



Transport Assessment

*Submitted as part of the Outline Planning Application for
Land to the east of Clitheroe Road (Lawsonsteads Farm), Whalley*

COMMERCIAL ESTATES GROUP



Lawsonsteads, Whalley, Lancashire

Transport Assessment

February 2013

PROPOSED DEVELOPMENT AT
LAND EAST OF CLITHEROE ROAD
(LAWSONSTEADS)
WHALLEY, LANCASHIRE

PLANNING APPLICATION BY
COMMERCIAL ESTATES GROUP

TRANSPORT ASSESSMENT

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1.0 INTRODUCTION

- 1.1 This Transport Assessment forms part of an outline planning application submitted on behalf of Commercial Estates Group (CEG) for the development of an area of land situated to the east of Clitheroe Road, north of Whalley in Lancashire for which the Local Planning Authority is Ribble Valley Borough Council and the Highway Authority is Lancashire County Council (LCC). The application is in outline with all matters reserved for future determination, except for access, which will be determined. The illustrative plans in support of the application comprise 260 dwellings and a one form entry (210 pupils) primary school. A separate Framework Travel Plan has also been prepared for submission with the planning application.
- 1.2 The proposals include two vehicular access points, one at the north east corner of the site off the A671 Whalley Easterly By-pass and one in the centre of the western site frontage off Clitheroe Road on the north western boundary. The two accesses will be connected by a Boulevard which as well as providing access to the development proposals, provides a strategic benefit to the settlement of Whalley by providing an alternative route therefore reducing two-way traffic flows on King Street, Accrington Road and Wiswell Lane. The design of the Boulevard will embrace the principles of Manual for Streets, through the construction of a wider than usual street of conventional layout, with a central carriageway and broad tree lined verges and footways, thus maintaining a sense of place whilst still offering an ability to carry a relatively large volume of traffic.
- 1.3 In January 2012, an outline planning application submitted by CEG for some 300 dwellings together with a nursing home and primary school on the site was refused planning consent for three reasons, none of which concerned highways matters. In their consultation response on the application which was supported by a Transport Assessment, and a Travel Plan prepared by Bryan G Hall, Lancashire County Council, as the Local Highway Authority raised no objections subject to conditions.
- 1.4 In July 2012, a subsequent outline planning application submitted by CEG for some 55 dwellings and a nursing home on part of the site was refused consent for three reasons, one of which related to highway matters. The reason for refusal indicated that:

“The proposed development is considered contrary to Policy G1 of the Ribble Valley District wide Local Plan in that it would have an adverse

impact on the operation of the highway network, particularly in terms of congestion, to the detriment of highway safety.”

- 1.5 However, when consulted on this application which once again included a Transport Assessment and a Travel Plan prepared by Bryan G Hall, Lancashire County Council, as Local Highway Authority raised no objections on highway grounds subject to conditions.
- 1.6 Finally, a duplicate planning application by CEG for 55 dwellings and a nursing home on part of the site was approved by Ribble Valley Borough Council in November 2012. Once again Lancashire County Council raised no objections on highway grounds to this duplicate application, subject to conditions
- 1.7 This Transport Assessment, which is based upon the Department for Transport Guidance on Transport Assessment, considers current usage of the local network and assesses its suitability to accommodate the traffic that is likely to be generated by the proposals. It will also consider the sustainability and accessibility of the site including its proximity to local public transport services and the availability of facilities and services within sustainable travelling distances by a variety of transport modes.
- 1.8 Development of the site for residential use will assist in delivering the housing needs of Ribble Valley Borough Council and be in line with regional and local transport advice given in the North West of England Plan – Regional Spatial Strategy to 2021 and the Lancashire Local Transport Plan 2011-2021 (LTP3).
- 1.9 This Transport Assessment will show that the traffic likely to be generated by the development proposals can be safely and satisfactorily accommodated on the local highway network and that the site is currently well located to encourage trips by means other than the private car. It will be concluded therefore that there are no highway or transport-related reasons why the proposed development should not be granted planning consent.

2.0 RELEVANT REGIONAL AND LOCAL PLANNING POLICY

National Planning Policy Framework, March 2012

- 2.1 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how they are expected to be applied. At the heart of the NPPF is a presumption in favour of sustainable development which the document indicates should be seen as a 'golden thread' running through the decision making process.
- 2.2 Within the overarching roles that the planning system ought to play the NPPF indicates that there are a set of core land use planning principles which should underpin the decision making process. Specifically in relation to transport these principles include:
- Actively managing patterns of growth to make the fullest possible use of public transport, walking and cycling, and focussing significant development in locations which are or can be made sustainable.
- 2.3 The NPPF indicates that all developments that generate significant amounts of movement should be supported by a Transport Assessment and the decision making process should take account of whether:
- The opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;
 - Safe and suitable access to the site can be achieved for all people; and
 - Improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.
- 2.4 The NPPF indicates that the decision making process should ensure that developments that generate significant movements are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised.
- 2.5 The NPPF further indicates that development should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people. Therefore, developments should be located and designed where practical to, inter alia:

- Give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;
- Create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones; and
- Consider the needs of people with disabilities by all modes of transport.

2.6 The NPPF indicates that a key tool to facilitate this will be a Travel Plan. All developments which generate significant amounts of movement should be required to provide a Travel Plan, and as indicated earlier the application for this site is accompanied by a Framework Travel Plan.

2.7 NPPF indicates that planning policies should aim for a balance of land uses within their area so that people can be encouraged to minimise journey lengths for employment, shopping, leisure, education and other activities.

2.8 Finally, NPPF indicates that where practical, particularly within large scale developments, key facilities such as primary schools and local shops should be located within walking distance of most properties, and as is demonstrated later on in this Transport Assessment the settlement of Whalley is within easy walking distance of the site.

Manual for Streets (MfS1)

2.9 Guidance for the design of residential roads set out in Design Bulletin 32 and its companion guide Places Streets and Movement was superseded in March 2007 by the publication of the Department for Transport and Communities and Local Government publication 'Manual for Streets' (MfS1). The focus of this document is on 'lightly trafficked' residential streets but it also states that many of its principles are applicable elsewhere (e.g. high streets and lightly-trafficked lanes in rural areas). The document sets out that:

"It is therefore strongly recommended that local authorities review their standards and guidance to embrace the principles of MfS."

2.10 The aims of the document are to bring about a transformation in the quality of streets and represent a fundamental culture change in the way streets are designed and adopted. MfS provides guidance in order that streets can be designed to:

- Help to build and strengthen the communities they serve;
- Meet the needs of all users, by embodying the principles of inclusive design;

- Form part of a well-connected network;
- Be attractive and have their own distinctive identity;
- Be cost-effective to construct and maintain; and
- Be safe.

2.11 Manual for Streets advocates inclusive design and its principles which are to:

- Place people at the heart of the design process;
- Acknowledge diversity and difference;
- Offer choice where a single solution cannot accommodate all users;
- Provide for flexibility in use; and
- Provide buildings and environments that are convenient and enjoyable to use for everyone.

2.12 Manual for Streets defines a 'street' as a highway that has important public realm functions beyond the movement of traffic. Streets have a sense of place and are distinctive and are lined with and provide direct access to buildings and public spaces. Most highways in built-up areas can be considered as streets. The Manual does not define an upper limit in terms of traffic flow to define a 'street', as that was considered to be too prescriptive, but as a general guide suggests a threshold of about 10,000 vehicles per day or about 1,000 vehicles per hour at peak times.

Manual for Streets 2 (MfS2)

2.13 The Chartered Institution of Highways and Transportation (CIHT) publication 'Manual for Streets 2: Wider Application of the Principles' (MfS2) was published in September 2010 and forms a companion guide to "Manual for Streets" (MfS1). MfS2 fills the perceived gap in design guidance between MfS1 and Design Manual for Roads and Bridges (DMRB) and has been endorsed by the Department for Transport (DfT).

2.14 The "Status and Application" section of MfS2 States:

"DMRB is the design standard for Trunk Roads and Motorways in England, Scotland, Wales and Northern Ireland. The strict application of DMRB to non-trunk routes is rarely appropriate for highway design in built up areas, regardless of traffic volume."

2.15 MfS2 paragraph 1.3.3 states that:

“Where designers do refer to DMRB for detailed technical guidance on specific aspects, for example on strategic inter-urban non-trunk roads, it is recommended that they bear in mind the key principles of MfS, and apply DMRB in a way that respects local context. It is further recommended that DMRB or other standards and guidance is only used where the guidance contained in MfS is not sufficient or where particular evidence leads a designer to conclude that MfS is not applicable.”

2.16 MfS2 paragraph 1.3.4 goes on to state:

“The application of MfS advice to all 30mph speed limits as a starting point is in keeping with MfS1.”

North West of England Plan – Regional Spatial Strategy to 2021

2.17 The North West of England Plan was published in September 2008 and sets out the Secretary of State for Communities and Local Government’s policies in relation to the development of land within this region. It aims to guide development of land within the region over the next 15 to 20 years. The plan also embodies the Regional Transport Strategy and must be taken into account by local authorities in preparing their Local Plans and Local Transport Plans. The plan does not however make site-specific allocation of land for development.

2.18 The Plan initially sets out its Spatial Principles and Policy DP5 relates to managing travel demand and states:

Manage Travel Demand; Reduce the Need to Travel, and Increase Accessibility

- Development should be located so as to reduce the need to travel, especially by car, and to enable people as far as possible to meet their needs locally. A shift to more sustainable modes of transport for both people and freight should be secured, an integrated approach to managing travel demand should be encouraged, and road safety improved.
- Safe and sustainable access for all, particularly by public transport, between homes and employment and a range of services and facilities (such as retail, health, education, and leisure) should be promoted, and should influence locational choices and investment decisions.

- Major growth should, as far as possible, be located in urban areas where strategic networks connect and public transport is well provided.
- All new development should be genuinely accessible by public transport, walking and cycling, and priority will be given to locations where such access is already available.
- In rural areas accessibility by public transport should also be a key consideration in providing services and locating new development, emphasising the role of Key Service Centres (Policy RDF2).

2.19 Whalley lies in the Ribble Valley which is within Central Lancashire City Region which also includes Preston, Blackburn, Blackpool and Burnley. The RSS states that Preston, Blackburn, Blackpool and Burnley all have strong, functional links with smaller towns and villages, including some in neighbouring districts. Focusing new development here reflects their existing key roles within the Central Lancashire City Region and consolidates their ability to serve their hinterlands, promoting enhanced economic growth and a better quality of life.

2.20 Outside the four main settlements, the City Region contains a variety of smaller industrial towns, market towns and rural settlements that operate as key service centres and local service centres. Fundamental to the concept of the zones of influence is the recognition of the inter-relationships between urban and rural areas. The smaller settlements and rural areas will make an important contribution to the City Region, not only as a recreational resource, but also in terms of the regeneration of towns, villages and the wider rural economy.

2.21 The policies relating to the Regional Transport Strategy for the North West are contained in Section 8 of the RSS. Policy RT2 relates to Managing Travel Demand and states:

Managing Travel Demand

The Regional Planning Body, local authorities, and other highway and transport authorities should develop a coordinated approach to managing travel demand. Early consultation with the Highways Agency will be required for any proposal that may affect the trunk road network. In particular, efforts should be aimed at reducing the proportion of car-borne commuting and education trips made during peak periods and tackling the most congested parts of the motorway network including M6, M56, M60 and M62. In rural areas, the focus should be on major tourist

areas where visitor pressure is threatening the local environment and quality of life. Measures to discourage car use should consider improvements to and promotion of public transport, walking and cycling. Plans and strategies will need to be specific to the nature and scale of the problems identified, set clear objectives and specify what is being proposed, why it is necessary and what the impacts will be. They should:

- ensure that major new developments are located where there is good access to public transport, backed by effective provision for pedestrians and cyclists to minimise the need to travel by private car;
- seek to reduce private car use through the introduction of 'smarter choices' and other incentives to change travel behaviour which should be developed alongside public transport, cycling and pedestrian network and service improvements;
- consider the effective reallocation of road space in favour of public transport, pedestrians and cyclists alongside parking charges, enforcement and provision and other fiscal measures, including road user charging;
- make greater use of on-street parking controls and enforcement;
- incorporate maximum parking standards that are in line with, or more restrictive than, Table 8.1, and define standards for additional land use categories and areas where more restrictive standards should be applied. Parking for disabled people and for cycles and two-wheel motorised vehicles are the only situations where minimum standards will be applicable.

Lancashire Local Transport Plan 2011-2021 (LTP3)

- 2.22 The Transport Act 2000 requires all local transport authorities in England, outside London, to prepare Local Transport Plans. The relevant local policy documentation in the context of this Transport Assessment is the Third Lancashire Local Transport Plan (LTP3) 2011/21.
- 2.23 At the Council meeting on Thursday 26th May 2011 county councillors voted to officially endorse the new plan. Supporting economic growth and access to employment, making the county's roads safer for children and young people, and looking after the transport infrastructure are all priorities identified in the new transport strategy. The new local transport plan for Lancashire is a first step in the commissioning and delivery of new transport schemes across the county.
- 2.24 The plan gives support to a number of improvements to tackle congestion and bring forward new development. Initiatives include supporting improvements in

railway infrastructure and bus services and providing safer streets by improving the infrastructure of residential streets, the public realm, addressing specific hazards and providing training and raising awareness. The plan considers that the introduction of 20mph zones across residential areas could significantly contribute towards increased road safety and bring shared benefits in terms of encouraging more people to cycle and walk.

- 2.25 Through the LTP3, Lancashire County Council is committed to work with developers and district councils to influence locations for major new developments. This will concentrate around reducing the need to travel and securing and ensuring adequate accessibility through improvements to the transport networks to serve and promote new development.
- 2.26 The consultation on the draft Implementation Plan for the Local Transport Plan is now complete. LCC are currently in the process of analysing responses and amending the draft Implementation Plan accordingly.
- 2.27 The consultation draft set out a comprehensive programme of transport projects that will be implemented in the three years to 2013/14. It will identify where the County Council intends to commit its spending to projects and importantly where other external funding sources are committed or will be sought.
- 2.28 With regard to projects within Whalley itself LCC are committed to introduce 20mph limits in all residential areas and outside schools over the lifetime of the plan and specific phasing for this is identified in Whalley by 2013.

3.0 THE EXISTING SITUATION

The Application Site

- 3.1 Whalley is a small settlement with existing development to both sides of the A671 Accrington Road, B6246 King Street, B6246 Station Road and Clitheroe Road, as shown on the plan attached at **Appendix BGH1**. The development site, which is predominantly open grassland punctuated with existing hedgerows and trees, lies immediately to the north east of existing residential properties on the eastern side of the settlement. The overall site is some 36.1 acres (14.6 hectares) in area and includes frontages some 90.0 metres long onto both Clitheroe Road and A671 Whalley Eastern by Pass.
- 3.2 The site is bounded to the north by open fields and a small group of residential properties, to the east by A671 Whalley Eastern by Pass, Spring Wood and open fields and to the south and west by existing residential properties. On the opposite side of Clitheroe Road to the site frontage there are large detached residential properties with individual drives onto Clitheroe Road. There is currently no formal vehicular access into the site although there is a gated field entrance to an unmade track, situated on the site frontage to A671 Whalley Eastern by Pass. An existing public footpath extends through the site, originating at Brookes Lane on the western edge of the site and continuing eastward beneath the By Pass toward Spring Wood. This public footpath will be retained, improved and managed as part of the proposed development.

The Local Highway Network

- 3.3 Vehicular access to the site is proposed from both Clitheroe Road and the A671 Whalley Eastern by Pass. Clitheroe Road performs the function of an urban local distributor type of road linking Whalley settlement centre, some 600 metres to the south west of the centre of the site, with Barrow and Clitheroe to the north. A671 Whalley Eastern by Pass forms part of the local primary route network, linking Whalley with Padiham. The road provides a by-pass of the settlement and is classed as a Strategic Route within LCC's Functional Road Hierarchy.
- 3.4 Along the frontage of the development site, Clitheroe Road has a single carriageway varying in width between 6.6 metres and 7.4 metres, the road is lit to appropriate standard and is subject to a 30mph speed limit. On its nearside, the road has a footway between 1.5 metres and 3.2 metres wide whilst on the far side, the footway varies in width between 1.0 metre at its narrowest to 3.2 metres at

its widest. Currently, the road provides access to existing residential, farm and industrial development along its length.

- 3.5 Clitheroe Road is a bus route with the nearest bus stop located directly on the site frontage, some 270.0 metres from the centre of the development site. It serves buses travelling southbound on Clitheroe Road. A complementary bus stop serving buses travelling northbound on Clitheroe Road is situated a further 50.0 metres south on the opposite side of the road. Public transport provision is discussed further in section 8 of this Transport Assessment.
- 3.6 Some 80.0 metres north of the site frontage, Clitheroe Road meets Wiswell Lane at a simple priority junction. Wiswell Lane provides direct vehicular and pedestrian access to Oakhill College, Oakhill Academy and some 15 to 20 dwellings along its length. It has a single carriageway, is lit and is subject to a 30mph speed limit. Pedestrian provision is limited on Wiswell Lane with one footway some 1.5 to 1.8 metres wide on the south side of the carriageway which extends approximately half the length of Wiswell Lane. Some 250.0 metres north of the Clitheroe Road/Wiswell Lane priority junction, the speed limit on Clitheroe road increases to 40mph.
- 3.7 Some 550.0 metres north east of the Clitheroe Road/Wiswell Lane junction, Wiswell Lane meets the A671 Whalley Eastern by Pass at a ghost island staggered priority controlled junction with right turn holding lanes provided for traffic turning into the minor roads of Wiswell Lane and Wiswell Shay. A671 Whalley Eastern by Pass is subject to the national speed limit of 60mph and the level of visibility that is available for traffic at the junction is appropriate for the speed of the major road traffic.
- 3.8 Some 400.0 metres south west of the development site, Clitheroe Road meets Brookes Lane/B6246 King Street/B6246 Station Road at a mini roundabout junction, which forms the start of Whalley settlement centre. To the west of this junction, Station Road, a local distributor type road, provides vehicular and pedestrian access to Whalley Railway Station which is some 800.0 metres walking distance west of the centre of the development site, as discussed further in Section 8 of this Transport Assessment.
- 3.9 Thereafter, Station Road passes under the Blackburn to Clitheroe Railway Line and becomes Mitton Road before continuing westward and passing under the A59. There is a zebra crossing facility on Station Road situated at the junction with Riddings Lane and Station Road, midway between the mini roundabout junction with Clitheroe Road and Whalley Railway Station. There are also bus stops on

Station Road situated some 460.0 metres walking distance from the centre of the development site.

- 3.10 To the south of the Clitheroe Road/Brookes Lane/Station Road mini roundabout junction, King Street provides access to the settlement centre of Whalley some 800.0 metres south of the centre of the development site. The centre of Whalley includes facilities such as Whalley Bus Station, Whalley Methodist Church, Whalley C of E Primary School and numerous shops, banks and public houses. Some 280.0 metres south of the Station Road mini roundabout junction, King Street meets the mini roundabout junction of B6246 Accrington Road/King Street in the centre of the settlement. King Street continues southwards, passes over the River Calder and reverts back to Whalley Road at the priority junction with Moor Lane.
- 3.11 King Street experiences on-street parking which is allowed, intermittently, between various lengths of double yellow line waiting restrictions. The side streets of Woodlands Drive, George Street and Church Lane also experience on-street parking, which is restricted in some areas by double yellow line waiting restrictions.
- 3.12 To the south of Whalley settlement centre, Whalley Road provides a link with the settlements of Billington, Langho, Wilpshire and Ramsgreave. Whalley Road also provides a vehicular link to junction 31 of the M6 Motorway via the A59 and Blackburn via the A666.
- 3.13 The B6246 Accrington Road extends in an east-west direction between the mini roundabout junction with B6246 King Street, and the signal controlled crossroad junction of the A671 Whalley Eastern by Pass /Spring Wood Picnic Site. This junction provides a vehicular link south towards Junction 7 of the M65 Motorway via the A660. All approaches to this signal controlled junction are subject to the national speed limit of 60mph and the north and southbound approaches to the junction on the A671 widen to form four and three approach lanes respectively.
- 3.14 Some 500.0 metres to the north of this signal controlled junction, the A671 Whalley Eastern by Pass forms the north east boundary of the development site. A further 850.0 metres north, the A671 meets the A59 at a large three arm roundabout which provides vehicular access to Clitheroe to the north and to the M6 Motorway and Blackburn to the south west. The A59 is also accessible to local south-westbound traffic via the junction of the A671 Whalley Eastern by Pass /Wiswell Lane therefore avoiding the need for traffic to use the centre of Whalley.

4.0 EXISTING TRAFFIC CONDITIONS

Existing Traffic Data

- 4.1 In order to assess the existing usage of the local highway network and the operation of key junctions in Whalley, fully classified traffic surveys were undertaken at the following locations on Thursday 8 November 2012 between the hours of 07:00 – 10:00 and 15:00 – 19:00.

- Clitheroe Road/Wiswell Lane Priority T-Junction
- Clitheroe Road/Brookes Lane/King Street/Station Road Mini Roundabout Junction
- B6246 King Street/Accrington Road/King Street Mini Roundabout Junction
- A671 Whalley Eastern by Pass /B6246 Accrington Road/Springwood Picnic Site Signalised Crossroads
- A671 Whalley Eastern by Pass /Wiswell Lane/Wiswell Shay Priority Staggered Crossroads Junction
- A59/ A671 Whalley Eastern by Pass Roundabout Junction.

- 4.2 Analyses of the results of all the above surveys has identified that the morning and evening peak hour periods occur between 8:00am - 9:00am and 4:30pm – 5:30pm respectively, as shown on the diagrams attached at **Appendix BGH2**.

Assessment of Existing Peak Hour Junction Capacity

- 4.3 The current peak hour performances of all the junctions within the study area have been assessed using the computer software programs Junctions 8 (which combines PICADY & ARCADY) and LINSIG v3 as appropriate and the results are summarised in the tables below with the full output on the CD at **Appendix BGH23**.

Table 4.1
Clitheroe Road/Wiswell Lane Priority T-Junction
2012 Existing Morning and Evening Peak Hour Traffic Flows

Movement	08:00-09:00			16:30-17:30		
	RFC	Queue (veh)	Mean Delay (mins)	RFC	Queue (veh)	Mean Delay (mins)
B – C Left turn out of Wiswell Lane on to Clitheroe Road	0.35	1	0.16	0.20	0	0.12
B – A Right turn out of Wiswell Lane on to Clitheroe Road	0.12	0	0.20	0.14	0	0.19
C – AB Right turn into Wiswell Lane from Clitheroe Road	0.32	1	0.13	0.27	1	0.11

4.4

The results above show that this junction currently operates within capacity during the 2012 existing morning and evening peak hours given that the maximum ratio of flow to capacity (RFC) is well below the target ratio for new infrastructure of 0.85. Queuing and delay at the junction are also shown to be minimal.

Table 4.2
**Clitheroe Road/Brookes Lane/King Street/
Station Road Mini Roundabout Junction**
2012 Existing Morning and Evening Peak Hour Traffic Flows

Arm	08:00-09:00			16:30-17:30		
	RFC	Queue (veh)	Mean Delay (mins)	RFC	Queue (veh)	Mean Delay (mins)
Arm A - Clitheroe Road	0.81	4	0.64	0.67	2	0.39
Arm B - Brookes Lane	0.03	0	0.30	0.03	0	0.25
Arm C - King Street	0.80	4	0.43	0.70	2	0.28
Arm D - Station Road	0.75	3	0.33	0.79	4	0.41

4.5

The results above show that this junction currently operates within capacity during the 2012 existing morning and evening peak hours given that the

maximum ratio of flow to capacity (RFC) is below the target ratio for new infrastructure 0.85.

Table 4.3
**B6246 King Street/Accrington Road/
King Street Mini Roundabout Junction**
2012 Existing Morning and Evening Peak Hour Traffic Flows

Arm	08:00-09:00			16:30-17:30		
	RFC	Queue (veh)	Mean Delay (mins)	RFC	Queue (veh)	Mean Delay (mins)
Arm A – B6246 King Street	0.98	20	1.87	0.98	19	1.80
Arm B – Accrington Road	0.72	2	0.37	0.63	2	0.27
Arm C – King Street	0.77	3	0.42	0.75	3	0.36

- 4.6 The results above show that whilst this junction currently operates above the target ratio for new infrastructure it is still operating with an RFC below the maximum junction capacity of 1.00 on all approaches in the morning peak and evening peak periods under the 2012 existing traffic demands, with some queuing on the King Street approach from the north.

Table 4.4
A671 Accrington Road/B6246 Accrington Road/A671 Whalley
Easterly By-Pass/Springwood Picnic Site Signalised Crossroads Junction
2012 Existing Morning and Evening Peak Hour Traffic Flows

Link	Existing 2012			
	08:00-09:00		16:30-17:30	
	DoS (%)	Queue	DoS (%)	Queue
1/1 A671 (North) Ahead Left	39.4	5	50.1	6
1/2+ 1/3 A671 (North) Ahead Right	37.7	5	47.9	6
2/1 Spring Wood Left Ahead Right	1.1	0	1.9	0
3/2 + 3/1 A671 (South) Left Ahead	65.2	8	58.2	6
3/3 + 3/4 A671 (South) Right Ahead	53.9	8	57.5	8
4/1 - B6246 Accrington Rd Right Ahead Left	66.5	8	57.4	7
PRC Over All Links (%)	35.3		54.6	

4.7

The analysis of the signalised junction, which does not include pedestrian facilities, has been undertaken using the LINSIG v3 program. The results show that the junction currently operates within capacity during the existing morning and evening peak hour periods. Queuing and delay at the junction are also shown to be minimal.

Table 4.5
**A671 Whalley Easterly By-Pass/Wiswell Lane/
Wiswell Shay Priority Staggered Crossroads Junction**
2012 Existing Morning and Evening Peak Hour Traffic Flows

Movement	08:00-09:00			16:30-17:30		
	RFC	Queue (veh)	Mean Delay (mins)	RFC	Queue (veh)	Mean Delay (mins)
B – CD Straight ahead and left turn out of Wiswell Shay	0.09	0	0.13	0.03	0	0.13
B – A Right turn out of Wiswell Shay	0.09	0	0.39	0.03	0	0.36
AB – D Right turn into Wiswell Lane from A671 and Wiswell Shay	0.41	1	0.23	0.23	0	0.16
D – AB Straight ahead and left turn out of Wiswell Lane	0.33	1	0.20	0.31	0	0.17
D – C Right turn out of Wiswell Lane	0.21	0	0.40	0.06	0	0.31
CD – B Right turn into Wiswell Shay from A671 and Wiswell Lane	0.04	0	0.14	0.11	0	0.15

4.8 The results show that this junction currently operates within capacity during both the morning and evening peak hour periods. Queuing and delay at the junction are also shown to be minimal.

Table 4.6
A59/A671 Whalley Easterly By-Pass Roundabout Junction
2012 Existing Morning and Evening Peak Hour Traffic Flows

Arm	08:00-09:00			16:30-17:30		
	RFC	Queue (veh)	Mean Delay (mins)	RFC	Queue (veh)	Mean Delay (mins)
Arm A – A59 (North)	0.64	2	0.08	0.62	2	0.07
Arm B -	0.58	1	0.10	0.54	1	0.08
A671 Accrington Road	0.50	1	0.07	0.44	1	0.06

- 4.9 The results above show that this junction currently operates within capacity during the 2012 existing morning and evening peak hour periods given that the maximum RFC is well below the target RFC for new infrastructure of 0.85. Queuing and delay at the junction are also shown to be minimal.

Assessment of Existing Residential Traffic Generation in Whalley

- 4.10 In relation to the earlier applications for development on the site, peak hour traffic surveys were undertaken at the junction of King Street/Woodlands Drive in order to identify the local traffic generation rate of the 86 existing houses served off Woodlands Drive.
- 4.11 The results of the surveys are tabulated below and show that the two-way rates during the morning and evening peak hour periods are some 0.7 and 0.8 trips per household respectively. These rates are within the normally accepted range of rates determined from numerous similar traffic surveys undertaken elsewhere in the country and listed on the TRICS database, from which it can be concluded that, existing residential traffic generation rates in Whalley are in line with the national averages.

Table 4.7
Generated Vehicle Trips, Woodlands Drive, Whalley

Assessment Period	Surveyed Trips for 86 Houses			Derived Trip Rates per Household		
	In	Out	Two-way	In	Out	Two-way
08:00 – 09:00	21	40	61	0.244	0.465	0.709
17:00 – 18:00	39	31	70	0.453	0.360	0.813

Assessment of Existing Parking Operation and Capacity within Whalley

- 4.12 Car parking surveys of all the streets and the three car parks within Whalley centre were carried out on Thursday 8 and Saturday 10 November 2012 between the hours of 8:00am – 6:00pm. The locations of the surveys are shown on the schedule attached at **Appendix BGH3** and the full results are on the CD at **Appendix BGH23**.
- 4.13 The results show that the maximum on-street occupancy on a Thursday was 418 i.e. 61% of the total spaces available whilst on the Saturday, the maximum occupancy was 386 i.e. 56%. At the peak time on the Friday, 148 of the 406 vehicles parked up to two hours and on the Saturday, 152 of the 386 vehicles parked for up to two hours. The remainder parked for over two hours.
- 4.14 For the streets within the central area of Whalley shown on the plan attached at **Appendix BGH4**, the maximum on-street occupancy on a Friday was 84 i.e. 92% of the spaces available whilst on the Saturday, the maximum occupancy was 91 i.e. 100%. At the peak time on the Friday, 24 of the 84 (29%) vehicles parked for up to two hours and on the Saturday, 32 of the 91 (35%) vehicles parked for up to two hours.
- 4.15 With regard to parking within the off street private car parks, Zones 19 and 20 are identified as the Swan Hotel (32 spaces) and Whalley Arms (50 spaces) “Pay and Display” car parks respectively. Car park charges of 50p/hour for up to six hours, and £10 over six hours apply at both car parks which, from the car park signage, are privately operated.
- 4.16 The maximum total occupancy of the Swan Hotel and Whalley Arms car parks combined was 43 i.e. 52% on the Friday and 53 i.e. 65% on the Saturday. At the

peak time on the Friday, 24 of the 43 vehicles parked up to two hours and on the Saturday, 33 of the 53 vehicles parked for up to two hours.

