Proposed Lidl Foodstore
Former Wickes Store, 50 South Road,
Fulwell

Response to Highway Authority Comments

For

Lidl UK

Document Control Sheet

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This document has been issued and amended as follows:

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1.0 Introduction

1.1 Motion is instructed by Lidl UK to prepare this response to address comments received on a planning application in relation to the conversion of an existing Wickes retail unit and internal Toolstation on South Road, Fulwell into two separate retail units. One unit would be a class A1 foodstore with the second unit an A1 non-food unit. The foodstore unit would be occupied by Lidl and reconfigured to their specifications (planning reference 18/4073/FUL).

1.2 In particular, this Note addresses comments received from the Case Officer at the London Borough of Richmond upon Thames (LBRuT) on 28th February 2019 (attached at **Appendix A**).

1.3 For reference, this Note addresses each point raised in turn, with the comments provided in italics and the response provided below.

2.0 Case Officer Comments

Local Bus Services

2.1 The Case Officer stated the following in regards to local bus services surrounding the site:

"The development will lead to an additional 101 two-way bus trips during the afternoon weekday peak hour and 125 two-way trips between 12.00 and 13.00 on Saturdays. The applicant will need to liaise with Transport for London to find out whether a financial contribution towards improvements to local bus service frequencies is required. This will be secured in an agreement under S106 of the Town and Country Planning Act 1990."

2.2 Whilst the above potential increase is acknowledged, it must be made clear that 101 two-way bus trips during the afternoon weekday peak hour and 125 two-way trips between 12.00 and 13.00 on Saturdays reflects the proposed Lidl use only. It does not account for bus trips that would have been undertaken by customers associated with the former Wickes unit.

2.3 Even when accounting for the above, this level of increase is not considered significant when considering the large number of bus services accessible within close proximity of the site. The nearest bus stops to the site are located along South Road, along the development site frontage. The nearest bus stop, bus stop 'F', is located approximately 20 metres from the site access, with bus stop 'G' located on the opposite side of the South Road carriageway, approximately 200 metres walk via the signalised crossing at the A311/B358 junction to the west. Additional bus services can be accessed from bus stops 'H' and 'J', located along Hampton Road approximately 220 metres to the north of the site.

2.4 The Transport Statement submitted with the application set out existing services in the immediate vicinity of the site, which is replicated in Table 2.1 below.

Service	Destinations Served	Weekday AM Peak	Weekday PM Peak	Weekend Daytime Frequency
R70	Fulwell Station – Nurserylands Shopping Centre, Hanworth	Every 6 – 10 minutes	Every 6 – 10 minutes	Every 8 – 10 minutes (Saturday) 4 services per hour (Sunday)
	Twickenham – Richmond Station – Manor Road, Richmond	Every 7 – 10 minutes	Every 7 – 10 minutes	Every 10 – 12 minutes (Saturday) 4 services per hour (Sunday)
267	Twickenham Station – West Middlesex Hospital – Kew Bridge Station – Gunnersbury Station – Ravenscourt Park Station – Hammersmith Bus Station	Every 8 – 12 minutes	Every 8 – 12 minutes	4 services per hour
	Fulwell Station	Every 9 – 13 minutes	Every 9 – 13 minutes	4 services per hour
281	Twickenham Station – Hounslow Station – Hounslow Bus Station	Every 8 – 12 minutes	Every 8 – 12 minutes	Every 9 – 12 minutes (Saturday) Every 12 – 13 minutes (Sunday)

	Fulwell Station – Teddington Memorial Hospital – Hampton Wick Station – Surbiton Station – Tolworth Tower	Every 7 – 10 minutes	Every 7 – 10 minutes	Every 8 – 12 minutes (Saturday) Every 11 – 13 minutes (Sunday)
290	Arragon Road, Twickenham	3 services per hour	3 services per hour	3 services per hour
	Park Road Station – Sunbury Cross Station – Staines Bus Station	3 services per hour	3 services per hour	3 services per hour
481	Whitton – Twickenham – West London Mental Health Trust	2 services per hour	2 services per hour	2 services per hour (Saturday) Hourly (Sunday)
	Fulwell Station – Teddington Memorial Hospital – Cromwell Road Bus Station, Kingston	2 services per hour	2 services per hour	2 services per hour (Saturday) Hourly (Sunday)

Table 2.1: Local Bus Services

2.5 Table 2.1 illustrates how there are in the order of 43—60 buses per hour during the evening peak period, which relates to up to one bus service per minute. During the Saturday peak there are between 40-40 buses per hour.

2.6 The above, when applied to the potential trip attraction described in paragraph 2.2 relates to a maximum of two people per bus during the evening peak hour and around three people per bus during the Saturday peak hour. This in itself is negligible and at the same time robust as it does not account for existing bus trips associated with the Wickes unit. Indeed, the Transport Statement shows how vehicle trips associated with the Lidl unit would reduce during the Saturday peak when compared to the previous Wickes unit and therefore the assessment set out above would not materialise.

2.7 Advice on the above has been sought from TfL buses, and will be issued when available.

Cycle Parking

2.8 The LBRuT states that:

"Whilst the number of cycle parking spaces that you have provided would accord with the London Plan's minimum cycle parking requirements, we are concerned with the siting of the cycle parking storage areas to the south eastern side of the site. These should be repositioned so that they would sit closer to the retail buildings. The London Plan notes that short stay cycle parking spaces should be situated within 15 metres of the main site entrance. In retaining the recycling bank, I imagine that you have already thought about repositioning these cycle stores."

2.9 The architects proposed site layout plan is attached for reference at **Appendix B**, which illustrates the location and number of cycle parking stands, both short stay and long stay, provided. 16 cycle parking spaces will be provided at the south eastern extent of the site; however, these will be long stay for staff use only. Theses spaces will be located within a sheltered storage facility which will be securely locked by staff. The location is deemed appropriate considering they are for staff only and therefore will only be accessed at the beginning/end of shifts.

2.10 Customer cycle parking spaces will be split and located adjacent to both the non-retail store and the proposed Lidl entrances. 16 short stay spaces will be provided to the immediate north of the Lidl entrance, with an additional 18 short stay spaces located at the northern extent of the site adjacent to the non-retail unit. The cycle parking described above accords with the London Plan's minimum parking requirements.

Travel Plan

2.11 The Case Officer stated that:

"The applicant needs to list one of the objectives of the travel plan as the reduction of single occupancy car journeys to and from the development site by employees."

2.12 The Travel Plan sets a target of a 10% reduction in single occupancy vehicle trips to the site, alongside various measures with which to achieve this. This is acknowledged in the Introduction to the Travel Plan which seeks to reduce reliance on the private car.

"The applicant has set a target of an increase of the number of employees who travel to and from the site by sustainable modes by 10% within five years of the opening year of the development. They list one of the measures with which they will achieve this as providing high quality cycle parking. This needs to be sheltered and secure. The applicant needs to provide details of the how this will be achieved before the commencement of development. This can be secured through a planning condition. A travel plan monitoring fee will also need to be secured through the above-mentioned S106 agreement."

2.13 Paragraph 2.9 and 2.10 within this Note states how cycle parking will be provided on site. It is important to note that the long stay cycle parking spaces will be provided within a secure sheltered and lockable cage.

Construction Management Plan

2.14 LBRuT have requested a Construction Management Plan.

"To allow for the change of use and adaptations to the site to accommodate the additional parking and servicing areas, demolition and construction work will take place. Prior to the commencement of development, the applicant must submit and get approved by the Planning Authority a Construction Management Plan"

2.15 This will be secured through a planning condition.

Footway Provision

2.16 The Case Officer raised a comment regarding footway provision within the site and states:

"…there is no marked out footway through the site to the main access of the food retailer. This needs to be secured via a planning condition."

2.17 **Appendix B** illustrates a marked pedestrian link, which connects with the footway located on the southern side of the A358 South Road, at the north eastern extent of the site. This pedestrian link will provide access from South Road and the bus stop to the main entrances of both the non-food retail unit and the proposed foodstore. Tactile paving and dropped kerbs will be provided at crossing points and at the entrances to allow ease of access for all users.

Trip Generation and Modelling

Traffic Distribution

2.18 The LBRuT response states:

"The applicant has not provided any trip distribution analysis to support this conclusion and does not give any examples of which existing supermarkets of comparable size that existing road users who are already on the road network during the PM weekday peak will be diverted from."

2.19 This will be considered within Section 3 of this Note.

Traffic Modelling

2.20 The LBRuT response states:

"we would expect the applicant to conduct baseline turning counts at the private access road/B358 South Road junction and on all arms of the B358 South Road/A311 Wellington Road signalised junction, and would expect the applicant to estimate the impact of the proposed development on the junctions in the final assessment year of the development."

