

**Proposed Car Supermarket
Helix (Unit 5) @ Gateway 36, Rockingham
Transport Statement**

December 2017 (Revision 1)

**Prepared on behalf of
Harworth**

Quality Management

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1. Introduction

1.1.1 Optima Highways and Transportation have been appointed by Harworth to prepare this brief Transport Statement (TS) to support the proposed change of use application for Helix (Unit 5) @ Gateway 36 – at Phase 1 the location of which is shown on Figure 1.

1.1.2 Helix (Unit 5) currently benefits from a flexible outline planning approval B1C/B8 and permission is sought to occupy this Site with a car supermarket - the operator of which is to remain confidential at this stage. Car retail is Sui Generis in planning terms.

1.1.3 The development proposals are shown on the following Harris Partnership Drawings contained in Appendix A;

- Proposed Site Plan Helix (Unit 5) THP Drawing No. 11462B-150 Rev B; and
- Proposed Ground Floor GA THP Drawing No. 11462B-151 Rev A.

1.1.4 This TS addresses the following points after this introduction in order to give comfort to the highway authority that the any highway impact of the development has already been considered through the overarching Transport Assessment that supported the outline planning consent and that the proposals can operate safely and efficiently without detriment to the highway network;

- Chapter 2 Describes the proposals in relation to outline planning approval;
- Chapter 3 A comparison of the predicted traffic flow with the approved traffic flows; and
- Chapter 4 An overview of the internal layout;
- Chapter 5 Provides a brief conclusion to the report.



2. Gateway 36 – Phase 1 Outline Planning Consent

2.1.1 The highway and transportation implications associated with the overall Gateway 36, Phase 1 approval have already been considered through the Outline Planning Consent Ref: 2015/1118 that amended various planning conditions associated with the original Outline Approval 2014/1055.

2.1.2 The planning approval is designed to be flexible to enable the development respond to market forces particularly given the speculative nature of a proportion of the development. Following granting of 2015/1118 the development schedule set out below was approved but with a maximum floor area of 18,400 sqm being permitted:

- B1c/B8 (with ancillary office space of up to 5%) 13,420 sqm;
- A3/A4/A5 2,280 sqm;
- Hotel 2,700 sqm;
- Car Showroom/Garage 2,000 sqm

2.1.3 In order to demonstrate the amendments made through 2015/1118 were acceptable from a highways capacity perspective, the development quantum shown in Image 2.1 was subject to a materiality assessment included in Optima Technical Note 1 Rev A that is attached at Appendix B for ease of reference.

Image 2.1 Table 1 from Optima TN 1 Rev A (dated 26th August 2015)

Table 1 Comparison of schedule tested in the Optima TA with the schedule proposed as part of the minor material amendment application			
Proposed Land Use	Tested GFA*	Proposed GFA#	Net Change
Employment B1b/c	5,400 sqm	13,420 sqm	+ 8,020 sqm
B8	6,000 sqm	0 sqm	- 6,000 sqm
Complimentary Uses	1,000 sqm	1,123 sqm	+ 123 sqm
Public House/Restaurant**	900 sqm	1,157 sqm**	+ 257 sqm**
Hotel	2,700 sqm	2,700 sqm	0 sqm
Total	16,000 sqm	18,400 sqm	+2, 400 sqm

*Refer to Chapter 6 of the Transport Assessment prepared by Optima dated 3 September 2014

**Please note that this floor area includes 333sqm of ancillary accommodation for staff and therefore 824 sqm is considered to be trip generating as outlined in the BGH TN prepared in support of the Greene King application
#maximums

2.1.4 It should be noted that the B8 allowance was removed from the calculations contained in the TN appended (and Image 2.1 above) to increase the robustness of the calculations i.e. if any of the B1c floorspace included in the table above were to be occupied by B8 uses then the volume of traffic generated by the development would reduce significantly.

2.1.5 The Helix (Unit 5) building floor area of 6,993 sqm is included in the 13,420 sqm allowance included in Table 1 of the TN and therefore in order to demonstrate that the proposed car supermarket is acceptable from a highways impact perspective it is necessary to undertake a comparison of the traffic flows that would be generated by Helix (Unit 5) if it was occupied by a B1c tenant and the those that will be generated by the car supermarket proposal. This assessment is undertaken in detail in Chapter 3.



3. Trip Generation Comparison

3.1.1 This section provides a comparison between the predicted vehicle trip generation associated with Helix should it be occupied by a B1c tenant and the proposed car supermarket.

3.1.2 In order to complete this comparison it is first necessary to revisit the approved B1c trip rates.

3.1.3 The Optima TN that is attached at Appendix B sets out clearly the trip rates that are approved for B1c use as repeated in Table 3.1 below.

Table 3.1 B1b/c Approved Vehicular Trip Rates (TRICS values)

	Arrivals	Departures	Total
AM Peak (08:00 to 09:00)	0.465	0.266	0.731
PM Peak (16:30 to 17:30)	0.179	0.45	0.629

3.1.4 Applying the approved trip rates in the table above to the existing GFA (6,993 sqm) results in the approved Helix (Unit 5) traffic flows shown in Table 3.2

Table 3.2 B1b/c Approved Helix (Unit 5) Trip Generations

	Arrivals	Departures	Total
AM Peak (08:00 to 09:00)	33	19	52
PM Peak (16:30 to 17:30)	13	31	44

3.1.5 Having established the approved traffic generation it is necessary to predict the likely traffic volumes that will be generated by the proposed car supermarket.

3.1.6 In order to predict a bespoke trip rate Optima commissioned a survey of an existing car supermarket site located in Scunthorpe operated by the prospective tenant at Gateway 36 the location of which is shown on the attached Figure 2.

3.1.7 The survey was undertaken by an independent surveyor on Wednesday 22nd November 2017 between 07:30 and 09:30 in the morning and 16:30 and 18:30 in the evening. The raw data is attached at Appendix C.



3.1.8 The peak hours within the survey period have been calculated with the results shown in Table 3.3

Table 3.3 Car Supermarket Scunthorpe Surveyed Peak Hours

	Arrivals	Departures	Total
AM Peak (08:00 to 09:00)	29	8	37
PM Peak (16:30 to 17:30)	12	12	24

3.1.9 In the case of a car retailer Optima determine that it is the number of display models that is the most influential factor on trip generation i.e. the size of the offer. Therefore a trip rate has been calculated based on the number of display spaces at car supermarket in Scunthorpe, this number is 350. Table 3.4 shows the values in Table 3.3 divided by 350 to give a trip rate per display space.

Table 3.4 Car Supermarket Scunthorpe Surveyed Trip Rates

	Arrivals	Departures	Total
AM Peak (08:00 to 09:00)	0.083	0.023	0.106
PM Peak (16:30 to 17:30)	0.034	0.034	0.069

3.1.10 The next stage is to apply the trip rates to the total number of display spaces at the proposed development. The proposed development has 60 external display spaces and 245 internal display spaces totalling 305 spaces.

3.1.11 Table 3.5 shows the total number of arrivals and departures that the proposed development would be expected to generate in the peak hours based on the bespoke trip rate.

Table 3.5 Car Supermarket Barnsley Predicted Trip Generation (305 display spaces)

	Arrivals	Departures	Total
AM Peak (08:00 to 09:00)	25	7	32
PM Peak (16:30 to 17:30)	10	10	21

3.1.12 Having predicted the trip generations for the proposed use it is possible to compare these with the approved trip generations. Table 3.6 shows the net change between the approved and proposed traffic generations.

Table 3.6 Net Change Between Approved and Predicted Flows

	Arrivals	Departures	Total
AM Peak (08:00 to 09:00)	-8	-12	-20
PM Peak (16:30 to 17:30)	-3	-21	-24



3.1.13 It can be seen from Table 3.6 that the proposal will result in reduced traffic flows and therefore highway capacity is not an issue to be considered as part of this application as the proposal will result in less trips than those which are permitted as part of the outline approval.



4. Internal Layout

SWEPT PATH ANALYSIS

4.1.1 The following drawing (attached at Appendix D) demonstrates how the service yard at Helix (Unit 5) can be safely and efficiently accessed by the maximum legal 20.0m Drawbar Car Transporter Heavy Goods Vehicle.

4.1.2 The proposed tenant has confirmed that this is the largest and least manoeuvrable vehicle that will be required to enter the Site. The drawing confirms that proposed development can be safely and efficiently accessed by the maximum length articulated vehicle that will require access to the service yard.

- 17124/ATR/01 Rev A

4.1.3 All vehicles that will be sold at the Site are delivered to the service yard before entering the preparation area before then going on to be displayed. This means that HGV access will not be required at any area other than the service yard.

PARKING PROVISION

4.1.4 Parking guidelines adopted by Barnsley Council do not have specific ratios for motor vehicle retailers and the guidance states that any use class not listed must justify the parking ratios on a site by site basis. Therefore this section provides a brief overview of the parking that has been provided and why approval for the level shown is appropriate.

4.1.5 All of the hard standing area to the front of Helix (Unit 5) that was previously allocated for staff parking for the B1c approval has now been allocated as car display area (60 bays) and for visitor parking (26 spaces) as shown on the THP drawing attached at Appendix A.

4.1.6 Four of the visitor spaces are allocated as disabled spaces. Barnsley's standards require that 4% of the total required standard spaces are provided in addition to the total number of required standard spaces. However, as previously stated Barnsley do not have prescriptive parking standards for the use class sought and therefore Optima consider that 10% of total provision is a reasonable number when considered against industry standard disabled parking requirements.

4.1.7 Motorcycle parking exceeds the minimum 1 per 20 car parking spaces required by Barnsley Council. The total visitor and staff car parking is 51 spaces whereas 4 No. motorcycle spaces are provided at the front of the building. These spaces are highly visible.

4.1.8 Barnsley require cycle parking to be provided at 1 long stay space and 1 short stay space for this type of use. 5 No. cycle spaces are provided which exceeds the required standards. These spaces are covered and highly visible and are suitable for both long and short stay.

4.1.9 Staff parking is provided to the rear of the building in the service yard. A total of 35 spaces are provided with 10% being allocated as disabled spaces. The total number of spaces has been sought to allow flexibility at staff change over times. The applicant has advised they expect the peak number of staff on site at any one time to be 35, however the working day with the exception of Sunday includes shift overlap and therefore the number set at 35 is appropriate to ensure safe and efficient working of the parking area.



5. Conclusion

5.1.1 This TS has considered the highway and transportation implications of a change of use application for the Helix (Unit 5) @ Gateway 36 – a commercial development owned by Harworth.

5.1.2 The TS has demonstrated that the proposed development falls within the parameters of the outline approval with respect to overall floor area.

5.1.3 It has been demonstrated that the proposed development will result in a reduced level of traffic using the local highway network than if the building was occupied by a B1c tenant as is permitted.

5.1.4 A review of parking provision for car, cycle and motorcycle has been undertaken. The parking assessment has concluded the following:

- The car parking provision (which doesn't have a specific standard in Barnsley Council guidance) has been determined at an appropriate level to allow for peak staff occupancy while accommodating shift overlaps;
- Disabled parking is provided at 10%. Barnsley Council does not have specific guidance relating to the proposed use. Disabled provision at 10% is considered reasonable in comparison with general industry standards;
- Cycle parking provision exceed the Barnsley requirement; and
- Motorcycle parking exceeds the Barnsley requirement.

5.1.5 It has been demonstrated that the service yard can comfortably accommodate the largest design vehicle that will visit the Site.

5.1.6 Based on the information contained within this TS it is concluded that the proposed change of use should be supported on highways and transportation grounds.

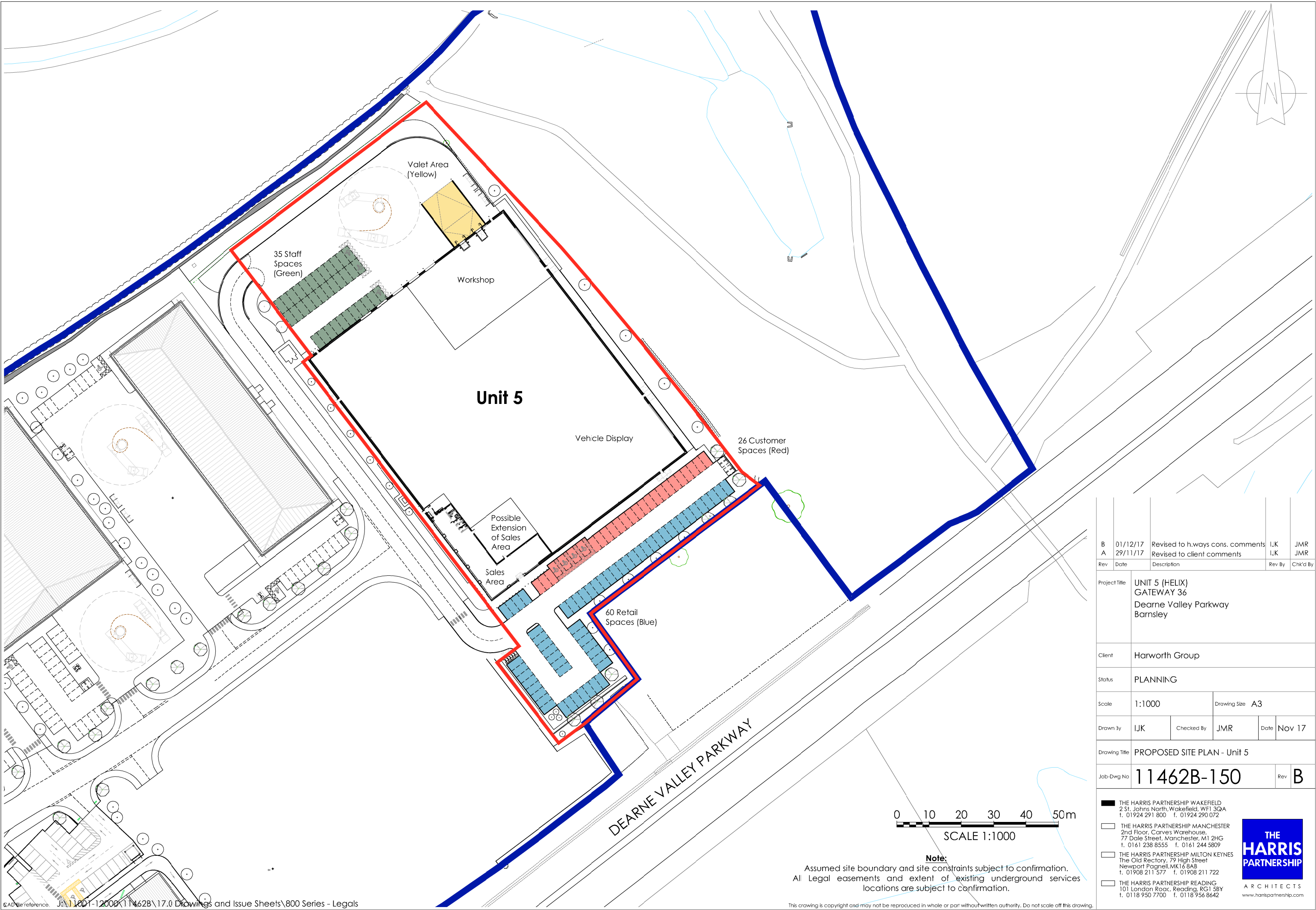


Appendices



Appendix A Development Proposals





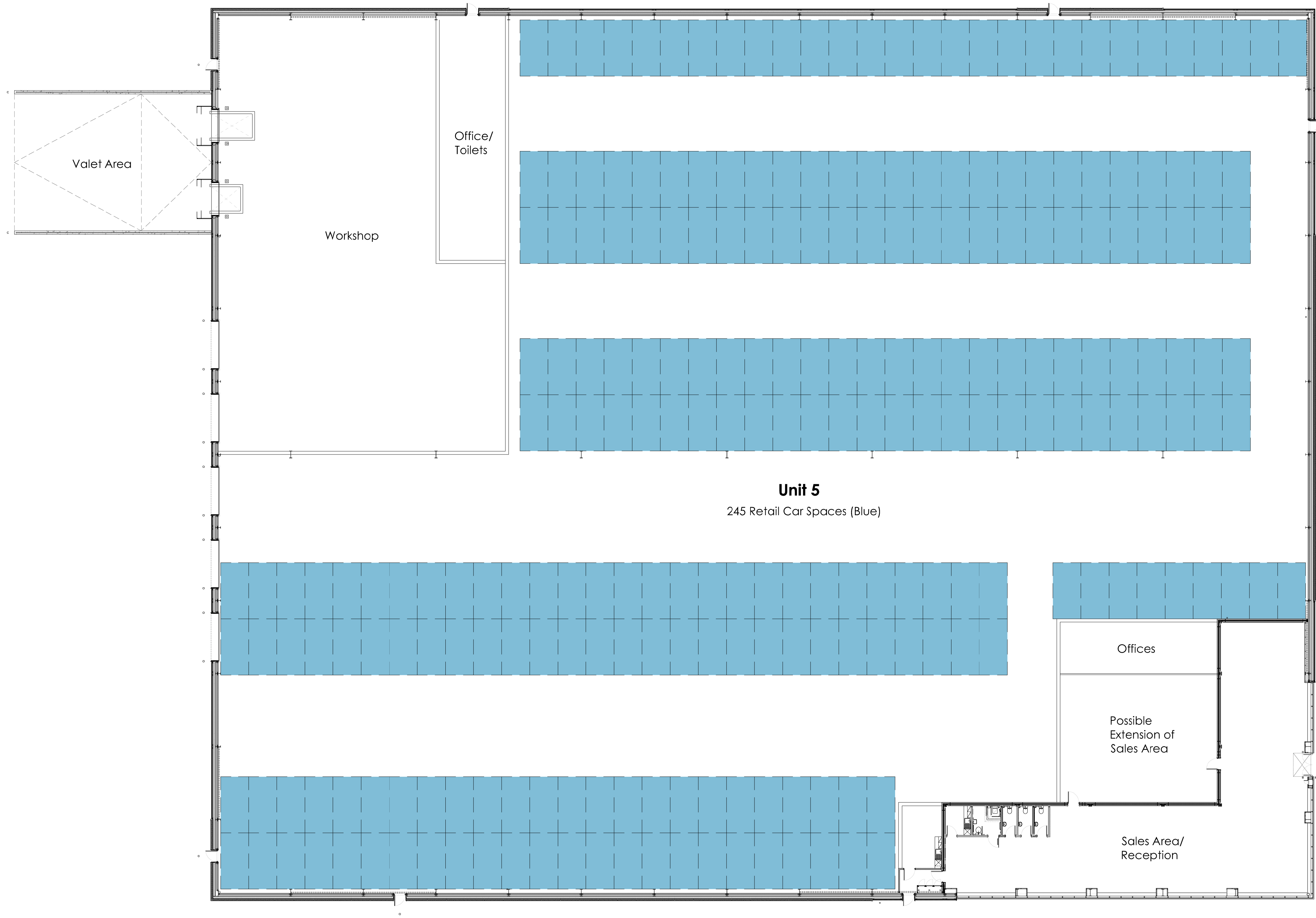
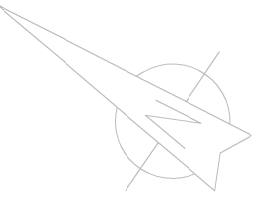
Note:
Assumed site boundary and site constraints subject to confirmation.
All Legal easements and extent of existing underground services
locations are subject to confirmation.