- 4.17 At the 16 space, Whalley Railway Station car park, the maximum occupancy was 14 and 11 on the Friday and Saturday respectively and the majority of vehicles parked for four hours or more.
- 4.18 From the results of the above surveys, it is concluded that overall, there is not a shortage of parking provision in Whalley, either within the off-street car parks or on-street. However, within the shopping area, a significant proportion of vehicles were parked on-street for more than two hours on both survey days and only about a quarter of the spaces were available at peak times.

Speed Surveys – Clitheroe Road and Accrington Road

- 4.19 In relation to previous applications for development on the site vehicle speed surveys were undertaken on Clitheroe Road, on Wednesday 24th November 2010, in the vicinity of the proposed site access. The survey was undertaken in accordance with advice contained in TA 22/91 'Vehicle Speed Measurement on All Purpose Roads' with some 100 vehicle speeds recorded in each direction, in free flow conditions. The weather at the time of the survey was dry and fine.
- 4.20 The results of the survey concluded that the mean speed of vehicles travelling in the northbound direction was 32.8mph with an 85th percentile wet weather speed of 34.0mph. The mean speed of vehicles travelling in the southbound direction was recorded as 32.1mph and the 85th percentile wet weather speed of vehicles was 33.7mph.
- 4.21 A vehicle radar speed survey was also undertaken on A671 Whalley Eastern by Pass on Wednesday 24th November 2010 within the vicinity of the proposed site access in order to identify the speed of traffic passing the site frontage in both directions.
- 4.22 The results of the survey, which was also carried out in accordance with the advice contained in TA 22/91, concluded that the mean speed of vehicles travelling in the northbound direction was 50.1mph with an 85th percentile wet weather speed of 55.0mph. The mean speed of vehicles travelling in the southbound direction was recorded as 48.8mph and the 85th percentile wet weather speed of vehicles was 51.9mph. It can be seen that vehicles travelling in both directions are consistently below the speed limit of 60mph applicable to the A671 Whalley Easterly by-Pass on this single carriageway section. The results of both speed surveys are attached at **Appendix BGH5**.

Personal Injury Accidents

- 4.23 Personal injury accident data (PIA) has been obtained from Lancashire County Council's interactive mapping website MARIO (Maps & Related Information Online). The database gives limited accident details, however an assessment of the number, severity, location and time of accidents which have occurred at the junctions identified at paragraphs 4.1 and the highways links between them, has been undertaken. The database covers the previous five years and an accident plot diagram illustrating the locations of these accidents together with supplementary accident information is attached at **Appendix BGH6**.
- 4.24 Within the last five years, one accident of slight severity was recorded at the junction of Clitheroe Road/Wiswell Lane which involving two cars during daylight hours. The weather conditions at the time were fine without high winds. The low number of accidents which have occurred at this priority controlled junction over the last five years indicates that there is no particular accident trend or problem associated with the geometric layout.
- 4.25 No accidents have been recorded on Clitheroe Road between the priority controlled junction of Wiswell Lane and the mini roundabout with Brookes Lane/B6246 King Street/B6246 Station Road, which also includes the length of Clitheroe Road forming the north-western boundary of the site.
- 4.26 One accident of slight severity was recorded at the mini roundabout junction of Clitheroe Road/Brookes Lane/B6246 King Street/B6246 Station Road which involved a collision between a car and a pedal cycle during daylight hours. The weather conditions at the time were fine without high winds. The low number of accidents which have occurred at this mini roundabout junction over the last five years indicates that there is no particular accident trend or problem associated with the geometric layout.
- 4.27 Three accidents, two slight and one serious in severity, were recorded at the zebra crossing on King Street situated within the centre of Whalley adjacent to the junction of George Street. One of the slight accidents involved a collision between two cars during daylight hours in fine weather conditions. The remaining slight accident involved a collision between a car and a pedestrian shortly before sunrise during rain and high winds. The serious accident also involved a collision between a car and a pedestrian which occurred shortly before sunset during fine weather conditions. Over the five year study period, these three recorded accidents do not indicate any particular accident trend or problem associated with the zebra crossing or layout of King Street in the vicinity of George Street.

- 4.28 Three accidents of slight severity were recorded at the mini roundabout junction of B6246 King Street/B6246 Accrington Road/King Street. Two of these accidents involved collisions between a car and a pedestrian, one of which occurred during the early hours of the morning (1:30am) outside the Whalley Arms public house. The remaining pedestrian accident occurred during daylight hours in fine weather. These three accidents do not appear to be linked by any one factor and there is no identifiable accident trend or problem associated with the geometric layout of this mini roundabout junction.
- 4.29 Five accidents were recorded along the entire length of the B6246 Accrington Road between the mini roundabout junction with B6246 King Street and the signal controlled junction with A671 Accrington Road. Four of these accidents were classified as slight in severity with the remaining one classified as serious. Two of the five accidents occurred at the junction with Sydney Avenue with the remaining three each occurring in separate locations. The serious accident occurred some 100.0 metres east of the junction with Sydney Avenue during daylight hours in fine weather conditions without high winds. There appears to be no particular accident trend or problem associated with the length of B6246 Accrington Road or the layout of the junctions along its length.
- 4.30 Twelve accidents were recorded at the signal controlled junction of A671 Accrington Road/B6246 Accrington Road of which nine were slight, two serious and one fatality. None of the above accidents involved collisions with pedestrians. Both serious accidents occurred at separate locations within the junction and each involved collisions with motorcycles. The fatal accident occurred on Saturday 19 January 2008 and involved two cars colliding during the hours of darkness (10:00pm). The weather conditions were poor with rain but without high winds.
- 4.31 To the north of the signal controlled junction, four accidents were recorded on the A671 Whalley Eastern by Pass between the signal junction and the priority controlled junction with Wiswell Lane/Wiswell Shay, a length of some 1.0 kilometre. Of the above four accidents, three were of slight severity and one resulted in a fatality. Each of the slight accidents occurred at separate locations along this length of Whalley Eastern by Pass. The fatal accident occurred some 500.0 metres north of the signal controlled junction on Wednesday 2 January 2008 and involved three cars colliding during darkness (5:29pm) the accident occurring on the section of A671 which is currently unlit. The weather conditions were fine, without high winds. The proposals for this application include improvements to street lighting on the A671 Whalley Easterly By-pass to light the currently unlit section between the existing lighting at the Wiswell Lane/Wiswell

Shay staggered crossroads junction to the north and the lighting at the A671 Accrington Road/B6246 Accrington Road signalised crossroads junction to the south.

- 4.32 Five accidents were recorded at the junction of A671 Accrington Road/Wiswell Lane/Wiswell Shay, four of which were slight with the remaining one classified as serious. Two of the five accidents, including the serious accident, involved collisions between cars and motorcycles. None of the above accidents involved collisions with pedestrians. Over the five year study period, these five recorded accidents do not indicate any particular accident trend or problem associated with this priority controlled junction.
- 4.33 To the north of this priority controlled junction, three accidents were recorded on the A671 Whalley Eastern by Pass between the priority controlled junction and the roundabout junction of A59/A671, a length of some 300.0 metres. Two of these accidents were slight and the third was classified as serious. Each accident occurred in a separate location and none involved collisions with pedestrians. There appears to be no particular accident trend or problem associated with the A671 Whalley Eastern by Pass along this length.
- 4.34 Ten accidents were recorded at the junction of the A59/A671 Whalley Eastern by Pass roundabout, nine of which were slight with the remaining one classified as serious. The accidents are not clustered on any one arm of the roundabout and none of the above accidents involved collisions with pedestrians.
- 4.35 Consideration of the personal injury accidents that have occurred over the last five years in the immediate vicinity of the development site has shown that there have been clusters of accidents at key junctions. However, on the Clitheroe Road and the local roads within the settlement centre there is no evidence of any identifiable accident trends or problems associated with the geometric layout of the links or junctions.

5.0 COMMITTED DEVELOPMENT

- 5.1 As stated in the Introduction to this report in November 2012 outline planning approval was granted for a mixed use development comprising 55 dwellings, a nursing home, car parking, open space and ancillary landscaping on part of the site. This in effect becomes a committed development and the traffic from this partial development on the site will therefore form part of the base position.
- 5.2 A development of 80 residential units at land to the north of Riddings Lane, Whalley with access from Hayhurst Road received planning permission on 16 September 2011 following a public inquiry in which the Inspector concluded 'the proposal would be in accordance with the development plan and Government guidance'. Consistent with the earlier planning applications for the site this Transport Assessment will therefore take into account the traffic impact of this committed development.
- 5.3 On 21 June 2012, application no. 3/2011/0837 for a residential development on land off Pendle Drive, Calderstones, Whalley was approved. The proposed development has therefore been treated as a commitment within this Transport Assessment.
- 5.4 A planning application of some 78 dwellings on land off Accrington Road went to committee on 6 December 2012 and was approved subject to a Section 106 Agreement being signed (Application Ref: 3/2012/0179). This application has been treated as a committed development within this Transport Assessment, on the basis that Lancashire County Council Highways will want to understand the cumulative impact of this development.
- 5.5 None of the three committed developments propose any off-site highways measures to mitigate individually or cumulatively, the impact of the traffic likely to be generated.
- 5.6 The likely peak hour traffic distribution of each of these developments has been reassessed to take account of the proposed route through the application site in line with the methodology described later on within this Transport Assessment in Section 8. Diagrams showing both the original and reassigned peak hour traffic generation for each of these developments are attached at **Appendix BGH7**.

6.0 BASE TRAFFIC OPERATING CONDITIONS

Background Traffic Growth

- 6.1 For the purpose of assessing the impact of ‘natural’ traffic growth on the local highway network, a base year of 2018 has been assumed, five years after the date of the planning application registration which is in accordance with the guidance given within current DfT Guidance on Transport Assessment.
- 6.2 Therefore, in order to establish the 2018 “growthed” (i.e. with traffic growth and without development traffic) traffic demands on the highway network, the existing weekday morning and evening peak hour traffic demands identified at **Appendix BGH2** have been growthed in line with the National Transport Model (NTM) with a local adjustment assuming TEMPRO factors. The 2018 growth factors used in the assessment are 1.052 in the morning peak and 1.054 in the evening peak. The 2018 “growthed” traffic flows are attached at **Appendix BGH8**.

Committed Development Generated Traffic Flows

- 6.3 The diagrams at **Appendix BGH9** show the peak hour traffic generation distributed onto the local highway network from each of the committed developments identified in Section 5. When these are added to the 2018 “growthed” traffic flows, the resultant 2018 “base” traffic flows are obtained and are shown at **Appendix BGH10**.
- 6.4 The junctions within the study area have been assessed using the computer software programs Junctions 8 and LINSIG v3.
- 6.5 The results of the analysis of the operation of the junctions during the 2018 “base” morning and evening peak hour period are summarised in the following tables with the full outputs are on the CD at **Appendix BGH23**.

Table 5.1
Clitheroe Road/Wiswell Lane Priority T-Junction
2018 Base Morning and Evening Peak Hour Traffic Flows

Movement	08:00-09:00			16:30-17:30		
	RFC	Queue (veh)	Mean Delay (mins)	RFC	Queue (veh)	Mean Delay (mins)
B – C Left turn out of Wiswell Lane on to Clitheroe Road	0.38	1	0.16	0.25	0	0.13
B – A Right turn out of Wiswell Lane on to Clitheroe Road	0.14	0	0.22	0.16	0	0.20
C – AB Right turn into Wiswell Lane from Clitheroe Road	0.39	1	0.14	0.32	1	0.32

6.6

The results above show that this junction will continue to operate within capacity during the 2018 base morning and evening peak hours given that the maximum ratio of flow to capacity (RFC) is well below the target ratio for new infrastructure of 0.85. Queuing and delay at the junction are also shown to be minimal.

Table 5.2
**Clitheroe Road/Brookes Lane/King Street/
Station Road Mini Roundabout Junction**
2018 Base Morning and Evening Peak Hour Traffic Flows

Arm	08:00-09:00			16:30-17:30		
	RFC	Queue (veh)	Mean Delay (mins)	RFC	Queue (veh)	Mean Delay (mins)
Arm A - Clitheroe Road	0.96	13	1.90	0.79	4	0.64
Arm B - Brookes Lane	0.04	0	0.40	0.04	0	0.31
Arm C - King Street	0.89	7	0.74	0.79	4	0.41
Arm D - Station Road	0.84	5	0.52	0.88	7	0.72

6.7

The results show that whilst this junction is predicted to operate above the target ratio for new infrastructure, it is still predicted to operate with an RFC below the maximum junction capacity of 1.00 on all approaches in the morning peak and

evening peak periods under the 2018 base morning and evening traffic demands, with minimal queuing.

Table 5.3
**B6246 King Street/Accrington Road/
King Street Mini Roundabout Junction**
2018 Base Morning and Evening Peak Hour Traffic Flows

Arm	08:00-09:00			16:30-17:30		
	RFC	Queue (veh)	Mean Delay (mins)	RFC	Queue (veh)	Mean Delay (mins)
Arm A – B6246 King Street	1.09	70	5.78	1.07	58	4.88
Arm B – Accrington Road	0.79	4	0.48	0.70	2	0.33
Arm C – King Street	0.85	5	0.62	0.83	5	0.55

- 6.8 The results above show that this junction will begin to operate above its maximum junction capacity in the morning and evening peak periods under the 2018 base traffic demands with significant queuing predicted for the King Street approach from the north.

Table 5.4
A671 Accrington Road/B6246 Accrington Road/A671 Whalley
Easterly By-Pass/Springwood Picnic Site Signalised Crossroads Junction
2018 Base Morning and Evening Peak Hour Traffic Flows

Link	Base 2018			
	08:00-09:00		16:30-17:30	
	DoS (%)	Queue	DoS (%)	Queue
1/1 A671 (North) Ahead Left	42.8	5	50.7	6
1/2+ 1/3 A671 (North) Ahead Right	41.1	5	48.7	6
2/1 Spring Wood Left Ahead Right	1.3	0	2.1	0
3/2 + 3/1 A671 (South) Left Ahead	72.2	9	63.3	7
3/3 + 3/4 A671 (South) Right Ahead	58.1	8	57.7	8
4/1 B6246 Accrington Rd Right Ahead Left	71.8	9	64.5	8
PRC Over All Links (%)	24.6		39.5	

- 6.9 The results above show that this junction will continue to operate within capacity during the 2018 base morning and evening peak scenario with the analysis demonstrating a positive Practical Reserve Capacity (PRC). Queuing and delay at the junction are also shown to be minimal.

Table 5.5
**A671 Whalley Easterly/Wiswell Lane/
Wiswell Shay Priority Staggered Crossroads Junction**
2018 Base Morning and Evening Peak Hour Traffic Flows

Movement	08:00-09:00			16:30-17:30		
	RFC	Queue (veh)	Mean Delay (mins)	RFC	Queue (veh)	Mean Delay (mins)
B – CD Straight ahead and left turn out of Wiswell Shay	0.09	0	0.14	0.03	0	0.13
B – A Right turn out of Wiswell Shay	0.10	0	0.42	0.03	0	0.39
AB – D Right turn into Wiswell Lane from A671 and Wiswell Shay	0.48	1	0.27	0.28	0	0.18
D – AB Straight ahead and left turn out of Wiswell Lane	0.40	1	0.23	0.31	0	0.18
D – C Right turn out of Wiswell Lane	0.24	0	0.47	0.22	0	0.41
CD – B Right turn into Wiswell Shay from A671 and Wiswell Lane	0.04	0	0.14	0.05	0	0.14

6.10

The results above show that this junction will continue to operate within capacity during the 2018 base morning and evening peak hours given that the maximum ratio of flow to capacity (RFC) is well below the target ratio for new infrastructure of 0.85. Queuing and delay at the junction are also shown to be minimal.

Table 5.6
A59/A671 Whalley Easterly By-Pass Roundabout Junction
2018 Base Morning and Evening Peak Hour Traffic Flows

Arm	08:00-09:00			16:30-17:30		
	RFC	Queue (veh)	Mean Delay (mins)	RFC	Queue (veh)	Mean Delay (mins)
Arm A – A59 (North)	0.68	2	0.09	0.66	2	0.08
Arm B – A671 Accrington Road	0.63	2	0.11	0.58	1	0.09
Arm C – A59 (South)	0.53	1	0.07	0.47	1	0.06

6.11 The results above show that this junction will continue to operate within capacity in the morning and evening peak periods under the 2018 base traffic demands given that the maximum ratio of flow to capacity (RFC) is below the target ratio for new infrastructure of 0.85. Queuing and delay at the junction are also shown to be minimal.

7.0 THE PROPOSED DEVELOPMENT

The Form of Development

- 7.1 This Transport Assessment assesses the likely impact assuming a full development of the entire 36.1 acre (14.6 hectare) site to accommodate some 260 dwellings and a one form entry (210 pupils) primary school. An indicative master plan is attached at **Appendix BGH11** which shows that the site will be designed to create suitable and attractive pedestrian and cyclist routes which will link with local existing highway and footway provision in order to encourage travel on foot and by cycle. The site layout will also retain public accesses to fields bounding the site including Spring Wood. The internal layout will include the use of shared surface streets and the provision of public open space.

Means of Access

- 7.2 The proposals include two vehicular access points, one at the north east corner of the site off the A671 Whalley Easterly By-pass and one in the centre of the western site frontage off Clitheroe Road on the north western boundary. The two accesses will be connected by a Boulevard which will have a 6.75 metre wide single carriageway with footway or shared cycleway/footway catering for pedestrian and cycle movements on either side with verge areas to create a tree lined route through the site. The design of the Boulevard will embrace the principles of Manual for Streets, through the construction of a wider than usual street of conventional layout, with a central carriageway and broad tree lined verges and footways, thus maintaining a sense of place whilst still offering an ability to carry a relatively large volume of traffic.
- 7.3 The Boulevard will provide a route that will avoid the need for development generated traffic to use either Wiswell Lane or Accrington Road (via King Street) to reach the A671 Whalley Eastern by Pass. Furthermore, a through route in this location will provide some strategic highway benefit for the settlement of Whalley with the potential to reduce two-way vehicle movements on King Street between the two mini-roundabout junctions. The Boulevard also has the potential to reduce two-way vehicle movements on Wiswell Lane which is narrow in parts with stonewalls abutting the edge of the highway, and limited footway provision. The two points of access will also provide the opportunity for a bus service to pass through the site, which would increase accessibility to public transport for residents.

- 7.4 Access to the site from Clitheroe Road will be by way of a simple priority controlled t junction, with a 1 vehicle flare, allowing two vehicles to wait side by side at the give way line as shown on drawing 10-228-TR-023 at **Appendix BGH12**. Visibility splays of 2.4 metres by 43.0 metres will be provided for emerging drivers, consistent with the prevailing speed limit of 30mph and the speed of traffic using Clitheroe Road.
- 7.5 Access to the site from the A671 Whalley Easterly By-pass will be by way of a traffic signal controlled t junction. As described earlier on in this report the adjacent junction directly to the south at Accrington Road is a signalised crossroads and therefore the precedent for traffic signal control at junctions on the by-pass already been established. The layout will include improvements to street lighting on the A671 Whalley Easterly By-pass to light the currently unlit section between the existing lighting at the Wiswell Lane/Wiswell Shay staggered crossroads junction to the north and the lighting at the A671 Accrington Road/B6246 Accrington Road signalised crossroads junction to the south. This will improve road safety on the currently unlit section of the A671 Whalley Easterly By-pass. The proposed junction and improvements are shown on drawing 10-228-TR-024 attached at **Appendix BGH13**.

On Street Parking

- 7.6 On-street parking within the centre of Whalley is clearly an issue, and site observations have shown that the ability for vehicles to park either side of the street, along certain sections, results in issues for the free flow of through traffic. Our own surveys presented in Section 4 have shown that overall there is not a shortage of parking within the settlement centre, and therefore any displaced long stay parking from King Street could easily be accommodated elsewhere on other streets within the settlement centre. Whilst it is not part of this application to propose waiting restrictions within the settlement centre to reduce on street parking on King Street, the introduction of such measures would clearly improve traffic conditions within the centre of Whalley.

Traffic Calming

- 7.7 It is understood that LCC has an aspiration to introduce a 20mph blanket speed limit which would encompass the whole of the road network within the settlement of Whalley. The introduction of a 20 mph speed limit on Clitheroe Road at the site access junction would clearly improve safety for all road users including pedestrians, cyclists and the children and parents travelling to and from the Primary School. In order to ensure compliance with a 20 mph speed limit it is likely that a system of traffic calming measures would be required on Clitheroe Road to ensure that speeds in the vicinity of the proposed site access junction are

maintained below the speed limit. Whilst it is not part of this application to propose traffic calming on Clitheroe Road, and the site access junction has been designed to reflect the prevailing speed of traffic on Clitheroe Road, the introduction of such measures would clearly improve traffic conditions at the site access.

Site Accessibility

7.8

In accordance with Table G of the Joint Lancashire Structure Plan 2001 - 2016 Supplementary Planning Guidance (SPG), the table below is a completed Accessibility Questionnaire for the proposed development site. This methodology is in accordance with para 4.9 of the SPG which states 'the listed facilities should be on site or within 100 metres of the site entrance.

LCC Accessibility Questionnaire

Facility	Distance/Frequency	Accessibility score
Bus Stop	Less than 400m	3
Railway station	Between 800m-1km	1
Primary School	Less than 200m	5
Food Shop	Greater than 600m	0
Cycle Route	Greater than 1km	1
Secondary School	Greater than 1km	0
Town centre	Greater than 4km	0
Business Park /employment centre	Greater than 4km	0
Bus frequency	15 minutes or less	5
Train frequency	30 minutes or less	3
Accessibility to other services	At least 3 within 800m	3
Play Area/park	less than 200m	5
Total	-	26

- 7.9 The table shows that the proposed development scores 26 which is defined as medium accessibility in the SPG.

8.0 SUSTAINABLE TRANSPORT AND ACCESSIBILITY

On Foot

- 8.1 The Institution of Highways and Transportation publication [2000] 'Guidelines for providing for Journeys on Foot' notes that walking accounts for over a quarter of all journeys and four-fifths of journeys less than one mile (1.6 kilometres).
- 8.2 Walking is also an essential part of public transport travel with bus stops and in some instances railway stations usually being accessed on foot. Promoting sustainable, integrated transport involves providing good pedestrian links to public transport facilities that are currently available to the development site.
- 8.3 The IHT Guidelines also describe 'acceptable' walking distances for pedestrians without any mobility impairment. They suggest that, for commuting and education, up to 500 metres is the desirable distance, up to 1000 metres is an acceptable distance and 2000 metres is the preferred maximum.
- 8.4 In September 2001 the Department for Transport, Local Government and the Regions in conjunction with CABI published 'Better places to live: By design – A companion guide to PPG3'. This recommends that initial analyses of housing development sites within their surroundings, whether on the urban fringe or the centres of a town, should include greater emphasis on:-
- local facilities and community infrastructure,
 - sport network, and
 - established walking and cycling routes,
- so as to achieve more sustainable patterns of movement and reduce people's reliance on private cars for making journeys. It recommends that having established a site's broad setting in terms of its relationship to a city, town or village centre, a good starting point is to examine the area within 10 minutes' (about 800.0 metres) walking distance of the site. This can help to identify the range of facilities which residents may access comfortably on foot, as well as opportunities to reach more distant facilities by public transport.
- 8.5 Manual for Streets also identifies that walkable neighbourhoods are typically characterised by having a range of facilities which are within ten minutes (up to about 800 metres) walking distance but that this is not an upper limit and that the former PPG13 states that walking offers the greatest potential to replace short car trips, particularly those under 2.0 kilometres. Guidelines for Providing for

Journeys on Foot (2000) sets out that the 'preferred maximum' acceptable walking distance to town centres for pedestrians without mobility impairment, which may be used for planning and evaluation purposes, should be 800 metres but it recognises:-

".....that it is not always possible to achieve ideal results in all situations due to site constraints, costs or other practicalities and that compromises must sometimes, rightly, be made."

and it goes on to advise that some 80% of walk journeys in urban areas are less than 1.0 mile long and that the average length is 1.0 kilometre (0.6 miles) and that this differs little by age or by sex.

- 8.6 The plan at **Appendix BGH14** shows the 800 metre walk distances measured from the centre of the site and using the most convenient pedestrian access point via the public footpath of Brookes Lane. It can be seen that the entire settlement of Whalley falls within the 800 metre walk distance (up to the junction of King Street/Abbey Passage) which the Institution of Highways and Transportation publication 'Guidelines for Providing for Journeys on Foot' considers as the 'desirable' walking distance to access facilities comfortably on foot. The plan attached at **Appendix BGH14** shows the range of facilities within the centre of Whalley within the 800 metre walking distance. From this plan it can also be seen that Whalley Railway Station is within 800 metres walking distance from the centre of the site.
- 8.7 Between the site and the centre of Whalley there is continuous, well lit and overlooked footway provision. A further plan at **Appendix BGH14** shows the 1600 and 2000 metre walking isochrones based on straight line distances from the centre of the site.
- 8.8 It is concluded that the location of the development site is such that it will encourage the opportunity to walk whatever the journey purpose and therefore the site can be considered as being very accessible by foot.

By Public Transport

- 8.9 The Institution of Highways and Transportation publication 'Planning for Public Transport in Development' states:

"The maximum walking distance to a bus stop should not exceed 400m and preferably be no more than 300m. These distances are quoted for guidance, and should not be followed slavishly if that would lead to complex or indirect bus routes"

- 8.10 The nearest bus stops to the site are situated on Clitheroe Road and are well within 400 metres from the centre of the development and therefore accord with the above guidelines. The bus stops situated on Station Road are located just outside of the 400 metre walking distance, at 450 metres via Brookes Lane, however this distance will not form a barrier to those residents wishing to utilise the bus services on Station Road. Whalley Bus Station is located some 550 metres walking distance from the centre of the development and with a wide range of services available and the measures aimed at encouraging public transport access, contained within the accompanying Travel Plan, it is considered that this will be attractive to residents of the proposed development.
- 8.11 The bus stops on Clitheroe Road are currently the most frequently served with eight services stopping and a combined frequency of seven journeys per hour from these stops during peak times. The bus stops situated on Station Road provide two services with a combined frequency of one journey per hour. The buses which utilise these stops provide services to destinations such as Clitheroe and Blackburn with journey times of some 15 and 30 minutes respectively. The bus routes that operate on Clitheroe Road and Station Road are shown on the summary attached at **Appendix BGH15** along with full details of the service provision throughout the week.
- 8.12 As previously indicated, the nearest railway station to the site is Whalley. The station is managed by Northern Rail and lies on the Manchester to Blackburn and Clitheroe line. There are approximately two services per hour throughout the day to the above destinations.
- 8.13 The two points of site access to the site, on Clitheroe Road and A671 Whalley Easterly by-Pass, would ultimately provide the opportunity for a through bus service within the site, which would increase bus accessibility for residents.
- 8.14 It is concluded that the development site is very well situated to encourage trips by public transport as a viable alternative to the private car.

For Cyclists

- 8.15 The Department of the Environment publication [1996] 'PPG13: A Guide to Better Practice' states that the bicycle is an ideal mode of transport for journeys under 8 kilometres. The former PPG13 from March 2001 states that cycling "has clear potential to substitute for short car trips, particularly those under 5km, and to form part of a longer journey by public transport."
- 8.16 The plan at **Appendix BGH16** shows the 5.0 kilometre and 8.0 kilometre cycling isochrones and it can be seen that Clitheroe and Whalley are both within 5.0

kilometres of the site and the 8.0 kilometre isochrone takes in parts of Padiham along with the settlements of great Harwood, Waddington, Grindleton and Chatburn. Regional Routes 90 and 91 of the Lancashire Cycleway pass close to the site, on Clitheroe Road and Station Road, and in this vicinity are on-road cycle routes.

- 8.17 It is concluded that the development site is well served by local and regional cycle routes and overall is very accessible by cycle.

Travel Planning

- 8.18 The overall accessibility of the site will be assisted by the implementation of a Framework Travel Plan as required by Lancashire County Council to further the aims and objectives of the Sustainable Transport Policy by promoting the use of alternative modes of transport and reducing the need to travel by private car.
- 8.19 A Framework Travel Plan has therefore been prepared to accompany the planning application and once approved this will provide a detailed framework which will be used as the basis for the Travel Plan that will be implemented and maintained for the development.