2.21 This will be considered within Section 3 of this Note.

Car Parking

2.22 In regards to car parking the case officer provided the following comment:

"I acknowledge your email dated 26/02/2019 providing justification on why 142 parking spaces would be required, however we are not prepared to accept any more than 115 car parking spaces are [sic] per the Transport Officer's feedback."

2.23 The architect's layout plan (**Appendix B**) illustrates 115 parking spaces, which is in line with the London Plan. It is important to note that the out of the 115 spaces provided 12 are for the use of disabled people, eight are parent and child bays, two are provisioned with EVC rapid charging points, ten are provisioned with ten active charging points, whilst 12 are provisioned with passive charging points.

3.0 Development Traffic Distribution and Modelling

Traffic Surveys

3.1 Traffic surveys of the site access/South Road junction and the Hampton Road/Sixth Cross Road/Wellington Road/South Road signalised crossroads junction have been undertaken on Friday 8th and Saturday 9th March 2019, between the hours of 16:00 – 19:00 on Friday and 11:00 – 15:00 on the Saturday.

3.2 The peak hours have been identified as 16:00 – 17:00 for the Friday evening peak hour and 11:00 – 12:00 for the Saturday peak hour. **Figures TN3.1** and **TN3.2** provide the 2019 observed peak hour traffic flows for the Friday evening and Saturday peak hours respectively.

3.3 It is noted that the traffic surveys were undertaken after the existing Wickes store had ceased trading. However, it is noted that the unit still has consent for a non-food retail occupation and therefore the baseline position is that of the former non-food unit.

Assessment Years

3.4 To assess the impact of the foodstore, it is considered appropriate to assess the impacts five years following the submission of the planning application (2024).

3.5 Traffic growth factors have been obtained from the TEMPro database version 7.2, adjusted with reference to the National Transport Model (NTM) AF15 dataset. The site is located on the corner of three conjoining Census mid layer super output areas (MSOAs), upon which TEMPro factors are calculated. As such, TEMPro factors have been obtained for each of the MSOAs and the average growth factor applied for the purposes of this assessment. The TEMPro growth factors for the 2019 to 2024 weekday evening and Saturday peak periods are provided in Table 3.1.

Area	Weekday Evening Growth Factor	Saturday Growth Factor
Richmond upon Thames 015	1.0456	1.0466
Richmond upon Thames 016	1.0423	1.0417
Richmond upon Thames 018	1.0420	1.0430
Average	1.0433	1.0438

Table 3.1: TEMPro Growth Factors

3.6 The future year baseline traffic flows are provided within **Figures TN3.3** and **TN3.4** for the respective peak hours.

Trip Generation

Existing Site Use

3.1 Although the existing Wickes store has now closed, the site could be reoccupied by a non-food retail unit at any time. Table 3.2 below summarises the TRICS assessment presented within the Transport Statement, accounting for the updated peak hours identified within the traffic surveys. Table 3.2 therefore summarises the weekday evening peak period (16:00-17:00) and Saturday daytime peak period (11:00-12:00) trip rates and trips, based on the 3,138 square metre gross internal floor area.

Trip Type	PM Peak Hour		Saturday Peak Hour	
	Arrivals	Departures	Arrivals	Departures
Vehicular Trip Rates	1.427	1.488	5.770	5.557
Vehicular Trips	45	47	181	174

Table 3.2 Existing Wickes Trip Rates (per 100sqm) and Trips

3.2 Table 3.2 indicates that the existing store could generate 92 two-way vehicular trips in the weekday evening peak and 355 two-way vehicular trips during the Saturday peak hour.

3.3 The existing Wickes trips have been distributed on the highway network based on the observed turning proportions. **Figures TN3.5** and **TN3.6** provide the existing Wickes traffic flows during the weekday morning and evening peak hours respectively.

3.4 The 2024 baseline for the purposes of assessment includes the 2024 uplifted traffic flows and the existing Wickes traffic flows and are provided in **Figures TN3.7** and **TN3.8** for the respective peak hours.

Proposed Lidl Foodstore

3.5 The trip generation methodology identified within the Transport Statement has been applied the proposed 1,596 square metre sales floor area for the identified peak hours of 16:00 – 17:00 for the weekday evening peak hour and 11:00 – 12:00 for the Saturday peak hour in Table 3.3 below.

Trip Type	PM Peak Hour		Saturday Peak Hour	
	Arrivals	Departures	Arrivals	Departures
Vehicular Trip Rates	8.24	8.58	9.48	10.03
Vehicular Trips	132	137	151	160

Table 3.3: Proposed Lidl Fulwell Vehicle Trip Rates (per 100sqm) and Trips

3.6 Table 3.3 indicates that the existing store could generate 269 two-way vehicular trips in the weekday evening peak and 311 two-way vehicular trips during the Saturday peak hour.

Proposed Non-Food Retail Unit

3.7 The updated non-food retail unit trip rates and trips are provided in Table 3.4 below, with the TRICS output included as an appendix to the Transport Statement.

Trip Type	PM Peak Hour		Saturday Peak Hour	
	Arrivals	Departures	Arrivals	Departures
Vehicular Trip Rates	1.650	1.410	1.530	1.002
Vehicular Trips	17	15	16	10

Table 3.4: Proposed Non-Food Retail Unit Trips Rates (per 100sqm) and Trips

3.8 Table 3.4 indicates that the proposed non-food retail unit could generate 32 two-way vehicular trips during the weekday evening peak hour and 26 two-way vehicular trips during the Saturday peak hour.

Net Impact of Development Proposals

3.9 In the absence of total person trip rates for the existing site use and proposed non-food retail unit, the net impact of the development in terms of vehicular trips is assessed. Table 3.5 below summarises the net impact of the proposed development in terms of vehicular trips to the site, based on the existing site vehicular trips calculated within Table 3.2, the calculated Lidl vehicular trips within Table 3.3 and the proposed non-food retail unit vehicular trips, calculated within Table 3.4.

Trip Type	PM Peak Hour		Saturday Peak Hour	
	Arrivals	Departures	Arrivals	Departures
Existing Site	45	47	181	174
Proposed Lidl	132	137	151	160
Proposed Non-Food Retail Unit	17	15	16	10
NET IMPACT	+104	+105	-14	-4

Table 3.5: Net Impact – Vehicular Trips

3.10 Table 3.5 indicates that the development proposals could generate an additional 104 arrivals and 105 departures during the weekday evening peak hour, alongside a decrease of 14 arrivals and four departures during the Saturday peak.

Traffic Distribution

Proposed Lidl Vehicular Trip Types

3.11 Whilst the Lidl trip rates provided within the Transport Statement provide a guide for the potential level of traffic demand for a new foodstore, consideration must be given to the breakdown of types of retail trip. The trip types will be classified into the following categories:

- Primary New Trips – a single purpose trip that is new to the highway network during the assessment period. If there is flexibility over when and where a shopping trip is undertaken, it is unlikely a person would choose to make such a trip during highway peak periods;
- Primary Transferred Trips – a single purpose trip that previously used an alternative retail foodstore and has transferred to the new foodstore;
- Linked Pass-by Trips – a multi-purpose trip that passes the new foodstore without making a network diversion; and
- Linked Diverted Trips – a multi-purpose trip that has made a network diversion to visit the new foodstore.

Linked Pass-by and diverted Trip Methodology

3.12 Pass-by and diverted traffic distribution is now required to be assessed through the TRICS Research Report 14/1 'Pass-By & Diverted Trips Report'. This report supersedes the TRICS 95/2 Research Report, and requires the user to assess trip type proportions on a site-specific basis.

3.13 Whilst the report assesses pass-by and diverted trips it does not take account of transferred trips. A step by step guide as to how pass-by/diverted trips should be deduced is included in the above report. Each parameter for the determination of a suitable pass-by/diverted trip level is set out within the following paragraphs.

Location Type

3.14 The development site would be classified as in an intermediate location, as it is not located in a town centre, though nor is the site on the edge of a town, given the proximity of the Fulwell neighbourhood shopping area. The report notes that as a store's proximity to a town centre increases, the potential percentage of pass-by trips also increases.

Facilities

3.15 The level of pass-by and diverted trips is also influenced by the range of facilities within the retail unit. This includes:

- Café or Restaurant;
- Clothing;
- Electricals;
- Garden Centre;
- Homeware;
- Opticians;
- Petrol Station;
- Pharmacy;

- Post Office;
- Recycling;
- Stationary; or
- Travel Agents.

3.16 Lidl sells a restricted number of non-food items, with special offers changing on a twice weekly basis. Therefore, there is unlikely to be a large selection of items fitting the categories above. This will reduce the level of pass-by and diverted trips to the store.

