Northumberland Local Plan

Northumberland County Council

Transport Assessment Report

December 2018

Local Plan Transport Assessment Report

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Contents

Executive Summary

Jacobs has been commissioned by Northumberland County Council (NCC) to undertake a Transport Assessment to establish the traffic implications of delivering the countywide growth aspirations associated with the proposed residential, employment and minerals extraction Local Plan allocations for the Local Plan period 2016 – 2036. The Local Plan aims to achieve 17,700 new dwellings and 171,500m^2 of new employment land across Northumberland by 2036.

Jacobs has liaised extensively with NCC to develop an assessment methodology that is sufficiently robust to accurately consider transport impacts at appropriately identified locations that have been identified as sensitive receptors. This has been undertaken using a filtering process to ensure that only those areas likely to observe a material impact have then been assessed in detail.

The Transport Assessment approach that has been adopted has been determined to be the most appropriate method of accurately assessing transport impacts across the County. Using this approach ensures that both the variability in transport conditions and patterns across the large County of Northumberland are captured whilst also capturing the granularity required to assess specific locations within individual settlements with accuracy.

The report provides a comprehensive assessment of the anticipated additional trips that may arise a result of site allocations included in the Northumberland Local Plan future growth aspirations. In doing so, the Transport Assessment is intended to form a key element of the Local Plan Evidence Base and has been prepared to demonstrate the following elements:

- The proposed spatial strategy for Northumberland;
- Make best use of available local data highlighting current travel demands and network performance;
- Development of realistic forecasts of future traffic conditions using relevant local / national parameters;
- State a clear understanding of future areas of sensitivity;
- Identify potential impacts on key locations on the Strategic Road Network and identify cross-boundary traffic impacts associated with Local Plan development in Northumberland on key transport corridors between Northumberland and neighbouring Local Authority areas of Newcastle, Gateshead and North Tyneside; and
- Consider the wider strategic impacts identified on the Strategic Road Network and key transport corridors through future engagement with Highways England and adjacent Local Highway Authorities.

Following a robust approach to assessment, summarised in detail in Section 3 and 4 of this report, a total of 32 junctions across the main settlements of Northumberland have been identified as potentially being impacted by Local Plan development traffic. Capacity assessments have been undertaken for all 32 junctions to determine the impact of Local Plan development on their operation.

This has identified 5 junctions considered to be materially impacted by Local Plan development resulting in operational capacity issues that require mitigation to address the impacts. These junctions have been identified, and a subsequent mitigation report will be prepared to outline the mitigation options identified at these junctions and revised modelling to determine suitability.

1. Introduction

1.1 Overview

Jacobs has been commissioned by Northumberland County Council (NCC) to undertake a Transport Assessment (TA) to establish the traffic implications of delivering the countywide growth aspirations associated with the proposed residential, employment and minerals extraction Local Plan allocations for the Local Plan period 2016 – 2036. The Local Plan aims to achieve 17,700 new dwellings and 171,500m^2 of new employment land across Northumberland by 2036.

The Local Plan allocation schedules for housing, employment and minerals extraction sites have been provided by NCC, which include sites of varying size across various settlements in Northumberland. Allocated housing sites are primarily proposed within suburban, edge of town, and edge of town centre locations across the county. Allocated employment uses include B1a Office, B1c Business Park, B2 Industrial, and B8 Commercial Warehousing. Minerals extraction sites are situated at disparate locations across Northumberland, typically in rural areas.

Jacobs was first commissioned by NCC to provide support for undertaking a Core Strategy Transport Assessment in June 2015. This study also involved comprehensive consultation with key stakeholders, notably Highways England and Newcastle City Council, Gateshead Council and North Tyneside Council as part of wider Duty to Co-operate obligations. Following the withdrawal of the Core Strategy, a new assessment has been undertaken using the previously acceptable methodology.

Section 3 of this report will highlight the methodology that has been applied for determining the inclusion of the specific sites and settlements that form the basis of this assessment.

1.2 Scope & Purpose of the Transport Assessment

A scoping workshop was held on Wednesday 4th August 2018 with NCC to discuss the requirements of a TA to assess the impact of the current Local Plan allocations. A subsequent workshop was held on 5th September 2018 with NCC to refine and finalise the methodology for the assessment.

The purpose of this TA is to assess the impact of the Local Plan allocations for residential, employment and minerals extraction development upon the operation of the road network in Northumberland. Local Plan allocations are defined as those sites which currently do not have a planning status within the planning system and therefore cannot currently come forward. Those junctions deemed to be impacted upon by the Local Plan allocations have been assessed using industry standard Junctions 9 modelling software (PICADY and ARCADY).

Trip rates for the Local Plan allocated sites have been generated using the TRICS database. It was agreed with NCC that those sites resulting in two-way traffic flows of 30+ two-way vehicle movements would be considered in the junction modelling assessments. This exercise determined the scope of the TA, which resultingly considered the impacts upon junctions within 11 settlements (Alnwick, Ashington, Berwick, Blyth, Cramlington, Haltwhistle, Hexham, Morpeth, Ponteland, Prudhoe, and Seaton Delaval) and resulted in the modelling of 32 junctions within 9 of these settlements.

A cumulative assessment of impacts resulting from Local Plan development in South-East Northumberland has been adopted (inclusive Local Plan allocations in Ashington, Blyth, Cramlington, Seaton Delaval and Bedlington) to consider the strategic transport impacts in the most populated area of Northumberland. This has been undertaken using Highways England's 'graHAm' distribution tool. The remaining settlements are considered separately.

In addition to detailed junction capacity assessments at those locations for which a material impact is identified, the TA also considers cross boundary impacts on the road network in neighbouring authorities, namely routes between Northumberland and Gateshead, North Tyneside, and Newcastle by establishing the two-way traffic volumes associated with Local Plan allocations that can be anticipated to travel across the Northumberland boundary. The TA also provides a summary of the resulting flows of Local Plan allocations on the Strategic Road

Network (SRN) at key locations. It was agreed that cross boundary impacts and impacts upon the SRN would be undertaken using the 'graHAm' distribution tool for determining impacts for sites in settlements in South East Northumberland, with traffic from other settlements manually distributed and assigned and included within the totals. Further detail on the methodology and outputs for cross-boundary and SRN impacts is provided in Section 8.

For all assessments, two land use scenarios have been considered which include the following:

1. **Baseline Land Use Scenario:** inclusion of all developments currently permitted (with appropriate additions/deductions to account for build out based upon available traffic counts). This scenario also included all those sites with a 'minded to approve' status (i.e. considered extremely likely to come forward); and

2. **Local Plan Land Use Scenario**: inclusion of all sites allocated in the Local Plan that are yet to come forward or have any status in the planning system.

These land use scenarios have then been used in two assessment scenarios to consider impacts of the Local Plan allocations on the wider road network:

1. **Baseline Assessment:** Recorded traffic flows (and appropriate traffic growth factors) plus inclusion of Baseline Land Use Scenario traffic flows;

2. **Baseline + Local Plan Allocations Assessment**: Recorded traffic flows (and appropriate traffic growth factors) plus inclusion of Baseline Assessment traffic flows plus inclusion of Local Plan Land Use Scenario traffic flows.

This TA presents the results of the traffic modelling work undertaken to assess the Local Plan allocations and in doing so, forms a key element of the Evidence Base being prepared in support of NCC's Local Plan.

For the purposes of the TA, impacts associated with settlements in Blyth, Bedlington, Cramlington, Ashington and Seaton Delaval will be reported collectively as South East Northumberland. Impacts at locations outside of South East Northumberland will be reported on an individual settlement basis (Hexham, Morpeth, Ponteland, Haltwhistle, Alnwick and Berwick) and collectively termed as Wider Northumberland impacts.

A key aim of this study is to ensure consistency with the approach and methodology used previously as part of the previous Core Strategy Transport Assessment that has been agreed with Highways England. A key element of this relates to the suitability of the approach adopted. It is recognised that the highway network and associated usage in Northumberland is varied, particularly when contrasting the urban conurbations of South East Northumberland with the rural areas in the north and west of the County. Therefore, it is not considered that a 'one size fits all' approach would provide sufficient detail in terms of understanding the traffic impacts of Local Plan allocations given the spatial variability across Northumberland and the various local factors at play that influence transport across the County.

For this reason and in order to capture the variability highlighted but also ensure sufficient detail is captured at various locations of sensitivity; a Transport Assessment approach has been adopted. The remainder of the document will detail the methodology and key outputs of the study, as summarised below.

1.3 Report Structure

In accordance with NCC's requirements, the TA report is structured into the following sections:

- Chapter 2 – Local Plan Trip Generation;
- Chapter 3 – Local Plan Site Identification;
- Chapter 4 – Junction Identification;

- Chapter 5 – Assessment Methodology for Individual Junctions in Northumberland;
- Chapter 6 – Wider Northumberland Modelling Results;
- Chapter 7 – South East Northumberland Modelling Results;
- Chapter 8 – Assessment Methodology for Cross Boundary and Strategic Road Network Impacts;
- Chapter 9 – Cross Boundary Impacts;
- Chapter 10 – Impacts on the Strategic Road Network; and
- Chapter 11 – Conclusions & Recommendations.

2. Local Plan Trip Generation

2.1 Introduction

This section of the TA describes the methodology employed to derive appropriate county-wide trip rates for application to the Local Plan development sites. This is the first step in determining the traffic impact associated with each site, and therefore collectively, determining the scope of the wider assessment based on the cumulative impacts across the road network. County wide trip rates developed for residential and employment sites are applicable to all Local Plan development sites. A 'first principles' approach has been taken for the minerals extraction sites. However, trip rates have been derived based on a range of factors including locations of sites within settlements for application to residential and employment sites. This allows trip patterns associated with different sites to more appropriately reflect the spatial distribution of sites included in the Local Plan.

The Local Plan includes a wide variety of development sites that collectively contribute to the overarching aim of delivering 17,700 homes and 171,500m^2 of employment land during the Plan period up to 2036. It should be noted however, that a large number of the sites that form part of the wider aim already have planning approval and/or are in the process of being built out. The TA methodology has been developed to specifically address this variability to ensure that the assessment of the baseline and baseline + Local Plan allocations are reflective of site status and build out. The remainder of this section considers trip generation associated with the Local Plan sites, which are made up of the following classifications:

- Development sites with Local Plan Allocation status;
- Development sites with an existing planning approval; and
- Development sites with a 'minded to approve' status (i.e. highly likely to come forward).

2.2 Local Plan Allocated Sites

A total of 43 residential sites and 40 employment sites have been identified for the preferred allocation through the draft Local Plan (June 2018). The sites detailed in the TA may differ slightly from those in the published Local Plan as the assessment was undertaken in advance of all allocations being finalised. However, this finalisation process reduced the level of development so the assessment provided in this TA represents a worst case scenario.

Total dwelling numbers for each allocated housing site have also been provided by NCC. The residential sites are a combination of 'Edge of Town Centre', 'Suburban', and 'Edge of Town locations. Employment sites consist of a combination of B1a, B1c, B2, and B8 uses. Some employment sites also include a small quantum of various sui generis uses, the specifics of which were unknown at the time of preparing the TA. For employment sites, NCC has provided a schedule detailing the quantum and mix of B-class uses likely to come forward at each site.

The full list of preferred Local Plan allocations agreed with NCC at the time of assessment can be found in Appendix A.

2.3 Trip Generation for Local Plan Allocations

2.3.1 Trip Rates

Jacobs has interrogated the TRICS database to derive appropriate trip rates for the assessment of the preferred Local Plan sites. TRICS is a national database that includes numerous land use and development types and allows users to generate trip rates for specific land uses based upon a range of parameters and spatial factors.

A number of parameters have been considered in the calculation of all of the residential and employment trip rate calculations for the Local Plan assessment. These include the following:

- **Regions:** Greater London and sites in Ireland have been excluded because these regions do not mirror the characteristics of Northumberland as a whole;

- **Areas:** Isle of Man/Wight/Anglesey/Orkney Islands, Highland, Shetland Islands, Moray, Perth & Kinross, Argyll & Bute, Pembrokeshire, Powys, Ceredigion, Carmarthenshire, Gwynedd, and Monmouthshire extreme rural locations with limited/no transport connectivity have been excluded as these areas are not considered representative of Northumberland county;

- **Areas:** Greater Manchester, Aberdeen City, Dundee City, City of Edinburgh, and Glasgow City, have been excluded. Northumberland County is not a city centre location and does not have comparable transport infrastructure as that found in these city centre locations;

- **Survey Dates:** surveys undertaken between 2010 and 2017/18 have been included in the trip rate calculations. Surveys undertaken prior to 2010 have not been included given these surveys include data that is 8+ years old and not necessarily representative of current travel patterns; and

- **Survey Days:** neutral survey days involving Tuesday, Wednesday, and Thursday have been included in the trip calculations.

2.3.2 Residential Trip Rates

To ensure that trip rates are as reflective as possible for particular Local Plan sites and settlements, different trip rates have been generated for 'Edge of Town Centre', 'Suburban', and 'Edge of Town' locations to ensure appropriate county-wide rates are applied to sites given the spatial diversity of the location of sites across various settlements. In each case, the trip rates have been based on a prescriptive search using the Privately-Owned Housing sub-category and are based upon a user defined range of 5 to 200 dwellings selected in the primary filtering. The net capacity of each residential site is between 5 and 150 dwellings.

The TRICS outputs for the residential trip rates are shown in Appendix E, and Table 1 below summarises the AM an PM peak trip rates used in this assessment.

Table 1 Residential County-wide Trip Rates

Residential Trip Rates (per dwelling)	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Totals
Private Housing, Edge of Town	0.117	0.351	0.468	0.318	0.146	0.464
Private Housing, Suburban Area	0.122	0.346	0.468	0.361	0.197	0.558
Private Housing, Edge of Town Centre	0.152	0.318	0.470	0.220	0.195	0.415

2.3.3 Employment Trip Rates

Through discussions with NCC, it was agreed that employment sites located within 'Edge of Town Centre' and 'Edge of Town' locations would be used for all employment trip rate calculations to reflect the nature of the location of the Northumberland employment sites.

In terms of the separate employment uses, the following user defined parameters were adopted in the trip rate calculations to replicate (as close as possible) the average Gross Floor Area (GFA) of the B1, B2, and B8 allocated employment sites and to ensure that a suitable volume of surveys and appropriate sites were included in the trip rate calculations:

- B1 Single Office: the GFA range across all sites is 510sqm to 12,000sqm, and the average is 4,618sqm. A range of 400sqm to 18,000sqm has been used in the TRICS primary filtering to generate an average B1 GFA of 4,183sqm;

- B1 Business Park: the GFA range across all sites is 239sqm to 64,746sqm. All B1 Business Park sites included in the Local Plan allocations are under 17,000sqm, with the exception of one site which is 64,746sqm. Therefore, a range of 100sqm to 25,000sqm has been used in the TRICS primary filtering tool to ensure that a reasonable average GFA is generated for this employment use;

- B2 Industrial Estate: the GFA range across all sites is 133sqm to 32,800sqm. A range of 100sqm to 35,000sqm has been used in the TRICS primary filtering; and

- B8 Industrial - Commercial Warehousing: the GFA ranges across all sites is 133sqm to 18,900sqm and the average is 4,331sqm. 100sqm to 25,000sqm has been used in the TRICS primary filtering to generate an average B8 GFA of 3,650sqm.

It is worth noting that the user defined GFA for the employment sites inputted into the primary filtering tool were steadily increased to determine whether the number of appropriate surveys could be increased to generate a trip rate with average GFA's that matched those of the allocated sites. It is deemed that the trip rates calculated for the employment sites are the most representative for county wide rates for B1, B2, and B8 uses.

It is noted that for some employment sites, a small quantum of various sui generis have been put forward. However, there is limited information included in the allocation schedule as to what specfic end uses would come forward at this stage. Given that sui generis uses make up only 4% of the total employment floorspace put forward in the Local Plan, it was considered appropriate to apply a blended trip rate using the rates genrated for B1a, B1c, B2, and B8 uses.

The TRICS outputs for the employment trip rates are shown in Appendix E, and Table 2 below summarises the AM and PM peak trip rates used in this assessment.

Table 2 Employment County-wide Trip Rates

Employment Trip Rates (per 100sqm)	AM Peak			PM Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Totals
B1a Office (Single Office)	2.338	0.240	2.578	0.172	1.870	2.042
B1c Office (Business Park)	1.345	0.205	1.550	0.146	1.047	1.193
B2 Industrial Estate	0.249	0.099	0.348	0.054	0.267	0.321
B8 Industrial – Commercial Warehousing	0.185	0.048	0.233	0.014	0.151	0.165

2.4 Minerals Extraction Site Allocation

The Local Plan allocates sites for the extraction of minerals, namely Sand and Gravel extraction and Crushed Rock extraction.

As a general statement, such sites do not typically generate significant levels of traffic during the peak hours for assessment as shift change generally occurs outside these hours and on-going operation vehicular impacts are spread over a full day rather than concentrated during peak periods. However, heavy goods vehicle (HGV) movements may occur during the peak hours and to ensure that these vehicle movements are not omitted from the assessment a trip generation exercise has been undertaken.

Using the estimated reserve and annual output figures for each mineral site allocation, an estimation of hourly HGV movements has been made, which can be seen in Table 3 below.

It has been assumed that the annual output of the site will be extracted over a 50 week period over a 5 day working week and 8 hour working day. This is a conservative estimate given that most extraction sites work longer days and have Saturday operations. An assumption of a 20T payload for each HGV is applied to the daily extraction. It is assumed that no HGVs are stored on the site and therefore for each full vehicle, an empty vehicle

also travels in that hourly period. Furthermore, a 20% buffer has been added to the average figure to take into account peaks in extraction.

Table 3 Estimated Mineral Sites Vehicle Movements

Mineral Extraction Site	Estimated Annual Output (T/annum)	Average Number of Loaded HGV per Hour	Average Number of two-way HGV movements per hour	Average two-way Number + 20% (HGV/hr)
Sand and Gravel Sites				
Anick Grange Haugh	300,000	7.5	15	18
Wooperton Quarry	200,000	5	10	12
West Wharmley	250,000	6.25	12.5	15
Crushed Rock Sites				
Belford Quarry	125,000	3.125	6.25	7.5
Divethill Quarry (combined)	300,000	7.5	15	18
Longhoughton Quarry	200,000	5	10	12
Northside	250,000	6.25	12.5	15

As can be seen from Table 3, the maximum number of HGV movements in the “average + 20%” scenario for any individual site is 18 HGVs in an hour. These sites are spatially spread across the County, generally in rural areas that do not have high residual traffic flows. The largest impact of any HGV traffic will be in the immediate vicinity of each site, before vehicles then distribute across multiple routes on the wider road network depending on their specific routes and origins/destinations. Therefore, given the very low number of movements associated with each site, based on robust conservative estimates, the movements associated with the minerals extraction will not materially impact the road network and do not need to be explicitly included in this TA.

2.5 Approved & Minded to Approve Sites

As described earlier, as well as identified allocation sites, the Local Plan is also made up of a number of sites which are already approved or are highly likely to come forward with a ‘minded to approve’ status that will contribute to the overall aims of the Plan to 2036. All employment sites represent Local Plan allocation sites, therefore approved or ‘minded to approve’ sites represent residential sites only. Therefore, in order to ensure that these sites are accurately represented in the Baseline assessment scenario (further detail is provided in Section 5.2), the same trip rates calculated for the residential allocated sites have also been applied to the sites in Northumberland which have received planning permission and those with a ‘minded to approve’ status. A full schedule of these sites, including completions data from 2011, has been provided by NCC and is included in Appendix B.

3. Local Plan Site Identification

3.1 Introduction

This section provides further detail around the split of site classifications identified to contribute toward the overarching aim of the Local Plan, delivering 17,700 houses and 171,500m^2 of employment land across Northumberland by 2036.

The classification of sites within the land use schedule provided by NCC has two key influences:

- Determines the scenario in which the site is included for the TA junction assessments later in this report; and
- Determines the extent of any alterations that need to be made to residential site quantum, depending on the date of recorded traffic flows used to inform junction capacity assessment relative to housing completions.

Both of these items are investigated in more detail within this section of the report and determines the scope of the assessment provided in later sections of this report in the 11 settlements that have been identified. In relation to site classification, Table 4 below provides a breakdown of housing and employment sites and which land use scenario they are associated with.

Table 4 Site Classification

Local Plan Status	Residential Sites			Employment Sites		
	Dwellings	Proportion	Scenario	Total GFA	Proportion	Scenario
Sites with Planning Permission	15,742	71%	Baseline	n/a		
Sites with 'Minded to Approve' status	4,921	22%	Baseline	n/a		
Local Plan Allocation Sites	1,554	7%	Baseline + Local Plan	B1a (41,562sqm) B1c (193,521sqm) B2 (212,401sqm) B8 (99,606sqm) Sui Generis (21,311sqm)	100%	Baseline + Local Plan
Total	22,217	100%			100%	

The table highlights that 93% of housing sites included within the Local Plan schedule already have a planning approval or a 'minded to approve' status. As such, their status and impact on the network is considered to be already committed, so all of these residential sites are therefore included in the Baseline scenario. The remaining 1,554 dwellings associated with Local Plan site allocations are therefore those that form part of the Local Plan scenario. Comparatively, all employment sites represent Local Plan allocation sites and therefore, no employment sites are included in the Baseline scenario.

3.2 Residential Sites (Local Plan Allocations)

In the first instance, it was agreed that only Local Plan allocated residential sites that produced more than 30 two-way trips in a peak hour were to be included in the Local Plan scenario; as anything lower than this is not considered to have significant impact on the capacity of surrounding junctions. The 30 two-way threshold is based upon the indicative thresholds outlined in G*uidance on Transport Assessments* (GTA) 2007, whereby developments anticipated to generate 30 or more two-way vehicle movements per hour are required to be assessed through the preparation of a Transport Assessment or Transport Statement. Notwithstanding the fact that this publication was withdrawn in 2014, the absence of updated threshold guidance from central Government means that advice provided in the GTA is considered to remain relevant for use in the transport analysis of new developments.

To determine which sites are likely to generate 30 or more two-way trips, a calculation has been carried out by multiplying the *Total Net Capacity of each site* (i.e. number of dwellings per site) by the appropriate trip rates from TRICS. For all 43 residential sites allocated in the Local Plan, an 'Edge of Town' 'Edge of Town Centre' or 'Suburban Area' residential trip rate has been applied based on the location of each site. This identified those sites identified to generate more than 30 trips, thereby generating a final list of residential sites to be included in the Local Plan scenario.

A final schedule of all 43 residential allocated sites is summarised in Table 5 below, which identifies those residential sites highlighted in green that have been included in the Local Plan scenario for assessment based upon the filtering exercise identified above.

Table 5 Residential Allocated Sites

Settlement	SHLAA Site Reference	Total Net Capacity of Site	Site Categorisation	AM Peak Traffic Flows			PM Peak Traffic Flows		
				Arr	Dep	Tot	Arr	Dep	Tot
Newbiggin-by-the-Sea	5059	66	Edge of Town	8	24	32	22	10	32
Newbiggin-by-the-Sea	5129	36	Edge of Town	4	13	17	12	5	17
Newbiggin-by-the-Sea	9052	15	Edge of Town	2	5	7	5	2	7
East Ord	1055 & 6769	150	Edge of Town	18	54	72	49	22	71
Tweedmouth	1116	80	Edge of Town	10	29	39	26	12	38
Tweedmouth	8068	40	Edge of Town	5	14	19	13	6	19
Blyth	4570	51	Edge of Town Centre	8	16	24	11	10	21
Blyth	N/A	8	Edge of Town	1	3	4	3	1	4
Blyth	4671	30	Edge of Town	4	11	15	10	4	14
Haltwhistle	2187	30	Edge of Town Centre	5	10	15	7	6	13
Haltwhistle	2558	150	Edge of Town	18	54	72	49	22	71
Haltwhistle	2549	65	Edge of Town	8	23	31	21	10	31
Hexham	2040	15	Edge of Town Centre	2	5	7	3	3	6
Hexham	2345	81	Edge of Town Centre	12	26	38	18	16	34

Settlement	SHLAA Site Reference	Total Net Capacity of Site	Site Categorisation	AM Peak Traffic Flows			PM Peak Traffic Flows		
				Arr	Dep	Tot	Arr	Dep	Tot
Hexham	2615	10	Edge of Town Centre	2	3	5	2	2	4
Hexham	2616	15	Edge of Town Centre	2	5	7	3	3	6
Hexham	2739	18	Edge of Town Centre	3	6	9	4	4	8
Hexham	6577	5	Edge of Town Centre	1	2	3	1	1	2
Seahouses	6751	100	Edge of Town	12	36	48	33	15	48
Norham	1074	25	Edge of Town	3	9	12	8	4	12
Hexham	6934	5	Edge of Town	1	2	3	2	1	3
Hexham	9104	15	Edge of Town Centre	2	5	7	3	3	6
Hexham	9121 & 9122	8	Suburban	1	3	4	3	2	5
Hexham	9137	8	Suburban	1	3	4	3	2	5
Hexham	9138	8	Suburban	1	3	4	3	2	5
Haydon Bridge	2544	30	Edge of Town	4	11	15	10	4	14
Haydon Bridge	2046	20	Edge of Town	2	7	9	7	3	10
Bellingham	2222	40	Edge of Town	5	14	19	13	6	19
Bellingham	2352	65	Edge of Town	8	23	31	21	10	31
West Woodburn	2065	8	Edge of Town	1	3	4	3	1	4
Hexham	9136 & 2628	40	Edge of Town Centre	6	13	19	9	8	17
Hexham	2051	13	Edge of Town Centre	2	4	6	3	3	6
Prudhoe	2546	30	Suburban	3	10	13	11	6	17
Lynemouth	3496	50	Edge of Town	6	18	24	16	7	23
Lynemouth	9441	50	Edge of Town	6	18	24	16	7	23
Seghill	4602	20	Suburban	2	7	9	7	4	11
Seaton Delaval	9507	45	Edge of Town Centre	7	14	21	10	9	19
Haydon Bridge	2034	25	Edge of Town	3	9	12	8	4	12
Haydon Bridge	9110	25	Edge of Town	3	9	12	8	4	12
Otterburn	2422	15	Edge of Town	2	5	7	5	2	7
Allendale	8033	8	Edge of Town	1	3	4	3	1	4
Allendale	2349 & 9380	16	Edge of Town	2	6	8	5	2	7
Otterburn	2422	20	Edge of Town	2	7	9	7	3	10

This highlights residential allocated sites expected to generate more than 30 two-way trips in the following settlements:

- Newbiggin;
- Hexham;
- Haltwhistle;
- Berwick;
- Bellingham; and
- Seahouses.

These settlements have been taken forward and the main junctions in each settlement impacted by Local Plan allocation traffic considered in the context of a secondary filtering stage summarised in Section 4 to determine those junctions to be considered further.

3.3 Employment Sites (Local Plan Allocations)

As identified above, all employment sites represent Local Plan allocations and therefore require inclusion in the Local Plan scenario. The schedule of employment sites provided by NCC highlights that the 43 allocated employment sites are located across 15 different settlements in Northumberland. However, the traffic impact in each settlement varies widely, depending on the number of employment sites identified within each and the mix of B-class land uses assumed to come forward at each site.

Therefore, a similar filtering exercise has been adopted to determine which employment sites and settlements are likely to result in a material impact in traffic terms, which can be seen in Table 6.

Table 6 Employment Allocated Sites

Settlement	Site Reference	B1a Office (sqm)	B1c Light Industrial (sqm)	B2 (sqm)	B8 (sqm)	Various sui generis (sqm)	Total AM Peak Traffic Flows			Total PM Peak Traffic Flows		
							Arr	Dep	Tot	Arr	Dep	Tot
Acomb	C25			212	212		1	0	1	0	1	1
Alnwick	N15			3,428	3,428		8	3	12	1	8	9
	N-	4,260	3,710	3,710	3,710		91	13	104	8	74	82
	N-	2,616	1,744	1744	1744	1744	61	8	69	5	49	54
	N11	510	340				9	1	10	1	7	8
Amble	SE01		490	490	490	490	12	2	14	1	10	11
Ashington	SE28		3,031		3,031	2,021	30	5	35	3	24	27
	SE37	663				442	9	1	10	1	7	8
	SE-	1,221	7,326	7326		814	69	12	81	8	57	65
	SE36		7,120	7,120			51	10	61	6	42	48
	SE38		13,960	13,960	13,960		112	22	134	13	92	105
Berwick	N19		239	239	239	239	2	0	2	0	2	2
	N29		2,890	2,890	5,780		18	4	22	2	15	17
Bedlington	SE30		1,020	1,020	2,040		20	4	24	2	16	18
Blyth	SE03		340	340	340	340	4	1	5	0	3	3
	SE04			9,840			10	4	14	2	11	13
	SE05 (pt)			1,625	1,625	1,625	10	2	12	1	9	10

Settlement	Site Reference	B1a Office (sqm)	B1c Light Industrial (sqm)	B2 (sqm)	B8 (sqm)	Various sui generis (sqm)	Total AM Peak Traffic Flows			Total PM Peak Traffic Flows		
							Arr	Dep	Tot	Arr	Dep	Tot
	SE39			133	133	133	1	0	1	0	1	1
	Special		4,200	18,900	18,900		58	15	73	8	52	60
Cramlington	SE10	13,530	9,020	9,020	9,020		251	34	285	22	203	225
	SE11			32,800			43	17	60	9	46	55
	SE17		16,120	16,120			135	26	161	17	112	129
	SE18		2,390	2,390			20	4	24	3	17	20
	SE20		1,980	1,980			17	3	20	2	14	16
	Special		64,746				458	70	528	50	357	407
	SE21		320	320			3	1	4	0	2	2
Haltwhistle	W03			1,660	1,660		4	1	5	1	4	5
Hexham	C21			29,600			39	16	55	8	42	50
	GBELT		15,723	15,723	7,862		141	27	168	17	116	133
Lynemouth	SE35		3,960	3,960			53	10	63	7	44	51
Morpeth	C01		648				5	1	6	0	4	4
	C-					11,600	63	9	72	6	51	57
	C-	3,750	2,500				64	7	71	5	51	56
	C11		1,863	1,863	1,863	1,863	28	5	32	3	23	26
	C17		15,413	11,560	3,853		128	24	152	15	105	120
Ponteland	GBELT	12,000					246	25	171	18	197	215

Settlement	Site Reference	B1a Office (sqm)	B1c Light Industrial (sqm)	B2 (sqm)	B8 (sqm)	Various sui generis (sqm)	Total AM Peak Traffic Flows			Total PM Peak Traffic Flows		
							Arr	Dep	Tot	Arr	Dep	Tot
	GBELT		4,667	4,667	4,667		73	14	87	9	60	69
Prudhoe	C24		5,280	5,280	10,560		75	15	90	9	62	71
	GBELT	3,012	2,008	2,008	4,016		80	11	91	7	65	72
Seahouses	N22		473	473	473		5	1	6	1	4	5

Employment related trip rates and trip generation is based on and calculated using Gross Floor Area, that being the useable space within a building footprint that can accommodate staff. Therefore, in order to provide a representative land use area on which to apply employment trip rates, assumptions have been applied to the total site land areas that have been provided. These have been provided by NCC. How intensely developed an employment site is, that is the proportion of the site occupied by a building, varies by business type. The assumptions provided by NCC on which the developable areas have been defined are 60% site GFA coverage for B1a office and 40% site GFA coverage for B1c business park, B2 industrial and B8 commercial / warehousing uses.

The distribution of employment site allocations across Northumberland is concentrated in a number of settlements. This highlights employment allocated sites that generate more than 30 two-way trips in any peak hour (in green) and therefore could be considered to materially impact on the road network located in the following settlements:

- Alnwick;
- Ashington;
- Blyth;
- Cramlington;
- Hexham;
- Morpeth;
- Ponteland; and
- Prudhoe.

A number of settlements are identified to have both employment sites generating more than 30 two-way trips as well as multiple additional employment sites of varying size. Given the concentration of multiple employment sites in certain settlements, for those settlements that do have site(s) exceeding the trip threshold and also have multiple other employment sites allocated (those listed above), all sites within each settlement have been included to consider a robust cumulative impact, irrespective of the level of trip generation from each site. These additional sites included in the analysis are highlighted in orange in Table 6.

Table 6 highlights that some settlements have a single employment site allocation. However, in each case the level of traffic generated is low (i.e. below the 30 two-way trip threshold) and therefore no further consideration of the employment sites in these settlements is considered necessary as part of the Local Plan scenario.

Although the employment sites in Berwick are not expected to generate any material volume of traffic in their own right, they have been considered alongside the housing allocation sites identified in Berwick in the previous section to ensure a full cumulative Local Plan impact is captured for Berwick.

3.4 Traffic Distribution

This section describes the methodology used for determining the distribution of Local Plan residential and employment development traffic onto the wider road network to determine the impact in the settlements identified in the previous section.

3.4.1 Local Plan Traffic Distribution

Jacobs has undertaken a detailed review of the latest available 2011 Census Travel to Work data to generate realistic distribution profiles to apply to the Local Plan allocation development sites. For both housing and employment sites, individual distribution profiles have been generated for each settlement that have then been applied to each site individually. This has ensured a bespoke locally derived distribution pattern has been applied in each case, reflecting the specific routes within each settlement that would be associated with each site depending location.

3.4.2 Residential Sites

For the housing distribution profiles, Jacobs has sourced the resident local Travel to Work data for the Middle Super Output Areas located within each settlement boundary from the 2011 Census. This data indicates the workplace destination of all those of working age and in employment who currently live in the defined area, which can then be used as a benchmark for the likely workplace patterns of future developments in the same area. By understanding the workplace destination, future trips can be assigned to a route on the local highway network, based on the destinations provided in the Census data. For each settlement, this data has been categorised into key routings in out and within each settlement from each individual development site considered.

The census data also identifies the proportion of residents who live and work within the same area / settlement. It is likely that a proportion of these trips would be undertaken by sustainable modes, such as walking, cycling or local bus services, given the relatively short distances that are typically involved. However, in the interest of a robust assessment, the internal resident-work proportion has been assumed as vehicular trips and has been routed to the assumed main employment areas within each settlement from each development. In the majority of cases, traffic has been proportioned between the town centre, for the various employment functions located in the town centres and any significant employment / retail area within the settlement, such as a large out of town business park or retail centre.

3.4.3 Employment Sites

In relation to the employment sites, a slightly different methodology has been adopted. Broadly, people are considered to travel further and make more complex trips in accessing specific locations / employment opportunities. Therefore, industry best practice is to employ a gravity model to determine a distribution for employment related land uses. The gravity model assumes travel between areas is proportional to their population, number of jobs and facilities but inversely proportional to the distance. Therefore, for the employment allocations, Jacobs has constructed individual bespoke gravity models to generate appropriate employment related distribution profiles for each impacted settlement.

Initially, the 2011 Census Travel to Work data has been interrogated to derive the maximum distance the daytime population of each settlement travel to a 95% confidence level in each case. This information is used to produce a catchment area and the population data for all areas that fall within the identified catchment area is sourced. For areas in the immediate vicinity of the site, the population data is broken down by Middle Super Output Area (MSOA), providing a more refined disaggregation. However, for those areas on the periphery of the catchment areas, larger Local Authority or district-based population areas have been used.

The travel distance by the fastest available route by journey time between the individual employment site and various MSOAs and districts has then been calculated. A deterrence function is then applied to the distance and population statistics for each origin – destination pair which then provides a proportion to each origin – destination pair. This proportion is used to determine which areas would likely generate trips to the particular employment sites, which in turn can be used to identify the appropriate routings between each origin and destination to inform the distribution.

Following the completion of the above-mentioned calculations, a set of individual distribution and assignment profiles have been created for all residential and employment allocation sites that have resulted from the filtering stage explained in chapter 3. The assigned flows from both the residential and employment site distribution profiles have then been combined into a total Local Plan scenario for all of the 9 settlements identified.

A full set of routing distribution assumptions for internal trips within settlements that have been applied is provided in Appendix D.

3.4.4 Double Counting – Within Settlement Trips

Solely using the generated traffic data for residential and employment allocation sites would result in a significant amount of double counting of trips, as a proportion of residential generated trips in a particular settlement would route to the proposed employment uses that attract trips from within each settlement, based on the gravity model tool used.

Therefore, it has been necessary to constrain the employment trips by the number of dwellings actually anticipated to come forward in a particular settlement. This impacts on the volume of trips attracted to the employment areas for each settlement directly, based upon the gravity models. For example, if 10% of employment trips are anticipated to be attracted from within the same settlement in question, equating to 100 trips, these 100 trips have been manually removed from the employment trip generation. This accounts for the fact that they have already been included within the distribution applied to the residential sites and trip generation, which includes a number of commuting trips that would remain within each settlement based on the Census data. This methodology ensures that any locally derived employment trips are constrained by the actual number of dwellings anticipated to be delivered by settlement. The remaining balance of employment trips are then assigned to the road network using an updated version of the gravity model that removes the local settlement ‘pull’ factor, ensuring these trips are distributed across the wider geographical area and associated routings.

3.4.5 Commuting Ratios

As part of the previous work completed in 2016 for the Core Strategy TA, NCC provided Jacobs with aspirational commuter ratios. These highlight an objective to deliver more Northumberland based jobs and aim to reduce the overall commuter outflow from Northumberland from the current ratio of 1.19 (at 2011) to 1.09 by the end of the Local Plan period. This essentially represents a 10% shift in commuting outflow to commuting trip retention within Northumberland. It has been agreed with NCC that commuting ratio aspirations remain and therefore the same methodology to account for this objective has been applied to the employment trips.

This has been accounted for by calculating the quantum of 10% of the Local Plan allocation employment site trips for each settlement, based on the 2011 Census proportion of employment trips attracted from residents of each settlement. These trips have then been removed from the total employment allocation site trips per settlement in addition to the double counting deductions identified above. The 10% commuting ratio deduction represent residents who would otherwise travel to work outside of the settlement and outside of Northumberland but would change their workplace destination to one within the settlement by the end of the Plan period.

Table 7 highlights the percentage deductions that have been applied to the trip rates for each settlement, including the double counting within settlement and the commuter flow charge deductions. The deductions are based on the proportion of employee trips that would be expected to be drawn from within the catchment area of each settlement, based on the gravity models.

Table 7 Within Settlement & Commuting Ratio Deductions Applied to Trip Rates

Settlement	Within Settlement % Deductions	Commuting Ratio % Deductions
Alnwick	40.9%	4.1%
Ashington	49.9%	5.0%
Berwick	61.5%	6.1%
Blyth	52.6%	5.3%
Cramlington	43.1%	4.3%
Haltwhistle	48.7%	4.9%
Hexham	42.6%	4.3%
Morpeth	42.9%	4.3%
Ponteland	11.3%	1.1%
Prudhoe	24.8%	2.5%

A full set of assumptions and values applied to employment trips to account for double counting and commuting ratios are provided in Appendix C.

4. Juntion Identification

4.1 Overview

This section of the report outlines the filtering process undertaken to identify which junctions would require modelling to determine the traffic impact of the Local Plan allocations following the distribution and assignment of traffic summarised in the following Section.

4.2 Junction Identification

4.2.1 Filtering Distribution & Assignment Profile Totals

A set of individual distribution and assignment profiles have been created for all residential and employment allocation sites. The combination of these flows based on all Local Plan allocation sites in impacted settlements highlights those junctions likely to observe increases in traffic flows. The junctions anticipated to be impacted by an increase in traffic of 60 two-way trips (1 vehicle/minute) resulting from Local Plan allocation sites have been considered. Junctions beyond the control of the Local Highway Authority, i.e. those located in the Strategic Road Network and those within neighbouring Local Authorities have not been assessed.

This exercise identified which junctions would be anticipated to have 60+ two-way traffic flows resulting solely from Local Plan allocation site traffic. These junctions are shown in Tables 8 and 9 for Wider Northumberland and for South East Northumberland.

4.3 Junctions Assessed in Wider Northumberland

Table 8 identifies the 10 junctions which have been taken forward and considered in detail following the sifting criteria above to determine the traffic impact of the Local Plan scenario within the Wider Northumberland settlements. The table also outlines the modelling software used and whether existing junction models or new models have been created for each junction. Existing models were developed by Jacobs in 2016 for the now withdrawn Core Strategy TA.

Table 8 Junctions Assessed in Wider Northumberland

Settlement	Junction	Modelling Software	Existing Model	New Model Developed
Alnwick	A1068 / Willowburn Avenue	ARCADY	Yes	-
	A1068 / Shilbottle Road	PICADY	Yes	-
Morpeth	A192 / Morpeth Northern Bypass	ARCADY	-	Yes
Prudhoe	A695 / Former Hamorite Factory Access	PICADY	-	Yes
	A695 / Princess Way / Station Road	ARCADY	Yes	-
Berwick	A1167 Royal Tweed Bridge / A698 / Union Park Road	ARCADY	Yes	-
	A1167 Northumberland Road / Billendean Terrace	ARCADY	Yes	-
Hexham	A6079 Rotary Way / Ferry Road	PICADY	Yes	-
Haltwhistle	B6322 West Road / Station Crescent	PICADY	-	Yes
	Westgate / Park Road	PICADY	-	Yes

4.4 Junctions Assessed in South East Northumberland

Table 9 identifies the 22 junctions which have been taken forward and considered in detail following the sifting criteria above to determine the traffic impact of the Local Plan scenario within the South East Northumberland settlements.

Table 9 Junctions Assessed in South East Northumberland

Settlement	Junction	Modelling Software	Existing Model	New Model Developed
Ashington	A197 / Morpeth Road	PICADY	-	Yes
	A197 Rotary Parkway / A196 / Lintonville Terrace	ARCADY	Yes	-
	A197 / Woodhorn Road	ARCADY	-	Yes
	A197 / Wansbeck Hospital Road	ARCADY	-	Yes
	A189 / A197 / Summerhouse Lane	ARCADY	-	Yes
	B1334 Newbiggin Road / College Road / Cotswold Drive	ARCADY	Yes	-
	A189 / B1334 / Ashwood Drive	ARCADY	Yes	-
Choppington	A196 Stakeford Lane / A1068	ARCADY	-	Yes
Blyth	A189 / A193 Bebside	ARCADY	-	Yes
	A192 / A1061 Laverock Hall Road	ARCADY	Yes	-
Seaton Delaval	A192 / B1326 Seaton Delaval	ARCADY	Yes	-
Cramlington	A189 / A192 / B1505 Horton Road	ARCADY	-	Yes
	A192 / A1068 Fisher Lane	ARCADY	-	Yes
	A192 / A1171 West Hartford	ARCADY	-	Yes
	A1171 Dudley Lane / Ripley Drive / Glenluce Drive	ARCADY	Yes	-
	A1171 Dudley Lane / Northumbrian Road / Lancastrian Road	ARCADY	Yes	-
	A1068 Fisher Lane / A1172	ARCADY	Yes	-
	A1172 / Nelson Drive / Beacon Lane	ARCADY	Yes	-
	A1171 / A1172 / Station Road	ARCADY	Yes	-
	B1319 / Dudley Lane / Broad Law	ARCADY	-	Yes
	A1171 / Dudley Lane / Arcot Lane	ARCADY	-	Yes
	A1171 / Dudley Lane / Hebron Way	ARCADY	Yes	-

A full set of schematic traffic flow diagrams for the Local Plan Land Use scenario for each of the 11 settlements is provided in Appendix F.

5. Assessment Methodology for Individual Junctions in Northumberland

5.1 Background

This section of the TA describes the methodology adopted to ascertain the traffic flows for the two scenarios that have been described previously in this report and assessed for the 10 Wider Northumberland junctions and 22 South East Northumberland junctions highlighted in the previous section.

This section identifies the method of calculating the baseline traffic flows for each of the modelled junctions by introducing the raw traffic count data used, identifying the sources of raw traffic data, outlining the TEMPro growth factors used, and explaining the process for removing the trips from the baseline flows for those sites which have been developed.

5.2 Baseline Scenario

5.2.1 Overview

The filtering exercise undertaken for Local Plan scenario residential and employment sites has identified a number of junctions in Northumberland whereby Local Plan site allocations could potentially result in a material impact in traffic terms.

In order to consider the cumulative impact of these Local Plan allocation sites that are yet to come forward or have any status in the planning system on the road network, it has been necessary to develop a baseline for the settlements and junctions identified on which to assess their impact. Baseline scenarios involve identifying and considering all the relevant sites that have been included in the land use schedule provided by NCC that have an existing planning permission or ‘minded to approve’ status in the settlements included within the assessment scope.

Baseline scenarios have therefore been developed for the junctions set out in Section 4.3 following the sifting process to determine what additional committed development traffic needs to be considered within any junction capacity assessments.

5.2.2 Step 1: Calculating Baseline Traffic Generation

The first step has involved assigning a ‘location type’ to all sites identified with planning permission or ‘minded to approve’ status within the 9 settlements. This has been determined by ‘Edge of Town’, ‘Edge of Town Centre’ or ‘Suburban’ and the classification identifies the trip rates that have been assigned to each site. Following this, the total trip generation has been calculated for each site included within the baseline scenario.

This has involved the same exercise described previously for Local Plan allocation sites, with a bespoke distribution and assignment profile development for each site included within the baseline scenario reflecting the Census based distribution statistics for the settlement within which each site is located.

5.2.3 Step 2: Defining Raw Traffic Count Data

For each junction identified within Section 4.3, recorded traffic flows have been sourced on which to add baseline and Local Plan allocation development flows. These represent AM and PM peak hour turning movements at junctions that have been sourced from traffic surveys undertaken at various time periods. Traffic flows have been derived from a variety of sources, mainly a number of Transport Assessments associated with recent planning applications for sites that have required turning count surveys to be undertaken as part of the Transport Assessment scope. A full list of source data for each junction is summarised in Table 10 below. This also highlights the specific junction layouts that have been used within the junction capacity assessments summarised in Section 6 and 7. In some instances, mitigation has been put forward in recent planning applications that will involve modifications being implemented at some junctions. Given that these improvements are committed, but not

necessarily yet reflected on the ground, approved layout changes have been reflected in the junction capacity assessments.

Where amended junction layouts have been used, the source of the information is included in the table below.

Table 10 Base Traffic Data Sources for the Assessed Junctions

Settlement	Junction	Base Traffic Data Source	Junction Layout Modelled
Wider Northumberland			
Alnwick	A1068 / Willowburn Avenue	Transport Assessment, Proposed Residential Development, iPRT Transport Planning, 2016	Existing Layout Modelled
	A1068 / Shilbottle Road	Traffic Note, ADL Traffic & Highways Engineering, 2018	Amended Layout Modelled (from Traffic Note by ADL Traffic & Highways Engineering, 2018)
Morpeth	A192 / Morpeth Northern Bypass	Morpeth Northern Bypass Monitoring and Evaluation, Intelligent Data Collection Limited, 2017	Existing Layout Modelled
Prudhoe	A695 / Former Hamorite Factory access	Transport Assessment, North Associates, WYG Transport, 2015	Proposed Layout Modelled (WYG Transport Assessment 2015)
	A695 / Princess Way / Station Road	Proposed Retail & Leisure Development, Transport Assessment, Fairhurst, 2016	Existing Layout Modelled
Haltwhistle	Westgate / Park Road	Manual Classified Turning Counts, 16th October, 2018	Existing Layout Modelled
	B6322 West Road / Station Crescent	Manual Classified Turning Counts, 16th October, 2018	Existing Layout Modelled
Berwick	Royal Tweed Bridge / A1167 / A698	Transport Assessment, Royal Carlton Estates, WSP, 2008	Existing Layout Modelled
	A1167 Northumberland Road / Billendean Terrace	Transport Assessment, Royal Carlton Estates, WSP, 2008	Existing Layout Modelled
Hexham	A6079 Rotary Way / Ferry Road	Previous Jacobs Core Strategy Study, Third Party Survey Company, 2015	Existing Layout Modelled

Settlement	Junction	Base Traffic Data Source	Junction Layout Modelled
South East Northumberland			
Ashington	A197 / Morpeth Road	Transport Assessment, SAJ Transport Consultants, 2018	Existing Layout Modelled
	A197 Rotary Parkway / A196 / Lintonville Terrace	Transport Assessment Addendum, Milestone Transport Planning, 2021	Approved Layout Modelled (Planning App 16/02432/OUT from Transport Assessment, Milestone TP, Proposed Residential Development Land East of Wansbeck Hospital Appendix 10)
	A197 / Woodhorn Road	Transport Assessment Addendum, Milestone Transport Planning, 2021	Existing Layout Modelled
	A197 / Wansbeck Hospital Road	Transport Assessment Addendum, Milestone Transport Planning, 2015	Approved Layout Modelled (Planning App 16/02432/OUT from Transport Assessment, Milestone TP, Proposed Residential Development Land East of Wansbeck Hospital Appendix 9)
	A189 / A197 / Summerhouse Lane	Transport Assessment Addendum, Milestone Transport Planning, 2015	Approved Layout Modelled (Planning App 17/02323/OUT from Transport Assessment, Milestone TP, Proposed Employment Development, Lynefield Park, Lynemouth, Appendix 8)
	B1334 Newbiggin Road / College Road / Cotswold Drive	Transport Assessment, Residential Development, IPRT Transport Planning, 2014	Existing Layout Modelled
	A189 / B1334 / Ashwood Drive	Transport Assessment, Milestone Transport Planning, 2017	Existing Layout Modelled. S106 funding is secured towards improvements to this junction, this funding could fund improvements set out in this TA therefore the existing layout has been modelled.
Choppington	A196 Stakeford Lane / A1068	Transport Assessment, Dysart Development Ltd, SAJ Transport Consultants, 2016	Existing Layout Modelled
Blyth	A189 / A193 Bebside	Transport Assessment, SAJ Transport Consultants, 2017	Existing Layout Modelled
	A192 / A1061 Laverock Hall Road	Transport Assessment, Residential Development, Systra, 2017	Approved Layout Modelled (Planning App 17/00499/OUT from Systra

Settlement	Junction	Base Traffic Data Source	Junction Layout Modelled
			Transport Assessment 2017 Appendix I
Seaton Delaval	A192 / B1326 Seaton Delaval	New Hartley, Site Location Plan, WYG, 2012	Existing Layout Modelled
Cramlington	A189 / A192 / B1505 Horton Road	Transport Assessment Addendum, Milestone Transport Planning, 2017	Existing Layout Modelled
	A192 / A1068 Fisher Lane	Transport Assessment, Homes and Community Agency, West Hartford, 2016	Existing Layout Modelled
	A192 / A1171 West Hartford	Transport Assessment, Homes and Community Agency, West Hartford, 2016	Existing Layout Modelled
	A1171 Dudley Lane / Ripley Drive / Glenluce Drive	Centre Point Application, 2014	Existing Layout Modelled
	A1171 Dudley Lane / Northumbrian Road / Lancastrian Road	Centre Point Application, 2014	Existing Layout Modelled
	A1068 Fisher Lane / A1172	Transport Assessment, West Hartford, 2016	Existing Layout Modelled
	A1172 / Nelson Drive / Beacon Lane	Arcot Consortium, SWS Application, 2014	Existing Layout Modelled
	A1171 / A1172 / Station Road	Transport Assessment, West Hartford, 2016	Approved Layout Modelled (Planning App 16/04741/OUT from West Hartford Transport Assessment, Arup, Appendix I)
	B1319 / Dudley Lane / Broad Law	November 2018 traffic counts commissioned by NCC	Existing Layout Modelled
	A1171 / Dudley Lane / Arcot Lane	Transport Assessment, WYG, 2014	Existing Layout Modelled
	A1171 / Dudley Lane / Hebron Way	Transport Survey, Cramlington, WYG 2014	Existing Layout Modelled

5.2.4 Step 3: Application of TEMPro Factors

As highlighted above, the raw traffic surveys that have been used to inform the assessments were undertaken between 2008 and 2017. The Local Plan period is 2016 to 2036, and therefore, baseline traffic data that is dated prior to 2016 has been factored to ensure that the base flows used in the assessments are relevant to the start of

the plan period. Baseline traffic flows dated 2016+ have been used in the assessments without being adjusted back to 2016 levels.

Tables 11 and 12 illustrate the TEMPro growth factors used per settlement and junction for the Wider Northumberland and South East Northumberland junctions. These are localised growth factors for the relevant MSOA to which a junction is located which have been adjusted by NTM growth figures. This ensures that any background traffic growth has been appropriately considered in the assessments.

Traffic growth factors have been applied to factor historic flows up to a 2016 base year where required, the start of the Plan period. This is because for each of the junctions considered, the Baseline scenario considers the traffic flows associated with all committed development (those with planning approval or 'minded to approve' status) as identified in the full schedule provided by NCC. Any further factoring of traffic to the end of the Plan period would involve double counting of trips given that all development (either committed or Local Plan allocations) has been explicitly considered within this assessment.

Table 11 TEMPro Growth Factors for Wider Northumberland Junctions

Settlement	Junction	Base Traffic Year	AM Peak	PM Peak
Alnwick	A1068 / Willowburn Avenue	2016	-	-
	A1068 / Shilbottle Road	2018	-	-
Morpeth	A192 / Morpeth Northern Bypass	2017	-	-
Prudhoe	A695 / Former Hamorite Factory Access	2015	1.0129	1.0141
	A695 / Princess Way / Station Road	2016	-	-
Berwick	A1167 Royal Tweed Bridge / A698 / Union Park Road	2008	1.0383	1.0473
	A1167 Northumberland Road / Billendean Terrace	2008	1.0383	1.0473
Hexham	A6079 Rotary Way / Ferry Road	2015	1.014	1.0153
Haltwhistle	B6322 West Road / Station Crescent	2018	-	-
	Westgate / Park Road	2018	-	-

Table 12 TEMPro Growth Factors for South East Northumberland Junctions

Settlement	Junction	Base Traffic Year	AM Peak	PM Peak
Ashington	A197 / Morpeth Road	2018	-	-
	A197 Rotary Parkway / A196 / Lintonville Terrace	2021	-	-
	A197 / Woodhorn Road	2021	-	-
	A197 / Wansbeck Hospital Road	2015	1.013	1.014
	A189 / A197 / Summerhouse Lane	2015	1.014	1.014
	B1334 Newbiggin Road / College Road / Cotswold Drive	2014	1.019	1.021
	A189 / B1334 / Ashwood Drive	2017	-	-
Choppington	A196 Stakeford Lane / A1068	2016	-	-
Blyth	A189 / A193 Bebside	2017	-	-
	A192 / A1061 Laverock Hall Road	2017	-	-

Settlement	Junction	Base Traffic Year	AM Peak	PM Peak
Seaton Delaval	A192 / B1326 Seaton Delaval	2012	1.030	1.032
	A189 / A192 / B1505 Horton Road	2017	-	-
	A192 / A1068 Fisher Lane	2016	-	-
	A192 / A1171 West Hartford	2016	-	-
	A1171 Dudley Lane / Ripley Drive / Glenluce Drive	2014	1.018	1.019
	A1171 Dudley Lane / Northumbrian Road / Lancastrian Road	2014	1.018	1.019
	A1068 Fisher Lane / A1172	2014	1.004	1.006
	A1172 / Nelson Drive / Beacon Lane	2014	1.004	1.006
	A1171 / A1172 / Station Road	2014	1.019	1.021
	B1319 / Dudley Lane / Broad Law	2018	-	-
	A1171 / Dudley Lane / Arcot Lane	2014	1.018	1.019
Cramlington	A1171 / Dudley Lane / Hebron Way	2014	1.019	1.021

5.2.5 Step 4: Removing Completed Dwellings

The table above highlights that the available traffic count data for the various junctions has been sourced from a number of sources and the survey dates therefore also vary. There are a number of residential development sites across Northumberland that form part of the overarching Local Plan housing delivery target that have attained planning permission and as such have been or are in the process of being built out with dwellings being completed and occupied. Depending on the date of the traffic surveys, and the point at which particular sites have been initiated, it is likely that traffic associated with completed dwellings at some sites is already captured and represented in the recorded traffic flows. Therefore, including all sites with planning permission in entirety over and above recorded flows in these circumstances will result in double counting of trips.