This drawing is copyright and may not be reproduced in whole or part without written authority. Do not scale off this drawing.

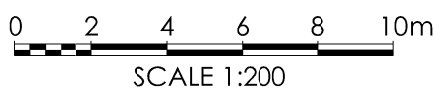
Rev	B	01/12/17	Revised to h.ways cons. comments	I.K	JMR
	A	29/11/17	Revised to client comments	I.K	JMR
Rev	Date	Description	Rev By	Chk'd By	
Project Title	UNIT 5 (HELIX) GATEWAY 36 Dearne Valley Parkway Barnsley				
Client	Harworth Group				
Status	PLANNING				
Scale	1:1000		Drawing Size	A3	
Drawn by	IJK	Checked By	JMR	Date	Nov 17
Drawing Title	PROPOSED SITE PLAN - Unit 5				
Job-Dwg No	11462B-150			Rev	B

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Unit 5
245 Retail Car Spaces (Blue)



Note:
Assumed site boundary and site constraints subject to confirmation.
All legal easements and extent of existing underground services
locations are subject to confirmation.

A	29/11/17	Updated to client comments	IJK	JMR
Rev	Date	Description	Rev By	Chk'd By
Project Title				
UNIT 5 (HELIX) GATEWAY 36 Dearne Valley Parkway Barnsley				
Client				
Harworth Group				
Status				
PLANNING				
Scale			Drawing Size	
1:200			A1	
Drawn By	IJK	Checked By	JMR	Date
				11/17
Drawing Title				
Proposed Ground Floor GA				
Job-Dwg No	11462B-151			Rev
				A

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Appendix B Optima Technical Note 1 Rev A





Rockingham Phase 1, Barnsley
Revisiting of Approved Schedule of Accommodation
Technical Note 1 Rev A
26th August 2015

1.1.1 This Technical Note (TN) has been prepared on behalf of Harworth Estates by Optima Highways and Transportation to summarise the impact of amending the approved schedule of accommodation, the inclusion of some additional floor space and including for a greater allowance of B1b/c.

1.1.2 The principle of increasing the overall floor space and increasing the B1b/c is proposed to allow greater flexibility to adapt to changing market conditions. This requirement was not anticipated at the time of submission of the original application. Further details are provided the Planning Statement prepared by DTZ in support of this minor material amendment application.

1.1.3 The purpose of this note is to provide comfort to the highway authority that the changes between what is consented and what is proposed through this amendment will not have a material impact on the volume of traffic that will route through the Birdwell Roundabout in the proposed design scenario.

1.1.4 It should be noted at the outset that the impact of the proposed minor amendments has been assessed in terms of the volume of traffic that is predicted to route through the Birdwell roundabout on the basis that this is the most sensitive of the junctions within the study network that was assessed as part of the outline application. The site access roundabout and the Shortwood Roundabout operate far more efficiently as was demonstrated in the Transport Assessment that supported the original outline application.

1.1.5 In order to provide this comfort a comparison has been undertaken between the consented design traffic and the additional traffic predicted to be generated by the proposed minor material amendment i.e. the uplift in the proposed total quantum of development.

1.1.6 The trip rates and distributions utilised in this piece of work are those that were approved through the work undertaken in connection with the outline planning approval ref: 2014/1055. Therefore this TN should be read in conjunction with the Optima Transport Assessment (TA) dated 4th September 2014.

1.1.7 As the submission of the minor material amendment application is in 2015 it is appropriate to consider a design year of 2020 i.e. the same as the plus five year development scenario that was considered as part of the original outline application. Therefore the base traffic to be included in this assessment for the comparison will be made up of the following:

- Growthed 2014 Traffic Counts to 2020 Count Flows;
- Approved Hartwood Traffic Flows (2014/1452);
- Approved Harworth Estates Traffic Flows (2014/1055)

1.1.8 The 2020 updated design traffic to be compared with the 2020 base traffic will be made up of the flows bulleted above plus the additional design traffic associated with the net increase in floor space set out in Table 1 below. It must be recognised that the proposed B1b/c represents an absolute worst case scenario in terms of traffic generation. This is on the basis that the planning permission that is currently being sought for Unit 5 (through a reserved matters application ref 2015/0954) specifies either B1b/c or B8 use. Therefore if Unit 5 (total GFA 6,968sqm) is built out for B8 use the traffic flows will in fact be less than those assessed in subsequent sections of this note i.e. this TN is robust in its assessment of the change in quantum that is being applied for.

Table 1 Comparison of schedule tested in the Optima TA with the schedule proposed as part of the minor material amendment application			
Proposed Land Use	Tested GFA*	Proposed GFA#	Net Change
Employment B1b/c	5,400 sqm	13,420 sqm	+ 8,020 sqm
B8	6,000 sqm	0 sqm	- 6,000 sqm
Complimentary Uses	1,000 sqm	1,123 sqm	+ 123 sqm
Public House/Restaurant**	900 sqm	1,157 sqm**	+ 257 sqm**
Hotel	2,700 sqm	2,700 sqm	0 sqm
Total	16,000 sqm	18,400 sqm	+2, 400 sqm

*Refer to Chapter 6 of the Transport Assessment prepared by Optima dated 3 September 2014

**Please note that this floor area includes 333sqm of ancillary accommodation for staff and therefore 824 sqm is considered to be trip generating as outlined in the BGH TN prepared in support of the Greene King application

#maximums

Preparation of 2020 Base Traffic Flows

1.1.9 The first step in preparing the 2020 base traffic is to growth the 2014 traffic to 2020 levels. This has been completed through the following steps.

1.1.10 Background traffic growth rates, between 2014 and 2020, have been obtained from TEMPRO v6.2 for the Hoyland Nether area for principle rural roads – these values are as follows, the TEMPRO outputs are enclosed:

- AM peak hour growth rates of 1.0907%; and
- PM peak hour growth rates of 1.0944%.

1.1.11 The 2014 traffic flows from the approved Transport Assessment are enclosed on Figures 101 (AM) and 102 (PM).

1.1.12 It should be noted that no discount has been applied to the TEMPRO growth rate calculation to allow for the proposed development Site or the consented Hartwood site. This is despite the sites being allocated in Barnsley's current Local Development Framework (LDF) proposals and therefore an element of double counting will take place as the growth rate already takes account of jobs which could be associated with the Rockingham Phase 1 and Hartwood developments. The modelling of the development flows is therefore considered to be highly robust.

1.1.13 Applying the growth rates identified above produces the following growthed traffic flows;

- 2020 growthed traffic flows shown on Figures 103 and 104 for the morning and evening peak hours respectively.

1.1.14 It should be noted that these growthed traffic flows are considered to be extremely robust due to the effect of double counting of the proposed development Site and national travel pattern trends. These national travel patterns including peak spreading and negative growth in vehicle kilometres indicate a reduction in peak hour traffic in the future as opposed to a growth of over 9% in six years years (2014 to 2020) that has been applied here. These trends are occurring nationally due to the introduction of travel plans, flexible working hours, home working, investments in public transport infrastructure as well as increases in fuel prices.

1.1.15 Having established the 2020 count traffic flows it is necessary to layer on the committed development traffic from the following committed developments:

- Approved Hartwood Traffic Flows (2014/1452)
 - See Figures 105 (AM) and 106 (PM);
- Approved Harworth Estates Traffic Flows (2014/1055)
 - See Figures 107 (AM) and 108 (PM).

1.1.16 The 2020 base flows including the committed development traffic as listed above are shown on the following figures:

- Figure 109 (AM) and 110 (PM)

1.1.17 Having established the 2020 base traffic flows it is necessary to predict the 2020 design traffic flows for the alternative schedule of accommodation as set out in the central column of Table 1.

Prediction of 2020 Design Traffic Flows.

1.1.18 As set out above the approved trip rates and distributions from the Transport Assessment prepared by Optima in support of the outline planning consent 2014/1055 will be utilised to predict the total number of trip associated with the revised schedule of accommodation. These calculations are set out in the following section and do include some repetition from the approved TA for completeness and ease of reading.

B1B/C EMPLOYEE TRIP GENERATIONS

1.1.19 The TRICS database (version 2014 (a) V7.1.1) has been used to establish average B1b/c vehicular trip rates during the weekday morning (08:00 – 09:00) and evening (16:30 -17:30) peak hour periods. The peak hour periods selected above result in the worst case trip scenario when added to the surveys. Survey sites within the database have been selected using the following parameters;

- Land use Employment selected;
- Category Industrial Estate selected;
- Vehicular trip rates selected;
- London and Ireland sites excluded; and
- Edge of Town Centre, Edge of Town, Neighbourhood Centre and Free Standing selected.

1.1.20 This selection process yielded 15 representative survey sites for B1b/c industrial use. The resulting average baseline trip rates and generations for the B1b/c use are set out in Table 2. The TRICS outputs are attached.

Table 2 – B1b/c Vehicular Trip Rates (TRICS values)

	Total Vehicular Trip Rates (per 100sqm) GFA		
	Arrivals	Departures	Total
AM Peak (08:00 to 09:00)	0.465	0.266	0.731
PM Peak (16:30 to 17:30)	0.179	0.45	0.629
	Vehicular Trip Generations (13,420sqm)		
	Arrivals	Departures	Total
AM Peak (08:00 to 09:00)	62	36	98
PM Peak (16:30 to 17:30)	24	60	84

1.1.21 The traffic generations shown in Table 2 have been assigned using the approved distributions to result in the traffic flows, for the increase B1b/c floor space, as shown on the following figures.

- Figure 111 – AM B1b/c Development Traffic; and
- Figure 112 – PM B1b/c Development Traffic.

FAST FOOD RESTAURANT WITH DRIVE THRU TRIP GENERATIONS

1.1.22 The TRICS database (version 2014 (a) V7.1.1) has been used to establish average Fast Food vehicular trip rates during the morning (08:00 to 09:00) and evening (17:00 - 18:00) peak hour periods. The peak hour periods selected above result in the worst case trip scenario when added to the surveyed traffic;

- Land use Hotel, Food & Drink selected;
- Category Fast Food, Drive Thru selected;
- Vehicular trip rates selected;
- London and Ireland sites excluded; and
- Edge of Town.

1.1.23 This selection process yielded 5 representative survey sites. The resulting average baseline trip rates and generations for the Drive thru use are set out in Table 3. The TRICS outputs are attached.

Table 3 – Drive thru Trip Rates (TRICS values)

	Total Vehicular Trip Rates (per 100 sqm) GFA		
	Arrivals	Departures	Total
AM Peak (08:00 to 09:00)	13.796	12.5	26.296
PM Peak (17:00 to 18:00)	10.748	11.025	21.773
	Vehicular Trip Generations (1,123 sqm)		
	Arrivals	Departures	Total
AM Peak (08:00 to 09:00)	155	140	295
PM Peak (17:00 to 18:00)	121	124	245

1.1.24 This pass-by trip methodology that follows was agreed through outline application and has been repeated below for completeness.

1.1.25 Having established the total number of trips that will arrive and depart proposed drive thru it is necessary to then establish the proportion of these trips that are completely new to the network and those trips which will simply divert in to the site on route to their final destination e.g. stopping for a coffee on their way to work in the AM peak period.

1.1.26 These trips are already on the local highway network and therefore the predicted development traffic flows must reflect this. If they are not adjusted there is the possibility that mitigation may be provided that increases the capacity of the local highway network over and above that which is required to mitigate the impact of the development. This would be contrary to overarching national policy.

1.1.27 In order to calculate the effect on pass by traffic reference has been made to a recently granted planning application for a McDonald's Drive Thru restaurant in the Handsworth area Sheffield.

1.1.28 The extract of the supporting Transport Assessment for the McDonald's in Handsworth, Sheffield was at Appendix J of the Optima's TA.

1.1.29 It can be seen from the surveys that 11% of the total car trips arriving at the drive thru restaurant are solely visiting the drive thru i.e. a new trip to the network

1.1.30 Because of the pass by nature of the arrivals at this use it is not appropriate to distribute the generated traffic using the census information. It is therefore more appropriate to use the traffic surveys and use the proportion of traffic passing the site in the morning and evening peaks. This methodology was approved through the original application and has been utilised here.

1.1.31 Therefore a discount of 89% has been applied to the total number of trips that are predicted to visit the restaurant.

1.1.32 Taking cognisance of the above factors the fast food traffic flows are included on the following figures:

- Figure 113 – AM Fast Food Development Traffic; and
- Figure 114 – PM Fast Food Development Traffic.

PUBLIC HOUSE TRIP GENERATIONS

1.1.33 The TRICS database (version 2014 (a) V7.1.1) has been used to establish average Public House vehicular trip rates during the evening (17:00 - 18:00) peak hour periods. The peak hour periods selected above result in the worst case trip scenario when added to the survey. Survey sites within the database have been selected using the following parameters;

- Land use Hotel, Food & Drink selected;
- Category Pub/Restaurant selected;
- Vehicular trip rates selected;
- London and Ireland sites excluded; and
- Edge of Town and Neighbourhood Centre.

1.1.34 This selection process yielded 3 representative survey sites. The resulting average baseline trip rates and generations for the Public House use are set out in Table 4. The TRICS outputs are attached.

1.1.35 Because of the pass by nature of the arrivals at this use it is not appropriate to distribute the generated traffic using the census information. It is therefore more appropriate to use the traffic surveys and use the proportion of traffic passing the site in the morning and evening peaks. Therefore each peak has a different distribution as shown on Figures 107 of the TA.

Table 4 – Public House Vehicular Trip Rates (TRICS values)

	Total Vehicular Trip Rates (per 100sqm) GFA		
	Arrivals	Departures	Total
PM Peak (17:00 to 18:00)	2.489	2.400	4.889
	Vehicular Trip Generations (824sqm)		
	Arrivals	Departures	Total
PM Peak (17:00 to 18:00)	21	20	41

1.1.36 The updated traffic flows for the public house are shown on the following figure:

- Figure 115 – PM Public House Traffic Flows

HOTEL TRIP GENERATION

1.1.37 The trip generations associated with the hotel are not proposed to change through this minor material amendment application. The traffic flows associated with the hotel are repeated for completeness and are shown on the following:

- Figure 116 – AM Hotel Traffic Flows: and
- Figure 117 – PM Hotel Traffic Flow.

TOTAL DEVELOPMENT TRIPS

1.1.38 The traffic flows from the individual land uses described above have all been added together to give the total development traffic shown on the following figures:

- Figure 118 – AM Total Updated Development Trips;
- Figure 119 – PM Total Updated Development Trips.

TOTAL UPDATED 2020 DESIGN TRAFFIC

1.1.39 In order to understand the difference in traffic flows between the 2020 consented base situation i.e. the traffic flows shown on Figures 109 (AM) and 110 (PM) and the proposed scenario i.e. the flows generated by the updated schedule of accommodation it is necessary to calculate the Total 2020 Design Traffic.

1.1.40 This is done by adding the updated development trips to the 2020 count flows plus the Hartwood approved development traffic.

1.1.41 This calculation ensures that the increase between the consented scenario and the updated scenario can be readily seen.

1.1.42 The total updated design traffic can be seen on the following:

- Figure 120 – AM Total Updated 2020 Development Traffic (Fig 103 + Fig 105 + Fig 118); and
- Figure 121 – PM Total Updated 2020 Development Traffic (Fig 104 + Fig 106 + Fig 119).

BIRDWELL ROUNDABOUT TRAFFIC FLOW COMPARISON

1.1.43 As stated above the most appropriate way to compare the difference in the traffic impact associated with amendments to the quantum of development proposed in the minor material amendment application is by comparing the flows in the consented 2020 base scenario with those that are predicted to use the roundabout in the updated 2020 design scenario.

1.1.44 Table 5 shows the total vehicle flows at the Birdwell roundabout in the AM peak as shown on Figure 109 (AM 2020 Base Flows including Consented Development) compared with Figure 120 (AM Total Updated 2020 Development Traffic). Table 6 then shows the same comparison but for the PM peak (Figures 110 and 121).

Table 5 - Birdwell Roundabout Flow Comparison AM Peak (Total Flows – All Movements)

	AM		
	2020 Consented Base	2020 Updated Design	% change
All Movements	4667	4696	0.617%

Table 6 – Birdwell Roundabout Flow Comparison PM Peak (Total Flows – All Movements)

	PM		
	2020 Consented Base	2020 Updated Design	% change
All Movements	4733	4756	0.483%

SUMMARY

1.1.45 It can be seen from Tables 5 and 6 that that the amendments to the schedule of accommodation only make a very small change in traffic flows when compared with the consented situation. The increase in flows in actual vehicle numbers at the Birdwell Roundabout are only 29 in the morning and 23 in the evening.

1.1.46 Therefore this change cannot be considered material and therefore it is considered that there are no highway reasons why this minor amendment to the consented Rockingham Phase 1 development should not be granted planning approval.

ENCLOSURES

TEMPRO Outputs

Approved TRICS Data

Figure 101	2014 AM Traffic Count
Figure 102	2014 PM Traffic Count
Figure 103	2020 AM Growthed Traffic Count
Figure 104	2020 PM Growthed Traffic Count
Figure 105	Approved Hartwood Traffic AM Peak Hour
Figure 106	Approved Hartwood Traffic PM Peak Hour
Figure 107	Approved Harworth Estates Traffic AM Peak Hour
Figure 108	Approved Harworth Estates Traffic PM Peak Hour
Figure 109	2020 AM Consented Development Traffic
Figure 110	2020 PM Consented Development Traffic
Figure 111	AM B1b/c Development Traffic
Figure 112	PM B1b/c Development Traffic
Figure 113	AM Fast Food Development Traffic
Figure 114	PM Fast Food Development Traffic
Figure 115	PM Public House Traffic Flows
Figure 116	AM Hotel Traffic Flows
Figure 117	PM Hotel Traffic Flow
Figure 118	AM Total Updated Development Trips
Figure 119	PM Total Updated Development Trips
Figure 120	AM Total Updated 2020 Development Traffic (Fig 103 + Fig 105 + Fig 118)
Figure 121	PM Total Updated 2020 Development Traffic (Fig 104 + Fig 106 + Fig 119)

The screenshot displays the TEMPRO main form with the 'Results' window open. The 'Results' window shows a table with the following data:

Area Description	Name	Origin	Destination
Level			
00CC2	Hoyland Nether	1.0684	1.0631

The 'NTM Traffic Growth Calculations' dialog box is also open, showing the following steps:

- 1: Select NTM Dataset:**

NTM Dataset Description	From	To
NTM AF09 Dataset	2003	2035
NTM AF08 Dataset	2003	2025
- 2: Select Areas to make up the geographic region:**
 - ☒ Hoyland Nether (00CC2)
- 3. Select area type:**
 - ☐ Urban
 - ☒ Rural
 - ☐ All
- 4. Select road type:**
 - ☐ Motorway
 - ☐ Trunk
 - ☒ Principal
 - ☐ Minor
 - ☐ All
- 5. Select which area it serves:**
 - ☒ Region
 - ☐ England

The 'Calculate the adjusted local growth figure' button is visible. The 'Results' window also shows a table with the following data:

Level	Area	Local Growth Figure
00CC2	Hoyland Nether	1.0907

TEMPRO main form

Data selections

Select dataset version: 62

Result type

☒ Trip ends by time period
☐ Trip ends by car availability
☐ Car ownership data
☐ Planning data

Set area definition...