Gross Floor Area

3.17 Two store categories are devised with the TRICS report based on GFA; stores with a GFA of 4,000m2 or less and those with a GFA higher than 4,000m2. Stores with a GFA of less than 4,000m2 are classified as convenience stores as opposed to a comparison store. All Lidl foodstores have a floor area someway below 4,000 square metres, and are therefore classified in the convenience category.

3.18 Convenience stores are described as more likely to produce pass-by trips than diverted trips, whilst people are prepared to travel further to access a comparison store than a convenience store (20 minutes for a comparison store, compared to 10 minutes for convenience).

3.19 As such, the proposed store would attract more pass-by than diverted trips as people are more likely to travel to the store from within the immediate surrounding area. However, the proximity of the nearby South Road/Wellington Road/Sixth Cross Road/Hampton Road crossroads is likely to attract customers driving along Wellington Road to divert their journey to the foodstore.

Proximity to Infrastructure

3.20 The proximity of the development site to major infrastructure will impact on the level of pass-by/diverted trips, which includes railway stations and public transport interchanges; schools; large residential areas; other commercial areas; competition sites; and major office / workplace areas.

3.21 A 10-minute drive time relates to a distance of approximately 5 kilometres. A 5-kilometre distance incorporates the built-up areas of Fulwell, Strawberry Hill and Hampton Hill, and is made up in large part by residential development. In addition, there are a number of employment sites in close proximity along with additional retail facilities. There is a clear potential for the development site to attract pass-by and diverted trips by virtue of its location to infrastructure in the vicinity of the site.

Click and collect

3.22 The TRICS report notes that having click and collect services as part of a development is likely to increase the proportion of pass-by trips. Click and collect facilities are not proposed, and therefore this will have no influence on the development trip distribution.

Assumed Level of Pass-by and Diverted Trips

3.23 The percentage of pass-by/diverted trips as a percentage of overall trips will however be affected by the typical operation of a Lidl store with limited additional facilities.

3.24 The following assumptions will be assessed within this TA:

- Pass-by Trips – 20% on a weekday and 15% on a Saturday; and
- Diverted Trips – 20% on a weekday and 15% on a Saturday.

3.25 This is consistent with advice provided within the now superseded 95/2 TRICS Research Report 'Pass-by and Diverted Traffic', which concluded that pass-by and diverted trips generally make up 30 – 40% of trips associated with a foodstore during the peak periods.

3.26 Pass-by development trips have been distributed based on the percentage of observed passing vehicle movements along South Road. Based on the layout of the surrounding road network, diverted trips have been assumed to have diverted from the adjacent signalised crossroads junction and from the Teddington direction to the southeast on a 90%:10% ratio, with the movements at the signalised crossroads based on the split in observed turning movements.

3.27 The remaining trips will constitute either primary new or transferred trips, each of which is considered below.

Primary New/Transferred Trips

3.28 The vast majority of vehicular trips to a new retail facility are not 'new' to the road network. Therefore, a new food retail facility will lead primarily to a change in journey rather than new journeys. It is commonly accepted that there are few, if any, new trips on the local road network.

3.29 To ensure a robust assessment is undertaken of the potential of a new retail foodstore, an allowance has been made for potential new trips. For the purposes of analysis, 10% of foodstore trips in each peak period have been presumed to be new to the network. This is higher than is commonly accepted and is considered to represent a worst-case scenario. Primary new trips have been distributed on the highway network based on observed turning movements.

3.30 The remainder of the trips, amounting to some 50% of all trips in the weekday peak and 60% of all trips in the Saturday peak, will constitute primary transfer trips from other retail food store locations.

3.31 The distribution of primary transferred trips has been based on the Retail Impact Assessment accompanying the planning application submission. This document identifies the trade draw from nearby foodstores within Table 8. Due to the prevalence of convenience stores in the area, the trade draw from convenience stores has been equally divided between all four possible access routes. Based on the store locations, the access routes to each store has been calculated with Table 3.6 below summarising the proportion of trips utilising each nearby road.

Road	Trade Diversion
A311 Hampton Road	62.75%
Sixth Cross Road	13.75%
Wellington Road	4.75%
South Road (East)	19.75%
TOTAL	**100.00%**

Table 3.6: Transferred Trip Routeing

Summary of Vehicle Trip Types

3.32 Applying the vehicular trips identified within the Transport Statement results in the trip types as set out within Table 3.7 below.

Trip Type	PM Peak Hour		Saturday Peak Hour	
	Arrivals	Departures	Arrivals	Departures
Primary New Trips	13	14	15	16
Primary Transferred Trips	66	69	91	96
Linked Pass-by Trips	26	27	23	24
Linked Diverted Trips	26	27	24	24
TOTAL	**131**	**137**	**151**	**160**

Table 3.7: Associated Vehicle Movements Based on Trip Type

3.33 Total Lidl traffic accounting for each of the above trip types is shown within **Figures TN3.9** and **TN3.10** for the weekday evening and Saturday peak hours respectively.

3.34 The proposed non-food retail unit traffic flows have been distributed based on the observed turning proportions on the local highway network and are included in **Figures TN3.11** and **TN3.12** respectively.

3.35 The 2024 with development traffic flows are provided in **Figures TN3.13** and **TN3.14** for the weekday evening and Saturday peak hours.

Traffic Modelling

3.36 The development traffic impacts have been assessed using the LinSig v3 traffic modelling software, with the model including both the signalised crossroads junction and the site access priority junction as a network model.

3.37 The signalised junction has been set up based on the signal timing sheets obtained from Transport for London which indicate how the junction should operate in terms of stage timings, though the reality is that the UTC system in place at the junction will account for varying levels of queuing and adjust timings accordingly. This cannot be reflected in the LinSig model, which has therefore been set up to the maximum stage timings recorded in the TfL timing sheets.

3.38 Table 3.8 summarises the observed junction operation during the Friday evening and Saturday peak hours, noting the lack of occupation of the site. For reference, the LinSig model outputs are included for reference at **Appendix C**.

Arm	PM Peak Hour		Saturday Peak Hour	
	Degree of Saturation (%)	MMQ (PCU)	Degree of Saturation (%)	MMQ (PCU)
Junction 1: Wellington Road/Sixth Cross Road/Hampton Road/South Road				
Hampton Road	101.8	22.7	93.8	6.8
South Road	84.0	11.2	76.9	9.6
Wellington Road	105.4	27.7	91.3	14.3
Sixth Cross Road	80.7	10.3	90.5	13.3
Junction 2: South Road/Lidl Site Access				
South Road (East)	15.9	0.1	15.4	0.1
Lidl Access	6.5	0.0	8.5	0.2
South Road (West)	16.1	0.1	17.4	0.1

Table 3.8: 2019 Observed LinSig Summary

3.39 Table 3.8 indicates that the junction currently operates above capacity on the Hampton Road arm in the weekday evening peak hour, with a maximum RFC of 101.8%. It is noted that queuing within the junction mostly clears each cycle, with queuing within the realms observed in the queue surveys undertaken concurrently with the traffic surveys.

3.40 The junction operates with a practical reserve capacity (PRC) of -17.1% in the Friday evening peak hour and -4.2% during the Saturday peak hour.

3.41 Table 3.9 summarises the future year operation of the junction in the Friday evening peak hour. This compares the 2024 future year with existing Wickes operation, i.e. the without development scenario, and the 2024 with development scenario. The future year with development scenario has been optimised within LinSig for PRC, acting in a manner similar to the UTC operation of the junction. Table 3.10 summarises the future year operation of the junction during the Saturday peak hour.

Arm	2024 Baseline		2024 with Development	
	Degree of Saturation (%)	MMQ (PCU)	Degree of Saturation (%)	MMQ (PCU)
Junction 1: Wellington Road/Sixth Cross Road/Hampton Road/South Road				
Hampton Road	107.4	32.3	110.5	41.0
South Road	90.8	13.5	101.0	21.9
Wellington Road	110.1	36.2	100.2	21.9
Sixth Cross Road	87.5	12.0	96.6	17.6
Junction 2: South Road/Lidl Site Access				
South Road (East)	17.9	0.1	18.8	0.1
Lidl Access	18.0	0.1	38.2	0.3
South Road (West)	17.3	0.1	24.1	4.8

Table 3.9: 2024 Friday Evening Peak Hour LinSig Summary

Arm	2024 Baseline		2024 with Development	
	Degree of Saturation (%)	MMQ (PCU)	Degree of Saturation (%)	MMQ (PCU)
Junction 1: Wellington Road/Sixth Cross Road/Hampton Road/South Road				
Hampton Road	116.8	15.0	111.3	18.1
South Road	91.7	14.1	96.1	16.8
Wellington Road	95.8	17.2	95.0	16.6
Sixth Cross Road	102.7	30.7	100.3	20.8
Junction 2: South Road/Lidl Site Access				
South Road (East)	20.9	0.1	18.2	0.1
Lidl Access	49.3	2.3	43.1	1.3
South Road (West)	25.7	7.1	28.3	6.5

Table 3.10: 2024 Saturday Peak Hour LinSig Summary

3.42 Tables 3.9 and 3.10 indicate that the impacts of the Lidl store can be balanced out across each arm of the junction, thereby improving the overall junction capacity. During the Friday evening peak hour, PRC decreases from -22.3% in the without development scenario to -22.8% in the with development scenario and during the Saturday peak hour increases from -29.8% to -11.2%.