NCC has provided Jacobs with a schedule of annual completions data for sites included in the Local Plan development schedule that have attained planning permission since 2011. This data has been used to deduct the necessary number of completions from the site totals if completions have occurred prior to the date of traffic count data for junctions in the same settlement. Table 13 below summarises the absolute change in housing numbers across the sites affected.

Table 13 Revised Site Capacity Totals with the Removal of Completions Data

Settlement	Site Reference	Original Net Capacity	Amended Net Capacity
Alnwick	0284b	236	231
	0323	61	29
	0400	19	15
Ashington	5144	657	529
	5145	357	207
	5193	6	5
Berwick	1046	60	39
	1541	58	13
	1391	29	7
	0332	15	10

	1383	14	13
	1500	5	4
Blyth	4755	395	200
	4633	350	278
Cramlington	4783	19	13
Morpeth	3188 (in part)	396	356
	3397	375	330
	3318	288	179
	3079	225	185
	3289	11	9
Seaton Delaval	4629	190	113

The revised lower quantum has then been used to calculate the total trip generation for impacted sites to include additionally in the Baseline scenario. The baseline scenarios have been completed by including all sites with planning permission and 'minded to approve' status, alongside any necessary completions deductions, to form a final total baseline set of traffic flows for each settlement.

This is then included in addition to recorded traffic flows (with appropriate TEMPro factors applied) to produce a final baseline flow deck on which to assess the additional Local Plan scenario.

A full set of schematic traffic flow diagrams, highlighting recorded traffic flows, and total scenario totals for the Baseline Land Use scenario and Local Plan Land Use scenario for the 11 impacted settlements are provided in Appendix F.

6. Wider Northumberland Modelling Results

6.1 Overview

This section of the TA presents the Junctions 9 modelling results for the 10 junctions in Wider Northumberland resulting from the earlier filtering exercise, which are presented for each settlement. The Junctions 9 outputs that have been reported are Ratio to Flow Capacity (RFC), maximum queue lengths, and delay (seconds) for the Baseline scenario and the Local Plan scenario for each junction. The difference in the RFC, queue lengths, and delay between the two scenarios has also been calculated for each junction.

The RFC modelling results have been subject to a RAG review (Red, Amber, Green) to enable the easy identification of those junctions which are predicted to be negatively impacted by Baseline scenario and Local Plan scenario traffic. The key for the RAG review is as follows:

- RFC: 0 to 85% GREEN
- RFC: 86% to 99% AMBER
- RFC: 100%+ RED

For each modelled junction, the following scenarios have been reported:

- **Baseline Assessment:** Recorded traffic flows (and appropriate traffic growth factors) plus inclusion of Baseline Scenario development traffic flows;
- **Local Plan Assessment**: Recorded traffic flows (and appropriate traffic growth factors) plus inclusion of Baseline traffic flows plus inclusion of Local Plan Scenario traffic flows (Local Plan allocation sites).

6.2 Alnwick Modelling Results

6.2.1 A1068 / Willowburn Avenue

Table 14 demonstrates that the A1068 / Willowburn Avenue junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all four junction approaches in both the Baseline and Local Plan scenarios, during the AM and PM peaks.

Table 14 A1068 /Willowburn Avenue ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Willowburn Avenue	45%	0.8	6.5	44%	0.8	5.9
A1068 North	46%	0.9	6.1	65%	1.8	9.4
A1068 East	39%	0.6	5.3	45%	0.8	6.3
A1 Northbound off slip	48%	0.9	6.6	40%	0.7	6.1
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Willowburn Avenue	48%	0.9	7.4	45%	0.8	6.0
A1068 North	49%	1.0	6.9	65%	1.9	9.6
A1068 East	40%	0.7	5.4	49%	1.0	6.8
A1 Northbound off slip	59%	1.4	8.3	42%	0.7	6.2
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Willowburn Avenue	+3%	+0.1	+0.9	+1%	0	+0.1
A1068 North	+3%	+0.1	+0.8	0%	+0.1	+0.2
A1068 East	+1%	+0.1	+0.1	+4%	+0.2	+0.5
A1 Northbound off slip	+11%	+0.5	+1.7	+2%	0	+0.1

6.2.2 A1068 / Shilbottle Road (Amended Layout)

An approved ghost island layout of the A1068 / Shilbottle Road priority junction has been considered in this following capacity analysis.

Table 15 shows that the A1068 junction approaches are anticipated to experience an RFC of less than 85%, resulting in minimal queue lengths and delay in the Baseline scenario. The Shilbottle Road approach is anticipated to have an RFC of 90% during the PM peak, with a 55 second delay to traffic.

The RFC of the Shilbottle Road approach is expected to worsen during the Local Plan scenario to 97% and 125%, with a 92 second and a 485 second delay to traffic, during the AM and PM peaks respectively. This will result in longer queue lengths on this junction approach during the Local Plan scenario, with the junction approach becoming oversaturated by 25% during the PM peak.

Table 15 A1068 / Shilbottle Road PICADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Shilbottle Road	85%	4.8	39.5	90%	6.9	54.8
A1068 West (under A1)	69%	2.3	19.6	62%	1.6	16.0
Approach	**Local Plan Scenario**					
	AM Peak			**PM Peak**		
	RFC %	**Max Queue**	**Delay (secs.)**	**RFC %**	**Max Queue**	**Delay (secs.)**
Shilbottle Road	97%	12.1	92.2	125%	72.3	484.6
A1068 West (under A1)	91%	8.7	47.8	64%	1.8	16.9
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			**PM Peak**		
	RFC %	**Max Queue**	**Delay (secs.)**	**RFC %**	**Max Queue**	**Delay (secs.)**
Shilbottle Road	+12%	+7.3	+52.7	+35%	+65.4	+429.8
A1068 West (under A1)	+22%	+6.4	+28.2	+2%	+0.2	+0.9

The results highlight that the junction is anticipated to operate beyond capacity when the additional Local Plan land use scenario traffic is included and therefore potential mitigation options available at this junction will be considered.

6.3 Berwick Modelling Results

6.3.1 A1167 Royal Tweed Bridge / A698 / Union Park Road

Table 16 highlights that the A698 Ord Drive, Union Park Road, and A1167 Royal Tweed Bridge junction approaches are anticipated to have an RFC of less than 86% in the Baseline scenario and Local Plan scenario during the AM and PM peaks.

The A1167 Prince Edward Road approach is expected to have an RFC of 88% in the Baseline scenario during the AM peak, which will increase to 94% in the Local Plan scenario. Whilst this is over 85%, this approach will not become oversaturated but will be nearing the maximum capacity threshold for this junction approach in the Local Plan scenario.

Table 16 A1167 Royal Tweed Bridge / A698 / Union Park Road ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A698 Ord Drive	81%	3.8	37.2	76%	2.9	24.0
Union Park Road	12%	0.1	16.5	9%	0.1	11.9
A1167 Royal Tweed Bridge	48%	0.9	6.3	73%	2.7	12.5
A1167 Prince Edward Road	88%	6.6	27.7	65%	1.8	9.9
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A698 Ord Drive	86%	4.9	47.7	83%	4.5	36.1
Union Park Road	13%	0.2	18.2	10%	0.1	13.4
A1167 Royal Tweed Bridge	49%	1.0	6.5	80%	3.7	17.0
A1167 Prince Edward Road	94%	10.8	43.4	69%	2.2	11.6
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A698 Ord Drive	+5%	+1.1	+10.5	+7%	+1.6	+12.1
Union Park Road	+1%	+0.1	+1.7	+1%	0.0	+1.5
A1167 Royal Tweed Bridge	+1%	+0.1	+0.2	+7%	+1.0	+4.5
A1167 Prince Edward Road	+6%	+4.2	+15.7	+4%	+0.4	+1.7

6.3.2 A1167 Northumberland Road / Billendean Terrace

Table 17 outlines that the A1167 Northumberland Road / Billendean Terrace junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all four junction approaches in both the Baseline and Local Plan scenarios, during the AM and PM peaks.

Table 17 A1167 Northumberland Road / Billendean Terrace ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1167 Northumberland Road North	28%	0.4	4.1	55%	1.2	6.6
Billendean Terrace	44%	0.8	5.4	35%	0.5	5.1
A1167 Northumberland Road South	56%	1.2	9.0	38%	0.6	6.2
Sports Centre Access	3%	0.0	6.8	11%	0.1	6.1
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1167 Northumberland Road North	30%	0.4	4.3	59%	1.4	7.3
Billendean Terrace	45%	0.8	5.6	36%	0.6	5.4
A1167 Northumberland Road South	57%	1.3	9.4	43%	0.7	6.9
Sports Centre Access	14%	0.2	7.9	15%	0.2	6.7
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1167 Northumberland Road North	+2%	0.0	+0.2	+4%	+0.2	+0.7
Billendean Terrace	+1%	0.0	+0.2	+1%	+0.1	+0.3
A1167 Northumberland Road South	+1%	+0.1	+0.4	+5%	+0.1	+0.7
Sports Centre Access	+11%	+0.2	+1.1	+4%	+0.1	+0.6

6.4 Haltwhistle Modelling Results

6.4.1 B6322 West Road / Station Crescent

Table 18 illustrates that the B6322 West Road / Station Crescent junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all four junction approaches in both the Baseline and Local Plan scenarios, during the AM and PM peaks.

Table 18 B6322 West Road / Station Crescent PICADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Westgate	15%	0.2	7.7	21%	0.3	8.2
B6322	25%	0.3	10.9	30%	0.4	12.4
Station Crescent	0%	0.0	6.8	1%	0.0	7.0
B6322 West Road	28%	0.4	9.0	29%	0.4	8.8
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Westgate	18%	0.2	7.9	22%	0.3	8.4
B6322	27%	0.4	11.3	32%	0.5	13.0
Station Crescent	0%	0.0	6.9	1%	0.0	7.0
B6322 West Road	29%	0.4	9.1	31%	0.4	9.0
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Westgate	+3%	0.0	+0.2	+1%	0.0	+0.2
B6322	+2%	+0.1	+0.4	+2%	+0.1	+0.6
Station Crescent	0%	0.0	+0.1	0%	0.0	0.0
B6322 West Road	+1%	0.0	+0.1	+2%	0.0	+0.2

6.4.2 Westgate / Park Road

Table 19 demonstrates that the Westgate / Park Road junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all three junction approaches in both the Baseline and Local Plan scenarios, during the AM and PM peaks.

Table 19 Westgate / Park Road PICADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Park Road	26%	0.3	9.0	21%	0.3	8.6
Westgate North	8%	0.1	7.0	14%	0.2	7.5
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Park Road	32%	0.5	10.1	25%	0.3	9.2
Westgate North	8%	0.1	7.1	15%	0.2	7.7
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Park Road	+6%	+0.2	+1.0	+4%	0.0	+0.6
Westgate North	0%	0.0	+0.1	+1%	0.0	+0.2

6.5 Hexham Modelling Results

6.5.1 A6079 Rotary Way / Ferry Road

Table 20 shows that the Ferry Road junction approach is anticipated to experience an RFC of over 100% during the Baseline scenario, resulting in significant queue lengths and delay to traffic on this approach during the AM and PM peaks. The RFC on this junction approach is expected to worsen during the Local Plan scenario, increasing the extent of the queue lengths and delay to traffic during the AM and PM peaks. Ferry Road is predicted to be oversaturated during both the Baseline scenario and Local Plan scenario.

The A6079 Hexham Bridge approach is anticipated to have a maximum RFC of 78% during the Baseline scenario, which will increase to a maximum of 101% during the Local Plan scenario, resulting in a significant increase in queue lengths and delay to traffic during the Local Plan scenario. The Hexham Bridge approach is anticipated to become oversaturated during the Local Plan scenario.

Table 20 A6079 Rotary Way / Ferry Road PICADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Ferry Road	999%	225.7	4820.3	760%	231.7	6891.4
A6079 Hexham Bridge	78%	8.2	25.6	38%	0.8	14.2
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Ferry Road	999%	301.0	7028.8	1324%	412.6	7289.6
A6079 Hexham Bridge	101%	46.5	189.1	40%	0.9	14.5
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Ferry Road	0%	+75.3	+2208.5	+564%	+180.9	+398.2
A6079 Hexham Bridge	+23%	+38.3	+163.5	+2%	+0.1	+0.3

The results highlight that the junction is anticipated to operate beyond capacity when the additional Local Plan land use scenario traffic is included and therefore potential mitigation options available at this junction will be considered.

6.6 Morpeth Modelling Results

6.6.1 A192 / Morpeth Northern Bypass

Table 21 outlines that the A192 / Morpeth Northern Bypass junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all five junction approaches in both the Baseline and Local Plan scenarios, during the AM and PM peaks.

Table 21 A192 / Morpeth Northern Bypass ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Former A192 North	27%	0.4	6.4	39%	0.6	9.7
A197 Morpeth Bypass East	67%	2.0	9.0	43%	0.7	5.0
A192 South	46%	0.9	5.8	53%	1.1	6.1
A197 Morpeth Bypass West	54%	1.2	5.6	73%	2.6	9.9
Fairmoor Site Access	9%	0.1	4.3	7%	0.1	5.2
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Former A192 North	30%	0.4	7.0	44%	0.8	11.0
A197 Morpeth Bypass East	74%	2.7	11.6	44%	0.8	5.3
A192 South	57%	1.3	7.4	54%	1.2	6.3
A197 Morpeth Bypass West	62%	1.6	6.8	76%	3.2	11.5
Fairmoor Site Access	10%	0.1	4.6	8%	0.1	5.4
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Former A192 North	+3%	0.0	+0.6	+5%	+0.2	+1.3
A197 Morpeth Bypass East	+7%	+0.7	+2.6	+1%	+0.1	+0.3
A192 South	+11%	+0.4	+1.6	+1%	+0.1	+0.2
A197 Morpeth Bypass West	+8%	+0.4	+1.2	+3%	+0.6	+1.6
Fairmoor Site Access	+1%	0.0	+0.3	+1%	0.0	+0.2

6.7 Prudhoe Modelling Results

6.7.1 A695 / Former Hamorite Factory Site Access

Table 22 illustrates that the A695 / Former Hamorite Factory Site Access junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all three junction approaches in both the Baseline and Local Plan scenarios, during the AM and PM peaks.

Table 22 A695 / Former Hamorite Factory Site Access PICADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Site Access	2%	0.0	9.7	3%	0.0	10.3
A695 North East	1%	0.0	5.7	2%	0.0	5.9
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Site Access	4%	0.0	10.5	13%	0.2	10.7
A695 North East	13%	0.1	6.5	3%	0.0	6.0
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Site Access	+2%	0.0	+0.8	+10%	0.0	+0.4
A695 North East	+12%	+0.1	+0.8	+1%	0.0	+0.1

6.7.2 A695 / Princess Way / Station Road

Table 23 demonstrates that the A695 / Princess Way / Station Road junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all four junction approaches in both the Baseline and Local Plan scenarios, during the AM and PM peaks.

Table 23 A695 / Princess Way / Station Road ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A695 West	20%	0.3	3.4	17%	0.2	3.1
Station Road North	5%	0.1	3.5	9%	0.1	3.5
A695 Princess Way	22%	0.3	4.1	24%	0.3	4.3
Station Road South	30%	0.4	5.7	14%	0.2	4.7
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A695 West	21%	0.3	3.4	22%	0.3	3.2
Station Road North	5%	0.1	3.5	9%	0.1	3.7
A695 Princess Way	29%	0.4	4.5	25%	0.3	4.4
Station Road South	32%	0.5	6.0	14%	0.2	4.7
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A695 West	+1%	0.0	0.0	+5%	+0.1	+0.1
Station Road North	0%	0.0	0.0	0%	0.0	+0.2
A695 Princess Way	+7%	+0.1	+0.4	+1%	0.0	+0.1
Station Road South	+2%	+0.1	+0.3	0%	0.0	0.0

6.8 Summary of Wider Northumberland Junction Modelling Results

In summarising the modelling results for those junctions located in settlements within wider Northumberland, three junctions overall are anticipated to experience RFCs above 85%:

1. Alnwick: A1068 / Shilbottle Road junction. RAG review – Amber/Red for the Shilbottle Road approach for the Baseline & Local Plan scenarios;
2. Berwick: A1167 Royal Tweed Bridge / A698 / Union Park Road junction. RAG review – Amber for the A1167 Prince Edward Road approach for the Baseline and Local Plan scenarios; and
3. Hexham: A6079 Rotary Way / Ferry Road junction. RAG review – Red for both approaches for the Baseline and Local Plan scenarios.

The modelling results has identified that the two red rated junctions as highlighted in the RAG summary in Table 24 below are anticipated observe a material change in operational performance when the additional traffic flows

associated with the Local Plan land use scenario are considered. These junctions, identified to be operating beyond capacity in the Local Plan Land Use Scenario, will require improvements to enable Local Plan traffic to be accommodated. Therefore, potential mitigation options available at these junctions will be considered.

Table 24 – Summary of Wider Northumberland Junction Capacity Analysis

Settlement	Junction	Baseline Land Use Scenario	Local Plan Land Use Scenario
Alnwick	A1068 / Willowburn Avenue		
Alnwick	A1068 / Shilbottle Road		
Berwick	A1167 Royal Tweed Bridge / A698 / Union Park Road		
Berwick	A1167 Northumberland Road / Billendean Terrace		
Haltwhistle	B6322 West Road / Station Crescent		
Haltwhistle	Westgate / Park Road		
Hexham	A6079 Rotary Way / Ferry Road		
Prudhoe	A695 / Former Hamorite Factory Access		
Prudhoe	A695 / Princess Way / Station Road		

7. South East Northumberland Modelling Results

7.1 Overview

This section of the TA presents the Junctions 9 modelling results for the 22 junctions in South East Northumberland resulting from the earlier filtering exercise. These are presented collectively for this part of Northumberland as a number of junctions overlap the boundary of more than one settlement and therefore observe a cumulative traffic impact from development in multiple settlements.

The Junctions 9 outputs that have been reported are RFC, maximum queue lengths, and delay for the Baseline scenario and the Local Plan scenario for each junction, and the different results for the two scenarios have also been calculated for each junction. The RFC modelling results have been subject to the same RAG review as that for the wider Northumberland junctions.

Junctions in South East Northumberland which have been modelled for arrangements that differ to the existing layouts have been modelled with approved layout changes or changes that have been made recently as a result of the mitigation requirements for approved development. The layout and source of the relevant information has been provided in Table 10 earlier in this report. The source of the layout changes for each junction are the same as those for the base traffic data, outlined in Table 11 and 12 in Section 5.

7.2 Modelling Results for Junctions in South East Northumberland

7.2.1 A197 Morpeth Road / A1068 Existing Layout (Ashington)

Table 25 shows that the A197 Morpeth Road / A1068 junction overall is anticipated to experience an RFC of over 100% during the Baseline scenario and the Local Plan scenario, resulting in noteworthy queue lengths and delay to traffic during the AM and PM peaks. The A1068 approach is anticipated to be oversaturated during the AM peak for both scenarios and the A197 Morpeth Road is expected to be oversaturated during the PM peak for both scenarios.

Only a negligible worsening of the RFC on the A1068 junction approach during the AM peak an on the A197 Morpeth Road during the PM peak can be expected as a result of the Local Plan scenario.

Table 25 A197 Morpeth Road / A1068 PICADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1068	115%	35.5	291.5	61%	1.5	48.3
A197 Morpeth Road East	41%	0.7	12.2	103%	29.7	139.6
Approach	**Local Plan Scenario**					
	AM Peak			**PM Peak**		
	RFC %	**Max Queue**	**Delay (secs.)**	**RFC %**	**Max Queue**	**Delay (secs.)**
A1068	119%	43.5	372.3	72%	2.4	68.2
A197 Morpeth Road East	49%	0.9	14.4	104%	35.0	173.6
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			**PM Peak**		
	RFC %	**Max Queue**	**Delay (secs.)**	**RFC %**	**Max Queue**	**Delay (secs.)**
A1068	+4%	+8.0	+80.8	+11%	+0.9	+19.9
A197 Morpeth Road East	+8%	+0.2	+2.2	+1%	+5.3	+34

The results highlight that the junction is anticipated to operate beyond capacity when the additional Local Plan land use scenario traffic is included and therefore potential mitigation options available at this junction will be considered.

7.2.2 A197 Woodhorn Road / Woodhorn Lane Existing Layout (Ashington)

Table 26 outlines that the A197 Woodhorn Road / Woodhorn Lane junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all four junction approaches in both the Baseline and Local Plan scenarios, during the AM and PM peaks.

Table 26 A197 Woodhorn Road / Woodhorn Lane ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Aged Miners Homes	1%	0.0	4.9	0%	0.0	0.0
A197 East	69%	2.2	7.3	52%	1.1	4.6
Woodhouse Lane	23%	0.3	4.8	26%	0.4	4.3
Woodhorn Road	22%	0.3	3.8	34%	0.5	4.3
A197 West	40%	0.7	4.4	75%	2.9	11.3
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Aged Miners Homes	1%	0.0	5.0	0%	0.0	0.0
A197 East	75%	2.9	8.9	53%	1.1	4.7
Woodhouse Lane	24%	0.3	5.2	26%	0.4	4.4
Woodhorn Road	23%	0.3	4.0	34%	0.5	4.3
A197 West	41%	0.7	4.5	82%	4.3	15.6
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Aged Miners Homes	0%	0.0	+0.1	0%	0.0	0.0
A197 East	+6%	+0.7	+1.6	+1%	0.0	+0.1
Woodhouse Lane	+1%	0.0	+0.4	0%	0.0	+0.1
Woodhorn Road	+1%	0.0	+0.2	0%	0.0	0.0
A197 West	+1%	0.0	+0.1	+7%	+1.4	+4.3

7.2.3 A197 / Wansbeck Hospital Road Approved Junction Layout (Ashington)

Table 27 highlights that the A197 / Wansbeck Hospital Road junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all four junction approaches in both the Baseline and Local Plan scenarios, during the AM and PM peaks.

Table 27 A197 / Wansbeck Hospital Road ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A197 East	74%	2.9	7.7	66%	1.9	5.9
Approved Site Access	36%	0.6	8.7	12%	0.1	5.1
Wansbeck Hospital Road	51%	1.0	8.9	47%	0.9	6.7
A197 West	47%	0.9	5.5	76%	3.0	12.0
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A197 East	79%	3.8	9.6	66%	1.9	6.0
Approved Site Access	40%	0.7	10.1	12%	0.1	5.2
Wansbeck Hospital Road	55%	1.2	10.4	47%	0.9	6.8
A197 West	48%	0.9	5.7	82%	4.3	16.0
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A197 East	+5%	+0.9	+1.9	0%	0.0	+0.1
Approved Site Access	+4%	+0.1	+1.4	0%	0.0	+0.1
Wansbeck Hospital Road	+4%	+0.2	+1.5	0%	0.0	+0.1
A197 West	+1%	0.0	+0.2	+6%	+1.3	+4.0

7.2.4 A189 / A197 Junction / Summerhouse Lane (Existing Layout) (Ashington)

Table 28 illustrates that the A189 / A197 junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all four junction approaches in the Baseline scenario, during the AM and PM peaks.

The Summerhouse Lane, A189 South, and A189 North junction approaches are expected to have an RFC of less than 85% in the Local Plan scenario, during the AM and PM peaks. The A197 West approach is anticipated to have an RFC of 89% with a 20 second delay to traffic. This approach however, will not become oversaturated and will have 11% spare capacity for future traffic growth in addition to Local Plan scenario traffic.

Table 28 A189 / A197 ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Summerhouse Lane	0%	0.0	0.0	0%	0.0	0.0
A189 South	63%	1.7	4.2	64%	1.8	4.4
A197 West	61%	1.6	5.7	83%	4.7	13.7
A189 North	58%	1.4	5.6	50%	1.0	4.8
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Summerhouse Lane	0%	0.0	0.0	0%	0.0	0.0
A189 South	66%	1.9	4.7	66%	1.9	4.6
A197 West	62%	1.6	5.8	89%	7.1	20.0
A189 North	61%	1.6	6.1	52%	1.1	5.1
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Summerhouse Lane	0%	0.0	0.0	0%	0.0	0.0
A189 South	+3%	+0.2	+0.5	+2%	+0.1	+0.2
A197 West	+1%	0.0	+0.1	+6%	+2.4	+6.3
A189 North	+3%	+0.2	+0.5	+2%	+0.1	+0.3

7.2.5 A196 Stakeford Lane / High Street / A1068 Existing Layout (Choppington)

Table 29 demonstrates that the A196 / Stakeford Lane / A1068 junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all four junction approaches in both the Baseline and Local Plan scenarios, during the AM and PM peaks.

Table 29 A196 Stakeford Lane / A1068 ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A196 Stakeford Lane	67%	2.0	12.0	56%	1.3	8.6
A1068 South	43%	0.8	4.8	50%	1.0	5.3
A196 West	43%	0.8	5.0	59%	1.4	7.4
A1068 North	47%	0.9	6.4	45%	0.8	6.5
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A196 Stakeford Lane	69%	2.1	12.6	62%	1.6	10.2
A1068 South	45%	0.8	5.0	52%	1.1	5.7
A196 West	51%	1.0	5.8	60%	1.5	7.6
A1068 North	49%	1.0	6.8	49%	1.0	7.1
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A196 Stakeford Lane	+2%	+0.1	+0.6	+8%	+0.3	+1.6
A1068 South	+2%	0.0	+0.2	+2%	+0.1	+0.4
A196 West	+8%	+0.2	+0.8	+1%	+0.1	+0.2
A1068 North	+2%	+0.1	+0.4	+4%	+0.2	+0.6

7.2.6 A197 Rotary Parkway / A196 / Lintonville Terrace Approved Layout (Ashington)

Table 30 shows that the A197 Rotary Parkway / A196 / Lintonville Terrace junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all five junction approaches in both the Baseline and Local Plan scenarios, during the AM and PM peaks.

Table 30 A197 Rotary Parkway / A196 / Lintonville Terrace ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Site Access	42%	0.7	5.3	66%	1.9	10.8
A196 South	17%	0.2	5.7	64%	1.8	16.4
A197 Rotary Parkway	73%	2.7	9.0	78%	3.4	12.0
Lintonville Terrace	7%	0.1	3.9	14%	0.2	4.7
A197 East	67%	2.0	9.6	76%	3.1	13.1
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Site Access	44%	0.8	5.8	68%	2.0	11.7
A196 South	19%	0.2	6.2	67%	1.9	18.2
A197 Rotary Parkway	78%	3.4	11.0	81%	4.1	13.9
Lintonville Terrace	8%	0.1	4.0	24%	0.3	5.4
A197 East	75%	3.0	12.8	78%	3.5	14.6
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Site Access	+2%	+0.1	+0.5	+2%	+0.1	+0.9
A196 South	+2%	0.0	+0.5	+3%	+0.1	+1.8
A197 Rotary Parkway	+5%	+0.7	+2.0	+3%	+0.7	+1.9
Lintonville Terrace	+1%	0.0	+0.1	+10%	+0.1	+0.7
A197 East	+8%	+1.0	+3.2	+2%	+0.4	+1.5

7.2.7 B1334 Newbiggin Road / College Road / Cotswold Drive Existing Layout (Ashington)

Table 31 illustrates that the B1334 Newbiggin Road / College Road / Cotswold Drive junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all four junction approaches in both the Baseline and Local Plan scenarios, during the AM and PM peaks.

Table 31 B1334 Newbiggin Road / College Road / Cotswold Drive ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
B1334 Newbiggin Road East	49%	1.0	3.9	58%	1.4	4.8
Cotswold Drive	17%	0.2	7.1	25%	0.3	9.3
B1334 Newbiggin Road West	74%	2.8	12.9	75%	2.9	13.3
College Road	57%	1.3	11.6	69%	2.2	16.9
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
B1334 Newbiggin Road East	51%	1.0	4.1	60%	1.5	5.1
Cotswold Drive	18%	0.2	7.2	32%	0.5	10.6
B1334 Newbiggin Road West	80%	3.8	16.1	76%	3.1	14.2
College Road	60%	1.5	12.8	70%	2.3	18.0
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
B1334 Newbiggin Road East	+2%	0.0	+0.2	+2%	+0.1	+0.3
Cotswold Drive	+1%	0.0	+0.1	+7%	+0.2	+1.3
B1334 Newbiggin Road West	+6%	+1.0	+3.2	+1%	+0.2	+0.9
College Road	+3%	+0.2	+1.2	+1%	+0.1	+1.1

7.2.8 A189 / A193 Bebside Existing Layout (Blyth)

Table 32 highlights that the A189 / A193 junction is anticipated to experience an RFC of less than 85%, resulting in minimal queue lengths and delay on three junction approaches in the Baseline scenario, during the AM and PM peaks. These are the A193 East, A193 West, and A189 North approaches.

The A189 South approach is expected to have an RFC of 91% in the Baseline scenario and 93% in the Local Plan scenario. This approach however, will not become oversaturated and will have 9% and 7% spare capacity for future traffic growth in the Baseline and Local Plan scenarios respectively.

Table 32 A189 / A193 ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A193 East	69%	2.2	4.0	60%	1.5	3.1
A189 South off slip	78%	3.4	14.6	91%	8.3	33.0
A193 West	38%	0.6	6.1	43%	0.7	7.1
A189 North off slip	61%	1.6	7.8	74%	2.7	12.8
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A193 East	70%	2.3	4.1	63%	1.7	3.5
A189 South off slip	84%	4.8	19.5	93%	10.4	41.0
A193 West	43%	0.7	7.1	44%	0.8	7.4
A189 North off slip	64%	1.7	8.4	80%	3.8	16.6
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A193 East	+1%	+0.1	+0.1	+3%	+0.2	+0.4
A189 South off slip	+6%	+1.4	+4.9	+2%	+2.1	+8.0
A193 West	+5%	+0.1	+1.0	+1%	+0.1	+0.3
A189 North off slip	+3%	+0.1	+0.6	+6%	+1.1	+3.8

7.2.9 A189 / A192 / B1505 Horton Road Existing Layout (Cramlington)

Table 33 demonstrates that the A189 / A192 / B1505 Horton Road junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all five junction approaches in the Baseline scenario, during the AM and PM peaks.

The A192 East, A189 North, A189 South, and Horton Road approaches are expected to have an RFC of less than 85% in the Local Plan scenario, during the AM and PM peaks. The A192 West approach is anticipated to have an RFC of 86% with a 17 second delay to traffic. This approach however, will not become oversaturated and will have 14% spare capacity for future traffic growth in addition to Local Plan scenario traffic.

Table 33 A189 / A192 / B1505 Horton Road ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A192 East	69%	2.4	8.5	47%	1.0	4.3
A189 South off slip	40%	0.7	6.8	53%	1.2	6.9
A192 West	50%	1.1	4.0	64%	1.9	6.6
B1505 Horton Road	28%	0.4	5.3	25%	0.4	5.9
A189 North off slip	60%	1.6	5.0	52%	1.2	4.3
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A192 East	85%	5.7	17.8	55%	1.3	5.9
A189 South off slip	84%	5.1	27.8	58%	1.5	7.9
A192 West	56%	1.4	4.7	86%	6.4	17.1
B1505 Horton Road	32%	0.5	6.2	37%	0.6	10.5
A189 North off slip	66%	2.2	6.1	67%	2.2	7.5
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A192 East	+16%	+3.3	+9.3	+8%	+0.3	+1.6
A189 South off slip	+44%	+4.4	+21.0	+5%	+0.3	+1.0
A192 West	+6%	+0.3	+0.7	+22%	+4.5	+10.5
B1505 Horton Road	+4%	+0.1	+0.9	+12%	+0.2	+4.6
A189 North off slip	+6%	+0.6	+1.1	+15%	+1.0	+3.2

7.2.10 A192 / A1068 Fisher Lane Existing Layout (Cramlington)

Table 34 shows that the A192 / A1068 Fisher Lane junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all four junction approaches in both the Baseline and Local Plan scenarios, during the AM and PM peaks.

Table 34 A192 / A1068 Fisher Lane ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A192 East	45%	0.8	3.8	31%	0.4	2.7
A1068 South Fisher Lane	37%	0.6	3.1	56%	1.3	4.3
Shotton Lane	3%	0.0	2.4	12%	0.1	3.1
A192 North	59%	1.4	5.2	42%	0.7	3.8
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A192 East	48%	0.9	3.9	37%	0.6	3.0
A1068 South Fisher Lane	44%	0.8	3.5	58%	1.4	4.6
Shotton Lane	3%	0.0	2.5	12%	0.1	3.2
A192 North	63%	1.7	6.0	42%	0.7	3.9
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A192 East	+3%	+0.1	+0.1	+6%	+0.2	+0.3
A1068 South Fisher Lane	+7%	+0.2	+0.4	+2%	+0.1	+0.3
Shotton Lane	0%	0.0	+0.1	0%	0.0	+0.1
A192 North	+4%	+0.3	+0.8	0%	0.0	+0.1

7.2.11 A189 / B1334 / Ashwood Drive Existing Layout (Ashington)

Table 35 illustrates that the A189 / B1334 / Ashwood Drive junction overall is anticipated to experience an RFC of over 100% during the Baseline scenario and the Local Plan scenario, resulting in noteworthy queue lengths and delay to traffic during the AM and PM peaks.

The B1334 North East approach is anticipated to be oversaturated during the AM peak for both scenarios and the Ashwood Drive approach is expected to be oversaturated during the PM peak for both scenarios. The B1334 West approach is nearing capacity in the Baseline scenario with a RFC of 97%, which increases to 100% during the Local Plan scenario.

Table 35 A189 / B1334 / Ashwood Drive ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
B1334 North East	124%	40.0	304.2	71%	2.2	28.6
A189 South	67%	2.0	3.6	72%	2.5	4.0
Ashwood Drive	9%	0.1	9.0	122%	12.6	308.6
B1334 West	71%	2.5	9.2	97%	14.8	57.0
A189 North	78%	3.5	9.0	85%	5.4	14.3
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
B1334 North East	174%	82.7	634.3	88%	5.1	66.2
A189 South	72%	2.6	4.4	73%	2.6	4.2
Ashwood Drive	17%	0.2	11.5	260%	69.2	2145.6
B1334 West	79%	3.7	13.5	100%	20.6	75.7
A189 North	83%	4.7	12.2	90%	7.9	20.3
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
B1334 North East	+50%	+42.7	+330.1	+17%	+2.9	+37.6
A189 South	+5%	+0.6	+0.8	+1%	+0.1	+0.2
Ashwood Drive	+8%	+0.1	+2.5	+138%	+56.6	+1837.0
B1334 West	+8%	+1.2	+4.3	+3%	+5.8	+18.7
A189 North	+5%	+1.2	+3.2	+5%	+2.5	+6.0

The results highlight that the junction is anticipated to operate beyond capacity when the additional Local Plan land use scenario traffic is included and therefore potential mitigation options available at this junction will be considered.

It should be noted however, that NCC has secured through a S106 agreement, a developer contribution to implement improvements at this junction. The existing layout has been considered for the purpose of the capacity assessment summarised above, however the developer contribution will provide funds to finance future mitigation improvements at this location.

7.2.12 A192 / A1171 Existing Layout (Cramlington)

Table 36 highlights that the A192 / A1171 junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all four junction approaches in both the Baseline and Local Plan scenarios, during the AM and PM peaks.

Table 36 A192 / A1171 ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A192 East	50%	1.0	2.5	30%	0.4	1.9
A1171 South	24%	0.3	2.8	50%	1.0	3.8
A192 West	21%	0.3	1.7	30%	0.4	2.5
West Hartford Business Park	1%	0.0	1.8	6%	0.1	2.6
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A192 East	65%	1.9	3.7	33%	0.5	2.1
A1171 South	31%	0.4	3.8	56%	1.3	4.6
A192 West	31%	0.5	2.4	32%	0.5	2.7
West Hartford Business Park	5%	0.1	1.8	34%	0.5	3.9
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A192 East	+15%	+0.9	+1.2	+3%	+0.1	+0.2
A1171 South	+7%	+0.1	+1.0	+6%	+0.3	+0.8
A192 West	+10%	+0.2	+0.7	+2%	+0.1	+0.2
West Hartford Business Park	+4%	+0.1	0.0	+28%	+0.4	+1.3

7.2.13 A192 / A1061 Laverock Hall Road Approved Layout (Blyth)

Table 37 demonstrates that all the junction approaches are anticipated to have an RFC of less than 85% in the Baseline scenario during the AM and PM peaks.

The A1061 East Laverock Hall Road approach is expected to have an RFC of 81% in the Baseline scenario during the AM peak, which will increase to 86% in the Local Plan scenario. The A192 North approach will also have an RFC of 93% in the Local Plan scenario, compared to 81% in the Baseline. Whilst these are over 85%, these approaches will not become oversaturated but will be nearing the maximum capacity thresholds for these junction approaches in the Local Plan scenario.

Table 37 A192 / A1061 Laverock Hall Road ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A192 North	65%	1.8	8.2	81%	4.1	19.8
A1061 East Laverock Hall Road	81%	4.0	12.81	66%	1.9	7.38
A192 South	65%	1.8	11.1	57%	1.3	7.9
A1061 West	41%	0.7	3.4	69%	2.2	6.5
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A192 North	67%	2.0	8.7	93%	10.1	43.9
A1061 East Laverock Hall Road	86%	5.8	17.63	68%	2.1	8.03
A192 South	76%	3.0	16.7	58%	1.4	8.1
A1061 West	43%	0.8	3.7	70%	2.4	6.8
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A192 North	+2%	+0.2	+0.5	+12%	+6.0	+24.1
A1061 East Laverock Hall Road	+5%	+1.8	+4.8	+2%	+0.2	+0.6
A192 South	+11%	+1.2	+5.6	+1%	+0.1	+0.2
A1061 West	+2%	+0.1	+0.3	+1%	+0.2	+0.3

7.2.14 A192 / B1326 (Seaton Delaval) Existing Layout

Table 38 shows that the A192 / B1326 junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all four junction approaches in both the Baseline and Local Plan scenarios, during the AM and PM peaks.

Table 38 A192 / B1326 (Seaton Delaval) ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A192 North	38%	0.6	4.6	45%	0.8	5.4
Ambridge Way	10%	0.1	5.3	5%	0.0	5.4
A192 South	72%	2.5	11.8	77%	3.2	14.3
B1326	39%	0.6	9.3	45%	0.8	10.8
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A192 North	40%	0.7	5.1	50%	1.0	6.0
Ambridge Way	10%	0.1	5.3	5%	0.0	5.4
A192 South	79%	3.6	16.0	78%	3.4	14.9
B1326	42%	0.7	10.4	46%	0.8	10.9
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A192 North	+2%	+0.1	+0.5	+5%	+0.2	+0.6
Ambridge Way	0%	0.0	0.0	0%	0.0	0.0
A192 South	+7%	+1.1	+4.2	+1%	+0.2	+0.6
B1326	+3%	+0.1	+1.1	+1%	0.0	+0.1

7.2.15 A1171 Dudley Lane / Ripley Drive / Glenluce Drive (Cramlington)

Table 39 illustrates that the A1171 Dudley Lane / Ripley Drive / Glenluce Drive junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all four junction approaches in both the Baseline and Local Plan scenarios, during the AM and PM peaks.

Table 39 A1171 Dudley Lane / Ripley Drive / Glenluce Drive ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1171 Dudley Lane North	38%	0.6	2.5	32%	0.5	2.3
Glenluce Drive	17%	0.2	4.0	11%	0.1	3.4
A1171 Dudley Lane South	27%	0.4	2.2	43%	0.8	2.9
Ripley Drive	4%	0.0	2.6	3%	0.0	3.0
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1171 Dudley Lane North	39%	0.6	2.5	35%	0.5	2.4
Glenluce Drive	17%	0.2	4.0	11%	0.1	3.5
A1171 Dudley Lane South	31%	0.5	2.4	44%	0.8	2.9
Ripley Drive	4%	0.0	2.7	3%	0.0	3.0
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1171 Dudley Lane North	+1%	0.0	0.0	+3%	0.0	+0.1
Glenluce Drive	0%	0.0	0.0	0%	0.0	+0.1
A1171 Dudley Lane South	+4%	+0.1	+0.2	+1%	0.0	0.0
Ripley Drive	0%	0.0	+0.1	0%	0.0	0.0

7.2.16 A1171 Dudley Lane / Northumbrian Road / Lancastrian Road (Cramlington)

Table 40 highlights that the A1171 Dudley Lane / Northumbrian Road / Lancastrian Road junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all four junction approaches in both the Baseline and Local Plan scenarios, during the AM and PM peaks.

Table 40 A1171 Dudley Lane / Northumbrian Road / Lancastrian Road ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1171 Dudley Lane North	45%	0.8	3.5	48%	0.9	3.6
Northumbrian Road	42%	0.7	5.5	21%	0.3	3.7
A1171 Dudley Lane South	42%	0.7	2.8	46%	0.9	3.0
Lancastrian Road	29%	0.4	4.5	12%	0.1	3.8
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1171 Dudley Lane North	46%	0.9	3.5	52%	1.1	3.8
Northumbrian Road	43%	0.7	5.6	22%	0.3	3.9
A1171 Dudley Lane South	46%	0.8	3.0	47%	0.9	3.0
Lancastrian Road	30%	0.4	4.9	12%	0.1	3.8
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1171 Dudley Lane North	+1%	+0.1	0.0	+4%	+0.2	+0.2
Northumbrian Road	+1%	0.0	+0.1	+1%	0.0	+0.2
A1171 Dudley Lane South	+4%	+0.1	+0.2	+1%	0.0	0.0
Lancastrian Road	+1%	0.0	+0.4	0%	0.0	0.0

7.2.17 A1068 Fisher Lane / A1172 (Cramlington)

Table 41 demonstrates that the A1068 Fisher Lane / A1172 junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all four junction approaches in both the Baseline and Local Plan scenarios, during the AM and PM peaks.

Table 41 A1068 Fisher Lane / A1172 ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1068 Fisher Lane North	39%	0.7	2.5	34%	0.6	2.4
A1172 East	59%	1.6	5.6	51%	1.1	4.4
A1068 Fisher Lane South	51%	1.2	2.8	61%	1.7	3.5
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1068 Fisher Lane North	41%	0.8	2.6	39%	0.7	2.6
A1172 East	61%	1.7	6.0	55%	1.4	5.0
A1068 Fisher Lane South	58%	1.5	3.2	62%	1.8	3.6
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1068 Fisher Lane North	+2%	+0.1	+0.1	+5%	+0.1	+0.2
A1172 East	+2%	+0.1	+0.4	+4%	+0.3	+0.6
A1068 Fisher Lane South	+7%	+0.3	+0.4	+1%	+0.1	+0.1

7.2.18 A1172 / Nelson Drive / Beacon Lane (Cramlington)

Table 42 shows that the A1172 / Nelson Drive / Beacon Lane junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all four junction approaches in both the Baseline and Local Plan scenarios, during the AM and PM peaks.

Table 42 A1172 / Nelson Drive / Beacon Lane ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Nelson Drive	27%	0.4	3.5	49%	0.9	5.6
A1172 East	28%	0.4	2.6	26%	0.4	2.8
Beacon Lane	33%	0.5	4.5	23%	0.3	3.9
A1172 West	44%	0.8	3.3	57%	1.3	4.2
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Nelson Drive	29%	0.4	3.6	60%	1.5	7.2
A1172 East	35%	0.5	2.9	28%	0.4	2.9
Beacon Lane	34%	0.5	4.9	24%	0.3	4.1
A1172 West	48%	0.9	3.7	58%	1.3	4.3
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Nelson Drive	+2%	0.0	+0.1	+11%	+0.6	+1.6
A1172 East	+7%	+0.1	+0.3	+2%	0.0	+0.1
Beacon Lane	+1%	0.0	+0.4	+1%	0.0	+0.2
A1172 West	+4%	+0.1	+0.4	+1%	0.0	+0.1

7.2.19 A1171 / A1172 / B1326 Station Road Approved Layout (Cramlington)

Table 43 illustrates that the A1171 / A1172 / B1326 Station Road junction is anticipated to experience an overall RFC of less than 85%, resulting in minimal queue lengths and delay on all four junction approaches in both the Baseline and Local Plan scenarios, during the AM and PM peaks.

Table 43 A1171 / A1172 / B1326 Station Road ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1171 North	49%	1.0	4.2	36%	0.6	3.5
B1326 Station Road	28%	0.4	4.3	33%	0.5	3.9
A1171 South	44%	0.8	5.0	43%	0.7	4.9
A1172 West	40%	0.7	3.9	50%	1.0	5.0
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1171 North	52%	1.1	4.5	38%	0.6	3.7
B1326 Station Road	29%	0.4	4.5	34%	0.5	4.1
A1171 South	51%	1.0	5.8	44%	0.8	5.0
A1172 West	42%	0.7	4.1	57%	1.3	5.8
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1171 North	+3%	+0.1	+0.3	+2%	0.0	+0.2
B1326 Station Road	+1%	0.0	+0.2	+1%	0.0	+0.2
A1171 South	+7%	+0.2	+0.8	+1%	+0.1	+0.1
A1172 West	+2%	0.0	+0.2	+7%	+0.3	+0.8

7.2.20 A1171 Dudley Lane / Westmorland Way / Hebron Way (Cramlington) Existing Layout

Table 44 demonstrates that the A1171 Dudley Lane / Westmorland Way / Hebron Way junction is anticipated to experience an RFC of less than 85%, resulting in minimal queue lengths and delay on three junction approaches in the Baseline scenario, during the AM and PM peaks. These are the Dudley Lane North, Hebron Way, and A1171 Westmorland Way approaches.

The A1171 Dudley Lane South approach is expected to have an RFC of 86% in the Baseline scenario and 93% in the Local Plan scenario. This approach however, will not become oversaturated and will have 14% and 7% spare capacity for future traffic growth in the Baseline and Local Plan scenarios respectively.

Table 44 A1171 Dudley Lane / Westmorland Way / Hebron Way ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Dudley Lane North	22%	0.3	2.5	27%	0.4	2.7
A1171 Dudley Lane South	86%	5.8	21.8	75%	3.0	12.2
Hebron Way	10%	0.1	5.5	3%	0.0	4.7
A1171 Westmorland Way	29%	0.4	3.3	31%	0.5	3.3
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Dudley Lane North	22%	0.3	2.5	28%	0.4	2.8
A1171 Dudley Lane South	93%	10.8	38.0	76%	3.1	12.7
Hebron Way	11%	0.1	5.8	3%	0.0	4.7
A1171 Westmorland Way	30%	0.4	3.3	35%	0.5	3.5
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
Dudley Lane North	0%	0.0	0.0	+1%	0.0	+0.1
A1171 Dudley Lane South	+7%	+5.0	+16.2	+1%	+0.1	+0.5
Hebron Way	+1%	0.0	+0.3	0%	0.0	0.0
A1171 Westmorland Way	+1%	0.0	0.0	+4%	0.0	+0.2

7.2.21 A1171 / A1171 Dudley Lane / Arcot Lane (Cramlington) Existing Layout

Table 45 shows that the A1171 / A1171 Dudley Lane / Arcot Lane is anticipated to experience an RFC of less than 85%, resulting in minimal queue lengths and delay on three junction approaches in the Baseline scenario, during the AM and PM peaks. These are the A1171 Dudley Lane North, A1171 East, and Arcot Lane approaches.

The A1171 South approach is expected to be oversaturated in both the Baseline and Local Plan scenarios. It is anticipated to have an RFC of 113% in the Baseline scenario, which negligibly increases to 114% in the Local Plan scenario, resulting in significant queuing and delay for traffic on this arm in both scenarios.

Table 45 A1171 / A1171 Dudley Lane / Arcot Lane ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1171 Dudley Lane North	43%	0.8	2.9	32%	0.5	2.5
A1171 East	37%	0.6	4.4	23%	0.3	3.2
A1171 South/A19 off slip	51%	1.0	9.6	113%	61.9	255.1
Arcot Lane	5%	0.0	3.1	6%	0.1	3.6
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1171 Dudley Lane North	45%	0.8	3.0	35%	0.5	2.6
A1171 East	45%	0.8	5.1	24%	0.3	3.3
A1171 South/A19 off slip	52%	1.1	10.4	114%	63.5	264.4
Arcot Lane	11%	0.1	3.5	7%	0.1	3.7
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1171 Dudley Lane North	+2%	0.0	+0.1	+3%	0.0	+0.1
A1171 East	+8%	+0.2	+0.7	+1%	0.0	+0.1
A1171 South/A19 off slip	+1%	+0.1	+0.8	+1%	+1.6	+9.3
Arcot Lane	+6%	+0.1	+0.4	+1%	0.0	+0.1

The results highlight that the junction is anticipated to operate beyond capacity when the additional Local Plan land use scenario traffic is included and therefore potential mitigation options available at this junction will be considered.

7.2.22 B1319 Dudley Lane / Broad Law / A19 Slips (Cramlington) Existing Layout

Table 46 shows that the B1319 Dudley Lane / Broad Law/ A19 Slips junction is anticipated to experience an RFC of less than 85%, resulting in minimal queue lengths and delay on all junction approaches in the Baseline scenario, during the AM and PM peaks.

The A1171 Dudley Lane north approach is expected to be approaching the 85% RFC threshold in the Local Plan scenario, however, the increase in queues and delay resulting from this is minimal. In summary, it is anticipated

that all approaches will operate with an RFC of less than 85% in both peak periods in the Baseline and Local Plan land use scenarios.

Table 46 – B1319 Dudley Lane / Broad Law / A19 Slips ARCADY Results

Approach	Baseline Scenario					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1171 Dudley Lane North	77%	3.3	11.3	45%	0.8	4.6
A19 WB off slip	9%	0.1	3.4	7%	0.1	2.7
Broad Law	30%	0.4	6.2	40%	0.7	6.0
B1319 Dudley Lane South	21%	0.3	3.3	27%	0.4	3.6
Business Park Access	6%	0.1	5.3	17%	0.2	6.7
Approach	**Local Plan Scenario**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1171 Dudley Lane North	84%	4.9	15.7	48%	0.9	5.3
A19 WB off slip	10%	0.1	3.7	7%	0.1	2.9
Broad Law	57%	1.3	10.7	42%	0.7	6.2
B1319 Dudley Lane South	24%	0.3	4.0	27%	0.4	3.6
Business Park Access	11%	0.1	5.6	52%	1.1	11.3
Approach	**Difference (Baseline to Local Plan)**					
	AM Peak			PM Peak		
	RFC %	Max Queue	Delay (secs.)	RFC %	Max Queue	Delay (secs.)
A1171 Dudley Lane North	+7%	+1.6	+4.4	+3%	+0.1	+0.7
A19 WB off slip	+1%	0.0	+0.3	0%	0.0	+0.2
Broad Law	+27%	+0.9	+4.5	+2%	0.0	+0.2
B1319 Dudley Lane South	+3%	0.0	+0.7	0%	0.0	0.0
Business Park Access	+5%	0.0	+0.3	+35%	+0.9	+4.6

7.3 Summary of South East Northumberland Junction Modelling Results

In summarising the modelling results for those junctions located in settlements within South East Northumberland, eight junctions overall are expected to experience RFCs above 85%:

1. Ashington: A197 Morpeth Road / A1068 junction. RAG review – Red for the A1068 and A197 approaches for the Baseline and Local Plan scenarios;

2. Ashington - A189 / A197 junction. RAG review – Amber for the A197 West approach for the Local Plan scenario;

3. Blyth: A189 / A193 junction. RAG review – Amber for the A189 South approach for the Baseline and Local Plan scenarios;

4. Cross settlement: A189 / A192 / B1505 Horton Road junction. RAG review – Amber for the A192 West approach for the Local Plan scenario;

5. Ashington: A189 / B1334 / Ashwood Drive junction. RAG review – Amber and Red for two junction approaches in the Baseline scenario and for three junction approaches in the Local Plan scenario;

6. Cross settlement: A192 / A1061 Laverock Hall Road. RAG review – Amber for the A192 North and A1061 East approaches for the Baseline and Local Plan scenarios;

7. Cramlington: A1171 Dudley Lane / Westmorland Way / Hebron Way. RAG review – Amber for the A1171 Dudley Lane South approach for the Baseline and Local Plan scenarios; and

8. Cramlington: A1171 / A1171 Dudley Lane / Arcot Lane junction. RAG review – Red for the A1171 South approach for the Baseline and Local Plan scenarios.

The modelling results has identified that the three red rated junctions as highlighted in the RAG summary in Table 47 below are anticipated observe a material change in operational performance when the additional traffic flows associated with the Local Plan land use scenario are considered. These junctions, identified to be operating beyond capacity in the Local Plan Land Use Scenario, will require improvements to enable Local Plan traffic to be accommodated. Therefore, potential mitigation options available at these junctions will be considered.

Table 47 – Summary of South East Northumberland Junction Capacity Analysis

Settlement	Junction	Baseline Land Use Scenario	Local Plan Land Use Scenario
Ashington	A197 Morpeth Road / A0168		
	A197 Woodhorn Road / Woodhorn Lane		
	A197 / Wansbeck Hospital Road		
	A189 / A197		
	A196 Stakeford Lane / High Street / A1068		
	A197 Rotary Parkway / A196 / Lintonville Terrace		
	B1334 Newbiggin Road / College Road / Cotswold Drive		
	A189 / B1334 / Ashwood Drive		
Blyth	A198 / A193 Bebside		
	A192 / A1061 Laverock Hall Road		
Seaton Delaval	A192 / B1326 Seaton Delaval		
Cramlington	A189 / A192 / B1505 Horton Road		
	A192 / A1068 Fisher Lane		

Settlement	Junction	Baseline Land Use Scenario	Local Plan Land Use Scenario
	A192 / A1171		
	A1171 / Dudley Lane / Ripley Drive / Glenluce Drive		
	A1171 / Dudley Lane / Northumbrian Road / Lancastrian Road		
	A1068 / Fisher Lane / A1172		
	A1172 / Nelson Drive / Beacon Lane		
	A1171 / A1172 / B1326 Station Road		
	A1171 Dudley Lane / Westmorland Way / Hebron Way		
	A1171 / A1171 Dudley Lane / Arcot Lane		
	B1319 Dudley Lane / Broad Law / A19 Slips		

8. Cross Boundary & Strategic Road Network Traffic Flows

This section describes the methodology for assessing cross boundary traffic flows for both assessment scenarios to determine the volumes of traffic that can be anticipated to travel between Northumberland and neighbouring Local Authorities, and the outlines the methods used to assess the impacts upon the Strategic Road Network (SRN).

8.1.1 Overview

Given the prominence of Newcastle / Gateshead as a regional hub and the various employment areas located in business parks in North Tyneside, all within easy commuting distances from much of South-East Northumberland, there is a well-established commuting relationship between these areas. It is also noted that a number of the development sites contributing to the Northumberland Local Plan overarching objectives are located in the more heavily populated South East Northumberland area.

Interrogation of the 2011 Census Travel to Work data for each key settlement in Table 48 below, provides an indication on the proportion of existing residents of each who either work within the settlement itself or travel to destinations further afield in Newcastle, North Tyneside or Gateshead to work.