Enter base year: 2014
Enter future year: 2020

Trip end selections
Trip end by time period selections

Reset Selections

NTM Traffic Growth Calculations

1: Select NTM Dataset:

NTM Dataset Description	From	To
NTM AF09 Dataset	2003	2035
NTM AF08 Dataset	2003	2025

2: Select Areas to make up the geographic region:

☒ Hoyland Nether (00CC2)

3. Select area type:

☐ Urban
☒ Rural
☐ All

4. Select road type:

☐ Motorway
☐ Trunk
☒ Principal
☐ Minor
☐ All

5. Select which area it serves:

☒ Region
☐ England

Calculate the adjusted local growth figure

Results

Level	Area	Local Growth Figure
00CC2	Hoyland Nether	1.0944

Destination: 1.0709

09:54
24/06/2015

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

03	SOUTH WEST	
	CW CORNWALL	1 days
	DV DEVON	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
	NF NORFOLK	1 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
08	NORTH WEST	
	LC LANCASHIRE	1 days
	MS MERSEYSIDE	1 days
09	NORTH	
	CB CUMBRIA	1 days
	NB NORTHUMBERLAND	1 days
	TW TYNE & WEAR	1 days
11	SCOTLAND	
	AG ANGUS	1 days
	EA EAST AYRSHIRE	1 days
	FA FALKIRK	1 days
	HI HIGHLAND	1 days

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

Filtering Stage 2 selection:

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

Parameter: Gross floor area
 Actual Range: 552 to 64889 (units: sqm)
 Range Selected by User: 3000 to 13000 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/08 to 04/10/13

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

Selected survey days:

Monday	4 days
Tuesday	3 days
Wednesday	3 days
Thursday	1 days
Friday	4 days

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

Selected survey types:

Manual count	15 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town Centre	3
Edge of Town	8
Neighbourhood Centre (PPS6 Local Centre)	3
Free Standing (PPS6 Out of Town)	1

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

Selected Location Sub Categories:

Industrial Zone	5
Commercial Zone	1
Residential Zone	4
Village	2
Out of Town	1
No Sub Category	2

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

Filtering Stage 3 selection:

Use Class:

B1	4 days
B2	8 days
B8	2 days

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

Population within 1 mile:

1,000 or Less	4 days
1,001 to 5,000	1 days
5,001 to 10,000	2 days
10,001 to 15,000	1 days
15,001 to 20,000	3 days
20,001 to 25,000	2 days
25,001 to 50,000	2 days

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

Population within 5 miles:

5,001 to 25,000	3 days
25,001 to 50,000	2 days
50,001 to 75,000	1 days
100,001 to 125,000	1 days
125,001 to 250,000	5 days
250,001 to 500,000	2 days
500,001 or More	1 days

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

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	6 days
1.1 to 1.5	8 days

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

Travel Plan:

No	15 days
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This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1	AG-02-D-01 WESTWAY	INDUSTRIAL EST.	ANGUS
	ARBROATH Edge of Town Residential Zone Total Gross floor area: 64889 sqm Survey date: FRIDAY 25/05/12		Survey Type: MANUAL
2	CA-02-D-02 COLDHAM'S ROAD COLDHAM'S COMMON CAMBRIDGE Edge of Town Industrial Zone Total Gross floor area: 2063 sqm Survey date: MONDAY 19/10/09	IND. ESTATE	CAMBRIDGESHIRE Survey Type: MANUAL
3	CB-02-D-04 CARLISLE ROAD	INDUSTRIAL ESTATE	CUMBRIA
	BRAMPTON Edge of Town No Sub Category Total Gross floor area: 17708 sqm Survey date: WEDNESDAY 16/12/09		Survey Type: MANUAL
4	CW-02-D-03 LONG ROCK ROAD LONG ROCK NEAR PENZANCE Neighbourhood Centre (PPS6 Local Centre) Village Total Gross floor area: 36500 sqm Survey date: MONDAY 03/10/11	IND. ESTATE	CORNWALL Survey Type: MANUAL
5	DV-02-D-06 ST MODWEN ROAD	INDUSTRIAL ESTATE	DEVON
	PLYMOUTH Edge of Town Industrial Zone Total Gross floor area: 1775 sqm Survey date: TUESDAY 17/07/12		Survey Type: MANUAL
6	EA-02-D-02 JAMES LITTLE STREET	INDUSTRIAL EST.	EAST AYRSHIRE
	KILMARNOCK Edge of Town Centre Industrial Zone Total Gross floor area: 552 sqm Survey date: WEDNESDAY 11/06/08		Survey Type: MANUAL
7	FA-02-D-03 LADYSMILL	INDUSTRIAL ESTATE	FALKIRK
	FALKIRK Edge of Town Centre Commercial Zone Total Gross floor area: 1250 sqm Survey date: FRIDAY 31/05/13		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	HI-02-D-03 NORTH ROAD INVERLOCHY FORT WILLIAM Edge of Town No Sub Category Total Gross floor area: 35000 sqm Survey date: MONDAY 18/05/09	IND. ESTATE & BUS. PARK	HIGHLAND	Survey Type: MANUAL
9	LC-02-D-05 APPLEBY STREET BLACKBURN Edge of Town Centre Industrial Zone Total Gross floor area: 7020 sqm Survey date: TUESDAY 04/06/13	INDUSTRIAL ESTATE	LANCASHIRE	Survey Type: MANUAL
10	LN-02-D-02 STATION ROAD SWINESHEAD NEAR BOSTON Neighbourhood Centre (PPS6 Local Centre) Village Total Gross floor area: 4600 sqm Survey date: TUESDAY 11/12/12	INDUSTRIAL ESTATE	LINCOLNSHIRE	Survey Type: MANUAL
11	MS-02-D-06 BOALER STREET LIVERPOOL Neighbourhood Centre (PPS6 Local Centre) Industrial Zone Total Gross floor area: 4800 sqm Survey date: THURSDAY 09/09/10	INDUSTRIAL EST.	MERSEYSIDE	Survey Type: MANUAL
12	NB-02-D-02 OLDSTONE ROAD EAST CRAMLINGTON NEAR CRAMLINGTON Free Standing (PPS6 Out of Town) Out of Town Total Gross floor area: 5500 sqm Survey date: FRIDAY 16/11/12	INDUSTRIAL ESTATE	NORTHUMBERLAND	Survey Type: MANUAL
13	NF-02-D-03 BIDEWELL CLOSE NORWICH Edge of Town Residential Zone Total Gross floor area: 6000 sqm Survey date: MONDAY 08/10/12	INDUSTRIAL ESTATE	NORFOLK	Survey Type: MANUAL
14	TW-02-D-07 SWALWELL BANK WHICKHAM GATESHEAD Edge of Town Residential Zone Total Gross floor area: 6800 sqm Survey date: FRIDAY 04/10/13	INDUSTRIAL ESTATE	TYNE & WEAR	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15	WM-02-D-02 DUNLOP WAY	INDUSTRIAL ESTATE	WEST MIDLANDS
	BIRMINGHAM Edge of Town Residential Zone		
	Total Gross floor area:	23480 sqm	
	Survey date: WEDNESDAY	07/11/12	Survey Type: MANUAL

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

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	15	14333	0.137	15	14333	0.041	15	14333	0.178
07:30 - 08:00	15	14333	0.254	15	14333	0.072	15	14333	0.326
08:00 - 08:30	15	14333	0.239	15	14333	0.130	15	14333	0.369
08:30 - 09:00	15	14333	0.226	15	14333	0.136	15	14333	0.362
09:00 - 09:30	15	14333	0.170	15	14333	0.134	15	14333	0.304
09:30 - 10:00	15	14333	0.159	15	14333	0.128	15	14333	0.287
10:00 - 10:30	15	14333	0.148	15	14333	0.143	15	14333	0.291
10:30 - 11:00	15	14333	0.123	15	14333	0.117	15	14333	0.240
11:00 - 11:30	15	14333	0.126	15	14333	0.128	15	14333	0.254
11:30 - 12:00	15	14333	0.143	15	14333	0.152	15	14333	0.295
12:00 - 12:30	15	14333	0.146	15	14333	0.153	15	14333	0.299
12:30 - 13:00	15	14333	0.167	15	14333	0.183	15	14333	0.350
13:00 - 13:30	15	14333	0.154	15	14333	0.170	15	14333	0.324
13:30 - 14:00	15	14333	0.172	15	14333	0.129	15	14333	0.301
14:00 - 14:30	15	14333	0.136	15	14333	0.139	15	14333	0.275
14:30 - 15:00	15	14333	0.136	15	14333	0.127	15	14333	0.263
15:00 - 15:30	15	14333	0.148	15	14333	0.148	15	14333	0.296
15:30 - 16:00	15	14333	0.112	15	14333	0.154	15	14333	0.266
16:00 - 16:30	15	14333	0.145	15	14333	0.215	15	14333	0.360
16:30 - 17:00	15	14333	0.113	15	14333	0.198	15	14333	0.311
17:00 - 17:30	15	14333	0.066	15	14333	0.252	15	14333	0.318
17:30 - 18:00	15	14333	0.046	15	14333	0.145	15	14333	0.191
18:00 - 18:30	15	14333	0.036	15	14333	0.085	15	14333	0.121
18:30 - 19:00	15	14333	0.030	15	14333	0.061	15	14333	0.091
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			3.332			3.340			6.672

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

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

Parameter summary

Trip rate parameter range selected:	552 - 64889 (units: sqm)
Survey date date range:	01/01/08 - 04/10/13
Number of weekdays (Monday-Friday):	15
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
 Category : D - FAST FOOD - DRIVE THROUGH
 VEHICLES

Selected regions and areas:

04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
05	EAST MIDLANDS	
	NR NORTHAMPTONSHIRE	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
10	WALES	
	CO CONWY	1 days
11	SCOTLAND	
	EB CITY OF EDINBURGH	1 days

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

Filtering Stage 2 selection:

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

Parameter: Gross floor area
 Actual Range: 220 to 475 (units: sqm)
 Range Selected by User: 182 to 600 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/05 to 21/10/14

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

Selected survey days:

Tuesday	2 days
Wednesday	2 days
Friday	1 days

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

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	3
Edge of Town	2

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

Selected Location Sub Categories:

Commercial Zone	1
Residential Zone	2
Out of Town	1
No Sub Category	1

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

Filtering Stage 3 selection:

Use Class:

A3	3 days
A5	2 days

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

Population within 1 mile:

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

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

Population within 5 miles:

25,001 to 50,000	1 days
100,001 to 125,000	1 days
125,001 to 250,000	2 days
500,001 or More	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	2 days

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

Travel Plan:

No	5 days
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This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1	CA-06-D-01	MCDONALDS		CAMBRIDGESHIRE
	NEWMARKET ROAD			
	CAMBRIDGE			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross floor area:	450 sqm		
	Survey date: WEDNESDAY	19/10/11		Survey Type: MANUAL
2	CO-06-D-01	MCDONALD'S		CONWY
	RHUDDLAN ROAD			
	ABERGELE			
	Edge of Town			
	Out of Town			
	Total Gross floor area:	410 sqm		
	Survey date: FRIDAY	21/10/11		Survey Type: MANUAL
3	EB-06-D-01	MCDONALDS		CITY OF EDINBURGH
	GYLEMUIR ROAD			
	EDINBURGH			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross floor area:	475 sqm		
	Survey date: WEDNESDAY	18/06/08		Survey Type: MANUAL
4	NR-06-D-01	MCDONALDS		NORTHAMPTONSHIRE
	MARQUEE DRIVE			
	NORTHAMPTON			
	Edge of Town			
	Commercial Zone			
	Total Gross floor area:	220 sqm		
	Survey date: TUESDAY	22/05/07		Survey Type: MANUAL
5	WM-06-D-01	BURGER KING		WEST MIDLANDS
	KINGSBURY ROAD			
	ERDINGTON			
	BIRMINGHAM			
	Suburban Area (PPS6 Out of Centre)			
	No Sub Category			
	Total Gross floor area:	250 sqm		
	Survey date: TUESDAY	25/11/08		Survey Type: MANUAL

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

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/D - FAST FOOD - DRIVE THROUGH
VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	2	430	3.721	2	430	2.907	2	430	6.628
07:00 - 08:00	3	360	9.815	3	360	7.870	3	360	17.685
08:00 - 09:00	3	360	13.796	3	360	12.500	3	360	26.296
09:00 - 10:00	4	333	10.752	4	333	10.526	4	333	21.278
10:00 - 11:00	5	361	8.476	5	361	9.030	5	361	17.506
11:00 - 12:00	5	361	9.418	5	361	8.532	5	361	17.950
12:00 - 13:00	5	361	15.956	5	361	15.402	5	361	31.358
13:00 - 14:00	5	361	15.235	5	361	15.568	5	361	30.803
14:00 - 15:00	5	361	10.803	5	361	12.133	5	361	22.936
15:00 - 16:00	5	361	10.803	5	361	10.471	5	361	21.274
16:00 - 17:00	5	361	10.748	5	361	11.025	5	361	21.773
17:00 - 18:00	5	361	10.914	5	361	10.693	5	361	21.607
18:00 - 19:00	5	361	11.247	5	361	11.745	5	361	22.992
19:00 - 20:00	5	361	9.584	5	361	9.917	5	361	19.501
20:00 - 21:00	5	361	7.867	5	361	8.366	5	361	16.233
21:00 - 22:00	5	361	5.485	5	361	5.817	5	361	11.302
22:00 - 23:00	3	368	5.249	3	368	5.882	3	368	11.131
23:00 - 24:00	1	475	1.474	1	475	2.105	1	475	3.579
Total Rates:			171.343			170.489			341.832

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

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

Parameter summary

Trip rate parameter range selected: 220 - 475 (units: sqm)
 Survey date range: 01/01/05 - 21/10/14
 Number of weekdays (Monday-Friday): 5
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

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

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK

Category : C - PUB/RESTAURANT

VEHICLES

Selected regions and areas:

05	EAST MIDLANDS	
	NT NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS	
	SH SHROPSHIRE	1 days
09	NORTH	
	TW TYNE & WEAR	1 days

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

Filtering Stage 2 selection:

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

Parameter: Gross floor area
 Actual Range: 400 to 1400 (units: sqm)
 Range Selected by User: 270 to 2384 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/08 to 04/10/13

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

Selected survey days:

Tuesday	1 days
Friday	2 days

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

Selected survey types:

Manual count	3 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town	2
Neighbourhood Centre (PPS6 Local Centre)	1

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

Selected Location Sub Categories:

Residential Zone	2
No Sub Category	1

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

Filtering Stage 3 selection:

Use Class:

A4

3 days

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

Population within 1 mile:

5,001 to 10,000

1 days

10,001 to 15,000

1 days

15,001 to 20,000

1 days

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

Population within 5 miles:

75,001 to 100,000

1 days

250,001 to 500,000

2 days

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

Car ownership within 5 miles:

0.6 to 1.0

1 days

1.1 to 1.5

1 days

2.1 to 2.5

1 days

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

Travel Plan:

No

3 days

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

LIST OF SITES relevant to selection parameters

1	NT-06-C-03	HARVESTER		NOTTINGHAMSHIRE
	CLIFTON LANE			
	WILFORD			
	NOTTINGHAM			
	Neighbourhood Centre (PPS6 Local Centre)			
	Residential Zone			
	Total Gross floor area:	450 sqm		
	Survey date: TUESDAY	18/06/13		Survey Type: MANUAL
2	SH-06-C-02	HUNGRY HORSE		SHROPSHIRE
	WELSHPOOL ROAD			
	SHELTON			
	SHREWSBURY			
	Edge of Town			
	No Sub Category			
	Total Gross floor area:	1400 sqm		
	Survey date: FRIDAY	26/06/09		Survey Type: MANUAL
3	TW-06-C-01	PUB/RESTAURANT		TYNE & WEAR
	WHICKHAM HIGHWAY			
	GATESHEAD			
	Edge of Town			
	Residential Zone			
	Total Gross floor area:	400 sqm		
	Survey date: FRIDAY	04/10/13		Survey Type: MANUAL

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

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/C - PUB/RESTAURANT
VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00									
09:00 - 10:00									
10:00 - 11:00	3	750	0.444	3	750	0.400	3	750	0.844
11:00 - 12:00	3	750	0.889	3	750	0.533	3	750	1.422
12:00 - 13:00	3	750	2.044	3	750	0.667	3	750	2.711
13:00 - 14:00	3	750	1.689	3	750	1.378	3	750	3.067
14:00 - 15:00	3	750	1.022	3	750	2.222	3	750	3.244
15:00 - 16:00	3	750	1.111	3	750	0.933	3	750	2.044
16:00 - 17:00	3	750	1.911	3	750	1.022	3	750	2.933
17:00 - 18:00	3	750	2.489	3	750	2.400	3	750	4.889
18:00 - 19:00	3	750	3.022	3	750	2.356	3	750	5.378
19:00 - 20:00	3	750	2.844	3	750	3.022	3	750	5.866
20:00 - 21:00	3	750	2.356	3	750	2.400	3	750	4.756
21:00 - 22:00	3	750	1.911	3	750	2.489	3	750	4.400
22:00 - 23:00	3	750	0.978	3	750	2.044	3	750	3.022
23:00 - 24:00	3	750	0.444	3	750	1.556	3	750	2.000
Total Rates:			23.154			23.422			46.576

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

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

Parameter summary

Trip rate parameter range selected: 400 - 1400 (units: sqm)
 Survey date range: 01/01/08 - 04/10/13
 Number of weekdays (Monday-Friday): 3
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

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

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK

Category : A - HOTELS

VEHICLES

Selected regions and areas:

03	SOUTH WEST	
	DV DEVON	2 days
04	EAST ANGLIA	
	NF NORFOLK	1 days
05	EAST MIDLANDS	
	NT NOTTINGHAMSHIRE	1 days
08	NORTH WEST	
	LC LANCASHIRE	1 days
09	NORTH	
	DH DURHAM	1 days
10	WALES	
	CF CARDIFF	1 days
	WR WREXHAM	1 days

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

Filtering Stage 2 selection:

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

Parameter: Number of bedrooms

Actual Range: 37 to 119 (units:)

Range Selected by User: 30 to 120 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/08 to 24/06/13

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

Selected survey days:

Monday	2 days
Wednesday	2 days
Thursday	3 days
Friday	1 days

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

Selected survey types:

Manual count	8 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town Centre	4
Edge of Town	3
Free Standing (PPS6 Out of Town)	1

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

Selected Location Sub Categories:

Industrial Zone	1
Development Zone	1
Residential Zone	2
Built-Up Zone	1
Out of Town	1

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

Filtering Stage 3 selection:

Use Class:

C1

8 days

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

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	1 days
5,001 to 10,000	1 days
15,001 to 20,000	1 days
20,001 to 25,000	2 days
25,001 to 50,000	1 days
101,000 or More	1 days

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

Population within 5 miles:

75,001 to 100,000	2 days
125,001 to 250,000	1 days
250,001 to 500,000	4 days
500,001 or More	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	5 days

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

Travel Plan:

No

8 days

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

LIST OF SITES relevant to selection parameters

1	CF-06-A-03 LONGUEIL CLOSE	HOLIDAY INN EXPRESS	CARDIFF
	CARDIFF Edge of Town Centre Residential Zone Total Number of bedrooms: 87 Survey date: MONDAY 16/07/12		Survey Type: MANUAL
2	DH-06-A-01 FREEMANS PLACE MILLENNIUM PLACE DURHAM	PREMIER INN	DURHAM
	Edge of Town Centre Development Zone Total Number of bedrooms: 103 Survey date: THURSDAY 04/12/08		Survey Type: MANUAL
3	DV-06-A-02 SUTTON ROAD SUTTON HARBOUR PLYMOUTH	PREMIER INN	DEVON
	Edge of Town Centre No Sub Category Total Number of bedrooms: 107 Survey date: WEDNESDAY 21/10/09		Survey Type: MANUAL
4	DV-06-A-03 WILLIAM PRANCE ROAD	FUTURE INN	DEVON
	PLYMOUTH Edge of Town Industrial Zone Total Number of bedrooms: 110 Survey date: WEDNESDAY 18/07/12		Survey Type: MANUAL
5	LC-06-A-04 LEYLAND WAY	BEST WESTERN	LANCASHIRE
	LEYLAND Edge of Town Residential Zone Total Number of bedrooms: 93 Survey date: FRIDAY 21/10/11		Survey Type: MANUAL
6	NF-06-A-02 IPSWICH ROAD HARFORD PARK NORWICH	HOLIDAY INN	NORFOLK
	Edge of Town No Sub Category Total Number of bedrooms: 119 Survey date: THURSDAY 30/09/10		Survey Type: MANUAL
7	NT-06-A-02 LONDON ROAD	PREMIER INN	NOTTINGHAMSHIRE
	NOTTINGHAM Edge of Town Centre Built-Up Zone Total Number of bedrooms: 87 Survey date: MONDAY 24/06/13		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	WR-06-A-02	HOTEL	WREXHAM
	WREXHAM ROAD		
	HOLT		
	NEAR WREXHAM		
	Free Standing (PPS6 Out of Town)		
	Out of Town		
	Total Number of bedrooms:	37	
	Survey date: THURSDAY	06/10/11	Survey Type: MANUAL

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

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS

VEHICLES

Calculation factor: 1 BEDRMS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	8	93	0.067	8	93	0.152	8	93	0.219
08:00 - 09:00	8	93	0.192	8	93	0.230	8	93	0.422
09:00 - 10:00	8	93	0.180	8	93	0.163	8	93	0.343
10:00 - 11:00	8	93	0.118	8	93	0.151	8	93	0.269
11:00 - 12:00	8	93	0.124	8	93	0.153	8	93	0.277
12:00 - 13:00	8	93	0.153	8	93	0.121	8	93	0.274
13:00 - 14:00	8	93	0.148	8	93	0.152	8	93	0.300
14:00 - 15:00	8	93	0.104	8	93	0.113	8	93	0.217
15:00 - 16:00	8	93	0.135	8	93	0.182	8	93	0.317
16:00 - 17:00	8	93	0.153	8	93	0.147	8	93	0.300
17:00 - 18:00	8	93	0.205	8	93	0.125	8	93	0.330
18:00 - 19:00	8	93	0.166	8	93	0.120	8	93	0.286
19:00 - 20:00	8	93	0.203	8	93	0.135	8	93	0.338
20:00 - 21:00	8	93	0.090	8	93	0.074	8	93	0.164
21:00 - 22:00	8	93	0.069	8	93	0.075	8	93	0.144
22:00 - 23:00	1	103	0.107	1	103	0.136	1	103	0.243
23:00 - 24:00									
Total Rates:			2.214			2.229			4.443

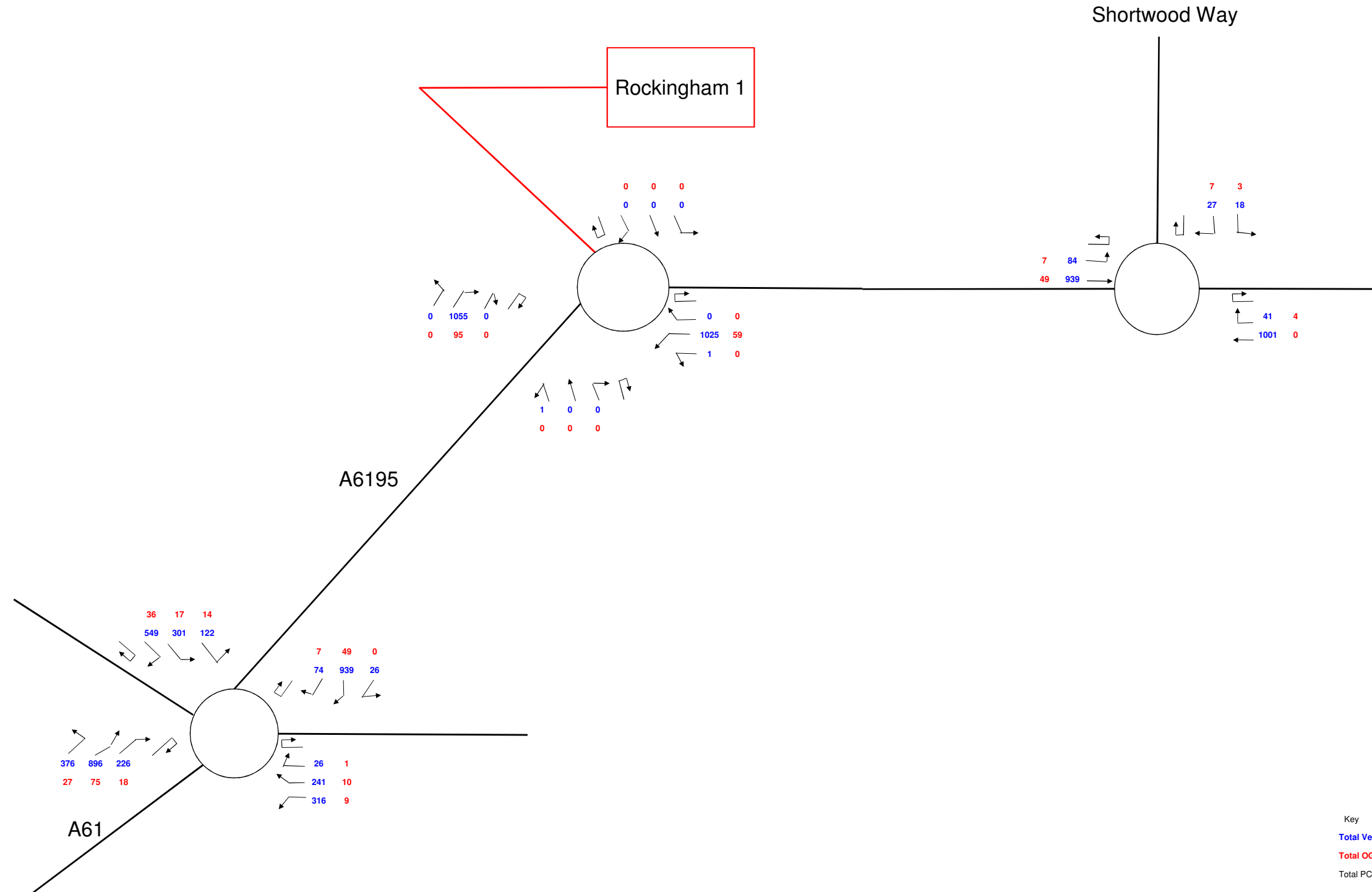
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are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

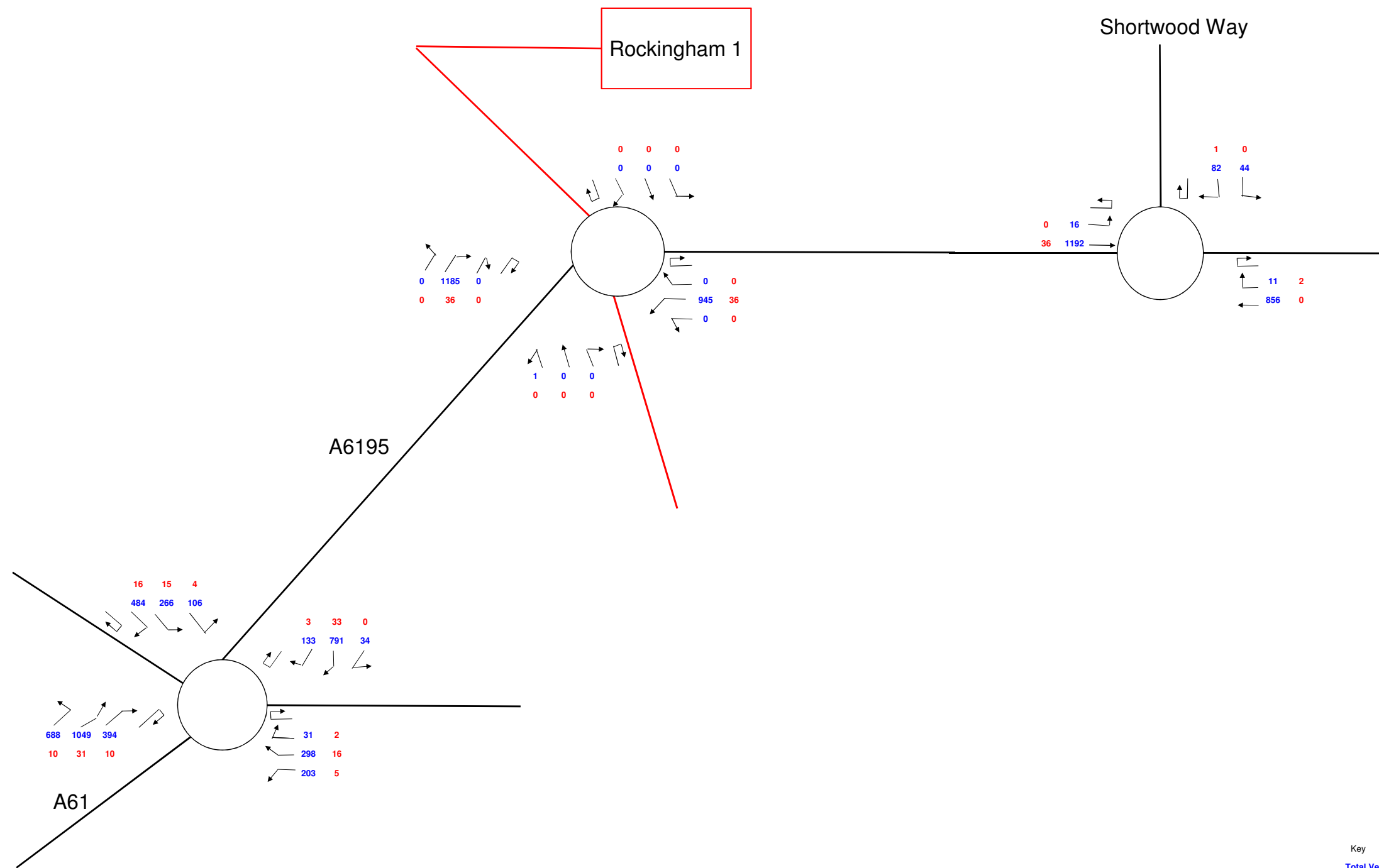
To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected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

Parameter summary

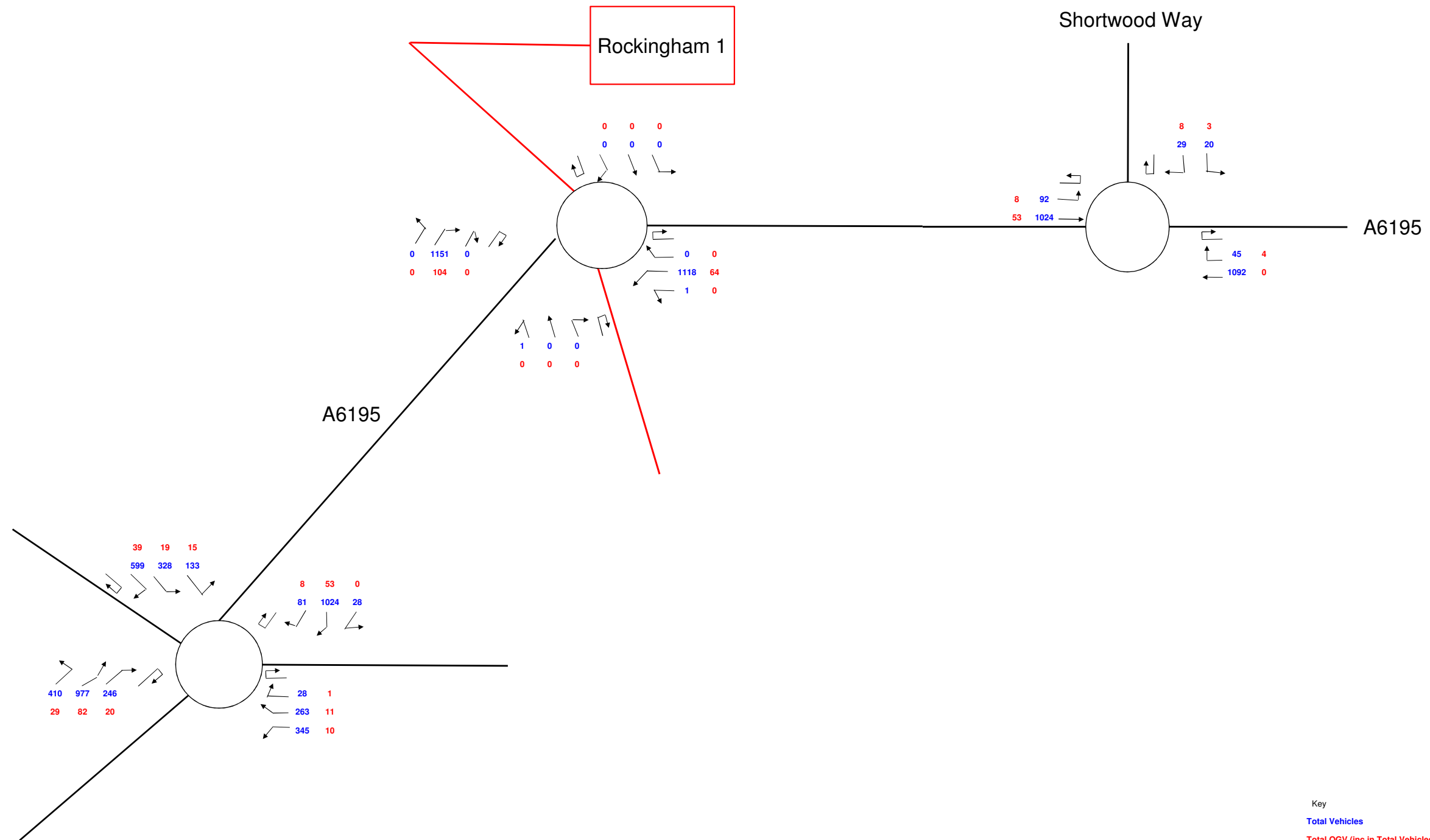
Trip rate parameter range selected: 37 - 119 (units:)
 Survey date range: 01/01/08 - 24/06/13
 Number of weekdays (Monday-Friday): 8
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