3.43 During the Friday peak hour, the optimisation balances out delay across the junction, with the result remaining that the junction will operate at capacity. South Road is forecast to operate at 101% degree of saturation, though the impacts across the junction are not considered severe. For example, whilst queuing would increase on the Hampton Road and South Road arms of the junction, there is a notable reduction in queuing on Wellington Road.

3.44 During the Saturday peak hour, the development proposals will result in an improved operation of the junction, due to lower traffic flows to/from the site. South Road experiences a minor increase in degree of saturation, though the remaining arms of the junction operate with lower degree of saturation values, resulting in the increase in PRC within the junction.

3.45 The site access junction would operate with minimal queuing internally during both scenarios, with some queuing on South Road (West) reflecting vehicles waiting to turn right into the site. South Road operates with two lanes at this section of carriageway, ensuring that passing traffic is not obstructed by vehicles seeking to enter the site.

3.46 Based on the above, the development is forecast to have a negligible impact on the operation of the nearby signalised crossroads junction.

4.0 Summary and Conclusions

4.1 Motion is instructed by Lidl UK to prepare this response to address comments received on a planning application in relation to the conversion of an existing Wickes retail unit and internal Toolstation on South Road, Fulwell into two separate retail units. One unit would be a class A1 foodstore with the second unit an A1 non-food unit. The foodstore unit would be occupied by Lidl and reconfigured to their specifications (planning reference 18/4073/FUL).

4.2 This note addresses comments received from the Case Officer at the London Borough of Richmond upon Thames (LBRuT) on 28th February 2019. It demonstrates that:

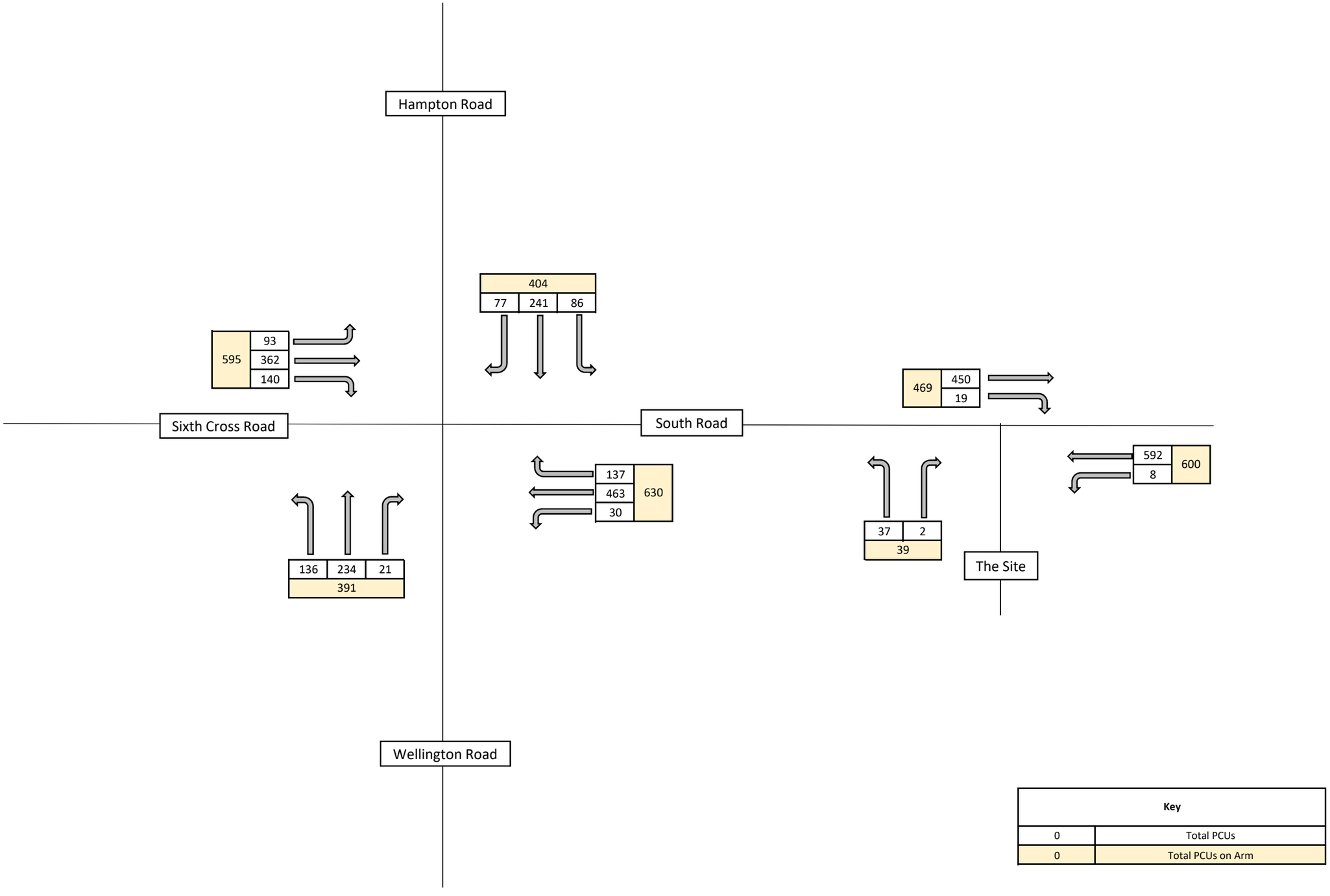
- Based on the high number of bus services in the vicinity of the site, there could be a maximum of two customers per bus during the evening peak hour and around three customers per bus during the Saturday peak hour. This is for the proposals only and does not account for existing trips that may be via bus;
- Cycle parking provision has been redesigned to ensure sufficient short-stay spaces are provided in the immediate vicinity of both the Lidl unit and the non-food retail unit;
- A Construction Management Plan will be secured by condition;
- A footway has been incorporated into the site layout leading form South Road to the store entrances, providing safe access for pedestrians;
- Parking provision has been reduced in line with comments raised by LBRuT to 115 spaces; and
- Junction modelling of the site access junction and adjacent signal junction demonstrates that the proposals can be accommodated without resulting in a significant or unacceptable increase in queuing on the surrounding road network.

4.3 In view of the above, the proposed development is considered to be acceptable in transport terms and meets with local and national policy criteria. The assessment work undertaken has shown that there would not be any demonstrable harm arising from the proposed scheme and it will not cause any severe impacts. Therefore, there are no traffic and transport related reasons why the development should not be granted planning consent.

