <= 0.5 between current and previous iteration	Proportion of turns with GEH <= 0.5 between current iteration and smoothed ICA assignment	Proportion of turns with relative gap between ICA wait time and VDF wait time <= 0.05	Total queues on links	Total queues on connectors	Final %GAP value for inner iteration	Number of inner iterations
1	0.669	1	0.492	0	0	3.13E-04	250
2	0.741	0.819	0.882	7003.141	608.914	7.37E-04	250
3	0.781	0.852	0.9	15932.421	1677.995	5.42E-04	250
4	0.809	0.883	0.932	2819.711	20.424	1.88E-04	121
5	0.862	0.919	0.955	6018.599	111.239	4.77E-04	81
6	0.885	0.955	0.971	2465.008	25.561	5.76E-04	46
7	0.9	0.964	0.974	2086.043	24.496	5.96E-04	40
8	0.916	0.97	0.978	1825.851	20.937	6.06E-04	48
9	0.91	0.97	0.979	1694.442	20.464	6.56E-04	38
10	0.911	0.974	0.985	1370.495	17.214	4.15E-04	57
11	0.911	0.975	0.983	1346.367	29.637	4.95E-04	41
12	0.924	0.977	0.986	1302.251	13.541	4.60E-04	52
13	0.92	0.979	0.987	1320.277	13.413	7.34E-04	35
14	0.919	0.975	0.986	1217.193	9.53	4.43E-04	58
15	0.938	0.982	0.989	1232.705	9.971	3.00E-04	55
16	0.931	0.98	0.989	1089.939	9.896	6.36E-04	50
17	0.924	0.978	0.986	1030.117	4.512	7.07E-04	28
18	0.919	0.975	0.982	1011.92	2.88	9.64E-04	39
19	0.922	0.976	0.987	1071.606	2.718	7.08E-04	32
20	0.938	0.982	0.989	1026.278	2.724	8.38E-04	26
21	0.922	0.976	0.988	1047.935	2.663	6.46E-04	41
22	0.926	0.981	0.988	990.688	2.73	3.51E-04	32
23	0.917	0.978	0.983	944.505	2.661	5.85E-04	44
24	0.922	0.98	0.99	1010.78	2.657	3.83E-04	47
25	0.935	0.981	0.986	990.018	2.533	8.39E-04	26
26	0.922	0.975	0.986	951.486	2.536	7.49E-04	36
27	0.927	0.975	0.983	942.549	2.599	9.35E-04	22
28	0.93	0.977	0.983	918.632	2.529	7.38E-04	40
29	0.936	0.98	0.983	902.687	2.511	8.39E-04	45
30	0.92	0.974	0.979	879.485	1.408	7.29E-04	35
31	0.922	0.981	0.982	906.06	1.283	1.14E-03	21
32	0.902	0.969	0.973	882.338	0.538	1.90E-03	28
33	0.898	0.97	0.98	1909.454	6.937	9.90E-04	26
34	0.922	0.975	0.976	876.652	0.49	7.80E-04	27

35	0.908	0.974	0.982	872.438	0.427	1.00E-03	32
36	0.918	0.977	0.979	871.172	0.404	1.56E-03	23
37	0.91	0.981	0.982	843.802	0.41	9.99E-04	17
38	0.919	0.982	0.983	876.969	2.098	7.42E-04	53
39	0.906	0.971	0.978	877.245	2.51	2.36E-03	34
40	0.899	0.965	0.978	905.721	2.519	7.91E-04	41

Table 4-L - Forecast assignment convergence

That modelled scenario has the highest levels of congestion, and therefore the most difficult with which to reach convergence. However, as illustrated above, an acceptable level of convergence was achieved. This was done by increasing the number of outer iterations from 20 to 40. Convergence in the other scenarios was at least as good as that above.

4.8 Low growth sensitivity test

In order to verify the robustness of the scheme benefits, a low growth alternative scenario was conducted, following the principles set out in TAG Unit M4 section 4.2; a proportion of traffic from the base year demand was subtracted from the forecast demand. For the 2017 forecast this proportion was 4.3% (i.e. 2.5% * square root of 3) and for 2032 it was 10.6% (i.e. 2.5% * square root of 18). It was found that even under a low growth scenario the economic benefits of the scheme represented very high value for money. Further details on the economic assessment may be found in the business case.

5 Model output

5.1 Flow changes from base year

The increases in traffic flows expected in the future are illustrated in the images below, showing forecast flow changes from the base year to 2017 and 2032. In the images, the base flow is shown as blue bands, and red bands indicate the additional flow that occurs in the forecast year. Yellow indicates flow reductions which occur in the forecast year. The width of the band corresponds to the number of trips:

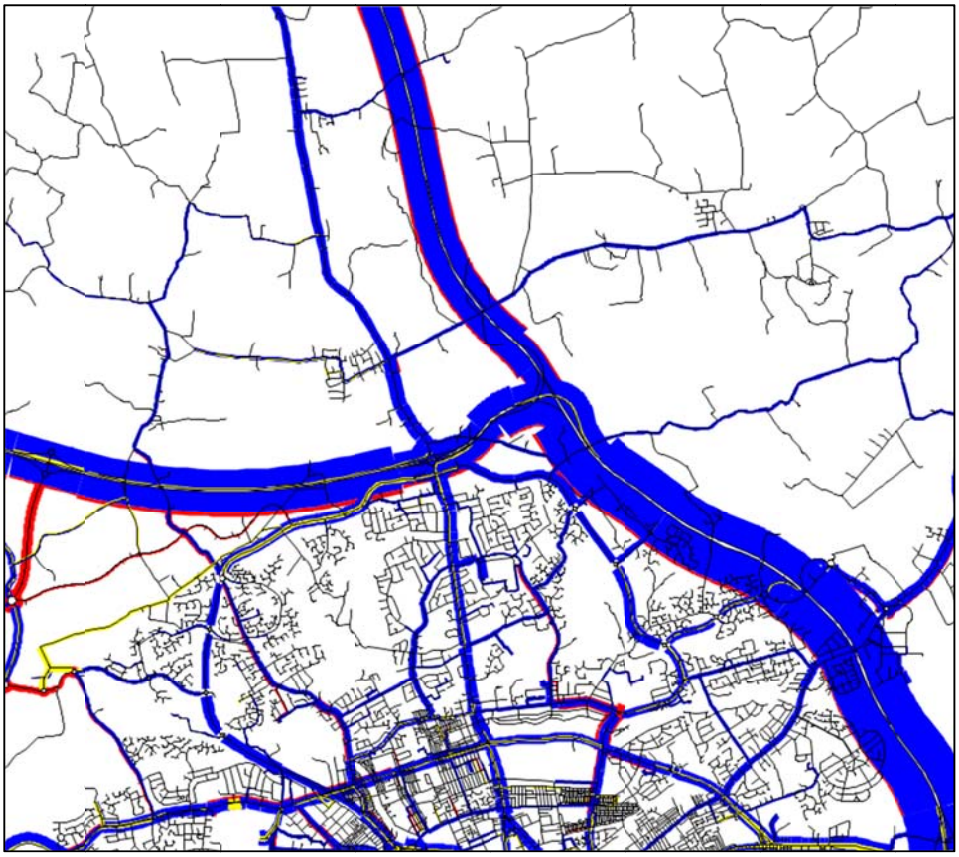


Figure 5-A - 2017 AM peak traffic growth (do minimum)