Table 48 2011 Census Travel to Work Proportions

Settlement	Internal Settlement Traffic	Newcastle	North Tyneside	Gateshead
Alnwick	31.6%	6.4%	3.4%	1.1%
Ashington	26.3%	11.7%	9.4%	3.4%
Bedlington	11.6%	17.3%	11.5%	4.2%
Berwick	51.7%	1.6%	0.8%	0.6%
Blyth	25.3%	16.2%	16.9%	4.0%
Cramlington	21.5%	24.4%	17.2%	5.2%
Hexham	29.8%	20.0%	3.1%	5.4%
Morpeth	26.5%	20.6%	8.9%	4.6%
Ponteland	14.5%	37.2%	9.9%	9.4%
Prudhoe	19.3%	22.0%	4.1%	13.8%
Seaton Delaval	8.2%	21.3%	30.0%	5.6%

The data highlights a stark variation between settlements in the number of commuter outflows to other destinations. The settlements with the highest commuter outflows are Seaton Delaval and Ponteland, which can be explained by the relative lack of any significant employment areas in these settlements and their proximity to North Tyneside and Newcastle respectively.

Comparatively, in the north and west of the Northumberland, settlements such as Berwick, Alnwick and Hexham observe a much lower commuter outflow, principally due to the longer distances involved in commuting to regional centres such as Newcastle. As would be expected, those settlements located in the south-east of the County have a much more significant commuting relationship with Newcastle and North Tyneside, with areas such as Ponteland and Seaton Delaval witnessing over half of commuters undertaking commuting trips destined for the Tyne and Wear area.

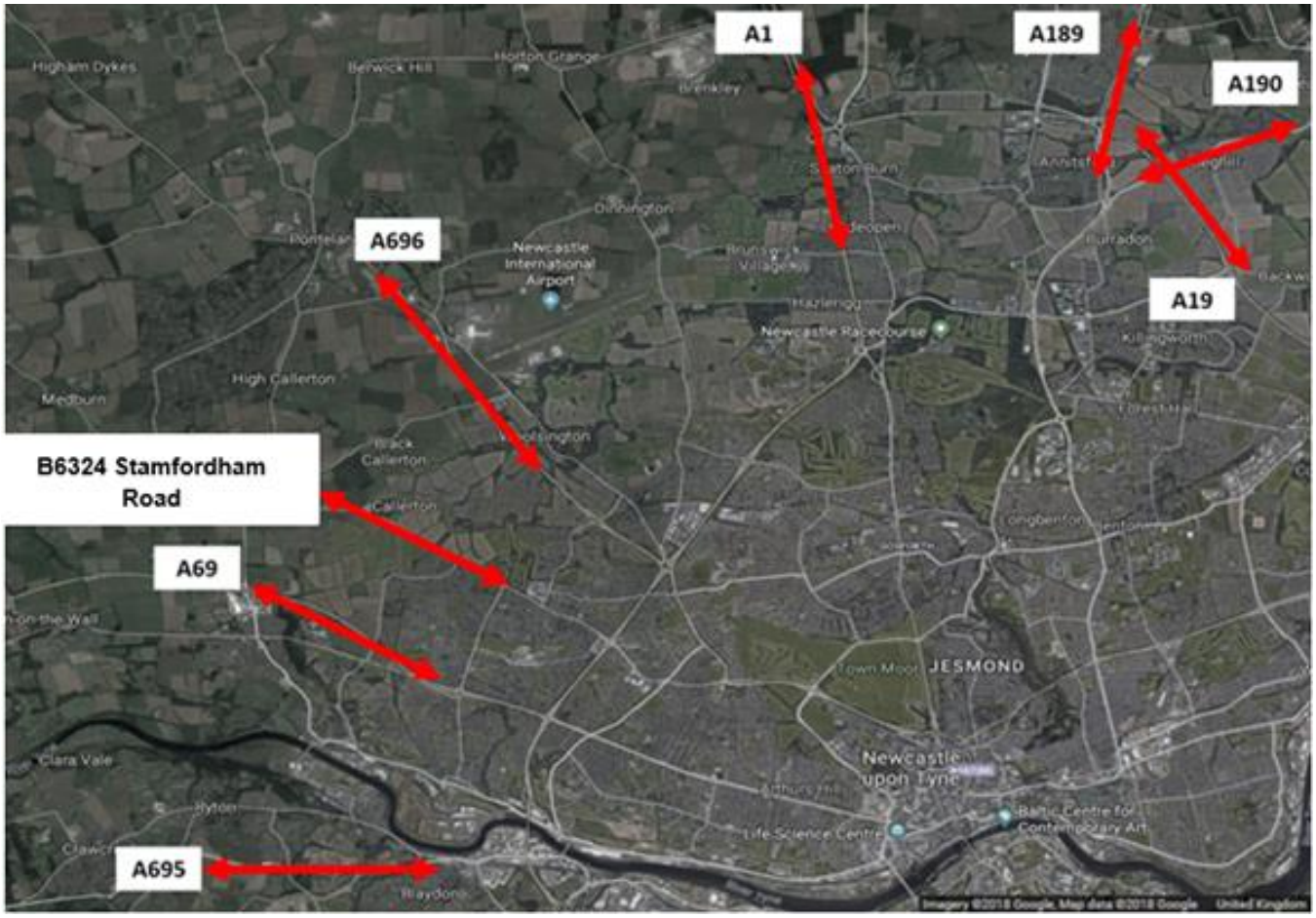
As a result of its proximity to Gateshead and access to the key transport corridor of the A695, Prudhoe is seen to observe the largest proportion of resident commuter outflow to Gateshead. With the exception of Ponteland, which

also has a relatively higher proportion of residents working in Gateshead, the remaining settlements are considered to have a low commuter relationship with Gateshead in respect of likely cross-boundary trips.

As part of the Local Plan consultation process, there is a 'Duty to Cooperate' requirement placed upon Local Authorities. To this end, NCC had previously as part of the withdrawn Core Strategy TA study, engaged with Newcastle City Council, Gateshead Council and North Tyneside Council with the intention of sharing evidence, data and studies to provide a basis for engagement and discussion. The outputs provided in this study will play an important role in establishing the potential impact on neighbouring Local Authority highway networks and a vital step in sharing data and understanding regional cross-boundary traffic impacts. Based on the availability of main road corridors between the key settlements of Northumberland and Newcastle, Gateshead and North Tyneside, the following key cross-boundary corridors have been considered, as highlighted in Figure 1:

- A1;
- A189;
- A19;
- A190;
- A696;
- B6324 Stamfordham Road;
- A69; and
- A695.

Figure 1 – Key Cross-Boundary Road Corridors



The methodology informing the impacts on these key road corridors also informs impacts associated with the Strategic Road Network, managed by Highways England. These are summarised further in Section 10.2 that follows.

Two key elements form the methodology for determining cross-boundary traffic impacts. Both are described in more detail below.

8.1.2 South East Northumberland

51% of the population in Northumberland lives within the 3% of the urban land located in South East Northumberland, with further growth planned during the Local Plan period. There are a number of settlements within the South East Northumberland area that both have commuting relationships with the main Tyneside conurbation to the south within attainable commuting distances but also commuting relationships between the settlements and towns of South East Northumberland themselves.

As a result, there is considered to be a more complex mix of travel patterns in this area that require consideration and form part of cross-boundary analysis. It is also noteworthy that the main strategic employment site allocations proposed in the Local Plan are located in Cramlington, Blyth and Ashington in South East Northumberland that may generate commuting inflows from residents of neighbouring Local Authority areas. It was therefore agreed with NCC that a more holistic view of development impacts and trip patterns in this area would be necessary to determine strategic cross boundary impacts on key transport corridors at main junctions on the Strategic Road Network.

Jacobs has therefore adopted distribution tools used by Highways England to undertake an assessment of cross-boundary and Strategic Road Network flows for sites in South East Northumberland. Two tools have been used for this exercise and are summarised below.

8.1.3 GraHAm

The GraHAm tool has been used widely by Highways England across the Northern areas of England, and most notably in the North East, to highlight the likely magnitude of impact from multiple developments on key junctions/links on the Strategic Road Network. The tool is a trip generation, distribution and assignment tool that uses a GIS interface to assign traffic to links from a limitless number of development sites.

The tool works by assigning a development site to the nearest Middle Super Output Area [MSOA] and, based upon the known trip distribution from 2011 Census journey to work data, assigns trips based upon the fastest path. The pathway of trips is detailed at the production and travels to the centroid of the MSOA to the attractor. The tool can assess individual developments or cumulative however each site is treated independently, in that they do not influence each other.

8.1.4 RacHEl

The RacHEl tool has been developed recently with the aim of ultimately superseding GraHAm. The RacHEl tool is based on a gravity model platform (population, number of jobs and distance deterrence functions used to determine route suitability). This enables multiple developments to be considered cumulatively, but with applied push and pull factors depending on the interaction between developments based on their size and location. The RacHEl tool also provides alternative journey purposes, with a range of different distance deterrence factors applied for alternative journey purposes. Although RacHEl represents a more versatile tool, it has not yet been formally adopted or used to determine Local Plan impacts. Also, due to the complexity of the RacHEl process, the tool is not site specific in terms of routing, instead sites are assigned to Ward centroids and routing is centroid-to-centroid, rather than site-to-centroid.

For the purpose of the Local Plan cross-boundary and Strategic Road Network impacts as part of this study; the results from graHAm have been used given that this currently represents the favoured tool by Highways England that has been used commonly across other areas to determine wider impacts on the Strategic Road Network. However, the same assessments have also been completed using the RacHEl tool to future proof the assessment should these be required at a later date, if/when RacHEl becomes the default tool used by Highways England.

The tools have been furnished with all development sites, split by scenario (baseline and Local Plan) for those settlements defined as the South East Northumberland area, including Cramlington, Blyth, Ashington, Bedlington and Seaton Delaval. The network is of sufficient detail to allow all cross-boundary corridor routes and key links / junctions on the Strategic Road Network to be considered in detail for traffic flows associated with South East Northumberland.

8.1.5 Wider Northumberland

As identified earlier in the report, it is acknowledged that there are a number of settlements outside of South East Northumberland that could also contribute to cross-boundary traffic on the key routes identified. However, as these settlements are generally more isolated and therefore subject to more specific travel characteristics as defined by the Census data, these have been considered individually with cross-boundary flows calculated and then added alongside those generated by GraHAm for South East Northumberland.

In order to undertake a detailed corridor based analysis of cross-boundary flows for the wider Northumberland locations, Jacobs has interrogated the 2011 Travel to Work Census data for residents of all relevant Middle Super Output Areas (MSOAs). The appropriate MSOAs for each settlement/area were identified alongside those MSOAs that best represented the Wider Northumberland areas not classified within the settlements identified earlier in this report. This has been based on all the settlements/delivery areas included in the schedule provided by NCC to reflect the cumulative total strategic flows that may result from Local Plan development across Northumberland.

The destination MSOAs located in Newcastle, North Tyneside and Gateshead have been identified and grouped into a smaller number of key destinations that could generally be accessed from the same strategic routes; these were identified as:

- Newcastle (Central, Western, Eastern and Northern);
- Gateshead (Western, Central and Eastern); and
- North Tyneside (North / Killingworth, East / Coast, Central / Silverlink and Wallsend / Royal Quays).

This level of aggregation was considered to be of sufficient detail to accurately distinguish between key employment areas in Newcastle and Gateshead centres and other main trip attractors such as Team Valley, Regent Centre in Gosforth and the various business parks of North Tyneside. This ensured that all cross-boundary demand between Wider Northumberland locations and Newcastle, Gateshead and North Tyneside has been captured and appropriately assigned to a transport corridor.

In each case, the key routings between the centroid of each origin settlement / area and the centroid of each MSOA destination grouping above were established, based on the quickest journey. Each origin and destination as identified by the Census data has then been assigned to the appropriate corridor to calculate the corridor assignment proportions for each origin-destination pairing.

The total housing trips destined for Newcastle, North Tyneside and Gateshead were established using the total trip generation (associated with all sites included in each settlement for the baseline and Local Plan scenario. These flows were then assigned to key destination as identified by the Census data was then assigned to the appropriate corridor to calculate the corridor assignment proportions for each origin-destination pairing.

The analysis also considered the impact of inbound cross-boundary employment related trips from residents of Newcastle, Gateshead and North Tyneside accessing new employment areas in Northumberland. The gravity models that were developed to determine traffic distributions for employment sites in individual settlements have been used to inform likely distributions. These gravity models, using the 2011 Census data, provided a proportion of trips that would be generated from neighbouring areas based on population and distance. These proportions were then applied to total constrained employment trips being generated by allocated employment locations in Northumberland. The subsequent trip generations between each origin-destination pairing were then applied to the corridor routing proportions identified previously to assign employment trips to the correct corridor.

It should be noted that the graHAm and racHEl modelling tools have been used to determine the cumulative impact of Local Plan allocation sites in South East Northumberland on the Strategic Road Network and key cross-boundary transport corridors only.

The junction capacity modelling for those junctions included in Table 10 earlier in this report within the individual settlements impacted in South East Northumberland do not use graHAm or racHEl outputs due to the granularity of the outputs for the local road network. Instead, individual junction capacity assessments have been informed by the traffic generation for the Local Plan land use scenario highlighted in Section 3, and the junction filtering process described in Section 5, have been undertaken according to the methodology outlined in Section 3, 4 and 5.

8.1.6 Summary

Section 8 has summarised the assessment methodology that has been employed. It firstly identifies the methodology used to develop the traffic flows for the two land use scenarios on which the junctions included in Table 10 have been assessed. This approach has been consistently applied for all junctions in the 11 settlements and both the Baseline and Local Plan Land Use scenarios to inform individual junction capacity assessments.

It has also identified the separate methodology employed (using Highways England graHAm distribution tool) for determining strategic cross-boundary corridor and SRN flows for South East Northumberland. This has been used because it is considered to offer a more realistic consideration of cumulative strategic impacts from the South East Northumberland area and flows on the nearby adjacent SRN / key transport corridors. This has been combined with a manual trip distribution and assignment method to capture additional strategic traffic associated with Wider Northumberland settlements for the identified corridors and SRN analysis.

9. Cross Boundary Impacts

9.1 Overview

This section of the TA presents the results of the cross-boundary traffic impacts associated with the Baseline and Local Plan assessment scenarios. It summarises the traffic flows on key corridors within neighbouring Local Authorities for the Local Plan allocations yet to come forward.

9.2 Cross Boundary Impacts

The subsequent two-way corridor trips are summarised in Table 49 to 51 below and are based on an inbound or outbound trip to/from Northumberland. It should be noted that these figures represent a combination of GraHAm output results and the manually calculated origin – destination flows from areas in wider Northumberland. Local road network routes within the GraHAm network are only provided with two-way flows, therefore the total columns represent the true cumulative total of Local Plan development by corridor.

Table 49 Cross Boundary Flows (South East Northumberland)

Route Corridor	Cross-Boundary Trips for South East Northumberland (GraHAm Outputs)					
	Local Plan Scenario					
	AM			PM		
	In	Out	Tot	In	Out	Tot
A695			**2**			**1**
A69	3	15	**18**	12	2	**14**
B6324	0	0	**0**	0	0	**0**
A696	1	4	**5**	4	0	**4**
A1	92	20	**112**	11	85	**96**
A19	83	16	**99**	9	72	**81**
A189			**137**			**103**
A190			**45**			**39**

Table 50 Cross Boundary Flows (Wider Northumberland)

Route Corridor	Cross-Boundary Trips for Wider Northumberland					
	Local Plan Scenario					
	AM			PM		
	In	Out	Tot	In	Out	Tot
A695	120	24	**144**	16	99	**114**
A69	112	67	**180**	55	105	**160**
B6324	0	0	**0**	0	0	**0**
A696	218	27	**245**	18	176	**194**
A1	103	22	**125**	16	85	**101**
A19	92	19	**110**	13	75	**89**
A189	8	18	**26**	16	10	**26**
A190	0	0	**0**	0	0	**0**

Table 51 Cross Boundary Flows – All Northumberland

Route Corridor	Total Cross-Boundary Trips for Northumberland					
	Local Plan Scenario					
	AM			PM		
	In	Out	Tot	In	Out	Tot
A695	120	24	**146**	16	99	**115**
A69	115	82	**198**	67	107	**174**
B6324	0	0	**0**	0	0	**0**
A696	219	31	**250**	22	176	**198**
A1	195	42	**237**	27	170	**197**
A19	175	35	**209**	22	147	**170**
A189	8	18	**163**	16	10	**129**
A190	0	0	**45**	0	0	**39**

The cross- boundary results highlight the following key statistics:

- The Local Plan scenario and associated allocation sites represent 25% of all cross-boundary flows (made up of 30% from wider Northumberland and 20% of all cross-boundary flows from South East Northumberland);
- Of the three key destinations considered, trips to/from Newcastle represent 54% of all cross-boundary trips generated by Local Plan developments in Northumberland;
- Trips to/from Gateshead represent 16% of all cross-boundary trips generated by Local Plan developments in Northumberland; and
- Trips to/from North Tyneside represent 31% of all cross-boundary trips generated by Local Plan developments in Northumberland.
- The Local Plan scenario impact is spread over a number of corridors, with a fairly even relative impact across those that are affected. It is noted however, that for the Local Plan scenario the major flows are counter tidal to prevailing network conditions in peak periods. For example, the largest flows in the AM peak are inbound trips along these corridors into Northumberland and vice-versa in the PM peak.
- No traffic is expected to impact on the Stamfordham Road corridor, which is not considered a favourable route in terms of journey times compared to alternative more strategic routes.

10. Strategic Road Network Impacts

10.1 Overview

This section of the TA presents the results of the Strategic Road Network (SRN) impacts associated with the Baseline and Local Plan assessment scenarios. It summarises the traffic flows at key junctions on the SRN network for both scenarios.

10.2 Wider Northumberland

The main SRN links routing through the wider Northumberland area are the A1 and A69. A number of local routes form junctions with the A1 providing access to the various settlements that it bypasses. Jacobs has summarised the two-way total link flows for each peak period on approaches to key junctions on the A1 and A69 impacted by Local Plan development traffic for the Baseline and Local Plan scenario. The two-way trips are summarised in Table 52 below. Typically, these flows represent the movements to/from the SRN associated with developments in the key adjacent settlements.

Table 52 – SRN Traffic Impacts (Wider Northumberland) - A1 and A69

Junction	Approach Arm	Local Plan Scenario	
		AM Two-Way Flow	PM Two-Way Flow
Morpeth A1 Northern Bypass Roundabout	A1 North	11	1
	A1 South	131	14
	Northern Bypass East	23	115
Alnwick A1 A1068 Junction	A1 Northbound Arriving	51	5
	A1 Northbound Leaving	7	41
	A1 Southbound Arriving	114	11
	A1 Southbound Leaving	1	5
Berwick A1 North Road Roundabout	A1 North	12	14
	A1 South	19	4
	North Road	32	13
	Windmill Way	11	36
Berwick A1 Rotary Way Roundabout	A1 North	4	16
	A1 South	19	4
	Rotary Way East	0	0
	Rotary Way West	0	0
Berwick A1 A1167	A1 North	5	15
	A1 South	32	25

Junction	Approach Arm	Local Plan Scenario	
		AM Two-Way Flow	PM Two-Way Flow
	A1167	30	12
Haltwhistle B6322 A69	B6322	10	6
	A69 East	5	7
	A69 West	0	0
Hexham A6079 Rotary Way / A69	A6079 Rotary Way	55	156
	A69 East	162	31
	A69 West	13	3
Hexham B5631 / A69	B6531	0	0
	A69 East	5	12
	A69 West	12	3

The results in the table highlight that the volume of additional traffic anticipated to route via the junctions on the A1 and A69 in wider Northumberland associated with the Local Plan Scenario is modest.

10.3 South East Northumberland

The main SRN junctions in South East Northumberland impacted by the Northumberland Local Plan scenarios are those located on the A19, principally the A19 / A1 Seaton Burn interchange, the A19 / A189 Moor Farm roundabout and the A19 / A1171 / B1319 Dudley Lane interchange. Given the location of these junctions on one of the key cross-boundary corridors considered in the previous section, the same combined methodology used for the cross boundary analysis has been used to determine Local Plan traffic flows at Seaton Burn and Moor Farm.

In the first instance, the link flow outputs produced by the graHAm tool representing developments in South East Northumberland have been sourced. These provide a combination of bi-directional traffic flows for the SRN and combined two-way flows for local road network routes.

Based on the cross boundary analysis undertaken in the previous section, it has been possible to interrogate the origin and destination pairs and associated routings to determine the volume of traffic routing between locations in Wider Northumberland and principally Newcastle/North Tyneside that may route via the A19 corridor. These flows have then been combined with the graHAm output values (either by direction or two-way combined) to produce a cumulative total traffic flows at the key junctions on the A19 corridor, notably the A1 / A19 Seaton Burn interchange, A19 / A1171 Dudley Lane interchange and the A19 / A189 Moor Farm roundabout.

The figures below summarise these combined flows for the Local Plan scenarios for the AM and PM peak.

Figure 2 – A19 SRN Impacts – Local Plan Scenario AM Peak Flows

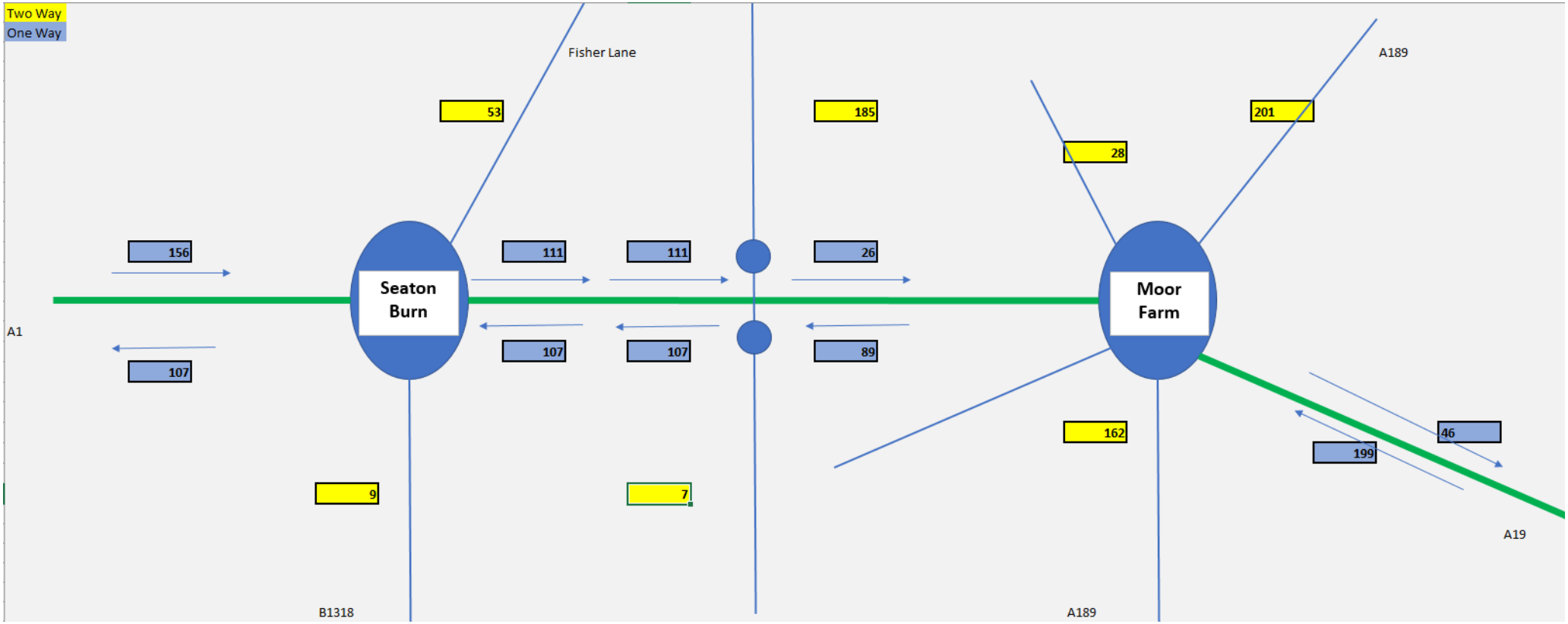
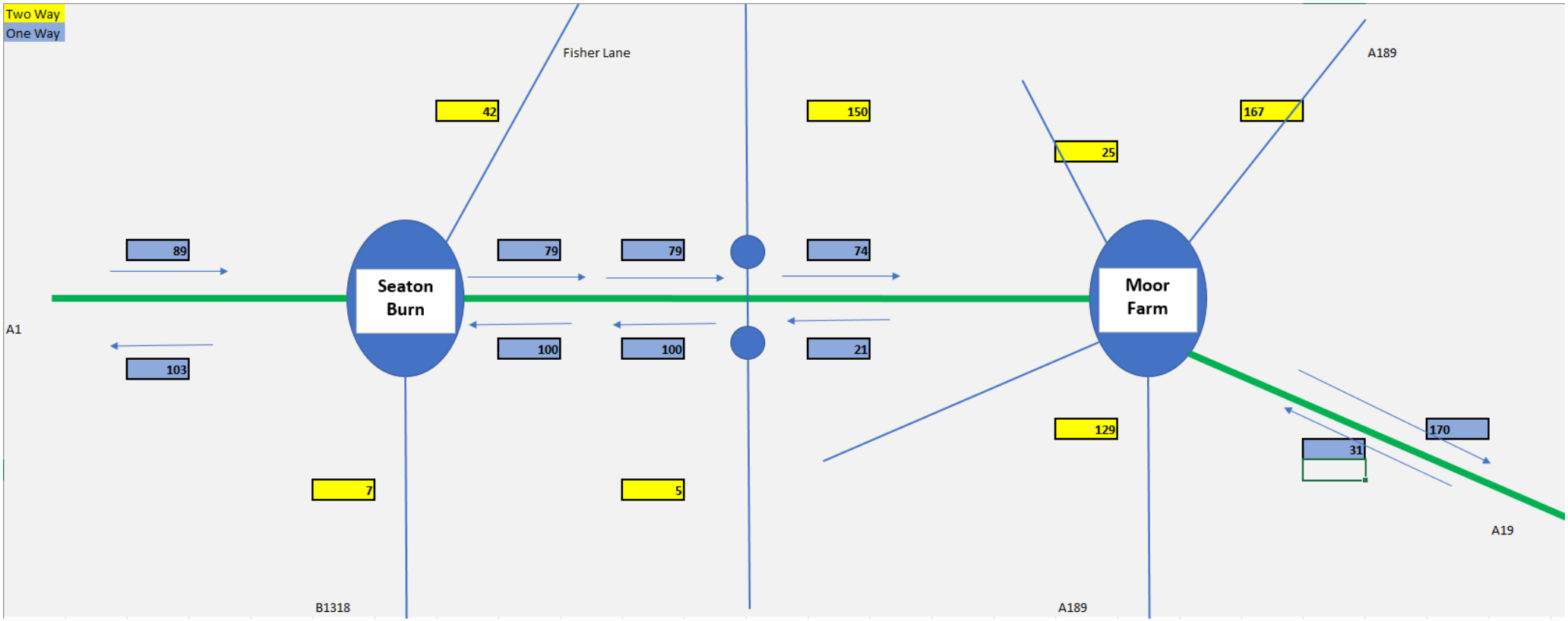


Figure 3 – A19 SRN Impacts – Local Plan Scenario PM Peak Flows



It can be highlighted that the increase in traffic at these junctions from the Local Plan scenario compared to the committed baseline scenario is relatively modest in the context of a major strategic interchange. The analysis highlights the largest traffic flow change to be up to 200 two-way vehicles at the Moor Farm junction in the AM peak.

It is anticipated that Highways England will consider the assessment undertaken in this report and use this to underpin their response to the Local Plan. NCC will continue to engage with Highways England in a proactive manner as part of ongoing Duty to Cooperate obligations.

11. Conclusions

11.1 Summary

Jacobs has prepared this TA on behalf of NCC which has established the traffic implications of delivering the countywide growth aspirations associated with the proposed residential, employment and minerals extraction Local Plan allocations for the Local Plan period 2016 – 2036.

The TA presents the trip generation exercises that have been undertaken to identify the volume of vehicle trips likely to travel to and from the residential, employment and minerals extraction Local Plan sites during typical weekday AM and PM peak periods. It describes the assessment methodology adopted to establish which Local Plan sites are likely to generate a material impact upon the road network. It has been highlighted that 27 Local Plan sites have been identified as likely to result in a material impact by generating 30+ two-way vehicle movements per peak hour.

The TA presents the analysis undertaken to identify which junctions in the county would subsequently be impacted by the Local Plan allocated sites. It explains the distribution assessment methodologies adopted to achieve this, including the use of 2011 Census data for the distribution of residential trips, the use of a gravity model for the distribution of employment trips, and the removal of 'double counted' trips associated with movements made between residential and employment sites located within the same settlement.

The TA identifies 32 junctions being impacted upon by the Local Plan allocations as a result of these being impacted by more than 60 two-way additional trips resulting from the Local Plan Land Use scenario. These junctions are located within 9 settlements, namely Alnwick, Berwick, Haltwhistle, Hexham, Morpeth, Prudhoe, Ashington, Blyth, and Cramlington. Of these, 10 junctions are located in wider Northumberland and 22 are located in the South East of the county. These junctions have been assessed using the Junctions 9 modelling suite, and they have been assessed for a Baseline scenario consisting of recorded turning movements, traffic growth if required and traffic generated by sites with planning approval and sites that have a 'minded to approve' status). Additionally, a Local Plan scenario has been assessed to determine the additional impact over and above the committed baseline scenario of additional allocated Local Plan development sites (Baseline scenario plus Local Plan allocations traffic).

The report clearly identifies those junctions that are expected to be operating beyond capacity in the Baseline and Local Plan scenario assessments.

The TA also assesses the cross-boundary traffic impacts associated with the Local Plan allocations in Northumberland on key transport corridors between Northumberland and neighbouring Local Authority areas of Newcastle, Gateshead, and North Tyneside. The TA also assess the potential impacts upon the SRN managed by Highways England. Highways England's GraHam distribution modelling tool has been used to establish the cross-boundary and SRN traffic impacts. This analysis has highlighted that strategic traffic movements associated with the Local Plan scenario are likely to be relatively modest in the context of existing flow volumes on the majority of these corridors.

11.2 Conclusions

11.2.1 Junction Modelling

In relation to the assessment of the 10 junctions within settlements in Wider Northumberland, the junction modelling assessments conclude that 3 junctions will be impacted upon where the RFC at the junction is anticipated to be above 85%. These include the following:

1. Alnwick: A1068 / Shilbottle Road junction, for the Baseline & Local Plan scenarios;
2. Berwick: A1167 Royal Tweed Bridge / A698 / Union Park Road junction, for the Baseline and Local Plan scenarios; and
3. Hexham: A6079 Rotary Way / Ferry Road junction, for the Baseline and Local Plan scenarios.

Of these three junctions, two are expected to be operating beyond capacity in the Local Plan land use scenario (A1068 / Shilbottle Road and A6079 Rotary Way / Ferry Road junction). Therefore, these junctions will be taken forward and considered for potential mitigation improvements to address these forecast impacts.

In relation to the assessment of the 22 junctions within settlements in South East Northumberland, the junction modelling assessments conclude that 8 junctions will be impacted upon where the RFC at the junction is anticipated to be above 85%. These include the following:

1. Ashington: A197 Morpeth Road / A1068 junction, for the Baseline and Local Plan scenarios;
2. Ashington - A189 / A197 junction, for the Local Plan scenario;
3. Blyth: A189 / A193 junction. RAG review, for the Baseline and Local Plan scenarios;
4. Cross settlement: A189 / A192 / B1505 Horton Road junction, for the Local Plan scenario;
5. Ashington: A189 / B1334 / Ashwood Drive junction, for the Baseline and Local Plan scenarios;
6. Cross settlement: A192 / A1061 Laverock Hall Road, for the Baseline and Local Plan scenarios;
7. Cramlington: A1171 Dudley Lane / Westmorland Way / Hebron Way, for the Baseline and Local Plan scenarios; and
8. Cramlington: A1171 / A1171 Dudley Lane / Arcot Lane junction, for the Baseline and Local Plan scenarios.

Of these eight junctions, three are expected to be operating beyond capacity in the Local Plan land use scenario (A197 Morpeth Road / A1068, A189 / B1334 / Ashwood Drive and A1171 Dudley Lane / Arcot Lane junction). Therefore, these junctions will be taken forward and considered for potential mitigation improvements to address these forecast impacts.

The junction modelling assessments indicate that broadly, the Local Plan allocations will not have a significant material impact upon the junctions assessed for this TA when compared to committed and minded to approve traffic impacts, as there are negligible differences in the junction modelling results between the Baseline and Local Plan scenarios.

However, the assessments have identified 5 junctions county wide at which a material impact is anticipated as a result of Local Plan allocations:

- A1068 / Shilbottle Road priority junction in Alnwick;
- A6079 Rotary Way / Ferry Road priority junction in Hexham;
- A197 Morpeth Road / A1068 roundabout in Ashington;
- A189 / B1334 Newbiggin Road / Ashwood Drive roundabout in Ashington; and
- A1171 Dudley Lane / Arcot Lane / A1171 roundabout in Cramlington.

Therefore, further investigation of these junctions is necessary to consider appropriate mitigation works that could be implemented to mitigate the impact of the Local Plan scenarios. Jacobs will consider these steps within a separate Mitigation Report.

11.2.2 Cross Boundary Impacts

The TA concludes that the Local Plan allocation sites represent 25% of all cross-boundary flows (made up of 30% from wider Northumberland and 20% of all cross-boundary flows from South East Northumberland). Of the three key destinations considered, trips to/from Newcastle represent 54% of all cross-boundary trips generated by Local

Plan developments in Northumberland. Trips to/from Gateshead represent 16% of all cross-boundary trips generated by Local Plan developments in Northumberland, and trips to/from North Tyneside represent 31% of all cross-boundary trips generated by Local Plan developments in Northumberland. Additionally, in most cases, the greatest flow change resulting from the Local Plan scenario development are counter-tidal to typical existing peak hour network movements.

11.2.3 SRN

It can be highlighted that the increase in traffic at the junctions on the A19 corridor from the Local Plan scenario is relatively modest in the context of the major strategic route and interchanges that this route and associated junctions represents. The analysis highlights the largest traffic flow change to be up to 200 vehicles at the A19 Moor Farm junction in the AM peak.

Appendices

JACOBS

Appendix A. – Land Use Schedules

Sites with Planning Permission Land Use Schedule

Large Sites with Outstanding Planning Permission (as at 31 March 2018)																							
Site Details											Position of site at 01/04/2018						Actual						
Planning Appn Ref	SHLAA Site Ref	Site Name / Address / Location	Settlement	Delivery Area	Small Area	Parish	Decision Date	Expiry Date	Total Net Capacity of Site	Site Area (ha)	Outstanding	Under Construction	Completed	Completed?	Location Type	AM Arrival	AM Departure	AM Total	PM Arrival	PM Departure	PM Total
00/00009/REMA	5144	Land at Summerhouse Lane, Ashington (aka Land South of Wansbeck General Hospital)	Ashington	South East	Ashington	Ashington	04/11/2004	04/11/2009	529	23.00	210	67	380	No	Suburban	60	184	244	188	104	292
00/00213/FUL	5145	Former NCB Workshops, Ellington Rd, Ashington (aka Portland Park)	Ashington	South East	Ashington	Ashington	21/04/2003	21/04/2008	207	8.10	6	30	321	No	Suburban	24	72	96	73	41	114
16/01363/OUT	5118	Land South West Of Lane End Farm Freeman Way North Seaton Industrial Estate Ashington	Ashington	South East	Ashington	Ashington	29/07/2016	29/07/2019	240	6.07	239	1	0	No	Suburban	27	83	110	85	47	132
15/03123/FUL	5168 (in part)	Wansbeck General Hospital, Woodhorn Lane, Ashington	Ashington	South East	Ashington	Ashington	17/03/2017	17/03/2020	89	4.75	59	30	0	No	Suburban	10	31	41	32	17	49
17/00080/FUL	9056	The Institute Leisure Centre Institute Road Ashington	Ashington	South East	Ashington	Ashington	19/09/2017	19/09/2020	51	1.28	51	0	0	No	Edge of Town Centre	8	16	24	11	10	21
17/04048/FUL	9094	Land At Northumberland Close, Ashington	Ashington	South East	Ashington	Ashington	19/03/2018	19/03/2021	22	0.72	22	0	0	No	Suburban	3	8	11	8	4	12
07/00412/FUL	5193	246 Hawthorn Road, Ashington	Ashington	South East	Ashington	Ashington	26/11/2007	26/11/2010	5	0.04	0	1	5	No	Suburban	1	2	3	2	1	3
17/01752/FUL	9061	106 Milburn Road, Ashington	Ashington	South East	Ashington	Ashington	20/10/2017	20/10/2020	5	0.01	5	0	0	No	Suburban	1	2	3	2	1	3
INSE2010/00896 (07/00434/REM)	4760	Land at West Blyth accessed from Chase Farm Drive (Taylor Wimpey & Persimmon)	Blyth	South East	Blyth	Blyth	02/05/2008	02/05/2011	713	14.63	201	53	459	No	Suburban	81	247	328	253	140	393
12/01747/REM	4755	Wellesley C H E, Links Road, Blyth	Blyth	South East	Blyth	Blyth	02/04/2012	02/04/2015	200	11.93	6	61	328	No	Suburban	23	69	92	71	39	110
16/04622/FUL	4573 (in part)	Land At Former Bates Colliery Site Cowpen Blyth	Blyth	South East	Blyth	Blyth	06/10/2017	06/10/2020	142	3.65	129	13	0	No	Edge of Town Centre	22	45	67	31	28	59
12/03770/REM	4573	Land at former Bates Colliery	Blyth	South East	Blyth	Blyth	01/02/2013	01/02/2016	115	9.87	114	1	0	No	Edge of Town Centre	17	37	54	25	22	47
13/02985/FUL	4696	Land Adjacent To Malvins Road, Blyth	Blyth	South East	Blyth	Blyth	02/03/2015	02/03/2018	58	1.40	4	19	35	No	Suburban	7	20	27	21	11	32
15/01941/FUL	4736	Land At Commissioners Quay Quay Road Blyth	Blyth	South East	Blyth	Blyth	31/03/2016	31/03/2019	49	0.98	49	0	0	No	Edge of Town Centre	7	16	23	11	10	21
15/04185/FUL	4668	Land At Newsham North Farm, South Newsham Road, Blyth	Blyth	South East	Blyth	Blyth	21/11/2016	21/11/2019	40	1.76	0	39	1	No	Edge of Town	5	14	19	13	6	19
15/02968/FUL	9023	Blyth Valley Venture Workshops Plessey Road Blyth	Blyth	South East	Blyth	Blyth	03/02/2016	03/02/2019	38	0.74	0	6	32	No	Edge of Town	5	14	19	12	6	18
16/03930/FUL	6016	Land West Of Bebside North Farm Bebside Road Blyth	Blyth	South East	Blyth	Blyth	01/06/2017	01/06/2020	21	0.82	2	18	1	No	Edge of Town	3	8	11	7	3	10
13/02762/FUL	6474	Land North Of Windsor Drive Windsor Drive Blyth	Blyth	South East	Blyth	Blyth	07/01/2015	07/01/2018	18	1.48	14	4	0	No	Suburban	2	6	8	6	4	10
15/03129/FUL	9020	Land At Crawford Street Blyth	Blyth	South East	Blyth	Blyth	12/02/2016	12/02/2019	16	0.21	16	0	0	No	Edge of Town Centre	2	5	7	4	3	7
16/04102/FUL	4812	Land East Of Brockwell Court Warwick Street Newsham	Blyth	South East	Blyth	Blyth	23/06/2017	23/06/2020	14	0.30	0	14	0	No	Suburban	2	5	7	5	3	8
15/01774/OUT	9019	8 Sussex Street Blyth	Blyth	South East	Blyth	Blyth	27/07/2015	27/07/2018	9	0.04	9	0	0	No	Edge of Town Centre	1	3	4	2	2	4
12/00923/OUT	6474	1-5 Windsor Drive (Land North Of), Blyth	Blyth	South East	Blyth	Blyth	01/07/2016	01/07/2019	7	0.50	4	3	0	No	Suburban	1	2	3	2	1	3
16/00935/FUL	9029	Albion Court Albion Way Blyth	Blyth	South East	Blyth	Blyth	01/09/2016	01/09/2019	7	0.10	0	7	0	No	Edge of Town Centre	1	2	3	2	1	3
15/04256/FUL	4560	Land South Of Hunter Avenue, Shotton Avenue, Blyth	Blyth	South East	Blyth	Blyth	13/03/2015	13/03/2018	6	0.23	3	3	0	No	Suburban	1	2	3	2	1	3
15/00901/OUTES	4703b	South West Sector Of Cramlington Land South And West Of White Hall Farm Beacon Lane Cramlington	Cramlington	South East	Cramlington	Cramlington	30/08/2017	30/08/2020	1,600	85.60	1,600	0	0	No	Suburban	182	555	737	568	314	882
08/00465/FUL	4652	Land At South West Sector, Off Beacon Lane, Cramlington	Cramlington	South East	Cramlington	Cramlington	03/05/2017	03/05/2020	715	34.14	715	0	0	No	Suburban	82	248	330	254	140	394
16/03184/REM	4701 (in part)	Land North Of Station Road Cramlington	Cramlington	South East	Cramlington	Cramlington	22/02/2017	22/02/2019	480	14.36	460	20	0	No	Edge of Town Centre	73	153	226	106	94	200
16/04425/FUL	9054	Land North Of Rose Avenue Nelson Avenue Nelson Village Cramlington	Cramlington	South East	Cramlington	Cramlington	16/08/2017	16/08/2020	28	0.87	6	22	0	No	Suburban	3	10	13	10	5	15
11/01273/FUL	4783	Dam Dykes Farm Cottages, Arcot Lane, Cramlington	Cramlington	South East	Cramlington	Cramlington	04/11/2011	01/11/2014	13	5.15	13	0	6	No	Suburban	1	5	6	5	3	8
05/00406/RES	4612	West Hartford Farm, West Hartford, Cramlington	Cramlington	South East	Cramlington	Cramlington	21/12/2010	21/12/2013	11	0.83	10	1	0	No	Edge of Town	1	4	5	4	2	6
15/02869/FUL	9021	Land North Of Barry House Old Crow Hall Lane Cramlington	Cramlington	South East	Cramlington	Cramlington	16/03/2016	16/03/2019	9	0.68	9	0	0	No	Edge of Town Centre	1	3	4	2	2	4
17/03099/FUL	9050	The Bungalow High Pit Road Cramlington	Cramlington	South East	Cramlington	Cramlington	17/11/2017	17/11/2020	6	0.03	6	0	0	No	Suburban	1	2	3	2	1	3
11/01565/FUL	4754	13 Allensgreen, Cramlington	Cramlington	South East	Cramlington	Cramlington	12/05/2016	12/05/2019	5	0.09	5	0	0	No	Suburban	1	2	3	2	1	3
16/02297/REM	6778	Land On The South Side Of Lamb Street Cramlington	East Cramlington	South East	Cramlington	Cramlington	29/09/2016	29/09/2019	192	7.80	117	46	29	No	Edge of Town	23	69	92	63	28	91
15/01182/FUL	4627	Land North East Of New Hartley, St Michaels Avenue, New Hartley	New Hartley	South East	Seaton Delaval	Seaton Valley	20/09/2017	20/09/2020	285	10.98	285	0	0	No	Suburban	32	99	131	101	56	157
12/03825/FUL	4629	Land To The Rear Of Wheatfields, Seaton Delaval	Seaton Delaval	South East	Seaton Delaval	Seaton Valley	04/07/2013	04/07/2016	113	7.11	0	2	188	No	Suburban	13	39	52	40	22	62
16/00657/FUL	9040	Former Seaton Delaval County First School Double Row Seaton Delaval	Seaton Delaval	South East	Seaton Delaval	Seaton Valley	09/09/2016	09/09/2019	11	0.36	11	0	0	No	Suburban	1	4	5	4	2	6
15/02695/REM	0284b	Land East Of Greensfield Weavers Way Alnwick	Alnwick	North	Alnwick	Denwick	31/03/2016	31/03/2019	231	17.81	154	39	43	No	Edge of Town	28	83	111	75	34	109
A/2005/0595	0323	Percy Mews, Mews Towers, Park View, Park View (Windsor Park), Alnwick	Alnwick	North	Alnwick	Alnwick	13/03/2006	13/03/2009	29	0.80	1	0	60	No	Edge of Town Centre	4	9	13	6	6	12
A/2006/0557	0324	The Maltings & Bolam Mill, Dispensary Street, Alnwick	Alnwick	North	Alnwick	Alnwick	31/01/2007	31/01/2010	37	0.17	0	3	34	No	Edge of Town Centre	6	12	18	8	7	15
16/02211/FUL	0382	Alnwick RC St John's Aided School, Lisburn Street, Alnwick	Alnwick	North	Alnwick	Alnwick	11/10/2017	11/10/2020	24	1.47	22	2	0	No	Edge of Town Centre	4	8	12	5	5	10
16/03770/FUL	0230	Allerburn House Denwick Lane Alnwick	Alnwick	North	Alnwick	Alnwick	27/02/2017	27/02/2020	20	1.37	19	1	0	No	Suburban	2	7	9	7	4	11
A/2010/0450	0280	Land south of Walkergate Alnwick Northumberland	Alnwick	North	Alnwick	Alnwick	19/07/2011	19/07/2014	15	0.90	15	0	0	No	Suburban	2	5	7	5	3	8
15/02603/FUL	9028	Narrowgate House Narrowgate Alnwick	Alnwick	North	Alnwick	Alnwick	14/10/2016	14/10/2019	8	0.13	8	0	0	No	Edge of Town Centre	1	3	4	2	2	4
14/01134/FUL	8075	Former Valuation Office/Citizen Advice Bureau, Wagonway Road, Alnwick	Alnwick	North	Alnwick	Alnwick	09/12/2014	09/12/2017	6	0.24	5	1	0	No	Suburban	1	2	3	2	1	3
15/02139/FUL	9016	Land West Of 31 St Michaels Lane St Michaels Lane Alnwick	Alnwick	North	Alnwick	Alnwick	08/10/2015	08/10/2018	5	0.05	0	5	0	No	Edge of Town Centre	1	2	3	1	1	2
13/00589/FUL (hybrid application)	1543	Springhill/Highcliffe (Land at), Tweedmouth, Berwick-upon-Tweed	Berwick upon Tweed	North	Berwick upon Tweed	Berwick-upon-Tweed	12/08/2013	12/08/2018	110	10.04	110	0	0	No	Edge of Town	13	39	52	36	16	52
08/B/0696	1017	West Hope (Land at), Castle Terrace, Berwick-upon-Tweed	Berwick-upon-Tweed	North	Berwick upon Tweed	Berwick-upon-Tweed	12/12/2014	12/12/2017	240	10.11	240	0	0	No	Suburban	27	83	110	85	47	132
09/B/0317	1411	Spittal Point (Land at), Spittal	Berwick-upon-Tweed	North	Berwick upon Tweed	Berwick-upon-Tweed	18/02/2014	18/02/2019	136	2.93	136	0	0	No	Suburban	16	47	63	48	27	75
07/B/0158	1541	Land adjacent to Etal Road (Hiveacres), Berwick-upon-Tweed	Berwick-upon-Tweed	North	Berwick upon Tweed	Ord	02/11/2007	02/11/2010	13	1.87	1	12	45	No	Edge of Town	2	5	7	4	2	6
06/B/0714	1046	Governors Garden (Garage site), Palace Street East, Berwick-upon-Tweed	Berwick-upon-Tweed	North	Berwick upon Tweed	Berwick-upon-Tweed	20/07/2011	20/07/2014	39	0.99	31	0	21	No	Edge of Town Centre	6	12	18	9	8	17
07/B/0367	1391	Land at West Hope, Castle Terrace, Berwick	Berwick-upon-Tweed	North	Berwick upon Tweed	Berwick-upon-Tweed	14/11/2007	14/11/2010	7	2.49	0	1	29	No	Suburban	1	2	3	2	1	3
04/B/0337	1019	Coating and Blending Mill, Dock Road, Berwick	Berwick-upon-Tweed	North	Berwick upon Tweed	Berwick-upon-Tweed	08/07/2005	07/07/2010	30	0.32	30	0	0	No	Suburban	3	10	13	11	6	17
98/B/0646	1383	East Ord Gardens Berwick	Berwick-upon-Tweed	North	Berwick upon Tweed	Ord	05/01/1999	05/01/2004	13	0.05	4	2	8	No	Edge of Town	2	5	7	4	2	6
14/03054/REM	1017 (in part)	West Hope (Land at), Castle Terrace, Berwick-upon-Tweed (phase 1)	Berwick-upon-Tweed	North	Berwick upon Tweed	Berwick-upon-Tweed	12/12/2014	12/12/2017	10		10	0	0	No	Suburban	1	3	4	4	2	6
08/B/0645	1264	76 Ravensdowne, Berwick-upon-Tweed	Berwick-upon-Tweed	North	Berwick upon Tweed	Berwick-upon-Tweed	08/04/2014	08/04/2017	10	0.34	0	10	0	No	Edge of Town Centre	2	3	5	2	2	4
17/03673/OUT	1183	Land South West Of Castle Hills Farm Cottages, Castle Hills, Berwick-Upon-Tweed	Berwick-upon-Tweed	North	Berwick upon Tweed	Berwick-upon-Tweed	02/02/2018	02/02/2021	8	0.27	8	0	0	No	Edge of Town	1	3	4	3	1	4
16/04185/FUL	1045	St.Aidan's House, 18 Palace Green, Berwick-Upon-Tweed	Berwick-upon-Tweed	North	Berwick upon Tweed	Berwick-upon-Tweed	25/04/2017	25/04/2020	6	0.44	0	6	0	No	Edge of Town Centre	1	2	3	1	1	2
17/04396/FUL	9120	38 Hide Hill, Berwick-Upon-Tweed	Berwick-upon-Tweed	North	Berwick upon Tweed	Berwick-upon-Tweed	30/01/2018	30/01/2021	6	0.04	6	0	0	No	Edge of Town Centre	1	2	3	1	1	2
14/03065/FUL	8069	Border Pine Building, Aesica Road, Haltwhistle	Haltwhistle	West	Haltwhistle	Haltwhistle	07/01/2015	07/01/2018	14	0.25	0	14	0	No	Edge of Town Centre	2	4	6	3	3	6
15/02221/REM	2344	Land South Of Craneshaugh, Corbridge Road, Hexham	Hexham	Central	Hexham	Hexham	11/12/2015	11/12/2017	122	4.34	43	19	60	No	Edge of Town	15	44	59	40	18	58
13/02289/FUL	2343 (in part)	Land at Gilesgate, Hexham	Hexham	Central	Hexham	Hexham	02/02/2015	02/02/2018	45	0.29	44	1	0	No	Edge of Town Centre	7	14	21	10	9	19
16/03281/FUL	9030	St Cuthberts Close Hexham	Hexham	Central	Hexham	Hexham	08/03/2017	08/03/2020	38	0.63	38	0	0	No	Edge of Town Centre	6	12	18	8	7	15
15/02794/FUL	2497 & 2258	Hexham Bus Station & The Ropery Priestpopple / Argyle Terrace Hexham	Hexham	Central	Hexham	Hexham	18/11/2015	18/11/2018	36	0.45	36	0	0	No	Edge of Town Centre	5	11	16	8	7	15
14/01128/FUL	6928 (in part)	Royal Hotel Priestpopple Hexham	Hexham	Central	Hexham	Hexham	11/07/2014	11/07/2017	12	0.10	0	12	0	No	Edge of Town Centre	2	4	6	3	2	5
17/01204/FUL	9058	Hexham Register Office Hadrian House 21 Market Street Hexham	Hexham	Central	Hexham	Hexham	16/11/2017	16/11/2020	8	0.04	8	0	0	No	Edge of Town Centre	1	3	4	2	2	4
16/00860/FUL	3158	Land North East Of Green Rigg, Medburn	Medburn	Central	Ponteland	Ponteland	22/07/2016	22/07/2019	50	2.07	50	0	0	No	Edge of Town	6	18	24	16	7	23
16/04702/REM	8065	Land North Of Harrison Hall The Avenue Medburn	Medburn	Central	Ponteland	Ponteland	06/04/2017	06/04/2020	6	0.70	6	0	0	No	Edge of Town	1	2	3	2	1	3
16/03777/FUL	3041 & 3656 (in part)	Land West Of Dyke House The Avenue Medburn	Medburn	Central	Ponteland	Ponteland	09/01/2017	09/01/2020	6	0.27	6	0	0	No	Edge of Town	1	2	3	2	1	3
11/01959/OUT	3042	Prospect Farm, The Avenue, Medburn	Medburn	Central	Ponteland	Ponteland	22/10/2012	22/10/2015	5	0.55	0	1	4	No	Edge of Town	1	2	3	2	1	3
14/04282/OUT	3380	Land North Of Dyke House The Avenue Medburn	Medburn	Central	Ponteland	Ponteland	14/08/2015	14/08/2018	5	0.45	3	1	1	No	Edge of Town	1	2	3	2	1	3
14/03221/OUT	6813	Former Miners Welfare Site, Mickley Square	Mickley Square	Central	Prudhoe	Prudhoe	06/05/2015	06/05/2018	10	1.83	10	0	0	No	Edge of Town	1	4	5	3	1	4
14/02750/FUL	3397	St Georges Hospital, Morpeth	Morpeth	Central	Morpeth	Morpeth	23/06/2015	23/06/2018	330	18.20	271	21	83	No	Suburban	38	115	153	117	65	182
11/01439/FUL	3079	Northgate Hospital, Northgate, Morpeth	Morpeth	Central	Morpeth	Morpeth	15/12/2011	15/12/2014	185	33.85	124	11	90	No	Edge of Town	22	66	88	60	27	87
15/02224/FUL	3326	Davidson's Garage (Former), Bridge End, Morpeth	Morpeth	Central	Morpeth	Morpeth	03/02/2016	03/02/2019	55	0.49	0	43	12	No	Edge of Town Centre	8	17	25	12	11	23
15/02779/FUL	3063	Morpeth Cottage Hospital Great North Road (South) Morpeth	Morpeth	Central	Morpeth	Morpeth	04/02/2016	04/02/2019	39	1.37	3	10	26	No	Edge of Town Centre	6	12	18	9	8	17
14/03601/FUL	3497	Land South Of The Dell, Fulbeck	Morpeth	Central	Morpeth	Morpeth	30/09/2015	30/09/2018	39	3.07	8	18	13	No	Suburban	4	14	18	14	8	22
17/01942/FUL	9062	Fulbeck Grange, Fulbeck, Morpeth	Morpeth	Central	Morpeth	Morpeth	21/03/2018	21/03/2021	13	2.36	13	0	0	No	Edge of Town	2	5	7	4	2	6
05/D/0522	3289	Coningsby House, Salisbury Street, Morpeth	Morpeth	Central	Morpeth	Morpeth	18/10/2005	18/10/2008	9	0.47	0	1	8	No	Suburban	1	3	4	3	2	5
16/00275/FUL	6981	Greystoke Surgery, Kings Avenue, Morpeth	Morpeth	Central	Morpeth	Morpeth	29/06/2016	29/06/2019	5	0.17	0	5	0	No	Edge of Town Centre	1	2	3	1	1	2
16/00145/REM	6991	Morpeth Parish Office, Morpeth Parish Hall, Grange Road, Morpeth	Morpeth	Central	Morpeth	Morpeth	10/05/2016	10/05/2019	5	0.12	0	1	4	No	Suburban	1	2	3	2	1	3
13/02416/FUL	3188 (in part)	Land East Of Stobhill Roundabout Hepscott Morpeth	Not in a Settlement	Central	Morpeth	Hepscott	15/12/2014	15/12/2017	356	17.15	225	50	121	No	Suburban	41	124	165	126	70	196
14/01449/FUL	4633	Land West Of Bennidge Park, Laverock Hall Road Blyth	Not in a Settlement	South East	Blyth	Blyth	18/12/2014	18/12/2017	278	13.66	192	29	129	No	Suburban	32	96	128	99	54	153
17/02747/REM	3427	Northumbria Police Headquarters, Ponteland	Not in a Settlement	Central	Ponteland	Ponteland	22/01/2018	22/01/2020	253	29.19	253	0	0	No	Suburban	29	88	117	90	50	140
16/00524/REM	3050	Land South West Of Northgate Hospital A192 District Boundary To Northgate Roundabout Morpeth	Not in a Settlement	Central	Morpeth	Hebron	23/07/2014	23/07/2017	218	9.72	157	43	18	No	Suburban	25	76	101	77	43	120
11/02454/FUL & 13/00073/FUL	3007	Land South Of The Chip, Great North Road (south), Morpeth (aka South Loansdean)Morpeth	Not in a Settlement	Central	Morpeth	Morpeth	17/07/2014	17/07/2017	200	10.53	47	33	120	No	Suburban	23	69	92	71	39	110
16/02824/OUT	6827	Alnwick Golf Club Swansfield Park Road Alnwick	Not in a Settlement	North	Alnwick	Alnwick	07/12/2016	07/12/2019	10	1.50	10	0	0	No	Suburban	1	3	4	4	2	6
10/B/0512	1500	Camphill Farm Steading, Berwick-upon-Tweed	Not in a Settlement	North	Berwick upon Tweed	Berwick-upon-Tweed	24/04/2015	24/04/2018	4	0.44	1	3	1	No	Edge of Town	0	1	1	1	1	2
17/01149/FUL	9119	Field East Of The Nursery Medburn	Ponteland	Central	Ponteland	Ponteland	15/01/2018	15/01/2021	62	6.45	62	0	0	No	Edge of Town	7	22	29	20	9	29
13/02074/FUL	6595	Belville House, Ponteland	Ponteland	Central	Ponteland	Ponteland	23/12/2013	23/12/2016	30	0.21	30	0	0	No	Edge of Town Centre	5	10	15	7	6	13
16/04427/FUL	3084	Ponteland Library Thornhill Road Ponteland	Ponteland	Central	Ponteland	Ponteland	24/08/2017	24/08/2020	25	0.08	0	25	0	No	Edge of Town Centre	4	8	12	6	5	11
14/04160/FUL	2494	Former Prudhoe Hospital Prudhoe Hospital Drive Prudhoe	Prudhoe	Central	Prudhoe	Prudhoe	27/04/2016	27/04/2019	404	40.61	357	43	4	No	Suburban	46	140	186	143	79	222
15/03750/OUT	6839a	Land South Of North Row North Row Prudhoe	Prudhoe	Central	Prudhoe	Prudhoe	09/09/2016	09/09/2019	50	1.64	50	0	0	No	Suburban	6	17	23	18	10	28
16/02081/OUT	2633a	Land South Of Broom House Lane Station Road Prudhoe	Prudhoe	Central	Prudhoe	Prudhoe	10/02/2017	10/02/2020	30	1.09	30	0	0	No	Edge of Town Centre	5	10	15	7	6	13
16/02306/FUL	9031	The Drill Hall Swalwell Close Prudhoe	Prudhoe	Central	Prudhoe	Prudhoe	20/10/2016	20/10/2019	6	0.07	6	0	0	No	Edge of Town Centre	1	2	3	1	1	2
15/03213/FUL	2198	Land South Of Edgewell Avenue Edgewell Road Prudhoe	Prudhoe	Central	Prudhoe	Prudhoe	08/12/2015	08/12/2018	5	0.13	5	0	0	No	Suburban	1	2	3	2	1	3
15/03346/FUL	1414 (in part)	Land At Sandstell Road, Spittal	Spittal	North	Berwick upon Tweed	Berwick-upon-Tweed	25/09/2017	25/09/2020	13	0.20	13	0	0	No	Suburban	1	5	6	5	3	8
11/02689/FUL	1240	Land Adjacent To Cornhill Road, Tweedmouth	Tweedmouth	North	Berwick upon Tweed	Ord	14/03/2016	14/03/2019	30	1.62	30	0	0	No	Suburban	3	10	13	11	6	17
14/03693/FUL	8080	C & V Developments Ltd Old Brewery Brewery Lane Tweedmouth Berwick-Upon-Tweed	Tweedmouth	North	Berwick upon Tweed	Berwick-upon-Tweed	21/04/2015	21/04/2018	5	0.41	5	0	0	No	Suburban	1	2	3	2	1	3
07/B/0440	1067	Land to rear of Roddam & Callers Court, east of Hiveacres Road and west of Goldstone, East Ord	Berwick-upon-Tweed	North	Berwick upon Tweed	Ord	09/05/2008	09/05/2011	245	8.20	-	-	-	No	Edge of Town	29	88	117	80	36	116
	2247	Land west of Hougill, Tyne View Road, Haltwhistle	Haltwhistle	West	Haltwhistle	Haltwhistle			6	0.16	-	-	-	No	Suburban	1	2	3	2	1	3
16/00994/FULES	3074	Land West Of St Georges Hospital, Morpeth	Morpeth	Central	Morpeth	Morpeth	04/05/2018	04/05/2021	875	32.25	-	-	-	No	Suburban	100	304	404	311	172	483
17/03697/FUL	3427a	Northumbria Police HQ, Ponteland	Ponteland	Central	Ponteland	Ponteland	43209	44305	22	1.06	-	-	-	No	Suburban	3	8	11	8	4	12