Former Wickes Unit, South Road, Fulwell

Friday Evening Peak Hour (16:00 - 17:00) - 2019 Observed Traffic Flows

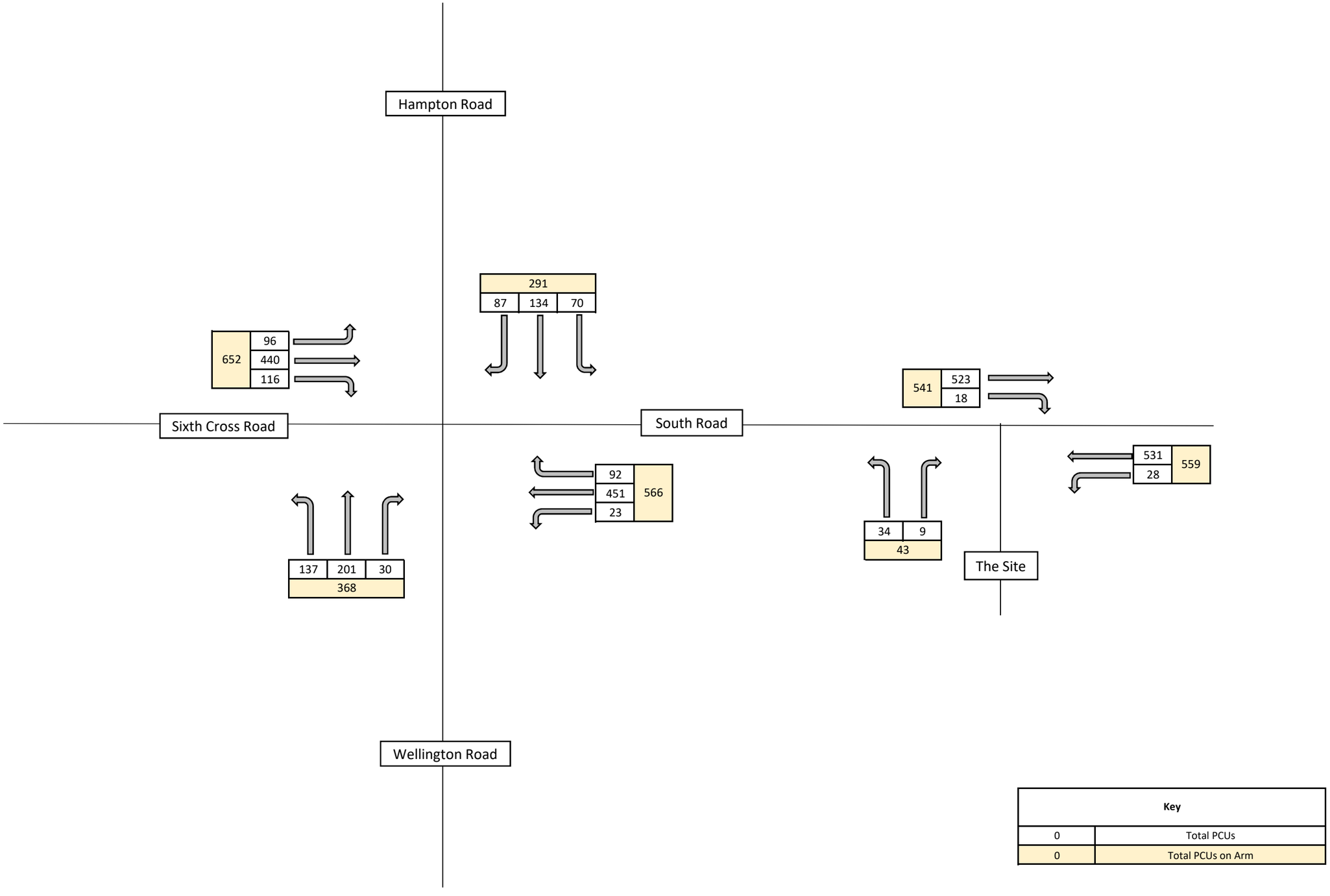
Figure TN 3.1



Former Wickes Unit, South Road, Fulwell

Saturday Peak Hour (11:00 - 12:00) - 2019 Observed Traffic Flows

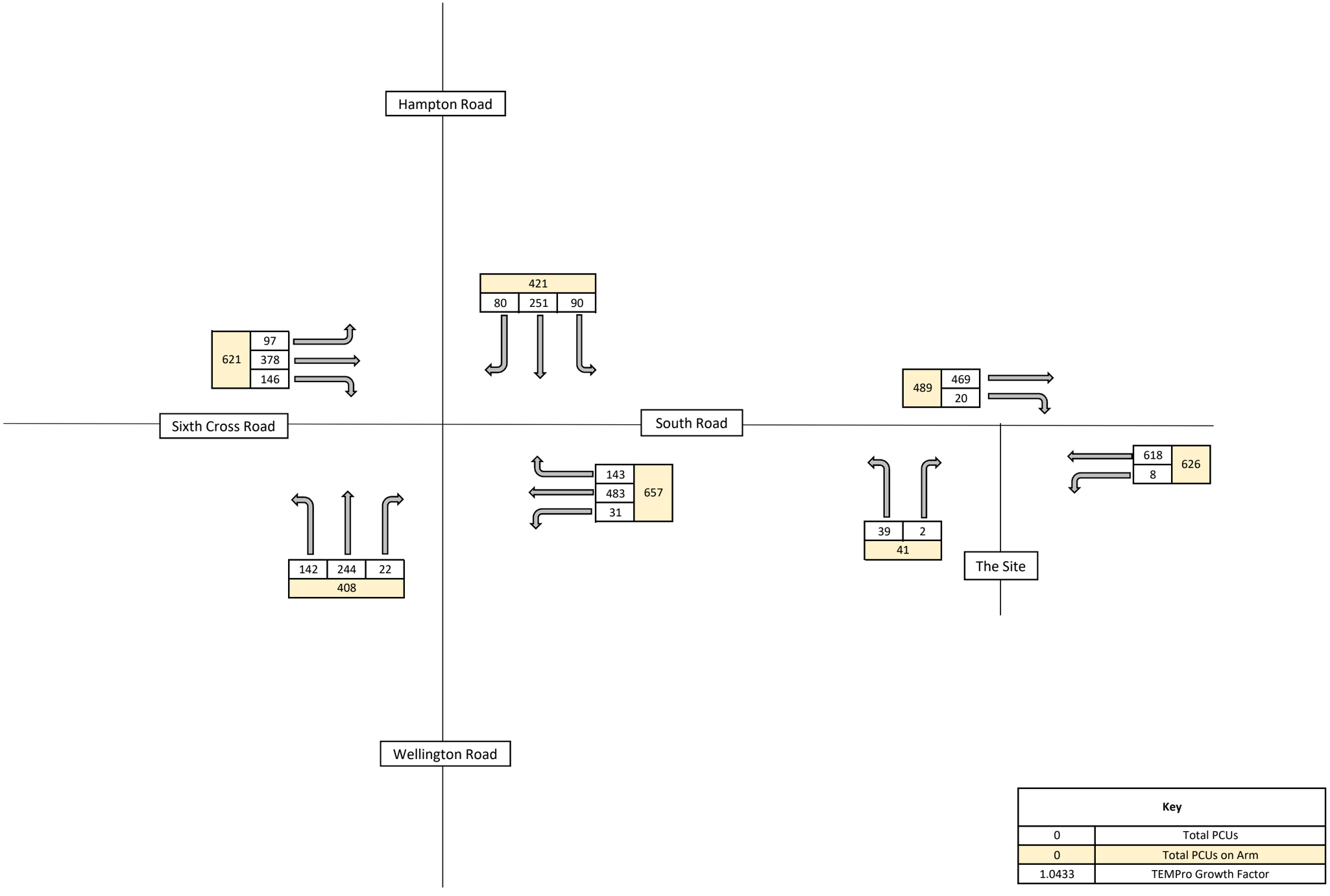
Figure TN 3.2



Former Wickes Unit, South Road, Fulwell

Friday Evening Peak Hour (16:00 - 17:00) - 2024 Uplifted Traffic Flows