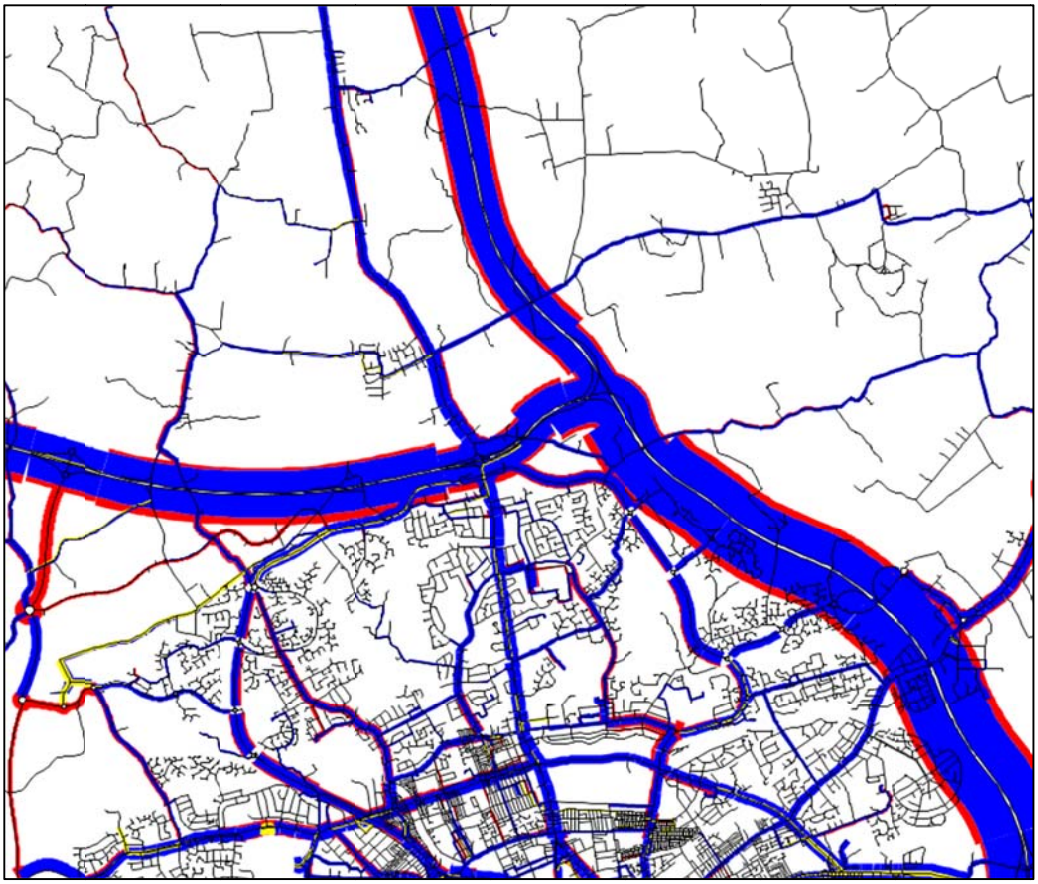


Figure 5-B - 2032 AM peak traffic growth (do minimum)

The figures above are for the AM peak only, however the pattern is similar in the interpeak and PM peak models. The images clearly show a general increase (red bands) in traffic, with the increase larger in 2032. Also notable are the increases on the Preston Western Distributor and East-West Link Road, which are the new highway schemes.

5.2 Delay increases from base year

The figure below shows the increase in link delays from the base year to 2032 in the AM peak:

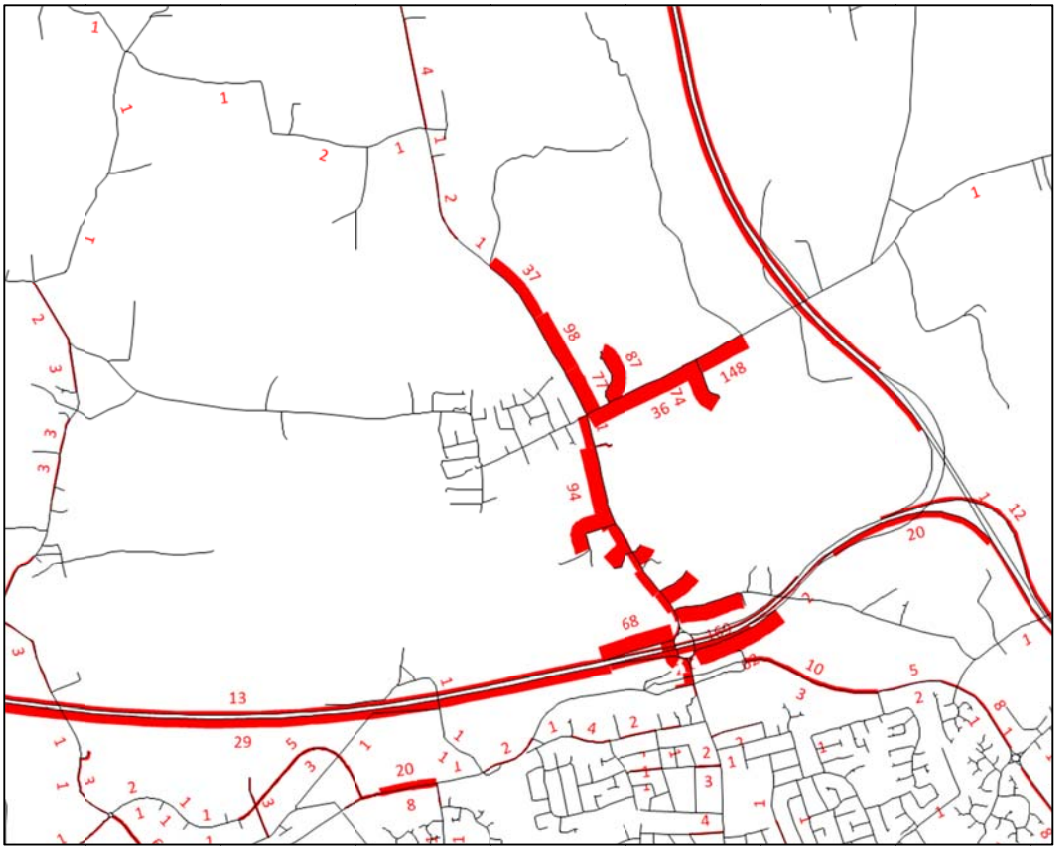


Figure 5-C Link delay increases in 2032 AM (seconds)

As demonstrated, the figure shows that whilst most links have a small increase in delay, indicating a steady rise in delays across the network in the future, links on the approach to Broughton crossroads and around the M55 junction 1 experience larger delay increases, over and above the existing delays, in the event that no improvement occurs.

5.3 Flow changes due to proposed scheme

The flow changes that occur due to the presence of the Broughton bypass scheme are shown below for the 2017 and 2032 AM peak models. Again, blue bars show the flow without the scheme, yellow bars show flow decreases and red bars increases, as a result of the scheme being in place.

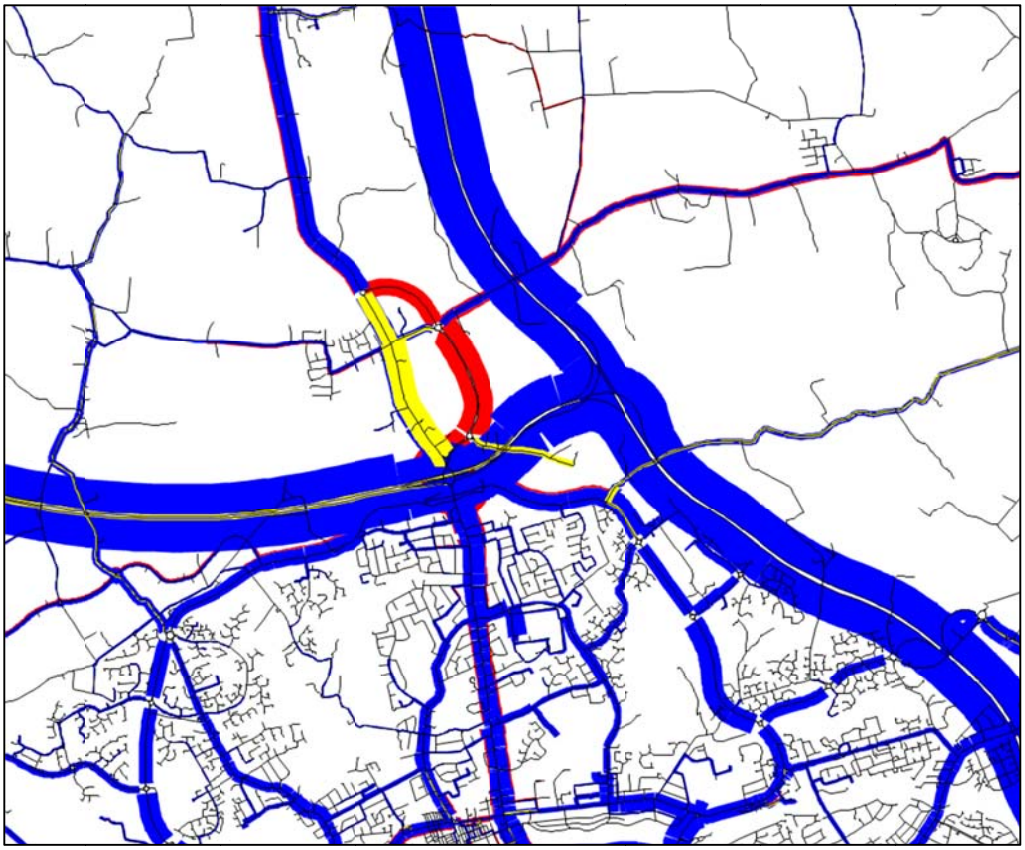


Figure 5-D - 2017 AM peak effects of bypass (Do something scenario compared to Do minimum)

In 2017, the most obvious effects of the bypass are to remove traffic from the existing A6 through Broughton, and transfer it onto the new road. This is illustrated by the yellow bands on the existing A6 (representing a decrease in flow) and red bands on the bypass (representing an increase).