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

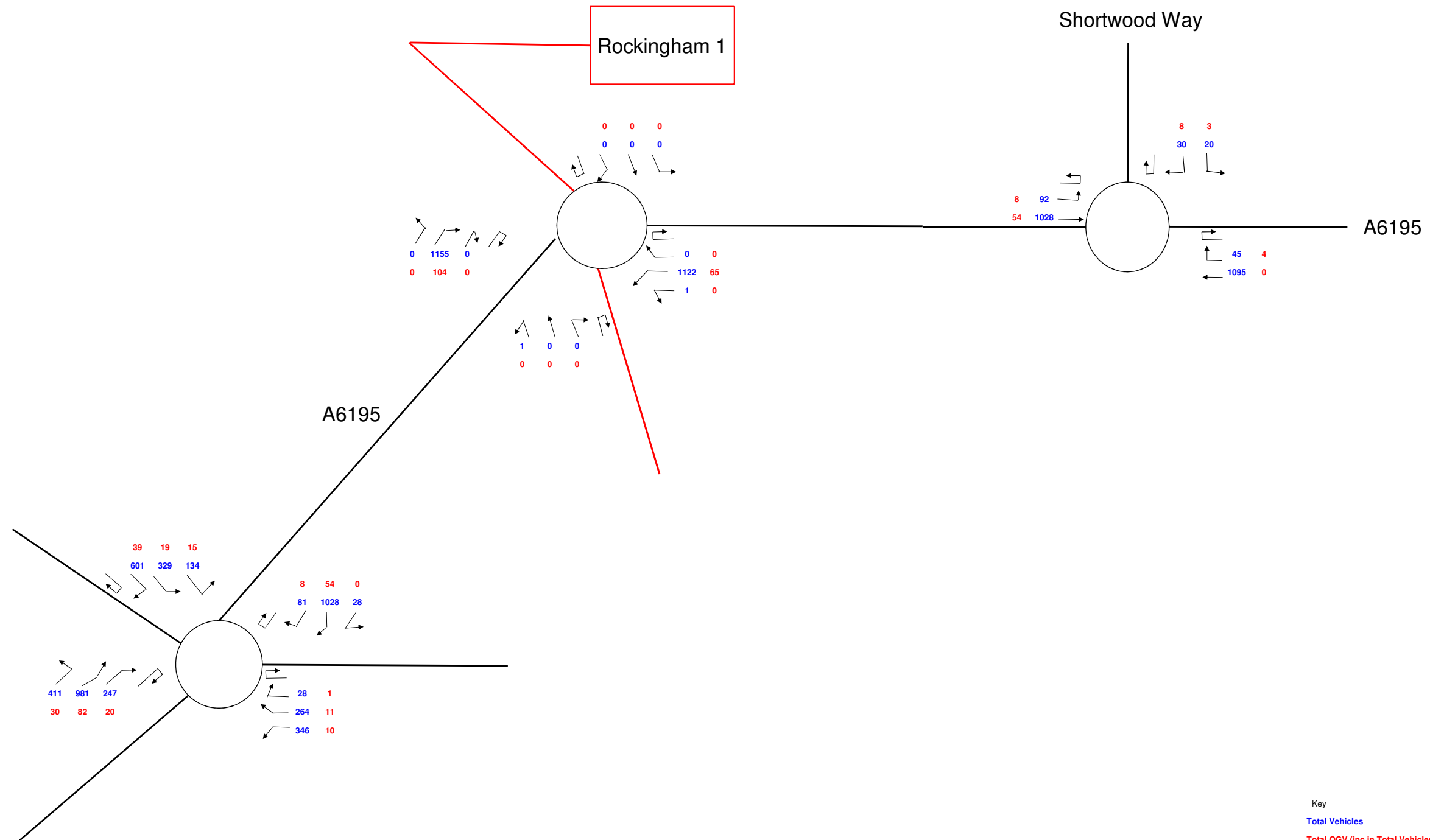


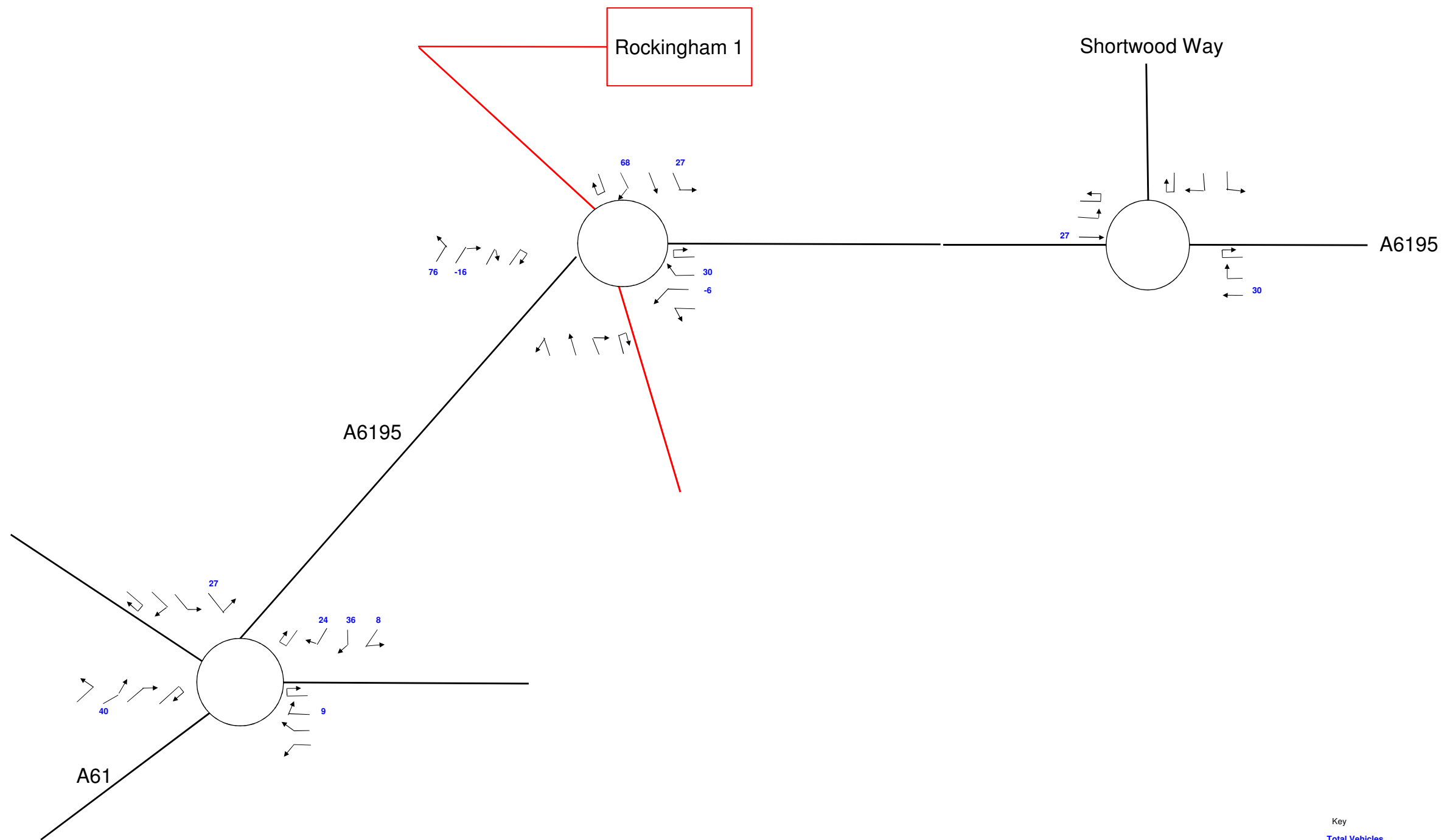


Key
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 Total OGV (inc in Total Vehicles)
 Total PCU Value for Movement Equals Total Vehicles Plus Total OGV

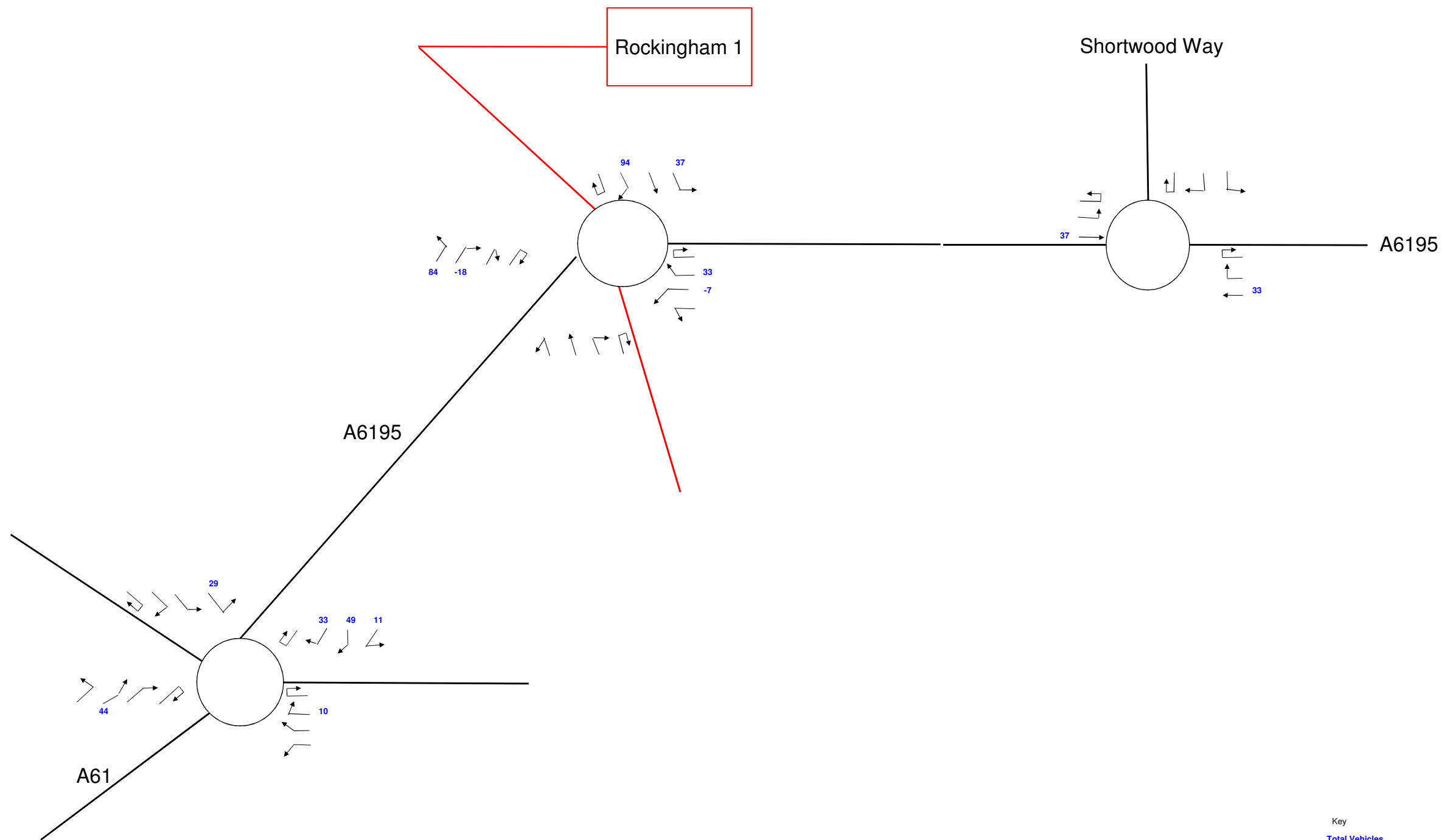


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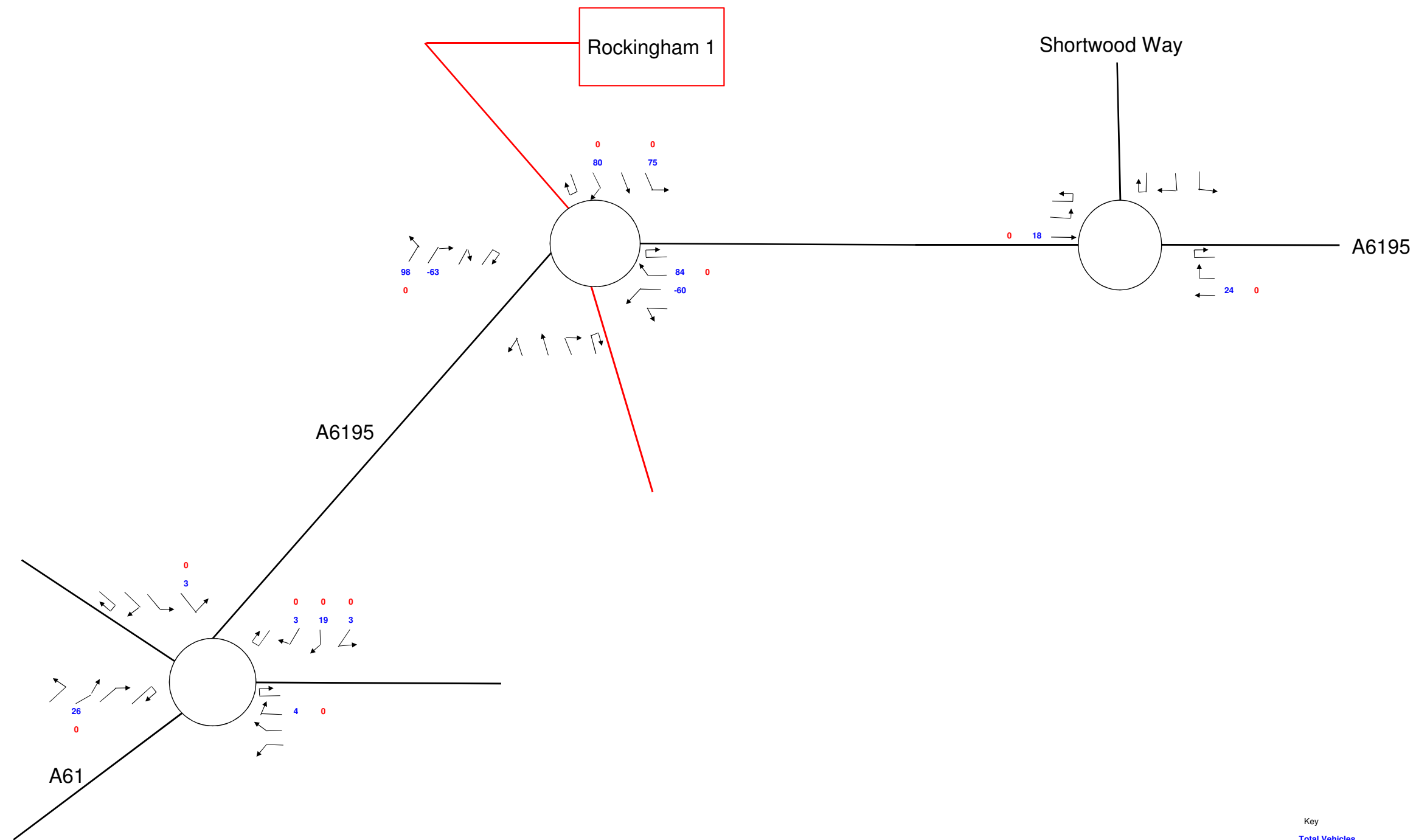




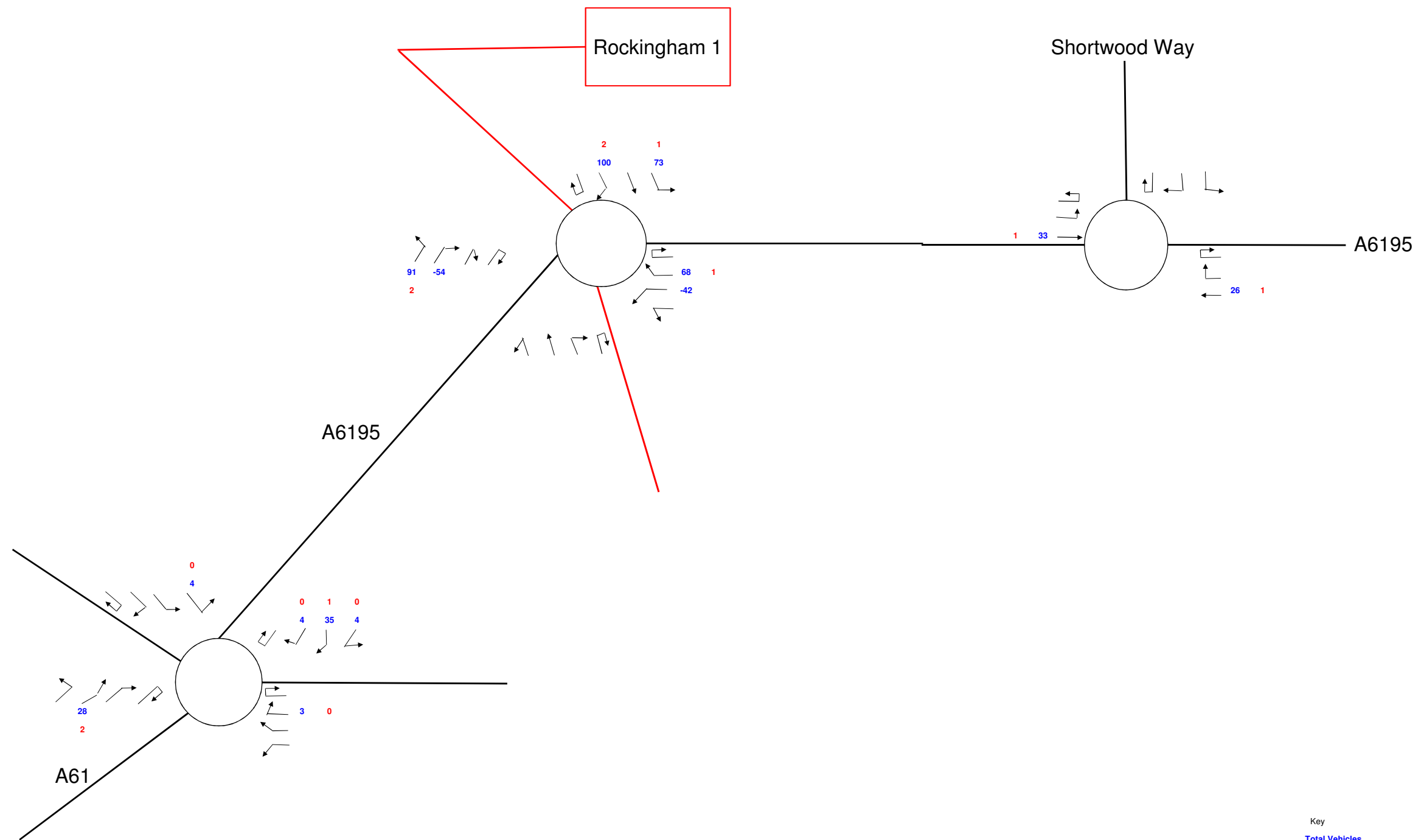
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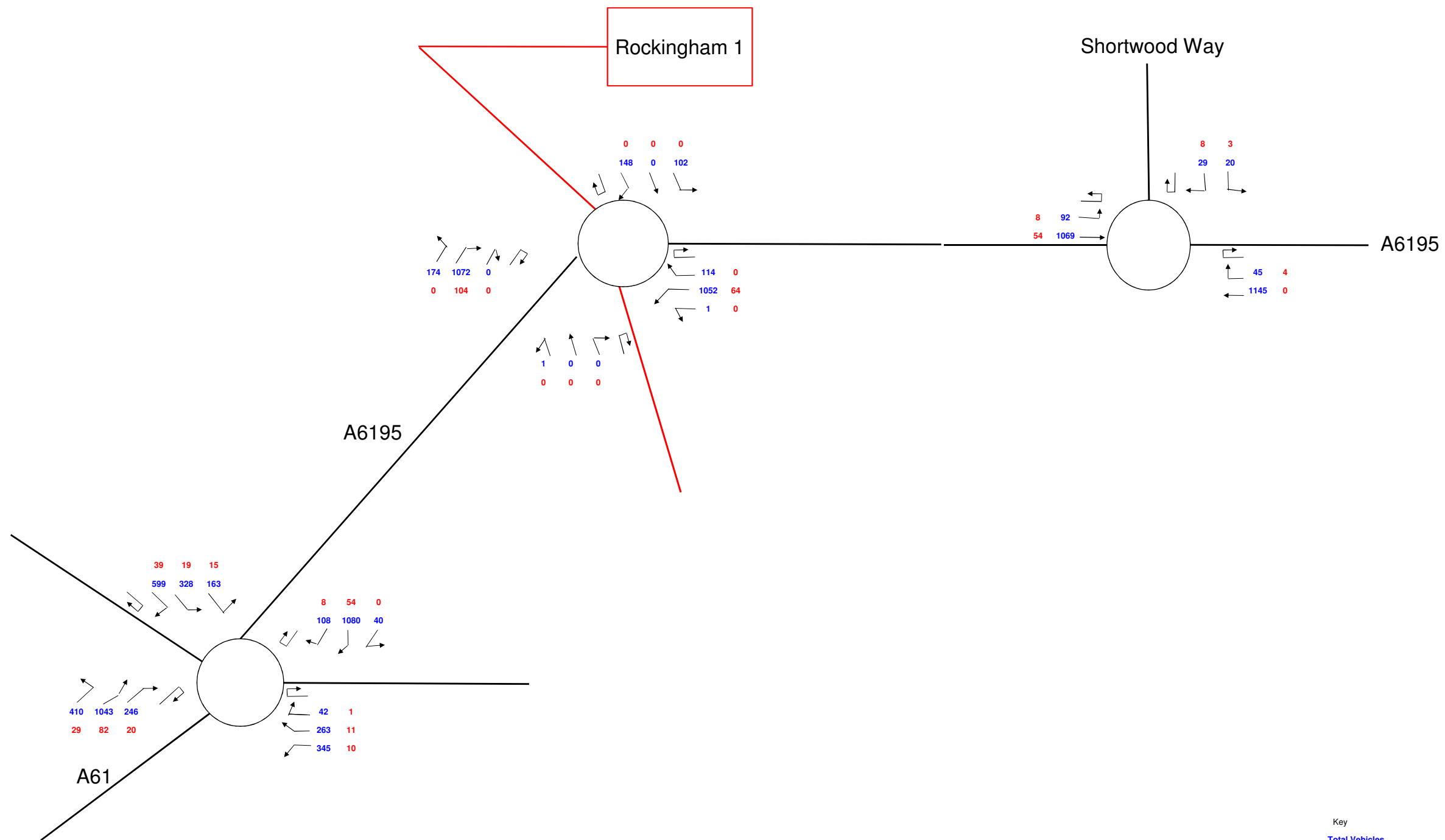
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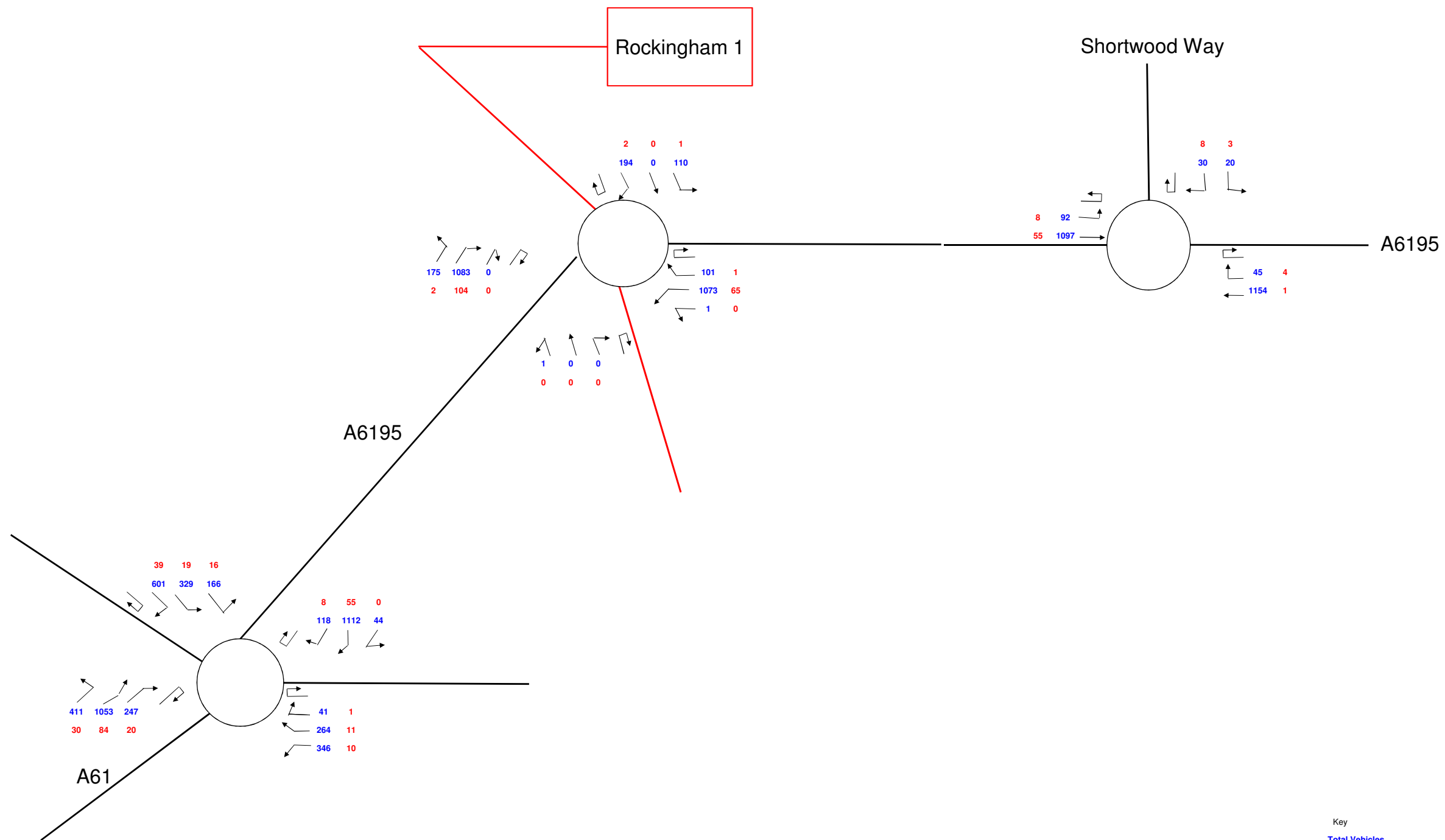