9.0 TRAFFIC GENERATION AND DISTRIBUTION

Traffic Generation

- 9.1 As stated in Section 1, there is an existing approval for 55 dwelling on the site therefore the traffic generation of 205 of the proposed 260 dwellings on the site has been assessed. The residential trip rates derived from the Woodlands Drive traffic survey are considered to be representative and typical of rates in Whalley and therefore they have been applied to the 205 dwellings, as shown in the table below:

Table 8.1
Generated Vehicle Trips

Proposed Residential Development - Lawsonsteads

Assessment Period	Trip Rates per Household			Trips for 205 Dwellings		
	In	Out	Two-way	In	Out	Two-way
08:00 – 09:00	0.244	0.465	0.709	50	95	145
17:00 – 18:00	0.453	0.360	0.813	93	74	167

- 9.2 It can be seen that 205 dwellings is likely to generate some 145 two-way vehicle movements in the morning peak and 167 in the evening peak.
- 9.3 The proposals also include a one form entry (210 pupil) primary school to serve the local catchment area. It is envisaged that the School will attract pupils from a local catchment within easy walking distance, and whilst a number of lay by spaces are provided along the Boulevard, no on site drop off facility is provided at the school to deter parents from driving. It should be noted that the school will be required to develop a Travel Plan which will include initiatives such as a walking bus aimed at reducing the amount of cars that are used to drop children off at school. Clearly a significant proportion of trips generated by the school will be internal within the site or are likely to be part of another journey, i.e. journey to work, and will therefore be inherent within the residential trips. There will clearly be some trips to the school from existing residential development, but many of these trips will already be on the network and form part of the traffic flows reassigned through the site as part of the reassigned traffic. In view of the above no specific account of traffic generated by the school has been included within this Transport Assessment. .

Traffic Distribution

- 9.4 The traffic distribution for development traffic from the site has previously been agreed with officers at LCC as part of the Transport Assessment in support of the original applications for development on the site, and has been re- adopted as part of this assessment and is attached at **Appendix BGH17**.
- 9.5 The resulting assignment of peak hour generated traffic is shown on the diagrams at **Appendix BGH18**.

Existing Traffic Reassignment to Boulevard through the site

- 9.6 The provision of a Boulevard through the application site connecting the A671 Whalley Easterly by-Pass with Clitheroe Road has the potential to provide a strategic highway benefit to the settlement of Whalley by providing an alternative east-west route, and therefore reducing two-way vehicle movements on King Street, Accrington Road and Wiswell Lane.
- 9.7 The following methodology has been adopted to demonstrate the potential reassignment of vehicle movements on to the proposed Boulevard. Vehicles that currently use King Street and Accrington Road travelling to/from the south between Station Road and the A671 Accrington Road, will be able to use the link road as an alternative route which is likely to reduce journey times during peak hour periods when the existing settlement centre is at its busiest. Clearly some drivers will stay on their existing route, and therefore we have reassigned 50% of the vehicle movements travelling between Station Road and the A671 Accrington Road on to the proposed Boulevard. Likewise, vehicles that currently use Clitheroe Road and Wiswell Lane travelling to/from Whalley will be able to use the link road as an alternative route and again 50% of this traffic has been assigned to the new Boulevard. Adopting these % reassignments, based on existing turning proportions some 287 i.e. 32% and 271 i.e. 30% of the total two-way vehicle movements that currently use Accrington Road will reassign on to the link road in the morning and evening peak hours, respectively. Likewise, some 181 i.e. 42% and 127 i.e. 41% of the total two-way vehicle movements that currently use Wiswell Lane will reassign on to the link road in the morning and evening peak hours, respectively. The diagrams at **Appendix BGH19** show the likely traffic reassignment.
- 9.8 Based on this methodology, revised 2018 “growthed” morning and evening peak hour traffic flows which take account of the link road reassignment are shown on the diagrams at **Appendix BGH20**. These have been added to the revised committed development flows at **Appendix BGH7**, resulting in revised 2018 “base” traffic flows attached at **Appendix BGH21**. The generated traffic flows at

Appendix BGH18 have been added to the revised 2018 “base” traffic flows, resulting in the 2018 “predicted” morning and evening traffic flows and these are attached at **Appendix BGH22**.

10.0 TRAFFIC IMPACT OF THE DEVELOPMENT PROPOSALS

- 10.1 For the purposes of assessing the traffic impact of the development on the local highway network, a Design Year of 2018 has been assumed, five years after the date of the planning application registration which is in line with guidance given within current DfT guidance on the preparation of Transport Assessment. The 2018 “Predicted” morning and evening peak hour flows at each junction under consideration are shown on the diagrams attached at **Appendix BGH22**.
- 10.2 Summaries of the capacity assessment results for the junctions within the study area under the 2018 “predicted” (i.e. with traffic growth, committed development traffic, reassigned base traffic and proposed development traffic) morning and evening peak hour flows are shown in the tables below. The Junctions 8 and LINSIG v3 output data is on the CD at **Appendix BGH23**.

Table 9.1
Clitheroe Road/Wiswell Lane Priority T-Junction
2018 Predicted Morning and Evening Peak Hour Traffic Flows

Movement	08:00-09:00			16:30-17:30		
	RFC	Queue (veh)	Mean Delay (mins)	RFC	Queue (veh)	Mean Delay (mins)
B – C Left turn out of Wiswell Lane on to Clitheroe Road	0.16	0	0.12	0.19	0	0.12
B – A Right turn out of Wiswell Lane on to Clitheroe Road	0.10	0	0.19	0.13	0	0.19
C – AB Right turn into Wiswell Lane from Clitheroe Road	0.21	0	0.10	0.17	0	0.09

- 10.3 When compared with the 2018 base situation, the results show that as a result of the proposed Boulevard and consequent reduction in two-way vehicle movements on Wiswell Lane, this junction will operate with increased residual capacity during the 2018 predicted morning and evening peak hours. Queuing and delay at the junction are shown to be minimal.

Table 9.2
**Clitheroe Road/Brookes Lane/King Street/
Station Road Mini Roundabout Junction**

2018 Predicted Morning and Evening Peak Hour Traffic Flows

Arm	08:00-09:00			16:30-17:30		
	RFC	Queue (veh)	Mean Delay (mins)	RFC	Queue (veh)	Mean Delay (mins)
Arm A - Clitheroe Road	0.96	14	1.74	0.76	3	0.47
Arm B - Brookes Lane	0.04	0	0.04	0.03	0	0.25
Arm C - King Street	0.77	3	0.42	0.76	2	0.31
Arm D - Station Road	0.82	4	0.44	0.87	6	0.87

10.4

When compared with the base situation, the results above show that with the introduction of the Boulevard through the site and subsequent reassignment of existing vehicle movements at this junction, it will operate with increased residual capacity during the 2018 predicted morning and evening peak hours. Whilst the junction is still predicted to operate with RFC's above the target ratio for new infrastructure, it is still predicted to operate with RFC's below the maximum junction capacity of 1.00 on all approaches in the morning peak and evening peak periods under the 2018 base morning and evening traffic demands, with minimal queuing.

Table 9.3
**B6246 King Street/Accrington Road/
King Street Mini Roundabout Junction**

2018 Predicted Morning and Evening Peak Hour Traffic Flows

Arm	08:00-09:00			16:30-17:30		
	RFC	Queue (veh)	Mean Delay (mins)	RFC	Queue (veh)	Mean Delay (mins)
Arm A – B6246 King Street	0.86	6	0.63	0.86	6	0.63
Arm B – Accrington Road	0.55	1	0.24	0.55	1	0.24
Arm C – King Street	0.75	3	0.34	0.75	3	0.34

- 10.5 When compared with the base situation, the results above show that the introduction of the Boulevard through the site and subsequent reassignment of existing vehicle movements has a significant impact on the operation of this junction, and it will operate with increased residual capacity during the 2018 predicted morning and evening peak hours. Whilst the junction is still predicted to operate with RFC's just above the target ratio for new infrastructure, it is still predicted to operate with RFC's well below the maximum junction capacity of 1.00 on all approaches in the morning peak and evening peak periods under the 2018 base morning and evening traffic demands, with minimal queuing.

Table 9.4
A671 Accrington Road/B6246 Accrington Road/A671 Whalley
Easterly By-Pass/Springwood Picnic Site Signalised Crossroads Junction
2018 Predicted Morning and Evening Peak Hour Traffic Flows

Link	Predicted 2018			
	08:00-09:00		16:30-17:30	
	DoS (%)	Queue	DoS (%)	Queue
1/1 A671 (North) Ahead Left	43.8	5	51.5	6
1/2+ 1/3 A671 (North) Ahead Right	41.9	5	49.4	6
2/1 Spring Wood Left Ahead Right	1.3	0	2.1	0
3/2 + 3/1 A671 (South) Left Ahead	72.3	9	63.4	7
3/3 + 3/4 A671 (South) Right Ahead	58.4	8	58.6	8
4/1 B6246 Accrington Rd Right Ahead Left	71.8	9	64.5	8
PRC Over All Links (%)	24.5		39.5	

- 10.6 When compared with the base situation, the results above show that with the introduction of the proposed Boulevard and subsequent reassignment of existing vehicle movements at this junction, the analysis predicts that there will be no

noticeable reduction in Practical Reserve Capacity (PRC). Queuing and delay at the junction are shown to be minimal.

Table 9.5
**A671 Whalley Easterly By-Pass/Wiswell Lane/
Wiswell Shay Priority Staggered Crossroads Junction**
2018 Predicted Morning and Evening Peak Hour Traffic Flows

Movement	08:00-09:00			16:30-17:30		
	RFC	Queue (veh)	Mean Delay (mins)	RFC	Queue (veh)	Mean Delay (mins)
B – CD Straight ahead and left turn out of Wiswell Shay	0.10	0	0.14	0.03	0	0.13
B – A Right turn out of Wiswell Shay	0.11	0	0.46	0.04	0	0.41
AB – D Right turn into Wiswell Lane from A671 and Wiswell Shay	0.28	0	0.20	0.17	0	0.16
D – AB Straight ahead and left turn out of Wiswell Lane	0.25	0	0.18	0.19	0	0.16
D – C Right turn out of Wiswell Lane	0.13	0	0.42	0.12	0	0.38
CD – B Right turn into Wiswell Shay from A671 and Wiswell Lane	0.04	0	0.15	0.05	0	0.14

10.7

When compared with the base situation, the results show that with the introduction of the proposed Boulevard and reduction in two-way vehicle movements on Wiswell Lane, this junction will operate with increased residual capacity during the 2018 predicted morning and evening peak hours. Queuing and delay at the junction are shown to be reduced.

Table 5.6
A59/A671 Whalley Easterly By-Pass Roundabout Junction
2018 Predicted Morning and Evening Peak Hour Traffic Flows

Arm	08:00-09:00			16:30-17:30		
	RFC	Queue (veh)	Mean Delay (mins)	RFC	Queue (veh)	Mean Delay (mins)
Arm A – A59 (North)	0.69	2	0.09	0.67	2	0.08
Arm B – A671 Accrington Road	0.64	2	0.11	0.59	1	0.09
Arm C – A59 (South)	0.54	1	0.07	0.47	1	0.06

10.8 When compared with the base situation, the results above show that this junction will continue to operate within capacity in the morning and evening peak periods under the 2018 predicted traffic demands given that the maximum ratio of flow to capacity (RFC) is below the target ratio for new infrastructure of 0.85. Queuing and delay at the junction are also shown to be minimal.

10.9 In conclusion, when compared with the 2018 base situation, the 2018 predicted assessment has shown that with the introduction of the proposed Boulevard through the application site, the residual capacity will increase or be no worse at all but one of the junctions within the study area to the betterment of the settlement of Whalley. The residual capacity at the A59/A671 Whalley Easterly By-pass roundabout junction is shown to marginally reduce, however the junction will continue to operate within capacity with minimal queuing and delay.

11.0 PROPOSED SITE ACCESS OPERATION

11.1 The operation of the proposed priority site access junction, off Clitheroe Road and the traffic signal junction onto the A671 Whalley Easterly By-pass have been assessed under the predicted traffic demands.

11.2 A summary of the capacity assessment results for the site access junctions under the predicted morning and evening peak hour flows are shown in the tables below. The Junctions 8 and LINSIG v3 output data is on the CD at **Appendix BGH23**.

Table 10.1
2018 Predicted Morning and Evening Peak Hour Traffic Flows
Clitheroe Road/Site Access Priority T-Junction

Movement	08:00-09:00			16:30-17:30		
	RFC	Queue (veh)	Mean Delay (mins)	RFC	Queue (veh)	Mean Delay (mins)
B – C Left turn out of Site Access on to Clitheroe Road	0.52	1	0.24	0.33	0	0.16
B – A Right turn out of Site Access on to Clitheroe Road	0.37	1	0.35	0.33	0	0.30
C – AB Right turn into Site Access from Clitheroe Road	0.51	1	0.17	0.56	2	0.19

11.3 The results above show that the junction onto Clitheroe Road will operate within capacity during the 2018 predicted morning and evening peak hours given that the maximum ratio of flow to capacity (RFC) is well below the target ratio for new infrastructure of 0.85.

Table 10.2
2018 Predicted Morning and Evening Peak Hour Traffic Flows
A671 Whalley Easterly By-Pass/Site Access Traffic Signal Controlled
Junction

Link	Predicted 2018			
	08:00-09:00		16:30-17:30	
	DoS (%)	Queue	DoS (%)	Queue
1/1 A671 (North) Ahead Left	58.8	8	63.8	10
1/2+ 1/3 A671 (North) Ahead Right	78.5	15	71.5	12
2/1 Spring Wood Left Ahead Right	78.6	7	71.5	6
PRC Over All Links (%)	14.6		26.0	

The results above show that the junction onto the A671 Whalley Eastern by Pass will operate with Degree of Saturations (DofS) below 90% on all approaches and an overall positive PRC in excess of 10% in both peaks.

11.4

From the results tabulated above, it can be seen that both of the proposed site access junctions will operate well within capacity under the morning and evening peak hour predicted traffic demands.

12.0 SUMMARY AND CONCLUSIONS

- 12.1 This Transport Assessment forms part of a planning application submitted on behalf of Commercial Estates Group Ltd for the development of land situated to the north east of Whalley in Lancashire for which the Local Planning Authority is Ribble Valley Borough Council and the Highway Authority for the area is Lancashire County Council. The Application is in outline with all matters reserved for future determination except the means of access. The outline application comprises 260 dwellings and a 210 pupil primary school. A separate Framework Travel Plan has been prepared for submission with the planning application.
- 12.2 There is currently no formal vehicular access into the site, however accesses that conform to current design standards will be provided directly from both Clitheroe Road and the A671 Whalley Easterly By-pass in the form of a priority T-junction and traffic signal controlled junction. The two accesses will be connected by a Boulevard which will embrace the principles of Manual for Streets, through the construction of a wider than usual street of conventional layout, with a central carriageway and broad tree lined verges and footways, thus maintaining a sense of place whilst still offering an ability to carry a relatively large volume of traffic. Convenient pedestrian and cycle linkages to the local highway network will also be provided and the public right of way that currently crosses the site will be retained.
- 12.3 The Boulevard will provide a route that will avoid the need for development generated traffic to use Wiswell Lane and Accrington Road (via King Street) to reach the A671 Whalley Eastern by Pass. Furthermore, a through route in this location will provide a strategic benefit for the settlement of Whalley with the potential to reduce two-way vehicle movements on King Street between the Station Road and Accrington Road mini-roundabout junctions which is sometimes congested due to on-street parking causing traffic delays during peak periods. The Boulevard also has the potential to reduce two-way vehicle movements on Wiswell Lane which is narrow in parts with stonewalls abutting the edge of the highway and limited footway provision.
- 12.4 The site is very well located to encourage trips other than by private car, being within recommended walking distance to bus stops, Whalley Bus and Railway Stations and the settlement of Whalley itself and all the facilities it provides. Furthermore, the provision of the Boulevard will provide the opportunity for buses to penetrate the site, which would increase public transport accessibility for residents. The implementation of a Travel Plan at the site will also assist in

minimising the level of peak hour journeys particularly single occupancy vehicle trips.

- 12.5 The operational impact assessments carried out demonstrate that whilst the mini roundabout junctions within the settlement centre are currently operating at capacity during the peak periods, the provision of the Boulevard and the traffic relief it provides will reduce two-way vehicle movements on King Street, Accrington Road as well as Wiswell Lane to the betterment of the settlement of Whalley.
- 12.6 The report demonstrates that both of the proposed site access junctions will operate well within capacity under the morning and evening peak hour predicted traffic demands
- 12.7 Consideration of the personal injury accidents that have occurred over the last five years in the vicinity of the development has shown that there have been some small clusters of accidents at key junctions away from the settlement centre. The proposals for this application include improvements to street lighting on the A671 Whalley Eastern by-Pass to light the currently unlit section between the existing lighting at the Wiswell Lane/Wiswell Shay staggered crossroads junction to the north and the lighting at the A671 Accrington Road/B6246 Accrington Road signalised crossroads junction to the south. This will help to reduce the potential for future accidents on this link.
- 12.8 Parking surveys in the settlement of Whalley have shown that overall there is not a shortage of on-street parking spaces within the settlement centre, however, the surveys have shown that a significant proportion of parking on King Street exceeds two hours and this results in a perceived shortfall of spaces for shoppers. Whilst it is not part of this application to propose waiting restrictions within the settlement centre to reduce on street parking on King Street, the introduction of such measures would clearly improve traffic conditions within the centre of Whalley.
- 12.9 Lancashire County Council has an aspiration to introduce a blanket 20 mph speed limit within the settlement of Whalley, and whilst it is not part of this application to propose traffic calming on Clitheroe Road associated with the introduction of a reduced speed limit, and the site access junction has been designed to reflect the prevailing speed of traffic on Clitheroe Road, the introduction of such measures would clearly improve traffic conditions at the site access.
- 12.10 With regard to the Government's planning policy, the development fully accords with the objectives of NPPF in that it is situated in a sustainable location which

offers a range of community facilities with good access to jobs, key services and infrastructure. The development also meets the objectives of NPPF and the North West of England RSS in that the location of the site promotes sustainable transport choices for accessibility to jobs, shopping, leisure facilities and services by public transport, walking and cycling, and also helps to reduce the need to travel, especially by car through the implementation of the Framework Travel Plan.

12.11 The Framework Travel Plan also helps to achieve the objectives of the Lancashire Local Transport Plan by encouraging journeys to work and school by more sustainable modes.

12.12 In conclusion it is considered that there is no highway or transport-related reason why these development proposals should not be granted planning permission subject to the construction of site access junction on Clitheroe Road, the site access junction onto the A671 Whalley Eastern by Pass and associated improvements to street lighting, the construction of the Boulevard linking the two site accesses and the implementation of the measures contained within the Framework Travel Plan.

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APPENDIX BGH 1

APPENDIX BGH 2

The diagram illustrates a road network with the following roads and junctions:

- Roads:** A59, A671 WHALLEY EASTERLY BYPASS, CLITHEROE ROAD, WISWELL LANE, BROOKES LANE, B6246 KING STREET, B6246 ACCRINGTON ROAD, KING STREET, SPRING WOOD PICNIC SITE.
- Junctions:**
 - Junction 1: A59 and A671 WHALLEY EASTERLY BYPASS.
 - Junction 2: CLITHEROE ROAD and A671 WHALLEY EASTERLY BYPASS.
 - Junction 3: CLITHEROE ROAD and WISWELL LANE.
 - Junction 4: CLITHEROE ROAD and BROOKES LANE.
 - Junction 5: CLITHEROE ROAD and B6246 KING STREET.
 - Junction 6: B6246 KING STREET and B6246 ACCRINGTON ROAD.
 - Junction 7: B6246 ACCRINGTON ROAD and A671 WHALLEY EASTERLY BYPASS.
 - Junction 8: B6246 ACCRINGTON ROAD and SPRING WOOD PICNIC SITE.

Vehicular Flows Legend:

- Motor cycles and pedal cycles
- Cars and light goods vehicles
- Heavy goods vehicles
- Buses

Data Tables (Vehicle Counts/Flows):

Junction 1 (A59/A671):

2	633	17
0	128	8
32	3	3

Junction 2 (CLITHEROE/A671):

1	585	37
10	10	10

Junction 3 (CLITHEROE/WISWELL):

2	198	2
34	1	1
11	11	11

Junction 4 (CLITHEROE/BROOKES):

1	137	12
4	4	4

Junction 5 (CLITHEROE/B6246):

2	148	5
3	220	3
0	0	0

Junction 6 (B6246/B6246):

5	310	8
1	293	22
11	11	9

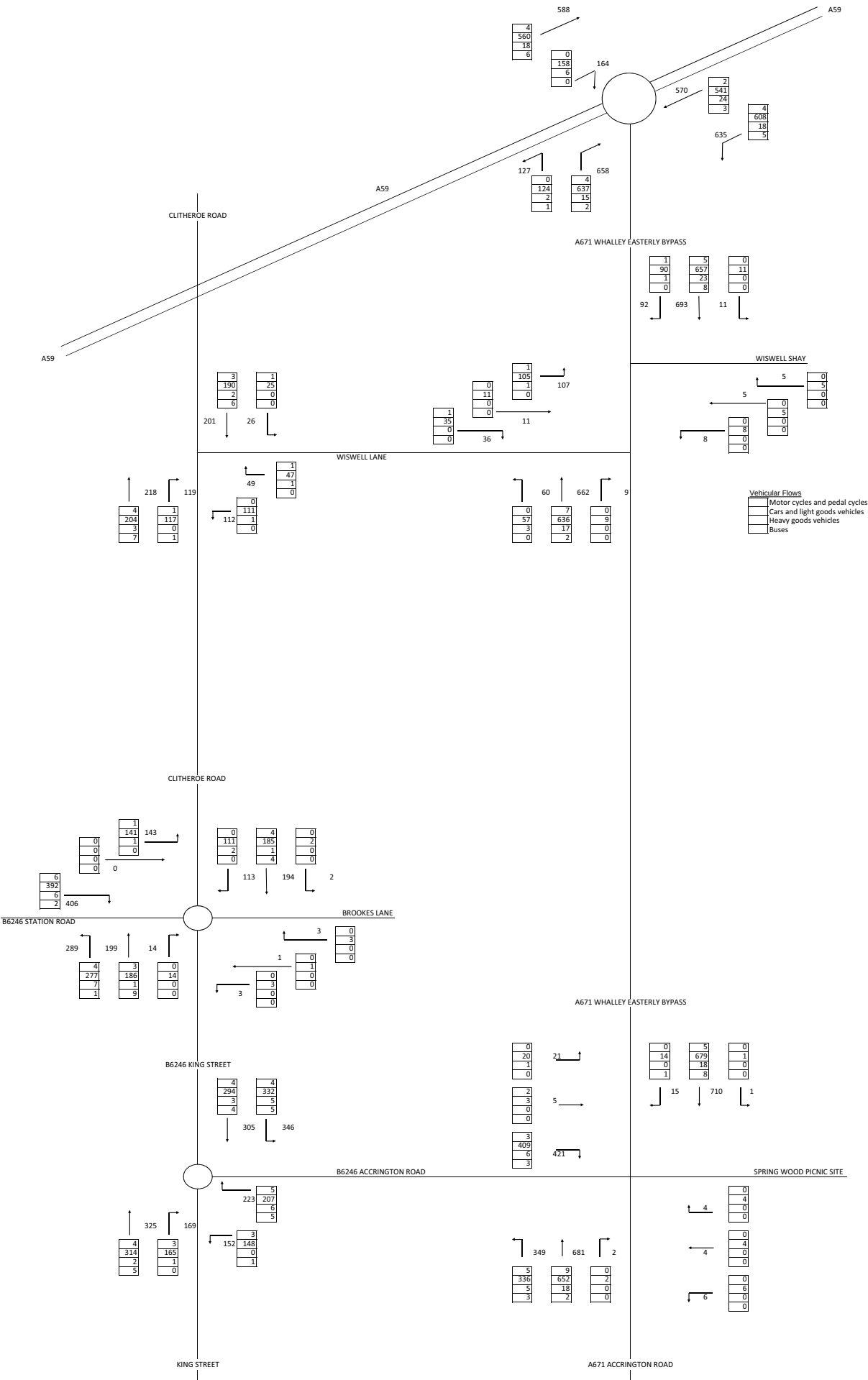
Junction 7 (B6246/A671):

0	15	1
4	4	4
0	0	0

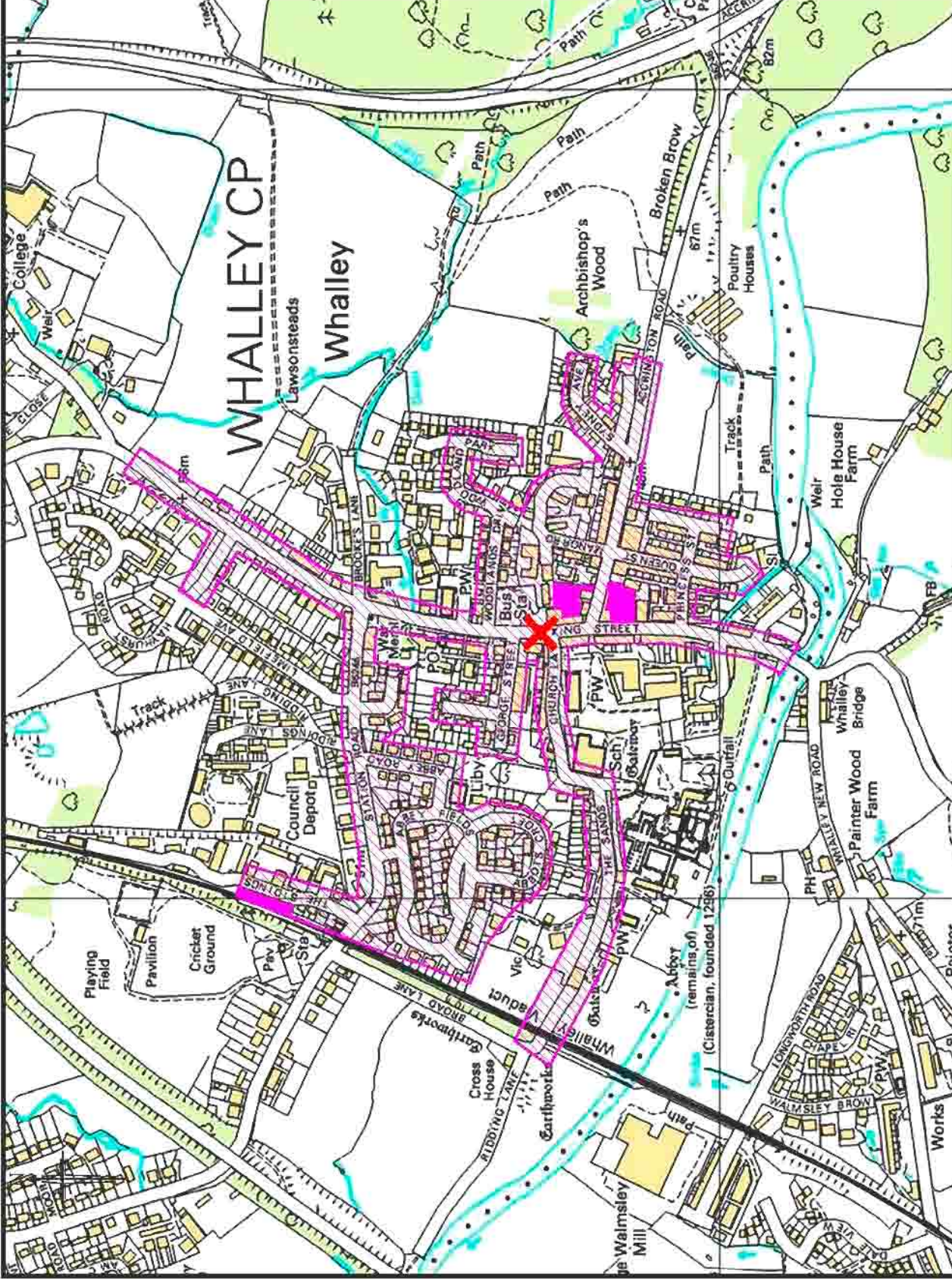
Junction 8 (B6246/SPRING WOOD):