Other knock-on effects include an increase in traffic on Whittingham Lane approaching the new bypass. This reflects the fact that traffic from the direction of Longridge is attracted by the bypass and reassigns on to Whittingham Lane to use it, rather than travelling on more rural roads to avoid the (without the bypass in place) congested Broughton area.

Also notable is a decrease in trips on D'Urton Lane which occurs because the road is stopped up at its eastern end when the bypass is in place. North-South traffic which previously used D'Urton Lane as a rat run to avoid M55 J1 in order to access east and south Preston or the M6 (via J31a or J31) instead uses the M55 J1.

The changes observed in 2032 are below:

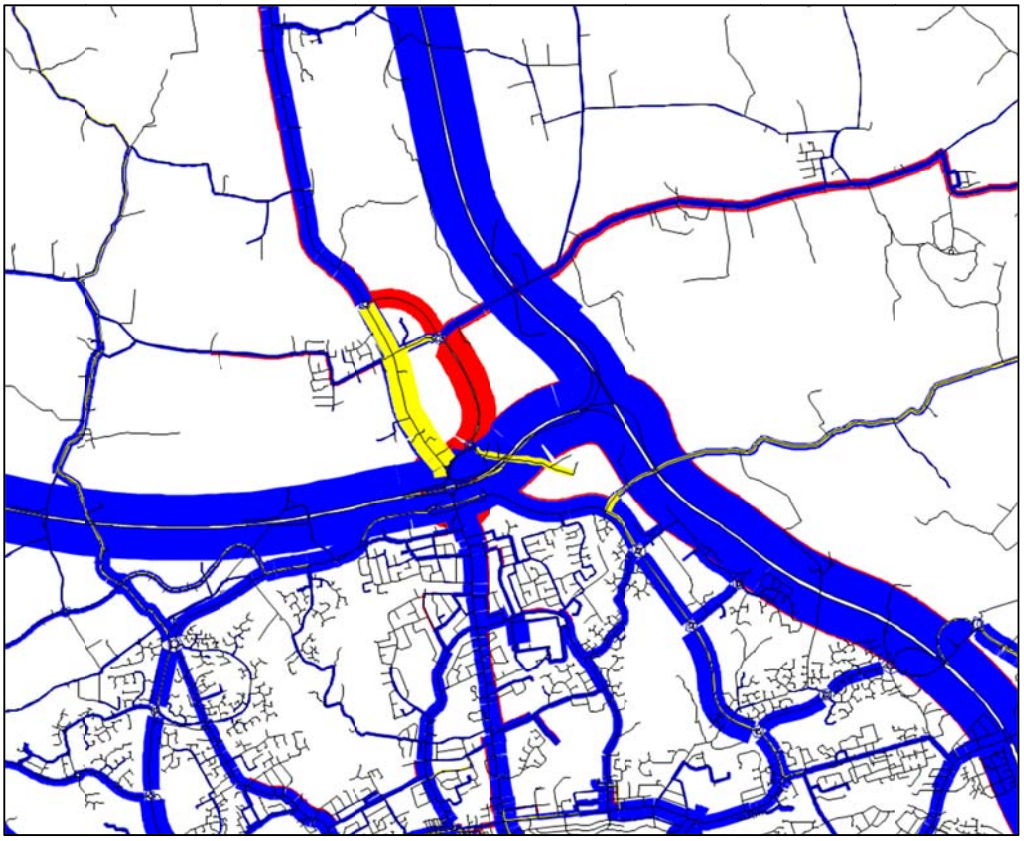


Figure 5-E - 2032 AM peak effects of bypass

The changes seen in 2017 are present in 2032 although to a greater extent due to higher trip volumes in the future.

It is also worth noting that in both forecast years, traffic on the M6 parallel to the bypass (i.e. between junctions 32 and 33) is relatively unchanged, suggesting that the bypass does not provide an alternative for longer distance strategic routes, and that it mostly benefits local traffic.

5.4 Average Journey times on the bypass

The table below shows the affects that the bypass has on journey times, by comparison with the times on the A6, for the forecast do something and do minimum scenarios:

Direction	Route	AM time (min:sec)		IP time (min:sec)		PM time (min:sec)	
		DS	DM	DS	DM	DS	DM
NB	Existing A6	10:32	14:32	08:10	08:02	10:09	14:14
	Bypass	09:55	n/a	07:46	n/a	09:50	n/a
	Time difference on A6	-04:00		+00:08		-04:05	
	Time difference on bypass	-04:37		-00:16		-04:24	
SB	Existing A6	09:59	11:42	08:48	07:50	08:40	08:30
	Bypass	09:19	n/a	07:33	n/a	07:43	n/a
	Time difference on A6	-01:43		+00:58		+00:10	
	Time difference on bypass	-02:23		-00:17		-00:47	

Table 5-A 2017 Journey time comparisons

Direction	Route	AM time (min:sec)		IP time (min:sec)		PM time (min:sec)	
		DS	DM	DS	DM	DS	DM
NB	Existing A6	11:34	20:14	08:38	08:49	11:23	18:53
	Bypass	10:46	n/a	08:00	n/a	11:13	n/a
	Time difference on A6	-08:40		-00:11		-07:30	
	Time difference on bypass	-09:28		-00:49		-07:40	
SB	Existing A6	11:03	14:21	08:59	08:13	09:58	10:53
	Bypass	10:37	n/a	08:03	n/a	08:43	n/a
	Time difference on A6	-03:18		+00:46		-00:55	
	Time difference on bypass	-03:44		-00:10		-02:10	

Table 5-B 2032 Journey time comparisons

The tables demonstrate that the bypass scheme always represents a time saving compared to the journey times along the existing A6 if the scheme were not built.

Northbound trips benefit from a time saving of around four minutes in 2017, which increases to around eight to nine minutes by 2032. These savings are significant and material, and in excess of the five minute thresholds for large time savings provided by the DfT. These time savings are reflected in the TUBA assessment and economic results for the scheme. The southbound time savings are also significant at around two and a half minutes in 2017 growing to almost four minutes in 2032. The relative saving between northbound and southbound trips reflects current observed journey times in which the northbound route is more congested than the southbound in both the AM and PM peak time periods.

It should further be considered that the model is built to replicate average conditions. It is quite possible that future year journey times in the absence of a bypass will be highly variable, due to the congested nature of the area. On occasions, the journey times will greatly exceed the average values given in the tables above, both in terms of day to day variation, and also the variation within the peak hours. Indeed, this was observed to be the case from the base year journey time surveys. The values presented above would therefore underestimate the savings that would be achieved in those circumstances.

5.5 Total network delays

The total delays in the different scenarios in the network are summarised below:

Year	Time period	Total delay (veh-hrs)		
		DM	DS	Saving
2017	AM	4,540	4,473	67
2017	IP	1,547	1,527	20
2017	PM	5,561	5,500	61
2032	AM	6,626	6,443	183
2032	IP	2,531	2,415	116
2032	PM	8,681	8,412	269

Table 5-C Network delays

The data in the table shows the total vehicle-hours in the model which occur over and above the free flow vehicle-hours. This is comprised of all turn delays, and the difference between the modelled link travel times and the free flow link travel times.