JACOBS

Minded to Grant Land Use Schedule

Large Sites Granted Planning Consent Post 31 March 2018 (up to 30 August)																							
Site Details											Position of site at 01/04/2018							Actual					
Planning Appn Ref	SHLAA Site Ref	Site Name / Address / Location	Settlement	Delivery Area	Small Area	Parish	Decision Date	Expiry Date	Total Net Capacity of Site	Site Area (ha)	Outstanding	Under Construction	Completed	Completed?	Location Type	AM Arrival	AM Departure	AM Total	PM Arrival	PM Departure	PM Total
16/04672/OUTES	**9027**	Land North And West Of Darras Hall, Limestone Lane, Ponteland	Not in a Settlement	Central	Ponteland	Ponteland	-	-	**2,000**	52.26	-	-	-	-	**Suburban**	228	694	922	710	392	1102
16/02432/OUT	**5078**	Land East Of Wansbeck General Hospital, Northern Relief Road, Ashington	Ashington	South East	Ashington	Ashington	-	-	**600**	13.60	-	-	-	-	**Edge of Town**	72	215	287	196	89	285
16/04731/OUT	**5155, 5158, 6774**	Land South West Of Glebe Farm, Choppington Road, Bedlington	Bedlington	South East	Bedlington	West Bedlington	-	-	**500**	13.75	-	-	-	-	**Suburban**	57	174	231	178	98	276
17/00499/OUT	**4694**	Land South West Of Park Farm, South Newsham Road, Blyth	Blyth	South East	Blyth	Blyth	-	-	**300**	9.69	-	-	-	-	**Edge of Town**	36	107	143	98	44	142
16/04348/OUT	**8058, 8059**	Land East Of North Seaton, Summerhouse Lane, Ashington	Ashington	South East	Ashington	Ashington	-	-	**200**	6.52	-	-	-	-	**Edge of Town**	24	72	96	65	30	95
14/03776/OUT	**2579**	Land North Of Eilansgate, Hexham	Hexham	Central	Hexham	Hexham	-	-	**43**	1.71	-	-	-	-	**Suburban**	5	15	20	15	8	23

Local Plan Allocation Land Use Schedule

Sites Identified for Preferred Allocation through the Draft Local Plan (June 2018)																					
Site Details											Position of site at						Actual					
Planning Appn Ref	SHLAA Site Ref	Site Name / Address / Location	Settlement	Delivery Area	Small Area	Parish	Decision Date	Expiry Date	Total Net Capacity of Site	Site Area (ha)	Outstanding	Under Construction	Completed	Completed?	Location Type	AM Arrival	AM Departure	AM Total	PM Arrival	PM Departure	PM Total
	1055 & 6769	Land east of Etal Road, Fildon View and south of Cemetery Lane, Tweedmouth (Robert's Lodge)	East Ord	North	Berwick upon Tweed	Berwick	-	-	**150**	4.41	-	-	-	-	**Edge of Town**	18	54	72	49	22	71
	1116	Former Coal Yard east of Northumberland Road and west of Billendean Road, Tweedmouth	Tweedmouth	North	Berwick upon Tweed	Berwick	-	-	**80**	3.00	-	-	-	-	**Edge of Town**	10	29	39	26	12	38
	8068	Berwick Seaview Caravan and Motorhome Site, Billendean Road, Tweedmouth	Tweedmouth	North	Berwick upon Tweed	Berwick	-	-	**40**	2.65	-	-	-	-	**Edge of Town**	5	14	19	13	6	19
	4570	Land at Crofton Mill	Blyth		Blyth				**51**						**Edge of Town Centre**	8	16	24	11	10	21
	N/A	Land at Lyndon Walk	Blyth		Blyth				**8**						**Edge of Town**	1	3	4	3	1	4
	4671	Land at Windsor Drive	Blyth		Blyth				**30**						**Edge of Town**	4	11	15	10	4	14
	2187	Greystonedale Park Road, Haltwhistle	Haltwhistle	West	Haltwhistle	Haltwhistle	-	-	**30**	0.90	-	-	-	-	**Edge of Town Centre**	5	10	15	7	6	13
	2558	Land to west of Park Road & east of North Lodge	Haltwhistle	West	Haltwhistle	Haltwhistle			**150**						**Edge of Town**	18	54	72	49	22	71
	2549	Land to west of Park Road, Haltwhistle	Haltwhistle	West	Haltwhistle	Haltwhistle	-	-	**65**	2.90	-	-	-	-	**Edge of Town**	8	23	31	21	10	31
	2040	Burn Lane Bus Depot, Tyne Green Road, Hexham	Hexham	Central	Hexham	Hexham	-	-	**15**	0.40	-	-	-	-	**Edge of Town Centre**	2	5	7	3	3	6
	2345	Hospital land at Dean Street, Hexham	Hexham	Central	Hexham	Hexham	-	-	**81**	1.15	-	-	-	-	**Edge of Town Centre**	12	26	38	18	16	34
	2615	Telephone Exchange, Gaprigg (East), Hexham	Hexham	Central	Hexham	Hexham	-	-	**10**	0.21	-	-	-	-	**Edge of Town Centre**	2	3	5	2	2	4
	2616	Telephone Exchange, Gaprigg (West), Hexham	Hexham	Central	Hexham	Hexham	-	-	**15**	0.30	-	-	-	-	**Edge of Town Centre**	2	5	7	3	3	6
17/04070/FUL	**2739**	Prospect House, Hallgate, Hexham	Hexham	Central	Hexham	Hexham	-	-	**18**	0.18	-	-	-	-	**Edge of Town Centre**	3	6	9	4	4	8
	6577	5 Battle Hill, Hexham	Hexham	Central	Hexham	Hexham	-	-	**5**	0.02	-	-	-	-	**Edge of Town Centre**	1	2	3	1	1	2
	6934	Land at Edgewood, Hexham	Hexham	Central	Hexham	Hexham	-	-	**5**	0.24	-	-	-	-	**Edge of Town**	1	2	3	2	1	3
	9104	Land west of Station Road, Hexham	Hexham	Central	Hexham	Hexham	-	-	**15**	0.42	-	-	-	-	**Edge of Town Centre**	2	5	7	3	3	6
18/00124/FUL	**9121 & 9122**	Bog Acre Cottage and Haulage Garage sites, Wanless Lane, Hexham	Hexham	Central	Hexham	Hexham	-	-	**8**	0.10	-	-	-	-	**Suburban**	1	3	4	3	2	5
	9137	Priestpopple County Buildings, Maiden's Walk, Hexham	Hexham	Central	Hexham	Hexham	-	-	**8**	0.16	-	-	-	-	**Suburban**	1	3	4	3	2	5
	9138	Graves Yard behind Army Reserve Centre, Temperley Place, Hexham	Hexham	Central	Hexham	Hexham	-	-	**8**	0.18	-	-	-	-	**Suburban**	1	3	4	3	2	5
	9136 & 2628	Land at Chareway (to rear of Burn Lane Bus Depot)	Hexham	Central	Hexham	Hexham			**40**						**Edge of Town Centre**	6	13	19	9	8	17
	2051	Former Police Houses, Fairfield, Tynedale Terrace	Hexham	Central	Hexham	Hexham			**13**						**Edge of Town Centre**	2	4	6	3	3	6
	2546	Land west of West Road Cemetery, West Road, Prudhoe	Prudhoe	Central	Prudhoe	Prudhoe	-	-	**30**	1.48	-	-	-	-	**Suburban**	3	10	13	11	6	17
17/02541/FUL	**4602**	Former Brickworks, Pitt Lane, Seghill	Seghill	South East	Seaton Delaval	Seaton Valley	-	-	**20**	0.87	-	-	-	-	**Suburban**	2	7	9	7	4	11
	9507	Whytrig Community Middle School, Western Avenue, Seaton Delaval	Seaton Delaval	South East	Seaton Delaval	Seaton Valley	-	-	**45**	0.93	-	-	-	-	**Edge of Town Centre**	7	14	21	10	9	19

South East Northumberland Employment Gross Floor Area

Town	Code	Employment Area	Total land available (ha)	Total available land and land use mix (sqm)	Projected take up of employment land over the plan period based on take up 1999-2017 (ha) + new allocations making up past take-up, (see note)	Projected take up of employment land over the plan period based on take up 1999-2017 (sqm)	Projected take up capped at available land for existing areas with new areas taking up the remainder (see note)	Local Plan - proposed use	Local Plan Deliverable Allocations				
									B1a office (sqm)	B1c business park(sqm)	B2 (sqm)	B8 (sqm)	Various sui generis
Ashington	SE28	North Seaton Industrial Estate	2.021	20,210 sqm B1c B2 B8	5.06	50,600	20,210	Wider uses		3,031		3,031	2,021
	SE37	LIntonville	0.221	2,210 wider use	1.22	12,200	2,210	Wider uses	663				442
	SE-	LIntonville West	5.840	58,400 sqm B-class	4.07	40,700	40,700	B-class	1,221	7,326	7326		814
	SE36	Wansbeck Business Park	4.798	47,980 sqm B1c B2	3.56	35,600	35,600	B-class		7,120	7,120		
	SE38	Ashwood Business Park	16.133	161,330 sqm B1 / B2 / B8	10.47	104,700	104,700	B-class		13,960	13,960	13,960	
Bedlington	SE30	Barrington	1.462	14,620 sqm B-class	1.02	10,200	10,200	B-class		1,020	1,020	2,040	
Blyth	SE03	Riverside Business Park (Cowley Road)	4.241	42,410 sqm B1c	0.34	3,400	3,400	Wider uses		340	340	340	340
	SE04	Riverside Business Park (Coniston Road)	6.475	64,750 sqm B2	2.46	24,600	24,600	B-class			9,840		

	SE05 (pt)	Harbour South - Quayside area only	1.219	12,190 sqm B2 / B8	7.29	72,900	12,190	Wider uses			1,625	1,625	1,625
	SE39	Cambois West Sleekburn Industrial Estate	1.715	17,150 sqm B2	0.10	1,000	1,000	Wider uses			133	133	133
	Special	Blyth Estuary Strategic Area (SE33)	196.651	1,966,510 sqm B1 c/ B2 / B8 Mix	10.50	105,000	105,000	Specialised		4,200	18,900	18,900	
Cramlington	SE10	Northumberland Business Park	14.619	146,190 sqm B1a	9.02	90,200	90,200	B-class	13,530	9,020	9,020	9,020	
	SE11	Windmill	24.772	247,720 sqm B-class	8.20	82,000	82,000	B-class			32,800		
	SE17	Nelson Park West	9.225	92,250 sqm B1 c/ B2	8.06	80,600	80,600	B-class		16,120	16,120		
	SE18	Nelson Park	1.195	11,950 sqm B1 c/ B2	1.63	16,300	11,950	B-class		2,390	2,390		
	SE20	Nelson Park East	2.335	23,350 sqm B-class	0.99	9,900	9,900	B-class		1,980	1,980		
	Special	West Hartford (single employer)	32.373	323,730 sqm B1	16.19	161,865	161,865	Specialised		64,746			
	SE21	South Nelson	1.333	13,330 sqm B1a	0.16	1,600	1,600	B-class		320	320		

Outside of South East Northumberland Gross Floor Area

Town	Code	Employment Area	Total land available (ha)	Total available land and land use mix (sqm)	Projected take up of employment land over the plan period based on take up 1999-2017 (ha) + new allocations making up past take-up, (see note)	Projected take up of employment land over the plan period based on take up 1999-2017 (sqm)	Projected take up capped at available land for existing areas with new areas taking up the remainder (see note)	Local Plan - proposed use	Local Plan Deliverable Allocations				
									B1a office (sqm)	B1c business park(sqm)	B2 (sqm)	B8 (sqm)	Various sui generis
Alnwick	N15	Lionheart Business Park (Ph 2)	1.714	17,140 sqm B1 c/ B8	2.18	21,800	17,140	B-class			3,428	3,428	
	N-	Land SE of Lionheart Business Pk	8.500	85,000 sqm	3.71	37,100	37,100	B-class	4,260	3,710	3,710	3,710	
	N-	Land SW of Greensfield Moor	4.900	49,000 sqm	2.18	21,800	21,800	Wider uses	2,616	1,744	1744	1744	1744
	N11	Alnwick Greensfield Moor	2.214	22,140 sqm B1a, B1c	0.17	1,700	1,700	Wider uses	510	340			
Berwick	N19	North Road	0.239	2,390 sqm wider use	1.07	10,700	2,390	Wider uses		239	239	239	239
	N29	Ramparts Business Park	6.154	61,540 sqm of B1a, B2	2.89	28,900	28,900	B-class		2,890	2,890	5,780	
Hexham	C21	Egger	7.675	76,750 sqm B-class	7.40	74,000	74,000	B-class			29,600		
	GBELT	East of Egger B1c, B2, B8	9.827	98,270 sqm B-class	9.83	98,270	98,270	B-class		15,723	15,723	7,862	

Morpeth	C01	Coopies Lane	0.162	1,620 sqm B1c	1.68	16,800	1,620	Wider uses		648			
	C-	Morpeth Adj to A1 Junction Services Site	2.900	29,000 sqm wider use	2.90	29,000	29,000	Wider uses					11,600
	C-	Morpeth Adj to A1 Jct. Enterprise Centre	1.250	12,500 sqm B-class	1.25	12,500	12,500	B-class	3,750	2,500			
	C11	Fairmoor, Northgate	1.863	18,630 sqm wider use	0.00	0	18,630	Wider uses		1,863	1,863	1,863	1,863
	C17	Fairmoor, Adjacent to A1	8.670	86,700 sqm B1c, B2, B8	0.00	0	86,700	B-class		15,413	11,560	3,853	
Ponteland	GBELT	Prestwick Park Extension	2.000	20,000 sqm B-class	2.00	20,000	20,000	B-class	12,000				
	GBELT	Prestwick Pit	3.500	35,000 sqm B-class	3.50	35,000	35,000	B-class		4,667	4,667	4,667	
Prudhoe	C24	Low Prudhoe Industrial Estate (east of site)	6.428	64,280 sqm mixed B1c, B2, B8	5.28	52,800	52,800	B-class		5,280	5,280	10,560	
	GBELT	Prudhoe - Eltringham additional land	2.510	25,100 sqm B-class	2.51	25,100	25,100	B-class	3,012	2,008	2,008	4,016	

Appendix B. – Completions Data

Completions Data with Amended Net Capacity

Planning Ref	Address	Settlement / Location	PDL/GF	Net Capacity of Site*	11-12	12-13	13-14	14-15	15-16	16-17	17-18	Total	Amended Net Capacity	Sites with PP
07/00434/REM	Land at West Blyth accessed from Chase Farm Drive, Blyth	Blyth	Greenfield	713	25	22	66	54	127	78	90	462		-
00/00009/REM A	Seaton Vale, Land at Summerhouse Lane (Land south of Wansbeck General Hospital), Ashington	Ashington	Greenfield	657	14	17		37	60	57	54	239	529	5144
14/04160/FUL	Former Prudhoe Hospital Prudhoe Hospital Drive Prudhoe (Cottier Grange)	Prudhoe		404							4	4	404	2494
14/03016/FUL	Land South Of Aiden Grove And Lynemouth Road Lynemouth Road Ellington	Ellington		400							15	15		3493
13/02416/FUL	Land East Of Stobhill Roundabout Hepscott Morpeth (South Fields)	Morpeth		396						40	81	121	356	3188 (in part)
12/01747/REM	Land Of The Former Wellesley School, Links Road, Blyth	Blyth	Brownfield	395			38	89	68	88	45	328	200	4755
14/02750/FUL	St Georges Hospital, Morpeth (St George)	Morpeth		375						45	38	83	330	3397
00/00213/FUL	Former NCB Workshops, Ellington Road, Ashington (aka Portland Park)	Ashington	Brownfield	357	46	21		27	56	16	53	219	207	5145
14/01449/FUL	Land West Of Benridge Park Laverock Hall Road Blyth	Blyth		350					19	53	57	129	278	4633
CM/20080874	Land To The Rear Of St Mary's Hospital, Stannington	Morpeth	Greenfield	288			2	51	23	33	72	181	179	3318
A/2010/0203	Land West of A1068 and South Of Marks Bridge, Amble	Amble		262					59	54	47	160		350
15/02695/REM	Land East Of Greensfield Weavers Way Alnwick	Alnwick		236						5	38	43	231	0284b
05/00462/FUL	South Shore, Links Road, Blyth	Blyth	Brownfield	234	62	26	23	26	3			140		-
11/01439/FUL	Northgate Hospital, Northgate, Morpeth	Morpeth		225					12	28	50	90	185	3079

Planning Ref	Address	Settlement / Location	PDL/GF	Net Capacity of Site*	11-12	12-13	13-14	14-15	15-16	16-17	17-18	Total	Amended Net Capacity	Sites with PP
16/00524/REM	Land South West Of Northgate Hospital A192 District Boundary To Northgate Roundabout Morpeth	Morpeth		218							18	18	218	3050
13/00073/FUL	Land South Of The Chip Great North Road (south) Morpeth (Collingwood Manor)	Morpeth		200						69	51	120		-
16/02297/REM	Land On The South Side Of Lamb Street Cramlington (Chapel View)	Cramlington		192							29	29	192	6778
12/03825/FUL	Land To The Rear Of Wheatfields, Seaton Delaval	Seaton Delaval	Greenfield	190				42	35	50	61	188	113	4629
07/00076/RES	Land at Wheatridge Park, Seaton Delaval	Seaton Delaval	Greenfield	189	27	14	65			4		110		-
16/01758/REM	Land East And South East Of Blue House Farm Netherton Road Bedlington	Bedlington		132							26	26		6775 (in part)
15/02221/REM	Land South Of Craneshaugh, Corbridge Road, Hexham (Woodlands Rise)	Hexham		122						32	28	60	122	2344
11/02409/OUT	The Officers Club Ltd, Bassington Avenue, Cramlington	Cramlington		118					26	67	25	118		-
13/03856/FUL	Former Ashington Hospital, West View, Ashington	Ashington		104					18	86		104		-
A/1998/0379	Addycombe (land at) , Whitton View, Rothbury		Greenfield	97	7	21						28		-
11/03200/FUL	Phase 2 Wheatridge Park Development Site, Astley Road, Seaton Delaval	Seaton Delaval	Greenfield	96				26	62	8		96		-
07/B/1058	Raynham Close (Land to the South of), Belford,		Greenfield	92	1	3	6	1	5	3	2	21		1533
05/D/0603	The Kylins (former council offices), Loansdean, Morpeth	Morpeth	Brownfield	89	10	11	7	41	17	3		89		-
14/03266/FUL	Land South Of Lordenshaw Drive And Silverton Lane Garleigh Road Rothbury (Cragside Gardens)	Rothbury		87							6	6		6831
07/00353/RES	Land at area 2A Chase Farm Drive, Blyth	Blyth	Brownfield	83	11	13	19					43		-
16/00138/FUL	Land North Of Benlaw Grove Main Street Felton	Felton		80							20	20		8005
CM/20060668	Welbeck Terrace (former) land adj Longhirst Road/Butchers Lane, Pegswood		Brownfield	78	36	25						61		-

Planning Ref	Address	Settlement / Location	PDL/GF	Net Capacity of Site*	11-12	12-13	13-14	14-15	15-16	16-17	17-18	Total	Amended Net Capacity	Sites with PP
16/01330/FUL	Land West Of The Showfield Haydon Bridge Northumberland	Haydon Bridge		75							13	13		2626 (in part)
A/2010/0074	Land At Willoughbys Bank, Clayport Bank, Alnwick	Alnwick	Greenfield	73			15	25	29	4		73		-
12/02066/FUL	Former Wensleydale School, Dent Street, Blyth	Blyth	Brownfield	68			29	39				68		-
12/03715/FUL	Land East Of Cottingwood Green, South Newsham Road, Blyth	Blyth	Greenfield	66				66				66		-
A/2005/0595	Percy Mews, Mews Towers, Park View, Park View (Windsor Park), Alnwick	Alnwick	Brownfield	61	1	1			2	28		32	29	323
12/03854/FUL	Former Blyth Tynedale Middle School, Tynedale Drive, Blyth	Blyth	Brownfield	60				60				60		-
20110069	Land at Prudhoe Hospital Prudhoe	Prudhoe	Brownfield	60		22	14	19	5			60		-
14/01768/FUL	Land North West Of Broadway House Farm, Church Lane, Bedlington	Bedlington		60					31	29		60		-
06/B/0714	Governors Garden and Blackburn & Price Garage, Palace Street East, Berwick-upon-Tweed	Berwick		60					11	10		21	39	1046
CM/20090787	Ponteland County First School/Clinic (former) North Road	Ponteland	Brownfield	59		60						60		-
07/B/0158	Etal Road (Land adjacent/Hiveacres), Berwick-upon-Tweed	Berwick	Greenfield	58				22	9	2	12	45	13	1541
13/02985/FUL	Dismantled Railway East Of Edendale Avenue Malvins Road Blyth	Blyth		58						16	19	35		-
13/03109/OUT	Land East Of Greensfield Weavers Way Alnwick	Alnwick		58						58		58		-
10/B/0176	Fenton Grange, Cottage Road, Wooler		Greenfield	55	1	4	25	8	1			39		-
11/01033/FUL	Former Cragside County First School, Cateran Way, Cramlington	Cramlington	Brownfield	55			36	19				55		-
A/2007/0481	Formerly Blackshaws Garage (Alnwick) Ltd and Castle Service Station, 26 Bondgate Without, Alnwick	Alnwick	Brownfield	55	1							1		-

Planning Ref	Address	Settlement / Location	PDL/GF	Net Capacity of Site*	11-12	12-13	13-14	14-15	15-16	16-17	17-18	Total	Amended Net Capacity	Sites with PP
15/02224/FUL	Former Davidsons Of Morpeth, Bridge End, Morpeth (Goose Hill)	Morpeth		55							12	12	55	3326
13/02034/FUL	Land South West of Cragside and Land North of Synclen Avenue Corbridge	Corbridge		54					9	37	8	54		-
07/00538/REM	Former Northumberland College (Welbeck & Hawthorn Annexe) & 30-36 Seventh Avenue, Ashington	Ashington	Brownfield	51	18	23						41		-
A/2007/0012	Lagny Street (land west side of), Alnwick	Alnwick	Brownfield	51	51							51		-
16/02971/REM	Land South Of West Close C105 New Hall Farm Junction To Guilden Road Warkworth (Guilden Place)	Warkworth		50							10	10		8048
11/S/00002/FUL	Former Kramel County First School, Clifton Road, Cramlington	Cramlington	Brownfield	49	21	28						49		-
13/03307/FUL	Land South Of Dandsfield Square, Charles Road, Amble	Amble	Greenfield	48				36	12			48		-
04/00465/FUL	The Carrs, Manor Drive, Newbiggin-by-the-Sea		Greenfield	48	1							1		-
06/B/1119	Broad Road (Land east of), Seahouses		Greenfield	42	18	3						21		-
A/2007/0261	Former AMC Ford & Carpet Warehouse, Stonewell Lane, Alnwick	Alnwick	Brownfield	42	25							25		-
CM/20070062	Land at former American Air Filters, Linton		Brownfield	41		12						12		-
13/00759/FUL	Land South Of Featherstone Grove, Hazelmere, Bedlington	Bedlington	Greenfield	41				28	13			41		-
13/00589/FUL	Land East Of Springhill Sunnyside Tweedmouth	Berwick	Greenfield	40				40				40		-
11/01114/FUL	Longhirst Hall Hotel, Longhirst	Morpeth	Brownfield	40		4	17	19				40		-
15/04185/FUL	Land At Newsham North Farm, South Newsham Road, Blyth	Blyth		40							-1	-1	40	4668
10/S/00701/FUL	Land At Glebe Hostel And Glebe Court, Bedlington	Bedlington	Brownfield	39	-43							-43		-
79/B/0419	Meadow Grange, Berwick	Berwick	Greenfield	39		3		5		5		13		-

Planning Ref	Address	Settlement / Location	PDL/GF	Net Capacity of Site*	11-12	12-13	13-14	14-15	15-16	16-17	17-18	Total	Amended Net Capacity	Sites with PP
15/02779/FUL	Morpeth Cottage Hospital Great North Road (South) Morpeth (The Fairways)	Morpeth		39							26	26	39	3063
14/03601/FUL	Land South Of The Dell, Fulbeck (Oakland Park)	Morpeth		39							13	13	39	3497
14/00372/OUT	Land North Of Woodsteads U3010 Station Road To Embleton Moor Junction Embelton	Embleton		39							39	39		-
08/B/0905	Longbeach Drive (Land to North of - Cardinal Point), Beadnell		Greenfield	38	24							24		-
12/01935/FUL	Self Unlimited, North Road, Ponteland	Ponteland	Brownfield	38				21	16	1		38		-
15/02968/FUL	Blyth Valley Venture Workshops Plessey Road Blyth	Blyth		38						4	28	32	38	9023
06/D/0419	County Hall (south of) and Southgate Wood (north east of)	Morpeth	brownfield	37	5							5		-
14/00698/FUL	Land North Of Rimside View, Front Street, Longframlington	Longframlington		37					2	35		37		-
15/02713/PA	Former Halls Of Residence College Road Ashington	Ashington		37						37		37		-
13/00302/FUL	Land East Of Old Barns Close, Morwick Road, Warkworth	Warkworth		37						34	3	37		-
16/02289/NONMAT	Longhirst Hall, Longhirst	Longhirst		37							10	10		8071
A/2006/0557	The Maltings & Bolam Mill, Dispensary Street, Alnwick	Alnwick		37							34	34	37	324
07/00512/REM	Cowpen House, Cowpen Road, Blyth	Blyth	Brownfield	36	2	24						26		-
15/00767/FUL	Land And Buidlings North Of Wylam Hills Farmhouse, Holeyn Hall Road, Wylam (Hedley Meadows)	Wylam		36							24	24		2548
10/S/00194/REM	Scarborough Court, Alexandra Way, Cramlington	Cramlington	Brownfield	34	8	26						34		-
14/00761/FUL	Former Parkside County Middle School, Village Square, Cramlington	Cramlington		34					28	6		34		-
13/02080/FUL	Land North of Slaley Court, Bedlington	Bedlington		33					23	8	2	33		-

Planning Ref	Address	Settlement / Location	PDL/GF	Net Capacity of Site*	11-12	12-13	13-14	14-15	15-16	16-17	17-18	Total	Amended Net Capacity	Sites with PP
13/02828/FUL	Land East Of Togston Court, Togston Road, North Broomhill	Togston		31					29	2		31		-
07/B/0367	West Hope (Land at), Castle Terrace, Berwick-upon-Tweed	Berwick	Greenfield	29	1	3	7	6	3		2	22	7	1391
13/01823/FUL	Blyth Valley Borough Council, Avenue Road, Seaton Delaval	Seaton Delaval	Brownfield	28				28				28		-
10/S/00587/REM	Land At Crofton Mill Industrial Estate, Blyth	Blyth	Brownfield	28	9	19						28		-
13/00296/FUL	Land South Of New Barns Court New Barns Way Warkworth	Amble	Greenfield	27				27				27		-
13/02253/FUL	Land North Of Car Dealership, Corbridge Road, Hexham	Hexham	Greenfield	26				5	21			26		-
CM/20090076	Stobhill Working Mens Club Choppington Road Morpeth	Morpeth	Brownfield	26	15							15		-
15/01008/CCD	Former Morpeth Road Primary School Disraeli Street Blyth	Blyth		26						26		26		-
16/02973/FUL	Land North Of Cairn View Fenwick Park Longframlington	Longframlington		26							4	4		0070b
13/00377/FUL	Land South Of Harecross Longframlington		Greenfield	25				25				25		-
14/04285/FUL	Land North Of Reivers Gate Longhorsley (Wilding Grove)	Longhorsley		25						25		25		-
15/01375/FUL	Northumberland C Of E Academy Gibson Street Newbiggin-By-The-Sea	Newbiggin		24						17	7	24		-
13/01102/FUL	Former Allotments East Of Dene Workshops West Road Mickley		Greenfield	22				22				22		-
20090948	Land adjacent to Forstersteads Allendale		Greenfield	22	22							22		-
CM/20100585	The Willows Public House, Widdrington Station		Brownfield	22	22							22		-
14/01507/FUL	Former Greenholme Day Care Centre, Woodhead Lane, Haltwhistle (Woodhead Walk)	Haltwhistle		22						15	7	22		-
03/D/736	Land adjacent to & including Peel House, Main Street, Ponteland	Ponteland	Brownfield	21			21					21		-

Planning Ref	Address	Settlement / Location	PDL/GF	Net Capacity of Site*	11-12	12-13	13-14	14-15	15-16	16-17	17-18	Total	Amended Net Capacity	Sites with PP
16/00923/FUL	Land East Of Humshaugh First School Humshaugh	Humshaugh		21							2	2		9038
16/02970/REM	Land East Of East Lea, East Lea, Humshaugh	Humshaugh		21							16	16		2377 & 6746 (in part)
14/01638/FUL	Land At Fairfield View, Shilbottle	Shilbottle		20					4	16		20		-
ENCP746	Taits Haulage Yard, Haydon Bridge	Haydon Bridge		20					5	5	9	19		-
A/2005/0410	Rock Farms Ltd, Rock, Alnwick	Alnwick	Brownfield	19	2			1		1	2	6	15	400
11/01273/FUL	Dam Dykes Farm Cottages, Arcot Lane, Cramlington	Cramlington		19					6			6	13	4783
ENRP308	Falcon Grange, Bardon Mill	Bardon Mill		19					1			1		2416
ENCP739	The Orchard Cottage Tyne Green		Brownfield	18	18							18		-
11/01399/FUL	Mill House, West Road, Ponteland (Mill Rise)	Ponteland		18						18		18		-
03/B/0301	Tughall Farm, Chathill		Agricultural Brownfield	17			7					7		-
13/03731/FUL	The Boatyard 14 Coquet Street Amble	Amble		17					2	5	10	17		-
14/01854/FUL	Former Embleton Quarry, Embleton	Embleton		16					16			16		-
15/01402/FUL	7 Dacre Street Morpeth (St James Place)	Morpeth		16						16		16		-
14/00871/FUL	Land West Of The Grove, New Ridley Road, Stocksfield (Stobarts Field)	Stocksfield		16						16		16		-
14/01279/FUL	Land East Of Farmway Corbridge Road Hexham (Hexham Gate)	Hexham		16						7	9	16		-
16/03738/FUL	Land To West Of B6319 And South Of Stanegate Stanegate Cottages Newbrough	Newbrough		16							1	1		2475
12/02766/FUL	Cavil Head, Acklington		Greenfield	15				4		4		8		7079
09/B/0230	Land South Of Mill Road, Chatton		Greenfield	15		3			2	4	1	10		1223 (in part)

Planning Ref	Address	Settlement / Location	PDL/GF	Net Capacity of Site*	11-12	12-13	13-14	14-15	15-16	16-17	17-18	Total	Amended Net Capacity	Sites with PP
A/2002/0692	Springfield (land at), Christon Bank	Berwick	Greenfield	15	1			1	1	1	1	5	10	332
13/02078/FUL	The Elizabethan, North Road, Berwick-Upon-Tweed	Berwick	Brownfield	15			-1	16				15		-
A/2009/0035	Thomas Percy RC Middle School, Blakelaw Road, Alnwick	Alnwick		15						15		15		-
ENCP64	2 Princes Street, Corbridge		Brownfield	14	14							14		-
98/B/0646	East Ord Gardens, East Ord, Berwick-upon-Tweed	Berwick	Greenfield	14		1						1	13	1383
11/01920/FUL	Land At Former Delaval House Site, Station Road, Seaton Delaval	Seaton Delaval	Brownfield	14				14				14		-
13/01103/FUL	Land North Of The George Hotel Humshaugh		Greenfield	14				14				14		-
20090149	Land south of Nursery Gardens Wapping Haltwhistle		Brownfield	14		11	2		1			14		-
09/B/0413	The Old School House (Land to the South East), Beadnell		Greenfield	14	14							14		-
15/01411/PA	Brock House Princess Way Prudhoe (Princess Way)	Prudhoe		14						14		14		-
14/01579/FUL	Horsdonside, Wooler	Wooler		14						14		14		-
15/02576/REM	Land East Of 26 Station Road, Stannington	Stannington		14						4	3	7		8077
12/03265/FUL	Allotment Gardens Foxton Road Alnmouth		Greenfield	13				11	2			13		-
20090862	Land Adjacent to Briar Hill Bellingham		Greenfield	13			13					13		-
08/B/0173	Pier Road Maltings, Pier Road, Berwick-upon-Tweed	Berwick	Brownfield	13	2	2		4				8		-
07/B/1030	5-7 Woolmarket, Berwick upon Tweed	Berwick	Brownfield	12			12					12		-
04/B/1106	Glororum Farm Steading, Bamburgh, NE697AW	Berwick	Agricultural Brownfield	12	8	1					3	12		-
A/2006/0527	Site of Pringles Garage, Christon Bank	Christon Bank		12					1	1		2		333
CM/20090032	Byre & Dairy building, Cresswell Home Farm, Cresswell	Cresswell		12						7		7		3395

Planning Ref	Address	Settlement / Location	PDL/GF	Net Capacity of Site*	11-12	12-13	13-14	14-15	15-16	16-17	17-18	Total	Amended Net Capacity	Sites with PP
14/02502/FUL	Cookswell House, High Onstead, Pegswood	Pegswood		12						-1		-1		8078
12/02026/FUL	Land North Of The Blake Arms, Pitt Lane, Seghill	Seghill		12							12	12		-
A/2006/0373	Bank House Farm (land at)		Brownfield	11				11				11		-
05/D/0522	Coningsby House, Salisbury Street, Morpeth	Morpeth	Brownfield	11	2						1	3	9	3289
12/00884/FUL	Hunters Lodge Site, Oakwood Avenue, Newbiggin-By-The-Sea	Newbiggin		11							11	11		-
07/B/0658	2 Chapel Street, Berwick-Upon-Tweed	Berwick	Brownfield	10				9		1		10		-
13/00213/FUL	Astley House, 1-2 Hartley Gardens, Seaton Delaval	Seaton Delaval	Brownfield	10			10					10		-
07/00324/RES	Delaval House, Station Road, Seaton Delaval	Seaton Delaval	Brownfield	10	-1							-1		-
03/B/0321	Ellingham Hall (within grounds), Ellingham		Brownfield	10				4				4		1530
06/D/0129	Former Denecroft Care Home, Park Road, Lynemouth		Brownfield	10		10						10		-
12/02325/FUL	Former Glebe Court, Bedlington	Bedlington	Brownfield	10				10				10		-
11/02786/COU	Former Seafield Restaurant, Seahouses		Brownfield	10			10					10		-
03/B/0535	Heathery Tops Farm, Scremerston, Berwick-upon-Tweed (site plot record)	Berwick	Brownfield	10	1							1		-
A/2004/0512	Old Mart Site Station Road Rothbury		Greenfield	10		5						5		-
13/02527/FUL	Prudhoe Health Centre Adderlane Road West Wylam Prudhoe	Prudhoe	Brownfield	10				10				10		-
10/S/00696/FUL	Site Of Bedlington Terrier, Stead Lane, Bedlington	Bedlington	Brownfield	10	10							10		-
A/2009/0016	Wellfield, Northumberland Street, Alnmouth		Brownfield	10		10						10		-
06/00284/FUL	202-204 Milburn Road, Ashington	Ashington	Brownfield	10		2			8			10		-

Planning Ref	Address	Settlement / Location	PDL/GF	Net Capacity of Site*	11-12	12-13	13-14	14-15	15-16	16-17	17-18	Total	Amended Net Capacity	Sites with PP
15/03794/FUL	Land To The Rear Of 19 Hartford Road East Bedlington	Bedlington		10							10	10		-
15/04158/FUL	Land West Of Rose Hill Hill House Close Great Whittington	Great Whittingham		10							2	2		2617
13/03156/FUL	Land And Buildings On The North West Side Of Nordale Way, Blyth	Blyth	Greenfield	9				9				9		-
ECCP369	Middle Farm East Acres Silver Birches Cottage Broomley Village		Agricultural Brownfield	9		9						9		-
15/01191/FUL	C A R E Community North Road Ponteland Self Unlimited North Road Ponteland	Ponteland		9					6	3		9		-
14/01047/FUL	Former Prudhoe Hospital, Prudhoe Hospital Drive, Prudhoe (Phase Two) (Humbles Wood)	Prudhoe		9						9		9		-
20091017	11-22 Holmdale Hexham	Hexham	Brownfield	8	-4							-4		-
A/2010/0462	Albert House, Front Street, Rothbury		Brownfield	8				4				4		-
11/00705/REM	Former Seaton Terrace Nursery, Fontburn Road, Seaton Delaval	Seaton Delaval	Brownfield	8		8						8		-
20100517	Plot 90 Leslies Drive Willow Green Otterburn		Greenfield	8	1							1		-
12/03353/FUL	Land And Buildings At Manor House Dairy, Whalton	Whalton		8					5	3		8		-
04/B/1017	Easington Farm, Easington, Belford	Belford		8					4	4		8		-
A/2008/0289	Former Nursery Garden, 21 Whin Hill, Craster	Craster		8					1			1		292
06/D/395	Former Red Row Garage, Main Street, Red Row	Red Row		8					3	3	1	7		3207
15/01516/FUL	Land Of Former The Shieling Cairns Road Bellingham	Bellingham		8							8	8		-
15/01517/FUL	Land At North East Of Beechlea C364 Stannington Main Road Through Village Stannington	Stannington		8							8	8		-
13/03037/FUL	Land Between Down House And Old School House Riverside Lesbury	Lesbury		8							8	8		-

Planning Ref	Address	Settlement / Location	PDL/GF	Net Capacity of Site*	11-12	12-13	13-14	14-15	15-16	16-17	17-18	Total	Amended Net Capacity	Sites with PP
10/S/00672/FUL	Blyth Comrades Club Car Park, 91 Wright Street, Blyth	Blyth	Brownfield	7				7				7		-
12/01012/FUL	Custom House, 32 Ridley Street, Blyth	Blyth	Brownfield	7			7					7		-
09/B/0553	Former Thorburns Yard, South Street, Seahouses		Brownfield	7			4					4		6403
ENRP85	Gilsland Auction Mart Site, Gilsland		Brownfield	7	4							4		2226
07/00111/FUL	Land to the rear of 234 Woodhorn Road, Ashington	Ashington	Brownfield	7		4			1	2		7		-
12/01040/REM	Regal Close, South Lane, Seahouses	Seahouses		7					5	2		7		-
13/00811/FUL	Land North Of Twickenham Court, Seghill	Seghill		7					4	3		7		-
14/00934/FUL	Burnbrae, Hencotes, Hexham	Hexham		7						7		7		-
CM/20070483	Former Garage Site, Scots Gap	Scots Gap		7							1	1		-
07/00412/FUL	246 Hawthorn Road, Ashington	Ashington	Brownfield	6				1				1	5	5193
06/B/0871	30 West Street, Belford		Brownfield	6				1				1		1144
04/D/0710	Angerton Home Farm, High Angerton, Hartburn		Agricultural Brownfield	6	2		2					4		6730
12/03181/FUL	Land to the rear of 1 to 17 Radcliffe Road Hexham	Hexham	Greenfield	6				6				6		-
14/00462/FUL	Northumberland Care Trust 18 South Road Prudhoe	Prudhoe	Brownfield	6				6				6		-
13/01819/FUL	Stocksfield Snooker Club Ridley Mill Road Stocksfield		Brownfield	6				6				6		-
CM/20090477	West Fenwick Farm, Fenwick		Agricultural Brownfield	6				2			1	3		3617
13/02942/REM	Former Auction Mart, Meadowfield, Ponteland	Ponteland		6					6			6		-
A/2009/0436	Northfield, Warkworth	Warkworth		6					6			6		-

Planning Ref	Address	Settlement / Location	PDL/GF	Net Capacity of Site*	11-12	12-13	13-14	14-15	15-16	16-17	17-18	Total	Amended Net Capacity	Sites with PP
CM/20100399	West Thorn Farm, West Thorn, Kirkley	Kirkley		6					5	1		6		-
11/00220/FUL	The Schooner Hotel 8 Northumberland Street Alnmouth	Alnmouth		6						6		6		-
14/00631/FUL	Land South Of Druridge View Main Street Red Row	Red Row		6						5	1	6		-
A/1998/0195	Low Close Felton	Felton		6						1		1		-
15/01569/CCD	Railway Inn And New Dolphin Inn, 74 - 78 Front Street, Newbiggin-By-The-Sea	Newbiggin		6							6	6		-
08/B/0937	Bewick Folly Farm Steading, Old Bewick	Berwick	Agricultural Brownfield	5			4					4		-
A/2011/0065	Farm Steading at South East Farm, Rennington		Agricultural Brownfield	5			1	3				4		6355
12/02367/VARYCO	Ferney Chesters, Middleton		Brownfield	5			5					5		-
A/2010/0484	Newton Hall, Newton-On-The-Moor		Brownfield	5			2					2		6326
ECCP409	Stelling Farm Corbridge		Agricultural Brownfield	5	5							5		-
ECRP232	Well House Farm, Colwell		Agricultural Brownfield	5				5				5		-
13/03671/FUL	Wheatsheaf Hotel 10 Market Place Wooler		Brownfield	5				5				5		-
11/01959/OUT	Prospect Farm, The Avenue, Medburn	Medburn		5					2	1	1	4		3042
11/00491/FUL	Plot 17 Tamarin Close, Beadnell	Beadnall		5					2			2		-
ECCP483	Frankham Farm Main Road Frankham Newbrough			5					5			5		-
15/02413/VARYCO	Breamish Valley Cottages U1094 Branton Junction To Clinch Branton	Branton		5						5		5		-
12/02490/FUL	Redburn Close (Land South East Of) Beechwood Drive Prudhoe (Prudhoe Hospital) (humbles Wood)	Prudhoe		5						5		5		-

Planning Ref	Address	Settlement / Location	PDL/GF	Net Capacity of Site*	11-12	12-13	13-14	14-15	15-16	16-17	17-18	Total	Amended Net Capacity	Sites with PP
14/04125/FUL	Alnmouth Boys Club Foxton Road Alnmouth	Alnmouth		5						4	1	5		-
11/01700/FUL	Training Centre, Scott Street, Amble	Amble		5							2	2		0244 (in part)
16/00145/REM	Morpeth Parish Office, Morpeth Parish Hall, Grange Road, Morpeth	Morpeth		5							4	4	5	6991
14/04282/OUT	Land North Of Dyke House The Avenue Medburn	Medburn		5							1	1		3380
16/00458/REM	Land West Of Micklewood Close Micklewood Close Longhirst	Longhirst		5							1	1		6814
10/B/0512	Camphill Farm Steading, Camphill, Berwick-upon-Tweed	Berwick upon Tweed		5							1	1	4	1500
20110034	Trinity Court Roman Way Corbridge	Corbridge	Brownfield	-9	-25	16						-9		-
12/01146/FUL	Land To The South And East Of Etal House, Moorhouse Estate, Ashington	Ashington	Brownfield	-10			-36					-36		-
12/02396/COU	11 And 19-30 The Oval, Bedlington	Bedlington	Brownfield	-13			-13					-13		-
15/02706/DEMGDO	6, 8, 10, 12, 13, 15, 17, 19, 25 And 27 Waterfield Road 6, 8, 10, 12, 14 And 16 Sandfield Road East Sleekburn Bedlington	Bedlington		-16					-16			-16		-
14/01579/FUL	Horsdonside, Wooler	Wooler		-36					-36			-36		-

Appendix C. – Double Counting Employment Calculations

South East Northumberland Double Counting Calculations

			Double Counting South East Northumberland					
			AM Peak			PM Peak		
Settlement			Arrivals	Departures	Totals	Arrivals	Departures	Totals
Ashington								
Total Employment Trip Generation			603	110	713	70	493	563
Employment Trips Drawn from Settlement	49.9%	0.50	301	55	356	35	246	281
% Commuter Flow Change	5.0%		30	5	36	3	25	28
Sub Total			331	60	391	38	271	309
Revised Net Employment Trips			**272**	**50**	**322**	**32**	**223**	**254**
			45.1%	**45.1%**	**45.1%**	**45.1%**	**45.1%**	**45.1%**
Blyth								
Total Employment Trip Generation			198	53	251	28	179	207
Employment Trips Drawn from Settlement	52.6%	0.53	104	28	132	15	94	109
% Commuter Flow Change	5.3%		10	3	13	1	9	11
Sub Total			115	31	145	16	104	120
Revised Net Employment Trips			**84**	**22**	**106**	**12**	**75**	**87**
			42.1%	**42.1%**	**42.1%**	**42.1%**	**42.1%**	**42.1%**
Cramlington								
Total Employment Trip Generation			1761	293	2054	196	1424	1620
Employment Trips Drawn from Settlement	43.1%	0.43	758	126	884	85	613	698
% Commuter Flow Change	4.3%		76	13	88	8	61	70
Sub Total			834	139	973	93	674	767
Revised Net Employment Trips			**927**	**154**	**1081**	**103**	**750**	**853**
			52.6%	**52.6%**	**52.6%**	**52.6%**	**52.6%**	**52.6%**

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South East Northumberland Original Trips

Town	Code	Employment Area	AM B1a Arrivals	B1c Arrivals	B2 Arrivals	B8 Arrivals	Various Sui generis Average Arrivals	TOTAL AM Arrival	B1a Departures	B1c Departures	B2 Departures	B8 Departures	Various Sui generis Average Departures	TOTAL AM Departure
Ashington	SE28	North Seaton Industrial Estate	-	41	-	6	21	67	-	6	-	1	3	11
	SE37	LIntonville	16	-	-	-	5	20	2	-	-	-	1	2
	SE-	LIntonville West	29	99	18	-	8	154	3	15	7	-	1	26
	SE36	Wansbeck Business Park	-	96	18	-	-	113	-	15	7	-	-	22
	SE38	Ashwood Business Park	-	188	35	26	-	248	-	29	14	7	-	49
Bedlington	SE30	Barrington	-	14	3	4	-	20	-	2	1	1	-	4
Blyth	SE03	Riverside Business Park (Cowley Road)	-	5	1	1	3	10	-	1	0	0	1	2
	SE04	Riverside Business Park (Coniston Road)	-	-	25	-	-	25	-	-	10	-	-	10
	SE05 (pt)	Harbour South - Quayside area only	-	-	4	3	17	24	-	-	2	1	2	5
	SE39	Cambois West Sleekburn Industrial Estate	-	-	0	0	1	2	-	-	0	0	0	0
	Special	Blyth Estuary Strategic Area (SE33)	-	56	47	35	-	139	-	9	19	9	-	36
Cramlington	SE10	Northumberland Business Park	316	121	22	17	-	477	32	18	9	4	-	64
	SE11	Windmill	-	-	82	-	-	82	-	-	32	-	-	32
	SE17	Nelson Park West	-	217	40	-	-	257	-	33	16	-	-	49
	SE18	Nelson Park	-	32	6	-	-	38	-	5	2	-	-	7
	SE20	Nelson Park East	-	27	5	-	-	32	-	4	2	-	-	6
	Special	West Hartford (single employer)	-	871	-	-	-	871	-	133	-	-	-	133
	SE21	South Nelson	-	4	1	-	-	5	-	1	0	-	-	1

Town	Code	Employment Area	PM B1a Arrivals	B1c Arrivals	B2 Arrivals	B8 Arrivals	Various Sui generis Average Arrivals	TOTAL AM Arrival	B1a Departures	B1c Departures	B2 Departures	B8 Departures	Various Sui generis Average Departures	TOTAL AM Departure
Ashington	SE28	North Seaton Industrial Estate	-	4	-	0	2	7	-	32	-	5	17	53
	SE37	LIntonville	1	-	-	-	0	2	12	-	-	-	4	16
	SE-	LIntonville West	2	11	4	-	1	18	23	77	20	-	7	126
	SE36	Wansbeck Business Park	-	10	4	-	-	14	-	75	19	-	-	94
	SE38	Ashwood Business Park	-	20	8	2	-	30	-	146	37	21	-	205
Bedlington	SE30	Barrington	-	1	1	0	-	2	-	11	3	3	-	16
Blyth	SE03	Riverside Business Park (Cowley Road)	-	0	0	0	0	1	-	4	1	1	3	8
	SE04	Riverside Business Park (Coniston Road)	-	-	5	-	-	5	-	-	26	-	-	26
	SE05 (pt)	Harbour South - Quayside area only	-	-	1	0	2	3	-	-	4	2	14	20
	SE39	Cambois West Sleekburn Industrial Estate	-	-	0	0	0	0	-	-	0	0	1	2
	Special	Blyth Estuary Strategic Area (SE33)	-	6	10	3	-	19	-	44	50	29	-	123
Cramlington	SE10	Northumberland Business Park	23	13	5	1	-	43	253	94	24	14	-	385
	SE11	Windmill	-	-	18	-	-	18	-	-	88	-	-	88
	SE17	Nelson Park West	-	24	9	-	-	32	-	169	43	-	-	212
	SE18	Nelson Park	-	3	1	-	-	5	-	25	6	-	-	31
	SE20	Nelson Park East	-	3	1	-	-	4	-	21	5	-	-	26
	Special	West Hartford (single employer)	-	95	-	-	-	95	-	678	-	-	-	678
	SE21	South Nelson	-	0	0	-	-	1	-	3	1	-	-	4

South East Northumberland Final Trip Rates

AM	B1a Single Office		B1c Business Park		B2 Industrial Estate		B8 Commercial Warehousing		Average Various	
Settlement	Arrival	Departure	Arrival	Departure	Arrival	Departure	Arrival	Departure	Arrival	Departure
Ashington	1.055	0.108	0.607	0.093	0.112	0.045	0.083	0.022	0.464	0.067
Bedlington	2.338	0.240	1.345	0.205	0.249	0.099	0.185	0.048	1.345	0.205
Blyth	0.985	0.101	0.567	0.086	0.105	0.042	0.078	0.020	0.434	0.062
Cramlington	1.231	0.126	0.708	0.108	0.131	0.052	0.097	0.025	0.542	0.078

PM	B1a Single Office		B1c Business Park		B2 Industrial Estate		B8 Commercial Warehousing		Average Various	
Settlement	Arrival	Departure	Arrival	Departure	Arrival	Departure	Arrival	Departure	Arrival	Departure
Ashington	0.078	0.844	0.066	0.472	0.024	0.120	0.006	0.068	0.044	0.376
Bedlington	0.172	1.870	0.146	1.047	0.054	0.267	0.014	0.151	0.146	1.047
Blyth	0.072	0.788	0.061	0.441	0.023	0.112	0.006	0.064	0.041	0.351
Cramlington	0.091	0.984	0.077	0.551	0.028	0.141	0.007	0.079	0.051	0.439