3	375	18
5	663	37
0	14	0

2012 EXISTING TRAFFIC FLOWS
LAWSONSTEDS, WHALLEY
4:30 pm - 5:30 pm



APPENDIX BGH 3



KEY

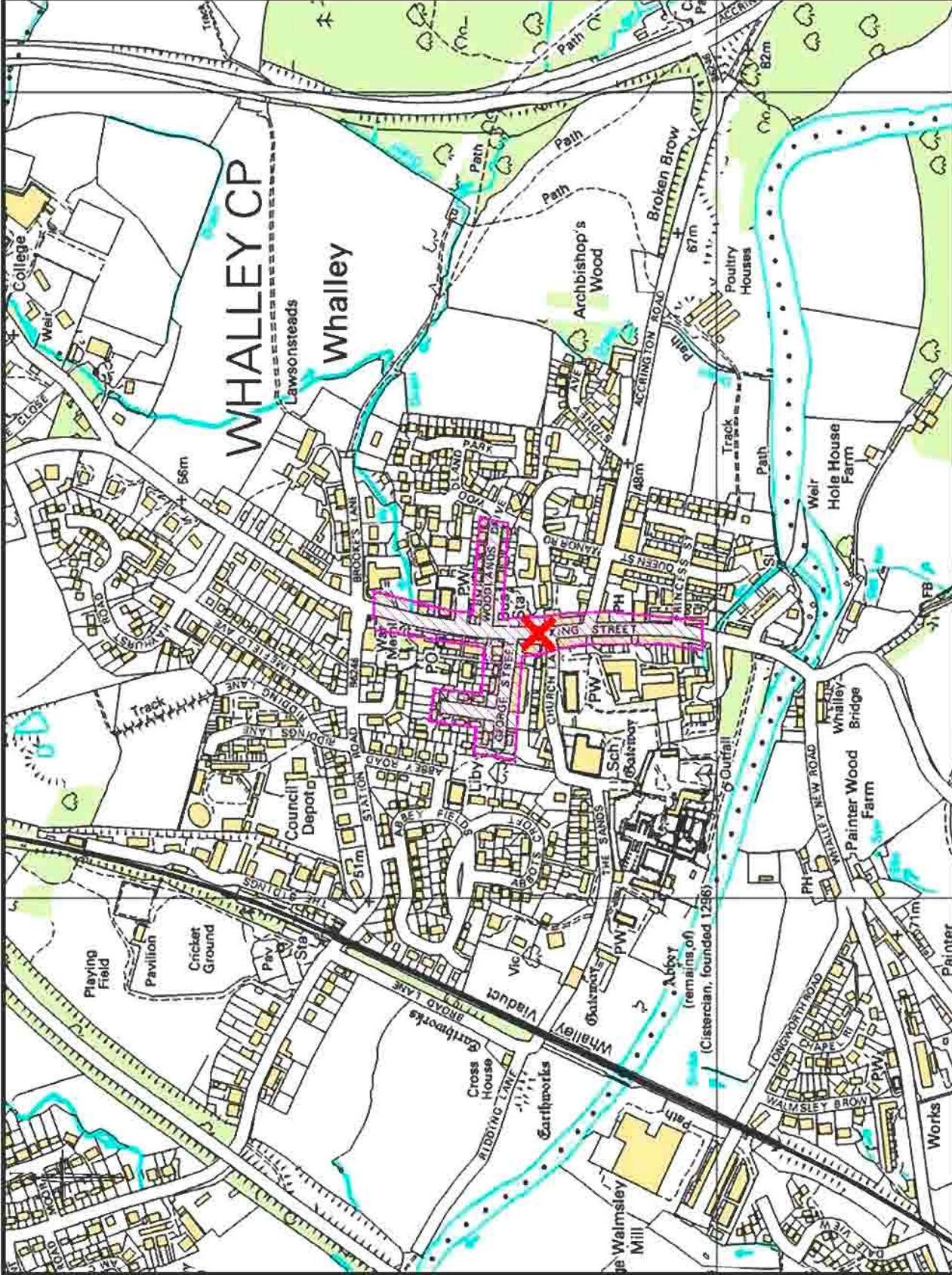
X Centre of Whalley Village

On-street Parking Catchment Area Required

Private Car Parks Required

Client	COMMERCIAL ESTATES GROUP LTD		Project		Rev	Amendments	Scale	1:5000 @ A3	Date	MARCH 2012	Drawn	Chid	Appr	Date
	BRYAN • G • HALL consulting civil & transportation planning engineers Bryan G Hall Ltd. Suite 1B Joseph's Well Hanover Walk LS14 4AB Tel: +44(0)113 295 1555 Fax: +44(0)113 254 2201		PROPOSED DEVELOPMENT LAWSONSTEADS FARM, WHALLEY											
			Title		Drawn	AM	Checked							
			PARKING STUDY AREA WHALLEY VILLAGE CENTRE		Job No	10/228	Drawing No	10/228/TR/019	Approved	DUP				Rev

APPENDIX BGH 4



KEY

X

Centre of Whalley Village

On-street Parking Catchment
Area - Whalley Settlement Centre

Client: COMMERCIAL ESTATES GROUP

Project: PROPOSED DEVELOPMENT
LAWSONSTEADS FARM, WHALLEY

Bryan & Hall Ltd.
Suite 1B Joseph's Well
Harrogate
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BRYAN • G • HALL
consulting civil & transportation planning engineers

Title: PARKING STUDY AREA
WHALLEY SETTLEMENT CENTRE

Rev: Amendments
Scale: 1:5000 @ A3
Drawn: AM
Job No: 10/228

Date: FEB 2013

Checked:

Approved:

Drawing No: 10/228/TR/025

Rev: --

APPENDIX BGH 5

B R Y A N G H A L L

consulting civil & transportation planning engineers

Location: Whalley

Date: Time: 13:30

Road: A671

Weather:

Speed (mph)	Northbound	Southbound
75	0	0
74	0	0
73	0	0
72	0	0
71	1	0
70	0	0
69	1	0
68	3	0
67	1	0
66	0	0
65	1	0
64	1	0
63	0	1
62	1	0
61	1	0
60	1	3
59	2	0
58	2	4
57	1	3
56	3	3
55	4	2
54	3	4
53	4	8
52	8	7
51	6	3
50	6	7
49	6	6
48	6	3
47	5	10
46	8	9
45	6	6
44	6	3
43	3	3
42	1	5
41	5	4
40	5	6
39	0	1
38	1	0
37	0	0
36	0	0
35	1	0
34	0	0
33	0	0
32	0	0
31	0	0
30	0	0

No. of readings	103	101
Mean speed	80.7 kph (50.1 mph)	78.6 kph (48.8 mph)
85th %ile wet weather journey speed	88.6 kph (55.0 mph)	83.6 kph (51.9 mph)

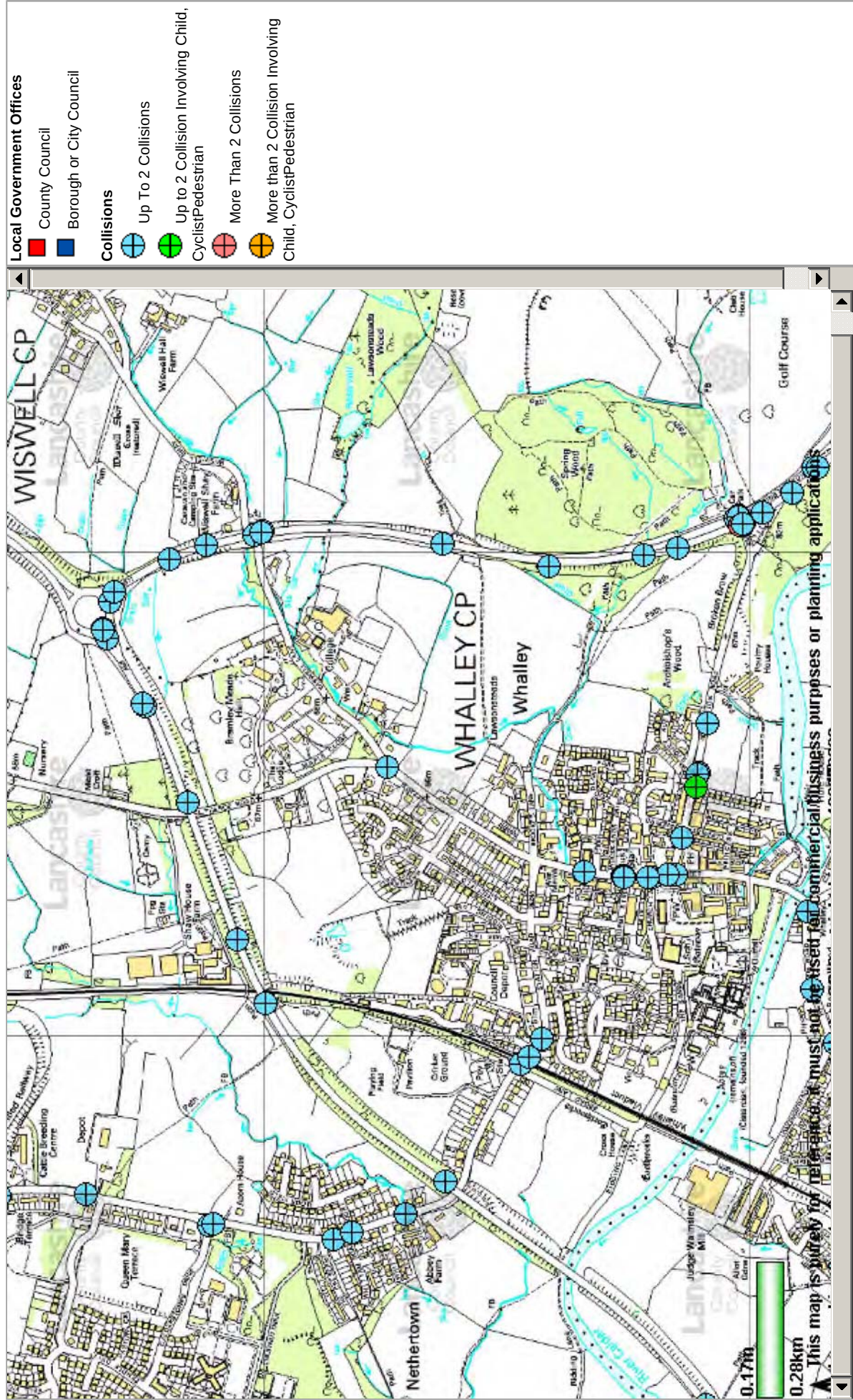
B R Y A N G H A L L

consulting civil & transportation planning engineers

Location: Whalley	Date: Time: 10:50	
Road: Clitheroe Road	Weather:	
Speed (mph)	Northbound	Southbound
50	0	0
49	0	0
48	0	0
47	0	0
46	0	1
45	0	0
44	0	0
43	0	1
42	0	1
41	0	0
40	6	2
39	0	3
38	4	2
37	7	4
36	5	4
35	13	8
34	9	5
33	10	10
32	10	8
31	8	14
30	9	11
29	9	9
28	3	7
27	4	6
26	0	2
25	3	2
24	0	0
23	0	0
22	0	0
21	0	0
20	0	0
No. of readings	100	100
Mean speed	52.9 kph (32.8 mph)	51.7 kph (32.1 mph)
85th %ile wet weather journey speed	54.7 kph (34.0 mph)	54.2 kph (33.7 mph)

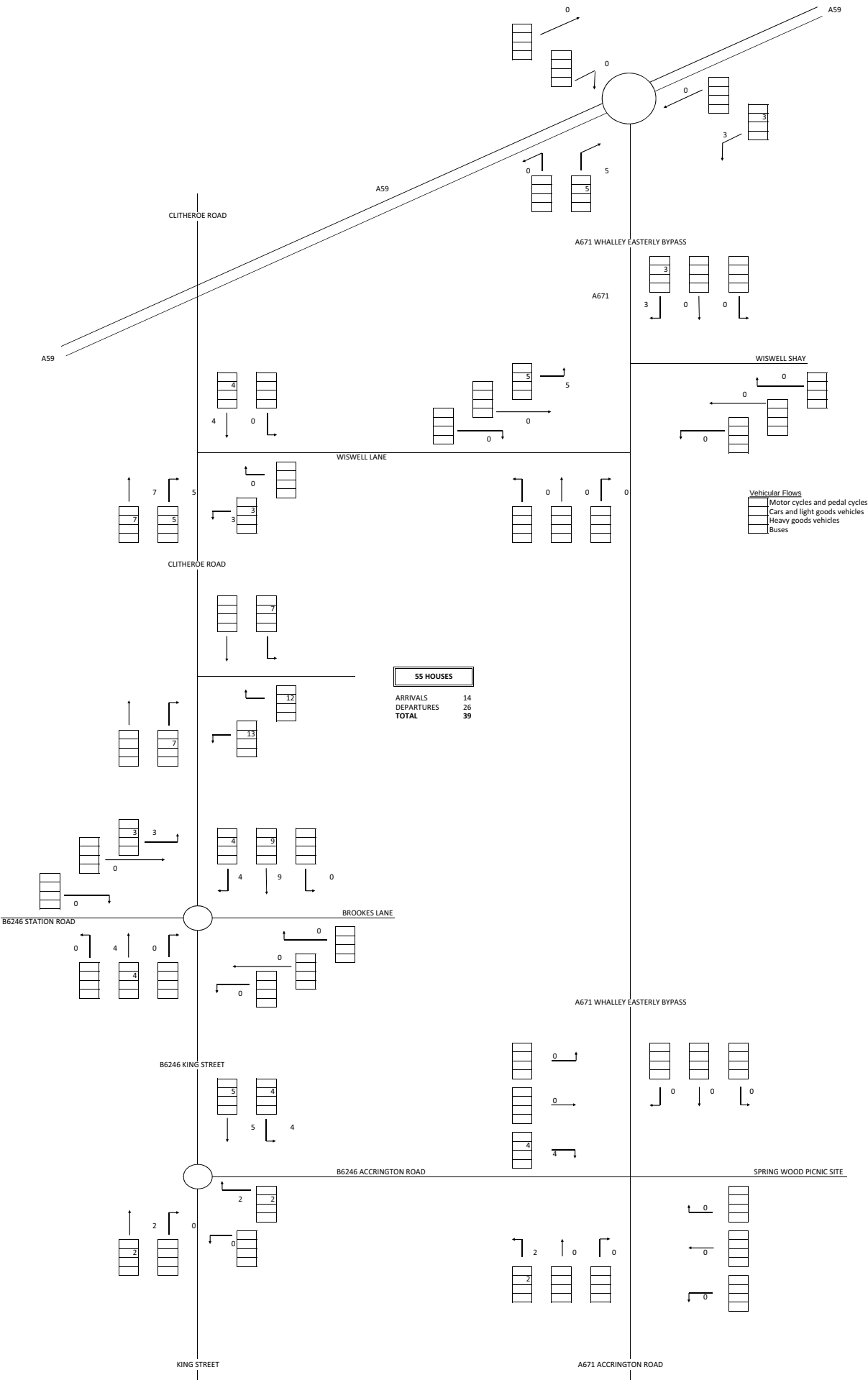
APPENDIX BGH 6

Personal Injury Accidents - Whalley

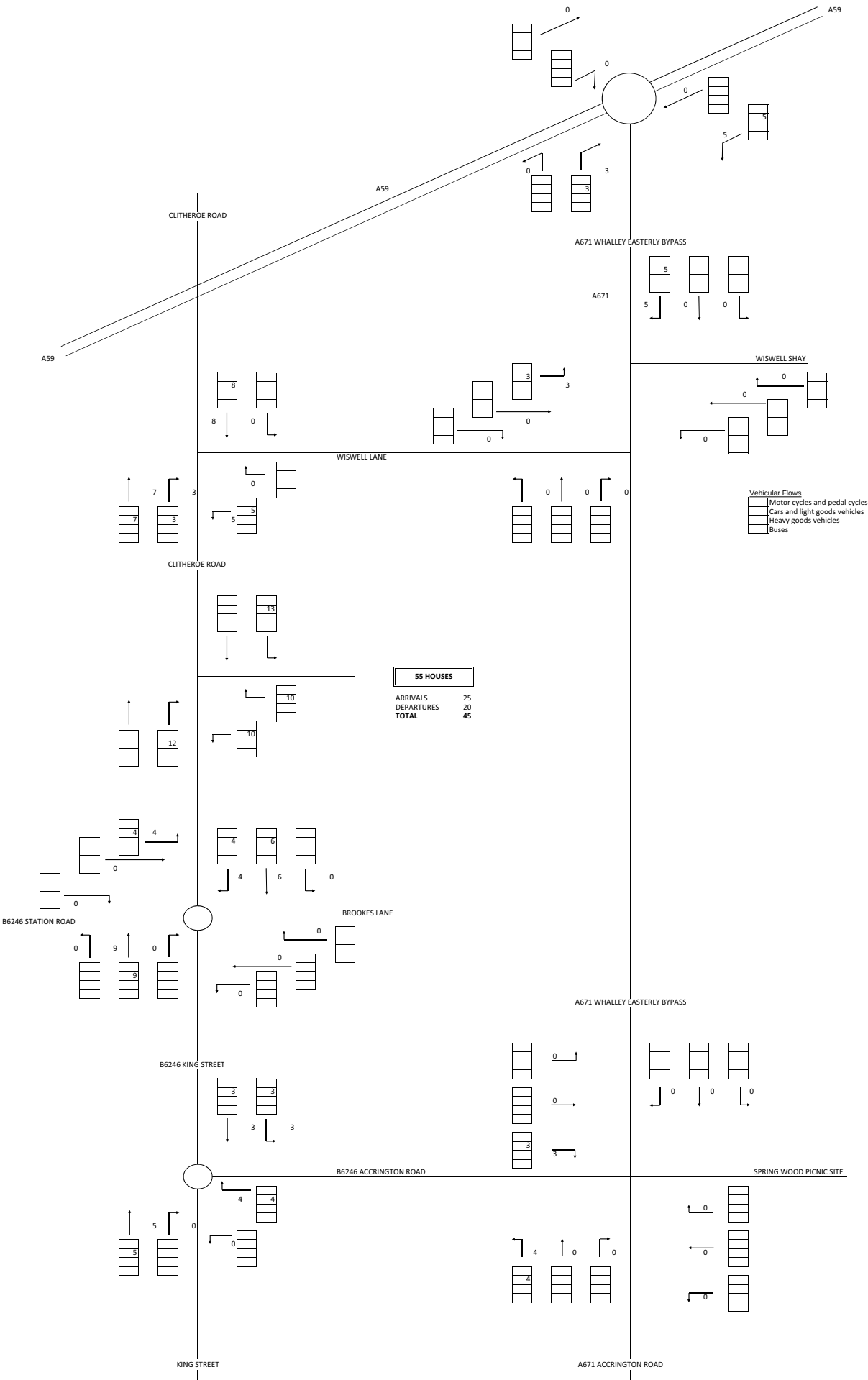


APPENDIX BGH 7

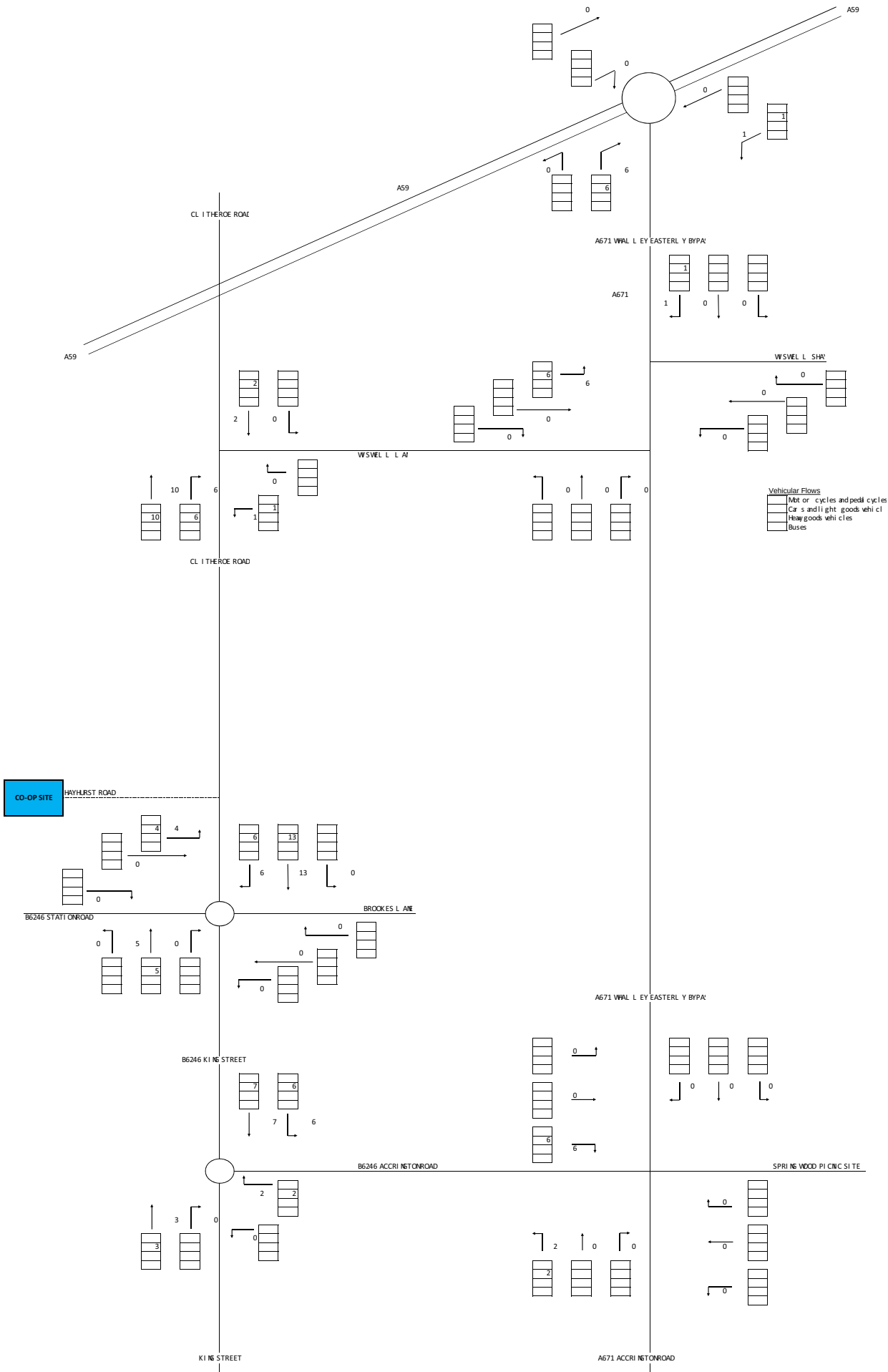
EXTENT PERMITTED FLOWS - 55 DWELLINGS (WITHOUT LINK ROAD)
LAWSONSTEDS, WHALLEY
8:00 am - 9:00 am



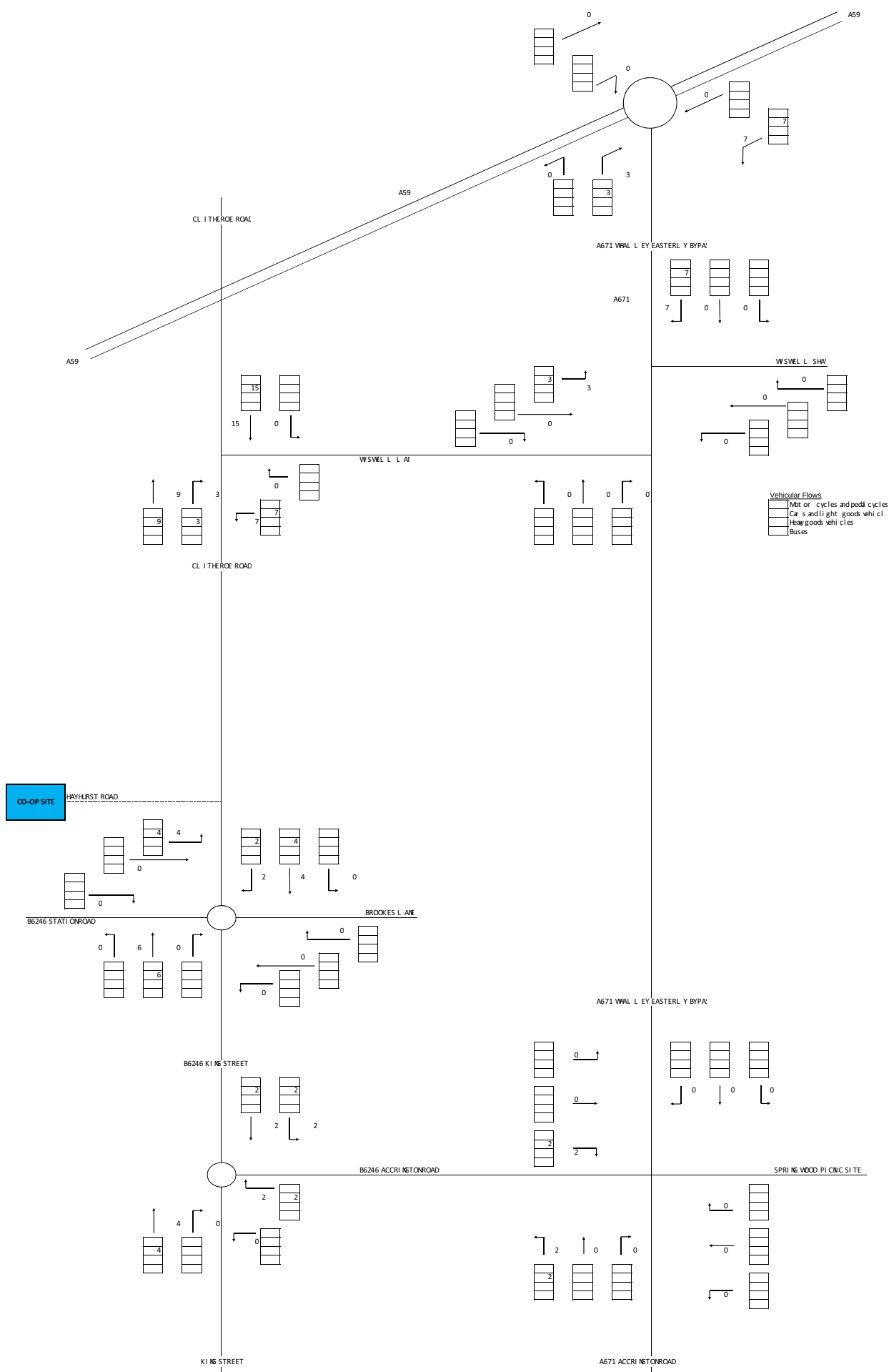
EXTENT PERMITTED FLOWS - 55 DWELLINGS (WITHOUT LINK ROAD)
LAWSONSTEDS, WHALLEY
4:30 pm - 5:30 pm



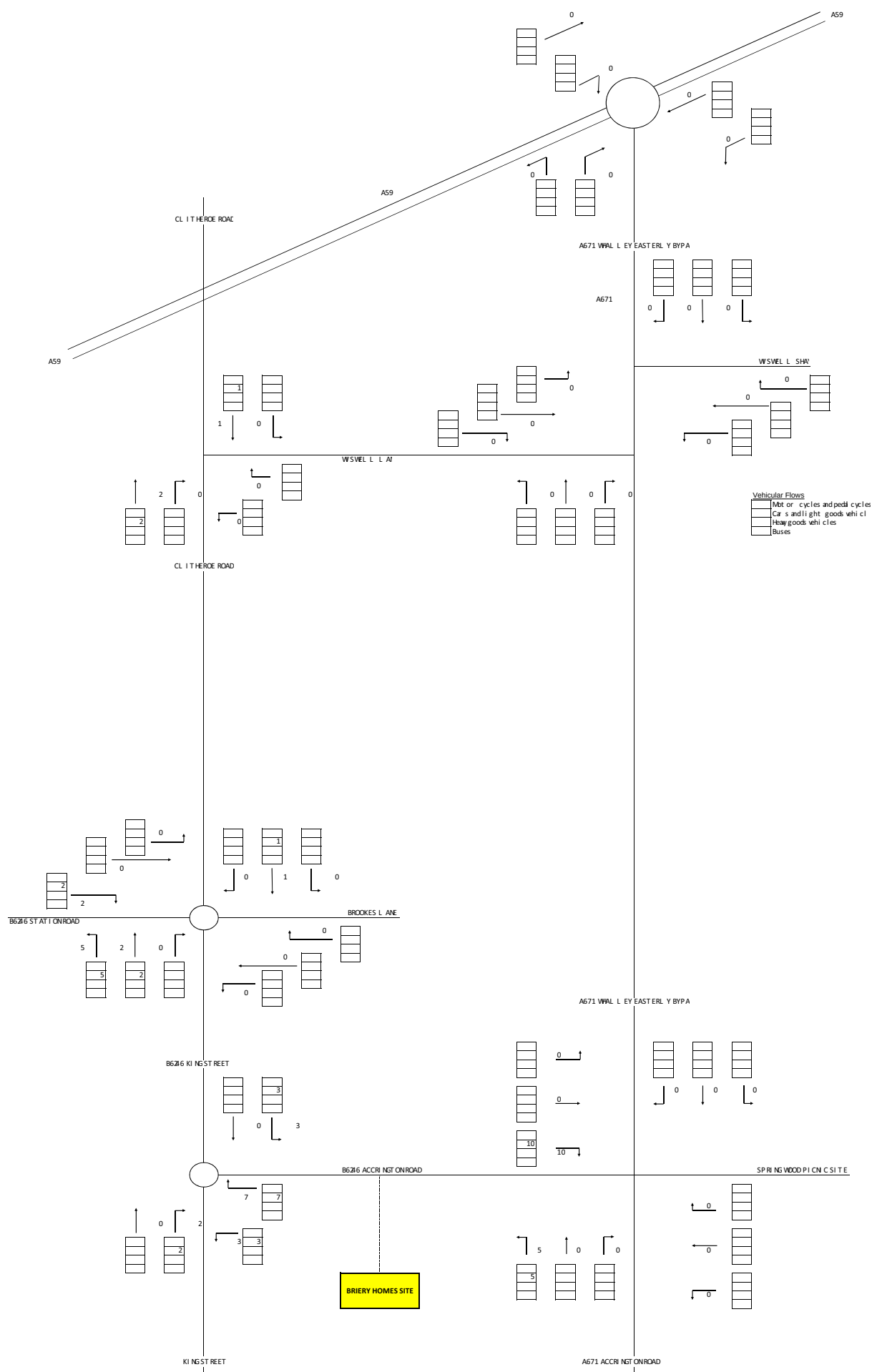
CO-OP COMMITTED DEVELOPMENT FLOWS (WITHOUT LINK ROAD)
LAWSONSTEADS, WHALLEY
8:00 am - 9:00 am