The table demonstrates that with the bypass in place, savings of between 20 and 269 vehicle-hours are achieved in all modelled time periods. The Economic Assessment Report for the scheme uses these savings to calculate the economic benefit of the scheme over a 60 year appraisal period.

6 Conclusions

The methodologies used in building the Broughton forecast models are consistent with guidance set out in WebTAG Unit M4. The forecast model was itself built from a robust base year model, as described in the Local Model Validation Report, which was updated in 2014 to ensure that the model reflected the latest changes to the highway network, most notably the improvements at M55 junction 1.

An uncertainty log was created to identify all significant develop in the study area, and appropriate developments were modelled explicitly in the forecast.

The modelled network gave due consideration to all proposed future highway schemes and where there was enough certainty over these schemes they were included in the network.

The forecast model is therefore a suitable tool for appraising the Broughton Bypass scheme.

Outputs from the model have shown that the modelled effects of the bypass are sensible, and that there is a significant, large improvement in journey times through the Broughton area along with an overall reduction in vehicle delays.

JACOBS

Appendix A Land Developments Explicitly Modelled

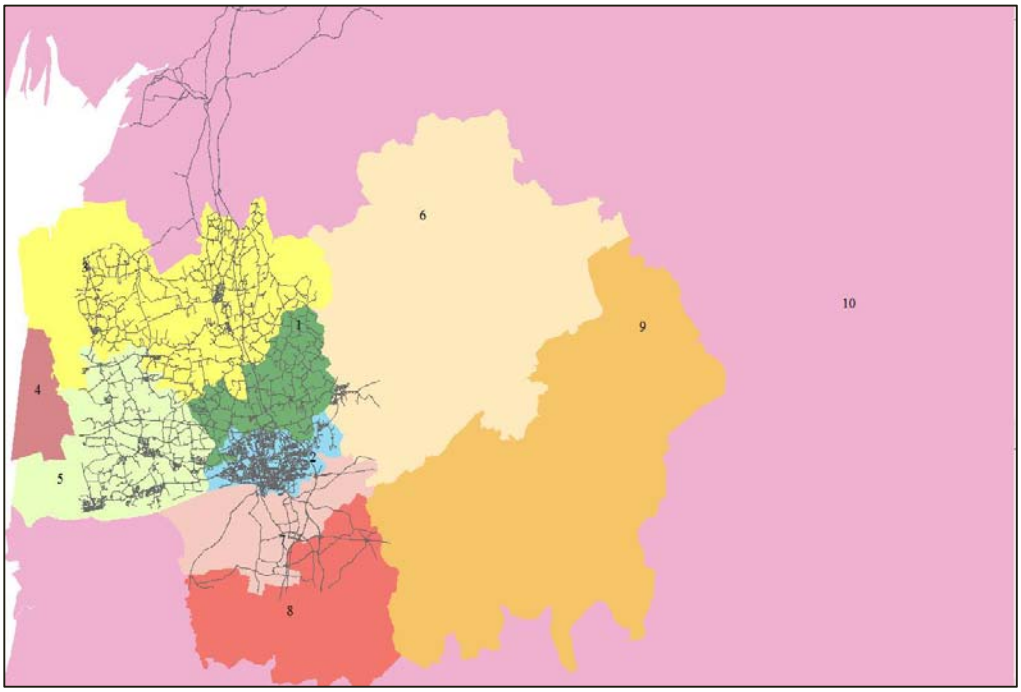
Site Description	Dwellings 207	Jobs 2017	Dwellings 2032	Jobs 2032
101-110 Friargate (Student Accommodation)	37	0	62	0
1A200 - 1A354 - Ex Saddlers Site, Dock Road,/Cookson's Bakery, Preston Road, Lytham	0	0	0	0
1A439 - Queen Mary School, Clifton Drive South, St Annes	0	0	0	0
1A592 - Guardian, Ballam Road, Lytham	0	0	0	0
1A677 - Land to rear of 11-63 (odds), Westgate Road, St. Annes	54	0	72	0
1A735 - Lytham Quays Dock Road, Lytham St Annes	0	0	0	0
1A755 - Training Centre, St Davids Road North, St Annes	0	0	0	0
1A847 - Jubilee House, East Beach, Lytham	0	0	0	0
1A873 - Land side of Bridgeside, Lytham	17	0	22	0
2A765 - Nine Acres Nursery, Harbour Lane, Warton	0	0	0	0
353 Clifton Drive North/St Anthonys House, St Georges Road, St Annes	0	0	0	0
3A355 - Willowfields Development off Derby Road, Wesham	0	0	0	0
3A360 - Crossacres, Land between Weeton Road/Fleetwood Road, Wesham	0	0	0	0
3A897 - Fylde Borough Council Offices, Derby Road, Wesham	21	0	24	0
4A703 - Whitehill Meadows formerly Hollywood Nurseries, Whitehills, Westby	0	0	0	0
4A770 - Whitehills Nursery, Whitehills Road, Westby	27	0	36	0
4A771 - Ponds (Adj Honda Dealership), Lytham St Annes, Westby	29	0	38	0
4A774 - Land Adj to 18 Chain Lane, Staining	0	0	0	0
4A822 - Land adj Richmond Avenue, Wrea Green	41	0	55	0
4A913 - Weeton Village Hall, Mythop Road, and land at St Michaels Close, Weeton	15	0	20	0
6-16 Marsh Lane	0	0	20	0
Acresfield, Bypass Road, Cabus	26	0	35	0
Ashdell Nursery, Victoria Road East, Thornton	45	0	60	0
Auction Mart, Lancaster Road, Pilling	23	0	30	0
Breck Road/Station Road, Poulton	66	0	88	0
Connemara Lightfoot Lane (Mullarkey)	63	0	125	0
Cottam Hall (Includes 06/2013/0148 Cottam K - 104 units)	380	0	1094	115
E4 Land West of Fleetwood Road, Wesham	0	410	0	546
East of Little Poulton Lane, Poulton	16	0	21	0

Site Description	Dwellings 207	Jobs 2017	Dwellings 2032	Jobs 2032
EP1.3 Preston East Employment Area	0	231	0	1169
EP1.5 - Millennium City Park	0	137	0	352
EP1.7 Land North of Eastway	0	224	0	298
EP1.9 - Riversway	0	0	0	111
Fleetwood Docks, Fleetwood	194	0	258	0
Former Cottam Brickworks	124	0	206	393
Former NW WaterDepot, Longridge Road	20	0	34	0
Former Police HQ Lawson St (Student Accomodation)	52	0	87	0
Former Ridings Depot Whittingham Road	72	0	220	16
Former Sharoe Green Hospital	33	0	102	0
Former Spar Distribution Depot, Longridge Road	14	0	23	176
Fylde Community College, Normoss Road, Poulton	77	0	102	0
H1 Land at Queensway, St Annes	104	0	975	0
H12 Former GEC Marconi Factory Site, Warton	149	0	237	0
H4 Former EDS Site, Heyhouses Lane, St Annes	151	0	326	0
H5 Former Pontins Holiday Centre, Fylde-Blackpool Periphery	136	0	337	0
H8 Land West of Warton	62	0	83	0
Haydock grange	126	0	450	0
HS1.13 - Land North of Tom Benson Way	23	0	30	0
HS1.5 - Tetrad New Hall Lane	38	0	110	0
Inglewhite Road Longridge	63	0	190	0
Jubilee Trading Estate, Fylde Road (Student Accomodation)	38	0	64	0
Lancashire House, Winckley Square	0	0	35	0
Land at Bourne Road, Thornton	246	0	328	0
Land At East Road , Hillhouse International Works, Fleetwood Road North, Thornton Cleveleys, Lancashire, FY5 4QD	0	25	0	33
Land at Eastway (Hollins)	63	0	140	0
Land at Lockside Road	34	0	56	0
Land at Moss Lane, Garstang	26	0	35	0
Land Hoyles Lane/Sidgreave Lane (CEG)	58	0	224	0
Land n of Eastway (HCA)	90	0	300	38
Land off Forest Grove Barton	37	0	62	0
Land off Ribblesdale Drive Grimsargh	42	0	70	0