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South East Northumberland Final Trips

Town	Code	Employment Area	AM B1a Arrivals	B1c Arrivals	B2 Arrivals	B8 Arrivals	Various Sui generis Average Arrivals	TOTAL AM Arrival	B1a Departures	B1c Departures	B2 Departures	B8 Departures	Various Sui generis Average Departures	TOTAL AM Departure
Ashington	SE28	North Seaton Industrial Estate	0	18	0	3	9	30	0	3	0	1	1	5
	SE37	LIntonville	7	0	0	0	2	9	1	0	0	0	0	1
	SE-	LIntonville West	13	44	8	0	4	69	1	7	3	0	1	12
	SE36	Wansbeck Business Park	0	43	8	0	0	51	0	7	3	0	0	10
	SE38	Ashwood Business Park	0	85	16	12	0	112	0	13	6	3	0	22
Bedlington	SE30	Barrington	0	14	3	4	0	20	0	2	1	1	0	4
Blyth	SE03	Riverside Business Park (Cowley Road)	0	2	0	0	1	4	0	0	0	0	0	1
	SE04	Riverside Business Park (Coniston Road)	0	0	10	0	0	10	0	0	4	0	0	4
	SE05 (pt)	Harbour South - Quayside area only	0	0	2	1	7	10	0	0	1	0	1	2
	SE39	Cambois West Sleekburn Industrial Estate	0	0	0	0	1	1	0	0	0	0	0	0
	Special	Blyth Estuary Strategic Area (SE33)	0	24	20	15	0	58	0	4	8	4	0	15
Cramlington	SE10	Northumberland Business Park	167	64	12	9	0	251	17	10	5	2	0	34
	SE11	Windmill	0	0	43	0	0	43	0	0	17	0	0	17
	SE17	Nelson Park West	0	114	21	0	0	135	0	17	8	0	0	26
	SE18	Nelson Park	0	17	3	0	0	20	0	3	1	0	0	4
	SE20	Nelson Park East	0	14	3	0	0	17	0	2	1	0	0	3
	Special	West Hartford (single employer)	0	458	0	0	0	458	0	70	0	0	0	70
	SE21	South Nelson	0	2	0	0	0	3	0	0	0	0	0	1

Town	Code	Employment Area	PM B1a Arrivals	B1c Arrivals	B2 Arrivals	B8 Arrivals	Various Sui generis Average Arrivals	TOTAL AM Arrival	B1a Departures	B1c Departures	B2 Departures	B8 Departures	Various Sui generis Average Departures	TOTAL AM Departure
Ashington	SE28	North Seaton Industrial Estate	0	2	0	0	1	3	0	14	0	2	8	24
	SE37	LIntonville	1	0	0	0	0	1	6	0	0	0	2	7
	SE-	LIntonville West	1	5	2	0	0	8	10	35	9	0	3	57
	SE36	Wansbeck Business Park	0	5	2	0	0	6	0	34	9	0	0	42
	SE38	Ashwood Business Park	0	9	3	1	0	13	0	66	17	10	0	92
Bedlington	SE30	Barrington	0	1	1	0	0	2	0	11	3	3	0	16
Blyth	SE03	Riverside Business Park (Cowley Road)	0	0	0	0	0	0	0	1	0	0	1	3
	SE04	Riverside Business Park (Coniston Road)	0	0	2	0	0	2	0	0	11	0	0	11
	SE05 (pt)	Harbour South - Quayside area only	0	0	0	0	1	1	0	0	2	1	6	9
	SE39	Cambois West Sleekburn Industrial Estate	0	0	0	0	0	0	0	0	0	0	0	1
	Special	Blyth Estuary Strategic Area (SE33)	0	3	4	1	0	8	0	19	21	12	0	52
Cramlington	SE10	Northumberland Business Park	12	7	3	1	0	22	133	50	13	7	0	203
	SE11	Windmill	0	0	9	0	0	9	0	0	46	0	0	46
	SE17	Nelson Park West	0	12	5	0	0	17	0	89	23	0	0	112
	SE18	Nelson Park	0	2	1	0	0	3	0	13	3	0	0	17
	SE20	Nelson Park East	0	2	1	0	0	2	0	11	3	0	0	14
	Special	West Hartford (single employer)	0	50	0	0	0	50	0	357	0	0	0	357
	SE21	South Nelson	0	0	0	0	0	0	0	2	0	0	0	2

Outside of South East Northumberland Double Counting Calculations

			Double Counting South East Northumberland					
			AM Peak			PM Peak		
Settlement			Arrivals	Departures	Totals	Arrivals	Departures	Totals
Alnwick								
Total Employment Trip Generation			307	42	349	29	250	279
Employment Trips Drawn from Settlement	40.9%	0.41	126	17	143	12	102	114
% Commuter Flow Change	4.1%		13	2	14	1	10	11
Sub Total			138	19	157	13	113	126
Revised Net Employment Trips			169	23	192	16	138	154
			55.0%	55.0%	55.0%	55.0%	55.0%	55.0%
Berwick								
Total Employment Trip Generation			63	13	76	7	52	60
Employment Trips Drawn from Settlement	61.5%	0.61	39	8	47	5	32	37
% Commuter Flow Change	6.1%		4	1	5	0	3	4
Sub Total			43	9	52	5	35	40
Revised Net Employment Trips			21	4	25	2	17	19
			32.4%	32.4%	32.4%	32.4%	32.4%	32.4%
Hexham								
Total Employment Trip Generation			339	81	420	49	298	346
Employment Trips Drawn from Settlement	42.6%	0.43	144	34	179	21	127	147
% Commuter Flow Change	4.3%		14	3	18	2	13	15
Sub Total			159	38	197	23	139	162
Revised Net Employment Trips			180	43	223	26	158	184
			53.2%	53.2%	53.2%	53.2%	53.2%	53.2%
Morpeth								
Total Employment Trip Generation			545	87	632	56	441	497
Employment Trips Drawn from Settlement	42.9%	0.43	234	37	271	24	189	213
% Commuter Flow Change	4.3%		23	4	27	2	19	21
Sub Total			257	41	298	27	208	235
Revised Net Employment Trips			288	46	334	30	233	262
			52.8%	52.8%	52.8%	52.8%	52.8%	52.8%
Ponteland								
Total Employment Trip Generation			364	45	409	31	293	323
Employment Trips Drawn from Settlement	11.3%	0.11	41	5	46	3	33	36
% Commuter Flow Change	1.1%		4	1	5	0	3	4
Sub Total			45	6	51	4	36	40
Revised Net Employment Trips			319	40	358	27	256	283
			87.6%	87.6%	87.6%	87.6%	87.6%	87.6%
Prudhoe								
Total Employment Trip Generation			214	36	250	22	174	196
Employment Trips Drawn from Settlement	24.8%	0.25	53	9	62	5	43	49
% Commuter Flow Change	2.5%		5	1	6	1	4	5
Sub Total			58	10	68	6	47	53
Revised Net Employment Trips			155	26	182	16	127	142
			72.7%	72.7%	72.7%	72.7%	72.7%	72.7%

Outside of South East Northumberland Original Trips

Town	Code	Employment Area	AM B1a Arrivals	B1c Arrivals	B2 Arrivals	B8 Arrivals	Various Sui generis Average Arrivals	TOTAL AM Arrival	B1a Departures	B1c Departures	B2 Departures	B8 Departures	Various Sui generis Average Departures	TOTAL AM Departure
Alnwick	N15	Lionheart Business Park (Ph 2)	-	-	9	6	-	15	-	-	0	2	-	2
	N-	Land SE of Lionheart Business Pk	100	50	9	7	-	166	10	8	4	2	-	23
	N-	Land SW of Greensfield Moor	61	23	4	3	18	110	6	4	2	1	3	15
	N11	Alnwick Greensfield Moor	12	5	-	-	-	16	1	1	-	-	-	2
Berwick	N19	North Road	-	3	1	0	2	7	-	0	0	0	0	1
	N29	Ramparts Business Park	-	39	7	11	-	57	-	6	3	3	-	12
Hexham	C21	Egger	-	-	74	-	-	74	-	-	29	-	-	29
	GBELT	East of Egger B1c, B2, B8	-	211	39	15	-	265	-	32	16	4	-	52
Morpeth	C01	Coopies Lane	-	9	-	-	-	9	-	1	-	-	-	1
	C-	Morpeth Adj to A1 Junction Services Site	-	-	-	-	119	119	-	-	-	-	17	17
	C-	Morpeth Adj to A1 Jct. Enterprise Centre	88	34	-	-	-	121	9	5	-	-	-	14
	C11	Fairmoor, Northgate	-	25	5	3	19	52	-	4	2	1	3	9
	C17	Fairmoor, Adjacent to A1	-	207	29	7	-	243	-	32	11	2	-	45
Ponteland	GBELT	Prestwick Park Extension	281	-	-	-	-	281	29	-	-	-	-	29
	GBELT	Prestwick Pit	-	63	12	9	-	83	-	10	5	2	-	16
Prudhoe	C24	Low Prudhoe Industrial Estate (east of site)	-	71	13	20	-	104	-	11	5	5	-	21
	GBELT	Prudhoe - Eltringham additional land	70	27	5	7	-	110	7	4	2	2	-	15

Town	Code	Employment Area	PM B1a Arrivals	B1c Arrivals	B2 Arrivals	B8 Arrivals	Various Sui generis Average Arrivals	TOTAL AM Arrival	B1a Departures	B1c Departures	B2 Departures	B8 Departures	Various Sui generis Average Departures	TOTAL AM Departure
Alnwick	N15	Lionheart Business Park (Ph 2)	-	-	2	0	-	2	-	-	9	5	-	14
	N-	Land SE of Lionheart Business Pk	7	5	2	1	-	15	80	39	10	6	-	134
	N-	Land SW of Greensfield Moor	4	3	1	0	2	10	49	18	5	3	15	89
	N11	Alnwick Greensfield Moor	1	0	-	-	-	1	10	4	-	-	-	13
Berwick	N19	North Road	-	0	0	0	0	1	-	3	1	0	2	5
	N29	Ramparts Business Park	-	4	2	1	-	7	-	30	8	9	-	47
Hexham	C21	Egger	-	-	16	-	-	16	-	-	79	-	-	79
	GBELT	East of Egger B1c, B2, B8	-	23	8	1	-	33	-	165	42	12	-	218
Morpeth	C01	Coopies Lane	-		-	-	-	0	-	7	-	-	-	7
	C-	Morpeth Adj to A1 Junction Services Site	-	-	-	-	11	11	-	-	-	-	97	97
	C-	Morpeth Adj to A1 Jct. Enterprise Centre	6	4	-	-	-	10	70	26	-	-	-	96
	C11	Fairmoor, Northgate	-	3	1	0	2	6	-	20	5	3	16	43
	C17	Fairmoor, Adjacent to A1	-	23	6	1	-	29	-	161	31	6	-	198
Ponteland	GBELT	Prestwick Park Extension	21	-	-	-	-	21	224	-	-	-	-	224
	GBELT	Prestwick Pit	-	7	3	1	-	10	-	49	12	7	-	68
Prudhoe	C24	Low Prudhoe Industrial Estate (east of site)	-	8	3	1	-	12	-	55	14	16	-	85
	GBELT	Prudhoe - Eltringham additional land	5	3	1	1	-	10	56	21	5	6	-	89

Outside of South East Northumberland Final Trip Rates

AM	B1a Single Office		B1c Business Park		B2 Industrial Estate		B8 Commercial Warehousing		Average Various	
Settlement	Arrival	Departure	Arrival	Departure	Arrival	Departure	Arrival	Departure	Arrival	Departure
Alnwick	1.286	0.132	0.740	0.113	0.137	0.054	0.102	0.026	0.566	0.081
Berwick	0.757	0.078	0.435	0.066	0.081	0.032	0.060	0.016	0.333	0.048
Hexham	1.243	0.128	0.715	0.109	0.132	0.053	0.098	0.026	0.547	0.079
Morpeth	1.234	0.127	0.710	0.108	0.131	0.052	0.098	0.025	0.543	0.078
Ponteland	2.048	0.210	1.178	0.180	0.218	0.087	0.162	0.042	0.902	0.130
Prudhoe	1.701	0.175	0.978	0.149	0.181	0.072	0.135	0.035	0.749	0.108

PM	B1a Single Office		B1c Business Park		B2 Industrial Estate		B8 Commercial Warehousing		Average Various	
Settlement	Arrival	Departure	Arrival	Departure	Arrival	Departure	Arrival	Departure	Arrival	Departure
Alnwick	0.095	1.029	0.080	0.576	0.030	0.147	0.008	0.083	0.053	0.459
Berwick	0.056	0.605	0.047	0.339	0.017	0.086	0.005	0.049	0.031	0.270
Hexham	0.091	0.994	0.078	0.557	0.029	0.142	0.007	0.080	0.051	0.443
Morpeth	0.091	0.987	0.077	0.553	0.029	0.141	0.007	0.080	0.051	0.440
Ponteland	0.151	1.638	0.128	0.917	0.047	0.234	0.012	0.132	0.085	0.730
Prudhoe	0.125	1.360	0.106	0.762	0.039	0.194	0.010	0.110	0.070	0.606

JACOBS

Outside of South East Northumberland Final Trips

Town	Code	Employment Area	AM											
			B1a	B1c	B2	B8	Various Sui generis Average		B1a	B1c	B2	B8	Various Sui generis Average	
			Arrivals	Arrivals	Arrivals	Arrivals	Arrivals	TOTAL AM Arrival	Departures	Departures	Departures	Departures	Departures	TOTAL AM Departure
Alnwick	N15	Lionheart Business Park (Ph 2)	0	0	5	3	0	8	0	0	2	1	0	3
	N-	Land SE of Lionheart Business Pk	55	27	5	4	0	91	6	4	2	1	0	13
	N-	Land SW of Greensfield Moor	34	13	2	2	10	61	3	2	1	0	1	8
	N11	Alnwick Greensfield Moor	7	3	0	0	0	9	1	0	0	0	0	1
Berwick	N19	North Road	0	1	0	0	1	2	0	0	0	0	0	0
	N29	Ramparts Business Park	0	13	2	3	0	18	0	2	1	1	0	4
Hexham	C21	Egger	0	0	39	0	0	39	0	0	16	0	0	16
	GBELT	East of Egger B1c, B2, B8	0	112	21	8	0	141	0	17	8	2	0	27
Morpeth	C01	Coopies Lane	0	5	0	0	0	5	0	1	0	0	0	1
	C-	Morpeth Adj to A1 Junction Services Site	0	0	0	0	63	63	0	0	0	0	9	9
	C-	Morpeth Adj to A1 Jct. Enterprise Centre	46	18	0	0	0	64	5	3	0	0	0	7
	C11	Fairmoor, Northgate	0	13	2	2	10	28	0	2	1	0	1	5
	C17	Fairmoor, Adjacent to A1	0	109	15	4	0	128	0	17	6	1	0	24
Ponteland	GBELT	Prestwick Park Extension	246	0	0	0	0	246	25	0	0	0	0	25
	GBELT	Prestwick Pit	0	55	10	8	0	73	0	8	4	2	0	14
Prudhoe	C24	Low Prudhoe Industrial Estate (east of site)	0	52	10	14	0	75	0	8	4	4	0	15
	GBELT	Prudhoe - Eltringham additional land	51	20	4	5	0	80	5	3	1	1	0	11

Town	Code	Employment Area	PM											
			B1a	B1c	B2	B8	Various Sui generis Average		B1a	B1c	B2	B8	Various Sui generis Average	
			Arrivals	Arrivals	Arrivals	Arrivals	Arrivals	TOTAL AM Arrival	Departures	Departures	Departures	Departures	Departures	TOTAL AM Departure
Alnwick	N15	Lionheart Business Park (Ph 2)	0	0	1	0	0	1	0	0	5	3	0	8
	N-	Land SE of Lionheart Business Pk	4	3	1	0	0	8	44	21	5	3	0	74
	N-	Land SW of Greensfield Moor	2	1	1	0	1	5	27	10	3	1	8	49
	N11	Alnwick Greensfield Moor	0	0	0	0	0	1	5	2	0	0	0	7
Berwick	N19	North Road	0	0	0	0	0	0	0	1	0	0	1	2
	N29	Ramparts Business Park	0	1	1	0	0	2	0	10	2	3	0	15
Hexham	C21	Egger	0	0	8	0	0	8	0	0	42	0	0	42
	GBELT	East of Egger B1c, B2, B8	0	12	5	1	0	17	0	88	22	6	0	116
Morpeth	C01	Coopies Lane	0	0	0	0	0	0	0	4	0	0	0	4
	C-	Morpeth Adj to A1 Junction Services Site	0	0	0	0	6	6	0	0	0	0	51	51
	C-	Morpeth Adj to A1 Jct. Enterprise Centre	3	2	0	0	0	5	37	14	0	0	0	51
	C11	Fairmoor, Northgate	0	1	1	0	1	3	0	10	3	1	8	23
	C17	Fairmoor, Adjacent to A1	0	12	3	0	0	15	0	85	16	3	0	105
Ponteland	GBELT	Prestwick Park Extension	18	0	0	0	0	18	197	0	0	0	0	197
	GBELT	Prestwick Pit	0	6	2	1	0	9	0	43	11	6	0	60
Prudhoe	C24	Low Prudhoe Industrial Estate (east of site)	0	6	2	1	0	9	0	40	10	12	0	62
	GBELT	Prudhoe - Eltringham additional land	4	2	1	0	0	7	41	15	4	4	0	65

Appendix D. – Routing Assumptions

Residential Routing Assumptions

Settlement	Assumptions
Alnwick	• 31.6% of commuting remains within the settlement, 24.3% travels via the A1 North, 41.4% travels via the A1 South and 2.7% travels via the B6341 South; • Of the commuting trips remaining within Alnwick, half were assumed to travel to the town centre and half were assumed to travel to Lionheart Enterprise Park east of the A1; • For sites in the west of Alnwick (0324, 0382, 0280, 0230, 9028, 9016) it was assumed that the traffic from the A1 North would travel along the B1340, and traffic from A1 South would travel north along A1068 and then along A6346; • For sites in the west of Alnwick (0324, 0382, 0280, 0230, 9028, 9016) it was assumed that traffic from the Lionheart Enterprise Park will travel along the A1068 and B6346.
Ashington	• 26.3% of commuting remains within the settlement, 7.7% travels via the A189 North, 49.3% travels via the A189 South, 12.5% travels via the A197 West, 4.2% travels West along the A196; • Of commuters remaining in Ashington, 25% were assumed to travel to the town centre, 25% were assumed to travel to the Jubilee Industrial Estate and 50% were assumed to travel to the North Seaton Industrial Estate.
Berwick-upon-Tweed	• 51.7% of commuting remains within the settlement, 18.2% travels via the A1 North, 30.2% travels via the A1 South; • Of the commuting trips remaining within Berwick, traffic is assumed to be split evenly between town centre (Walkergate), Ord Drive Industrial Estate and Windmill Way Industrial Estate; • For sites in the east of Berwick (1411, 1091) it is assumed that traffic from the A1 North will take two routes split evenly via the A1167 and over the Royal Tweed Bridge, and via the A1; • It was assumed that traffic from the A1 South to sites located on the B6432 (1240) would split 50:50 along Etal Way and Rotary Way.
Blyth	• 25.3% of commuting remains within the settlement, 13.7% travels via the A189 North, 49.1% travels via the A189 South, 9.5% travels via the A1061 to Cramlington and 2.4% travels via the A193 to Bedlington; • Of commuters remaining in Blyth, 50% were assumed to travel to Coniston Road Industrial Park, 25% to Links Road Harbour and 25% to the town centre on Bridge Street.
Cramlington	• 21.5% of commuting remains within the settlement, 1.7% travels via the A1 North, 32.3% travels via the A1 South, 15.2% travels via A19 South, 11.0% travels via A189 South, 11.4% travels via A189 North, 5.1% travels via A192, 1.7% travels via the B1326; • Of commuters remaining in Cramlington, 60% are assumed to travel to the Industrial Estate on Nelson Drive, 20% travel to the town centre by Manor Walks shopping centre, and 20% travel to Northumberland Business Park south of the A19; • For traffic traveling from the A189 North to the west of Cramlington, it was assumed that they would travel along the A192 West and along the A1068 instead of using the A1171.
Haltwhistle	• 48.7% of commuting remains within the settlement, 33.6% travel via the A69 East and 17.7% travel via the A69 West;

	• Of commuters remaining in Haltwhistle, traffic is assumed to be split 50:50 between the town centre on road 68 and the industrial estate south of the B6322.
Hexham	• 29.8% of commuting remains within the settlement, 11.4% travels via the A695 East, 51.1% travels via the A69 East and 7.8% travels via the A69 East; • Of commuters remaining in Hexham, 70% are assumed to travel to the town centre on Hallstile Bank, and 30% are assumed to travel to the industrial estate on Ferry Road.
Morpeth	• 26.5% of commuting remains within the settlement, 15.2% travels via the A1 North, 42.8% travels via the A1 South, 2.2% travels via the A196 East, 3.8% travels via the B6524 South and 9.4% travels via the A192 South; • Of commuters remaining in Morpeth, 60% are assumed to travel to the town centre on Bridge Street and 40% are assumed to travel to the industrial estate on Coopies Way.
Ponteland	• 14.5% of commuting remains within the settlement, 76.7% travel via A696 East, 2.7% travel via A696 West, 6.1% travel via B3626 South; • Of commuters remaining in Ponteland, all traffic is assumed to travel to the town towards Waitrose.
Prudhoe	• 19.3% of commuting remains within the settlement, 57.4% travel via the A695 East, 19.8% travel via the A695 West, 3.5% travel via Eastwoods Road towards Wylam; • Of commuters remaining in Prudhoe, 80% are assumed to travel to the industrial estate on Princess Way and 20% are assumed to travel to the town centre on Front Street.
Seaton Delaval	• 8.3% of commuting remains within the settlement, 3.9% travel via the A190 North, 19.2% travel via the A190 South, 17.2% travel via A192 North, 30.1% travel via the A192 South to North Tyneside and 21.3% travel via the A189 South to Newcastle; • Of commuters remaining in Seaton Delaval traffic is assumed to be split 50:50 between the Double Row Industrial Estate and P&G site on the A190. • For commuters travelling to Newcastle, it was assumed that the route taken to Newcastle would be via the A189 South, and the route taken from Newcastle would be via the B1505 North.

Appendix E. – Trip Rates (TRICS)

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	HC	HAMPSHIRE	1 days
	KC	KENT	1 days
	WS	WEST SUSSEX	1 days
03	SOUTH WEST		
	DV	DEVON	1 days
	WL	WILTSHIRE	1 days
05	EAST MIDLANDS		
	LN	LINCOLNSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	1 days
08	NORTH WEST		
	CH	CHESHIRE	1 days
09	NORTH		
	DH	DURHAM	1 days
11	SCOTLAND		
	FA	FALKIRK	2 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
Actual Range: 10 to 161 (units:)
Range Selected by User: 5 to 200 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/10 to 19/04/18

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday	4 days
Wednesday	4 days
Thursday	3 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	11 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	11

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	11

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3	11 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

5,001 to 10,000	2 days
10,001 to 15,000	1 days
15,001 to 20,000	4 days
20,001 to 25,000	2 days
25,001 to 50,000	2 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

25,001 to 50,000	1 days
50,001 to 75,000	1 days
75,001 to 100,000	4 days
100,001 to 125,000	2 days
125,001 to 250,000	3 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	5 days
1.1 to 1.5	6 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	2 days
No	9 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	11 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 CH-03-A-08 DETACHED CHESHIRE
WHITCHURCH ROAD
CHESTER
BOUGHTON HEATH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 11
Survey date: TUESDAY *22/05/12* *Survey Type: MANUAL*

2 DH-03-A-01 SEMI DETACHED DURHAM
GREENFIELDS ROAD
BISHOP AUCKLAND

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 50
Survey date: TUESDAY *28/03/17* *Survey Type: MANUAL*

3 DV-03-A-01 TERRACED HOUSES DEVON
BRONSHILL ROAD
TORQUAY

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 37
Survey date: WEDNESDAY *30/09/15* *Survey Type: MANUAL*

4 FA-03-A-01 SEMI-DETACHED / TERRACED FALKIRK
MANDELA AVENUE
FALKIRK

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 37
Survey date: THURSDAY *30/05/13* *Survey Type: MANUAL*

5 FA-03-A-02 MIXED HOUSES FALKIRK
ROSEBANK AVENUE & SPRINGFIELD DRIVE
FALKIRK

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 161
Survey date: WEDNESDAY *29/05/13* *Survey Type: MANUAL*

6 HC-03-A-18 HOUSES & FLATS HAMPSHIRE
CANADA WAY
LIPHOOK

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 62
Survey date: TUESDAY *29/11/16* *Survey Type: MANUAL*

7 KC-03-A-03 MIXED HOUSES & FLATS KENT
HYTHE ROAD
ASHFORD
WILLESBOROUGH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 51
Survey date: THURSDAY *14/07/16* *Survey Type: MANUAL*

8 LN-03-A-03 SEMI DETACHED LINCOLNSHIRE
ROOKERY LANE
LINCOLN
BOULTHAM
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 22
Survey date: TUESDAY *18/09/12* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9 NY-03-A-13 TERRACED HOUSES NORTH YORKSHIRE
CATTERICK ROAD
CATTERICK GARRISON
OLD HOSPITAL COMPOUND
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 10
Survey date: WEDNESDAY *10/05/17* *Survey Type: MANUAL*

10 WL-03-A-02 SEMI DETACHED WILTSHIRE
HEADLANDS GROVE
SWINDON

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 27
Survey date: THURSDAY *22/09/16* *Survey Type: MANUAL*

11 WS-03-A-05 TERRACED & FLATS WEST SUSSEX
UPPER SHOREHAM ROAD
SHOREHAM BY SEA

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 48
Survey date: WEDNESDAY *18/04/12* *Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
AG-03-A-01	Incorrect housing tenure
HC-03-A-17	Re-survey
NF-03-A-01	Incorrect housing tenure
SF-03-A-04	Incorrect housing tenure

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	47	0.076	11	47	0.312	11	47	0.388
08:00 - 09:00	11	47	0.114	11	47	0.347	11	47	0.461
09:00 - 10:00	11	47	0.138	11	47	0.178	11	47	0.316
10:00 - 11:00	11	47	0.145	11	47	0.163	11	47	0.308
11:00 - 12:00	11	47	0.167	11	47	0.157	11	47	0.324
12:00 - 13:00	11	47	0.186	11	47	0.169	11	47	0.355
13:00 - 14:00	11	47	0.178	11	47	0.227	11	47	0.405
14:00 - 15:00	11	47	0.143	11	47	0.203	11	47	0.346
15:00 - 16:00	11	47	0.215	11	47	0.157	11	47	0.372
16:00 - 17:00	11	47	0.312	11	47	0.184	11	47	0.496
17:00 - 18:00	11	47	0.355	11	47	0.196	11	47	0.551
18:00 - 19:00	11	47	0.236	11	47	0.149	11	47	0.385
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.265			2.442			4.707

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	10 - 161 (units:)
Survey date date range:	01/01/10 - 19/04/18
Number of weekdays (Monday-Friday):	11
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	4

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Calculation Reference: AUDIT-202608-181029-1059

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	SC	SURREY	1 days
	WS	WEST SUSSEX	2 days
03	SOUTH WEST		
	SM	SOMERSET	1 days
04	EAST ANGLIA		
	NF	NORFOLK	1 days
	SF	SUFFOLK	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	1 days
	ST	STAFFORDSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	3 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
Actual Range: 10 to 180 (units:)
Range Selected by User: 5 to 200 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/10 to 19/04/18

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday	2 days
Wednesday	4 days
Thursday	5 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	11 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town	11

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	9
No Sub Category	2

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3	11 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	2 days
10,001 to 15,000	5 days
20,001 to 25,000	2 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	2 days
25,001 to 50,000	2 days
50,001 to 75,000	2 days
75,001 to 100,000	3 days
100,001 to 125,000	1 days
125,001 to 250,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	9 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	2 days
No	9 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	11 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 NF-03-A-03 DETACHED HOUSES NORFOLK
HALING WAY
THETFORD

Edge of Town
Residential Zone
Total Number of dwellings: 10
Survey date: WEDNESDAY *16/09/15* *Survey Type: MANUAL*

2 NY-03-A-07 DETACHED & SEMI DET. NORTH YORKSHIRE
CRAVEN WAY
BOROUGHBRIDGE

Edge of Town
No Sub Category
Total Number of dwellings: 23
Survey date: TUESDAY *18/10/11* *Survey Type: MANUAL*

3 NY-03-A-10 HOUSES AND FLATS NORTH YORKSHIRE
BOROUGHBRIDGE ROAD
RIPON

Edge of Town
No Sub Category
Total Number of dwellings: 71
Survey date: TUESDAY *17/09/13* *Survey Type: MANUAL*

4 NY-03-A-11 PRIVATE HOUSING NORTH YORKSHIRE
HORSEFAIR
BOROUGHBRIDGE

Edge of Town
Residential Zone
Total Number of dwellings: 23
Survey date: WEDNESDAY *18/09/13* *Survey Type: MANUAL*

5 SC-03-A-04 DETACHED & TERRACED SURREY
HIGH ROAD
BYFLEET

Edge of Town
Residential Zone
Total Number of dwellings: 71
Survey date: THURSDAY *23/01/14* *Survey Type: MANUAL*

6 SF-03-A-05 DETACHED HOUSES SUFFOLK
VALE LANE
BURY ST EDMUNDS

Edge of Town
Residential Zone
Total Number of dwellings: 18
Survey date: WEDNESDAY *09/09/15* *Survey Type: MANUAL*

7 SH-03-A-05 SEMI-DETACHED/TERRACED SHROPSHIRE
SANDCROFT
TELFORD
SUTTON HILL
Edge of Town
Residential Zone
Total Number of dwellings: 54
Survey date: THURSDAY *24/10/13* *Survey Type: MANUAL*

8 SM-03-A-01 DETACHED & SEMI SOMERSET
WEMBDON ROAD
BRIDGWATER
NORTHFIELD
Edge of Town
Residential Zone
Total Number of dwellings: 33
Survey date: THURSDAY *24/09/15* *Survey Type: MANUAL*

9 ST-03-A-08 DETACHED HOUSES STAFFORDSHIRE
SILKMORE CRESCENT
STAFFORD
MEADOWCROFT PARK
Edge of Town
Residential Zone
Total Number of dwellings: 26
Survey date: WEDNESDAY *22/11/17* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

10 WS-03-A-04 MIXED HOUSES WEST SUSSEX
HILLS FARM LANE
HORSHAM
BROADBRIDGE HEATH
Edge of Town
Residential Zone
Total Number of dwellings: 151
Survey date: THURSDAY *11/12/14* *Survey Type: MANUAL*

11 WS-03-A-08 MIXED HOUSES WEST SUSSEX
ROUNDSTONE LANE
ANGMERING

Edge of Town
Residential Zone
Total Number of dwellings: 180
Survey date: THURSDAY *19/04/18* *Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
SH-03-A-06	Incorrect housing tenure

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	60	0.079	11	60	0.282	11	60	0.361
08:00 - 09:00	11	60	0.120	11	60	0.358	11	60	0.478
09:00 - 10:00	11	60	0.171	11	60	0.197	11	60	0.368
10:00 - 11:00	11	60	0.156	11	60	0.182	11	60	0.338
11:00 - 12:00	11	60	0.168	11	60	0.177	11	60	0.345
12:00 - 13:00	11	60	0.174	11	60	0.159	11	60	0.333
13:00 - 14:00	11	60	0.189	11	60	0.183	11	60	0.372
14:00 - 15:00	11	60	0.158	11	60	0.198	11	60	0.356
15:00 - 16:00	11	60	0.282	11	60	0.205	11	60	0.487
16:00 - 17:00	11	60	0.265	11	60	0.144	11	60	0.409
17:00 - 18:00	11	60	0.326	11	60	0.148	11	60	0.474
18:00 - 19:00	11	60	0.245	11	60	0.142	11	60	0.387
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.333			2.375			4.708

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	10 - 180 (units:)
Survey date date range:	01/01/10 - 19/04/18
Number of weekdays (Monday-Friday):	11
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	1

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Calculation Reference: AUDIT-202608-181026-1031

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
VEHICLES

Selected regions and areas:

07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NE	NORTH EAST LINCOLNSHIRE	1 days
	NY	NORTH YORKSHIRE	1 days
09	NORTH		
	CB	CUMBRIA	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
Actual Range: 47 to 180 (units:)
Range Selected by User: 5 to 200 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/10 to 19/04/18

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:
Tuesday 3 days

This data displays the number of selected surveys by day of the week.

Selected survey types:
Manual count 3 days
Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:
Edge of Town Centre 3

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:
Residential Zone 3

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:
C3 3 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	1 days
10,001 to 15,000	2 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	3 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	2 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	3 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	3 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	CB-03-A-05 MACADAM WAY PENRITH	DETACHED/TERRACED HOUSING		CUMBRIA
	Edge of Town Centre Residential Zone Total Number of dwellings:		50	
	Survey date: TUESDAY		*21/06/16*	*Survey Type: MANUAL*
2	NE-03-A-03 STATION ROAD SCUNTHORPE	PRIVATE HOUSES		NORTH EAST LINCOLNSHIRE
	Edge of Town Centre Residential Zone Total Number of dwellings:		180	
	Survey date: TUESDAY		*20/05/14*	*Survey Type: MANUAL*
3	NY-03-A-12 RACECOURSE LANE NORTHALLERTON	TOWN HOUSES		NORTH YORKSHIRE
	Edge of Town Centre Residential Zone Total Number of dwellings:		47	
	Survey date: TUESDAY		*27/09/16*	*Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	92	0.043	3	92	0.177	3	92	0.220
08:00 - 09:00	3	92	0.152	3	92	0.318	3	92	0.470
09:00 - 10:00	3	92	0.155	3	92	0.112	3	92	0.267
10:00 - 11:00	3	92	0.087	3	92	0.097	3	92	0.184
11:00 - 12:00	3	92	0.119	3	92	0.105	3	92	0.224
12:00 - 13:00	3	92	0.130	3	92	0.134	3	92	0.264
13:00 - 14:00	3	92	0.105	3	92	0.119	3	92	0.224
14:00 - 15:00	3	92	0.112	3	92	0.134	3	92	0.246
15:00 - 16:00	3	92	0.184	3	92	0.159	3	92	0.343
16:00 - 17:00	3	92	0.217	3	92	0.148	3	92	0.365
17:00 - 18:00	3	92	0.220	3	92	0.195	3	92	0.415
18:00 - 19:00	3	92	0.134	3	92	0.162	3	92	0.296
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.658			1.860			3.518

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	47 - 180 (units:)
Survey date date range:	01/01/10 - 19/04/18
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Calculation Reference: AUDIT-202608-181026-1041

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : F - WAREHOUSING (COMMERCIAL)
VEHICLES

Selected regions and areas:

05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
09	NORTH		
	CB	CUMBRIA	1 days
10	WALES		
	WR	WREXHAM	1 days
11	SCOTLAND		
	ML	MIDLOTHIAN	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
Actual Range: 750 to 9000 (units: sqm)
Range Selected by User: 100 to 25000 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/10 to 22/09/17

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday	3 days
Wednesday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	4 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	1
Edge of Town	2
Free Standing (PPS6 Out of Town)	1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone	3
Commercial Zone	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

B8	3 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,000 or Less	1 days
5,001 to 10,000	2 days
25,001 to 50,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
50,001 to 75,000	1 days
75,001 to 100,000	1 days
125,001 to 250,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	3 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	4 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	4 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	CB-02-F-01	DOMINO'S PIZZA		CUMBRIA
	COWPER ROAD			
	PENRITH			
	GILWILLY IND. ESTATE			
	Edge of Town			
	Industrial Zone			
	Total Gross floor area:		2950 sqm	
	Survey date: TUESDAY		*10/06/14*	*Survey Type: MANUAL*
2	DS-02-F-01	ARMADILLO S. STORAGE		DERBYSHIRE
	FORRESTERS BUSINESS P..			
	DERBY			
	SINFIN LANE			
	Edge of Town Centre			
	Commercial Zone			
	Total Gross floor area:		1900 sqm	
	Survey date: TUESDAY		*05/07/11*	*Survey Type: MANUAL*
3	ML-02-F-01	WINDOWS		MIDLOTHIAN
	UNIT 53			
	DALKEITH			
	MAYFIELD IND. ESTATE			
	Edge of Town			
	Industrial Zone			
	Total Gross floor area:		750 sqm	
	Survey date: WEDNESDAY		*04/05/11*	*Survey Type: MANUAL*
4	WR-02-F-01	WAREHOUSE		WREXHAM
	UNIT 1-2 PACIFIC PARK			
	NEAR WREXHAM			
	WREXHAM IND. ESTATE			
	Free Standing (PPS6 Out of Town)			
	Industrial Zone			
	Total Gross floor area:		9000 sqm	
	Survey date: TUESDAY		*18/10/11*	*Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)
VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30	1	2950	0.000	1	2950	0.000	1	2950	0.000
05:30 - 06:00	1	2950	0.102	1	2950	0.000	1	2950	0.102
06:00 - 06:30	1	2950	0.034	1	2950	0.000	1	2950	0.034
06:30 - 07:00	1	2950	0.102	1	2950	0.034	1	2950	0.136
07:00 - 07:30	3	4617	0.036	3	4617	0.014	3	4617	0.050
07:30 - 08:00	4	3650	0.062	4	3650	0.027	4	3650	0.089
08:00 - 08:30	4	3650	0.041	4	3650	0.021	4	3650	0.062
08:30 - 09:00	4	3650	0.144	4	3650	0.027	4	3650	0.171
09:00 - 09:30	4	3650	0.055	4	3650	0.062	4	3650	0.117
09:30 - 10:00	4	3650	0.062	4	3650	0.068	4	3650	0.130
10:00 - 10:30	4	3650	0.034	4	3650	0.062	4	3650	0.096
10:30 - 11:00	4	3650	0.014	4	3650	0.027	4	3650	0.041
11:00 - 11:30	4	3650	0.048	4	3650	0.034	4	3650	0.082
11:30 - 12:00	4	3650	0.014	4	3650	0.014	4	3650	0.028
12:00 - 12:30	4	3650	0.041	4	3650	0.055	4	3650	0.096
12:30 - 13:00	4	3650	0.062	4	3650	0.041	4	3650	0.103
13:00 - 13:30	4	3650	0.068	4	3650	0.048	4	3650	0.116
13:30 - 14:00	4	3650	0.014	4	3650	0.041	4	3650	0.055
14:00 - 14:30	4	3650	0.021	4	3650	0.041	4	3650	0.062
14:30 - 15:00	4	3650	0.027	4	3650	0.021	4	3650	0.048
15:00 - 15:30	4	3650	0.055	4	3650	0.021	4	3650	0.076
15:30 - 16:00	4	3650	0.027	4	3650	0.048	4	3650	0.075
16:00 - 16:30	4	3650	0.034	4	3650	0.041	4	3650	0.075
16:30 - 17:00	4	3650	0.027	4	3650	0.062	4	3650	0.089
17:00 - 17:30	4	3650	0.014	4	3650	0.089	4	3650	0.103
17:30 - 18:00	4	3650	0.000	4	3650	0.062	4	3650	0.062
18:00 - 18:30	4	3650	0.021	4	3650	0.041	4	3650	0.062
18:30 - 19:00	4	3650	0.014	4	3650	0.014	4	3650	0.028
19:00 - 19:30	1	2950	0.169	1	2950	0.102	1	2950	0.271
19:30 - 20:00	1	2950	0.034	1	2950	0.102	1	2950	0.136
20:00 - 20:30	1	2950	0.034	1	2950	0.034	1	2950	0.068
20:30 - 21:00	1	2950	0.068	1	2950	0.102	1	2950	0.170
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			1.478			1.355			2.833

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	750 - 9000 (units: sqm)
Survey date date range:	01/01/10 - 22/09/17
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Calculation Reference: AUDIT-202608-181026-1000

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : D - INDUSTRIAL ESTATE
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	KC	KENT	1 days
03	SOUTH WEST		
	DV	DEVON	1 days
06	WEST MIDLANDS		
	WM	WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	WY	WEST YORKSHIRE	2 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
Actual Range: 1775 to 23480 (units: sqm)
Range Selected by User: 100 to 35000 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/10 to 28/11/17

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday	2 days
Wednesday	2 days
Thursday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town	5

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone	3
Residential Zone	2

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

B2	4 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	1 days
10,001 to 15,000	1 days
20,001 to 25,000	1 days
25,001 to 50,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

25,001 to 50,000	1 days
50,001 to 75,000	1 days
125,001 to 250,000	2 days
250,001 to 500,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	3 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No	5 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	5 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 DV-02-D-06 INDUSTRIAL ESTATE DEVON
ST MODWEN ROAD
PLYMOUTH

Edge of Town
Industrial Zone
Total Gross floor area: 1775 sqm
Survey date: TUESDAY 17/07/12 Survey Type: MANUAL

2 KC-02-D-02 INDUSTRIAL ESTATE KENT
SOUTHWELL ROAD
DEAL

Edge of Town
Residential Zone
Total Gross floor area: 10715 sqm
Survey date: WEDNESDAY 28/11/12 Survey Type: MANUAL

3 WM-02-D-02 INDUSTRIAL ESTATE WEST MIDLANDS
DUNLOP WAY
BIRMINGHAM

Edge of Town
Residential Zone
Total Gross floor area: 23480 sqm
Survey date: WEDNESDAY 07/11/12 Survey Type: MANUAL

4 WY-02-D-04 INDUSTRIAL ESTATE WEST YORKSHIRE
LAW STREET
CLECKHEATON

Edge of Town
Industrial Zone
Total Gross floor area: 23226 sqm
Survey date: THURSDAY 15/09/16 Survey Type: MANUAL

5 WY-02-D-06 INDUSTRIAL ESTATE (PART) WEST YORKSHIRE
PIONEER WAY
CASTLEFORD

Edge of Town
Industrial Zone
Total Gross floor area: 4328 sqm
Survey date: TUESDAY 23/05/17 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE
VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	5	12705	0.055	5	12705	0.020	5	12705	0.075
07:30 - 08:00	5	12705	0.116	5	12705	0.014	5	12705	0.130
08:00 - 08:30	5	12705	0.128	5	12705	0.049	5	12705	0.177
08:30 - 09:00	5	12705	0.121	5	12705	0.050	5	12705	0.171
09:00 - 09:30	5	12705	0.093	5	12705	0.071	5	12705	0.164
09:30 - 10:00	5	12705	0.090	5	12705	0.065	5	12705	0.155
10:00 - 10:30	5	12705	0.087	5	12705	0.079	5	12705	0.166
10:30 - 11:00	5	12705	0.061	5	12705	0.057	5	12705	0.118
11:00 - 11:30	5	12705	0.077	5	12705	0.074	5	12705	0.151
11:30 - 12:00	5	12705	0.080	5	12705	0.087	5	12705	0.167
12:00 - 12:30	5	12705	0.077	5	12705	0.068	5	12705	0.145
12:30 - 13:00	5	12705	0.077	5	12705	0.079	5	12705	0.156
13:00 - 13:30	5	12705	0.088	5	12705	0.098	5	12705	0.186
13:30 - 14:00	5	12705	0.066	5	12705	0.061	5	12705	0.127
14:00 - 14:30	5	12705	0.058	5	12705	0.066	5	12705	0.124
14:30 - 15:00	5	12705	0.061	5	12705	0.055	5	12705	0.116
15:00 - 15:30	5	12705	0.076	5	12705	0.068	5	12705	0.144
15:30 - 16:00	5	12705	0.047	5	12705	0.085	5	12705	0.132
16:00 - 16:30	5	12705	0.069	5	12705	0.082	5	12705	0.151
16:30 - 17:00	5	12705	0.046	5	12705	0.082	5	12705	0.128
17:00 - 17:30	5	12705	0.030	5	12705	0.146	5	12705	0.176
17:30 - 18:00	5	12705	0.024	5	12705	0.121	5	12705	0.145
18:00 - 18:30	5	12705	0.014	5	12705	0.043	5	12705	0.057
18:30 - 19:00	5	12705	0.008	5	12705	0.022	5	12705	0.030
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			1.649			1.642			3.291

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	1775 - 23480 (units: sqm)
Survey date date range:	01/01/10 - 28/11/17
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Calculation Reference: AUDIT-202608-181026-1023

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : B - BUSINESS PARK
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	SC	SURREY	1 days
03	SOUTH WEST		
	DV	DEVON	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	1 days
05	EAST MIDLANDS		
	LN	LINCOLNSHIRE	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	1 days
	ST	STAFFORDSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	WY	WEST YORKSHIRE	1 days
08	NORTH WEST		
	LC	LANCASHIRE	1 days
10	WALES		
	CP	CAERPHILLY	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
Actual Range: 1500 to 20760 (units: sqm)
Range Selected by User: 100 to 25000 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/10 to 22/11/17

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday	3 days
Wednesday	4 days
Thursday	2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	9 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	2
Edge of Town	7

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone	2
Commercial Zone	5
No Sub Category	2

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

B1	9 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

5,001 to 10,000	5 days
10,001 to 15,000	2 days
15,001 to 20,000	1 days
25,001 to 50,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

25,001 to 50,000	2 days
50,001 to 75,000	1 days
125,001 to 250,000	6 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	7 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	2 days
No	7 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	9 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 CA-02-B-02 BUSINESS PARK CAMBRIDGESHIRE
LYNCH WOOD
PETERBOROUGH

Edge of Town
Commercial Zone
Total Gross floor area: 12800 sqm
Survey date: WEDNESDAY 19/10/16 Survey Type: MANUAL

2 CP-02-B-01 BUSINESS PARK CAERPHILLY
VAN ROAD
CAERPHILLY

Edge of Town
Commercial Zone
Total Gross floor area: 14450 sqm
Survey date: TUESDAY 17/07/12 Survey Type: MANUAL

3 DV-02-B-01 BUSINESS PARK DEVON
MANATON CLOSE
EXETER
MATFORD BUSINESS PARK

Edge of Town
Commercial Zone
Total Gross floor area: 1500 sqm
Survey date: WEDNESDAY 05/07/17 Survey Type: MANUAL

4 LC-02-B-03 BUSINESS PARK LANCASHIRE
NAVIGATION WAY
PRESTON

Edge of Town
Commercial Zone
Total Gross floor area: 3450 sqm
Survey date: TUESDAY 18/10/11 Survey Type: MANUAL

5 LN-02-B-02 BUSINESS PARK LINCOLNSHIRE
CARDINAL CLOSE
LINCOLN

Edge of Town
Industrial Zone
Total Gross floor area: 5000 sqm
Survey date: THURSDAY 25/06/15 Survey Type: MANUAL

6 SC-02-B-03 BUSINESS PARK SURREY
A331
FRIMLEY

Edge of Town Centre
No Sub Category
Total Gross floor area: 20160 sqm
Survey date: TUESDAY 27/11/12 Survey Type: MANUAL

7 SH-02-B-04 BUSINESS PARK SHROPSHIRE
STAFFORD COURT
TELFORD

Edge of Town Centre
Commercial Zone
Total Gross floor area: 10175 sqm
Survey date: THURSDAY 24/10/13 Survey Type: MANUAL

8 ST-02-B-04 BUSINESS PARK STAFFORDSHIRE
STONE ROAD
STAFFORD

Edge of Town
Industrial Zone
Total Gross floor area: 20760 sqm
Survey date: WEDNESDAY 22/11/17 Survey Type: MANUAL

9 WY-02-B-02 BUSINESS PARK WEST YORKSHIRE
ARMITAGE BRIDGE
HUDDERSFIELD

Edge of Town
No Sub Category
Total Gross floor area: 9200 sqm
Survey date: WEDNESDAY 23/04/14 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK
VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	9	10833	0.202	9	10833	0.017	9	10833	0.219
07:30 - 08:00	9	10833	0.446	9	10833	0.037	9	10833	0.483
08:00 - 08:30	9	10833	0.651	9	10833	0.094	9	10833	0.745
08:30 - 09:00	9	10833	0.694	9	10833	0.111	9	10833	0.805
09:00 - 09:30	9	10833	0.492	9	10833	0.127	9	10833	0.619
09:30 - 10:00	9	10833	0.265	9	10833	0.128	9	10833	0.393
10:00 - 10:30	9	10833	0.168	9	10833	0.110	9	10833	0.278
10:30 - 11:00	9	10833	0.122	9	10833	0.107	9	10833	0.229
11:00 - 11:30	9	10833	0.107	9	10833	0.102	9	10833	0.209
11:30 - 12:00	9	10833	0.106	9	10833	0.115	9	10833	0.221
12:00 - 12:30	9	10833	0.152	9	10833	0.182	9	10833	0.334
12:30 - 13:00	9	10833	0.208	9	10833	0.222	9	10833	0.430
13:00 - 13:30	9	10833	0.185	9	10833	0.168	9	10833	0.353
13:30 - 14:00	9	10833	0.153	9	10833	0.128	9	10833	0.281
14:00 - 14:30	9	10833	0.151	9	10833	0.127	9	10833	0.278
14:30 - 15:00	9	10833	0.111	9	10833	0.142	9	10833	0.253
15:00 - 15:30	9	10833	0.086	9	10833	0.224	9	10833	0.310
15:30 - 16:00	9	10833	0.096	9	10833	0.193	9	10833	0.289
16:00 - 16:30	9	10833	0.079	9	10833	0.338	9	10833	0.417
16:30 - 17:00	9	10833	0.074	9	10833	0.451	9	10833	0.525
17:00 - 17:30	9	10833	0.087	9	10833	0.585	9	10833	0.672
17:30 - 18:00	9	10833	0.059	9	10833	0.462	9	10833	0.521
18:00 - 18:30	8	11037	0.031	8	11037	0.334	8	11037	0.365
18:30 - 19:00	8	11037	0.018	8	11037	0.224	8	11037	0.242
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			4.743			4.728			9.471

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	1500 - 20760 (units: sqm)
Survey date date range:	01/01/10 - 22/11/17
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Calculation Reference: AUDIT-202608-181026-1036

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : A - OFFICE
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	ES	EAST SUSSEX	1 days
	HF	HERTFORDSHIRE	2 days
	KC	KENT	2 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	2 days
	NF	NORFOLK	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	WY	WEST YORKSHIRE	1 days
09	NORTH		
	DH	DURHAM	1 days
10	WALES		
	MT	MERTHYR TYDFIL	1 days
	SW	SWANSEA	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
Actual Range: 610 to 6483 (units: sqm)
Range Selected by User: 300 to 18000 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/10 to 12/09/17

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday	3 days
Wednesday	4 days
Thursday	6 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	13 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	9
Edge of Town	4

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone	1
Commercial Zone	3
Development Zone	1
Residential Zone	1
Built-Up Zone	6
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

B1	13 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	2 days
10,001 to 15,000	1 days
15,001 to 20,000	3 days
25,001 to 50,000	5 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

25,001 to 50,000	2 days
75,001 to 100,000	2 days
100,001 to 125,000	1 days
125,001 to 250,000	8 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	10 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	5 days
No	8 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	13 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1 CA-02-A-04 OFFICE CAMBRIDGESHIRE
BRETTON WAY
PETERBOROUGH

Edge of Town
Commercial Zone
Total Gross floor area: 6483 sqm
Survey date: THURSDAY *20/10/11* *Survey Type: MANUAL*

2 CA-02-A-06 OFFICES CAMBRIDGESHIRE
LYNCH WOOD
PETERBOROUGH

Edge of Town
Commercial Zone
Total Gross floor area: 4040 sqm
Survey date: WEDNESDAY *19/10/16* *Survey Type: MANUAL*

3 DH-02-A-02 CONSTRUCTION COMPANY DURHAM
DURHAM ROAD
NEAR DURHAM
BOWBURN
Edge of Town
Industrial Zone
Total Gross floor area: 2000 sqm
Survey date: TUESDAY *27/11/12* *Survey Type: MANUAL*

4 ES-02-A-12 COUNCIL OFFICES EAST SUSSEX
VICARAGE LANE
HAILSHAM

Edge of Town Centre
Built-Up Zone
Total Gross floor area: 3640 sqm
Survey date: THURSDAY *26/11/15* *Survey Type: MANUAL*

5 HF-02-A-03 OFFICE HERTFORDSHIRE
60 VICTORIA STREET
ST ALBANS

Edge of Town Centre
Built-Up Zone
Total Gross floor area: 610 sqm
Survey date: WEDNESDAY *16/10/13* *Survey Type: MANUAL*

6 HF-02-A-04 OFFICES HERTFORDSHIRE
STATION WAY
ST ALBANS

Edge of Town Centre
Residential Zone
Total Gross floor area: 5000 sqm
Survey date: THURSDAY *02/10/14* *Survey Type: MANUAL*

7 KC-02-A-09 COUNCIL OFFICES KENT
SANDLING ROAD
MAIDSTONE

Edge of Town Centre
Built-Up Zone
Total Gross floor area: 1500 sqm
Survey date: WEDNESDAY *19/10/11* *Survey Type: MANUAL*

8 KC-02-A-10 COUNCIL OFFICES KENT
SANDLING ROAD
MAIDSTONE

Edge of Town Centre
Built-Up Zone
Total Gross floor area: 2900 sqm
Survey date: WEDNESDAY *19/10/11* *Survey Type: MANUAL*

LIST OF SITES relevant to selection parameters (Cont.)