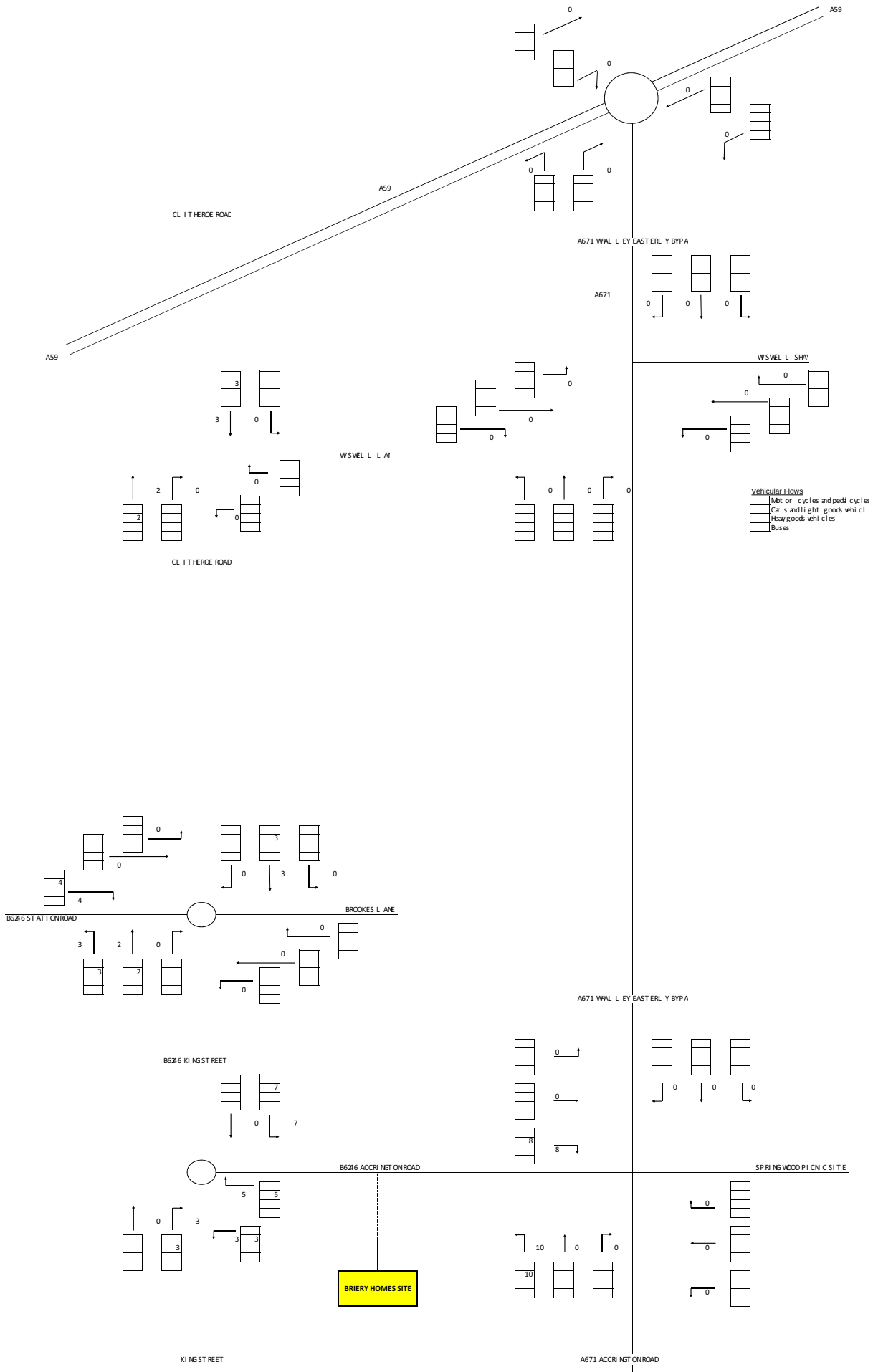
CO-OP COMMITTED DEVELOPMENT FLOWS (WITHOUT LINK ROAD)
LAWSONSTEADS, WHALLEY
4:30 pm - 5:30 pm



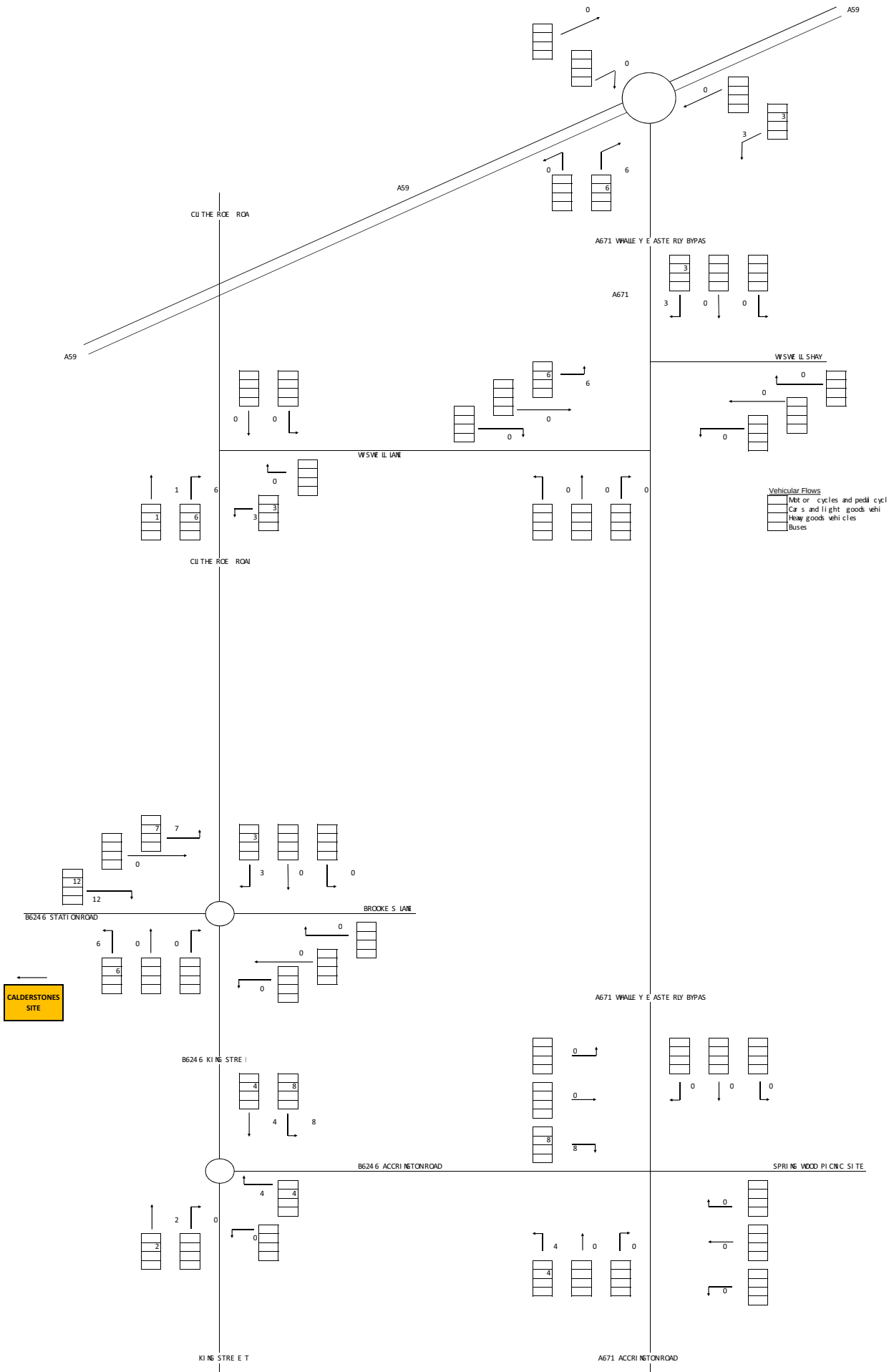
BRIERY HOMES COMMITTED DEVELOPMENT FLOWS (WITHOUT LINK ROAD)
LAWSONSTEADS, WHALLEY
8:00 am - 9:00 am



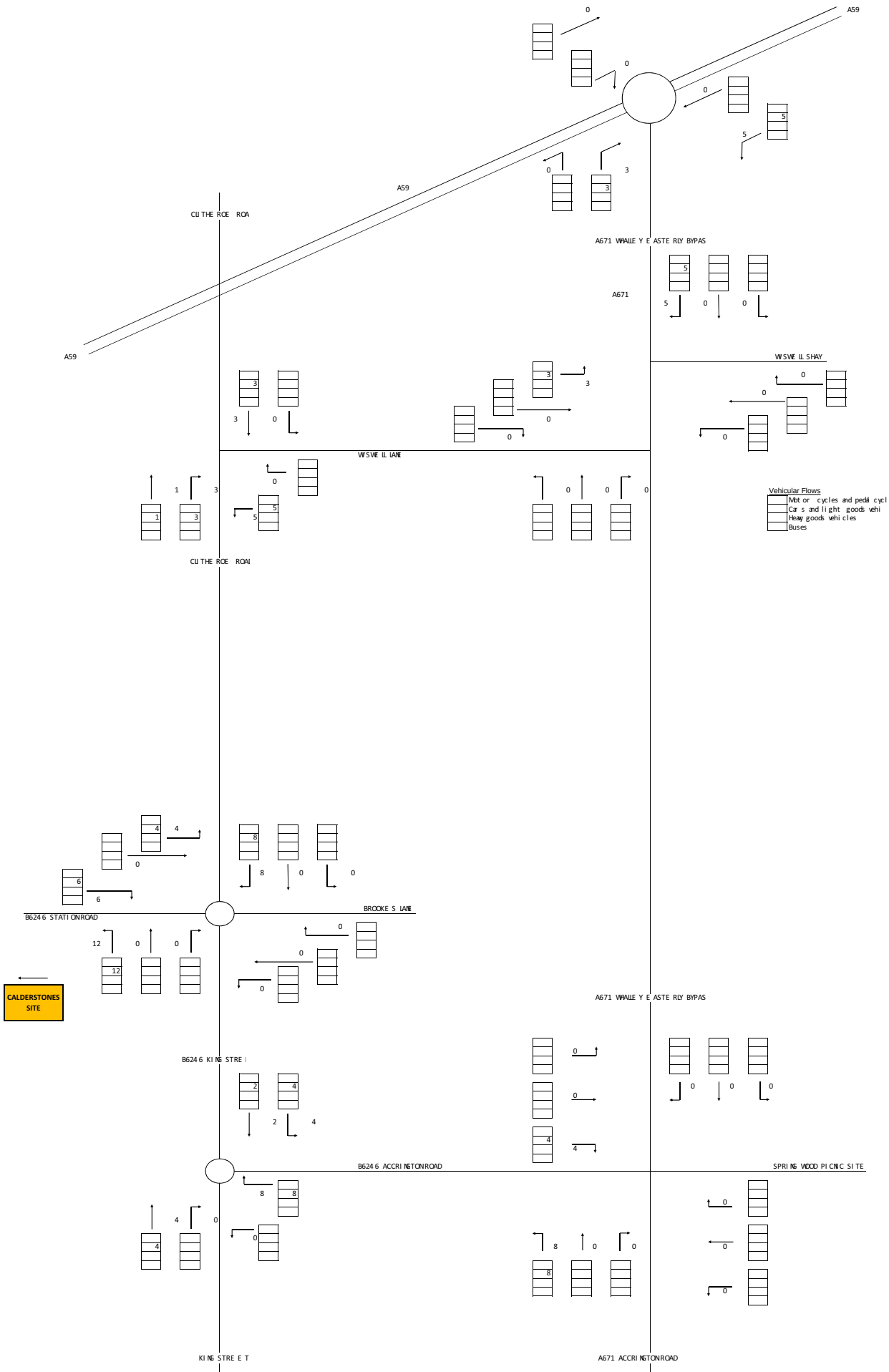
BRIERY HOMES COMMITTED DEVELOPMENT FLOWS (WITHOUT LINK ROAD)
LAWSONSTEDS, WHALLEY
4:30 pm - 5:30 pm



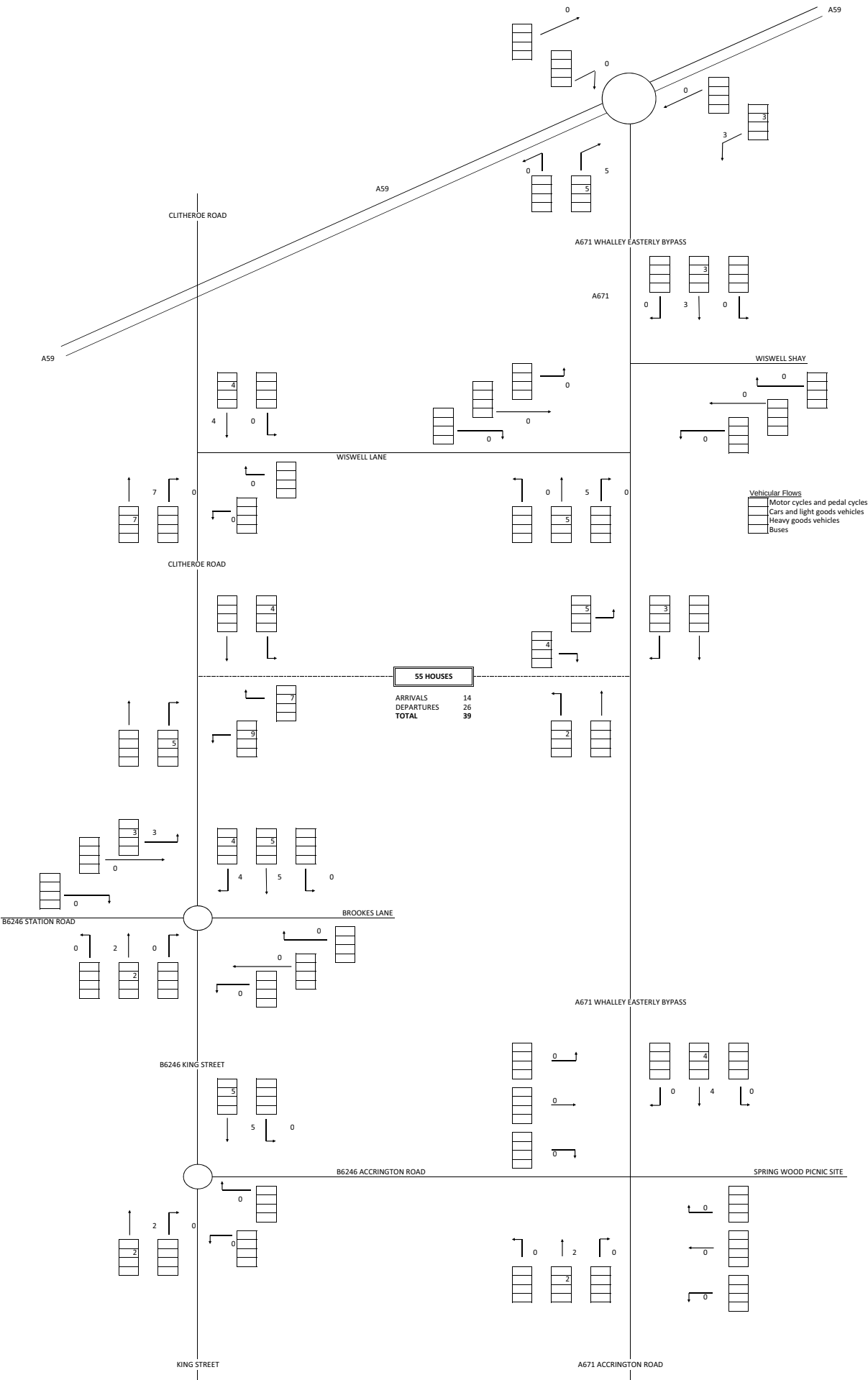
CALDERSTONES COMMITTED DEVELOPMENT FLOWS (WITHOUT LINK ROAD)
LAWSONSTEDS, WHALLEY
8:00 am - 9:00 am



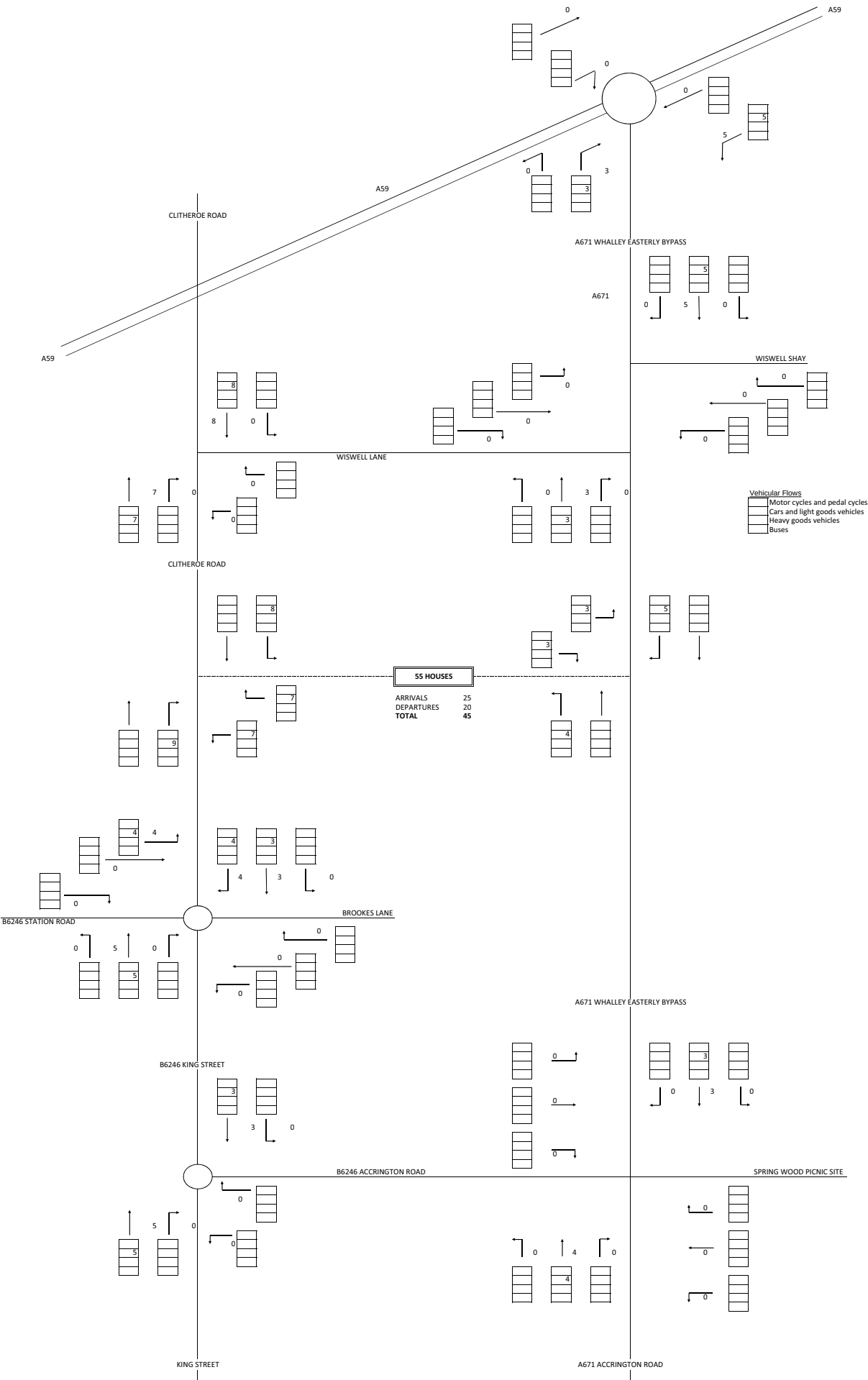
CALDERSTONES COMMITTED DEVELOPMENT FLOWS (WITHOUT LINK ROAD)
LAWSONSTEDS, WHALLEY
4:30 pm - 5:30 pm



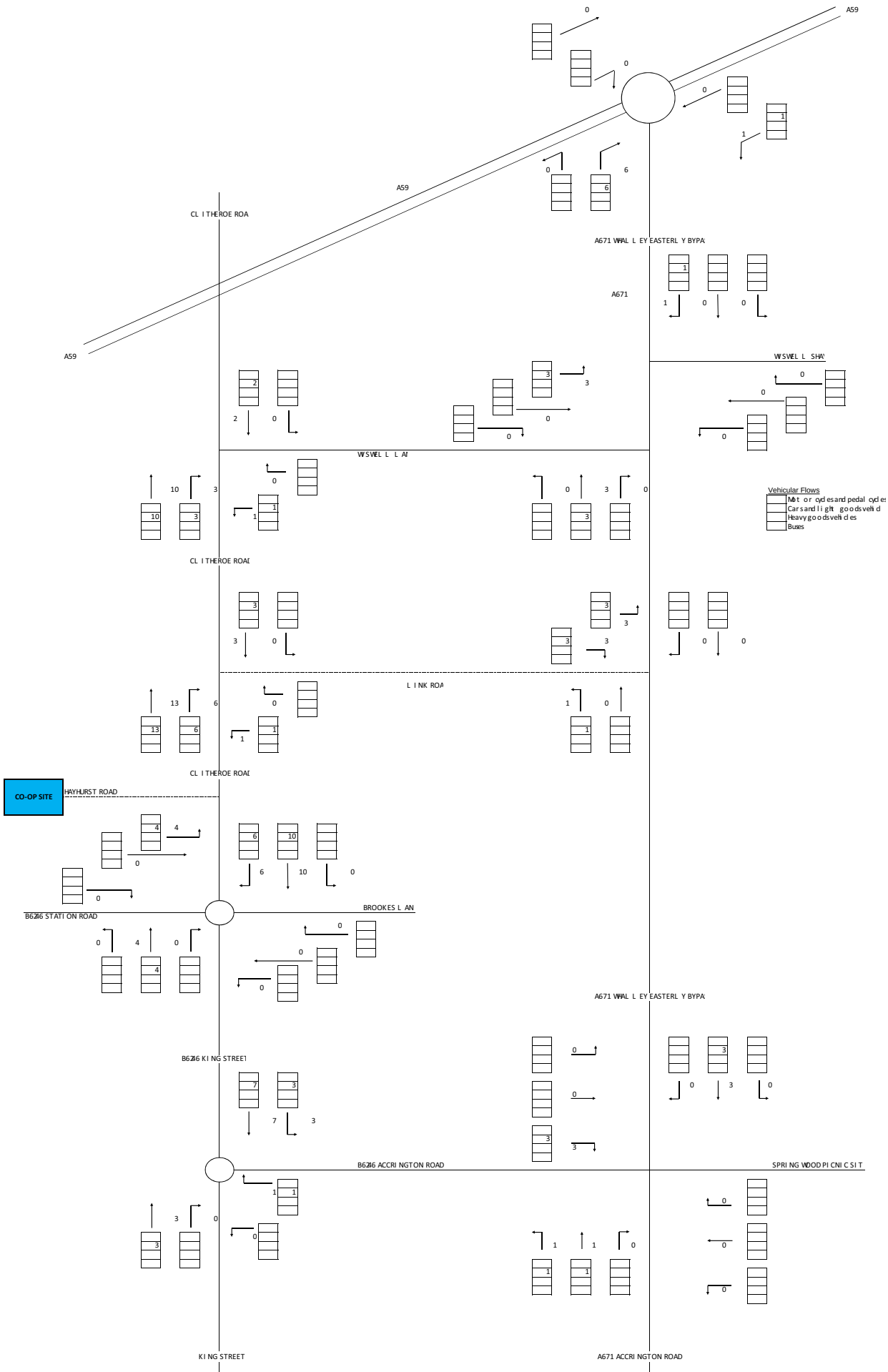
EXTANT PERMISSION FLOWS - 55 DWELLINGS (WITH LINK ROAD)
LAWSONSTEDS, WHALLEY
8:00 am - 9:00 am



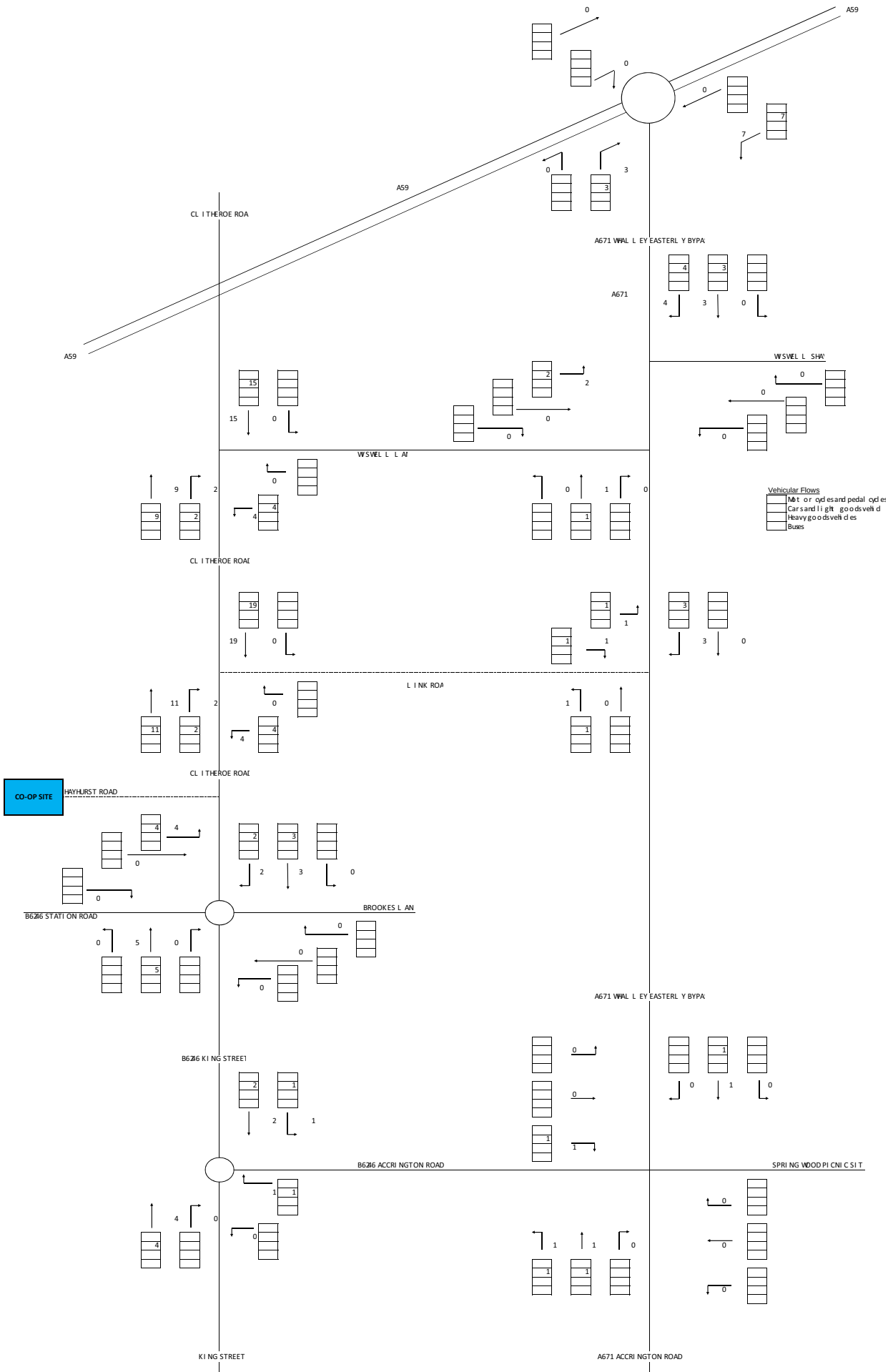
EXTANT PERMISSION FLOWS - 55 DWELLINGS (WITH LINK ROAD)
LAWSONSTEADS, WHALLEY
4:30 pm - 5:30 pm



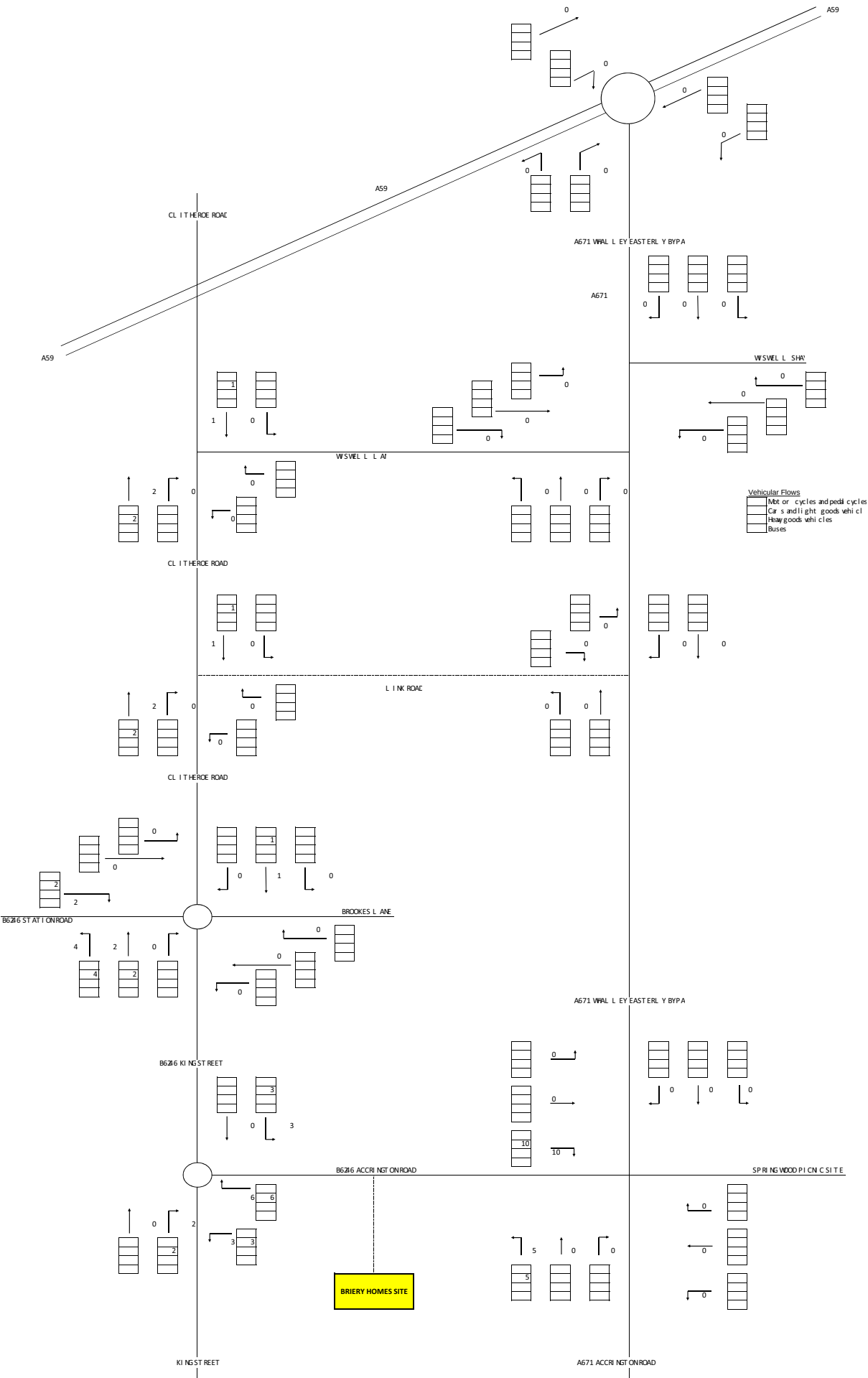
CO-OP COMMITTED DEVELOPMENT FLOWS (WITH LINK ROAD)
LAWSONSTEADS, WHALLEY
8:00 am - 9:00 am