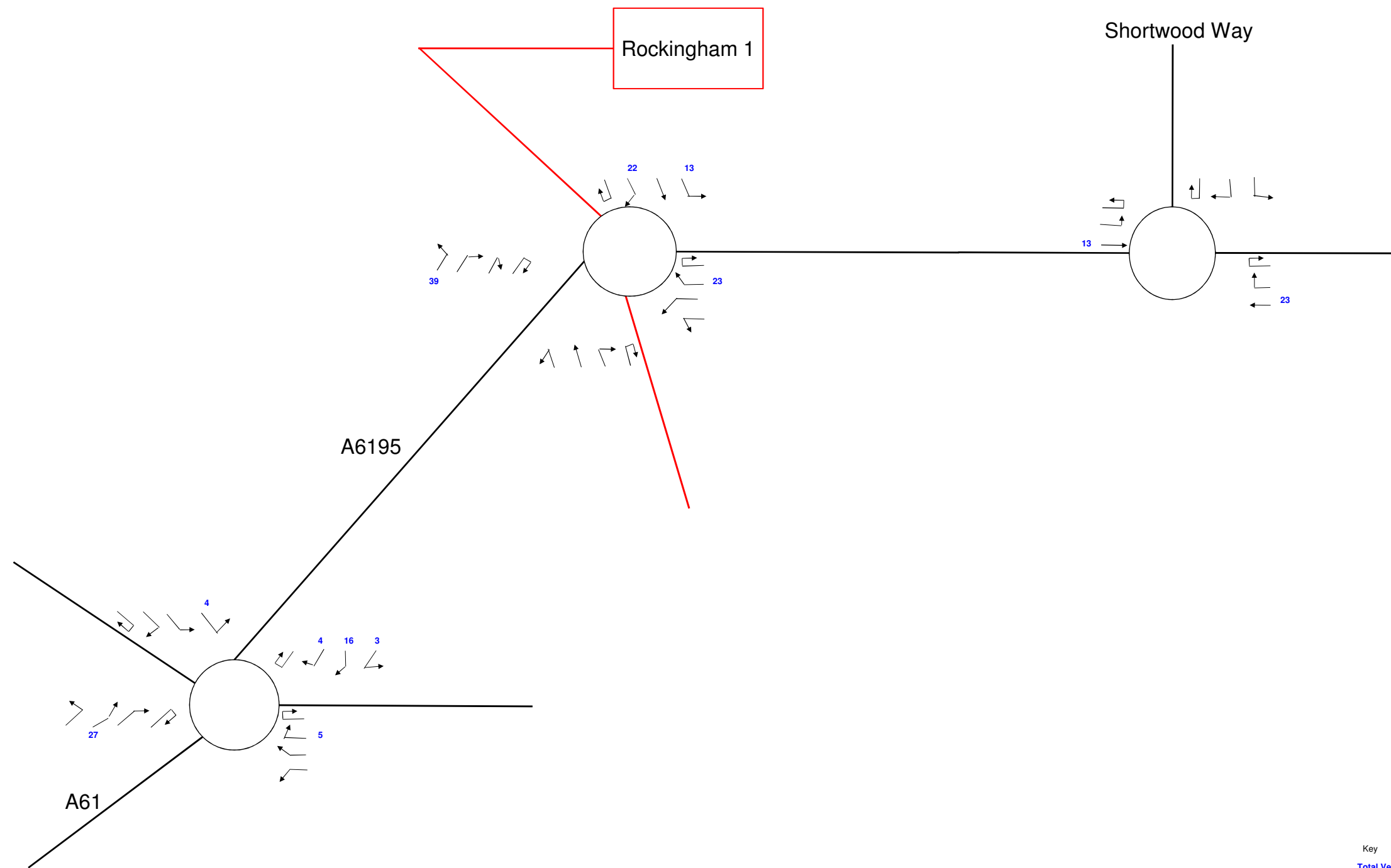
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 Total OGV (inc in Total Vehicles)
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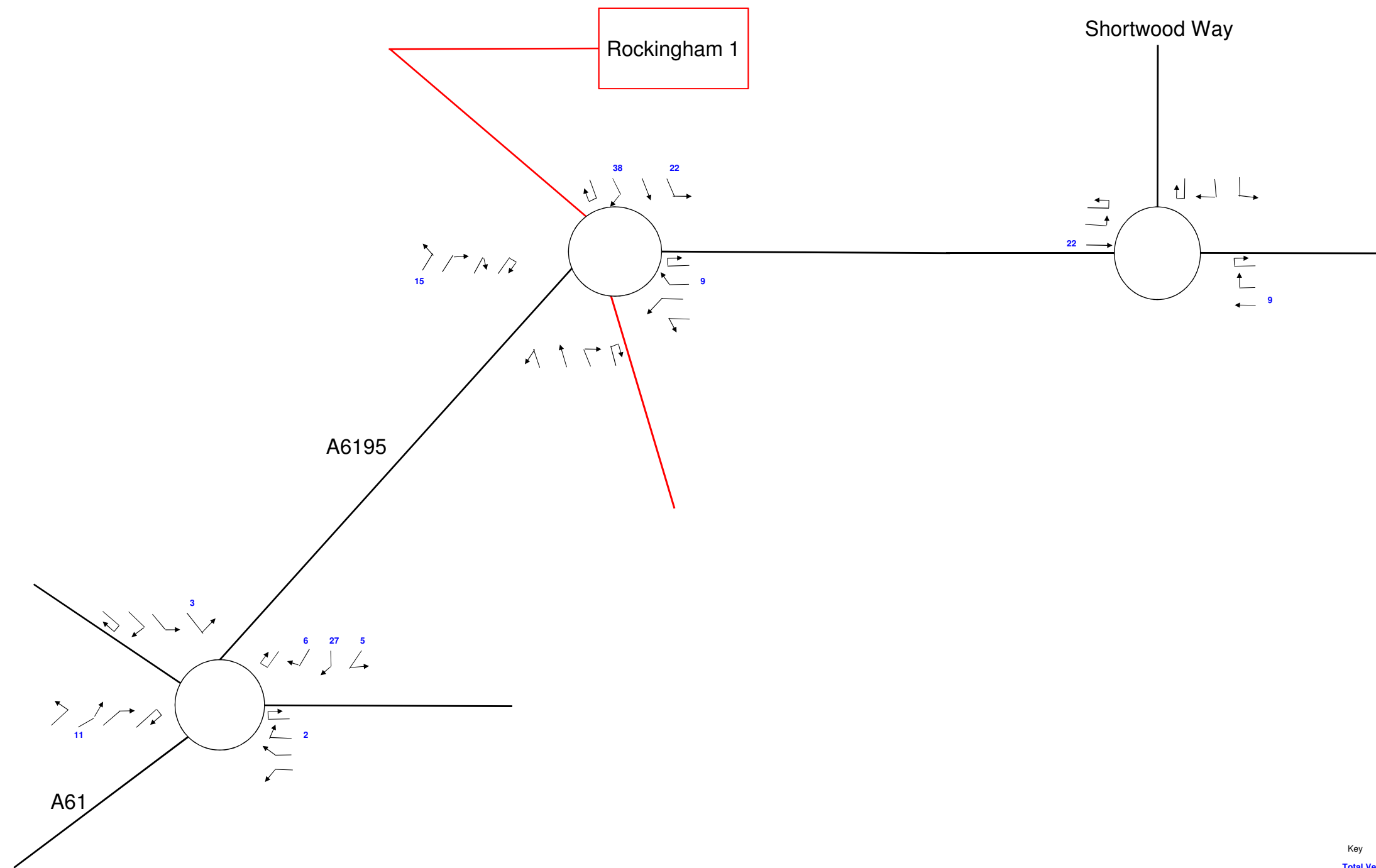
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 Total OGV (inc in Total Vehicles)
 Total PCU Value for Movement Equals Total Vehicles Plus Total OGV



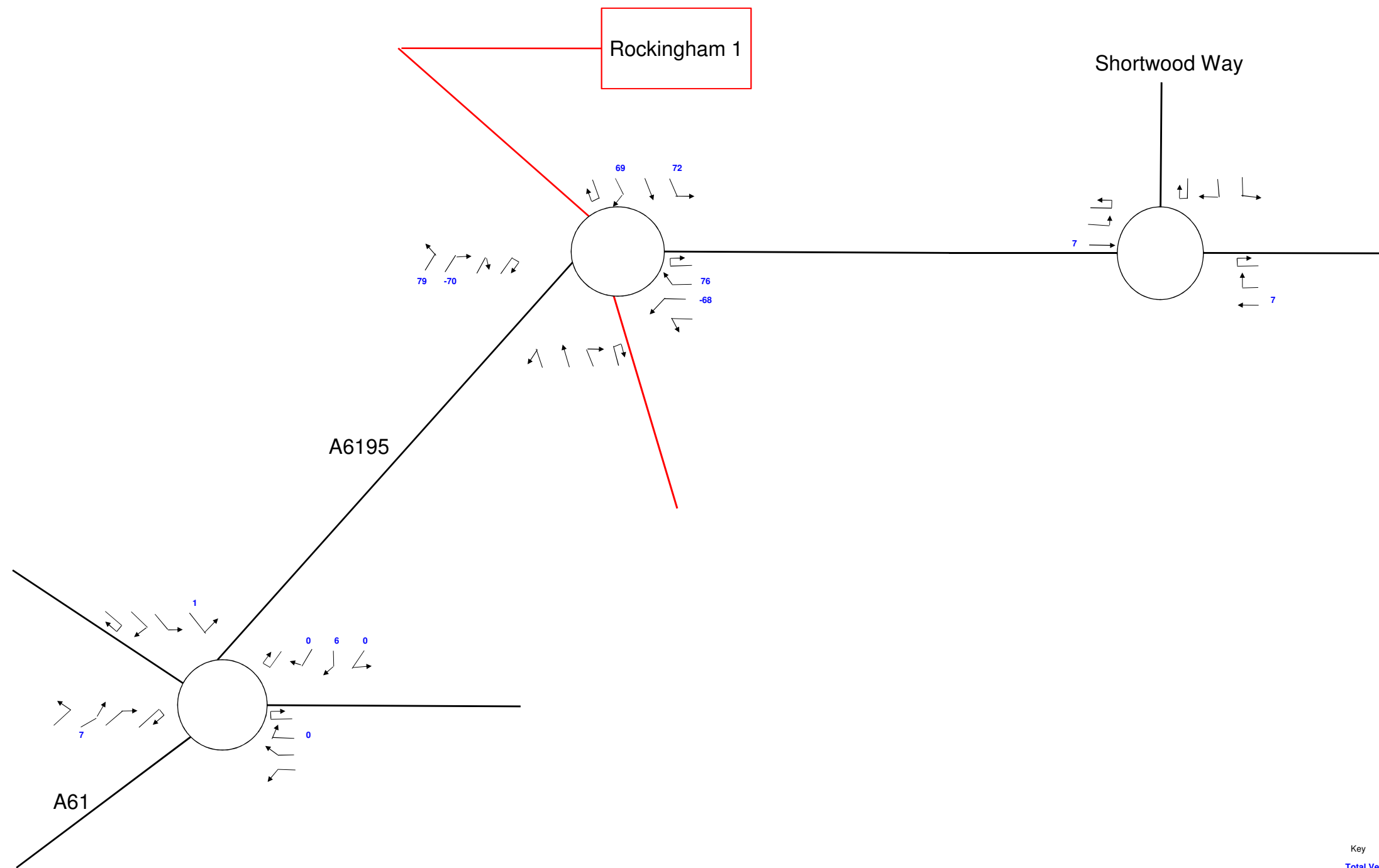




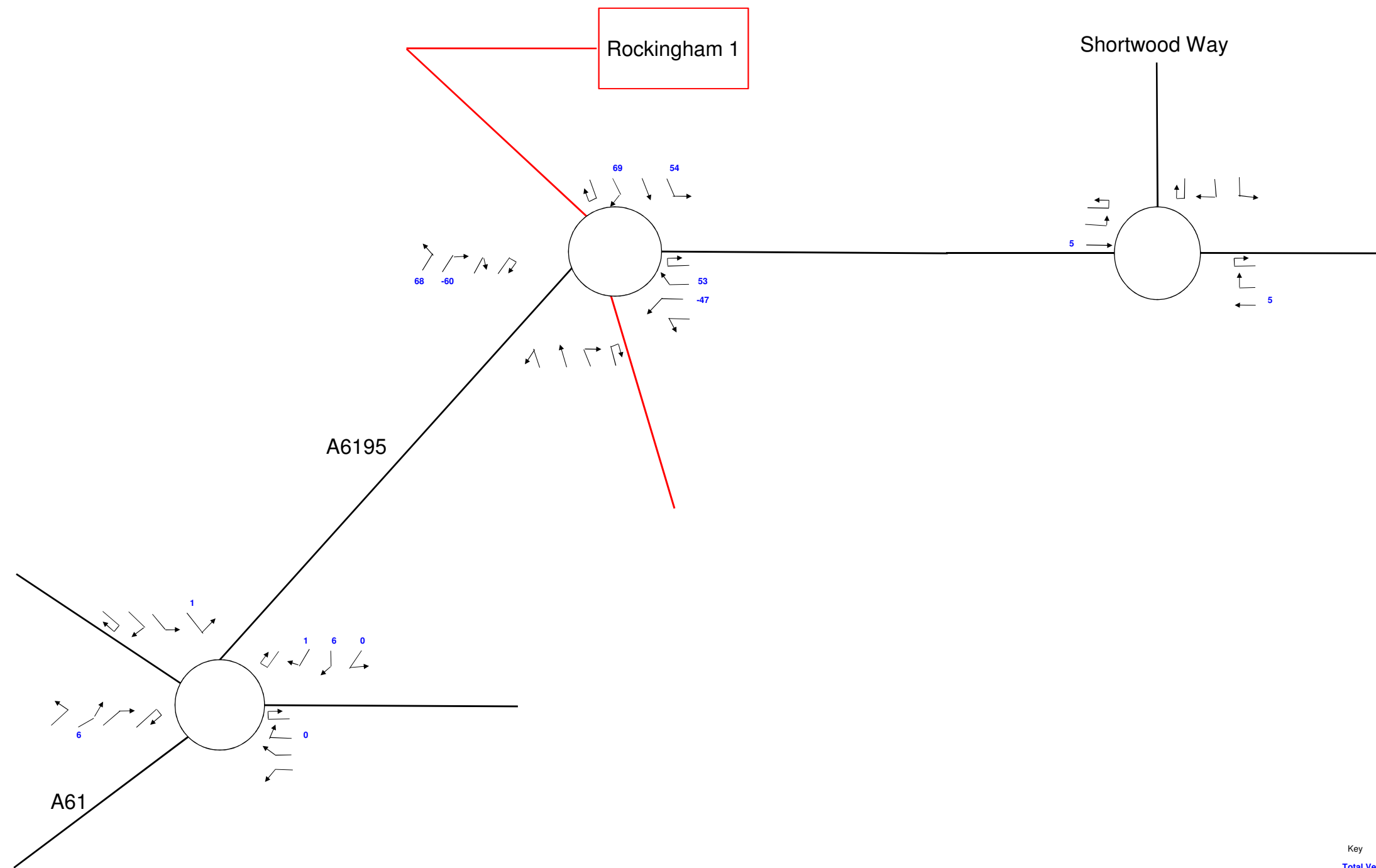
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 Total OGV (inc in Total Vehicles)
 Total PCU Value for Movement Equals Total Vehicles Plus Total OGV