9	MT-02-A-02 CASTLE STREET MERTHYR TYDFIL	COUNCIL OFFICES		MERTHYR TYDFIL
	Edge of Town Centre Built-Up Zone Total Gross floor area:		5250 sqm	
	Survey date: THURSDAY		*17/10/13*	*Survey Type: MANUAL*
10	NF-02-A-01 CHAPEL STREET KING'S LYNN	COUNCIL OFFICE		NORFOLK
	Edge of Town Centre Built-Up Zone Total Gross floor area:		5500 sqm	
	Survey date: THURSDAY		*30/09/10*	*Survey Type: MANUAL*
11	NF-02-A-03 NORTH QUAY GREAT YARMOUTH	OFFICES		NORFOLK
	Edge of Town Centre Commercial Zone Total Gross floor area:		5500 sqm	
	Survey date: TUESDAY		*12/09/17*	*Survey Type: MANUAL*
12	SW-02-A-02 KINGS ROAD SWANSEA	OFFICE		SWANSEA
	Edge of Town Centre Development Zone Total Gross floor area:		2225 sqm	
	Survey date: THURSDAY		*24/10/13*	*Survey Type: MANUAL*
13	WY-02-A-05 PIONEER WAY CASTLEFORD WHITWOOD	OFFICES		WEST YORKSHIRE
	Edge of Town No Sub Category Total Gross floor area:		1230 sqm	
	Survey date: TUESDAY		*23/05/17*	*Survey Type: MANUAL*

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	13	3529	0.214	13	3529	0.024	13	3529	0.238
07:30 - 08:00	13	3529	0.684	13	3529	0.065	13	3529	0.749
08:00 - 08:30	13	3529	1.109	13	3529	0.109	13	3529	1.218
08:30 - 09:00	13	3529	1.229	13	3529	0.131	13	3529	1.360
09:00 - 09:30	13	3529	0.704	13	3529	0.166	13	3529	0.870
09:30 - 10:00	13	3529	0.405	13	3529	0.179	13	3529	0.584
10:00 - 10:30	13	3529	0.238	13	3529	0.179	13	3529	0.417
10:30 - 11:00	13	3529	0.166	13	3529	0.140	13	3529	0.306
11:00 - 11:30	13	3529	0.172	13	3529	0.168	13	3529	0.340
11:30 - 12:00	13	3529	0.177	13	3529	0.168	13	3529	0.345
12:00 - 12:30	13	3529	0.170	13	3529	0.303	13	3529	0.473
12:30 - 13:00	13	3529	0.242	13	3529	0.268	13	3529	0.510
13:00 - 13:30	13	3529	0.259	13	3529	0.270	13	3529	0.529
13:30 - 14:00	13	3529	0.244	13	3529	0.235	13	3529	0.479
14:00 - 14:30	13	3529	0.179	13	3529	0.177	13	3529	0.356
14:30 - 15:00	13	3529	0.157	13	3529	0.292	13	3529	0.449
15:00 - 15:30	13	3529	0.131	13	3529	0.222	13	3529	0.353
15:30 - 16:00	13	3529	0.126	13	3529	0.244	13	3529	0.370
16:00 - 16:30	13	3529	0.155	13	3529	0.599	13	3529	0.754
16:30 - 17:00	13	3529	0.089	13	3529	0.743	13	3529	0.832
17:00 - 17:30	13	3529	0.126	13	3529	1.203	13	3529	1.329
17:30 - 18:00	13	3529	0.046	13	3529	0.667	13	3529	0.713
18:00 - 18:30	12	3721	0.029	12	3721	0.323	12	3721	0.352
18:30 - 19:00	12	3721	0.013	12	3721	0.137	12	3721	0.150
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			7.064			7.012			14.076

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

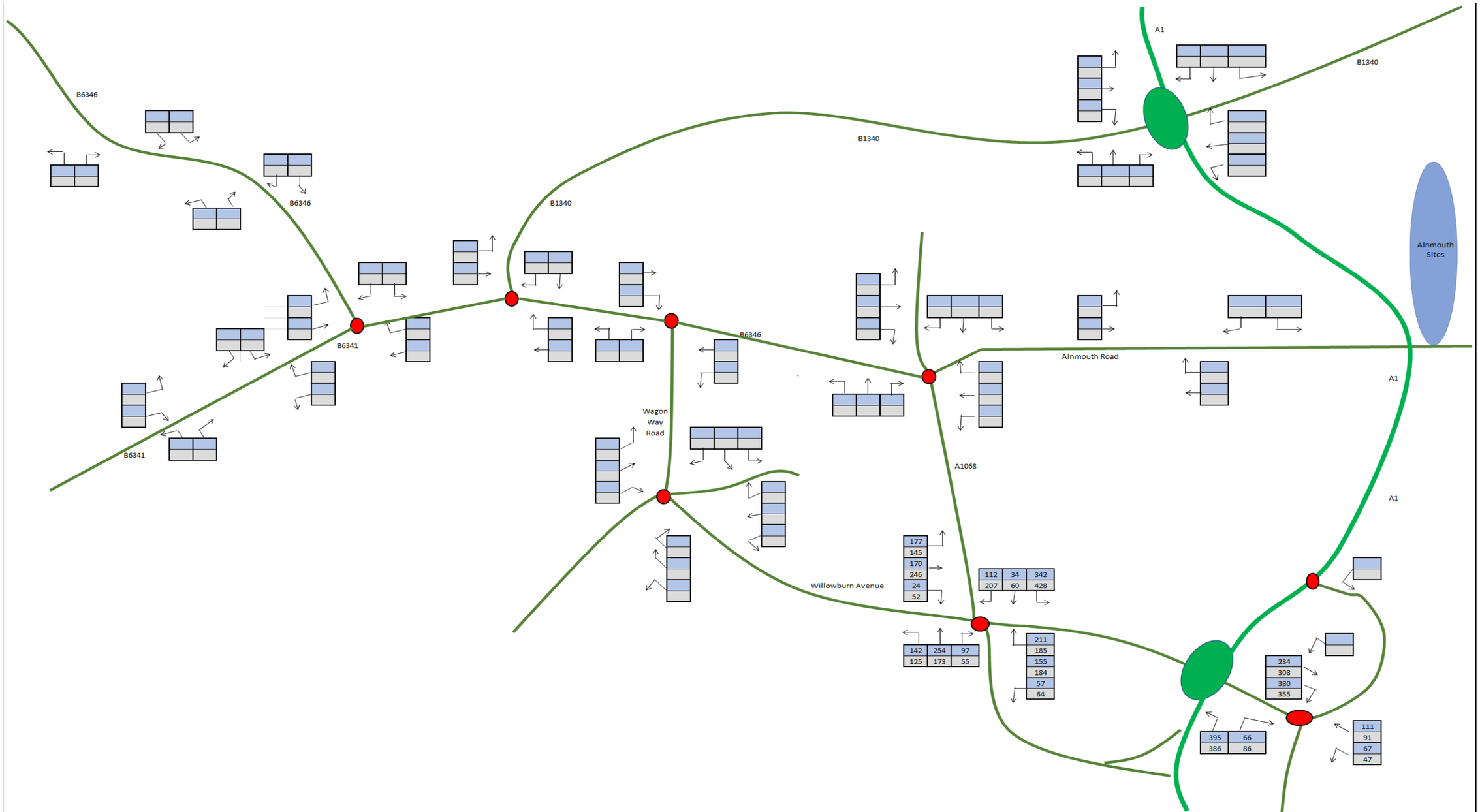
Parameter summary

Trip rate parameter range selected:	610 - 6483 (units: sqm)
Survey date date range:	01/01/10 - 12/09/17
Number of weekdays (Monday-Friday):	13
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	3
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

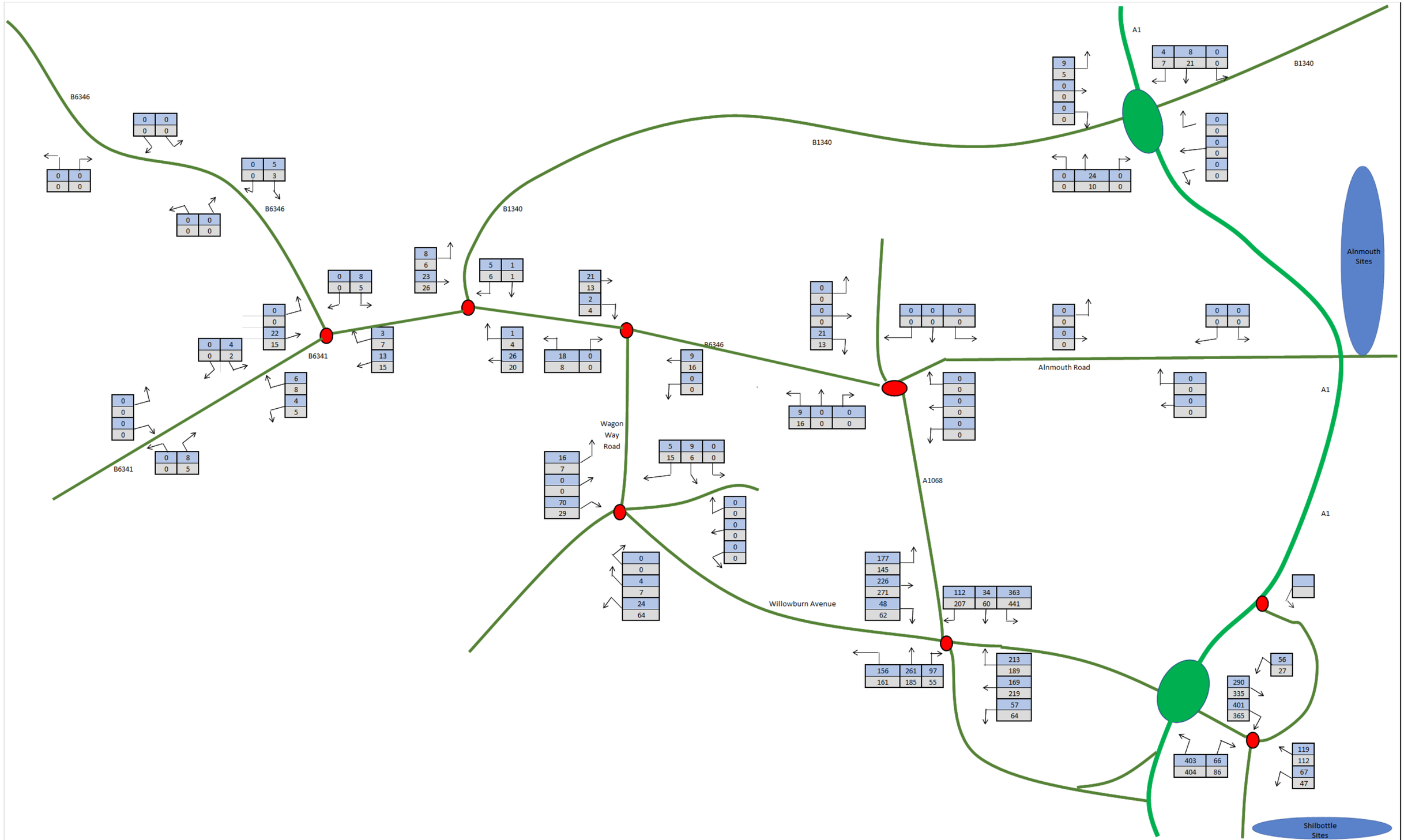
JACOBS

Appendix F. – Schematic Flows



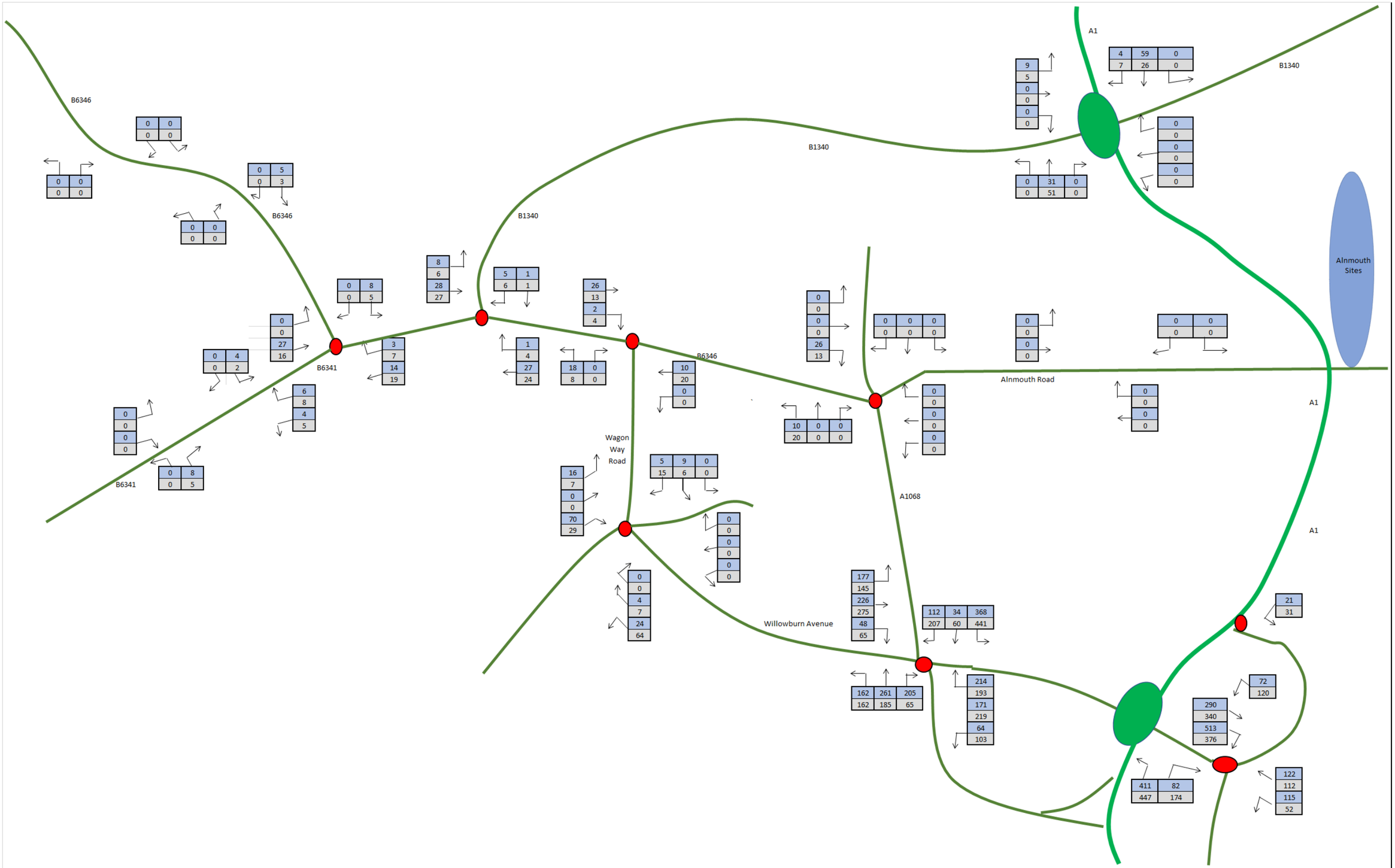
JACOBS	Alnwick Network Map - Recorded Flows	Figure 1

JACOBS



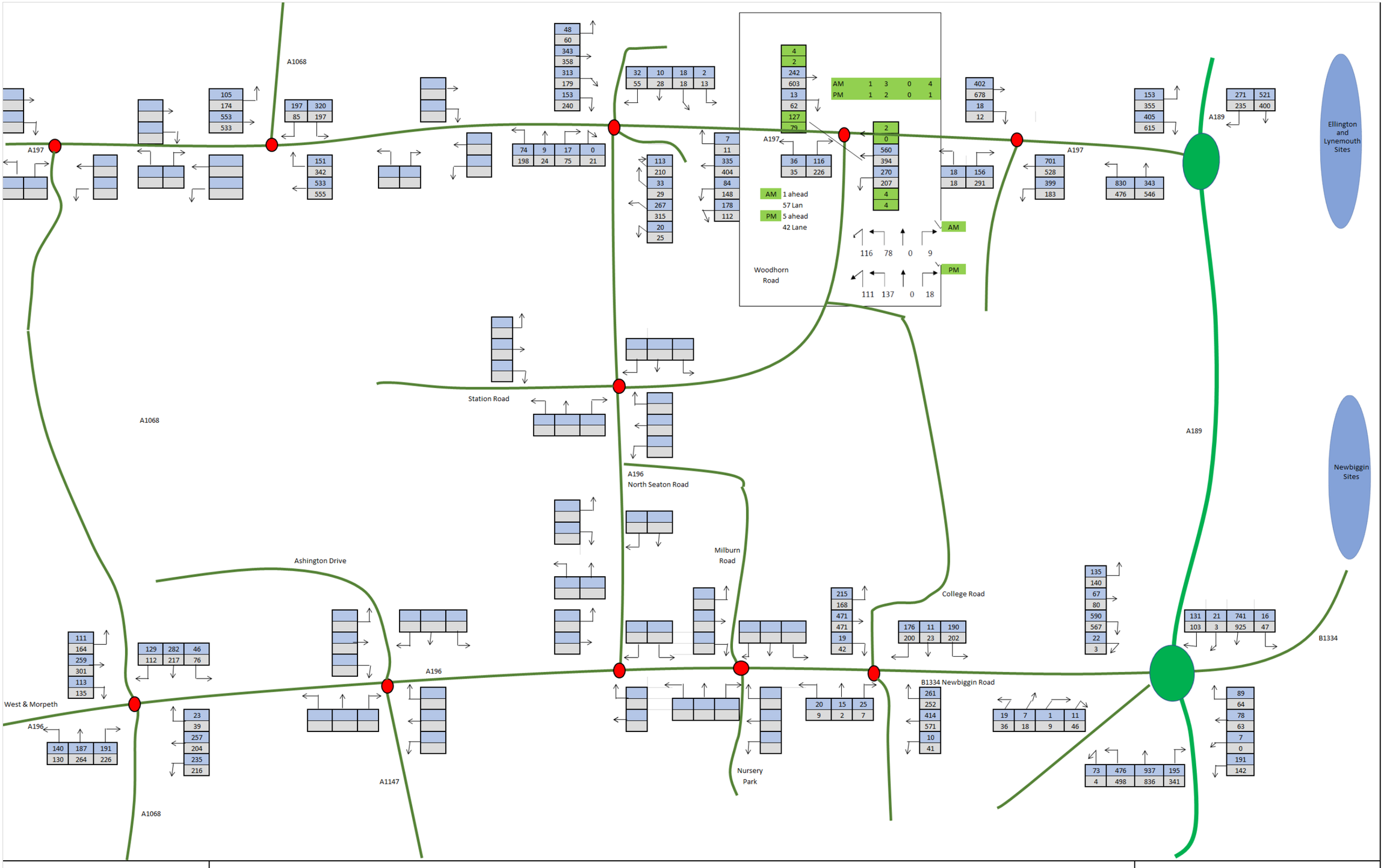
JACOBS	Alnwick Network Map - Baseline Flows	Figure 2

JACOBS



JACOBS	Alnwick Network Map - Local Plan Flows	Figure 3

JACOBS

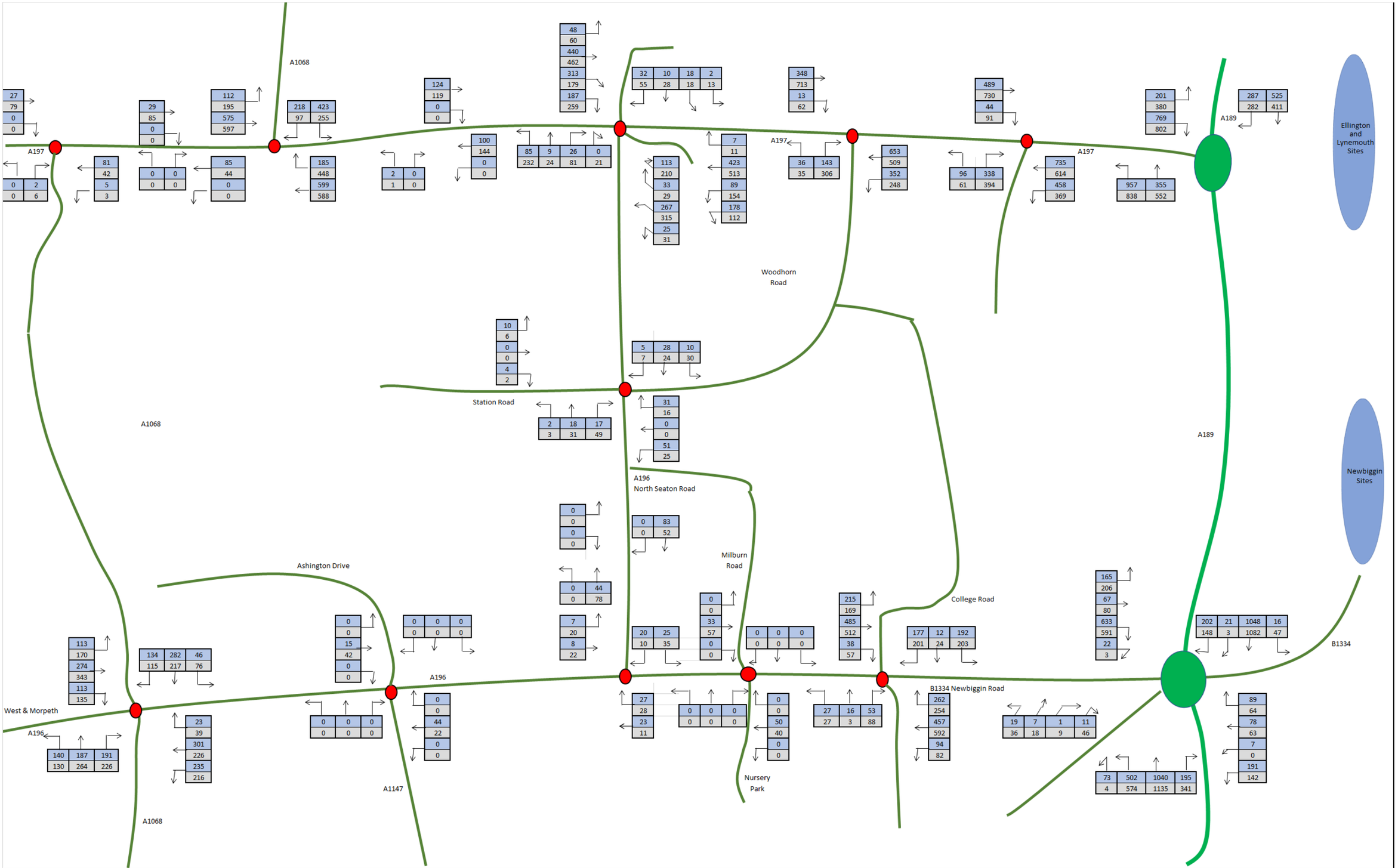


JACOBS

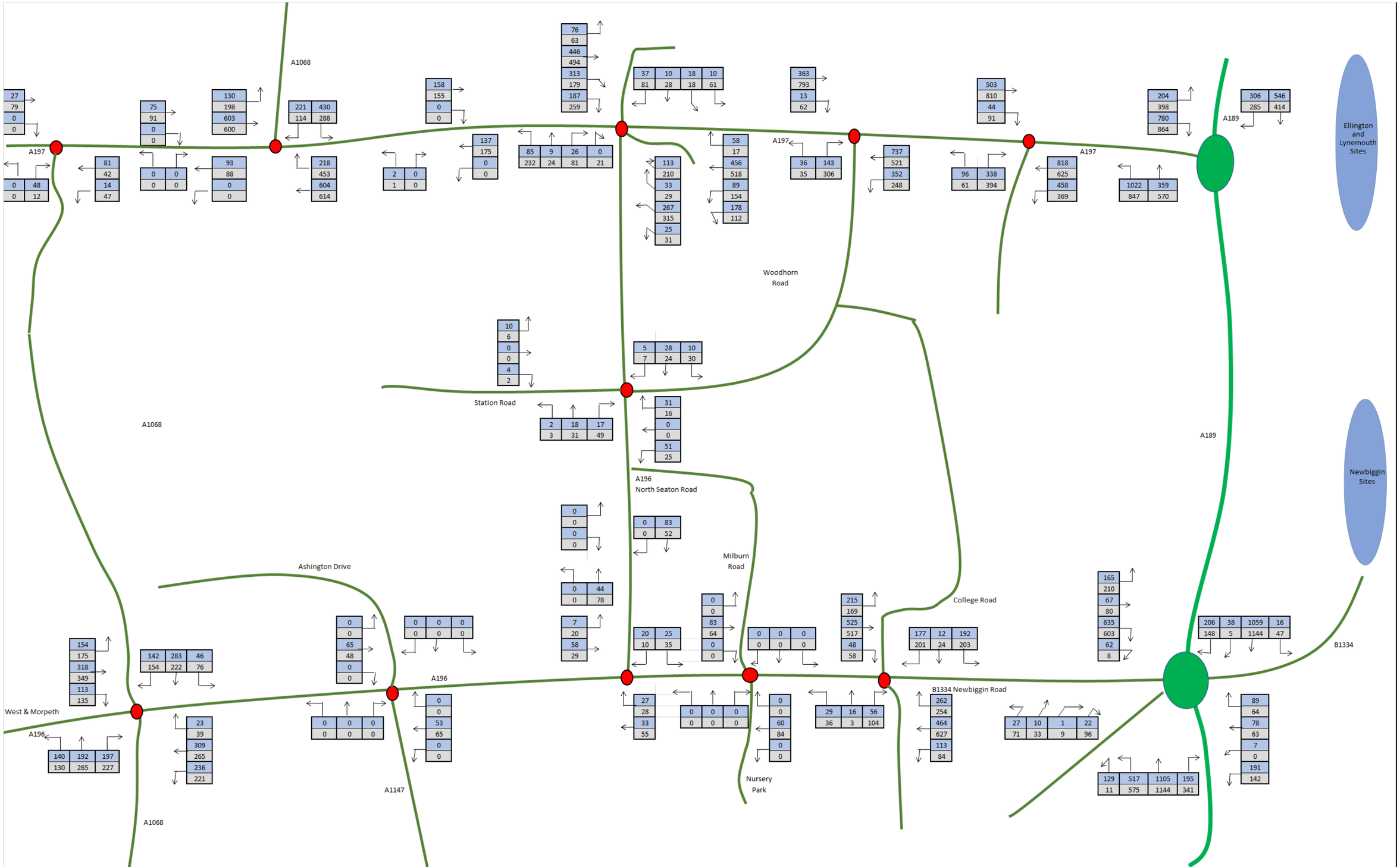
Ashington Network Map - Recorded Flows

Figure 1

JACOBS

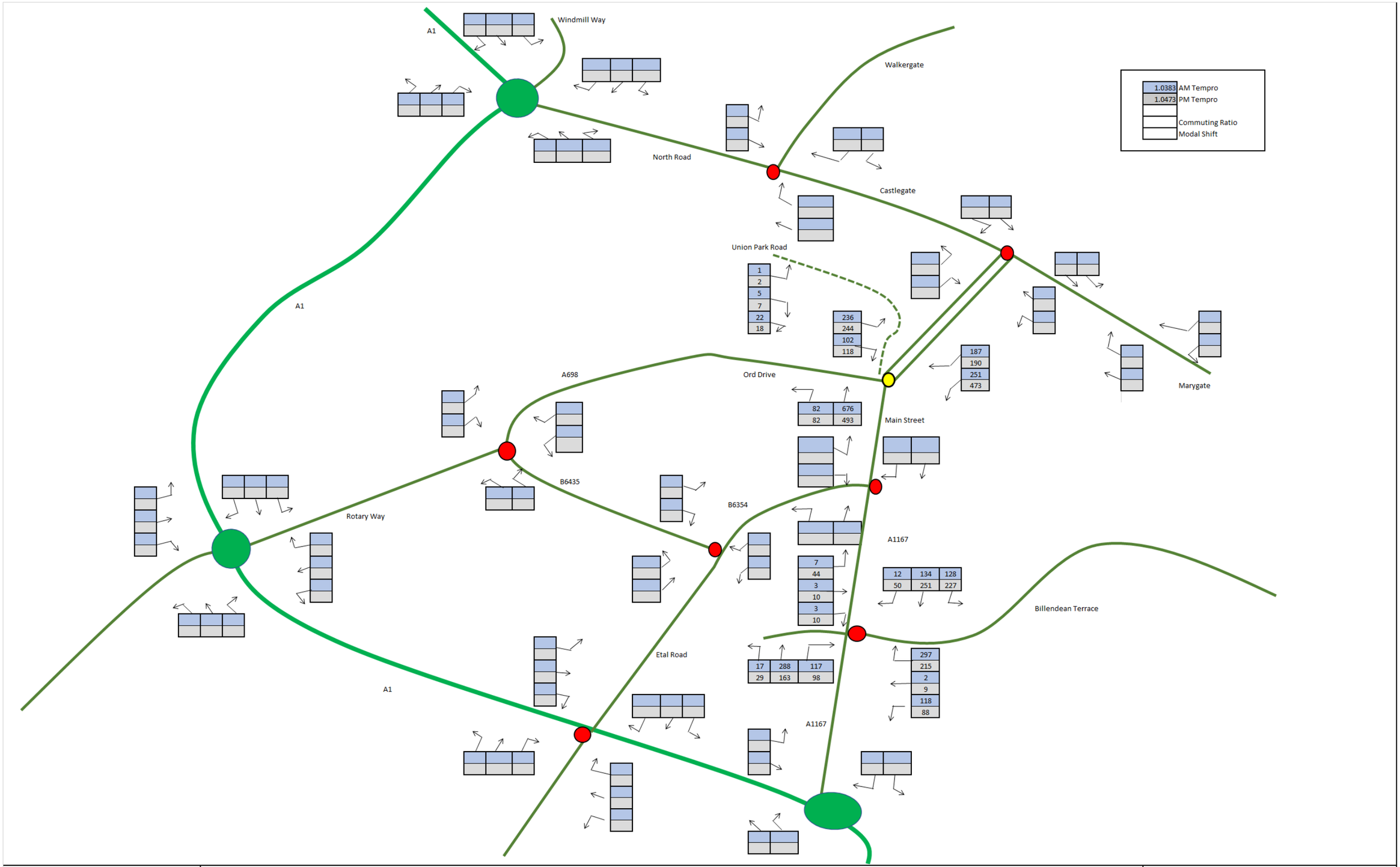

A1068
A197
A197
A197
A189
Ellington and Lynemouth Sites
Woodhorn Road
Station Road
A1068
A196
North Seaton Road
A189
Newbiggin Sites
Ashington Drive
Milburn Road
College Road
B1334
West & Morpeth
A196
A196
A1147
A1068
Nursery Park
B1334 Newbiggin Road

JACOBS



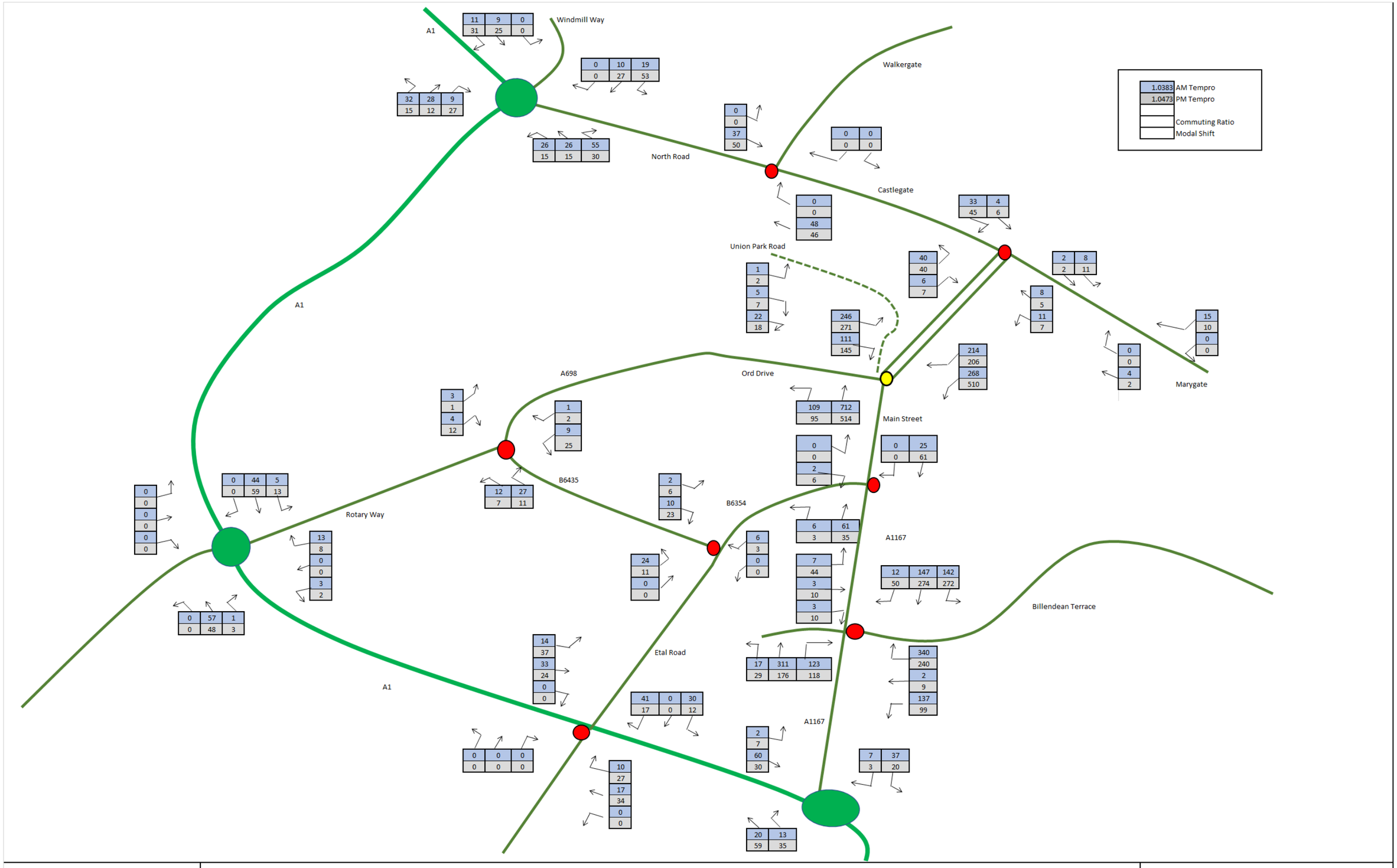
JACOBS	Ashington Network Map - Local Plan Flows	Figure 3

JACOBS



JACOBS	Berwick Network Map - Recorded Flows	Figure 1

JACOBS

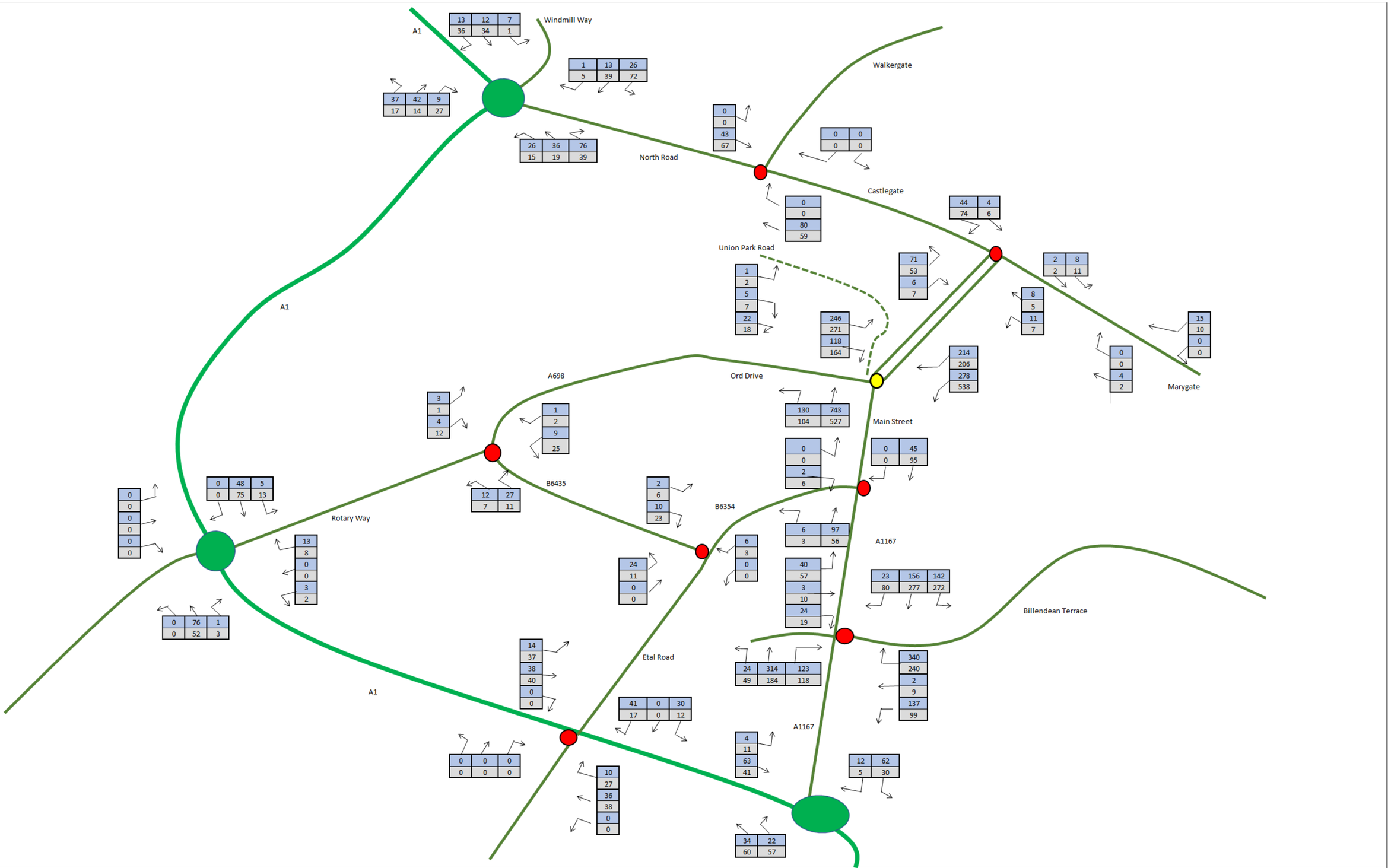


JACOBS

Berwick Network Map - Baseline Flows

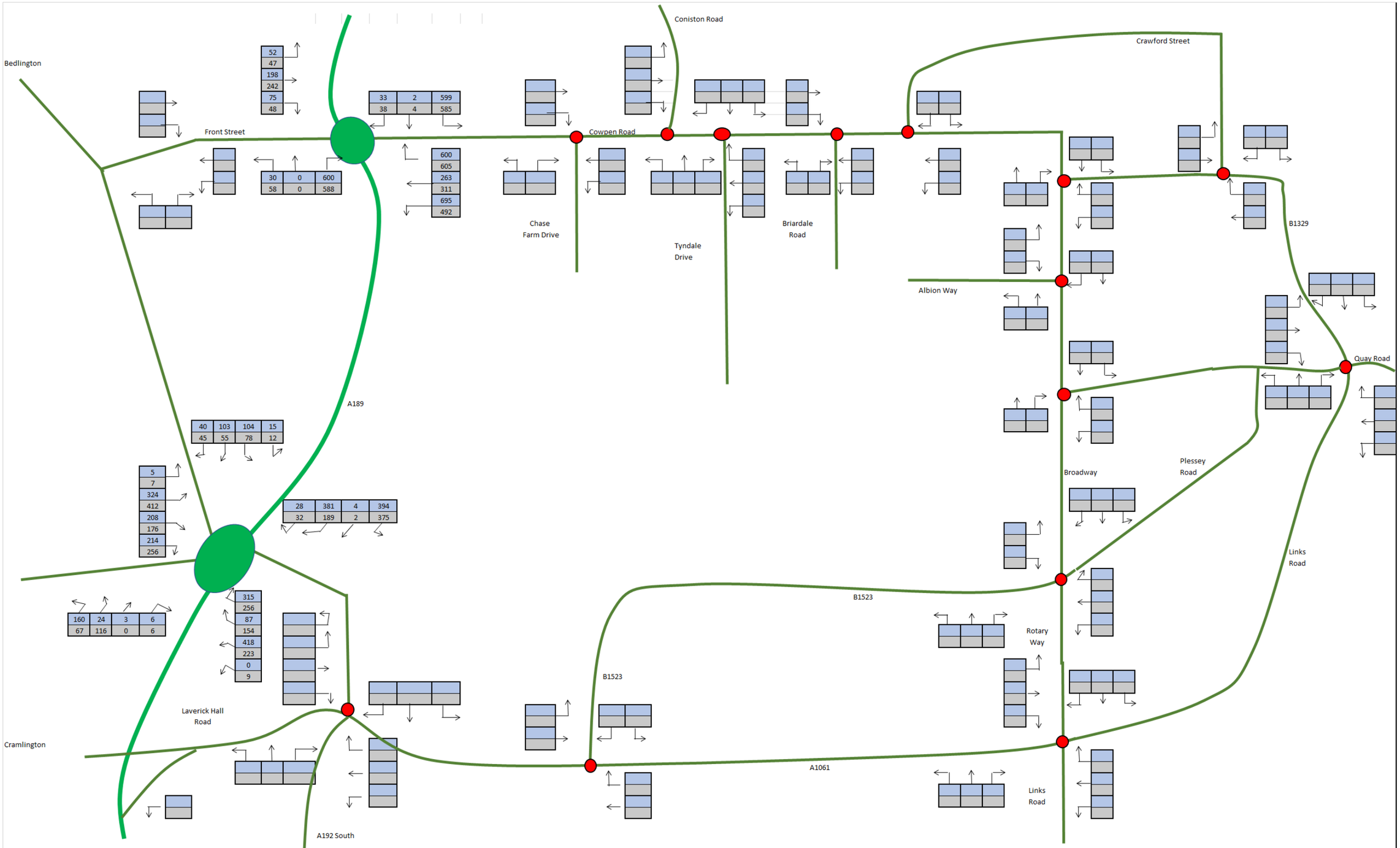
Figure 2

JACOBS



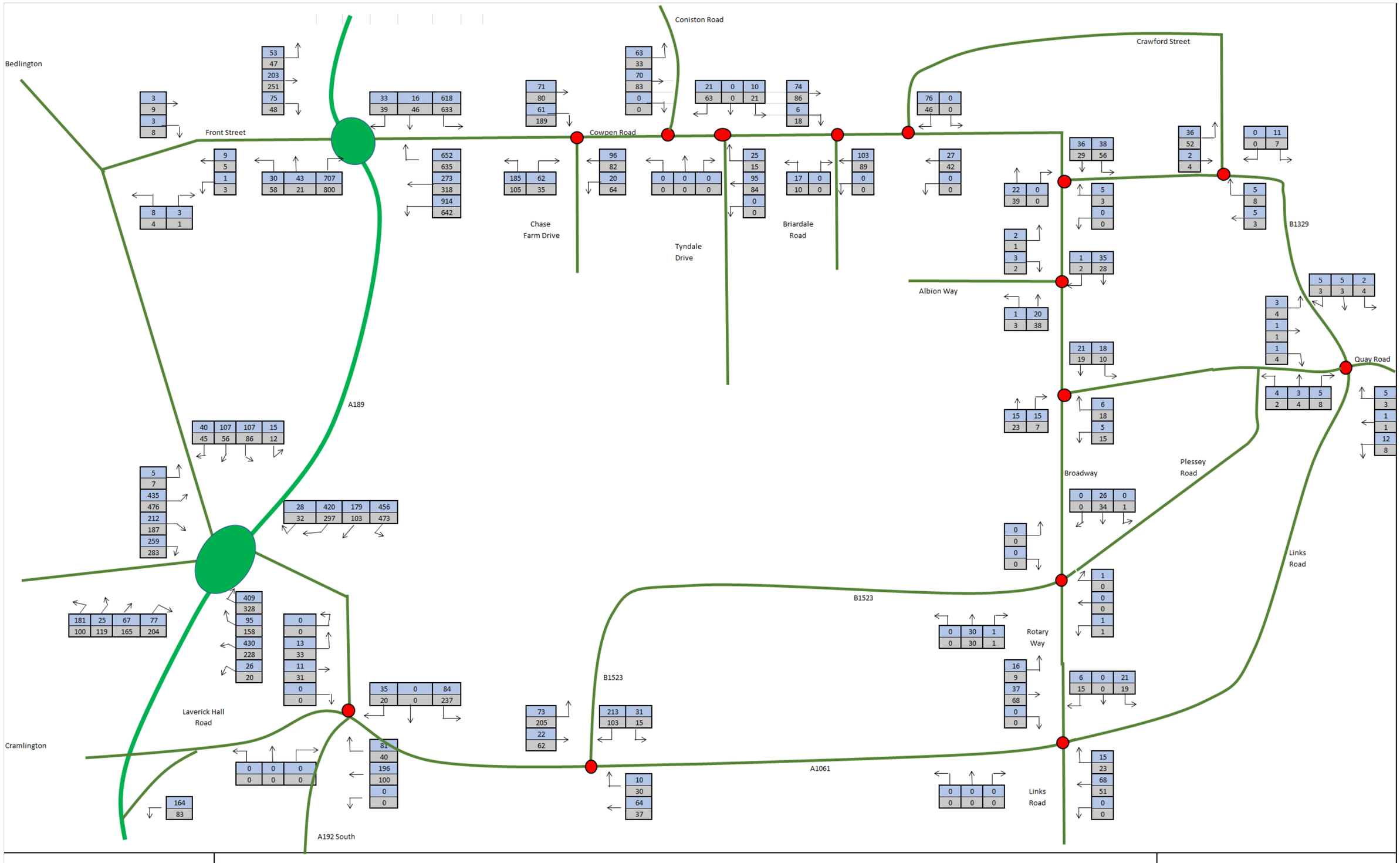
JACOBS	Berwick Network Map - Local Plan Flows	Figure 3

JACOBS



JACOBS	**Blyth Network Map - Recorded Flows** *** with combined flows with Cramlington for A189/A192/Horton Road Roundabout**	**Figure 1**

JACOBS



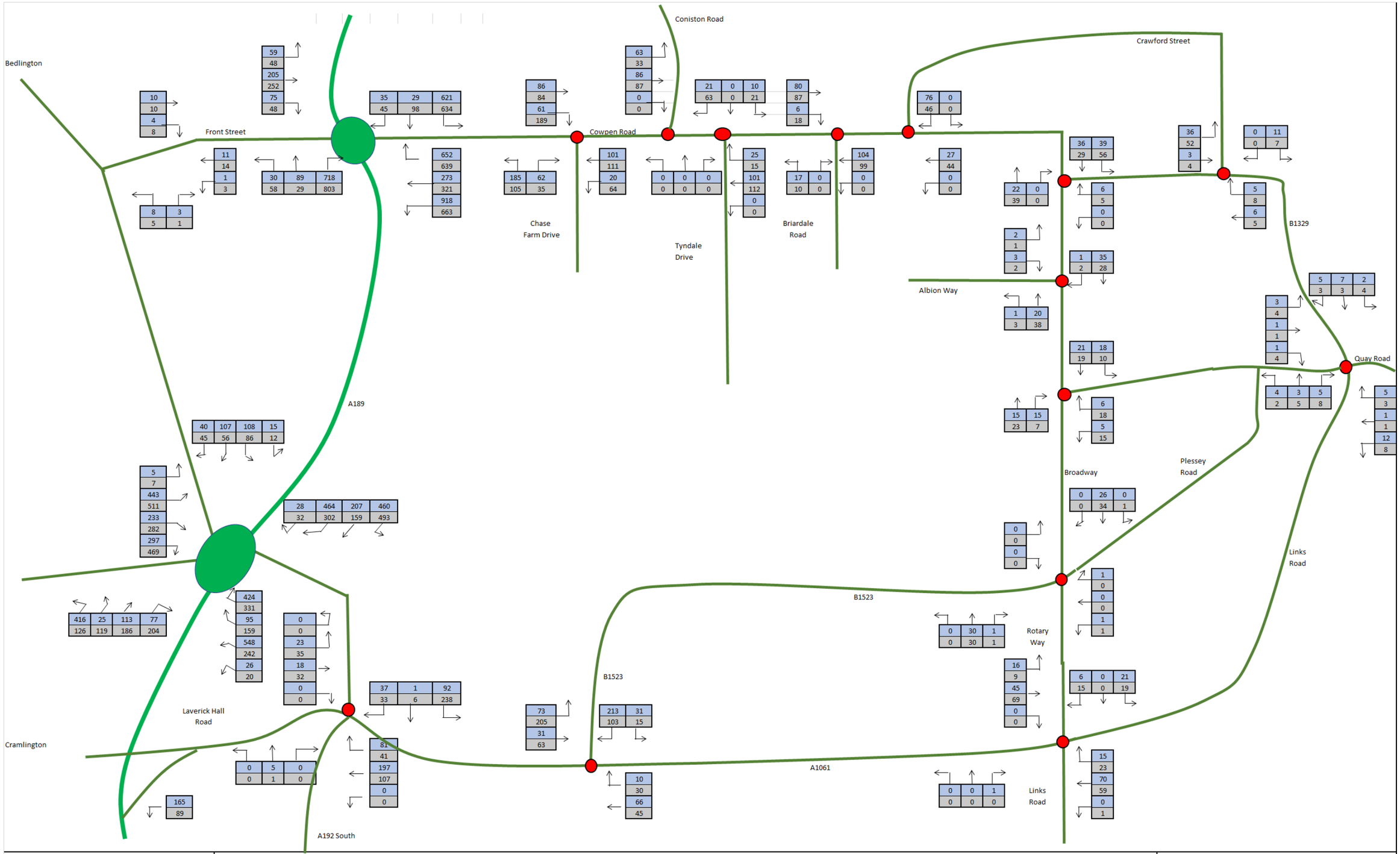
JACOBS

Blyth Network Map - Baseline Flows

*** with combined flows with Cramlington for A189/A192/Horton Road Roundabout**

Figure 2

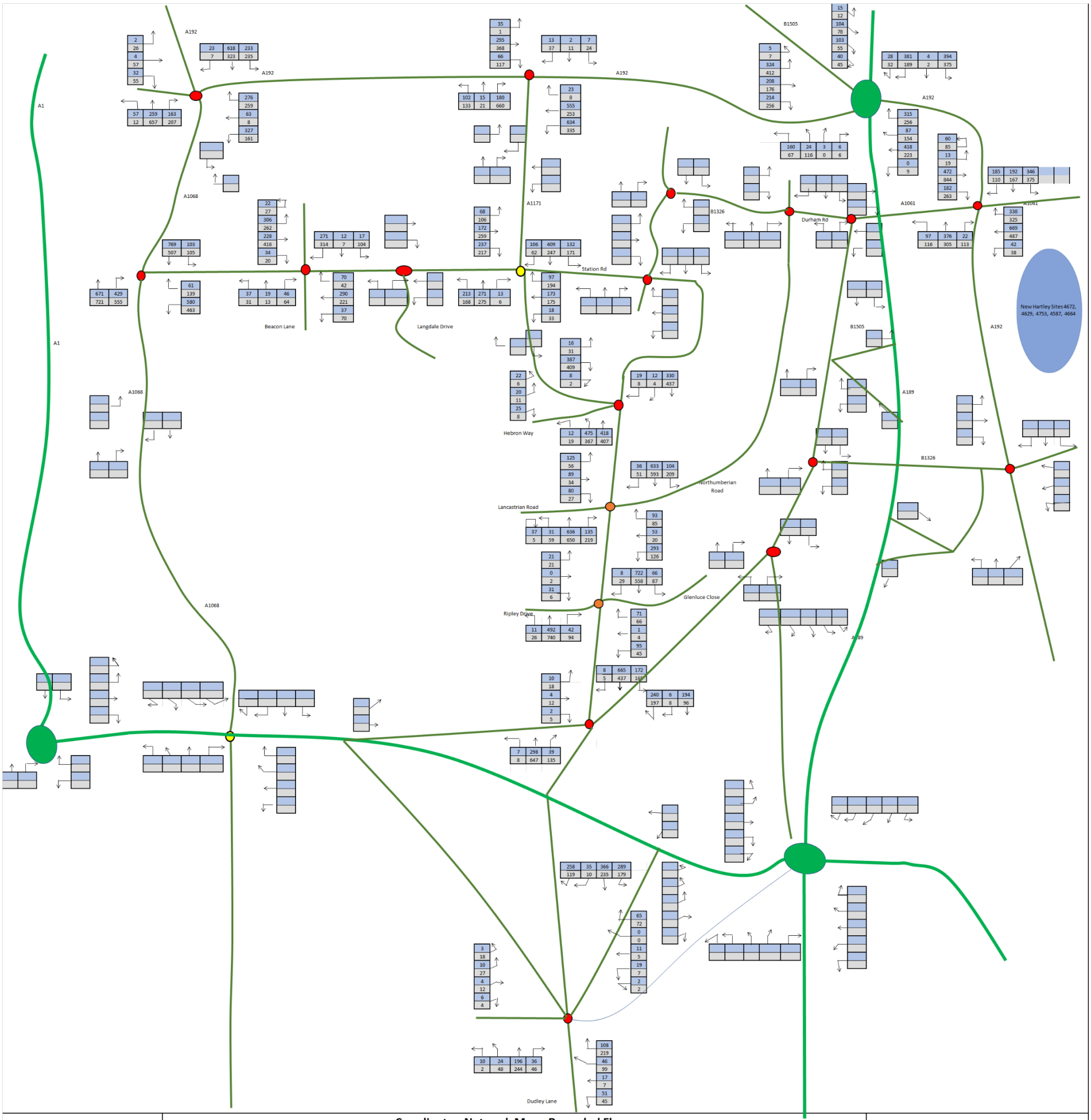
JACOBS



Blyth Network Map - Local Plan Flows

*** with combined flows with Cramlington for A189/A192/Horton Road Roundabout**

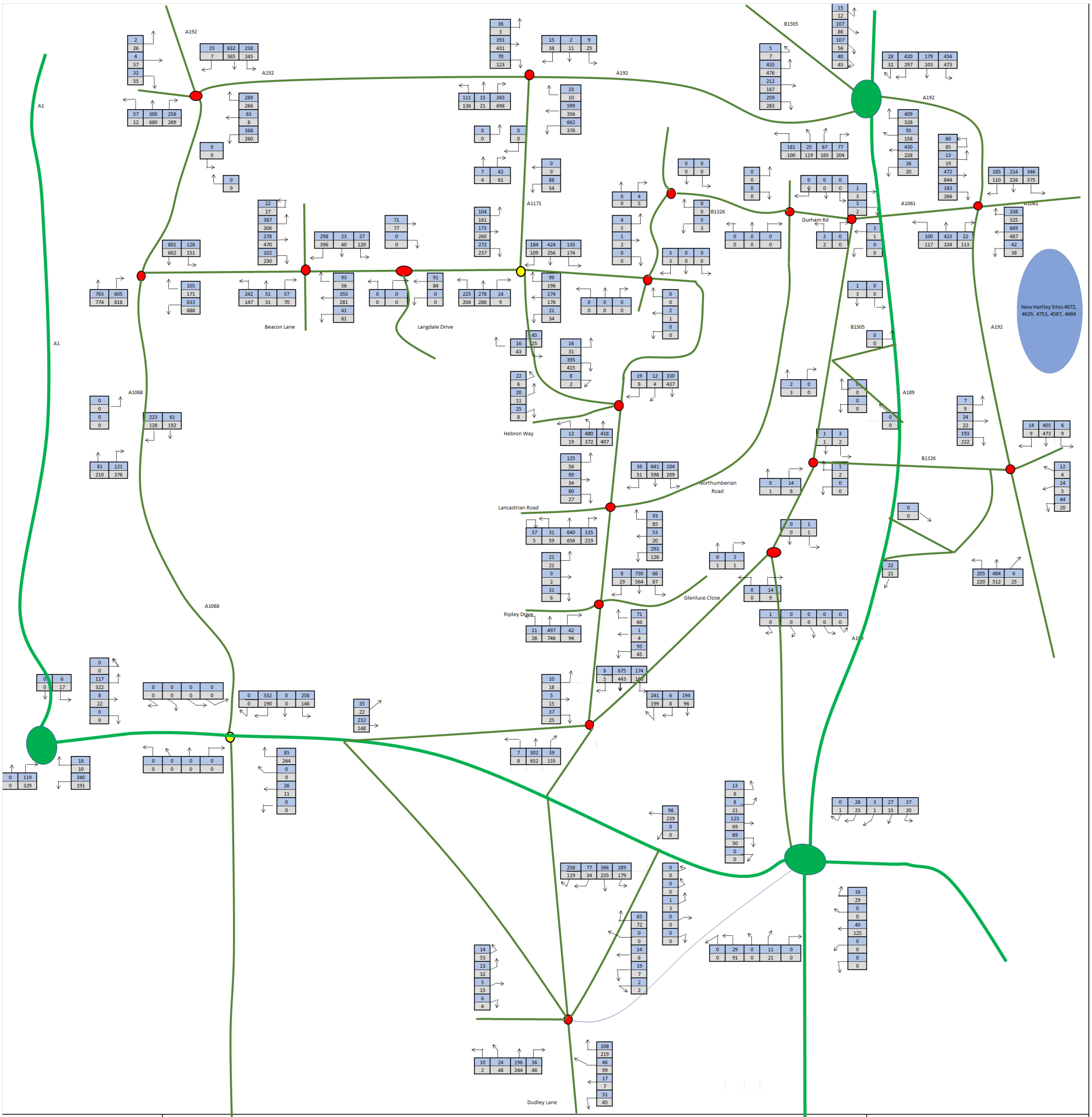
Figure 3



Cramlington Network Map - Recorded Flows

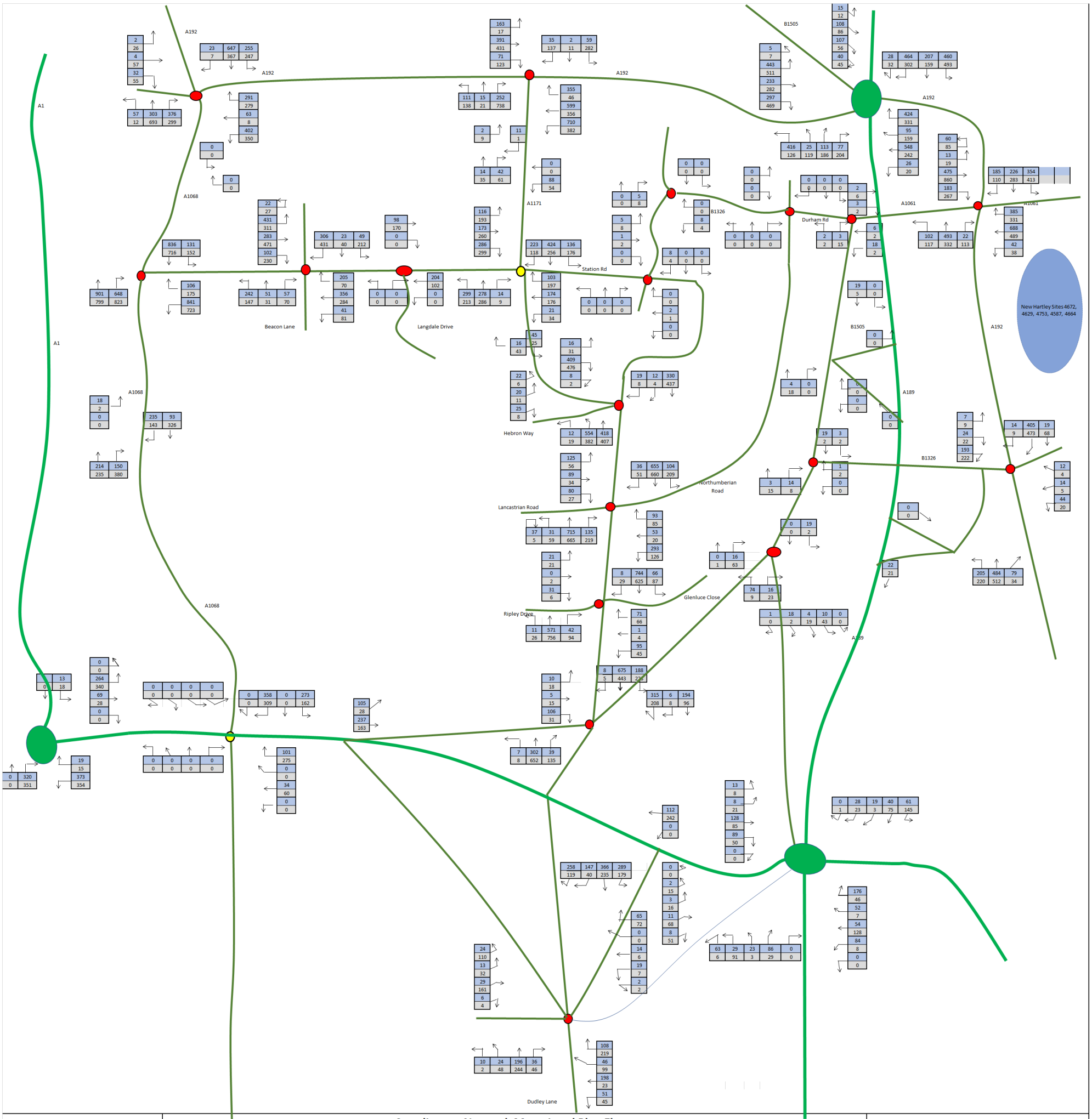
* with combined flows with Blyth for A189/A192/Horton Road Roundabout
* with combined flows with Seaton Delaval for A192/B1326/Ambridge Way Roundabout