Site Description	Dwellings 207	Jobs 2017	Dwellings 2032	Jobs 2032
Land rear of Lime Chase, Lightfoot Lane	32	0	54	0
Land rr of Our Lady etc School Eastway	13	0	22	0
Land s of Whittingham Road	47	0	78	0
Land South of Chain Lane, Staining	32	0	42	0
Lightfoot Lane Higher Bartle (Redrow)	90	0	330	0
Limehouse Market Street (3rd-10th floor)	43	0	72	0
M1 Land East of Cropper Road, Fylde-Blackpool Periphery	0	0	233	0
M2 Whyndyke Farm, Fylde-Blackpool Periphery	0	0	517	2549
Maxy House Farm Sandy Lane (Wainhomes)	173	0	350	0
MD2- North West Preston not subject to pp	0	0	0	0
North of the Toppings, Garstang	48	0	64	0
North View Farm, 22 Ribby Road, Wrea Green	37	0	49	0
Rear of 54 Bryning Lane, Ribby with Wrea	19	0	25	0
Riverside Industrial Park, Catterall Gates Lane, Catterall, Lancashire, PR3 0HP	0	69	0	92
Robert House 2 Starkie Street (1st-3rd floor)	9	0	15	0
South of Telephone Exchange, Carr Lane, Hambleton	15	0	20	0
Victoria House 9-11 Ormskirk Road	41	0	69	0
Wansbeck House, Chatsworth Avenue, Fleetwood	35	0	47	0
West od Power Station, Fleetwood Road North, Thornton	41	0	54	0
West of Pilling Lane, Preesall	54	0	72	0

Appendix B Sectored trip matrices

Sector map (for reference)



Number	Sector
1	North Preston
2	South Preston
3	Wyre
4	Blackpool
5	Fylde
6	Ribble Valley
7	South Ribble
8	Chorley
9	Pendle/Burnley/Rosendale/ Blackburn/Darwen
10	Rest of the UK

Base year

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	240	616	198	99	130	118	92	53	77	109
South Preston	439	10067	469	347	1085	473	1890	732	1039	1588
Wyre	216	672	7854	2067	1408	218	249	171	251	680
Blackpool	120	564	2724	11897	2665	90	205	154	259	503
Flyde	99	1015	1237	1488	4472	112	472	249	319	325
Ribble Valley	146	610	204	129	156	4384	290	268	379	339
South Ribble	105	2809	303	191	739	318	3622	1509	1860	1632
Chorley	62	936	245	180	467	302	1824	6188	2191	1523
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	107	1629	459	342	726	507	2677	2736	45645	2560
Rest of the UK	136	2083	1046	329	558	318	1484	1417	1725	6793244

Table 6-A Lights AM

Heavies	North Preston	South Preston	Wyre	Blackpool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	7	9	4	11	3	7	2	1	4	6
South Preston	6	134	11	23	15	29	35	28	52	104
Wyre	6	10	92	42	47	20	3	2	30	58
Blackpool	4	30	40	219	49	23	7	6	52	46
Flyde	2	22	22	43	62	2	6	4	8	15
Ribble Valley	6	23	9	25	2	105	7	8	15	22
South Ribble	1	31	1	4	4	6	19	24	38	299
Chorley	3	22	1	3	2	6	21	55	52	91
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	7	41	30	54	6	11	36	56	706	127
Rest of the UK	18	84	63	73	12	33	49	96	133	234699

Table 6-B Heavies AM

Lights	North Preston	South Preston	Wyre	Blackpool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	102	260	120	60	75	72	54	32	51	64
South Preston	230	5985	402	276	500	345	1509	477	749	1100
Wyre	140	414	5840	986	862	129	166	108	169	506
Blackpool	55	255	866	8029	925	71	154	143	236	248
Flyde	75	550	825	1000	3025	62	284	150	206	210
Ribble Valley	81	405	127	86	85	2408	280	269	373	254
South Ribble	60	1433	149	148	244	205	2191	1130	1446	995
Chorley	27	430	85	136	131	185	1123	4059	1564	865
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	51	764	185	285	216	330	1678	1858	29145	1503
Rest of the UK	91	1340	658	293	209	240	1095	996	1424	4832761

Table 6-C Lights IP

Heavies	North Preston	South Preston	Wyre	Blackpool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	27	6	61	13	6	40	2	1	5	18
South Preston	5	175	19	38	51	25	62	27	58	138
Wyre	41	18	135	46	55	17	12	1	99	44
Blackpool	14	26	46	170	68	19	8	3	42	38
Flyde	11	77	64	96	209	7	29	10	20	42
Ribble Valley	10	25	12	18	4	98	10	6	14	41
South Ribble	1	75	3	9	23	11	66	42	83	131
Chorley	0	26	1	3	6	5	34	47	53	109
Pendle/Burnley/Rosendale/ Blackburn /Darwen	6	74	16	44	17	15	89	71	1074	258
Rest of the UK	33	134	45	48	25	30	82	88	147	252530

Table 6-D Heavies IP

Lights	North Preston	South Preston	Wyre	Blackpool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/Darwen	Rest of the UK
North Preston	148	447	229	73	132	167	89	49	81	88
South Preston	327	9678	599	266	905	419	4153	684	1195	2000
Wyre	181	597	8009	2554	1475	227	217	238	380	692
Blackpool	87	393	2588	12360	2030	110	155	197	349	561
Flyde	109	1272	1752	2520	5484	139	609	399	529	563
Ribble Valley	111	537	210	111	148	4115	224	316	508	326
South Ribble	65	3289	181	124	367	147	4092	806	1344	1930
Chorley	42	802	273	240	345	286	1100	6221	3086	1621
Pendle/Burnley/Rosendale/ Blackburn/Darwen	72	1421	466	446	521	454	1759	3016	49760	2582
Rest of the UK	88	2068	830	375	503	330	2173	1537	2630	8186248

Table 6-E Lights PM

Heavies	North Preston	South Preston	Wyre	Blackpool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	4	6	61	13	6	40	2	1	5	18
South Preston	5	175	19	38	51	25	62	27	58	138
Wyre	41	18	135	46	55	17	12	1	99	44
Blackpool	14	26	46	170	68	19	8	3	42	38
Flyde	11	77	64	96	209	7	29	10	20	42
Ribble Valley	10	25	12	18	4	98	10	6	14	41
South Ribble	1	75	3	9	23	11	66	42	83	131
Chorley	0	26	1	3	6	5	34	47	53	109
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	6	74	16	44	17	15	89	71	1074	258
Rest of the UK	33	134	45	48	25	30	82	88	147	252530

Table 6-F Heavies PM

2017:

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	246	698	215	112	137	110	104	60	113	120
South Preston	494	10632	555	431	1151	492	1952	771	1096	1607
Wyre	203	630	7997	2220	1412	196	228	159	234	616
Blackpool	108	501	2793	12172	2533	82	184	139	239	445
Flyde	90	924	1256	1584	4716	104	436	229	295	292
Ribble Valley	154	657	242	159	172	4665	312	285	403	338
South Ribble	112	2983	358	236	817	341	3831	1591	1963	1648
Chorley	67	986	289	217	520	326	1962	6551	2319	1515
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	137	1711	539	410	804	548	2851	2893	48156	2543
Rest of the UK	153	2300	1249	405	613	363	1662	1599	1944	7204431

Table 6-G Lights AM

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	6	9	4	10	5	7	2	1	6	6
South Preston	7	134	11	23	16	29	35	28	52	101
Wyre	5	11	92	52	51	21	3	2	32	31
Blackpool	4	30	41	212	49	24	7	6	50	42
Flyde	4	21	22	41	62	4	6	4	7	13
Ribble Valley	6	22	9	24	2	104	7	8	14	21
South Ribble	1	32	1	4	4	6	20	24	39	300
Chorley	2	22	1	3	2	6	22	56	53	89
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	8	41	31	54	6	11	36	56	709	121
Rest of the UK	20	89	64	77	13	35	52	100	140	237842