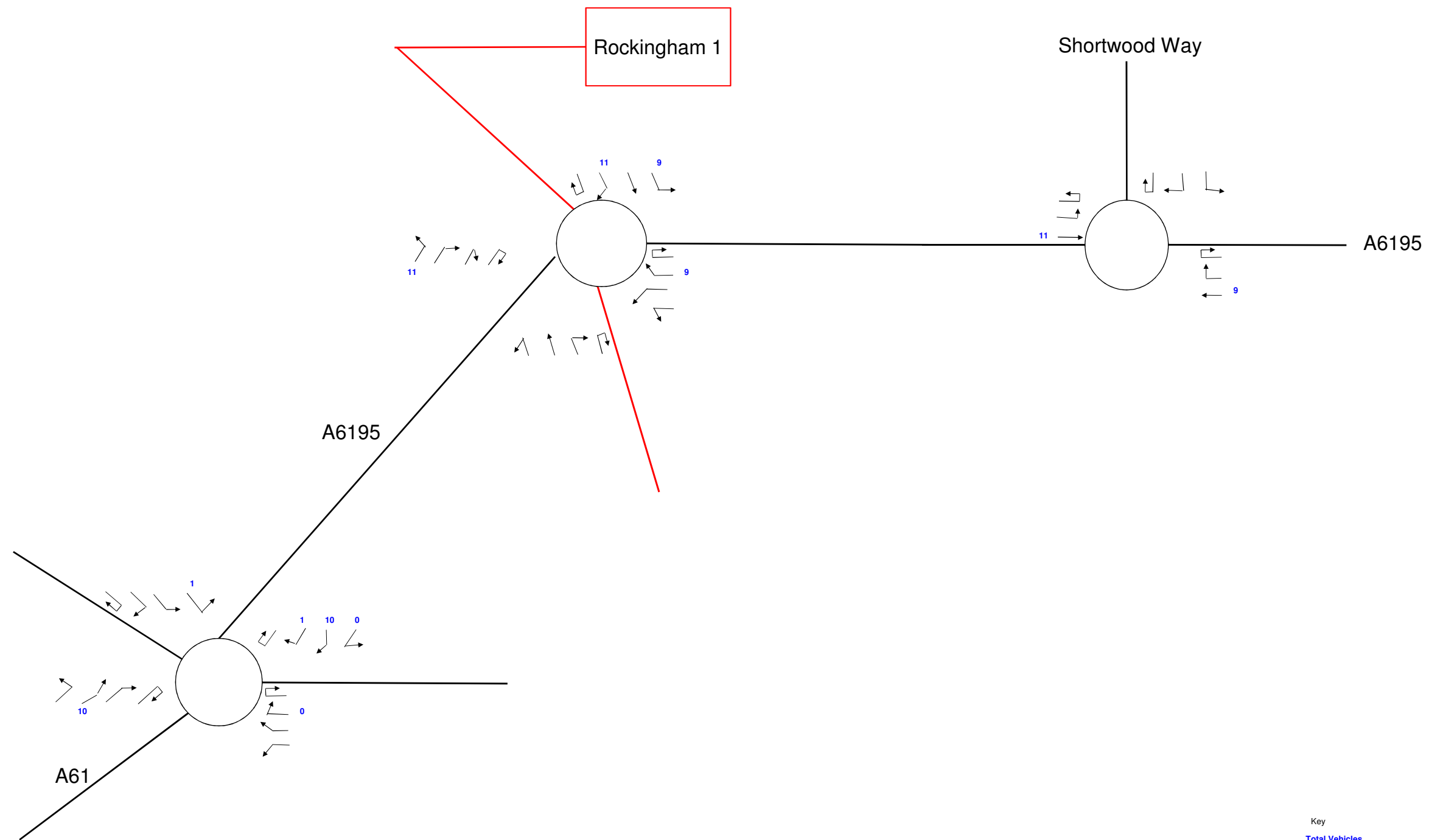
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 Total OGV (inc in Total Vehicles)
 Total PCU Value for Movement Equals Total Vehicles Plus Total OGV



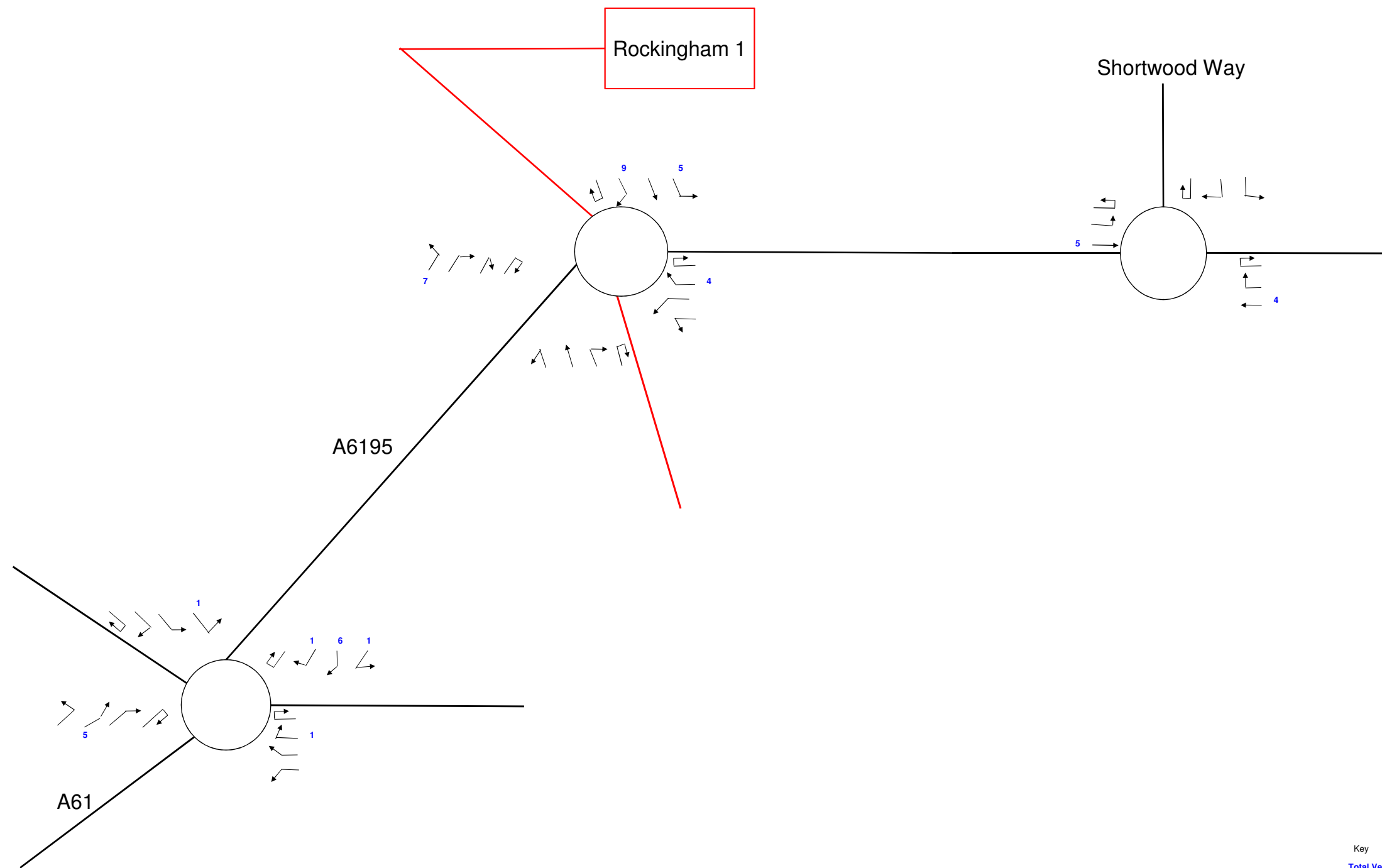
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 Total Vehicles
 Total OGV (inc in Total Vehicles)
 Total PCU Value for Movement Equals Total Vehicles Plus Total OGV



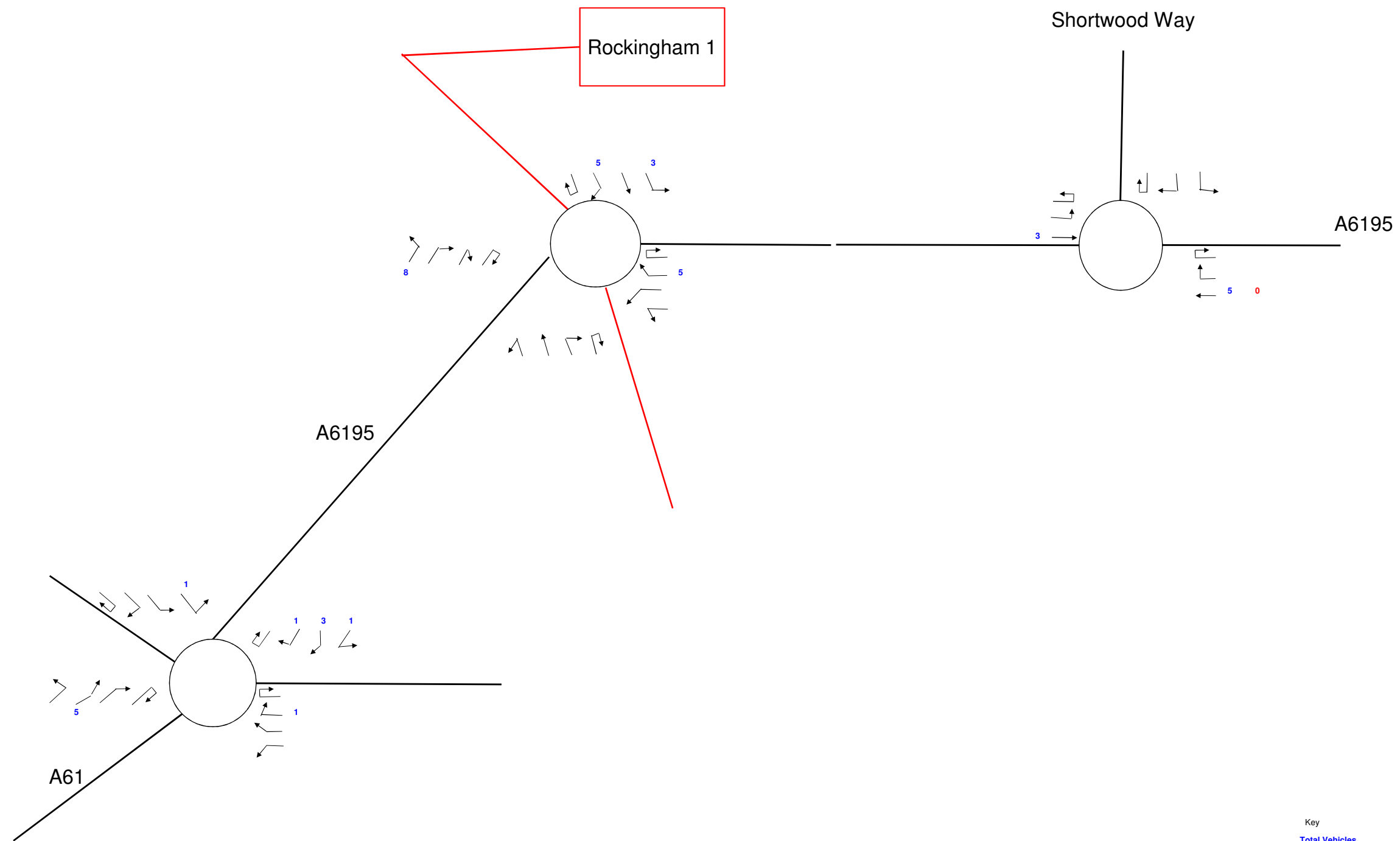
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 Total PCU Value for Movement Equals Total Vehicles Plus Total OGV



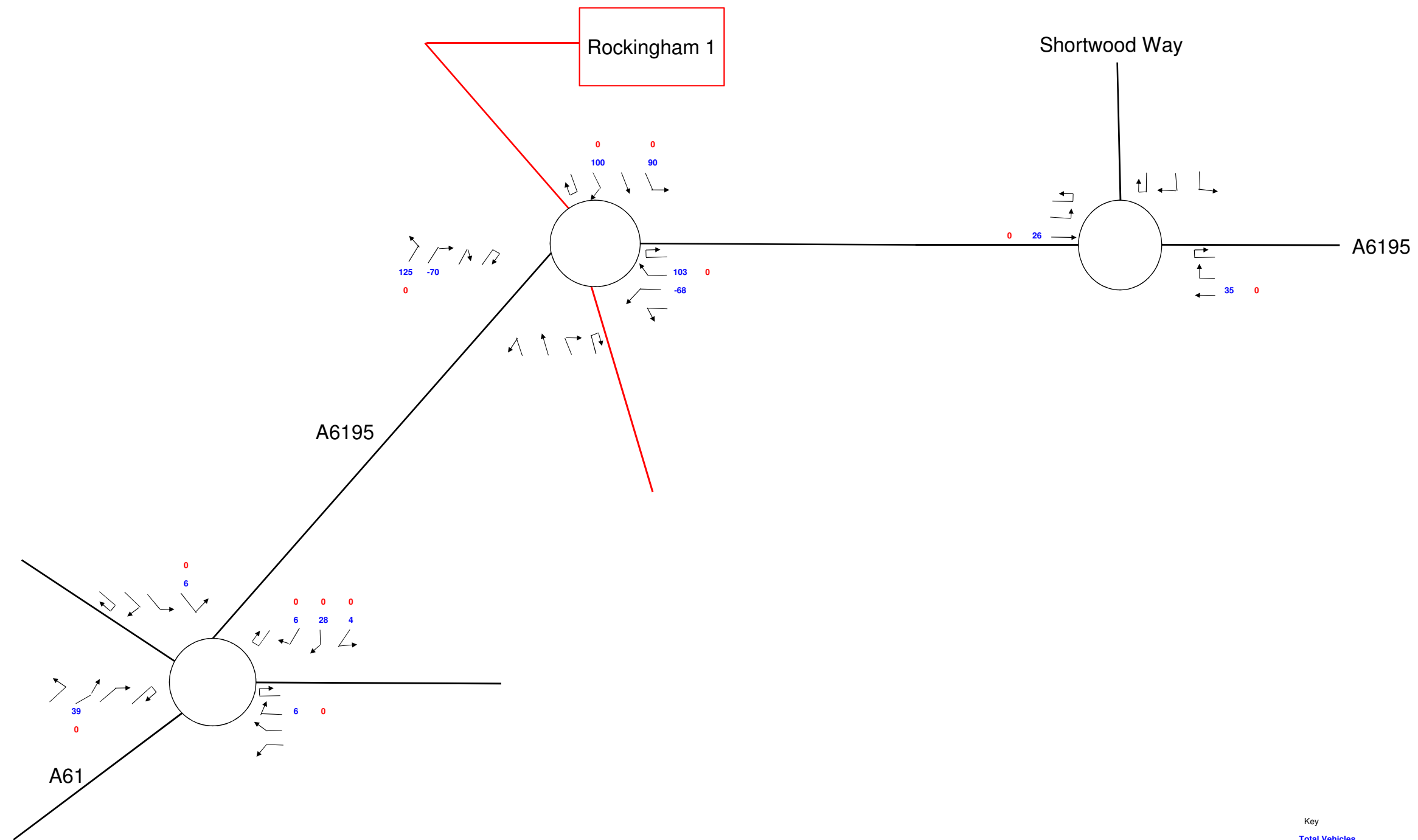
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 Total PCU Value for Movement Equals Total Vehicles Plus Total OGV