CO-OP COMMITTED DEVELOPMENT FLOWS (WITH LINK ROAD)
LAWSONSTEADS, WHALLEY
4:30 pm - 5:30 pm



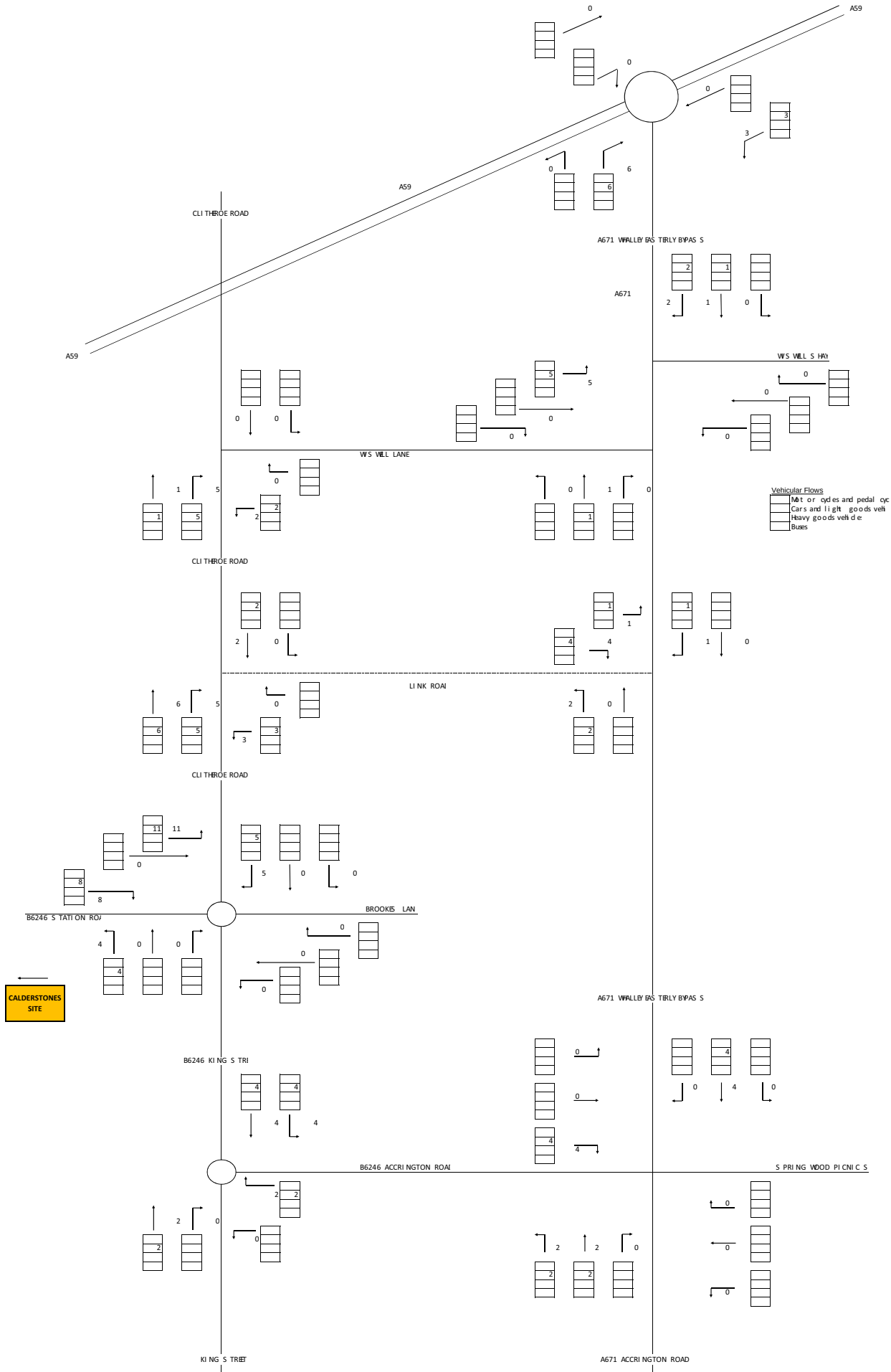
BRIERY HOMES COMMITTED DEVELOPMENT FLOWS (WITH LINK ROAD)
LAWSONSTEADS, WHALLEY
8:00 am - 9:00 am



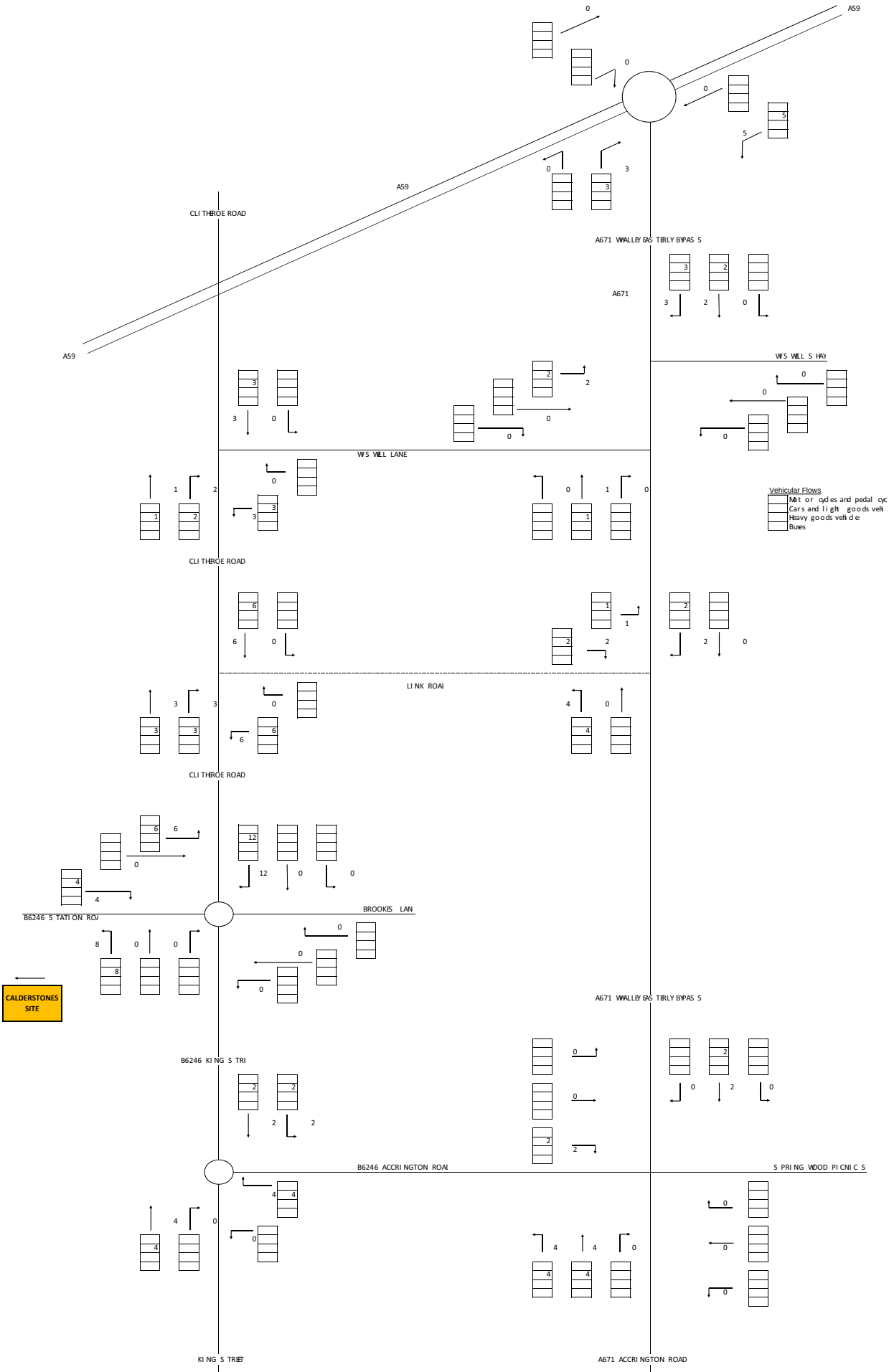
[illegible]

BRIERY HOMES SITE

CALDERSTONES COMMITTED DEVELOPMENT FLOWS (WITH LINK ROAD)
LAWSONSTEADS, WHALLEY
8:00 am - 9:00 am

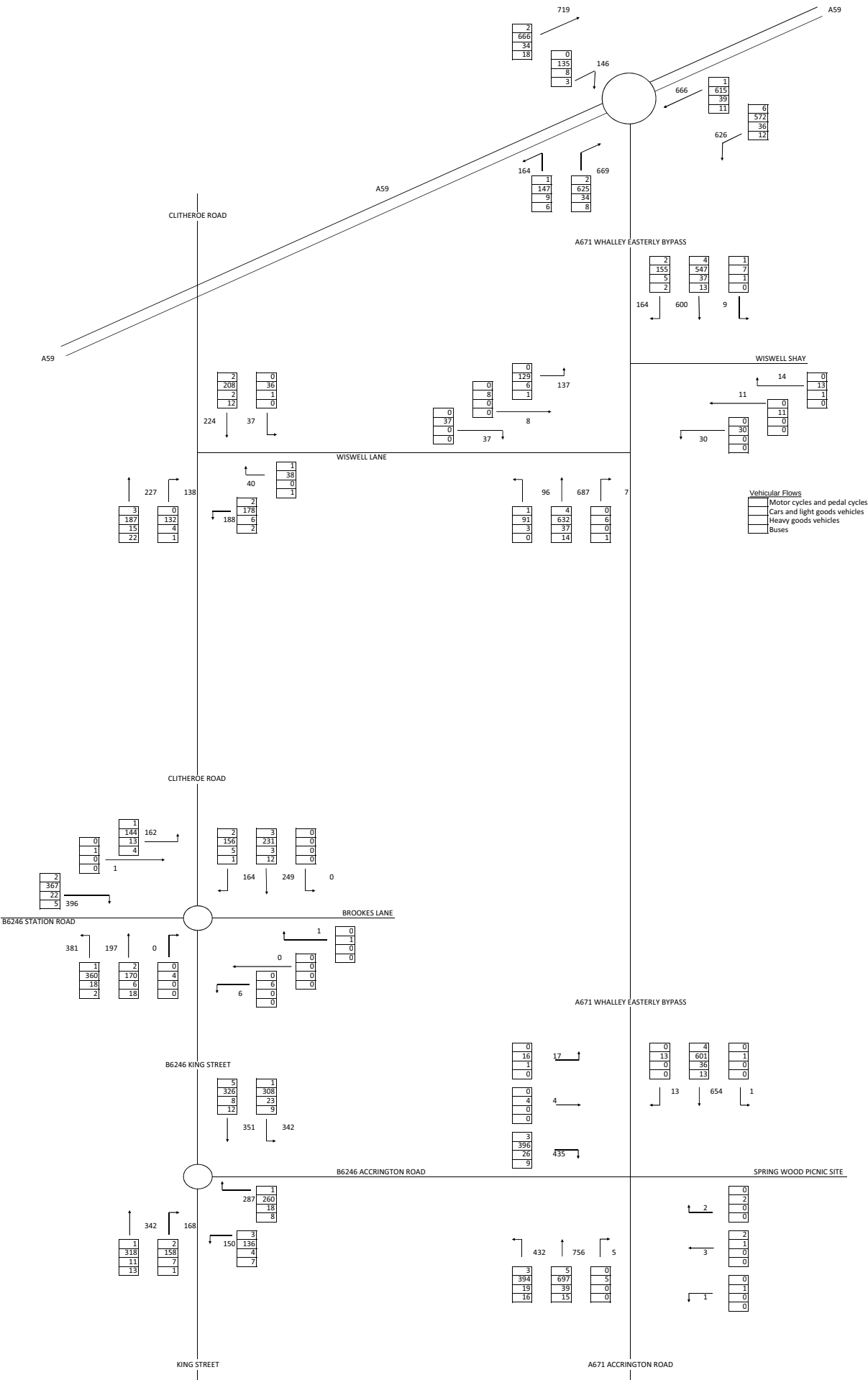


CALDERSTONES COMMITTED DEVELOPMENT FLOWS (WITH LINK ROAD)
LAWSONSTEADS, WHALLEY
4:30 pm - 5:30 pm

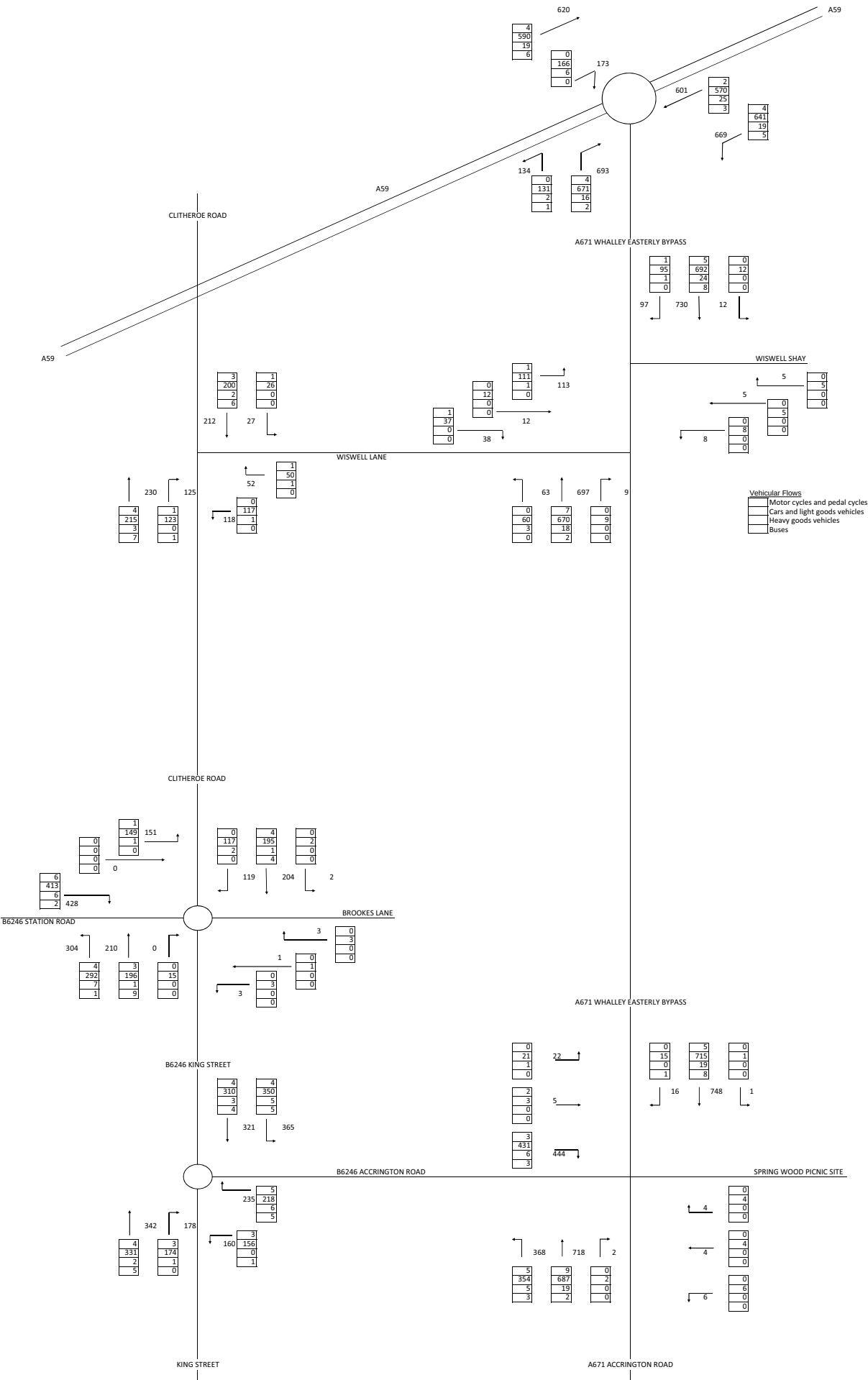


APPENDIX BGH 8

2018 GROWTHED TRAFFIC FLOWS (WITHOUT LINK ROAD)
LAWSONSTEDS, WHALLEY
8:00 am - 9:00 am

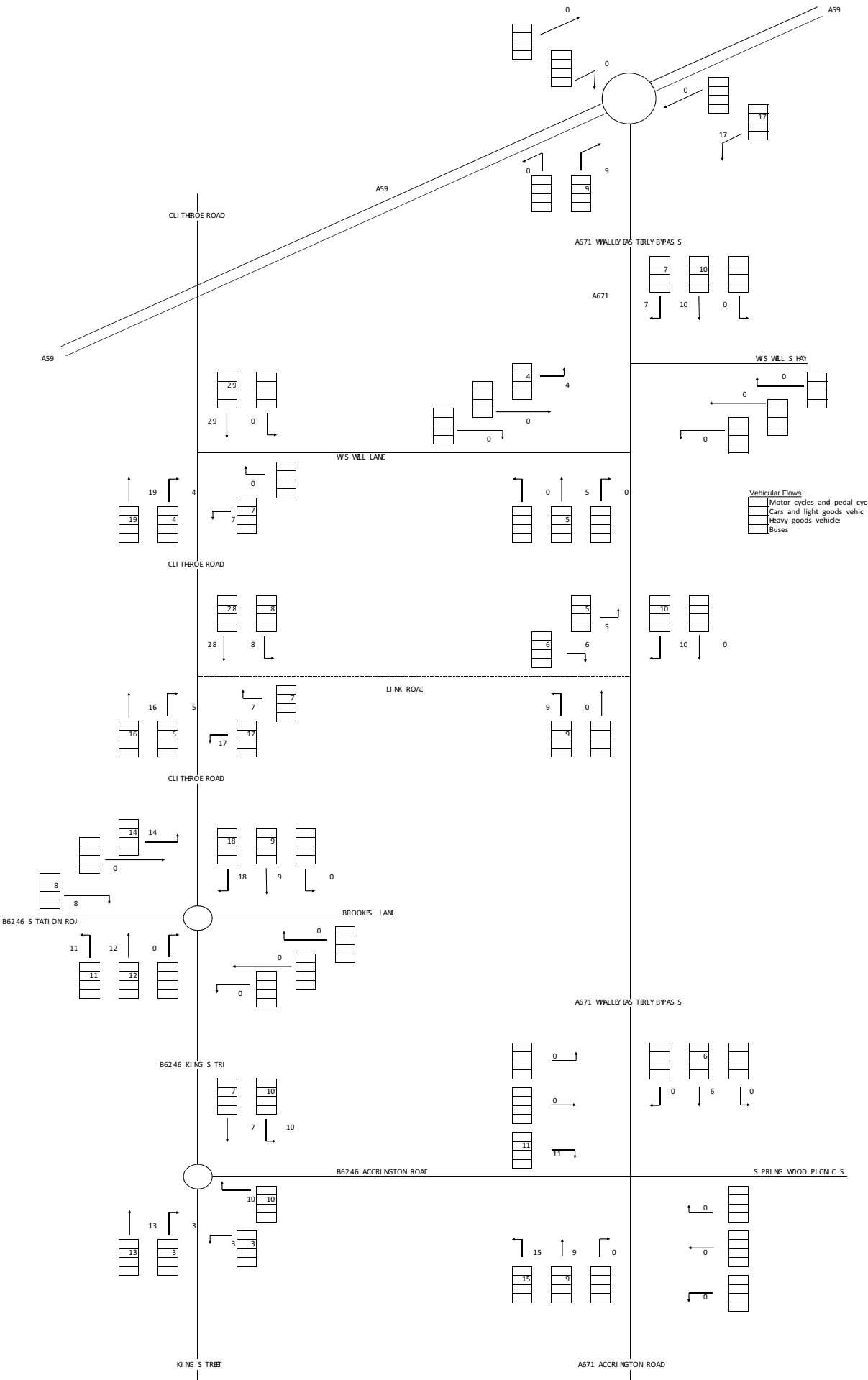


2018 GROWTHED TRAFFIC FLOWS (WITHOUT LINK ROAD)
LAWSONSTEDS, WHALLEY
4:30 pm - 5:30 pm



APPENDIX BGH 9

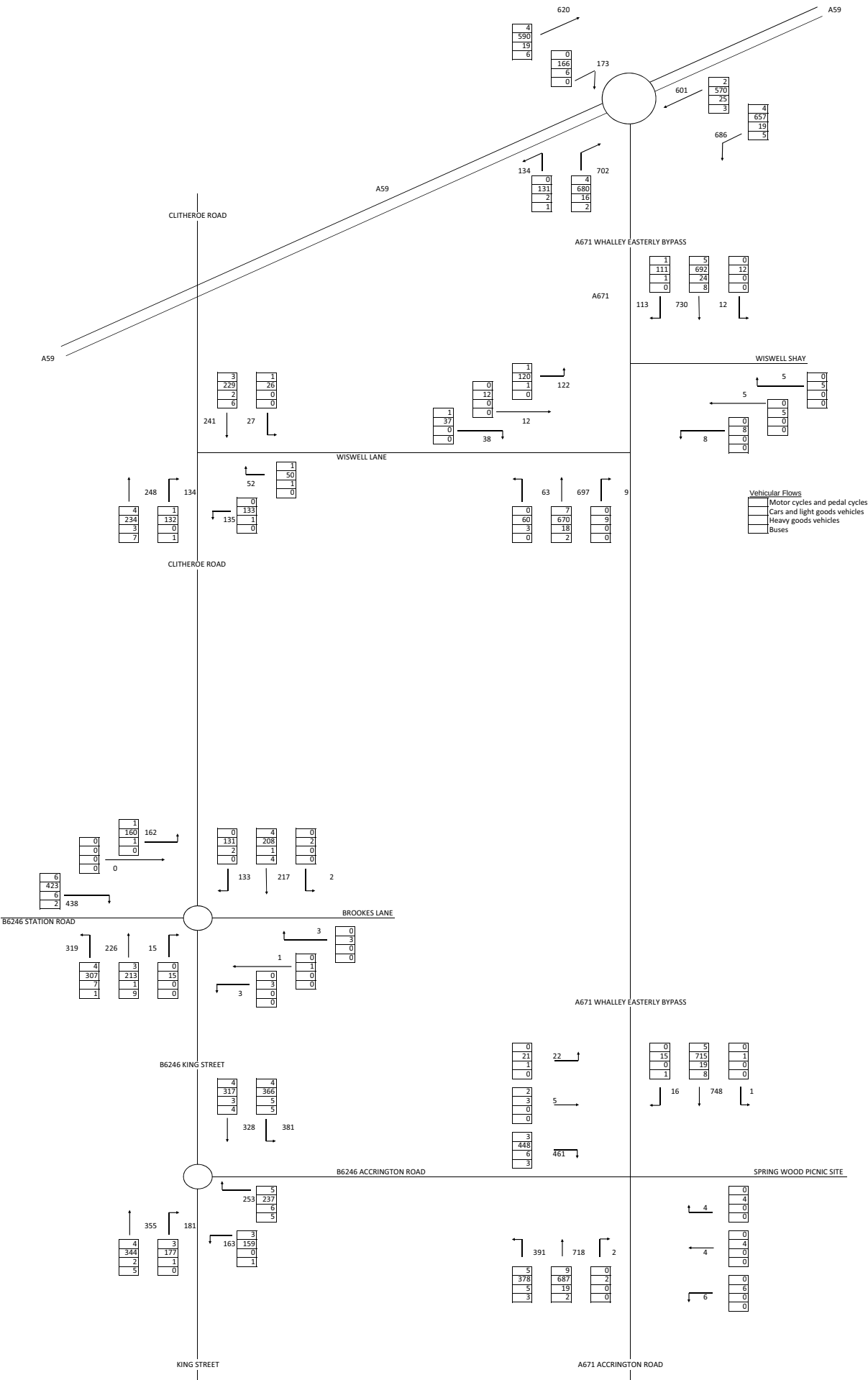
TOTAL COMMITTED DEVELOPMENT FLOWS INCLUDING EXTANT PERMISSION (WITH LINK ROAD)
LAWSONSTEADS, WHALLEY
4:30 pm - 5:30 pm



APPENDIX BGH 10

[illegible]

2018 BASE FLOWS (WITHOUT LINK ROAD)
LAWSONSTEDS, WHALLEY
4:30 pm - 5:30 pm

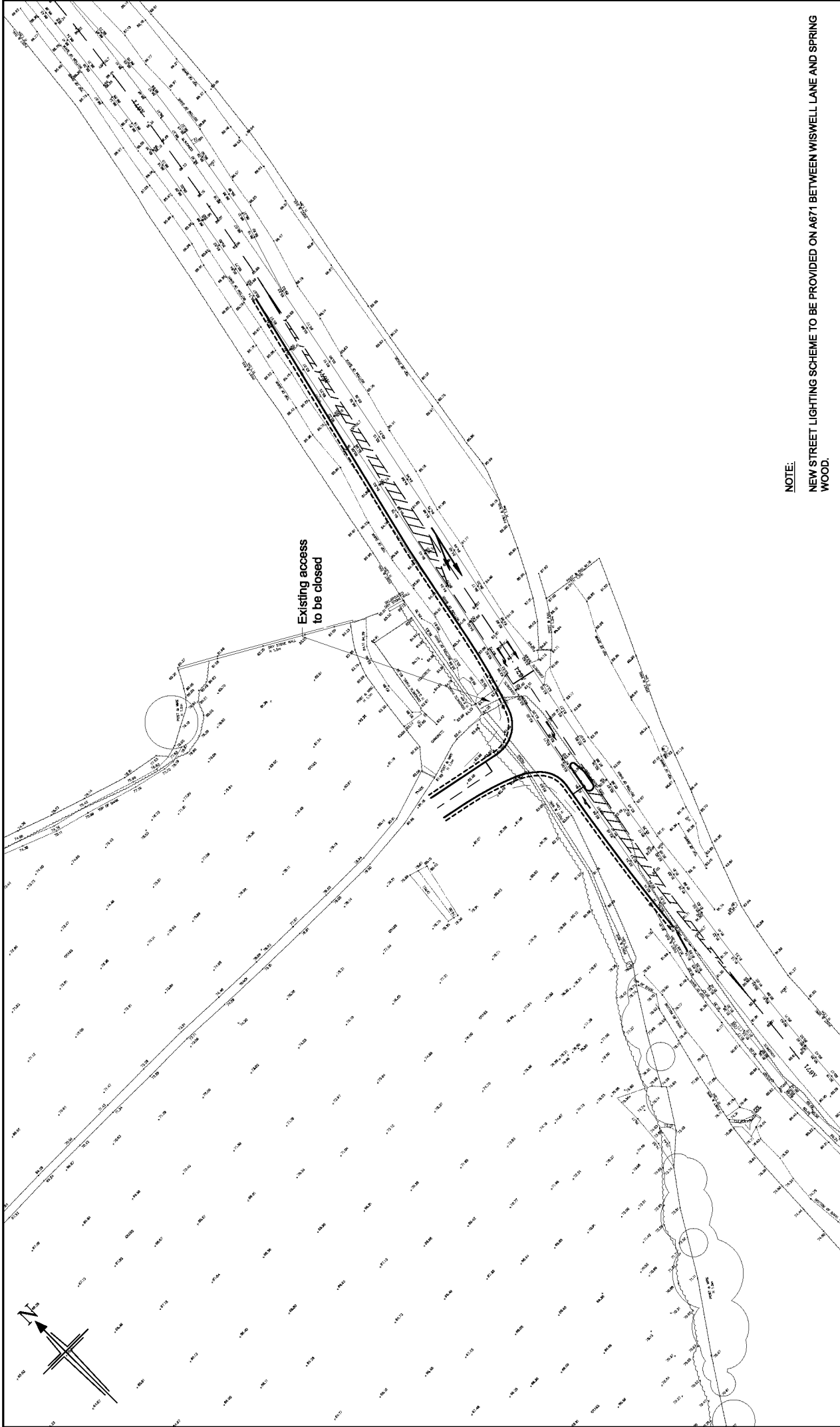


APPENDIX BGH 11



260 houses
Primary School

APPENDIX BGH 12



NOTE:

NEW STREET LIGHTING SCHEME TO BE PROVIDED ON A671 BETWEEN WISWELL LANE AND SPRING WOOD.