Figure TN 3.3

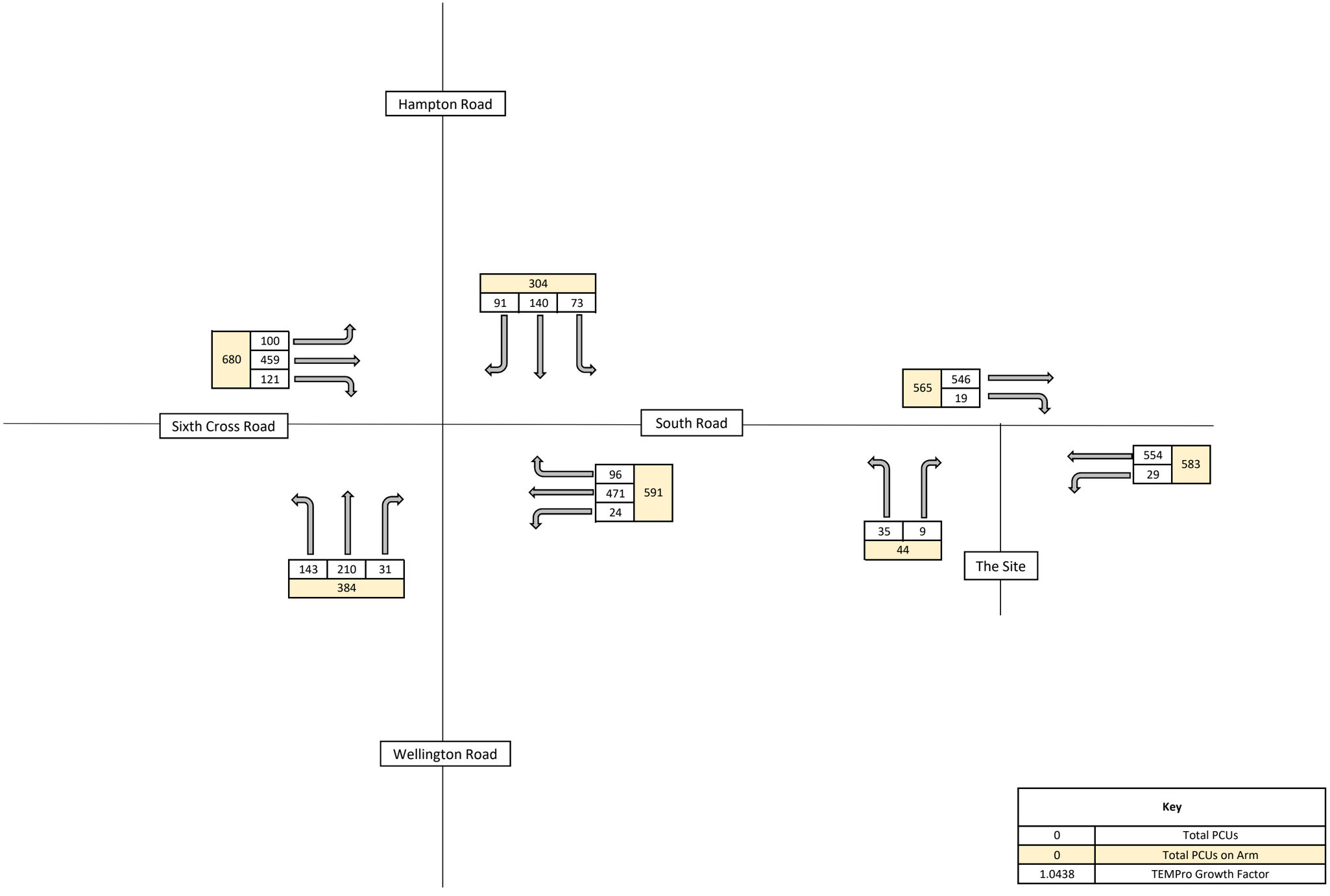


Key	
0	Total PCUs
0	Total PCUs on Arm
1.0433	TEMPro Growth Factor

Former Wickes Unit, South Road, Fulwell

Saturday Peak Hour (11:00 - 12:00) - 2024 Uplifted Traffic Flows

Figure TN 3.4

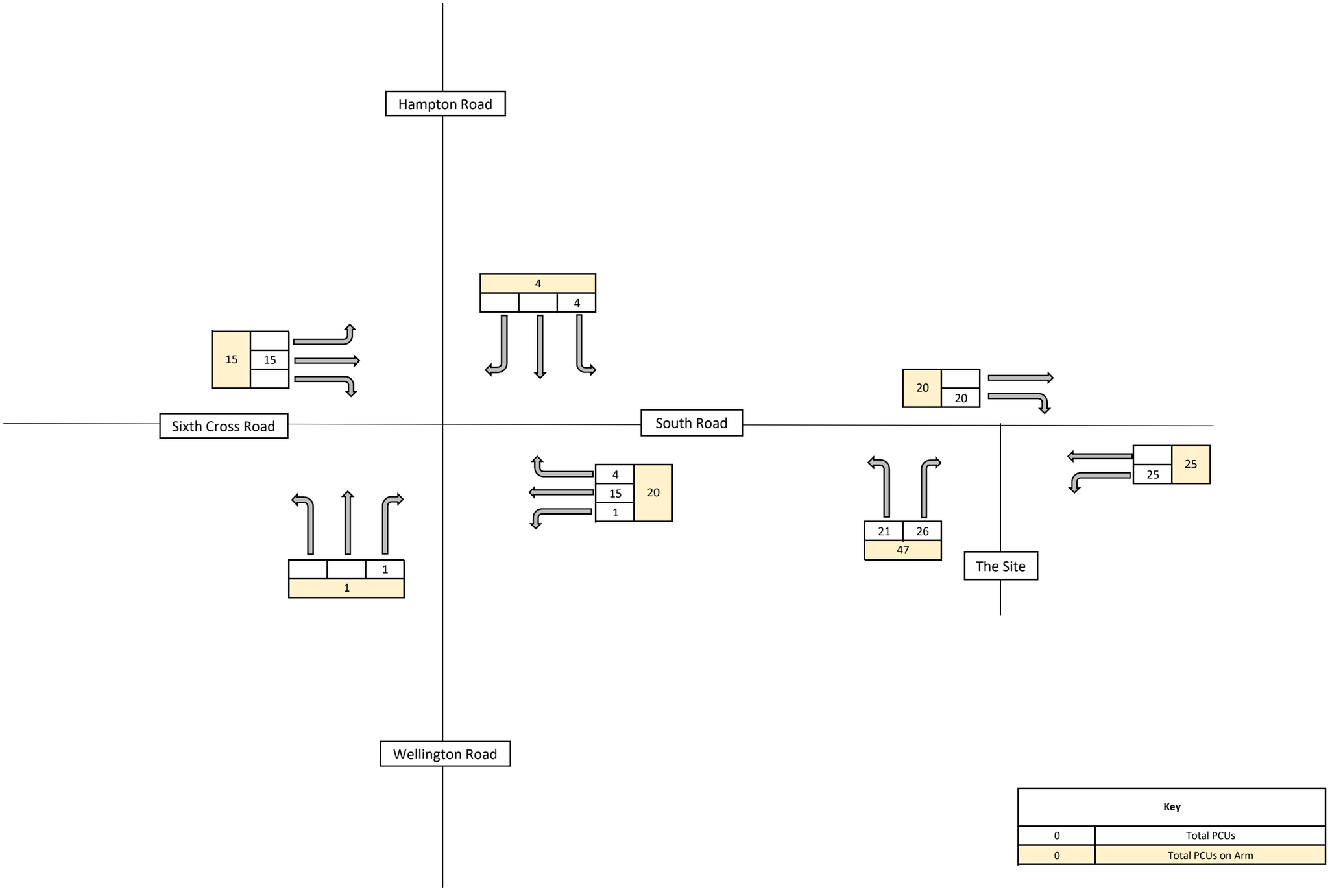


Key	
0	Total PCUs
0	Total PCUs on Arm
1.0438	TEMPro Growth Factor

Former Wickes Unit, South Road, Fulwell

Friday Evening Peak Hour (16:00 - 17:00) - Existing Site Traffic Flows