Table 6-H Heavies AM

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	102	292	127	69	79	69	57	31	68	69
South Preston	281	6297	463	333	559	357	1569	490	770	1093
Wyre	131	399	5998	1101	846	120	153	105	161	481
Blackpool	48	224	924	8104	898	64	133	124	210	217
Flyde	71	496	877	1087	3253	57	262	136	188	187
Ribble Valley	80	420	148	108	97	2571	294	279	386	250
South Ribble	66	1518	179	188	287	217	2360	1197	1522	994
Chorley	29	461	103	171	158	197	1215	4303	1653	864
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	74	819	225	351	258	353	1807	1969	30721	1499
Rest of the UK	107	1498	806	372	251	269	1238	1121	1597	5152137

Table 6-I Lights IP

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	97	11	47	9	21	34	3	1	21	18
South Preston	6	213	11	51	53	26	67	27	59	139
Wyre	22	8	127	47	57	4	8	1	2	28
Blackpool	21	32	50	168	69	52	7	3	94	66
Flyde	11	77	63	95	209	10	29	9	21	40
Ribble Valley	23	24	6	27	6	98	10	6	14	37
South Ribble	2	82	3	9	24	12	67	42	84	128
Chorley	1	29	1	3	6	6	35	47	54	107
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	19	76	1	59	18	16	90	72	1083	250
Rest of the UK	22	150	29	65	27	31	86	93	156	255902

Table 6-J Heavies IP

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	152	503	241	77	142	169	98	50	100	88
South Preston	426	10229	701	327	1011	449	4335	703	1228	1981
Wyre	178	574	8190	2696	1443	220	204	211	347	617
Blackpool	74	340	2634	12609	1925	97	136	167	301	476
Flyde	108	1144	1872	2740	5821	129	550	360	487	497
Ribble Valley	108	568	247	143	175	4348	245	345	553	336
South Ribble	87	3519	216	155	415	159	4390	854	1410	1949
Chorley	47	857	338	305	405	308	1178	6576	3246	1607
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	108	1523	566	558	607	490	1875	3188	52291	2562
Rest of the UK	114	2339	1014	478	597	373	2442	1740	2964	8689247

Table 6-K Lights PM

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	4	7	6	2	3	11	3	1	4	6
South Preston	6	221	11	10	93	39	122	36	103	160
Wyre	10	13	210	57	125	11	9	2	22	31
Blackpool	3	12	46	148	125	13	13	4	33	40
Flyde	6	135	105	132	582	13	87	20	51	86
Ribble Valley	5	38	8	11	10	156	21	9	26	44
South Ribble	2	135	6	12	71	19	178	74	198	298
Chorley	1	33	1	3	13	6	65	59	90	132
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	6	111	17	26	40	22	200	106	2098	380
Rest of the UK	7	136	97	40	82	51	177	130	288	317186

Table 6-L Heavies PM

% Growth 2017

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	2.6%	13.2%	8.6%	13.1%	5.5%	-7.0%	13.5%	12.9%	46.7%	9.9%
South Preston	12.4%	5.6%	18.4%	24.1%	6.1%	4.1%	3.3%	5.3%	5.5%	1.2%
Wyre	-6.2%	-6.2%	1.8%	7.4%	0.3%	-10.2%	-8.5%	-6.9%	-6.9%	-9.4%
Blackpool	-9.6%	-11.2%	2.5%	2.3%	-5.0%	-9.0%	-10.1%	-9.7%	-7.8%	-11.6%
Flyde	-9.6%	-9.0%	1.6%	6.5%	5.5%	-7.0%	-7.7%	-7.9%	-7.4%	-10.2%
Ribble Valley	5.7%	7.7%	18.6%	23.4%	10.3%	6.4%	7.7%	6.4%	6.5%	-0.3%
South Ribble	6.4%	6.2%	18.1%	23.7%	10.6%	7.1%	5.8%	5.4%	5.6%	1.0%
Chorley	7.8%	5.3%	17.8%	20.7%	11.3%	8.0%	7.6%	5.9%	5.8%	-0.5%
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	28.5%	5.0%	17.4%	19.9%	10.8%	8.0%	6.5%	5.7%	5.5%	-0.7%
Rest of the UK	12.3%	10.4%	19.4%	23.0%	9.9%	14.0%	12.0%	12.8%	12.7%	6.1%

Table 6-M % Change, Lights AM

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	-18.0%	-3.2%	2.9%	-9.7%	57.9%	2.5%	-15.1%	-1.8%	60.3%	-3.1%
South Preston	13.7%	0.1%	4.5%	-1.3%	7.4%	0.3%	-1.0%	-1.2%	-0.7%	-2.7%
Wyre	-11.0%	14.0%	0.1%	24.3%	7.9%	7.4%	-10.6%	-6.5%	7.6%	-46.6%
Blackpool	1.9%	-1.4%	2.4%	-3.0%	0.5%	4.6%	-3.6%	-7.7%	-3.6%	-8.0%
Flyde	81.1%	-5.9%	-0.7%	-4.0%	0.0%	101.6 %	-3.9%	-7.9%	-9.8%	-10.5%
Ribble Valley	-5.6%	-4.6%	3.3%	-3.4%	11.8%	-0.5%	-6.2%	-3.6%	-4.4%	-6.1%
South Ribble	21.7%	1.9%	41.3%	0.6%	3.1%	3.1%	3.9%	0.3%	2.2%	0.2%
Chorley	-17.0%	0.4%	2.6%	-7.5%	17.4%	1.4%	3.2%	2.0%	2.1%	-2.2%
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	16.6%	-0.2%	1.9%	-0.3%	-3.4%	3.9%	0.8%	-0.7%	0.4%	-4.9%
Rest of the UK	10.4%	6.1%	2.0%	6.1%	10.9%	6.0%	6.0%	3.7%	5.6%	1.3%

Table 6-N % Change, Heavies AM

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	-0.4%	12.4%	6.0%	14.9%	5.6%	-4.5%	5.2%	-2.8%	32.9%	8.5%
South Preston	22.0%	5.2%	15.3%	20.6%	11.9%	3.5%	4.0%	2.8%	2.8%	-0.6%
Wyre	-6.3%	-3.6%	2.7%	11.6%	-1.8%	-7.0%	-7.7%	-3.1%	-4.4%	-4.9%
Blackpool	-12.2%	-12.1%	6.7%	0.9%	-2.9%	-10.4%	-13.6%	-13.1%	-11.1%	-12.3%
Flyde	-5.2%	-9.8%	6.3%	8.7%	7.5%	-7.5%	-7.7%	-9.1%	-8.6%	-10.8%
Ribble Valley	-1.4%	3.8%	16.3%	25.2%	13.8%	6.8%	5.2%	3.7%	3.4%	-1.4%
South Ribble	10.6%	5.9%	19.9%	27.1%	17.7%	5.9%	7.7%	5.9%	5.3%	-0.1%
Chorley	7.8%	7.2%	21.2%	25.6%	20.6%	6.3%	8.2%	6.0%	5.7%	-0.1%
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	45.6%	7.2%	21.8%	23.2%	19.3%	6.9%	7.7%	6.0%	5.4%	-0.2%
Rest of the UK	17.9%	11.8%	22.5%	26.9%	20.3%	12.3%	13.0%	12.5%	12.1%	6.6%

Table 6-O % Change, Lights IP

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	258.4%	80.4%	-22.8%	-30.9%	256.7 %	-14.4%	40.0%	21.8%	322.7%	-2.7%
South Preston	20.8%	21.7%	-41.6%	35.3%	4.6%	4.9%	8.6%	1.5%	1.2%	0.5%
Wyre	-45.9%	-54.9%	-6.1%	1.2%	4.4%	-74.6%	-31.4%	35.7%	-97.9%	-36.4%
Blackpool	51.2%	23.6%	7.8%	-1.2%	0.9%	174.2 %	-7.1%	7.8%	123.3%	74.6%
Flyde	-1.9%	0.1%	-1.4%	-1.4%	0.1%	36.6%	-1.5%	-5.3%	6.0%	-5.5%
Ribble Valley	131.9%	-2.6%	-49.0%	47.5%	51.3%	0.4%	-0.9%	2.7%	-0.7%	-8.9%
South Ribble	132.9%	8.9%	16.3%	1.2%	3.8%	5.6%	1.8%	0.0%	1.1%	-2.4%
Chorley	0%	9.7%	19.2%	5.6%	8.2%	10.6%	2.3%	0.6%	2.6%	-1.5%
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	219.6%	2.7%	-93.2%	34.2%	5.9%	6.4%	1.4%	0.8%	0.8%	-3.0%
Rest of the UK	-32.7%	12.0%	-35.7%	35.4%	8.1%	2.1%	5.0%	5.5%	5.9%	1.3%