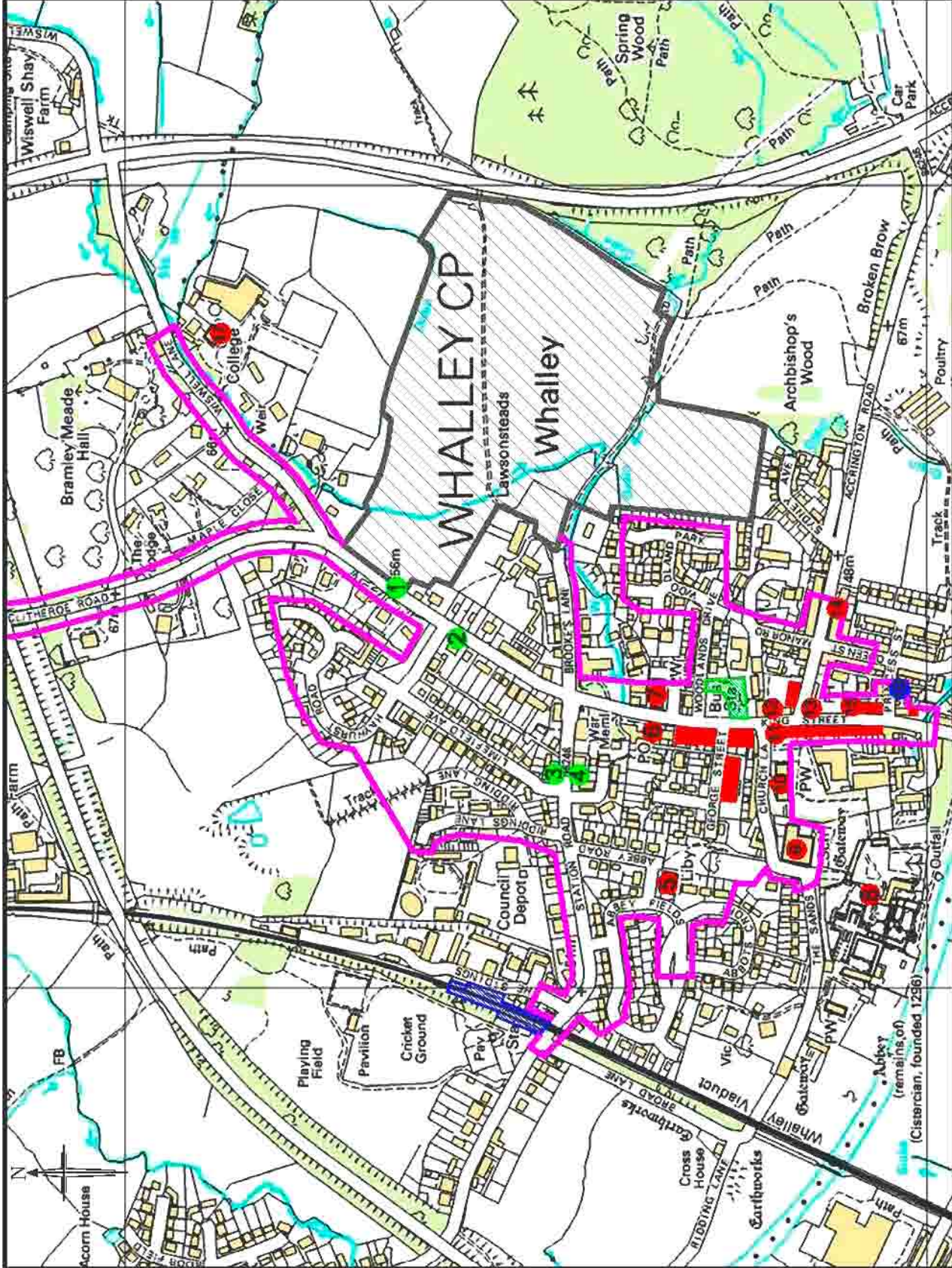
Client		Project		Revisions			
COMMERCIAL ESTATES GROUP		PROPOSED DEVELOPMENT SITE WHALLEY		Rev	Amendments	Drawn	Chkd
BRYAN • G • HALL consulting civil & transportation planning engineers Bryan G Hall Ltd Suite CB Joseph's Well Hanover Walk Leeds LS1 1AG Tel: +44(0)113 246 1555 Fax: +44(0)113 234 1201		Title A671 PROPOSED TRAFFIC SIGNAL JUNCTION		Scale	Date	Doc Sheet	Date
				1/1000 @ A3	06/02/13	No	
				Drawn AM	Checked RBC	Approved	
				Job No 10-228	Drawing No 10/228/TR/024	Rev	

APPENDIX BGH 13



Client	COMMERCIAL ESTATES GROUP	Bryan G Hall Ltd. Suite 10 Joseph's Well Hanover Walk Leeds LS1 9AG BRYAN • G • HALL consulting civil & transportation planning engineers Tel: +44(0)113 246 1555 Fax: +44(0)113 234 2201	Project	PROPOSED DEVELOPMENT SITE WHALLEY												
			Title	CLUTHEROE ROAD PRIORITY T- JUNCTION WITH 1 PCU FLARE												
			Scale	1/500 @ A3		Date		05/01/13		Doc Sheet No						
			Drawn	AM		Checked		Approved								
			Job No	10-228		Drawing No		10/228/TR/023		Rev						
			Rev	Amendments		Drawn		Chkd		Appr		Date				

APPENDIX BGH 14



- KEY**
- Site
 - 800 Metre Walking Distance
 - Nearrest Bus Stops to Site
 - Bus Station
 - Railway Station
 - Whalley Centre Shopping Area including:

- Funeral Directors
- Estate Agents
- Ironmongers
- Dentist
- News Agents
- Sandwich Shop
- Dry Cleaners
- Spar
- Barclays Bank
- Clothing Shops
- Italian Restaurant
- Florist
- Interiors Shop
- Hairdresser
- Craft Shop
- Fish & Chip Shop
- Cantonese Takeaway
- Tea Shop

- Other Facilities**
- 1) Southbound Bus Stop - Clitheroe Road
 - 2) Northbound Bus Stop - Clitheroe Road
 - 3) Eastbound Bus Stop - Station Road
 - 4) Westbound Bus Stop - Station Road
 - 5) Whalley Public Library
 - 6) Post Office
 - 7) Whalley Methodist Church
 - 8) Whalley Abbey
 - 9) Whalley Primary School
 - 10) St Mary's and All Saints Parish Church
 - 11) The De Lacy Arms
 - 12) The Swan Hotel
 - 13) The Whalley Arms
 - 14) Rendezvous Night Club
 - 15) Whalley Medical Centre & Pharmacy
 - 16) Whalley Police Station
 - 17) Oakhill College/Oakhill Academy

Client	COMMERCIAL ESTATES GROUP	BRYAN • G • HALL consulting civil & transportation planning engineers Broom & Hall Ltd Suite 1B Joseph's Well Harrogate West Yorkshire LS16 6AB Tel: +44(0)115 246 1555 Fax: +44(0)115 254 2201	Project		PROPOSED DEVELOPMENT LAWSONSTEADS FARM, WHALLEY									
			Title		LOCAL FACILITIES WITHIN 800 METRES WALKING DISTANCE OF THE CENTRE OF THE SITE									
			Rev		Amendments		Scale		Date		FEB 2013		Doc Sheet No	
			Job No		10/228		Drawing No		BGH14		Rev			
				Drawn		AM		Checked		SW		Approved		



Client	COMMERCIAL ESTATES GROUP	BRYAN G HALL consulting civil & transportation planning engineers	Bryan G Hall Ltd Sutton FR Joseph's Well Hanover Legg LSS 14B Tel: +44(0)113 246 1555 Fax: +44(0)113 234 2201	Project		PROPOSED DEVELOPMENT LAWSONSTEADS FARM, WHALLEY											
				Title		800, 1600 AND 2000 METRE WALKING ISOCHRONES											
				Scale		1:18,000 @ A3		Date		FEB 2013		Drawn		Doc Sheet No			
				Drawn		AM		Checked		SW		Approved		Date			
				Job No.		10/228		Drawing No		BGH14A				Rev		—	

APPENDIX BGH 15

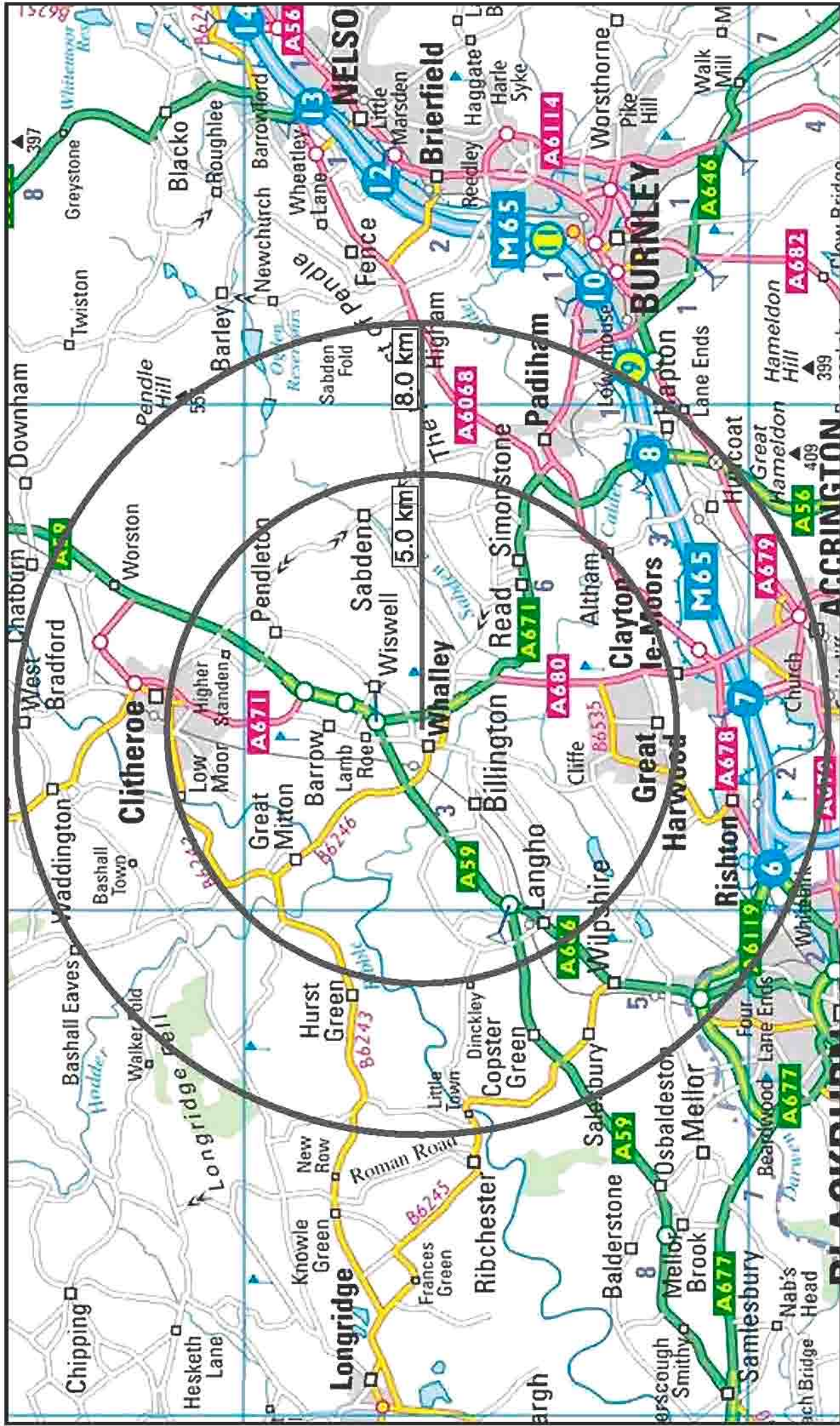
Bus Services - Clitheroe Road and Station Road

CLITHEROE ROAD						
Service	Route	Approx Frequency (Mins)				
		Monday to Friday		Saturday	Sunday	
		Daytime	Evening			
5	Clitheroe - Whalley - Ribchester - Longridge	120	No Service	120	No Service	
22	Clitheroe - Whalley - Langho - Wilpshire - Blackburn	30	60	30	60	
231	Clitheroe - Whalley - Accrington	60	No Service	60	No Service	
241	Skipton - Barnoldswick - Clitheroe - Preston	60	No Service	60	No Service	
280/X80	Skipton - Clitheroe - Whalley - Preston	60	No Service	60	120	
STATION ROAD						
Service	Route	Approx Frequency (Mins)				
		Monday to Friday		Saturday	Sunday	
		Daytime	Evening			
5	Clitheroe - Whalley - Ribchester - Longridge	120	No Service	120	No Service	
C25	Clitheroe - Whalley - Brockhall - Blackburn	120	No Service	120	No Service	

Rail Services - Whalley Railway Station

Route	Frequency (Mins)		
	Monday to Friday	Saturday	Sunday
Whalley - Clitheroe	60 (30 during peaks)	60	60
Whalley - Manchester Victoria	60 (30 during peaks)	60	60

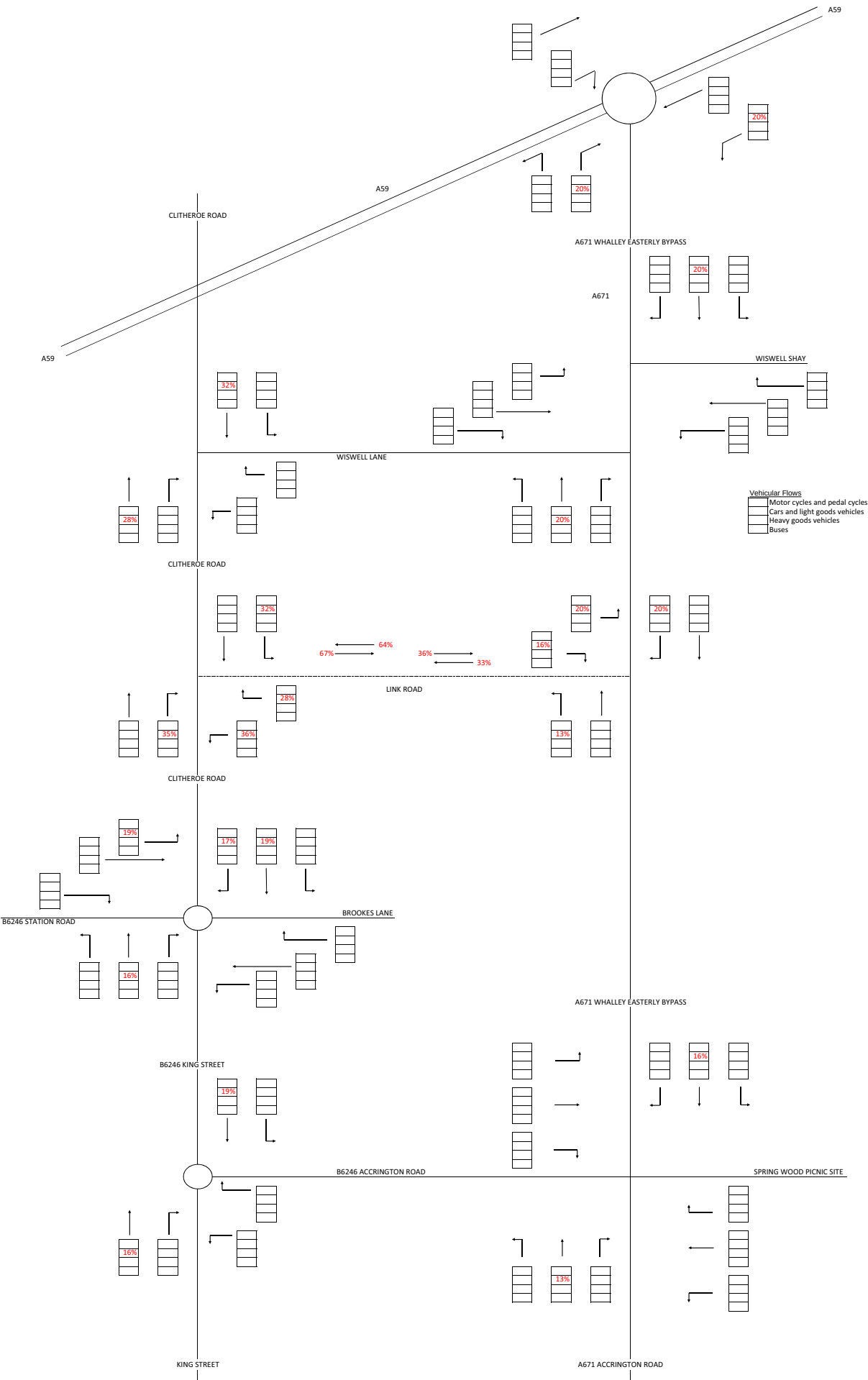
APPENDIX BGH 16



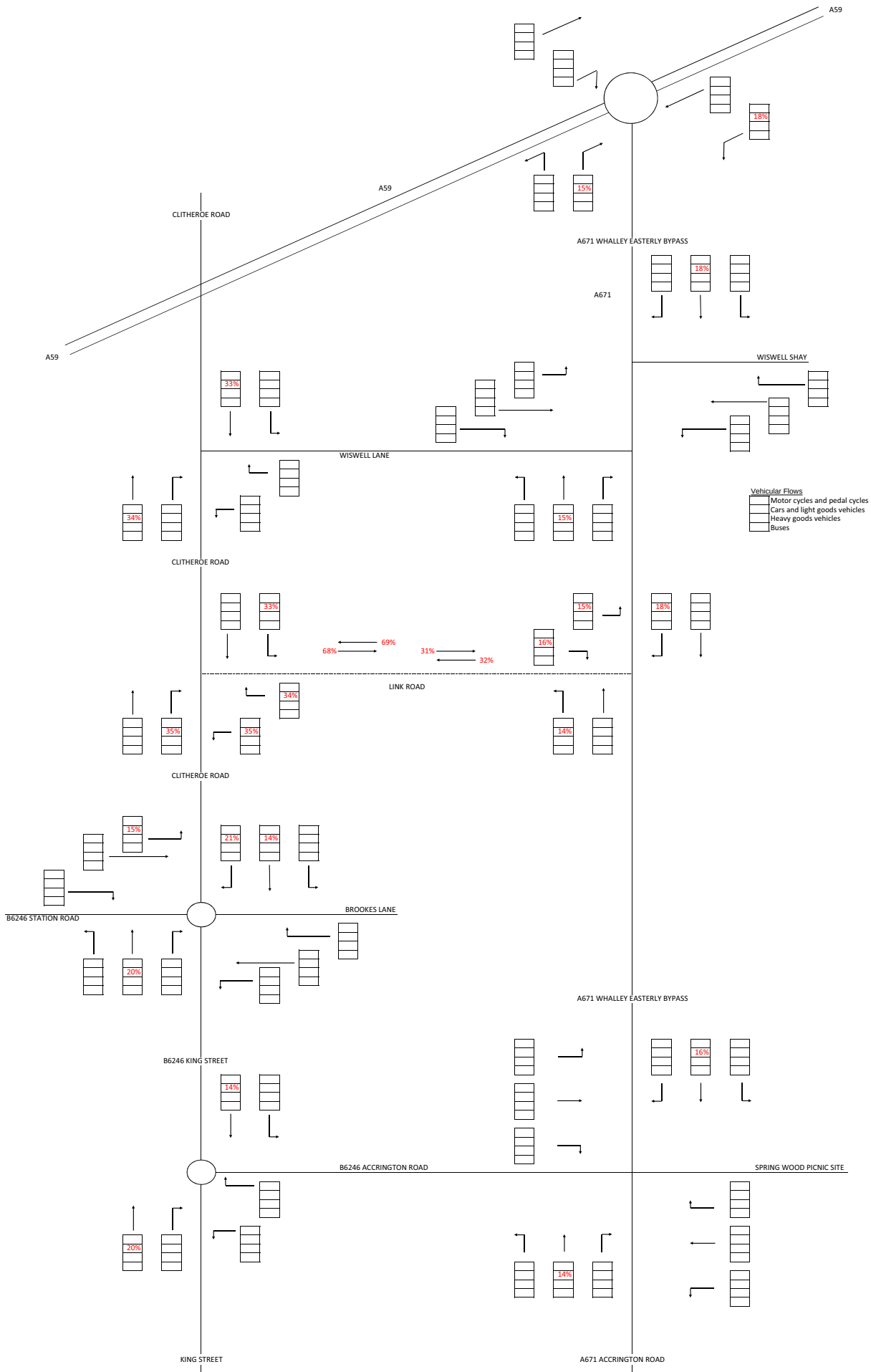
Client	COMMERCIAL ESTATES GROUP		Project		PROPOSED DEVELOPMENT LAWSONSTEADS FARM, WHALLEY			
	BRYAN G HALL consulting civil & transportation planning engineers		Bryan G Hall Ltd Suite 10, 1st Floor 100, 101 The 140/141/142/143/144/145 Tel: 01707 324 2201 Email: info@bryanghall.co.uk		Title			
					5.0 AND 8.0 KILOMETRE CYCLING ISOCHRONES			
Rev	Amendments		Scale		1:100,000 @ A4			
	Drawn		Date		FEB 2013			
	Doc No		Checked		DJP			
Job No		10/228		Drawing No		BGH16		
Rev		Drawn		Chkd		Appr		Date

APPENDIX BGH 17

DISTRIBUTION (WITH LINK ROAD)
LAWSONSTEDS, WHALLEY
8:00 am - 9:00 am



DISTRIBUTION (WITH LINK ROAD)
LAWSONSTEADS, WHALLEY
 4:30 pm - 5:30 pm

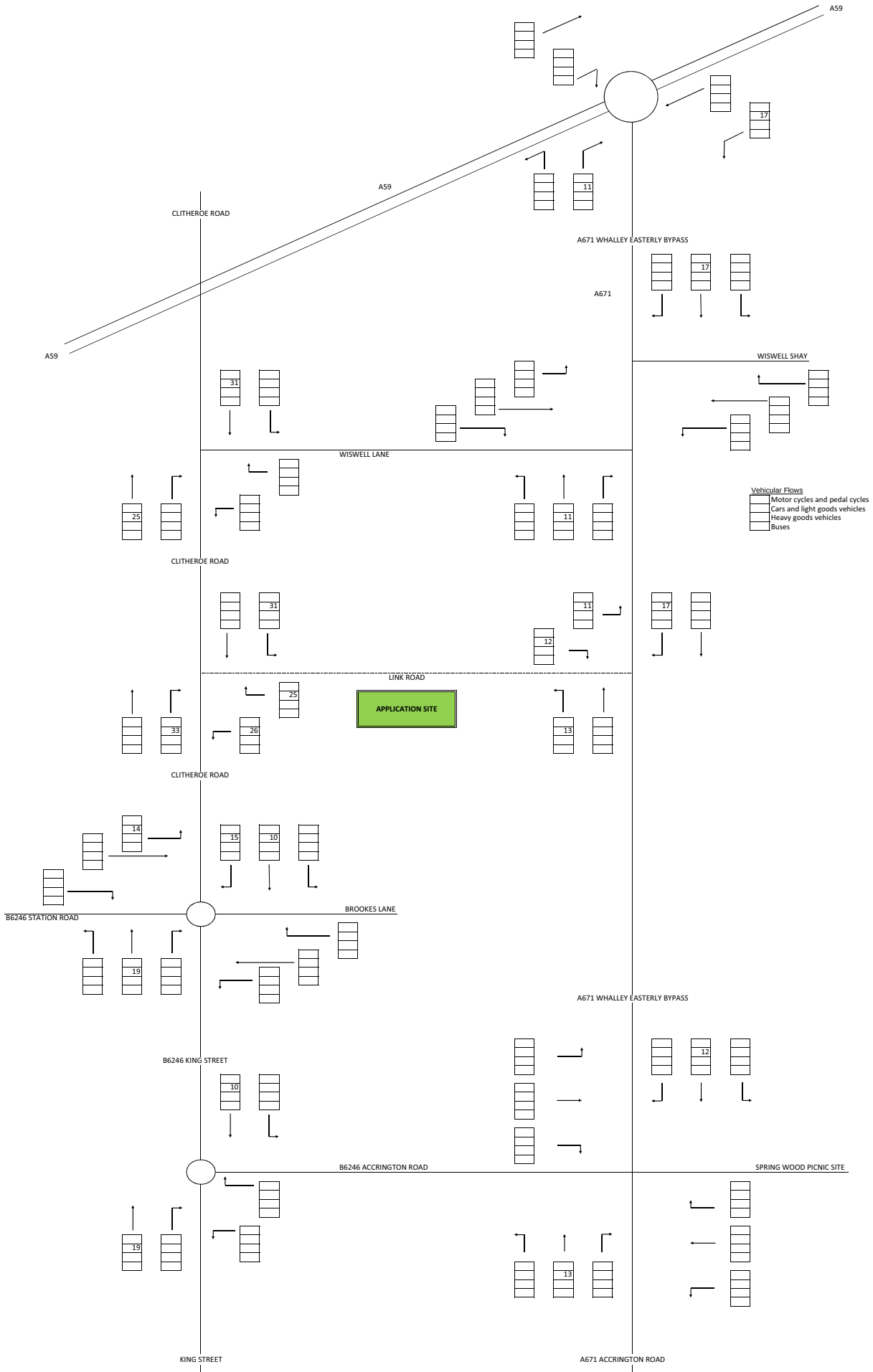


APPENDIX BGH 18

The diagram illustrates a road network with the following roads and features:

- Roads:** Clitheroe Road, Wiswell Lane, Link Road, Brook's Lane, B6246 Accrington Road, A671 Whalley Easterly Bypass, and King Street.
- Application Site:** A green rectangular area located between Link Road and Brook's Lane.
- Spring Wood Picnic Site:** A green rectangular area located between Brook's Lane and B6246 Accrington Road.
- Vehicle Flow Legend:**
 - Motor cycles and pedal cycles: Represented by a single rectangle.
 - Cars and light goods vehicles: Represented by a rectangle with a horizontal line.
 - Heavy goods vehicles: Represented by a rectangle with a vertical line.
 - Buses: Represented by a rectangle with a horizontal line and a vertical line.
- Vehicle Flow Data:**
 - Clitheroe Road:** Northbound flow includes 27 motor cycles, 16 cars, and 18 heavy goods vehicles. Southbound flow includes 16 cars, 18 heavy goods vehicles, and 10 buses.
 - Wiswell Lane:** Northbound flow includes 16 cars, 18 heavy goods vehicles, and 10 buses. Southbound flow includes 16 cars, 18 heavy goods vehicles, and 10 buses.
 - Link Road:** Northbound flow includes 27 motor cycles, 34 cars, and 18 heavy goods vehicles. Southbound flow includes 16 cars, 18 heavy goods vehicles, and 10 buses.
 - Brook's Lane:** Northbound flow includes 16 cars, 18 heavy goods vehicles, and 10 buses. Southbound flow includes 16 cars, 18 heavy goods vehicles, and 10 buses.
 - B6246 Accrington Road:** Northbound flow includes 18 cars, 18 heavy goods vehicles, and 10 buses. Southbound flow includes 18 cars, 18 heavy goods vehicles, and 10 buses.
 - A671 Whalley Easterly Bypass:** Northbound flow includes 15 cars, 15 heavy goods vehicles, and 10 buses. Southbound flow includes 15 cars, 15 heavy goods vehicles, and 10 buses.
 - King Street:** Northbound flow includes 8 cars, 8 heavy goods vehicles, and 10 buses. Southbound flow includes 8 cars, 8 heavy goods vehicles, and 10 buses.

GENERATED RESIDENTIAL TRAFFIC FLOWS (WITH LINK ROAD)
LAWSONSTEDS, WHALLEY
4:30 pm - 5:30 pm



APPENDIX BGH 19

[illegible]

The diagram illustrates the traffic flow at the A671 Whalley Easterly Bypass. It shows a complex network of roads with various traffic signals and roundabouts. Yellow boxes with numbers represent vehicle flow data for different road segments and directions. A legend on the right side defines the symbols for different vehicle types: Motor cycles and pedestrians, Cars and light goods vehicles, Heavy goods vehicles, and Buses.