Figure 1



JACOBS	**Cramlington Network Map - Baseline Flows** * with combined flows with Blyth for A189/A192/Horton Road Roundabout * with combined flows with Seaton Delaval for A192/B1326/Ambridge Way Roundabout	**Figure 2**

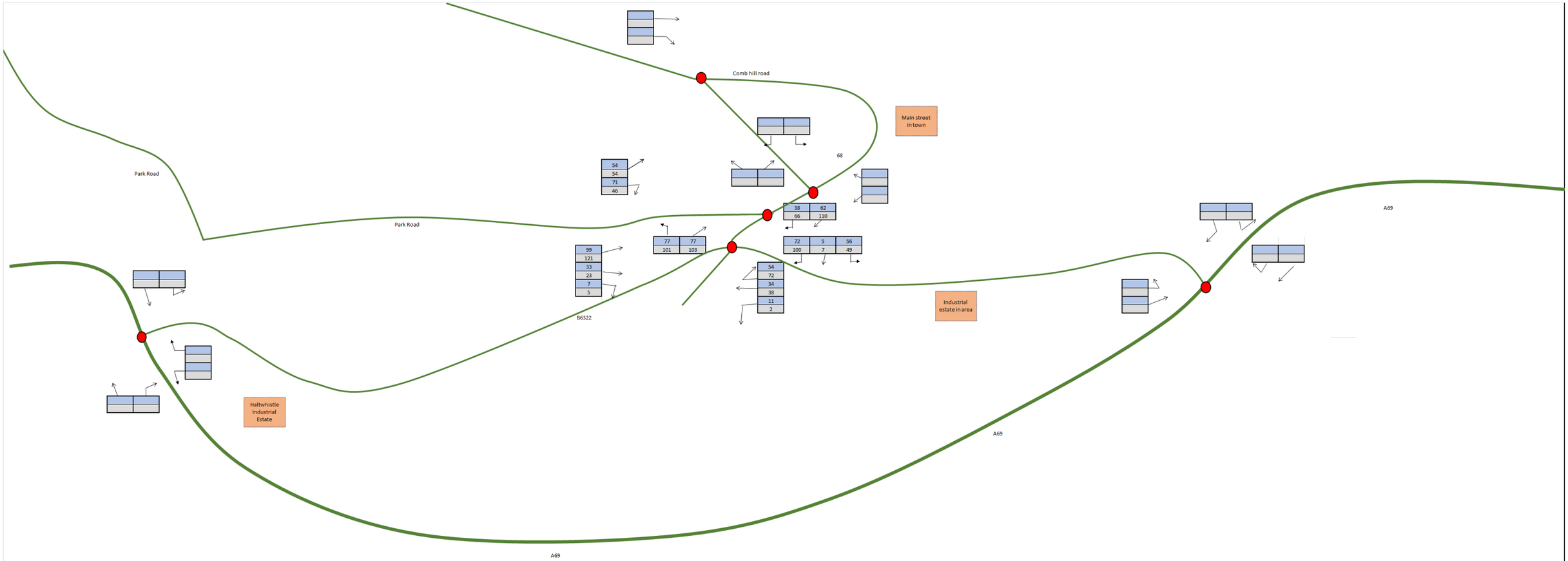
JACOBS



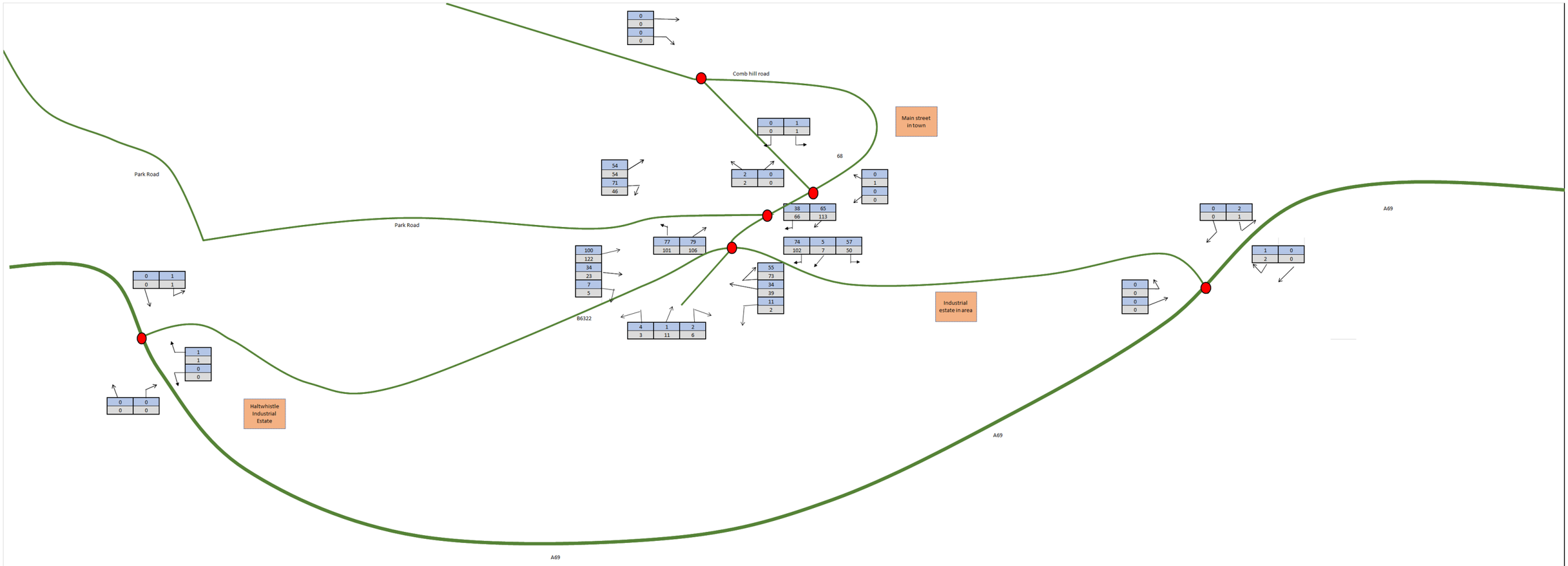
Cramlington Network Map - Local Plan Flows

* with combined flows with Blyth for A189/A192/Horton Road Roundabout
* with combined flows with Seaton Delaval for A192/B1326/Ambridge Way Roundabout

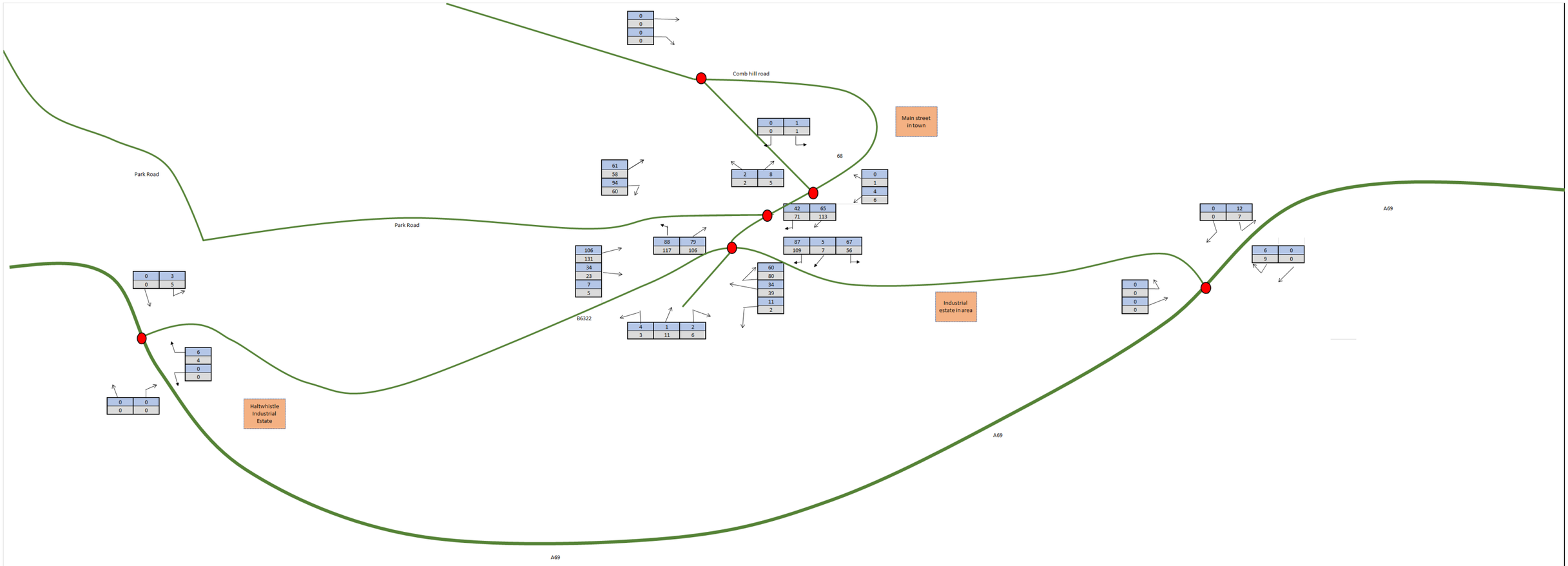
Figure 3



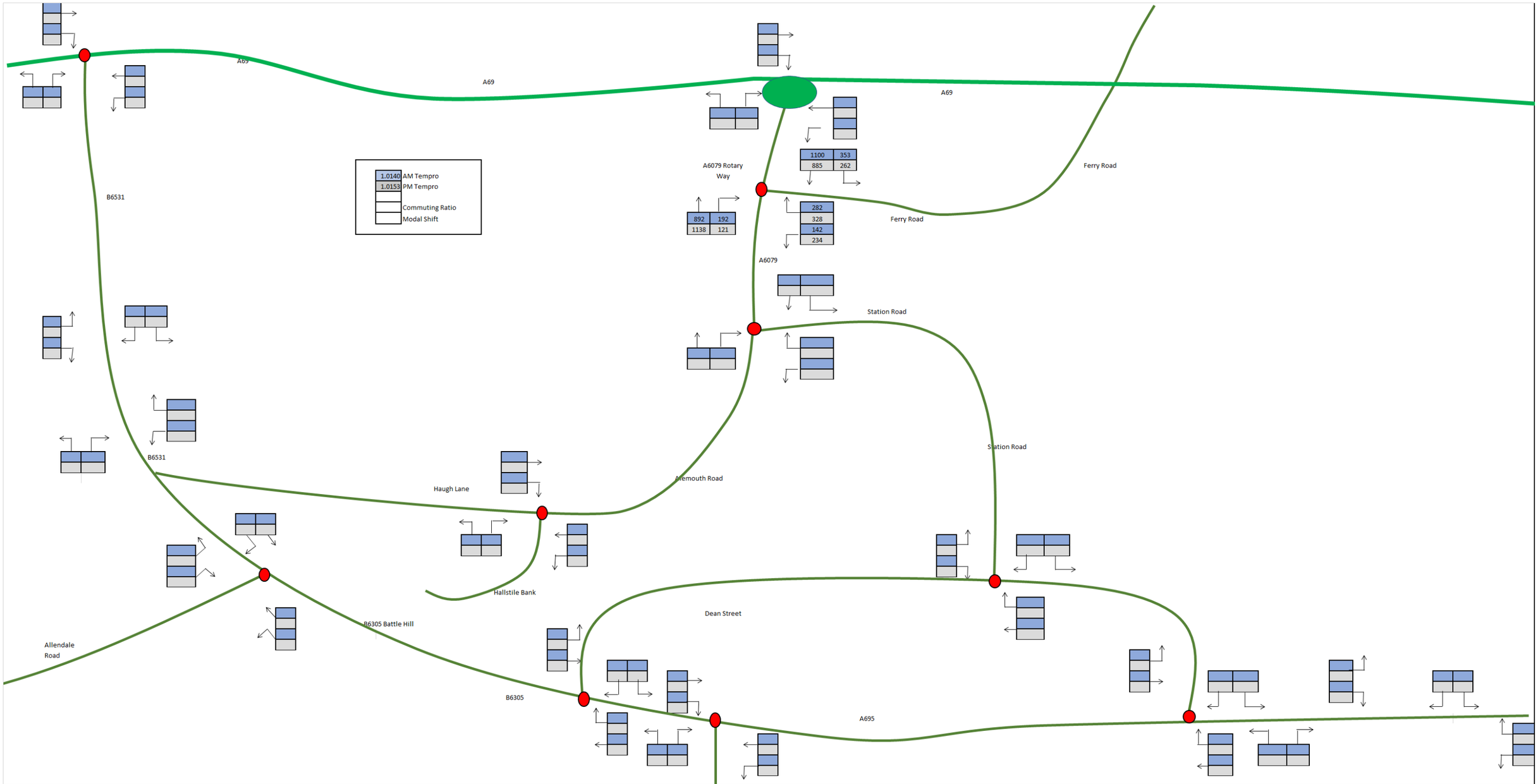
JACOBS	Haltwhistle Network Map - Recorded Flows	Figure 1



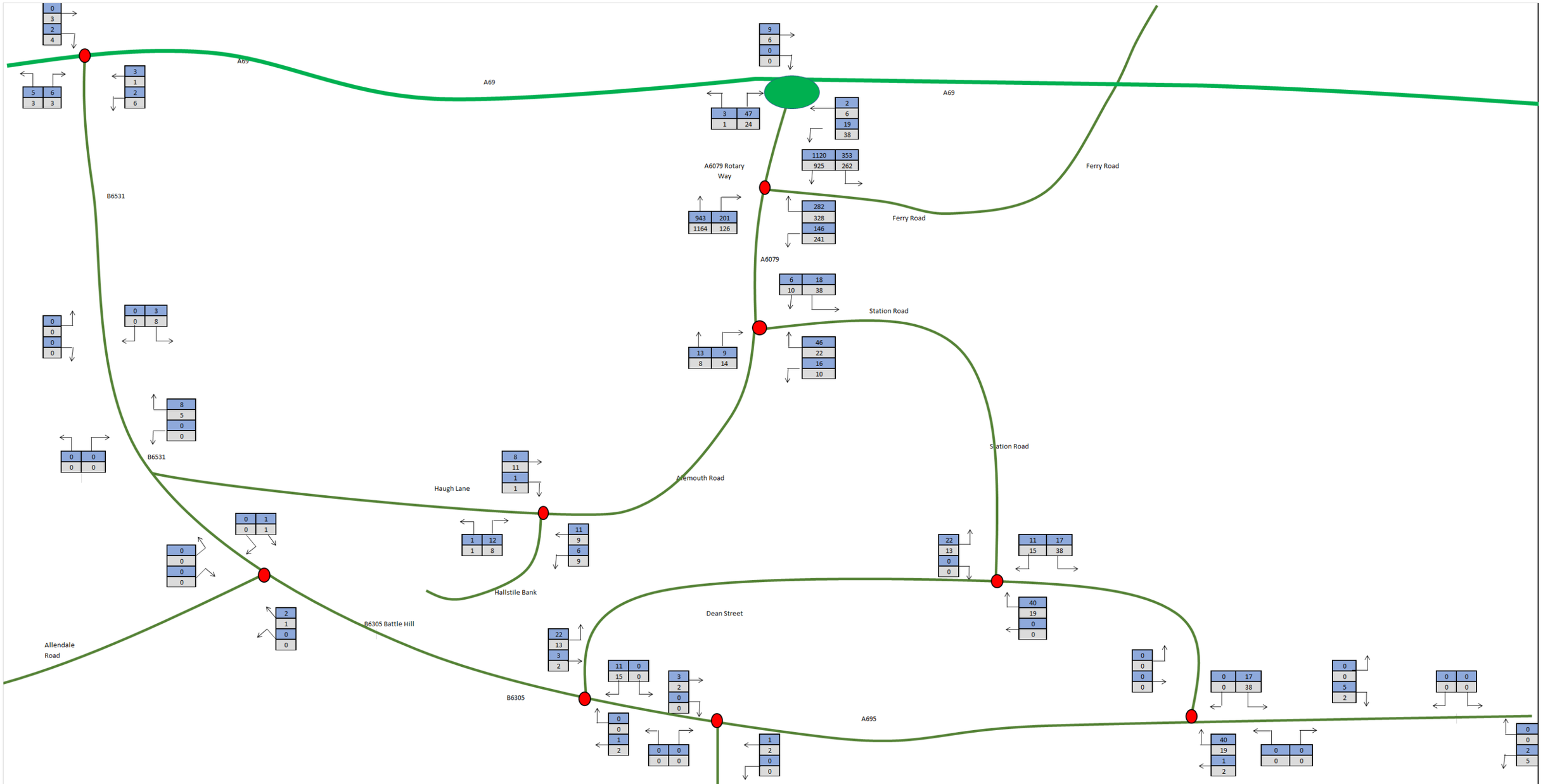
JACOBS	Haltwhistle Network Map - Baseline Flows	Figure 2



JACOBS	Haltwhistle Network Map - Local Plan Flows	Figure 3

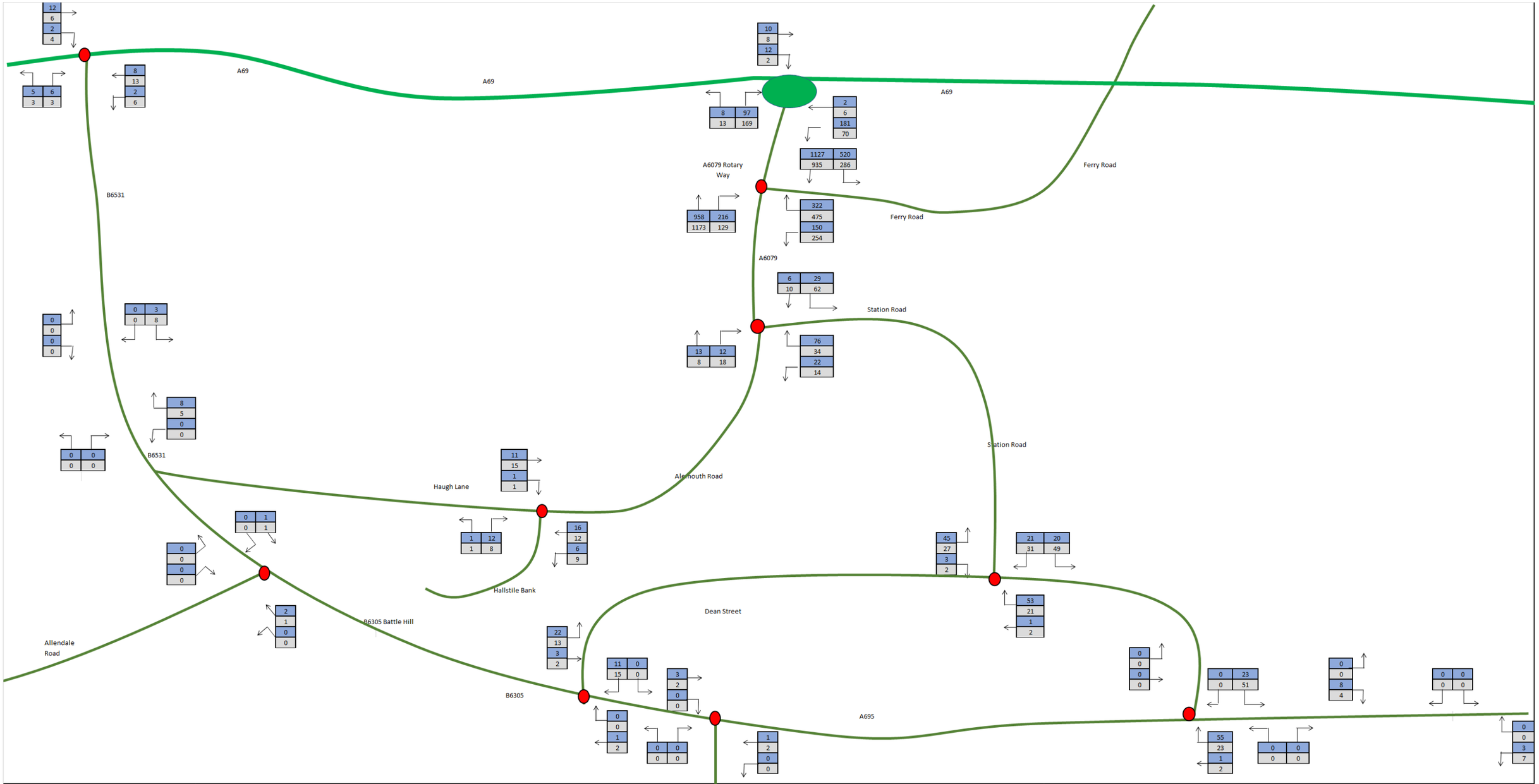


JACOBS	Hexham Network Map - Recorded Flows	Figure 1

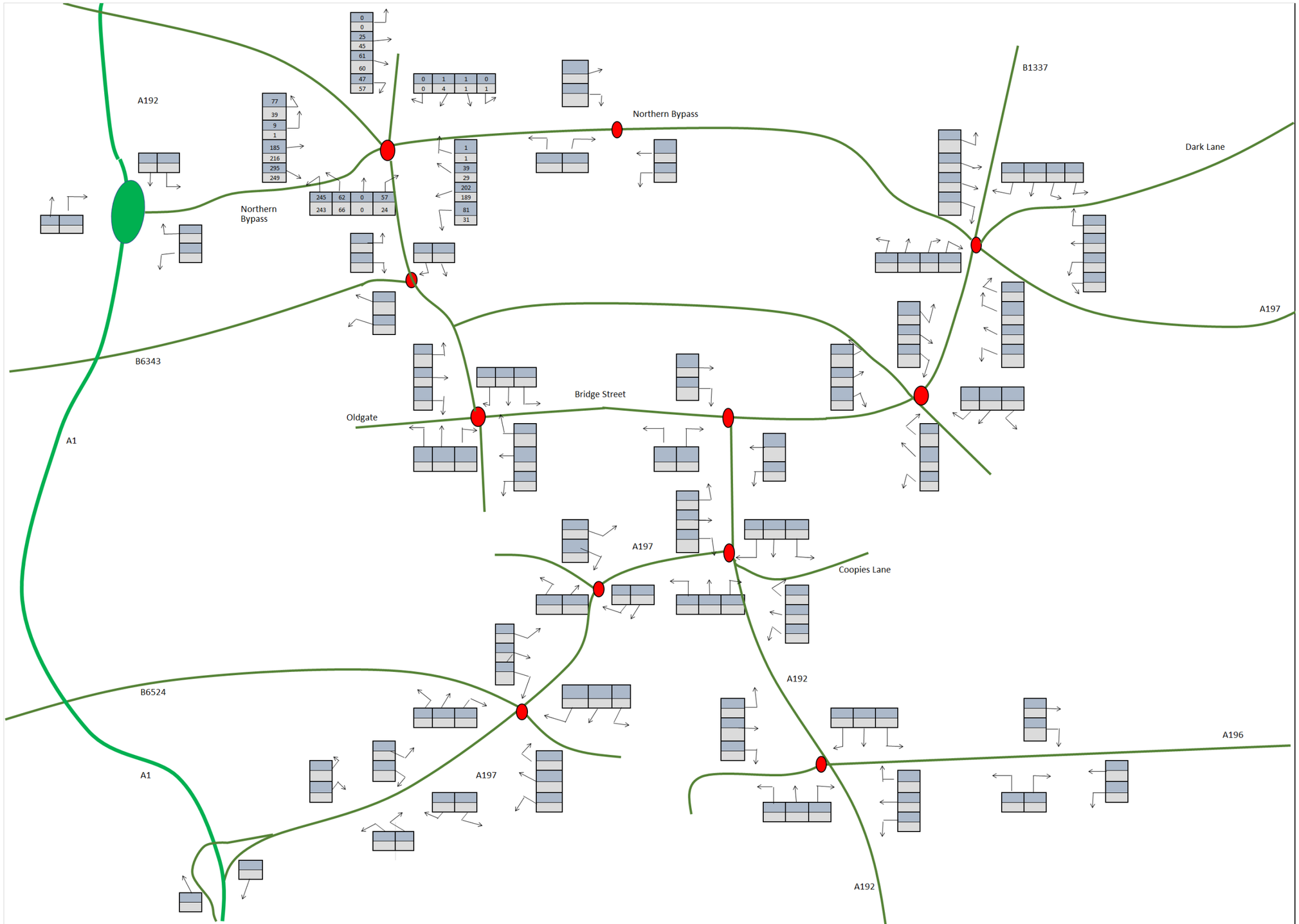


JACOBS	Hexham Network Map - Baseline Flows	Figure 2

JACOBS

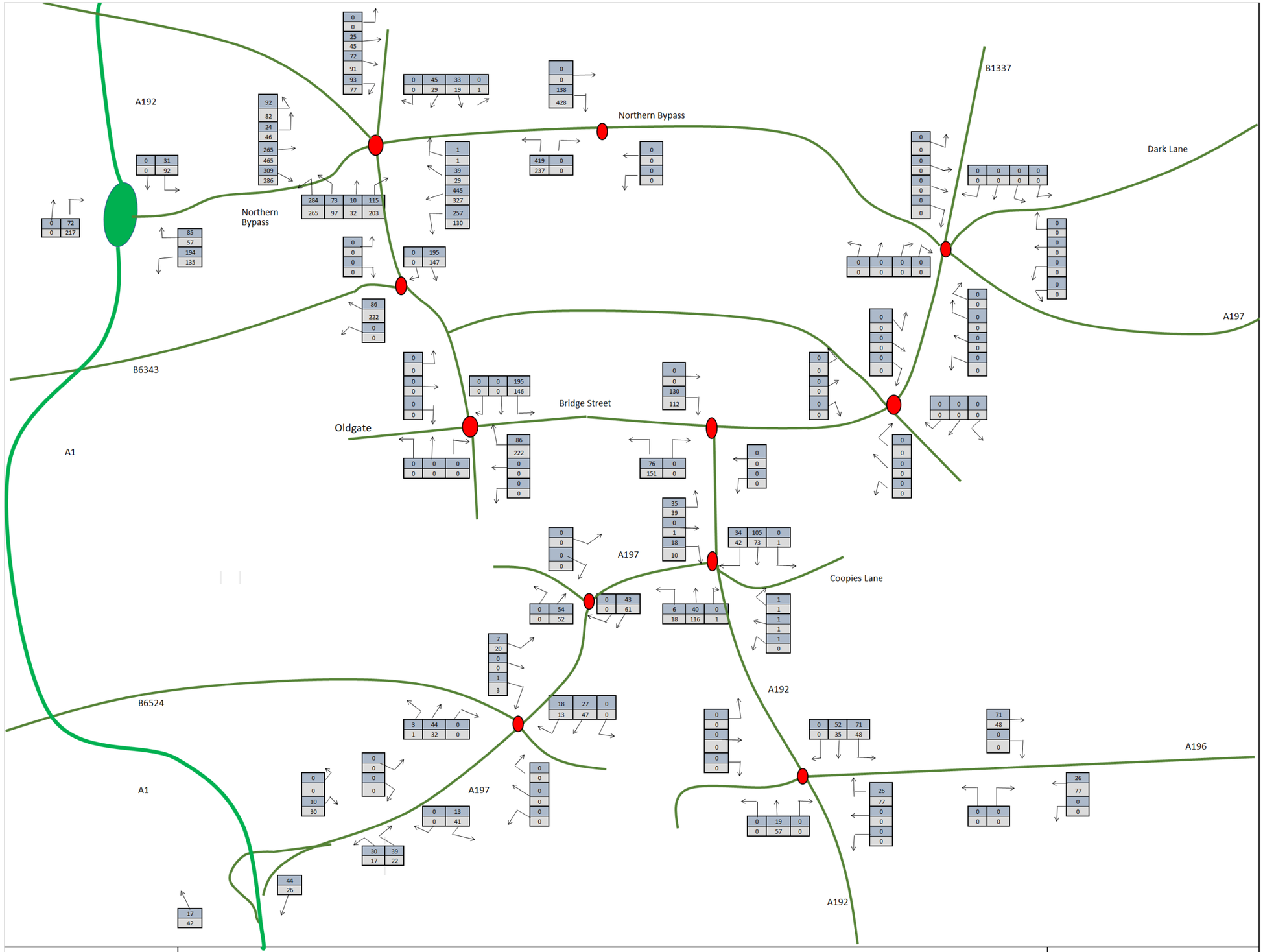


JACOBS	Hexham Network Map - Local Plan Flows	Figure 3



JACOBS	Morpeth Network Map - Recorded Flows	Figure 1

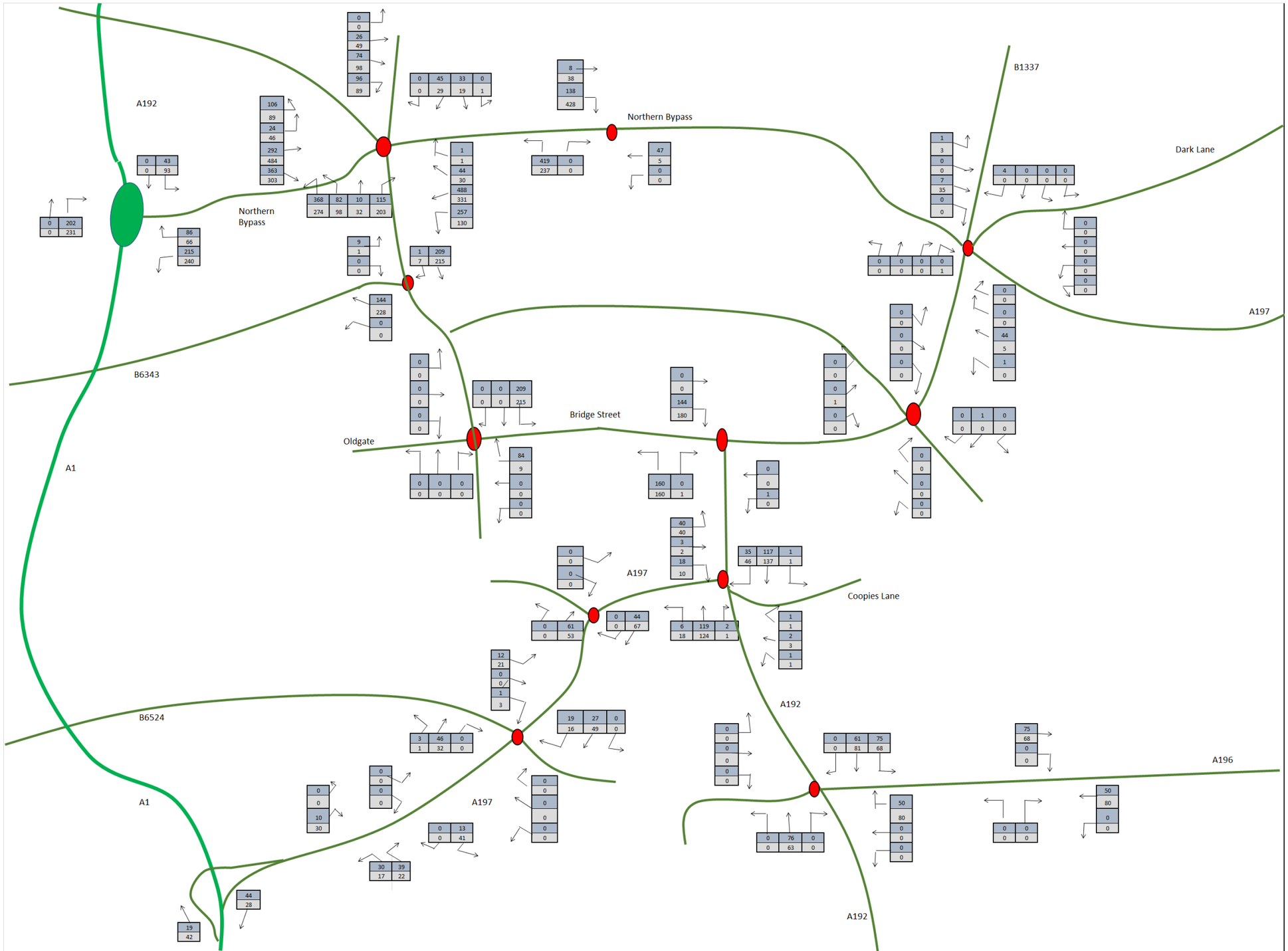
JACOBS



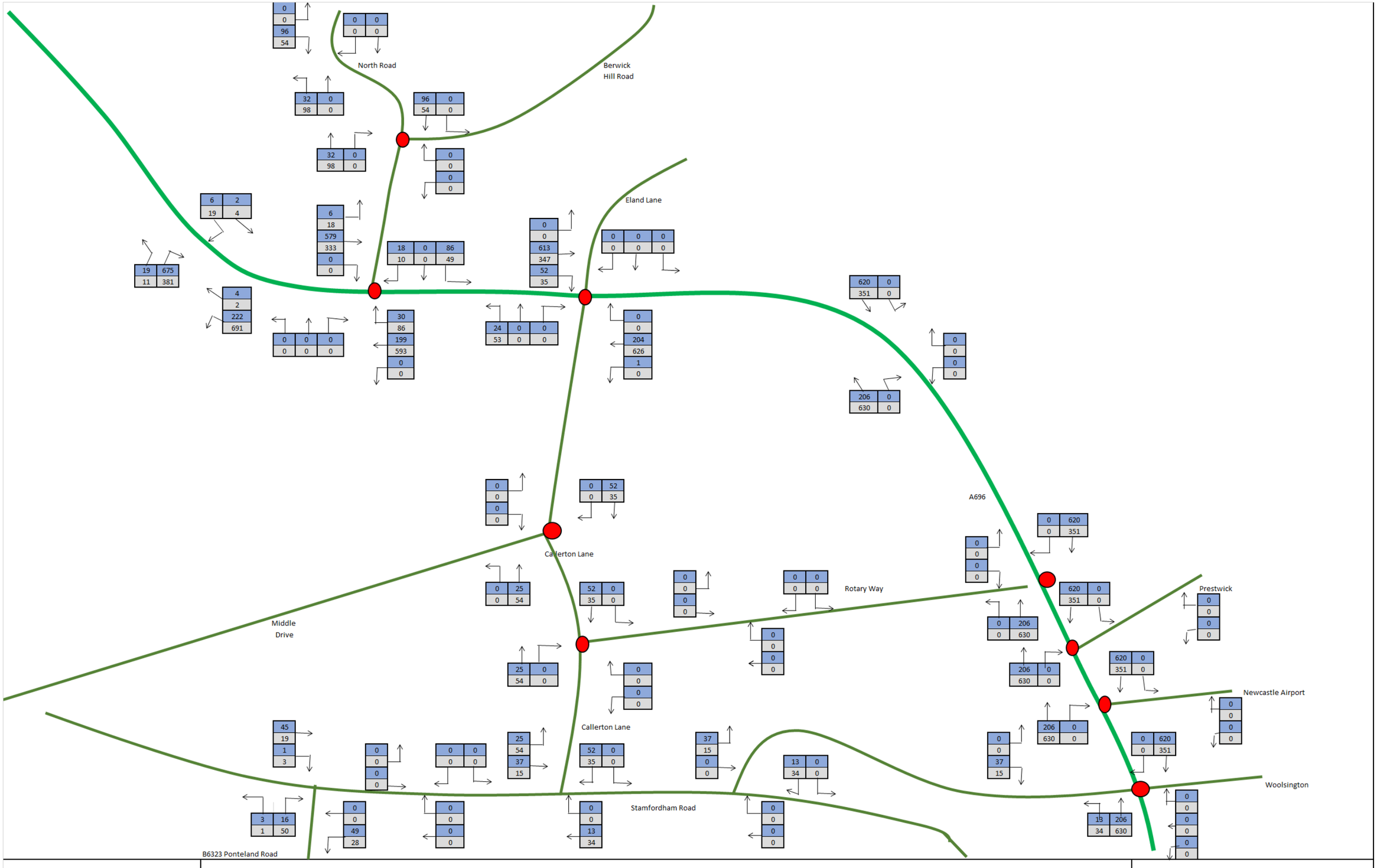
JACOBS

Morpeth Network Map - Baseline Flows

Figure 2

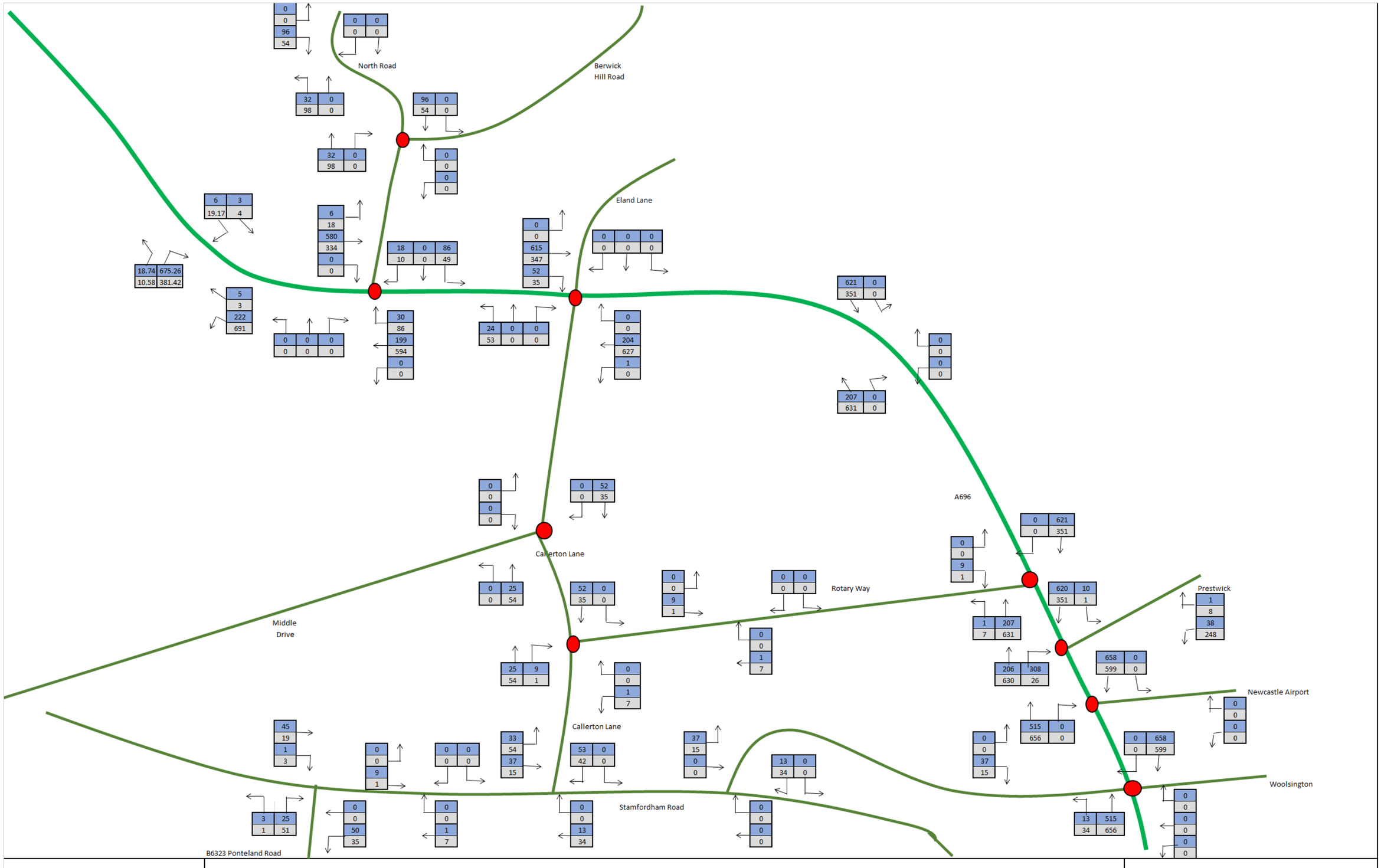


JACOBS	Morpeth Network Map - Local Plan Flows	Figure 3



JACOBS	**Ponteland Network Map - Baseline Flows**	**Figure 1**

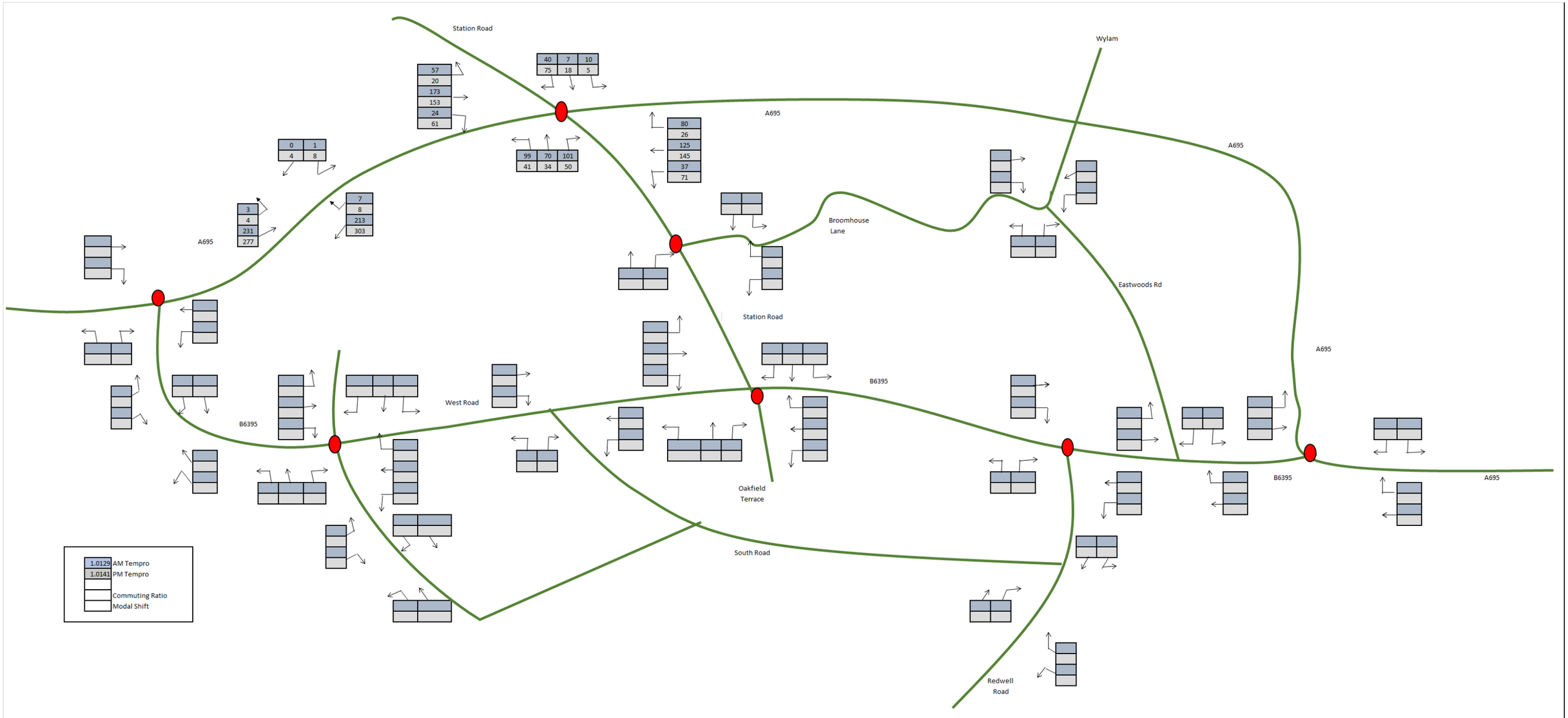
JACOBS



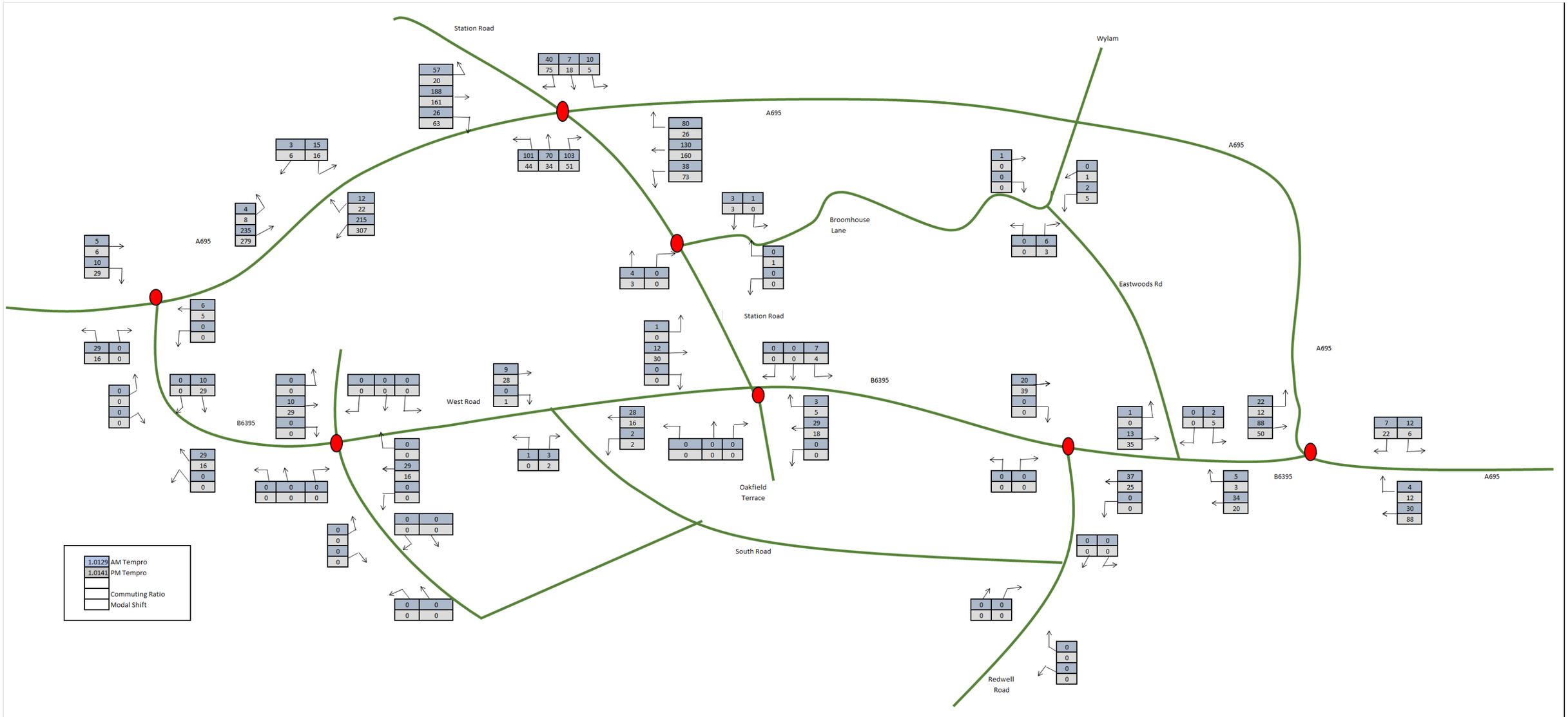
JACOBS

Ponteland Network Map - Local Plan Flows

Figure 2

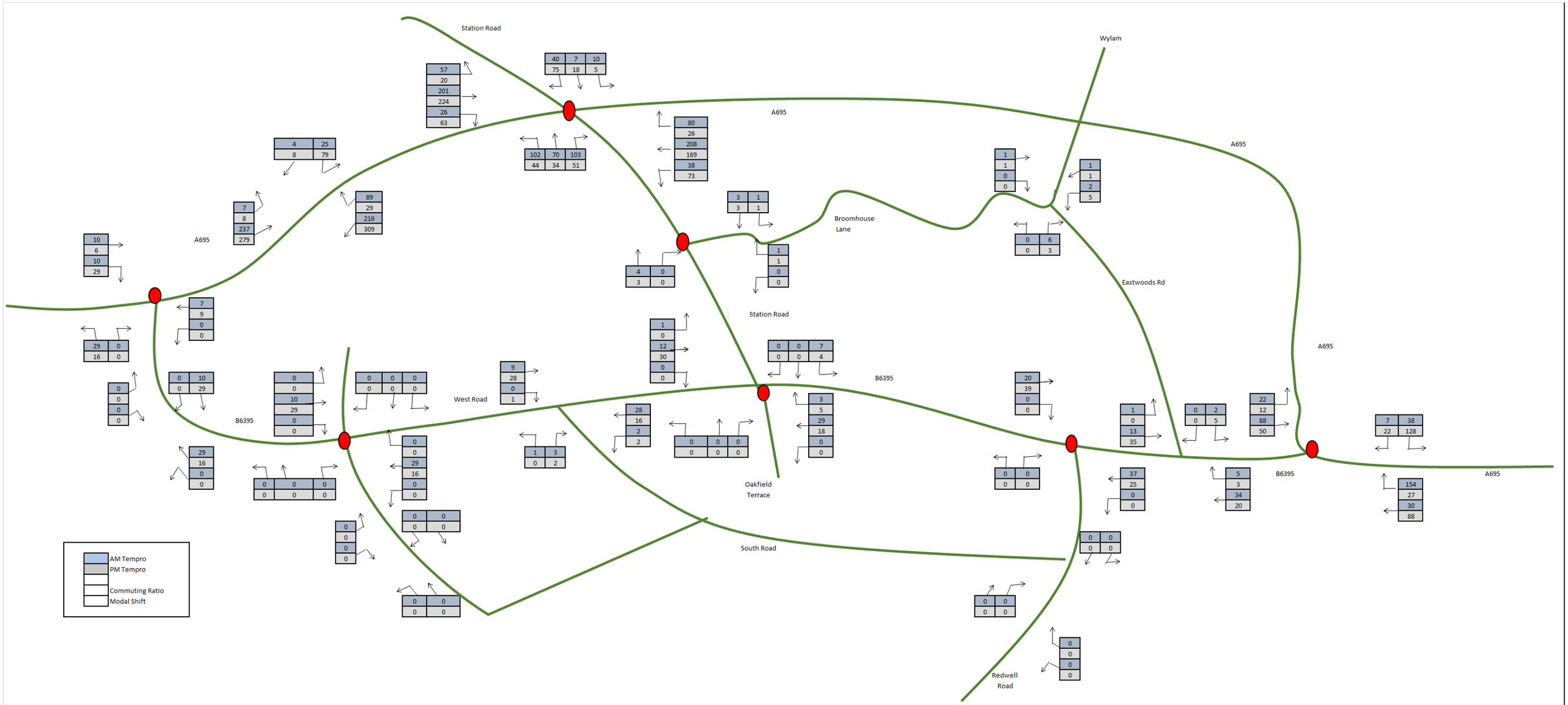


JACOBS	Prudhoe Network Map - Recorded Flows	Figure 1



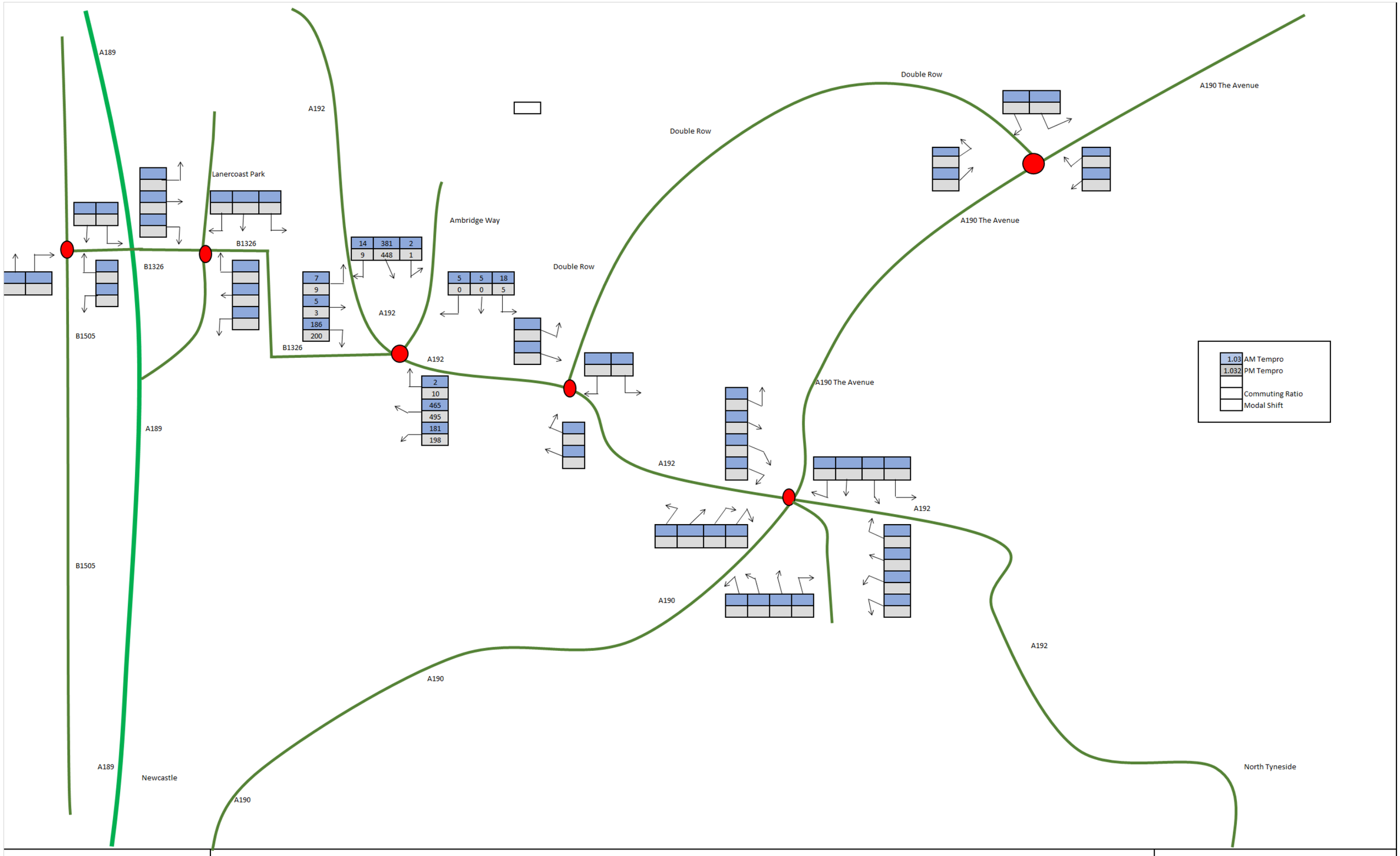
JACOBS	Prudhoe Network Map - Baseline Flows	Figure 2