Table 6-P % Change, Heavies IP

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	2.8%	12.5%	5.2%	6.0%	7.3%	1.1%	9.7%	1.1%	23.9%	0.3%
South Preston	30.4%	5.7%	17.0%	22.8%	11.7%	7.2%	4.4%	2.8%	2.8%	-0.9%
Wyre	-1.7%	-3.8%	2.3%	5.5%	-2.2%	-3.1%	-6.2%	-11.3%	-8.8%	-10.9%
Blackpool	-15.2%	-13.4%	1.8%	2.0%	-5.2%	-11.5%	-12.5%	-15.0%	-13.8%	-15.1%
Flyde	-1.1%	-10.0%	6.8%	8.7%	6.1%	-7.3%	-9.6%	-9.8%	-7.9%	-11.7%
Ribble Valley	-2.9%	5.8%	17.7%	29.2%	18.1%	5.7%	9.5%	9.3%	8.9%	3.2%
South Ribble	34.4%	7.0%	19.4%	25.2%	13.0%	8.0%	7.3%	6.0%	4.9%	1.0%
Chorley	12.2%	6.9%	23.7%	27.1%	17.3%	7.8%	7.1%	5.7%	5.2%	-0.9%
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	50.0%	7.2%	21.6%	25.1%	16.4%	8.0%	6.6%	5.7%	5.1%	-0.8%
Rest of the UK	30.1%	13.1%	22.2%	27.5%	18.7%	13.0%	12.4%	13.2%	12.7%	6.1%

Table 6-Q % Change, Lights PM

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	5.3%	17.5%	-90.3%	-86.6%	-43.7%	-73.6%	49.1%	-14.3%	-25.8%	-66.1%
South Preston	19.2%	26.5%	-40.1%	-72.7%	83.2%	55.1%	97.5%	31.8%	77.7%	15.8%
Wyre	-74.9%	-29.7%	55.3%	22.9%	126.8 %	-37.1%	-27.2%	140.8 %	-77.8%	-29.4%
Blackpool	-78.9%	-52.6%	0.3%	-12.8%	83.3%	-33.4%	67.4%	32.6%	-22.0%	4.4%
Flyde	-42.8%	75.6%	63.8%	37.1%	178.4 %	79.1%	199.1 %	95.8%	154.5%	105.1%
Ribble Valley	-54.7%	51.0%	-29.9%	-38.1%	148.3 %	58.8%	109.6 %	46.7%	88.9%	6.2%
South Ribble	118.0%	79.6%	113.3 %	29.4%	207.2 %	71.7%	169.2 %	77.1%	138.6%	127.4%
Chorley	0%	25.8%	45.2%	-5.8%	123.8 %	29.7%	91.0%	25.1%	69.9%	20.7%
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	-5.5%	49.9%	6.8%	-40.2%	134.7 %	47.3%	125.2 %	48.9%	95.3%	47.3%
Rest of the UK	-79.6%	1.5%	115.8 %	-15.7%	229.8 %	71.3%	115.7 %	47.8%	95.7%	25.6%

Table 6-R % Change, Heavies PM

2032:

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	320	968	282	145	185	153	140	81	152	168
South Preston	646	12075	642	504	1329	607	2231	916	1284	1939
Wyre	239	714	8962	2453	1621	237	257	188	269	700
Blackpool	133	575	3122	13402	2905	103	210	169	286	513
Flyde	104	992	1339	1670	5202	120	468	254	322	321
Ribble Valley	192	709	264	174	187	5193	339	318	444	379
South Ribble	138	3325	395	256	912	408	4286	1821	2215	1913
Chorley	84	1071	317	245	570	384	2156	7353	2572	1713
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	173	1872	596	466	891	652	3155	3292	53511	2862
Rest of the UK	196	2536	1435	470	684	445	1834	1852	2228	8386305

Table 6-S Lights AM

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	7	11	5	12	6	9	2	1	8	8
South Preston	9	151	13	25	18	33	39	31	58	114
Wyre	6	13	103	58	57	24	3	2	36	35
Blackpool	6	33	46	237	55	27	8	6	56	47
Flyde	4	23	24	46	69	4	6	4	8	15
Ribble Valley	7	25	10	27	2	116	7	9	16	23
South Ribble	2	35	2	4	5	7	22	27	43	334
Chorley	3	25	1	3	3	7	24	62	59	99
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	10	46	34	60	6	13	40	62	791	135
Rest of the UK	24	100	72	86	15	39	58	111	157	265640

Table 6-T Heavies AM

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	132	408	155	87	104	94	78	44	93	108
South Preston	415	7130	557	394	649	411	1786	555	875	1274
Wyre	167	481	6969	1263	992	140	180	124	190	575
Blackpool	63	275	1059	8935	1036	78	152	148	253	262
Flyde	92	596	1033	1266	3839	69	311	161	224	233
Ribble Valley	108	493	173	127	114	2982	344	325	448	296
South Ribble	89	1749	209	214	336	253	2728	1378	1754	1181
Chorley	41	531	121	198	183	227	1396	4906	1887	1015
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	102	948	262	411	299	408	2070	2244	34677	1760
Rest of the UK	148	1753	959	432	297	319	1456	1312	1863	6178125

Table 6-U Lights IP

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	109	18	53	11	26	40	4	2	24	22
South Preston	10	241	12	57	61	29	76	31	67	158
Wyre	25	9	140	52	66	5	9	2	2	31
Blackpool	24	36	55	186	78	57	8	4	104	74
Flyde	13	88	74	109	241	12	32	11	28	45
Ribble Valley	27	27	7	29	7	109	11	7	15	42
South Ribble	4	91	4	10	27	13	75	47	93	143
Chorley	1	32	1	4	7	6	39	53	60	120
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	22	85	1	65	21	18	100	80	1206	280
Rest of the UK	26	167	32	72	30	34	95	103	173	285815

Table 6-V Heavies IP

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	211	675	295	93	186	219	136	67	138	122
South Preston	651	11772	810	373	1179	505	4889	784	1403	2264
Wyre	238	673	9351	3033	1683	243	236	237	392	716
Blackpool	92	399	2951	13850	2167	107	158	185	339	541
Flyde	166	1394	2214	3182	6910	149	673	411	575	609
Ribble Valley	153	679	298	174	207	4900	301	405	661	411
South Ribble	134	4029	250	180	501	186	5050	989	1683	2312
Chorley	69	987	395	354	462	348	1382	7409	3705	1891
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	153	1766	657	647	699	552	2231	3582	58874	3058
Rest of the UK	169	2753	1203	560	718	425	2885	1987	3426	10218285

Table 6-W Lights PM

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	8	18	53	11	26	40	4	2	24	22
South Preston	10	241	12	57	61	29	76	31	67	158
Wyre	25	9	140	52	66	5	9	2	2	31
Blackpool	24	36	55	186	78	57	8	4	104	74
Flyde	13	88	74	109	241	12	32	11	28	45
Ribble Valley	27	27	7	29	7	109	11	7	15	42
South Ribble	4	91	4	10	27	13	75	47	93	143
Chorley	1	32	1	4	7	6	39	53	60	120
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	22	85	1	65	21	18	100	80	1206	280
Rest of the UK	26	167	32	72	30	34	95	103	173	285815