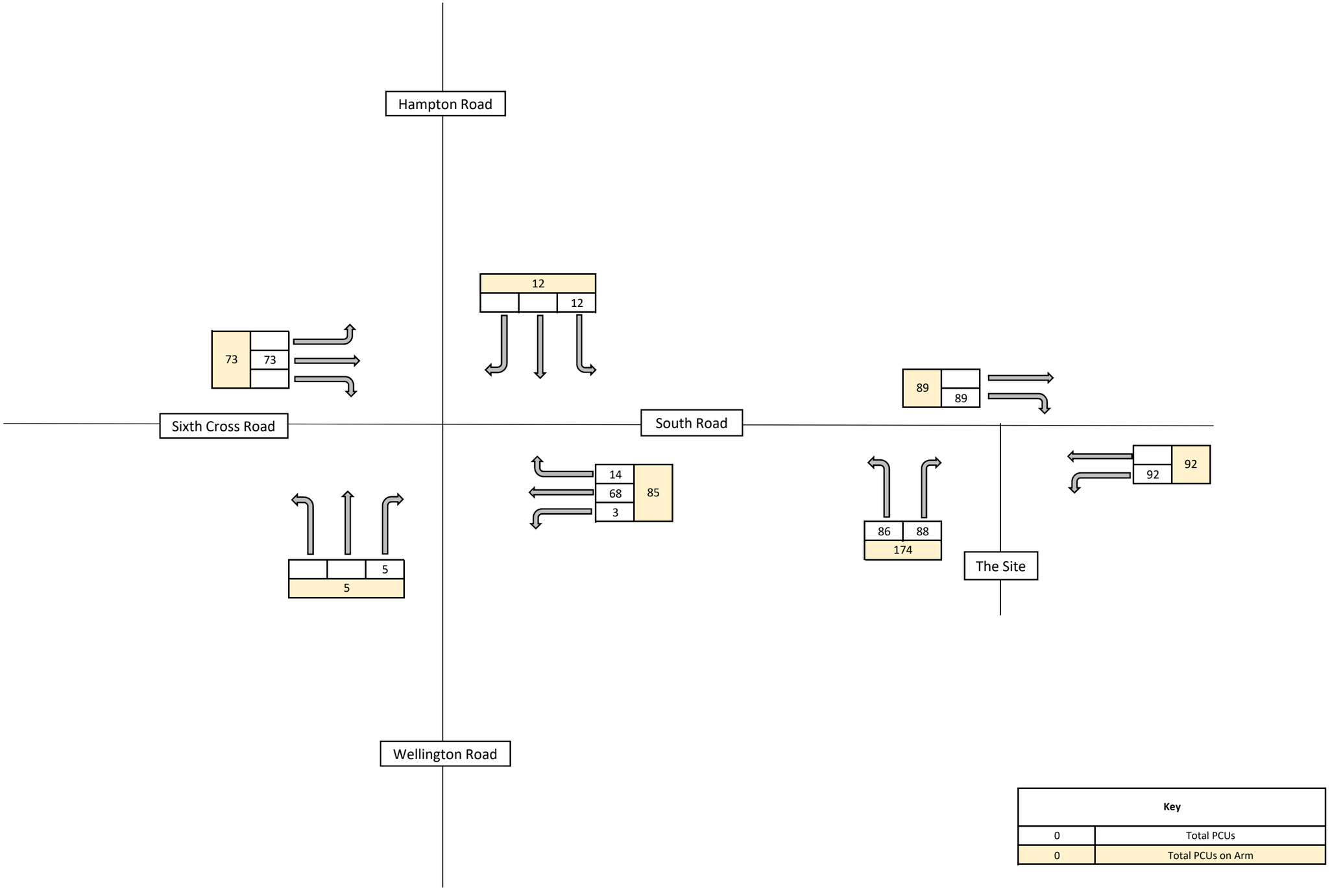
Figure TN 3.5



Former Wickes Unit, South Road, Fulwell

Saturday Peak Hour (11:00 - 12:00) - Existing Site Traffic Flows

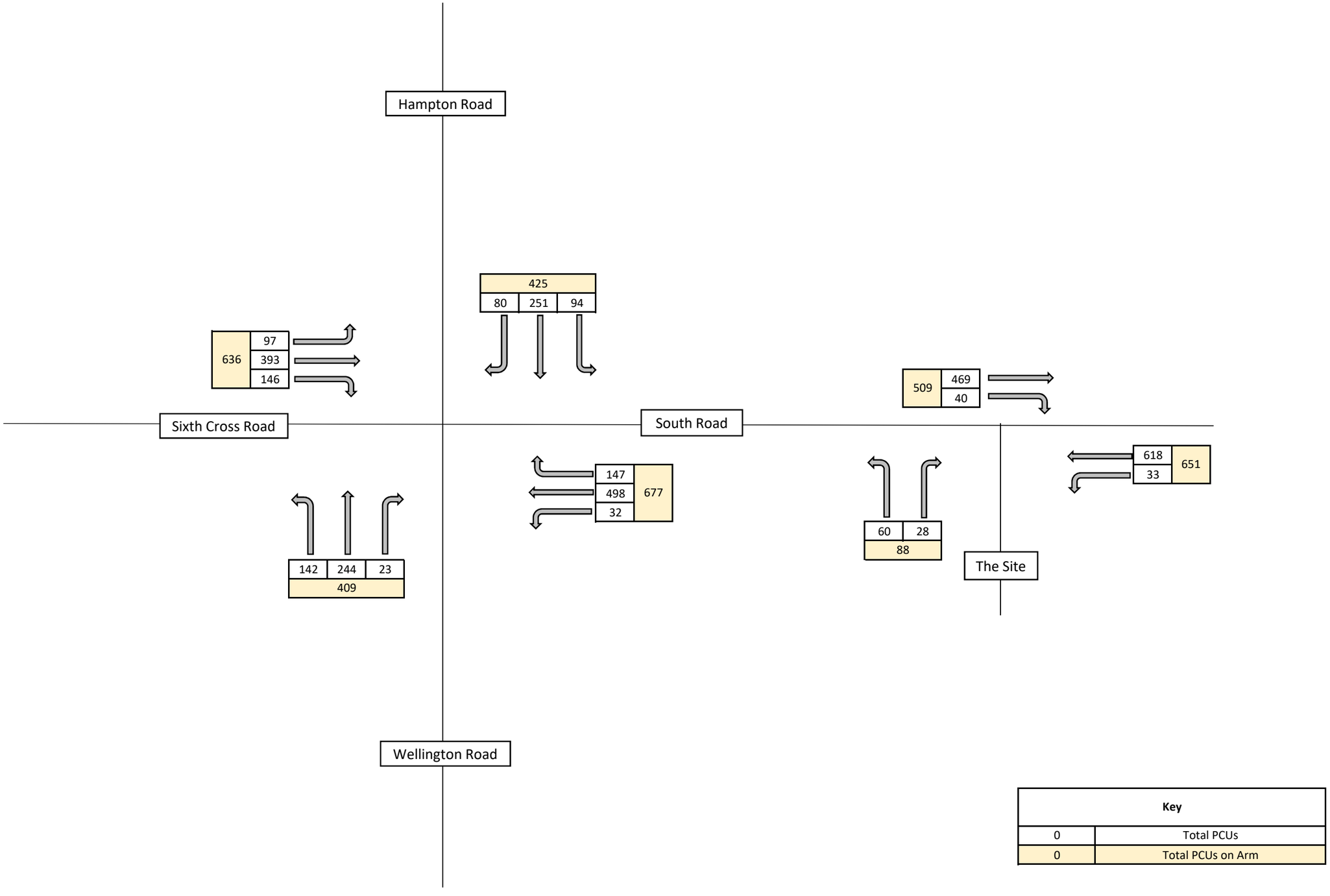
Figure TN 3.6



Former Wickes Unit, South Road, Fulwell

Friday Evening Peak Hour (16:00 - 17:00) - 2024 with Existing Site Traffic Flows

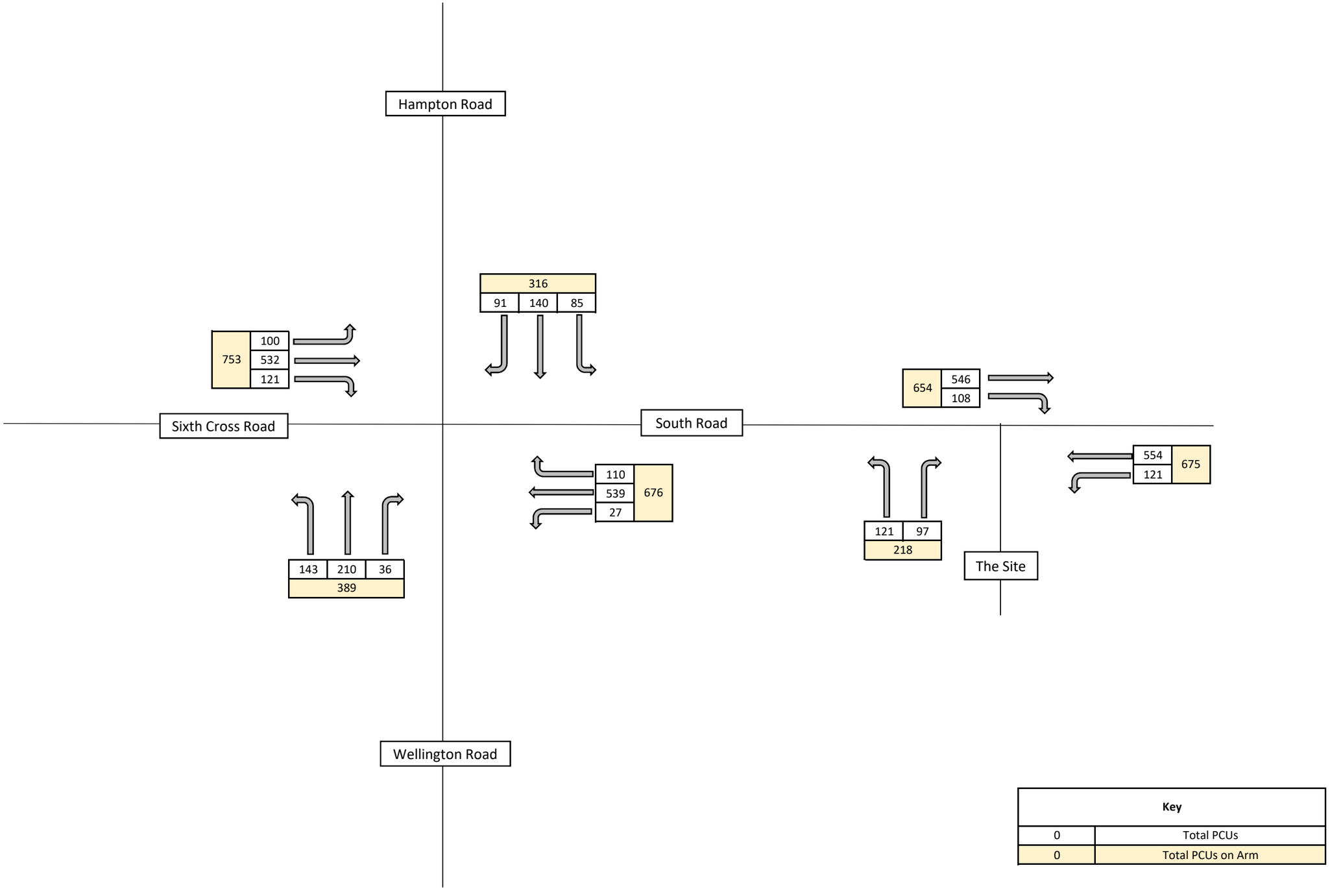
Figure TN 3.7