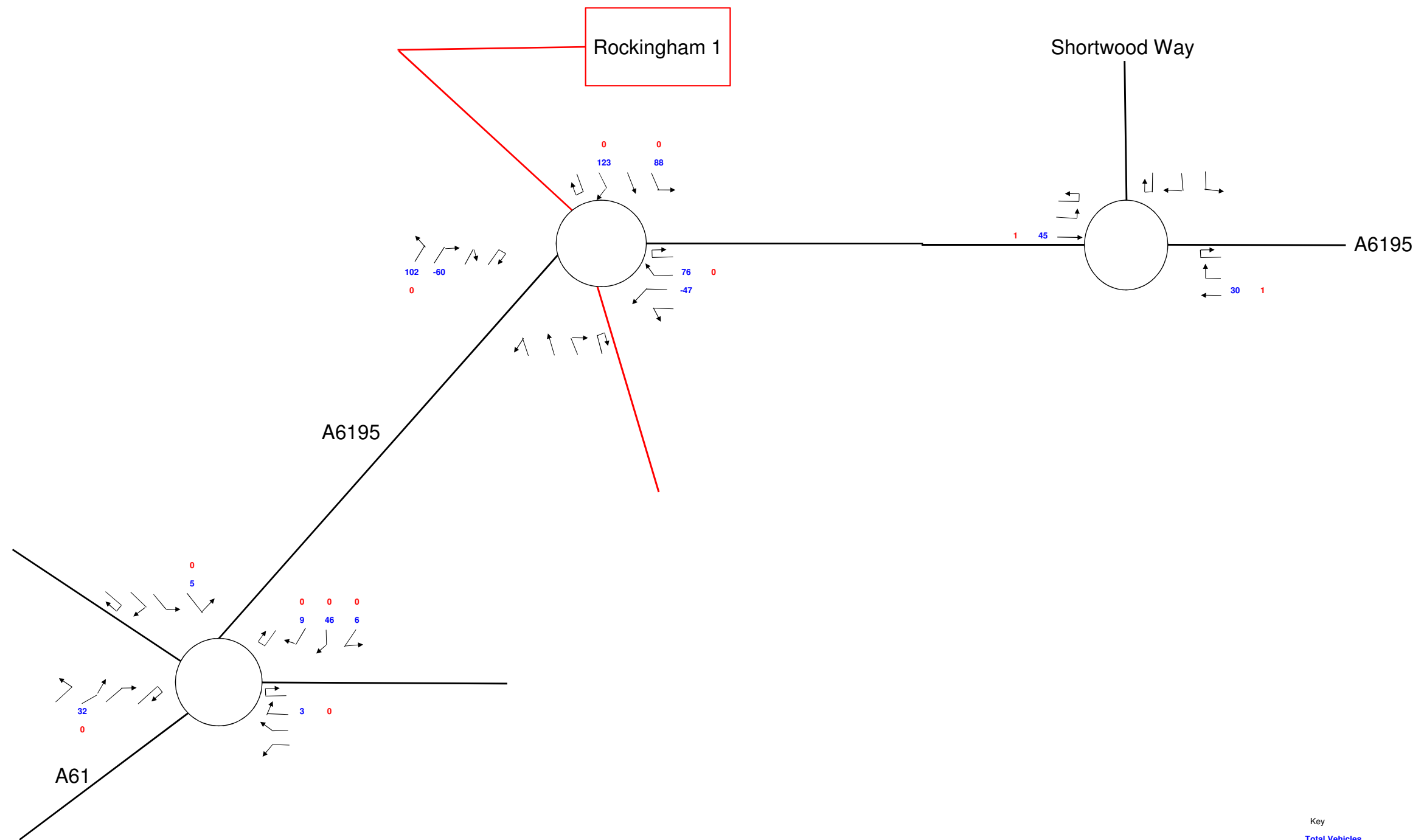
Key
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 Total OGV (inc in Total Vehicles)
 Total PCU Value for Movement Equals Total Vehicles Plus Total OGV



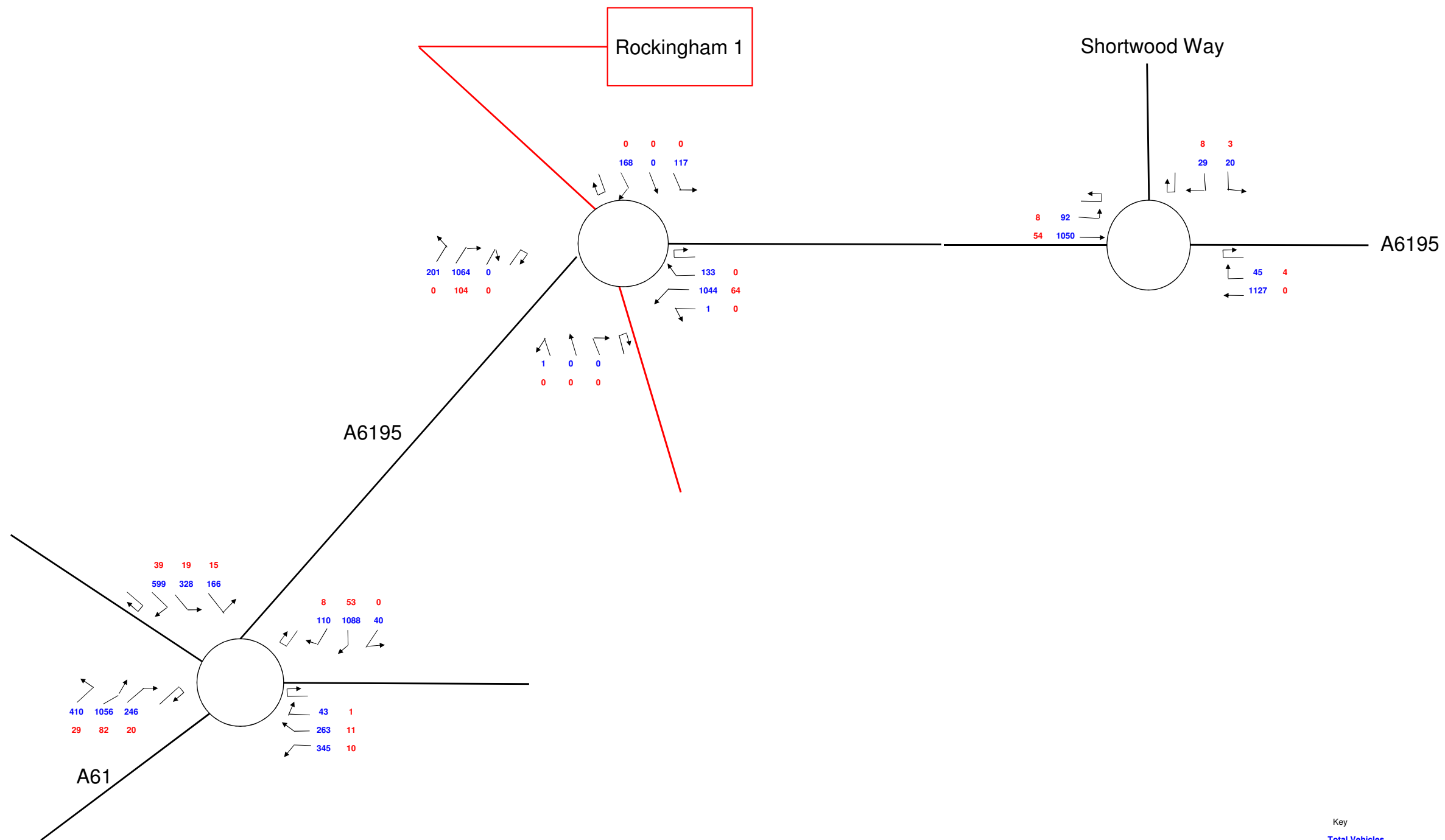
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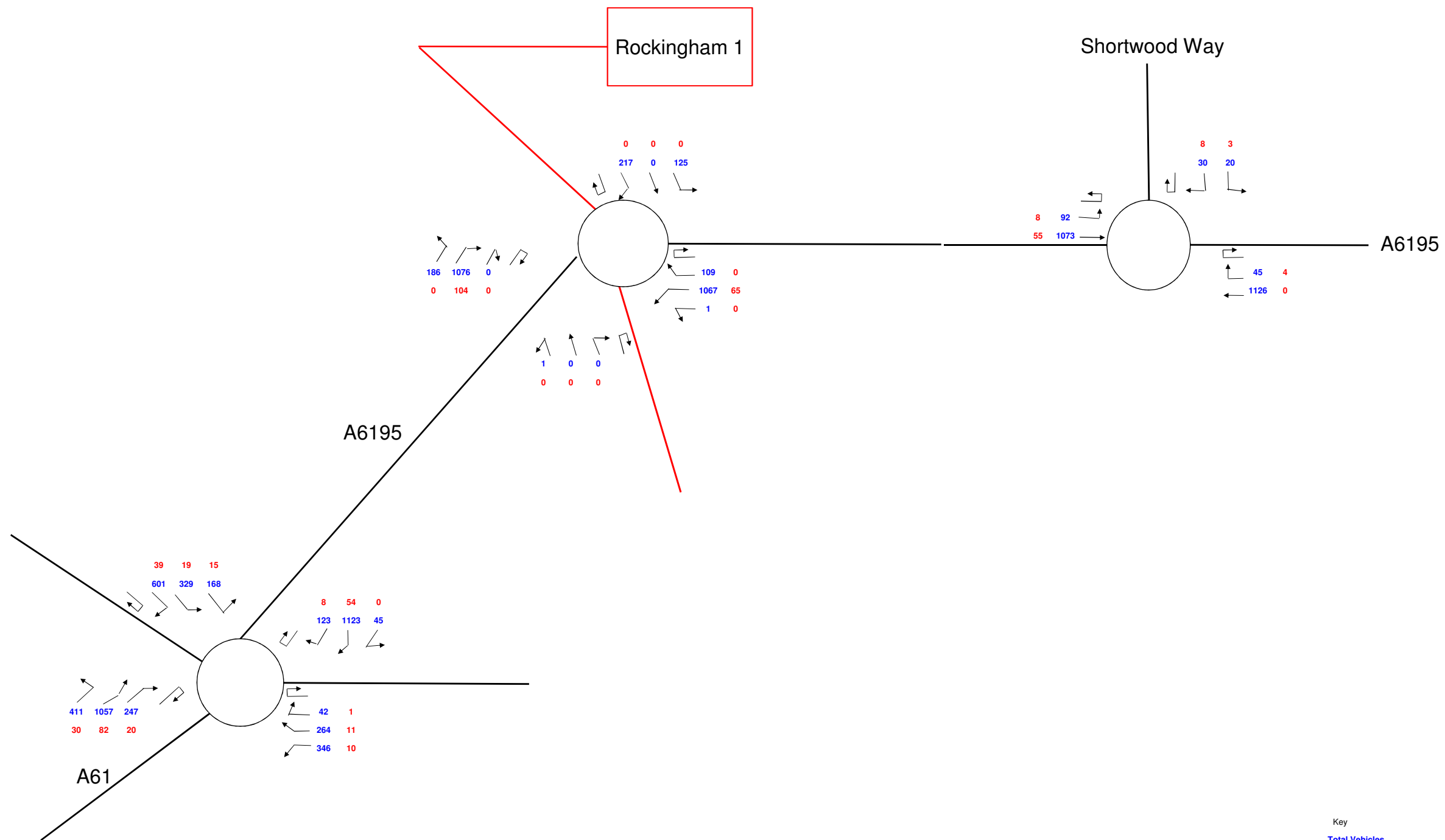


Key
 Total Vehicles
 Total OGV (inc in Total Vehicles)
 Total PCU Value for Movement Equals Total Vehicles Plus Total OGV



Key
 Total Vehicles
 Total OGV (inc in Total Vehicles)
 Total PCU Value for Movement Equals Total Vehicles Plus Total OGV





Key
 Total Vehicles
 Total OGV (inc in Total Vehicles)
 Total PCU Value for Movement Equals Total Vehicles Plus Total OGV

Appendix C Traffic Survey Data



Site: Bessamer Way/Access Road

Day: Wednesday

Date: 22 November 2017

Weather: Rain & Overcast AM/Fine & Windy PM

A: Bessamer Way (South)

B: Access Road

C: Bessamer Way (North)

From A									From B								From C							
Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
07:30	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
07:45	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
08:00	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
08:15	5	0	0	0	1	0	0	6	1	0	0	0	0	0	0	1	5	2	0	0	0	0	0	7
08:30	2	0	0	0	0	0	0	2	3	2	0	0	0	0	0	5	2	1	0	0	0	0	0	3
08:45	2	1	0	0	0	0	0	3	0	2	0	0	0	0	0	2	1	1	0	0	0	0	0	2
09:00	2	1	0	0	0	0	0	3	1	2	0	0	0	0	0	3	1	1	0	0	0	0	0	2
09:15	3	1	0	0	0	0	0	4	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	2
Total	18	3	0	0	1	0	0	22	6	6	0	0	0	0	0	12	19	6	0	0	0	0	0	25

16:30	2	0	0	0	0	0	0	2	3	0	0	0	0	0	0	3	1	0	0	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	2	0	0	0	0	0	0	2
17:00	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2	3	0	0	0	0	0	0	3
17:15	2	0	0	0	0	0	0	2	3	0	0	0	0	0	0	3	1	0	0	0	0	0	0	1
17:30	2	1	0	0	0	0	0	3	8	1	0	0	2	0	0	11	1	0	0	0	0	0	0	1
17:45	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	6	2	0	0	0	0	0	0	2
18:00	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0	4	2	0	0	0	0	0	6	0	0	0	0	0	0	0	0
Total	7	1	0	0	0	0	0	8	37	3	0	0	2	0	0	42	10	0	0	0	0	0	0	10

Time	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total	Car	LGV	OGVI	0GV2	P/C	M/C	PSV	Total
07:30	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0
08:15	1	0	0	0	0	0	0	1	10	2	0	0	1	0	0	13	0	0	0	0	0	0	0	0
08:30	1	1	0	0	0	0	0	2	4	1	0	0	0	0	0	5	2	1	0	0	0	0	0	3
08:45	0	2	0	0	0	0	0	2	3	2	0	0	0	0	0	5	0	0	0	0	0	0	0	0
09:00	1	2	0	0	0	0	0	3	3	2	0	0	0	0	0	5	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0	4	2	0	0	0	0	0	6	1	0	0	0	0	0	0	1
Total	3	5	0	0	0	0	0	8	37	9	0	0	1	0	0	47	3	1	0	0	0	0	0	4

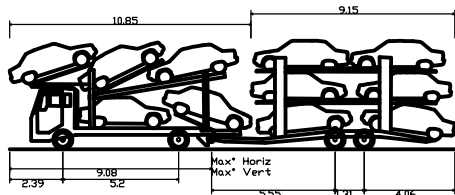
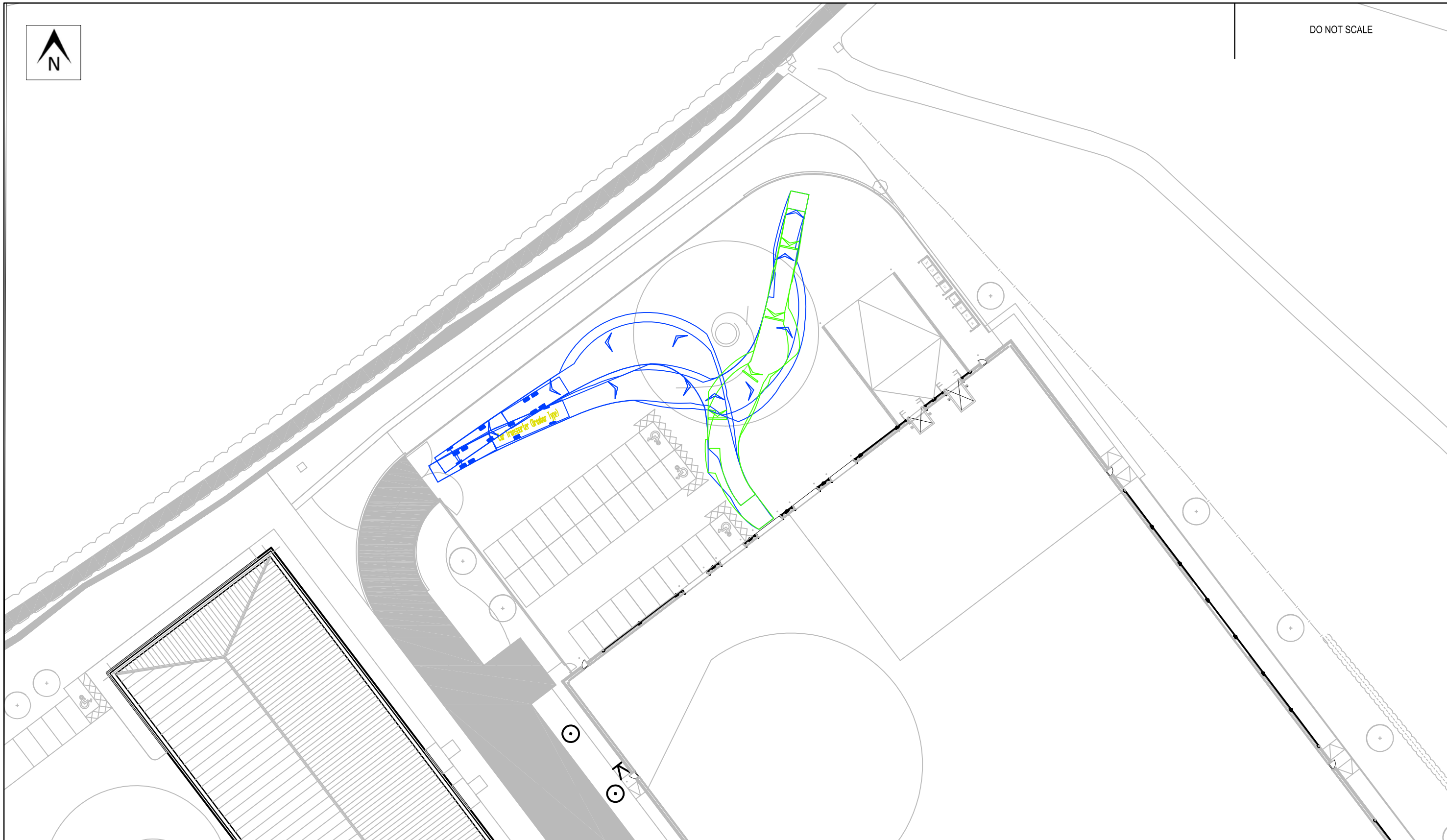
16:30	1	0	0	0	0	0	0	1	3	0	0	0	0	0	0	3	2	0	0	0	0	0	0	2
16:45	2	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2
17:00	1	0	0	0	0	0	0	1	4	0	0	0	0	0	0	4	1	0	0	0	0	0	0	1
17:15	3	0	0	0	0	0	0	3	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
17:30	4	1	0	0	2	0	0	7	3	1	0	0	0	0	0	4	4	0	0	0	0	0	0	4
17:45	2	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2	4	0	0	0	0	0	0	4
18:00	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
18:15	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
Total	21	1	0	0	2	0	0	24	17	1	0	0	0	0	0	18	16	2	0	0	0	0	0	18

Appendix D Swept Path Analysis





DO NOT SCALE



Car Transporter (Drawbar Type)
Overall Length 20.000m
Overall Width 2.500m
Overall Body Height 4.884m
Min. Body Ground Clearance 0.185m
Max. Track Width 2.500m
Lock-to-lock time 6.00s
Wall to Wall Turning Radius 10.500m

A	01/12/17	NJ	SITE LAYOUTS UPDATED	RAM	RAM
REV	DATE	BY	DESCRIPTION	CHK	APP
STATUS			PRELIMINARY		

PROJECT	CAR SUPERMARKET BARNSELY
DRAWING TITLE	SWEPT PATH ANALYSIS

CLIENT	HARWORTH		
CHECKED	APPROVED	DRG No.	
RAM	RAM	17124/ATR/01	
DRAWN BY:	SCALE @ A3	DATE	REV.
NJ	1:500	29/11/17	A


OPTIMA
Intelligent Highways Solutions
Atlas House, 31 King Street, Leeds, LS1 2HL
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FIGURES





Key

★ Site - Location

TITLE	
Proposed Car Supermarket Site Location Plan	
SCALE @ A3	1:12,000
FIGURE 1	
	Atlas House 31 King Street Leeds LS1 2HL Tel: 0113 245

Path: O:\Helix_Barnsley\DRAWINGS\GIS\ARCDITOR\Fig 1 Site Location - Local.mxd