Table 6-X Heavies PM

% Change 2032

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	33.5%	57.2%	42.5%	46.5%	42.3%	29.9%	51.7%	52.9%	97.0%	54.0%
South Preston	47.0%	19.9%	36.9%	45.4%	22.5%	28.4%	18.0%	25.2%	23.6%	22.1%
Wyre	10.6%	6.3%	14.1%	18.7%	15.2%	8.8%	3.2%	9.9%	7.2%	2.9%
Blackpool	10.9%	1.9%	14.6%	12.7%	9.0%	14.3%	2.6%	9.5%	10.3%	1.9%
Flyde	5.3%	-2.2%	8.3%	12.3%	16.3%	6.8%	-0.9%	2.2%	0.8%	-1.1%
Ribble Valley	31.6%	16.2%	29.2%	35.1%	20.1%	18.4%	16.9%	18.8%	17.1%	11.7%
South Ribble	31.3%	18.4%	30.3%	34.1%	23.4%	28.4%	18.3%	20.7%	19.1%	17.2%
Chorley	35.1%	14.5%	29.4%	36.2%	22.1%	27.1%	18.2%	18.8%	17.4%	12.5%
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	61.6%	14.9%	29.7%	36.2%	22.8%	28.5%	17.8%	20.3%	17.2%	11.8%
Rest of the UK	44.2%	21.7%	37.2%	42.8%	22.6%	40.0%	23.6%	30.7%	29.2%	23.5%

Table 6-Y % Change, Lights AM

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	-6.6%	26.9%	24.0%	6.2%	86.6%	22.7%	16.1%	47.6%	98.5%	35.0%
South Preston	52.6%	12.8%	16.6%	10.5%	20.4%	12.4%	11.2%	11.2%	11.7%	9.4%
Wyre	4.2%	27.2%	11.6%	38.8%	20.4%	19.6%	-0.5%	4.2%	20.2%	-40.3%
Blackpool	42.4%	9.5%	14.1%	8.2%	12.0%	16.4%	7.2%	2.8%	7.5%	2.6%
Flyde	121.0%	5.0%	10.7%	7.1%	11.5%	124.3 %	6.9%	2.6%	0.5%	-0.1%
Ribble Valley	9.3%	6.9%	15.3%	7.9%	24.7%	10.9%	4.4%	7.5%	6.7%	5.0%
South Ribble	67.1%	14.1%	57.6%	12.2%	14.9%	14.8%	15.7%	11.8%	14.0%	11.8%
Chorley	0.3%	12.5%	14.4%	3.2%	30.9%	12.9%	14.8%	13.6%	13.9%	9.2%
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	38.3%	11.8%	13.7%	11.2%	7.8%	15.7%	12.2%	10.7%	12.0%	6.2%
Rest of the UK	35.4%	18.5%	13.8%	18.3%	23.7%	18.0%	17.9%	15.6%	17.8%	13.2%

Table 6-Z % Change, Heavies AM

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	29.3%	56.9%	28.8%	44.9%	39.1%	30.1%	44.5%	38.9%	82.5%	68.0%
South Preston	80.6%	19.1%	38.6%	42.7%	29.7%	19.2%	18.4%	16.3%	16.8%	15.8%
Wyre	19.0%	16.2%	19.3%	28.1%	15.1%	8.9%	8.2%	15.0%	12.2%	13.7%
Blackpool	14.0%	8.0%	22.2%	11.3%	12.0%	9.4%	-1.2%	3.4%	7.4%	5.8%
Flyde	23.2%	8.4%	25.2%	26.6%	26.9%	11.9%	9.4%	7.3%	8.9%	10.8%
Ribble Valley	33.1%	21.8%	36.2%	48.2%	33.8%	23.8%	22.7%	20.7%	20.0%	16.3%
South Ribble	48.4%	22.0%	40.0%	44.4%	37.6%	23.4%	24.5%	21.9%	21.3%	18.7%
Chorley	51.6%	23.5%	42.6%	45.9%	39.6%	22.9%	24.3%	20.9%	20.7%	17.4%
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	99.5%	24.1%	41.4%	44.3%	38.3%	23.5%	23.3%	20.7%	19.0%	17.1%
Rest of the UK	62.3%	30.8%	45.8%	47.5%	42.2%	33.1%	33.0%	31.7%	30.8%	27.8%

Table 6-AA % Change, Lights IP

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	303.3%	204.2%	-13.9%	-16.7%	335.7 %	-0.7%	123.3 %	123.6 %	387.5%	21.9%
South Preston	103.3%	37.7%	-34.9%	49.3%	19.3%	17.8%	22.5%	15.1%	14.8%	14.5%
Wyre	-39.4%	-49.9%	3.5%	12.2%	20.1%	-72.1%	-23.6%	51.2%	-97.7%	-28.7%
Blackpool	72.7%	36.8%	19.2%	9.6%	14.8%	202.5 %	3.3%	20.2%	148.1%	95.9%
Flyde	19.4%	13.8%	15.2%	13.7%	15.3%	77.0%	11.0%	6.9%	39.2%	7.6%
Ribble Valley	167.7%	8.9%	-43.8%	63.3%	83.4%	10.7%	9.9%	14.1%	10.4%	1.8%
South Ribble	252.1%	21.6%	27.6%	11.9%	15.4%	16.1%	12.9%	11.2%	12.4%	9.1%
Chorley	0%	22.7%	30.9%	16.9%	20.4%	21.7%	13.5%	11.9%	14.1%	10.1%
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	270.3%	14.8%	-92.5%	48.3%	26.1%	17.0%	12.5%	12.1%	12.3%	8.4%
Rest of the UK	-20.3%	24.8%	-29.0%	49.4%	20.9%	12.1%	16.3%	17.1%	17.5%	13.2%

Table 6-BB % Change, Heavies IP

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	42.5%	51.0%	28.6%	27.2%	41.1%	31.1%	53.3%	37.5%	69.8%	39.0%
South Preston	99.0%	21.6%	35.2%	40.4%	30.2%	20.5%	17.7%	14.6%	17.4%	13.2%
Wyre	31.5%	12.7%	16.8%	18.7%	14.1%	7.0%	8.8%	-0.4%	3.2%	3.5%
Blackpool	6.1%	1.6%	14.0%	12.1%	6.7%	-2.7%	1.8%	-5.9%	-2.8%	-3.6%
Flyde	52.3%	9.6%	26.4%	26.3%	26.0%	7.0%	10.5%	3.1%	8.8%	8.2%
Ribble Valley	38.1%	26.4%	41.8%	56.5%	39.8%	19.1%	34.4%	28.3%	30.1%	26.2%
South Ribble	106.5%	22.5%	38.4%	45.3%	36.5%	26.3%	23.4%	22.6%	25.2%	19.8%
Chorley	63.3%	23.0%	44.9%	47.5%	33.8%	21.5%	25.7%	19.1%	20.1%	16.7%
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	112.4%	24.3%	41.1%	45.0%	34.2%	21.6%	26.8%	18.8%	18.3%	18.4%
Rest of the UK	92.2%	33.1%	45.0%	49.3%	42.8%	28.9%	32.8%	29.3%	30.3%	24.8%

Table 6-CC % Change, Lights PM

Lights	North Preston	South Preston	Wyre	Black pool	Flyde	Ribble Valley	South Ribble	Chorley	Pendle/Burnley/Rosendale/ Blackburn/ Darwen	Rest of the UK
North Preston	107.4%	204.2%	-13.9%	-16.7%	335.7 %	-0.7%	123.3 %	123.6 %	387.5%	21.9%
South Preston	103.3%	37.7%	-34.9%	49.3%	19.3%	17.8%	22.5%	15.1%	14.8%	14.5%
Wyre	-39.4%	-49.9%	3.5%	12.2%	20.1%	-72.1%	-23.6%	51.2%	-97.7%	-28.7%
Blackpool	72.7%	36.8%	19.2%	9.6%	14.8%	202.5 %	3.3%	20.2%	148.1%	95.9%
Flyde	19.4%	13.8%	15.2%	13.7%	15.3%	77.0%	11.0%	6.9%	39.2%	7.6%
Ribble Valley	167.7%	8.9%	-43.8%	63.3%	83.4%	10.7%	9.9%	14.1%	10.4%	1.8%
South Ribble	252.1%	21.6%	27.6%	11.9%	15.4%	16.1%	12.9%	11.2%	12.4%	9.1%
Chorley	0%	22.7%	30.9%	16.9%	20.4%	21.7%	13.5%	11.9%	14.1%	10.1%
Pendle/Burnley/Rosendale/ Blackburn/ Darwen	270.3%	14.8%	-92.5%	48.3%	26.1%	17.0%	12.5%	12.1%	12.3%	8.4%
Rest of the UK	-20.3%	24.8%	-29.0%	49.4%	20.9%	12.1%	16.3%	17.1%	17.5%	13.2%

Table 6-DD % Change, Heavies PM