JACOBS



JACOBS	Prudhoe Network Map - Local Plan Flows	Figure 3

JACOBS



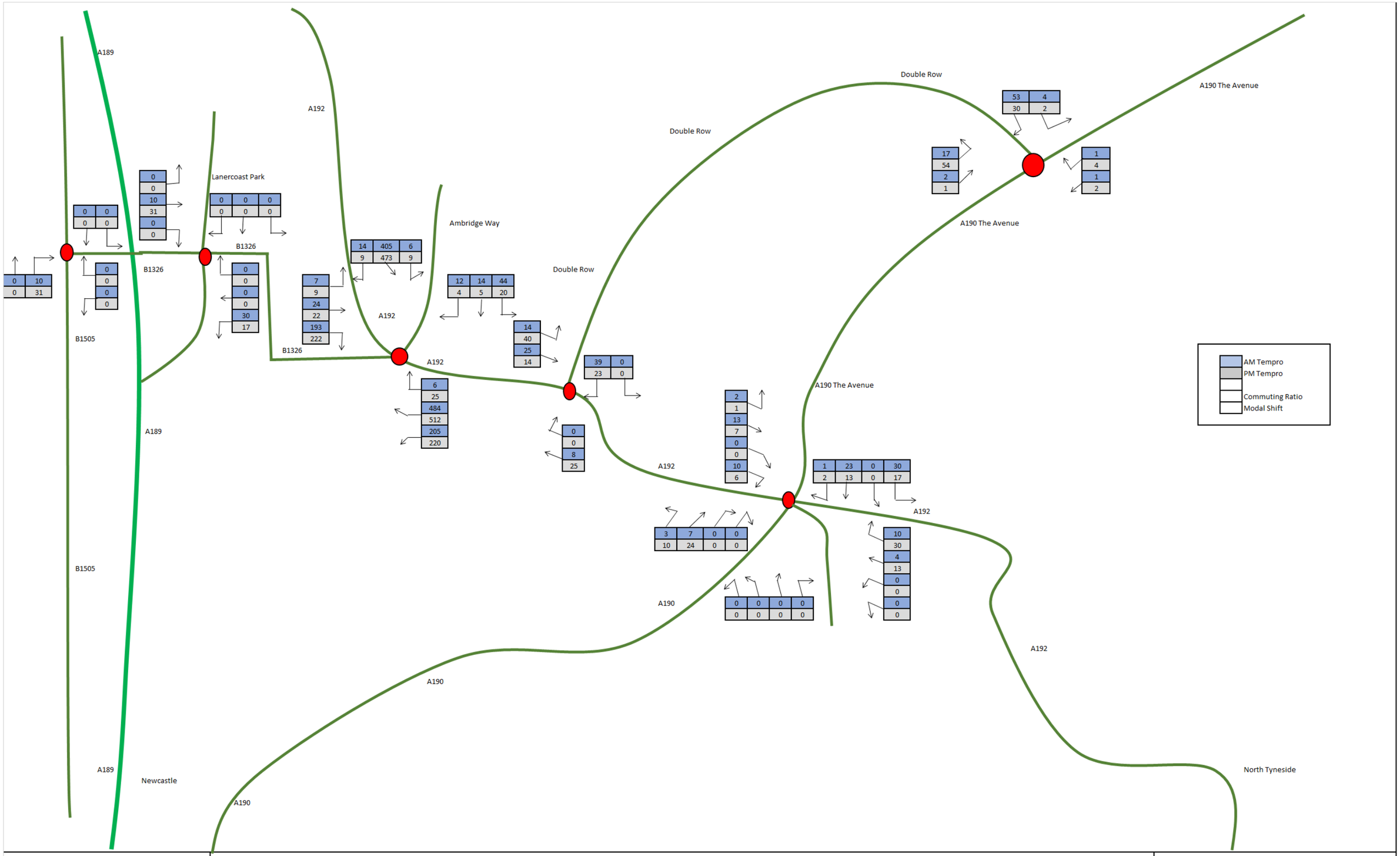
JACOBS

Seaton Delaval Network Map - Recorded Flows

*** with combined flows with Cramlington for A192/B1326/Ambridge Way Roundabout**

Figure 1

JACOBS



JACOBS	Seaton Delaval Network Map - Baseline Flows	Figure 2

Appendix G. – Cross-Boundary Summary Tables

Haltwhistle Employment Cross Boundary Proportions

	Haltwhistle	Route	Percentage	Scenario 2						Proportion of Trips Going from settlement
				AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			4	1	6	1	4	5	
	Trips to Newcastle			1	0	2	0	1	1	27.2%
Newcastle Central	Hexham-Newcastle Central	A69	43%	0	0	1	0	0	1	
Western Newcastle	Hexham-Western Newcastle	A69	36%	0	0	1	0	0	0	
Eastern Newcastle	Hexham-Eastern Newcastle	A69	14%	0	0	0	0	0	0	
Northern Newcastle	Hexham-Northern Newcastle	A69	7%	0	0	0	0	0	0	
Newcastle	**Hexham-Newcastle**	A69-A69-A69-A69		1	0	2	0	1	1	
	Trips to Gateshead			1	0	1	0	1	1	15.1%
Western Gateshead	Hexham-Western Gateshead	A69	60%	0	0	1	0	0	0	
Central Gateshead	Hexham-Central Gateshead	A69	22%	0	0	0	0	0	0	
Eastern Gateshead	Hexham-Eastern Gateshead	A69	18%	0	0	0	0	0	0	
Gateshead	**Hexham-Gateshead**	A69-A69-A69		1	0	1	0	1	1	
	Trips to North Tyneside			0	0	0	0	0	0	8.4%
North NT and Killingworth	Hexham-North NT and Killingworth	A69	39%	0	0	0	0	0	0	
East North Tyneside/ Coast	Hexham-East North Tyneside/ Coast	A69	18%	0	0	0	0	0	0	
Central North Tyneside/ Silverlink	Hexham-Central North Tyneside/ Silverlink	A69	37%	0	0	0	0	0	0	
Wallsend and Royal Quays	Hexham-Wallsend and Royal Quays	A69	5%	0	0	0	0	0	0	
North Tyneside	**Hexham-North Tyneside**	A69-A69-A69-A69		0	0	0	0	0	0	

Hexham Employment Cross Boundary Proportions

	Hexham	Route	Percentage	Scenario 2						Proportion of Trips Going from settlement
				AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			180	43	223	26	158	184	
	Trips to Newcastle			49	12	61	7	43	50	27.2%
Newcastle Central	Hexham-Newcastle Central	A69	43%	21	5	26	3	18	21	
Western Newcastle	Hexham-Western Newcastle	A69	36%	18	4	22	3	16	18	
Eastern Newcastle	Hexham-Eastern Newcastle	A69	14%	7	2	8	1	6	7	
Northern Newcastle	Hexham-Northern Newcastle	A69	7%	4	1	4	1	3	4	
Newcastle	**Hexham-Newcastle**	A69-A69-A69-A69		49	12	61	7	43	50	
	Trips to Gateshead			27	6	34	4	24	28	15.1%
Western Gateshead	Hexham-Western Gateshead	A69	60%	16	4	20	2	14	17	
Central Gateshead	Hexham-Central Gateshead	A69	22%	6	1	7	1	5	6	
Eastern Gateshead	Hexham-Eastern Gateshead	A69	18%	5	1	6	1	4	5	
Gateshead	**Hexham-Gateshead**	A69-A69-A69		27	6	34	4	24	28	
	Trips to North Tyneside			15	4	19	2	13	15	8.4%
North NT and Killingworth	Hexham-North NT and Killingworth	A69	39%	6	1	7	1	5	6	
East North Tyneside/ Coast	Hexham-East North Tyneside/ Coast	A69	18%	3	1	3	0	2	3	
Central North Tyneside/ Silverlink	Hexham-Central North Tyneside/ Silverlink	A69	37%	6	1	7	1	5	6	
Wallsend and Royal Quays	Hexham-Wallsend and Royal Quays	A69	5%	1	0	1	0	1	1	
North Tyneside	**Hexham-North Tyneside**	A69-A69-A69-A69		15	4	19	2	13	15	

Morpeth Employment Cross Boundary Proportions

	Morpeth	Route	Percentage	Scenario 2						Proportion of Trips Going from settlement
				AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			288	46	334	30	233	263	
	Trips to Newcastle			56	9	64	6	45	51	19.3%
Newcastle Central	Morpeth-Newcastle Central	A1	33%	18	3	21	2	15	17	
Western Newcastle	Morpeth-Western Newcastle	A1	34%	19	3	22	2	15	17	
Eastern Newcastle	Morpeth-Eastern Newcastle	A1	16%	9	1	10	1	7	8	
Northern Newcastle	Morpeth-Northern Newcastle	A1	17%	10	2	11	1	8	9	
Newcastle	**Morpeth-Newcastle**	A1-A1-A1-A1		56	9	64	6	45	51	
	Trips to Gateshead			20	3	24	2	16	19	7.1%
Western Gateshead	Morpeth-Western Gateshead	A1	72%	15	2	17	2	12	13	
Central Gateshead	Morpeth-Central Gateshead	A1	13%	3	0	3	0	2	2	
Eastern Gateshead	Morpeth-Eastern Gateshead	A19	15%	3	0	4	0	3	3	
Gateshead	**Morpeth-Gateshead**	A1-A1-A19		20	3	24	2	16	19	
	Trips to North Tyneside			38	6	44	4	31	35	13.2%
North NT and Killingworth	Morpeth-North NT and Killingworth	A19	31%	12	2	14	1	10	11	
East North Tyneside/ Coast	Morpeth-East North Tyneside/ Coast	A19	25%	9	2	11	1	8	9	
Central North Tyneside/ Silverlink	Morpeth-Central North Tyneside/ Silverlink	A19	37%	14	2	16	1	11	13	
Wallsend and Royal Quays	Morpeth-Wallsend and Royal Quays	A19	7%	3	0	3	0	2	2	
North Tyneside	**Morpeth-North Tyneside**	A19-A19-A19-A19		38	6	44	4	31	35	

Prudhoe Employment Cross Boundary Proportions

	Prudhoe	Route	Percentage	Scenario 2						Proportion of Trips Going from settlement
				AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			155	26	182	16	127	142	
	Trips to Newcastle			52	9	61	5	43	48	33.7%
Newcastle Central	Prudhoe-Newcastle Central	A695	35%	18	3	22	2	15	17	
Western Newcastle	Prudhoe-Western Newcastle	A695	39%	20	3	24	2	17	19	
Eastern Newcastle	Prudhoe-Eastern Newcastle	A695	14%	7	1	8	1	6	7	
Northern Newcastle	Prudhoe-Northern Newcastle	A695	12%	6	1	7	1	5	6	
Newcastle	**Prudhoe-Newcastle**	A695-A695-A695-A695		52	9	61	5	43	48	
	Trips to Gateshead			58	10	68	6	47	53	37.3%
Western Gateshead	Prudhoe-Western Gateshead	A695	73%	42	7	49	4	34	39	
Central Gateshead	Prudhoe-Central Gateshead	A695	15%	8	1	10	1	7	8	
Eastern Gateshead	Prudhoe-Eastern Gateshead	A695	13%	7	1	8	1	6	7	
Gateshead	**Prudhoe-Gateshead**	A695-A695-A695		58	10	68	6	47	53	
	Trips to North Tyneside			8	1	10	1	7	8	5.3%
North NT and Killingworth	Prudhoe-North NT and Killingworth	A695	45%	4	1	4	0	3	3	
East North Tyneside/ Coast	Prudhoe-East North Tyneside/ Coast	A695	11%	1	0	1	0	1	1	
Central North Tyneside/ Silverlink	Prudhoe-Central North Tyneside/ Silverlink	A695	37%	3	1	4	0	3	3	
Wallsend and Royal Quays	Prudhoe-Wallsend and Royal Quays	A695	8%	1	0	1	0	1	1	
North Tyneside	**Prudhoe-North Tyneside**	A695-A695-A695-A695		8	1	10	1	7	8	

Ponteland Employment Cross Boundary Proportions

	Ponteland	Route	Percentage	Scenario 2						Proportion of Trips Going from settlement
				AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			319	40	358	27	256	283	
	Trips to Newcastle			159	20	179	13	128	142	49.9%
Newcastle Central	Ponteland-Newcastle Central	A696	31%	49	6	55	4	39	44	
Western Newcastle	Ponteland-Western Newcastle	A696	46%	74	9	83	6	59	65	
Eastern Newcastle	Ponteland-Eastern Newcastle	A696	11%	17	2	19	1	14	15	
Northern Newcastle	Ponteland-Northern Newcastle	A696	12%	19	2	22	2	16	17	
Newcastle	**Ponteland-Newcastle**	A696-A696-A696-A696		159	20	179	13	128	142	
	Trips to Gateshead			44	5	49	4	35	39	13.7%
Western Gateshead	Ponteland-Western Gateshead	A696	68%	30	4	33	3	24	26	
Central Gateshead	Ponteland-Central Gateshead	A696	16%	7	1	8	1	6	6	
Eastern Gateshead	Ponteland-Eastern Gateshead	A696	16%	7	1	8	1	6	6	
Gateshead	**Ponteland-Gateshead**	A696-A696-A696		44	5	49	4	35	39	
	Trips to North Tyneside			35	4	40	3	28	31	11.0%
North NT and Killingworth	Ponteland-North NT and Killingworth	A696	43%	15	2	17	1	12	14	
East North Tyneside/ Coast	Ponteland-East North Tyneside/ Coast	A19	19%	7	1	7	1	5	6	
Central North Tyneside/ Silverlink	Ponteland-Central North Tyneside/ Silverli	A19	30%	10	1	12	1	8	9	
Wallsend and Royal Quays	Ponteland-Wallsend and Royal Quays	A19	8%	3	0	3	0	2	3	
North Tyneside	**Ponteland-North Tyneside**	A696-A19-A19-A19		35	4	40	3	28	31	

Seahouses Employment Cross Boundary Proportions

	Seahouses	Route	Percentage	Scenario 2						Proportion of Trips Going from settlement
				AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			5	1	6	1	4	5	
	Trips to Newcastle			1	0	1	0	1	1	12.5%
Newcastle Central	Alnwick-Newcastle Central	A1	35%	0	0	0	0	0	0	
Western Newcastle	Alnwick-Western Newcastle	A1	31%	0	0	0	0	0	0	
Eastern Newcastle	Alnwick-Eastern Newcastle	A19	17%	0	0	0	0	0	0	
Northern Newcastle	Alnwick-Northern Newcastle	A1	17%	0	0	0	0	0	0	
Newcastle	**Alnwick-Newcastle**	A1-A1-A19-A1		1	0	1	0	1	1	
	Trips to Gateshead			0	0	0	0	0	0	1.5%
Western Gateshead	Alnwick-Western Gateshead	A1	46%	0	0	0	0	0	0	
Central Gateshead	Alnwick-Central Gateshead	A1	26%	0	0	0	0	0	0	
Eastern Gateshead	Alnwick-Eastern Gateshead	A19	28%	0	0	0	0	0	0	
Gateshead	**Alnwick-Gateshead**	A1-A1-A19		0	0	0	0	0	0	
	Trips to North Tyneside			0	0	0	0	0	0	8.3%
North NT and Killingworth	Alnwick-North NT and Killingworth	A19	32%	0	0	0	0	0	0	
East North Tyneside/ Coast	Alnwick-East North Tyneside/ Coast	A19	23%	0	0	0	0	0	0	
Central North Tyneside/ Silverlink	Alnwick-Central North Tyneside/ Silverlink	A19	35%	0	0	0	0	0	0	
Wallsend and Royal Quays	Alnwick-Wallsend and Royal Quays	A19	10%	0	0	0	0	0	0	
North Tyneside	**Alnwick-North Tyneside**	A19-A19-A19-A19		0	0	0	0	0	0	

Acomb Employment Cross Boundary Proportions

	Acomb	Route	Percentage	Scenario 2						Proportion of Trips Going from settlement
				AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			1	0	1	0	1	1	
	Trips to Newcastle			0	0	0	0	0	0	27.2%
Newcastle Central	Hexham-Newcastle Central	A69	43%	0	0	0	0	0	0	
Western Newcastle	Hexham-Western Newcastle	A69	36%	0	0	0	0	0	0	
Eastern Newcastle	Hexham-Eastern Newcastle	A69	14%	0	0	0	0	0	0	
Northern Newcastle	Hexham-Northern Newcastle	A69	7%	0	0	0	0	0	0	
Newcastle	**Hexham-Newcastle**	A69-A69-A69-A69		0	0	0	0	0	0	
	Trips to Gateshead			0	0	0	0	0	0	15.1%
Western Gateshead	Hexham-Western Gateshead	A69	60%	0	0	0	0	0	0	
Central Gateshead	Hexham-Central Gateshead	A69	22%	0	0	0	0	0	0	
Eastern Gateshead	Hexham-Eastern Gateshead	A69	18%	0	0	0	0	0	0	
Gateshead	**Hexham-Gateshead**	A69-A69-A69		0	0	0	0	0	0	
	Trips to North Tyneside			0	0	0	0	0	0	8.4%
North NT and Killingworth	Hexham-North NT and Killingworth	A69	39%	0	0	0	0	0	0	
East North Tyneside/ Coast	Hexham-East North Tyneside/ Coast	A69	18%	0	0	0	0	0	0	
Central North Tyneside/ Silverlink	Hexham-Central North Tyneside/ Silverlink	A69	37%	0	0	0	0	0	0	
Wallsend and Royal Quays	Hexham-Wallsend and Royal Quays	A69	5%	0	0	0	0	0	0	
North Tyneside	**Hexham-North Tyneside**	A69-A69-A69-A69		0	0	0	0	0	0	

Alnwick Employment Cross Boundary Proportions

	Alnwick	Route	Percentage	Scenario 2						Proportion of Trips Going from settlement
				AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			169	23	192	16	138	154	
	Trips to Newcastle			21	3	24	2	17	19	12.5%
Newcastle Central	Alnwick-Newcastle Central	A1	35%	7	1	8	1	6	7	
Western Newcastle	Alnwick-Western Newcastle	A1	31%	7	1	7	1	5	6	
Eastern Newcastle	Alnwick-Eastern Newcastle	A19	17%	4	0	4	0	3	3	
Northern Newcastle	Alnwick-Northern Newcastle	A1	17%	4	0	4	0	3	3	
Newcastle	**Alnwick-Newcastle**	A1-A1-A19-A1		21	3	24	2	17	19	
	Trips to Gateshead			3	0	3	0	2	2	1.5%
Western Gateshead	Alnwick-Western Gateshead	A1	46%	1	0	1	0	1	1	
Central Gateshead	Alnwick-Central Gateshead	A1	26%	1	0	1	0	1	1	
Eastern Gateshead	Alnwick-Eastern Gateshead	A19	28%	1	0	1	0	1	1	
Gateshead	**Alnwick-Gateshead**	A1-A1-A19		3	0	3	0	2	2	
	Trips to North Tyneside			14	2	16	1	12	13	8.3%
North NT and Killingworth	Alnwick-North NT and Killingworth	A19	32%	5	1	5	0	4	4	
East North Tyneside/ Coast	Alnwick-East North Tyneside/ Coast	A19	23%	3	0	4	0	3	3	
Central North Tyneside/ Silverlink	Alnwick-Central North Tyneside/ Silverlink	A19	35%	5	1	6	0	4	5	
Wallsend and Royal Quays	Alnwick-Wallsend and Royal Quays	A19	10%	1	0	2	0	1	1	
North Tyneside	**Alnwick-North Tyneside**	A19-A19-A19-A19		14	2	16	1	12	13	

Amble Employment Cross Boundary Proportions

	Amble	Route	Percentage	Scenario 2						Proportion of Trips Going from settlement
				AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			12	2	14	1	10	11	
	Trips to Newcastle			1	0	2	0	1	1	12.1%
Newcastle Central	Amble-Newcastle Central	A1	33%	0	0	1	0	0	0	
Western Newcastle	Amble-Western Newcastle	A1	35%	0	0	1	0	0	0	
Eastern Newcastle	Amble-Eastern Newcastle	A19	18%	0	0	0	0	0	0	
Northern Newcastle	Amble-Northern Newcastle	A189	14%	0	0	0	0	0	0	
Newcastle	**Amble-Newcastle**	A1-A1-A19-A189		1	0	2	0	1	1	
	Trips to Gateshead			1	0	1	0	0	0	4.4%
Western Gateshead	Amble-Western Gateshead	A1	71%	0	0	0	0	0	0	
Central Gateshead	Amble-Central Gateshead	A1	14%	0	0	0	0	0	0	
Eastern Gateshead	Amble-Eastern Gateshead	A19	15%	0	0	0	0	0	0	
Gateshead	**Amble-Gateshead**	A1-A1-A19		1	0	1	0	0	0	
	Trips to North Tyneside			1	0	2	0	1	1	12.1%
North NT and Killingworth	Amble-North NT and Killingworth	A19	33%	0	0	1	0	0	0	
East North Tyneside/ Coast	Amble-East North Tyneside/ Coast	A19	19%	0	0	0	0	0	0	
Central North Tyneside/ Silverlink	Amble-Central North Tyneside/ Silverlink	A19	40%	1	0	1	0	0	1	
Wallsend and Royal Quays	Amble-Wallsend and Royal Quays	A19	8%	0	0	0	0	0	0	
North Tyneside	**Amble-North Tyneside**	A19-A19-A19-A19		1	0	2	0	1	1	

Lynemouth Employment Cross Boundary Proportions

	Lynemouth	Route	Percentage	Scenario 2						Proportion of Trips Going from settlement
				AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			53	10	64	7	44	51	
	Trips to Newcastle			6	1	8	1	5	6	12.1%
Newcastle Central	Amble-Newcastle Central	A1	33%	2	0	3	0	2	2	
Western Newcastle	Amble-Western Newcastle	A1	35%	2	0	3	0	2	2	
Eastern Newcastle	Amble-Eastern Newcastle	A19	18%	1	0	1	0	1	1	
Northern Newcastle	Amble-Northern Newcastle	A189	14%	1	0	1	0	1	1	
Newcastle	**Amble-Newcastle**	A1-A1-A19-A189		6	1	8	1	5	6	
	Trips to Gateshead			2	0	3	0	2	2	4.4%
Western Gateshead	Amble-Western Gateshead	A1	71%	2	0	2	0	1	2	
Central Gateshead	Amble-Central Gateshead	A1	14%	0	0	0	0	0	0	
Eastern Gateshead	Amble-Eastern Gateshead	A19	15%	0	0	0	0	0	0	
Gateshead	**Amble-Gateshead**	A1-A1-A19		2	0	3	0	2	2	
	Trips to North Tyneside			6	1	8	1	5	6	12.1%
North NT and Killingworth	Amble-North NT and Killingworth	A19	33%	2	0	3	0	2	2	
East North Tyneside/ Coast	Amble-East North Tyneside/ Coast	A19	19%	1	0	1	0	1	1	
Central North Tyneside/ Silverlink	Amble-Central North Tyneside/ Silverlink	A19	40%	3	0	3	0	2	2	
Wallsend and Royal Quays	Amble-Wallsend and Royal Quays	A19	8%	1	0	1	0	0	1	
North Tyneside	**Amble-North Tyneside**	A19-A19-A19-A19		6	1	8	1	5	6	

Hexham Residential Cross Boundary Proportions

	Hexham	Route	Percentage	Scenario 1						Scenario 2						Proportion of Trips Going from settlement
				AM Peak			PM Peak			AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			56	147	203	130	78	207	24	64	88	56	34	90	
	Trips to Newcastle			11	29	41	26	16	41	5	13	18	11	7	18	20.0%
Newcastle Central	Hexham-Newcastle Central	A69	43%	5	13	17	11	7	18	2	5	8	5	3	8	
Western Newcastle	Hexham-Western Newcastle	A69	36%	4	11	15	9	6	15	2	5	6	4	2	7	
Eastern Newcastle	Hexham-Eastern Newcastle	A69	14%	2	4	6	4	2	6	1	2	2	2	1	2	
Northern Newcastle	Hexham-Northern Newcastle	A69	7%	1	2	3	2	1	3	0	1	1	1	0	1	
Newcastle	**Hexham-Newcastle**	A69-A69-A69-A69		11	29	41	26	16	41	5	13	18	11	7	18	
	Trips to Gateshead			3	8	11	7	4	11	1	3	5	3	2	5	5.4%
Western Gateshead	Hexham-Western Gateshead	A69	60%	2	5	7	4	3	7	1	2	3	2	1	3	
Central Gateshead	Hexham-Central Gateshead	A69	22%	1	2	2	2	1	2	0	1	1	1	0	1	
Eastern Gateshead	Hexham-Eastern Gateshead	A69	18%	1	1	2	1	1	2	0	1	1	1	0	1	
Gateshead	**Hexham-Gateshead**	A69-A69-A69		3	8	11	7	4	11	1	3	5	3	2	5	
	Trips to North Tyneside			2	5	6	4	2	6	1	2	3	2	1	3	3.1%
North NT and Killingworth	Hexham-North NT and Killingworth	A69	39%	1	2	2	2	1	3	0	1	1	1	0	1	
East North Tyneside/ Coast	Hexham-East North Tyneside/ Coast	A69	18%	0	1	1	1	0	1	0	0	0	0	0	1	
Central North Tyneside/ Silverlink	Hexham-Central North Tyneside/ Silverlink	A69	37%	1	2	2	2	1	2	0	1	1	1	0	1	
Wallsend and Royal Quays	Hexham-Wallsend and Royal Quays	A69	5%	0	0	0	0	0	0	0	0	0	0	0	0	
North Tyneside	**Hexham-North Tyneside**	A69-A69-A69-A69		2	5	6	4	2	6	1	2	3	2	1	3	

Morpeth Residential Cross Boundary Proportions

	Morpeth	Route	Percentage	Scenario 1						Proportion of Trips Going from settlement
				AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			327	867	604	763	457	605	
	Trips to Newcastle			67	179	124	157	94	125	20.6%
Newcastle Central	Morpeth-Newcastle Central	A1	33%	22	59	41	52	31	41	
Western Newcastle	Morpeth-Western Newcastle	A1	34%	23	60	42	53	32	42	
Eastern Newcastle	Morpeth-Eastern Newcastle	A1	16%	11	29	20	25	15	20	
Northern Newcastle	Morpeth-Northern Newcastle	A1	17%	12	31	21	27	16	21	
Newcastle	**Morpeth-Newcastle**	A1-A1-A1-A1		67	179	124	157	94	125	
	Trips to Gateshead			15	40	28	35	21	28	4.6%
Western Gateshead	Morpeth-Western Gateshead	A1	72%	11	29	20	25	15	20	
Central Gateshead	Morpeth-Central Gateshead	A1	13%	2	5	4	5	3	4	
Eastern Gateshead	Morpeth-Eastern Gateshead	A19	15%	2	6	4	5	3	4	
Gateshead	**Morpeth-Gateshead**	A1-A1-A19		15	40	28	35	21	28	
	Trips to North Tyneside			29	77	53	68	40	54	8.9%
North NT and Killingworth	Morpeth-North NT and Killingworth	A19	31%	9	24	17	21	13	17	
East North Tyneside/ Coast	Morpeth-East North Tyneside/ Coast	A19	25%	7	19	13	17	10	13	
Central North Tyneside/ Silverlink	Morpeth-Central North Tyneside/ Silverlin	A19	37%	11	28	20	25	15	20	
Wallsend and Royal Quays	Morpeth-Wallsend and Royal Quays	A19	7%	2	5	4	5	3	4	
North Tyneside	**Morpeth-North Tyneside**	A19-A19-A19-A19		29	77	53	68	40	54	

Prudhoe Residential Cross Boundary Proportions

	Prudhoe	Route	Percentage	Scenario 1						Scenario 2						Proportion of Trips Going from settlement
				AM Peak			PM Peak			AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			65	172	237	152	91	242	4	10	14	9	5	14	
	Trips to Newcastle			14	38	52	33	20	53	1	2	3	2	1	3	22.0%
Newcastle Central	Prudhoe-Newcastle Central	A695	35%	5	13	18	12	7	19	0	1	1	1	0	1	
Western Newcastle	Prudhoe-Western Newcastle	A695	39%	6	15	20	13	8	21	0	1	1	1	0	1	
Eastern Newcastle	Prudhoe-Eastern Newcastle	A695	14%	2	5	7	5	3	7	0	0	0	0	0	0	
Northern Newcastle	Prudhoe-Northern Newcastle	A695	12%	2	4	6	4	2	6	0	0	0	0	0	0	
Newcastle	Prudhoe-Newcastle	A695-A695-A695-A695		14	38	52	33	20	53	1	2	3	2	1	3	
	Trips to Gateshead			9	24	33	21	13	33	1	1	2	1	1	2	13.8%
Western Gateshead	Prudhoe-Western Gateshead	A695	73%	7	17	24	15	9	24	0	1	1	1	1	1	
Central Gateshead	Prudhoe-Central Gateshead	A695	15%	1	3	5	3	2	5	0	0	0	0	0	0	
Eastern Gateshead	Prudhoe-Eastern Gateshead	A695	13%	1	3	4	3	2	4	0	0	0	0	0	0	
Gateshead	Prudhoe-Gateshead	A695-A695-A695		9	24	33	21	13	33	1	1	2	1	1	2	
	Trips to North Tyneside			3	7	10	6	4	10	0	0	1	0	0	1	4.1%
North NT and Killingworth	Prudhoe-North NT and Killingworth	A695	45%	1	3	4	3	2	4	0	0	0	0	0	0	
East North Tyneside/ Coast	Prudhoe-East North Tyneside/ Coast	A695	11%	0	1	1	1	0	1	0	0	0	0	0	0	
Central North Tyneside/ Silverlink	Prudhoe-Central North Tyneside/ Silverlink	A695	37%	1	3	4	2	1	4	0	0	0	0	0	0	
Wallsend and Royal Quays	Prudhoe-Wallsend and Royal Quays	A695	8%	0	1	1	0	0	1	0	0	0	0	0	0	
North Tyneside	Prudhoe-North Tyneside	A695-A695-A695-A695		3	7	10	6	4	10	0	0	1	0	0	1	

Ponteland Residential Cross Boundary Proportions

	Ponteland	Route	Percentage	Scenario 1						Proportion of Trips Going from settlement
				AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			317	840	1157	740	443	1183	
	Trips to Newcastle			118	313	431	276	165	440	37.2%
Newcastle Central	Ponteland-Newcastle Central	A696	31%	36	96	133	85	51	136	
Western Newcastle	Ponteland-Western Newcastle	A696	46%	55	145	199	128	76	204	
Eastern Newcastle	Ponteland-Eastern Newcastle	A696	11%	13	33	46	29	18	47	
Northern Newcastle	Ponteland-Northern Newcastle	A696	12%	14	38	53	34	20	54	
Newcastle	Ponteland-Newcastle	A696-A696-A696-A696		118	313	431	276	165	440	
	Trips to Gateshead			30	79	109	70	42	111	9.4%
Western Gateshead	Ponteland-Western Gateshead	A696	68%	20	54	74	47	28	76	
Central Gateshead	Ponteland-Central Gateshead	A696	16%	5	13	17	11	7	18	
Eastern Gateshead	Ponteland-Eastern Gateshead	A696	16%	5	13	17	11	7	18	
Gateshead	Ponteland-Gateshead	A696-A696-A696		30	79	109	70	42	111	
	Trips to North Tyneside			31	83	114	73	44	117	9.9%
North NT and Killingworth	Ponteland-North NT and Killingworth	A696	43%	14	36	50	32	19	51	
East North Tyneside/ Coast	Ponteland-East North Tyneside/ Coast	A19	19%	6	15	21	14	8	22	
Central North Tyneside/ Silverlink	Ponteland-Central North Tyneside/ Silverlink	A19	30%	9	25	34	22	13	35	
Wallsend and Royal Quays	Ponteland-Wallsend and Royal Quays	A19	8%	3	7	9	6	4	9	
North Tyneside	Ponteland-North Tyneside	A696-A19-A19-A19		31	83	114	73	44	117	

Berwick Residential Cross Boundary Proportions

	Berwick-upon-Tweed	Route	Percentage	Scenario 1						Scenario 2						Proportion of Trips Going from settlement
				AM Peak			PM Peak			AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			113	299	411	263	157	420	35	92	127	81	49	130	
	Trips to Newcastle			2	5	7	4	3	7	1	1	2	1	1	2	1.6%
Newcastle Central	Berwick-upon-Tweed-Newcastle Central	A1	37%	1	2	2	2	1	3	0	1	1	0	0	1	
Western Newcastle	Berwick-upon-Tweed-Western Newcastle	A1	29%	1	1	2	1	1	2	0	0	1	0	0	1	
Eastern Newcastle	Berwick-upon-Tweed-Eastern Newcastle	A19	19%	0	1	1	1	0	1	0	0	0	0	0	0	
Northern Newcastle	Berwick-upon-Tweed-Northern Newcastle	A1	16%	0	1	1	1	0	1	0	0	0	0	0	0	
Newcastle	Berwick-upon-Tweed-Newcastle	A1-A1-A19-A1		2	5	7	4	3	7	1	1	2	1	1	2	
	Trips to Gateshead			1	2	2	2	1	2	0	1	1	0	0	1	0.6%
Western Gateshead	Berwick-upon-Tweed-Western Gateshead	A1	65%	0	1	2	1	1	2	0	0	0	0	0	0	
Central Gateshead	Berwick-upon-Tweed-Central Gateshead	A1	18%	0	0	0	0	0	0	0	0	0	0	0	0	
Eastern Gateshead	Berwick-upon-Tweed-Eastern Gateshead	A1	18%	0	0	0	0	0	0	0	0	0	0	0	0	
Gateshead	Berwick-upon-Tweed-Gateshead	A1-A1-A1		1	2	2	2	1	2	0	1	1	0	0	1	
	Trips to North Tyneside			1	2	3	2	1	3	0	1	1	1	0	1	0.8%
North NT and Killingworth	Berwick-upon-Tweed-North NT and Killingworth	A19	34%	0	1	1	1	0	1	0	0	0	0	0	0	
East North Tyneside/ Coast	Berwick-upon-Tweed-East North Tyneside/ Coast	A19	27%	0	1	1	1	0	1	0	0	0	0	0	0	
Central North Tyneside/ Silverlink	Berwick-upon-Tweed-Central North Tyneside/ Silverlink	A19	34%	0	1	1	1	0	1	0	0	0	0	0	0	
Wallsend and Royal Quays	Berwick-upon-Tweed-Wallsend and Royal Quays	A19	5%	0	0	0	0	0	0	0	0	0	0	0	0	
North Tyneside	Berwick-upon-Tweed-North Tyneside	A19-A19-A19-A19		1	2	3	2	1	3	0	1	1	1	0	1	

Alnwick Residential Cross Boundary Proportions

	Alnwick	Route	Percentage	Scenario 1						Proportion of Trips Going from settlement
				AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			50	131	181	116	69	185	
	Trips to Newcastle			3	8	12	7	4	12	6.4%
Newcastle Central	Alnwick-Newcastle Central	A1	35%	1	3	4	3	2	4	
Western Newcastle	Alnwick-Western Newcastle	A1	31%	1	3	4	2	1	4	
Eastern Newcastle	Alnwick-Eastern Newcastle	A19	17%	1	1	2	1	1	2	
Northern Newcastle	Alnwick-Northern Newcastle	A1	17%	1	1	2	1	1	2	
Newcastle	Alnwick-Newcastle	A1-A1-A19-A1		3	8	12	7	4	12	
	Trips to Gateshead			1	1	2	1	1	2	1.1%
Western Gateshead	Alnwick-Western Gateshead	A1	46%	0	1	1	1	0	1	
Central Gateshead	Alnwick-Central Gateshead	A1	26%	0	0	0	0	0	1	
Eastern Gateshead	Alnwick-Eastern Gateshead	A19	28%	0	0	1	0	0	1	
Gateshead	Alnwick-Gateshead	A1-A1-A19		1	1	2	1	1	2	
	Trips to North Tyneside			2	5	6	4	2	6	3.4%
North NT and Killingworth	Alnwick-North NT and Killingworth	A19	32%	1	1	2	1	1	2	
East North Tyneside/ Coast	Alnwick-East North Tyneside/ Coast	A19	23%	0	1	1	1	1	1	
Central North Tyneside/ Silverlink	Alnwick-Central North Tyneside/ Silverlink	A19	35%	1	2	2	1	1	2	
Wallsend and Royal Quays	Alnwick-Wallsend and Royal Quays	A19	10%	0	0	1	0	0	1	
North Tyneside	Alnwick-North Tyneside	A19-A19-A19-A19		2	5	6	4	2	6	

Amble Residential Cross Boundary Proportions

	Amble	Route	Percentage	Scenario 1						Proportion of Trips Going from settlement
				AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			170	450	620	397	237	634	
	Trips to Newcastle			18	47	65	41	25	66	10.4%
Newcastle Central	Amble-Newcastle Central	A1	33%	6	16	21	14	8	22	
Western Newcastle	Amble-Western Newcastle	A1	35%	6	16	22	14	9	23	
Eastern Newcastle	Amble-Eastern Newcastle	A19	18%	3	9	12	8	5	12	
Northern Newcastle	Amble-Northern Newcastle	A189	14%	2	6	9	6	3	9	
Newcastle	**Amble-Newcastle**	A1-A1-A19-A189		18	47	65	41	25	66	
	Trips to Gateshead			3	8	12	7	4	12	1.9%
Western Gateshead	Amble-Western Gateshead	A1	71%	2	6	8	5	3	9	
Central Gateshead	Amble-Central Gateshead	A1	14%	0	1	2	1	1	2	
Eastern Gateshead	Amble-Eastern Gateshead	A19	15%	0	1	2	1	1	2	
Gateshead	**Amble-Gateshead**	A1-A1-A19		3	8	12	7	4	12	
	Trips to North Tyneside			10	27	38	24	14	39	6.1%
North NT and Killingworth	Amble-North NT and Killingworth	A19	33%	3	9	12	8	5	13	
East North Tyneside/ Coast	Amble-East North Tyneside/ Coast	A19	19%	2	5	7	5	3	7	
Central North Tyneside/ Silverlink	Amble-Central North Tyneside/ Silverlink	A19	40%	4	11	15	10	6	15	
Wallsend and Royal Quays	Amble-Wallsend and Royal Quays	A19	8%	1	2	3	2	1	3	
North Tyneside	**Amble-North Tyneside**	A19-A19-A19-A19		10	27	38	24	14	39	

Central Residential Cross Boundary Proportions

	Rest of Central Area	Route	Percentage	Scenario 1						Proportion of Trips Going from settlement
				AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			134	355	488	312	187	499	
	Trips to Newcastle			22	60	82	53	31	84	16.8%
Newcastle Central	Rest of Central Area -Newcastle Central	A696	12%	3	7	10	6	4	10	
	Rest of Central Area -Newcastle Central	A19	12%	3	7	10	6	4	10	
	Rest of Central Area -Newcastle Central	A189	12%	3	7	10	6	4	10	
Western Newcastle	Rest of Central Area -Western Newcastle	A696	17%	4	10	14	9	5	15	
	Rest of Central Area -Western Newcastle	A1	17%	4	10	14	9	5	15	
Eastern Newcastle	Rest of Central Area -Eastern Newcastle	A696	5%	1	3	4	3	2	4	
	Rest of Central Area -Eastern Newcastle	A1	5%	1	3	4	3	2	4	
	Rest of Central Area -Eastern Newcastle	A189	5%	1	3	4	3	2	4	
Northern Newcastle	Rest of Central Area -Northern Newcastle	A696	5%	1	3	4	2	1	4	
	Rest of Central Area -Northern Newcastle	A1	5%	1	3	4	2	1	4	
	Rest of Central Area -Northern Newcastle	A189	5%	1	3	4	2	1	4	
Newcastle	**Rest of Central Area -Newcastle**	A696-A696-A696-A696		23	60	82	53	31	84	
	Trips to Gateshead			6	15	20	13	8	21	4.2%
Western Gateshead	Rest of Central Area -Western Gateshead	A696	21%	1	3	4	3	2	4	
	Rest of Central Area -Western Gateshead	A1	21%	1	3	4	3	2	4	
	Rest of Central Area -Western Gateshead	A189	21%	1	3	4	3	2	4	
Central Gateshead	Rest of Central Area -Central Gateshead	A696	5%	0	1	1	1	0	1	
	Rest of Central Area -Central Gateshead	A1	5%	0	1	1	1	0	1	
	Rest of Central Area -Central Gateshead	A189	5%	0	1	1	1	0	1	
Eastern Gateshead	Rest of Central Area -Eastern Gateshead	A696	7%	0	1	1	1	1	1	
	Rest of Central Area -Eastern Gateshead	A1	7%	0	1	1	1	1	1	
	Rest of Central Area -Eastern Gateshead	A189	7%	0	1	1	1	1	1	
Gateshead	**Rest of Central Area -Gateshead**	A696-A696-A696		6	15	20	13	8	21	
	Trips to North Tyneside			12	31	43	27	16	44	8.8%
North NT and Killingworth	Rest of Central Area -North NT and Killingworth	A696	12%	1	4	5	3	2	5	
	Rest of Central Area -North NT and Killingworth	A1	12%	1	4	5	3	2	5	
	Rest of Central Area -North NT and Killingworth	A189	12%	1	4	5	3	2	5	
East North Tyneside/ Coast	Rest of Central Area -East North Tyneside/ Coast	A19	10%	1	3	4	3	2	4	
	Rest of Central Area -East North Tyneside/ Coast	A189	10%	1	3	4	3	2	4	
Central North Tyneside/ Silverlink	Rest of Central Area -Central North Tyneside/ Silverlink	A19	37%	4	11	16	10	6	16	
Wallsend and Royal Quays	Rest of Central Area -Wallsend and Royal Quays	A19	7%	1	2	3	2	1	3	
North Tyneside	**Rest of Central Area -North Tyneside**	A696-A19-A19-A19		12	31	43	27	16	44	

South East Residential Cross Boundary Proportions

	Rest of South East Area	Route	Percentage	Scenario 1						Scenario 2						Proportion of Trips Going from settlement
				AM Peak			PM Peak			AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			160	425	586	375	224	599	15	40	55	35	21	56	
	Trips to Newcastle			49	130	179	115	69	183	5	12	17	11	6	17	30.6%
Newcastle Central	Rest of South East Area-Newcastle Central	A189	44%	22	57	79	50	30	81	2	5	7	5	3	8	
Western Newcastle	Rest of South East Area-Western Newcastle	A189	35%	17	46	63	40	24	64	2	4	6	4	2	6	
Eastern Newcastle	Rest of South East Area-Eastern Newcastle	A189	12%	6	16	22	14	8	22	1	1	2	1	1	2	
Northern Newcastle	Rest of South East Area-Northern Newcastle	A189	10%	5	13	18	11	7	18	0	1	2	1	1	2	
Newcastle	**Rest of South East Area-Newcastle**	A189-A189-A189-A189		50	132	181	116	69	185	5	12	17	11	7	17	
	Trips to Gateshead			17	44	61	39	23	63	2	4	6	4	2	6	10.5%
Western Gateshead	Rest of South East Area-Western Gateshead	A189	68%	11	30	42	27	16	43	1	3	4	2	1	4	
Central Gateshead	Rest of South East Area-Central Gateshead	A189	14%	2	6	9	6	3	9	0	1	1	1	0	1	
Eastern Gateshead	Rest of South East Area-Eastern Gateshead	A189	18%	3	8	11	7	4	11	0	1	1	1	0	1	
Gateshead	**Rest of South East Area-Gateshead**	A189-A189-A189		17	44	61	39	23	63	2	4	6	4	2	6	
	Trips to North Tyneside			11	30	41	26	16	42	1	3	4	2	1	4	7.0%
North NT and Killingworth	Rest of South East Area-North NT and Killingworth	A189	42%	5	13	17	11	7	18	0	1	2	1	1	2	
East North Tyneside/ Coast	Rest of South East Area-East North Tyneside/ Coast	A19	16%	2	5	7	4	3	7	0	0	1	0	0	1	
Central North Tyneside/ Silverlink	Rest of South East Area-Central North Tyneside/ Silverlink	A19	32%	4	10	13	8	5	14	0	1	1	1	0	1	
Wallsend and Royal Quays	Rest of South East Area-Wallsend and Royal Quays	A19	9%	1	3	4	2	1	4	0	0	0	0	0	0	
North Tyneside	**Rest of South East Area-North Tyneside**	A189-A19-A19-A19		11	30	41	26	16	42	1	3	4	2	1	4	

North Residential Cross Boundary Proportions

	Rest of Northern Area	Route	Percentage	Scenario 1						Scenario 2						Proportion of Trips Going from settlement
				AM Peak			PM Peak			AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			149	395	544	348	208	556	16	43	59	38	22	60	
	Trips to Newcastle			15	39	53	34	20	54	2	4	6	4	2	6	9.7%
Newcastle Central	Rest of Northern Area -Newcastle Central	A1	39%	6	15	21	13	8	21	1	2	2	1	1	2	
Western Newcastle	Rest of Northern Area -Western Newcastle	A1	31%	5	12	17	11	6	17	0	1	2	1	1	2	
Eastern Newcastle	Rest of Northern Area -Eastern Newcastle	A19	17%	2	7	9	6	3	9	0	1	1	1	0	1	
Northern Newcastle	Rest of Northern Area -Northern Newcastle	A1	12%	2	5	7	4	2	7	0	1	1	0	0	1	
Newcastle	**Rest of Northern Area -Newcastle**	A1-A1-A19-A1		15	39	53	34	20	54	2	4	6	4	2	6	
	Trips to Gateshead			4	10	13	8	5	13	0	1	1	1	1	1	2.4%
Western Gateshead	Rest of Northern Area -Western Gateshead	A1	62%	2	6	8	5	3	8	0	1	1	1	0	1	
Central Gateshead	Rest of Northern Area -Central Gateshead	A1	23%	1	2	3	2	1	3	0	0	0	0	0	0	
Eastern Gateshead	Rest of Northern Area -Eastern Gateshead	A1	15%	1	1	2	1	1	2	0	0	0	0	0	0	
Gateshead	**Rest of Northern Area -Gateshead**	A1-A1-A1		4	10	13	8	5	13	0	1	1	1	1	1	
	Trips to North Tyneside			6	17	23	15	9	23	1	2	2	2	1	3	4.2%
North NT and Killingworth	Rest of Northern Area -North NT and Killingworth	A19	32%	2	5	7	5	3	8	0	1	1	1	0	1	
East North Tyneside/ Coast	Rest of Northern Area -East North Tyneside/ Coast	A19	22%	1	4	5	3	2	5	0	0	1	0	0	1	
Central North Tyneside/ Silverlink	Rest of Northern Area -Central North Tyneside/ Silverlink	A19	37%	2	6	8	5	3	9	0	1	1	1	0	1	
Wallsend and Royal Quays	Rest of Northern Area -Wallsend and Royal Quays	A19	9%	1	1	2	1	1	2	0	0	0	0	0	0	
North Tyneside	**Rest of Northern Area -North Tyneside**	A19-A19-A19-A19		6	17	23	15	9	23	1	2	2	2	1	3	

West Residential Cross Boundary Proportions

	Western Area	Route	Percentage	Scenario 1						Scenario 2						Proportion of Trips Going from settlement
				AM Peak			PM Peak			AM Peak			PM Peak			
				Arrivals	Departures	Totals	Arrivals	Departures	Totals	Arrivals	Departures	Totals	Arrivals	Departures	Totals	
	Total Trips Generated			38	101	139	89	53	142	59	156	215	138	82	220	
	Trips to Newcastle			5	14	19	12	7	20	8	17	25	17	8	25	13.9%
Newcastle Central	Western Area-Newcastle Central	A69	43%	2	6	8	5	3	8	3	7	11	7	3	11	
Western Newcastle	Western Area-Western Newcastle	A69	38%	2	5	7	5	3	7	3	6	9	6	3	9	
Eastern Newcastle	Western Area-Eastern Newcastle	A69	11%	1	2	2	1	1	2	1	2	3	2	1	3	
Northern Newcastle	Western Area-Northern Newcastle	A69	8%	0	1	2	1	1	2	1	1	2	1	1	2	
Newcastle	**Western Area-Newcastle**	A69-A69-A69-A69		5	14	19	12	7	20	8	17	25	17	8	25	
	Trips to Gateshead			1	4	5	3	2	5	2	6	8	5	3	8	3.6%
Western Gateshead	Western Area-Western Gateshead	A69	57%	1	2	3	2	1	3	1	3	4	3	2	5	
Central Gateshead	Western Area-Central Gateshead	A69	16%	0	1	1	1	0	1	0	1	1	1	0	1	
Eastern Gateshead	Western Area-Eastern Gateshead	A69	27%	0	1	1	1	1	1	1	2	2	1	1	2	
Gateshead	**Western Area-Gateshead**	A69-A69-A69		1	4	5	3	2	5	2	6	8	5	3	8	
	Trips to North Tyneside			1	3	3	2	1	4	1	4	5	3	2	6	2.5%
North NT and Killingworth	Western Area-North NT and Killingworth	A69	29%	0	1	1	1	0	1	0	1	2	1	1	2	
East North Tyneside/ Coast	Western Area-East North Tyneside/ Coast	A69	25%	0	1	1	1	0	1	0	1	1	1	1	1	
Central North Tyneside/ Silverlink	Western Area-Central North Tyneside/ Silverlink	A69	41%	0	1	1	1	1	1	1	2	2	1	1	2	
Wallsend and Royal Quays	Western Area-Wallsend and Royal Quays	A69	5%	0	0	0	0	0	0	0	0	0	0	0	0	
North Tyneside	**Western Area-North Tyneside**	A69-A69-A69-A69		1	3	3	2	1	4	1	4	5	3	2	6	

Total Residential and Employment Cross Boundary Proportions

HOUSING	Trips to/from Northumberland - Scenario 1						Trips to/from Northumberland - Scenario 2					
	AM Peak			PM Peak			AM Peak			PM Peak		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
A695	26	69	94	60	36	97	2	4	6	4	2	6
A69	23	62	86	55	33	87	18	45	63	41	23	64
B6324	0	0	0	0	0	0	0	0	0	0	0	0
A696	174	460	634	405	242	648	0	0	0	0	0	0
A1	125	332	312	292	175	316	2	6	9	5	3	9
A19	91	241	275	212	127	280	2	5	7	4	3	7
A189	83	220	303	194	116	310	7	18	24	16	9	25
A190	0	0	0	0	0	0	0	0	0	0	0	0

EMPLOYMENT	Trips to/from Northumberland - Scenario 1						Trips to/from Northumberland - Scenario 2					
	AM Peak			PM Peak			AM Peak			PM Peak		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
A695	0	0	0	0	0	0	119	20	139	12	97	109
A69	0	0	0	0	0	0	94	23	116	13	82	96
B6324	0	0	0	0	0	0	0	0	0	0	0	0
A696	0	0	0	0	0	0	218	27	245	18	176	194
A1	0	0	0	0	0	0	101	16	116	11	82	92
A19	0	0	0	0	0	0	90	13	103	9	73	82
A189	0	0	0	0	0	0	1	0	1	0	1	1
A190	0	0	0	0	0	0	0	0	0	0	0	0

SUB-TOTAL	Trips to/from Northumberland - Scenario 1						Trips to/from Northumberland - Scenario 2					
	AM Peak			PM Peak			AM Peak			PM Peak		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
A695	26	69	94	60	36	97	120	24	144	16	99	114
A69	23	62	86	55	33	87	112	67	180	55	105	160
B6324	0	0	0	0	0	0	0	0	0	0	0	0
A696	174	460	634	405	242	648	218	27	245	18	176	194
A1	125	332	312	292	175	316	103	22	125	16	85	101
A19	91	241	275	212	127	280	92	19	110	13	75	89
A189	83	220	303	194	116	310	8	18	26	16	10	26
A190	0	0	0	0	0	0	0	0	0	0	0	0

GRAHAM FLOWS	Trips to/from Northumberland - Scenario 1						Trips to/from Northumberland - Scenario 2					
	AM Peak			PM Peak			AM Peak			PM Peak		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
A695 (2-way)			8			9			2			1
A69	16	6	22	9	17	26	3	15	18	12	2	14
B6324			0			0			0			0
A696	45	15	60	25	44	69	1	4	5	4	0	4
A1	126	398	524	372	222	594	92	20	112	11	85	96
A19	72	220	292	215	120	335	83	16	99	9	72	81
A189 (2-way)			327			370			137			103
A190 (2-way)			76			91			45			39

TOTAL FLOWS	Trips to/from Northumberland - Scenario 1						Trips to/from Northumberland - Scenario 2					
	AM Peak			PM Peak			AM Peak			PM Peak		
	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
A695 (2-way)	26	69	102	60	36	106	120	24	146	16	99	115
A69	39	68	108	64	50	113	115	82	198	67	107	174
B6324	0	0	0	0	0	0	0	0	0	0	0	0
A696	219	475	694	430	286	717	219	31	250	22	176	198
A1	251	730	836	664	397	910	195	42	237	27	170	197
A19	163	461	567	427	247	615	175	35	209	22	147	170
A189 (2-way)	83	220	630	194	116	680	8	18	163	16	10	129
A190 (2-way)	0	0	76	0	0	91	0	0	45	0	0	39