Vehicular Flows

- Motor cycles and pedestrians
- Cars and light goods vehicles
- Heavy goods vehicles
- Buses

APPENDIX BGH 20

Vehicular Flows

- Motor cycles and pedestrians
- Cars and light goods vehicles
- Heavy goods vehicles
- Buses

Scale

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440 450 460 470 480 490 500 510 520 530 540 550 560 570 580 590 600 610 620 630 640 650 660 670 680 690 700 710 720 730 740 750 760 770 780 790 800 810 820 830 840 850 860 870 880 890 900 910 920 930 940 950 960 970 980 990 1000

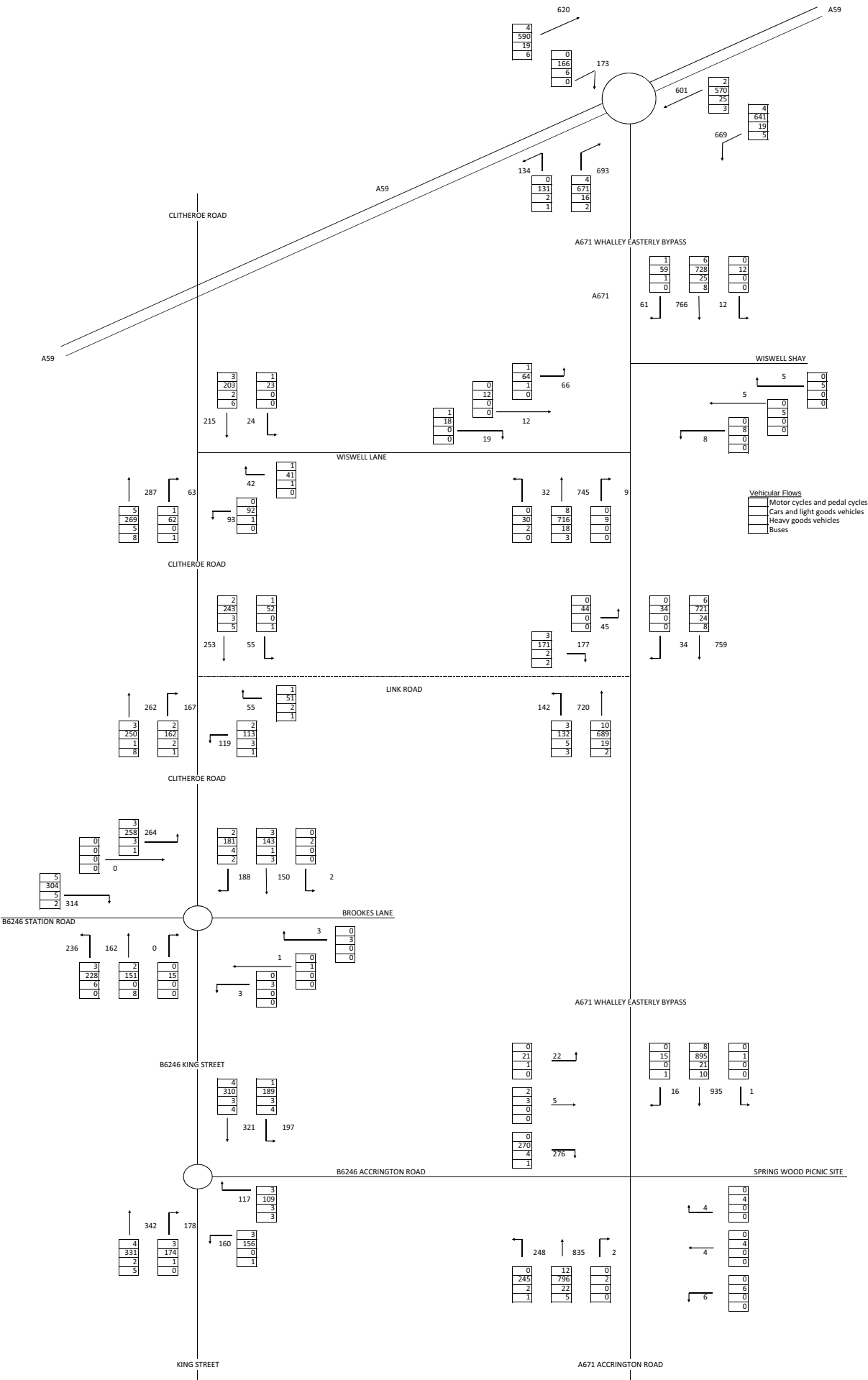
Key Features:

- A671 WHALLEY EASTERLY BYPASS**: The main proposed route, shown as a solid line.
- EXISTING A671**: The current route, shown as a dashed line.
- CLITHEROE ROAD**: A major road running north-south.
- WISWELL LANE**: A road running east-west, intersecting the bypass.
- LINK ROAD**: A road running east-west, intersecting the bypass.
- BROOKESS LANE**: A road running east-west, intersecting the bypass.
- B6246 ACCRINGTON ROAD**: A road running east-west, intersecting the bypass.
- KING STREET**: A road running north-south, intersecting the bypass.
- WISWELL SHAY**: A watercourse running east-west, intersecting the bypass.
- SPRING WOOD PICNIC SITE**: A site located south of the bypass.

Traffic Flow Data (Approaches and Movements):

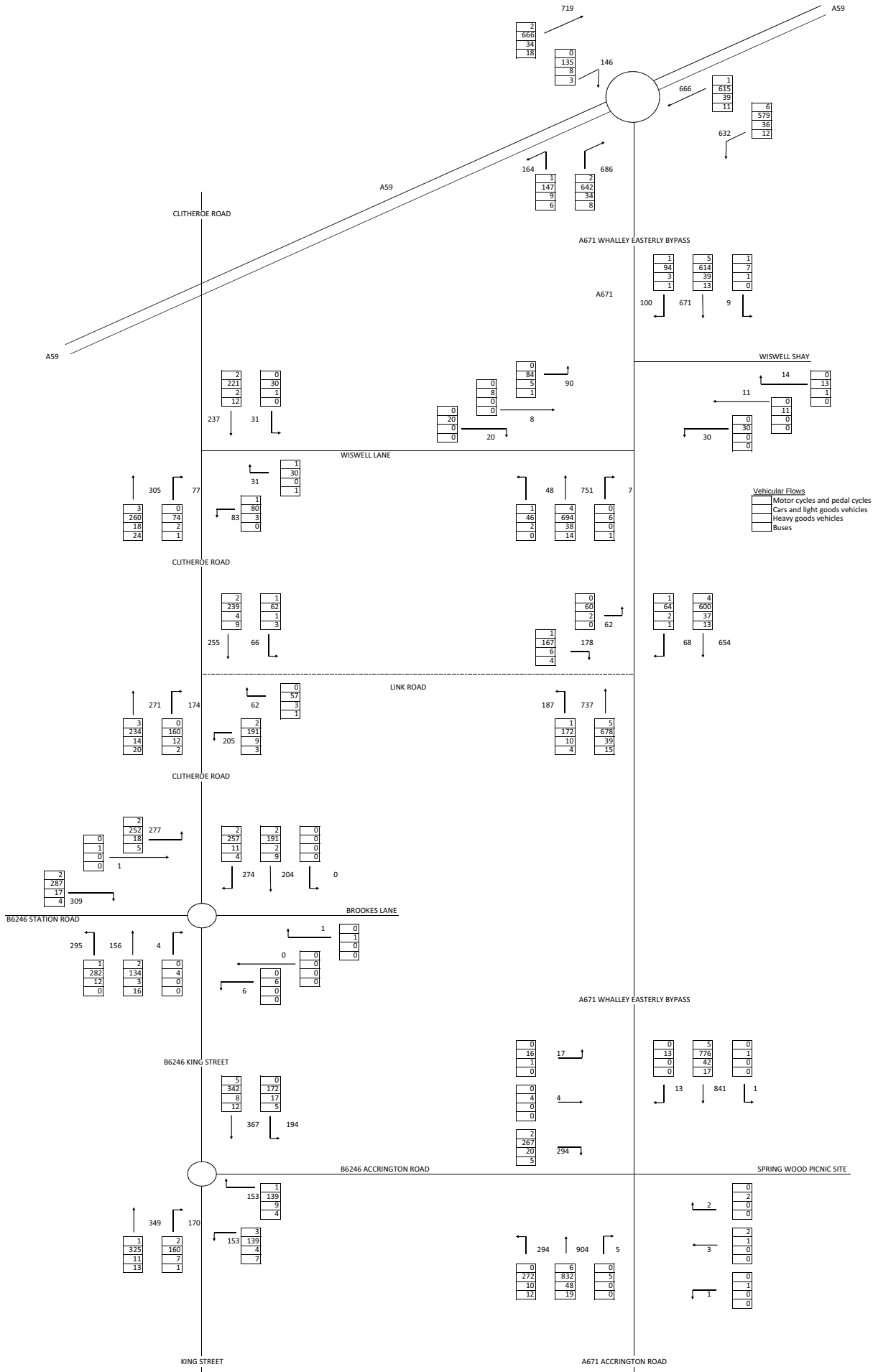
- Approach from North (A59):**
 - Left turn: 2 (Motor cycles and pedestrians), 666 (Cars and light goods vehicles), 34 (Heavy goods vehicles), 18 (Buses).
 - Through: 0 (Motor cycles and pedestrians), 135 (Cars and light goods vehicles), 8 (Heavy goods vehicles), 3 (Buses).
 - Right turn: 146 (Cars and light goods vehicles).
- Approach from South (A59):**
 - Left turn: 1 (Motor cycles and pedestrians), 615 (Cars and light goods vehicles), 39 (Heavy goods vehicles), 11 (Buses).
 - Through: 6 (Motor cycles and pedestrians), 572 (Cars and light goods vehicles), 36 (Heavy goods vehicles), 17 (Buses).
 - Right turn: 626 (Cars and light goods vehicles).
- Approach from East (A671):**
 - Left turn: 1 (Motor cycles and pedestrians), 91 (Cars and light goods vehicles), 3 (Heavy goods vehicles), 1 (Buses).
 - Through: 5 (Motor cycles and pedestrians), 610 (Cars and light goods vehicles), 39 (Heavy goods vehicles), 13 (Buses).
 - Right turn: 1 (Motor cycles and pedestrians), 7 (Cars and light goods vehicles), 1 (Heavy goods vehicles), 0 (Buses).
- Approach from West (A671):**
 - Left turn: 0 (Motor cycles and pedestrians), 76 (Cars and light goods vehicles), 5 (Heavy goods vehicles), 1 (Buses).
 - Through: 0 (Motor cycles and pedestrians), 8 (Cars and light goods vehicles), 0 (Heavy goods vehicles), 0 (Buses).
 - Right turn: 82 (Cars and light goods vehicles).
- Approach from North (Clitheroe Road):**
 - Left turn: 2 (Motor cycles and pedestrians), 214 (Cars and light goods vehicles), 2 (Heavy goods vehicles), 12 (Buses).
 - Through: 0 (Motor cycles and pedestrians), 30 (Cars and light goods vehicles), 1 (Heavy goods vehicles), 0 (Buses).
 - Right turn: 31 (Cars and light goods vehicles).
- Approach from South (Clitheroe Road):**
 - Left turn: 3 (Motor cycles and pedestrians), 240 (Cars and light goods vehicles), 18 (Heavy goods vehicles), 24 (Buses).
 - Through: 0 (Motor cycles and pedestrians), 66 (Cars and light goods vehicles), 2 (Heavy goods vehicles), 1 (Buses).
 - Right turn: 285 (Cars and light goods vehicles).
- Approach from East (Clitheroe Road):**
 - Left turn: 1 (Motor cycles and pedestrians), 77 (Cars and light goods vehicles), 3 (Heavy goods vehicles), 0 (Buses).
 - Through: 0 (Motor cycles and pedestrians), 30 (Cars and light goods vehicles), 0 (Heavy goods vehicles), 1 (Buses).
 - Right turn: 31 (Cars and light goods vehicles).
- Approach from West (Clitheroe Road):**
 - Left turn: 2 (Motor cycles and pedestrians), 233 (Cars and light goods vehicles), 4 (Heavy goods vehicles), 9 (Buses).
 - Through: 1 (Motor cycles and pedestrians), 57 (Cars and light goods vehicles), 1 (Heavy goods vehicles), 3 (Buses).
 - Right turn: 62 (Cars and light goods vehicles).
- Approach from North (Link Road):**
 - Left turn: 0 (Motor cycles and pedestrians), 50 (Cars and light goods vehicles), 3 (Heavy goods vehicles), 1 (Buses).
 - Through: 0 (Motor cycles and pedestrians), 3 (Cars and light goods vehicles), 1 (Heavy goods vehicles), 1 (Buses).
 - Right turn: 55 (Cars and light goods vehicles).
- Approach from South (Link Road):**
 - Left turn: 2 (Motor cycles and pedestrians), 177 (Cars and light goods vehicles), 9 (Heavy goods vehicles), 3 (Buses).
 - Through: 0 (Motor cycles and pedestrians), 145 (Cars and light goods vehicles), 7 (Heavy goods vehicles), 2 (Buses).
 - Right turn: 191 (Cars and light goods vehicles).
- Approach from East (Link Road):**
 - Left turn: 1 (Motor cycles and pedestrians), 155 (Cars and light goods vehicles), 6 (Heavy goods vehicles), 4 (Buses).
 - Through: 0 (Motor cycles and pedestrians), 50 (Cars and light goods vehicles), 2 (Heavy goods vehicles), 0 (Buses).
 - Right turn: 52 (Cars and light goods vehicles).
- Approach from West (Link Road):**
 - Left turn: 1 (Motor cycles and pedestrians), 46 (Cars and light goods vehicles), 2 (Heavy goods vehicles), 0 (Buses).
 - Through: 4 (Motor cycles and pedestrians), 685 (Cars and light goods vehicles), 38 (Heavy goods vehicles), 14 (Buses).
 - Right turn: 742 (Cars and light goods vehicles).
- Approach from North (Brookess Lane):**
 - Left turn: 0 (Motor cycles and pedestrians), 167 (Cars and light goods vehicles), 10 (Heavy goods vehicles), 4 (Buses).
 - Through: 5 (Motor cycles and pedestrians), 678 (Cars and light goods vehicles), 39 (Heavy goods vehicles), 15 (Buses).
 - Right turn: 737 (Cars and light goods vehicles).
- Approach from South (Brookess Lane):**
 - Left turn: 0 (Motor cycles and pedestrians), 167 (Cars and light goods vehicles), 10 (Heavy goods vehicles), 4 (Buses).
 - Through: 5 (Motor cycles and pedestrians), 678 (Cars and light goods vehicles), 39 (Heavy goods vehicles), 15 (Buses).
 - Right turn: 737 (Cars and light goods vehicles).
- Approach from East (Brookess Lane):**
 - Left turn: 0 (Motor cycles and pedestrians), 167 (Cars and light goods vehicles), 10 (Heavy goods vehicles), 4 (Buses).
 - Through: 5 (Motor cycles and pedestrians), 678 (Cars and light goods vehicles), 39 (Heavy goods vehicles), 15 (Buses).
 - Right turn: 737 (Cars and light goods vehicles).
- Approach from West (Brookess Lane):**
 - Left turn: 0 (Motor cycles and pedestrians), 167 (Cars and light goods vehicles), 10 (Heavy goods vehicles), 4 (Buses).
 - Through: 5 (Motor cycles and pedestrians), 678 (Cars and light goods vehicles), 39 (Heavy goods vehicles), 15 (Buses).
 - Right turn: 737 (Cars and light goods vehicles).
- Approach from North (B6246 Accrington Road):**
 - Left turn: 0 (Motor cycles and pedestrians), 16 (Cars and light goods vehicles), 1 (Heavy goods vehicles), 0 (Buses).
 - Through: 4 (Motor cycles and pedestrians), 4 (Cars and light goods vehicles), 0 (Heavy goods vehicles), 0 (Buses).
 - Right turn: 17 (Cars and light goods vehicles).
- Approach from South (B6246 Accrington Road):**
 - Left turn: 2 (Motor cycles and pedestrians), 250 (Cars and light goods vehicles), 20 (Heavy goods vehicles), 5 (Buses).
 - Through: 0 (Motor cycles and pedestrians), 17 (Cars and light goods vehicles), 0 (Heavy goods vehicles), 0 (Buses).
 - Right turn: 277 (Cars and light goods vehicles).
- Approach from East (B6246 Accrington Road):**
 - Left turn: 0 (Motor cycles and pedestrians), 16 (Cars and light goods vehicles), 1 (Heavy goods vehicles), 0 (Buses).
 - Through: 4 (Motor cycles and pedestrians), 4 (Cars and light goods vehicles), 0 (Heavy goods vehicles), 0 (Buses).
 - Right turn: 17 (Cars and light goods vehicles).
- Approach from West (B6246 Accrington Road):**
 - Left turn: 0 (Motor cycles and pedestrians), 16 (Cars and light goods vehicles), 1 (Heavy goods vehicles), 0 (Buses).
 - Through: 4 (Motor cycles and pedestrians), 4 (Cars and light goods vehicles), 0 (Heavy goods vehicles), 0 (Buses).
 - Right turn: 17 (Cars and light goods vehicles).
- Approach from North (King Street):**
 - Left turn: 5 (Motor cycles and pedestrians), 326 (Cars and light goods vehicles), 8 (Heavy goods vehicles), 12 (Buses).
 - Through: 0 (Motor cycles and pedestrians), 162 (Cars and light goods vehicles), 17 (Heavy goods vehicles), 5 (Buses).
 - Right turn: 184 (Cars and light goods vehicles).
- Approach from South (King Street):**
 - Left turn: 1 (Motor cycles and pedestrians), 130 (Cars and light goods vehicles), 9 (Heavy goods vehicles), 4 (Buses).
 - Through: 0 (Motor cycles and pedestrians), 130 (Cars and light goods vehicles), 9 (Heavy goods vehicles), 4 (Buses).
 - Right turn: 144 (Cars and light goods vehicles).
- Approach from East (King Street):**
 - Left turn: 3 (Motor cycles and pedestrians), 136 (Cars and light goods vehicles), 4 (Heavy goods vehicles), 7 (Buses).
 - Through: 0 (Motor cycles and pedestrians), 136 (Cars and light goods vehicles), 4 (Heavy goods vehicles), 7 (Buses).
 - Right turn: 150 (Cars and light goods vehicles).
- Approach from West (King Street):**
 - Left turn: 1 (Motor cycles and pedestrians), 318 (Cars and light goods vehicles), 11 (Heavy goods vehicles), 13 (Buses).
 - Through: 0 (Motor cycles and pedestrians), 136 (Cars and light goods vehicles), 4 (Heavy goods vehicles), 7 (Buses).
 - Right turn: 150 (Cars and light goods vehicles).
- Approach from North (Spring Wood Picnic Site):**
 - Left turn: 0 (Motor cycles and pedestrians), 2 (Cars and light goods vehicles), 0 (Heavy goods vehicles), 0 (Buses).
 - Through: 0 (Motor cycles and pedestrians), 2 (Cars and light goods vehicles), 0 (Heavy goods vehicles), 0 (Buses).
 - Right turn: 2 (Cars and

REVISED 2018 GROWTHED FLOWS (WITH LINK ROAD)
LAWSONSTEADS, WHALLEY
4:30 pm - 5:30 pm

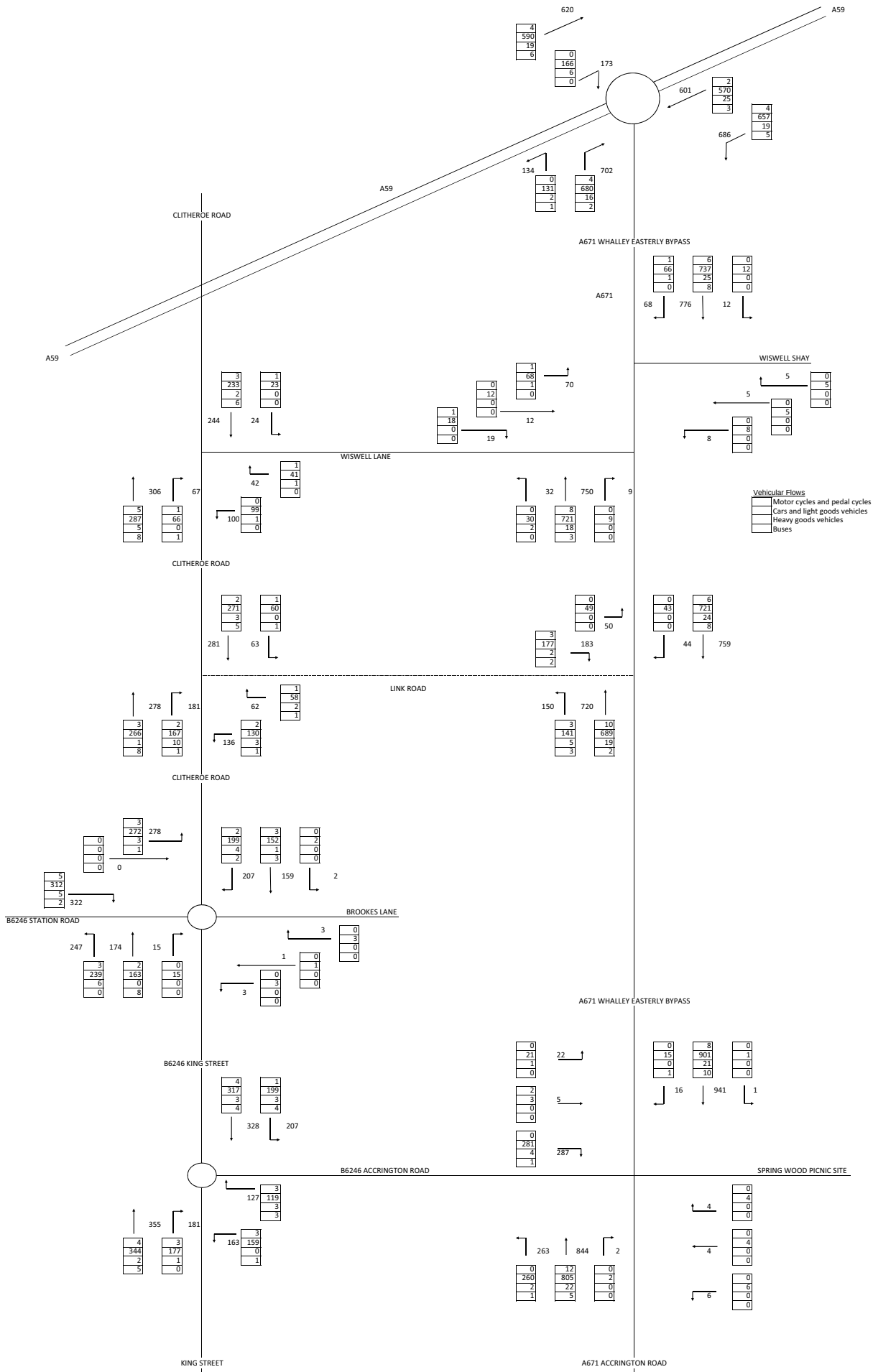


APPENDIX BGH 21

REVISED 2018 BASE FLOWS (WITH LINK ROAD)
LAWSONSTEDS, WHALLEY
8:00 am - 9:00 am

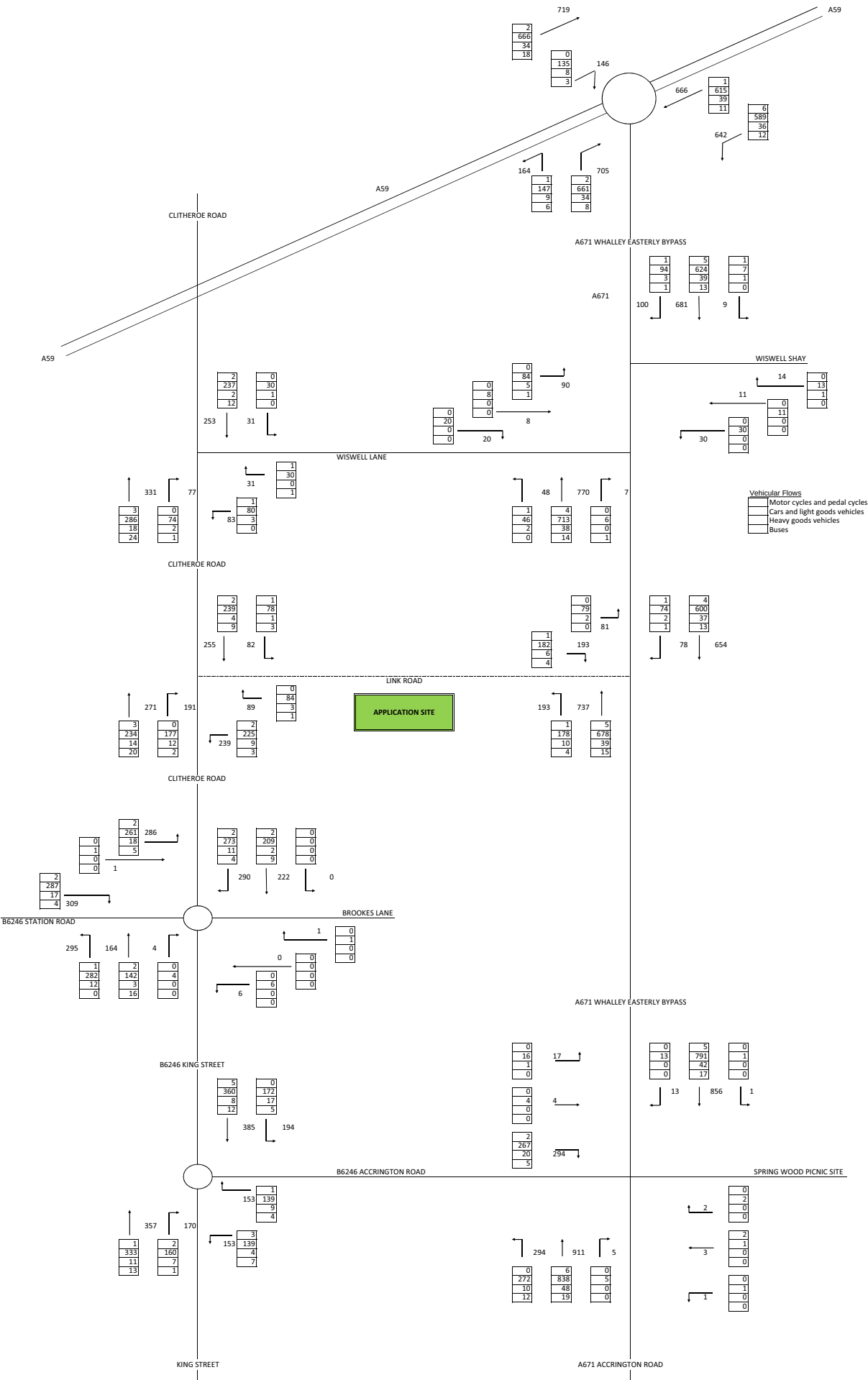


REVISED 2018 BASE FLOWS (WITH LINK ROAD)
LAWSONSTEADS, WHALLEY
4:30 pm - 5:30 pm

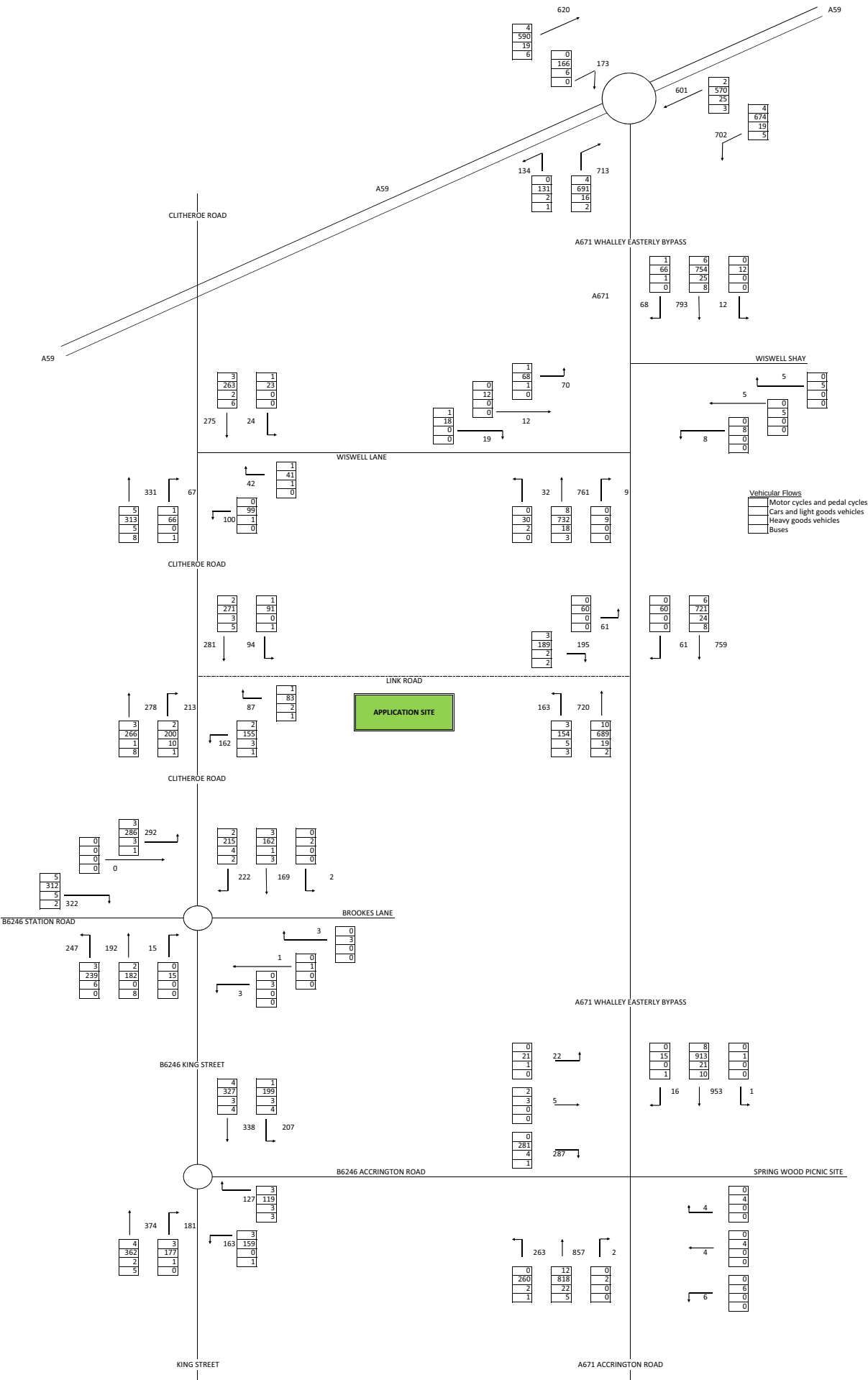


APPENDIX BGH 22

2018 PREDICTED FLOWS (WITH LINK ROAD)
LAWSONSTEDS, WHALLEY
8:00 am - 9:00 am



2018 PREDICTED FLOWS (WITH LINK ROAD)
LAWSONSTEDS, WHALLEY
4:30 pm - 5:30 pm



APPENDIX BGH 23

Appendix BGH23

On CD

2012 Existing Capacity Assessment

Whalley Parking Surveys

2018 Base Capacity Assessment

2018 Predicted Capacity Assessment

Data available on request