Former Wickes Unit, South Road, Fulwell

Saturday Peak Hour (11:00 - 12:00) - 2024 with Existing Site Traffic Flows

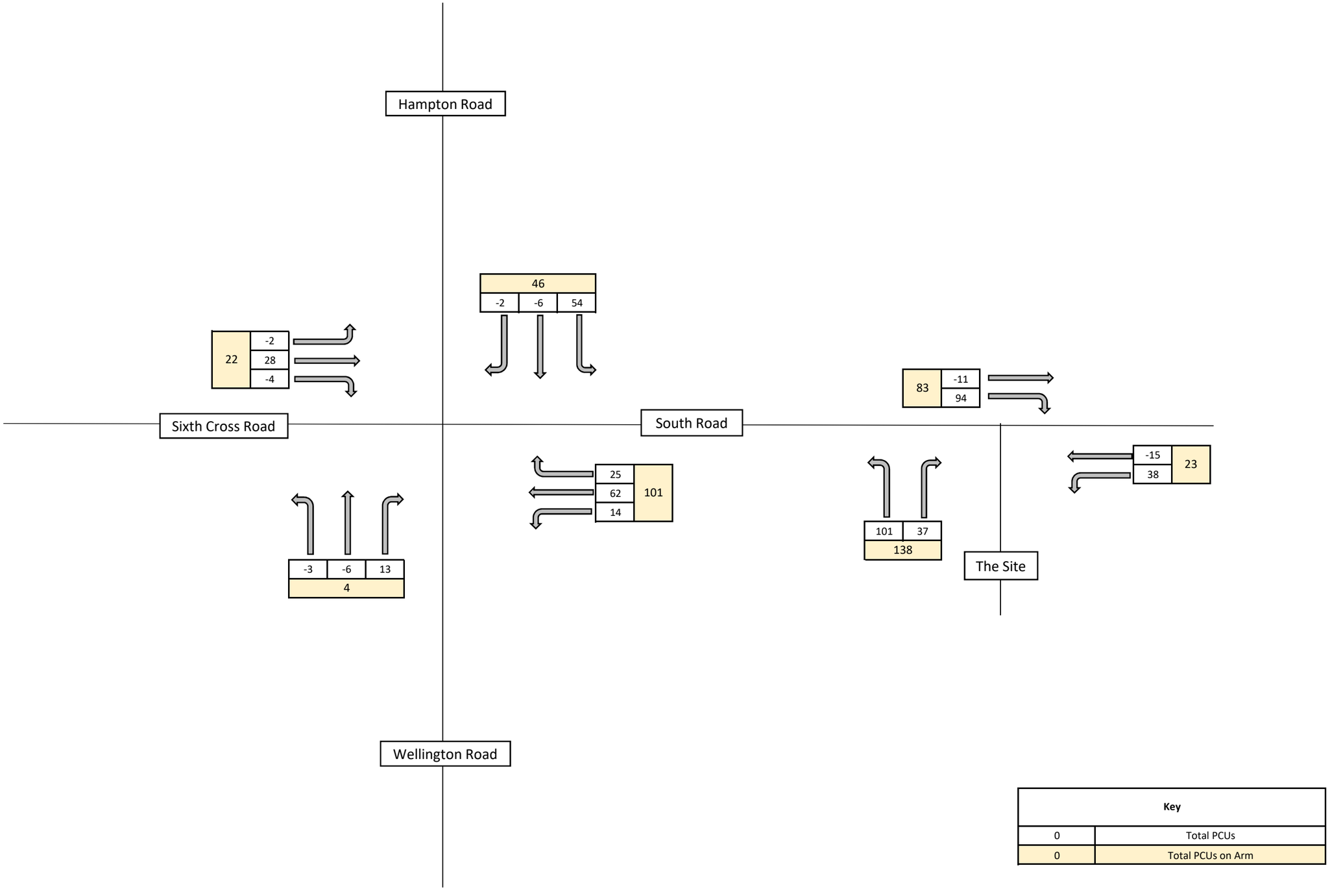
Figure TN 3.8



Former Wickes Unit, South Road, Fulwell

Friday Evening Peak Hour (16:00 - 17:00) - Proposed Lidl Traffic Flows

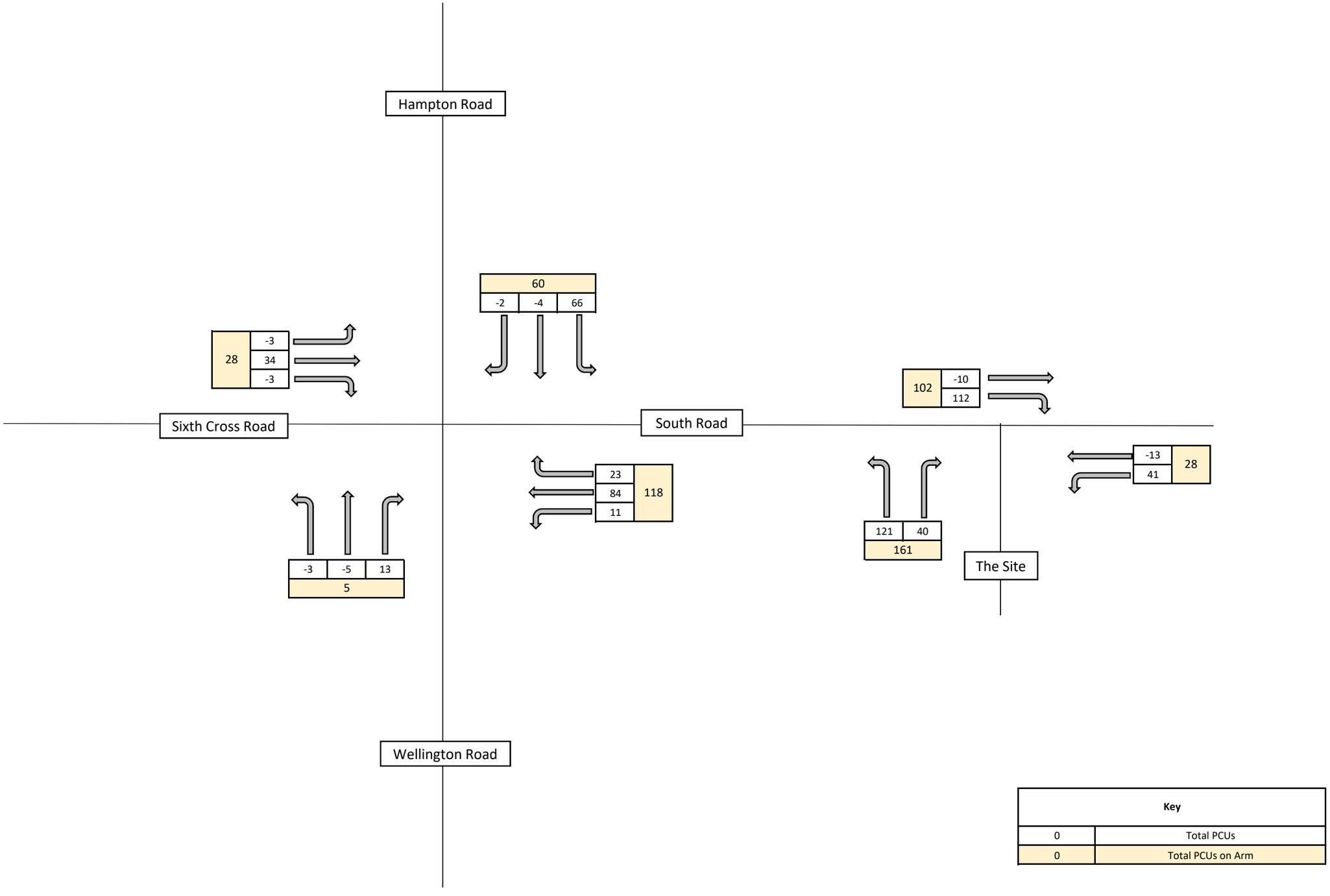
Figure TN 3.9



Former Wickes Unit, South Road, Fulwell

Saturday Peak Hour (11:00 - 12:00) - Proposed Lidl Traffic Flows

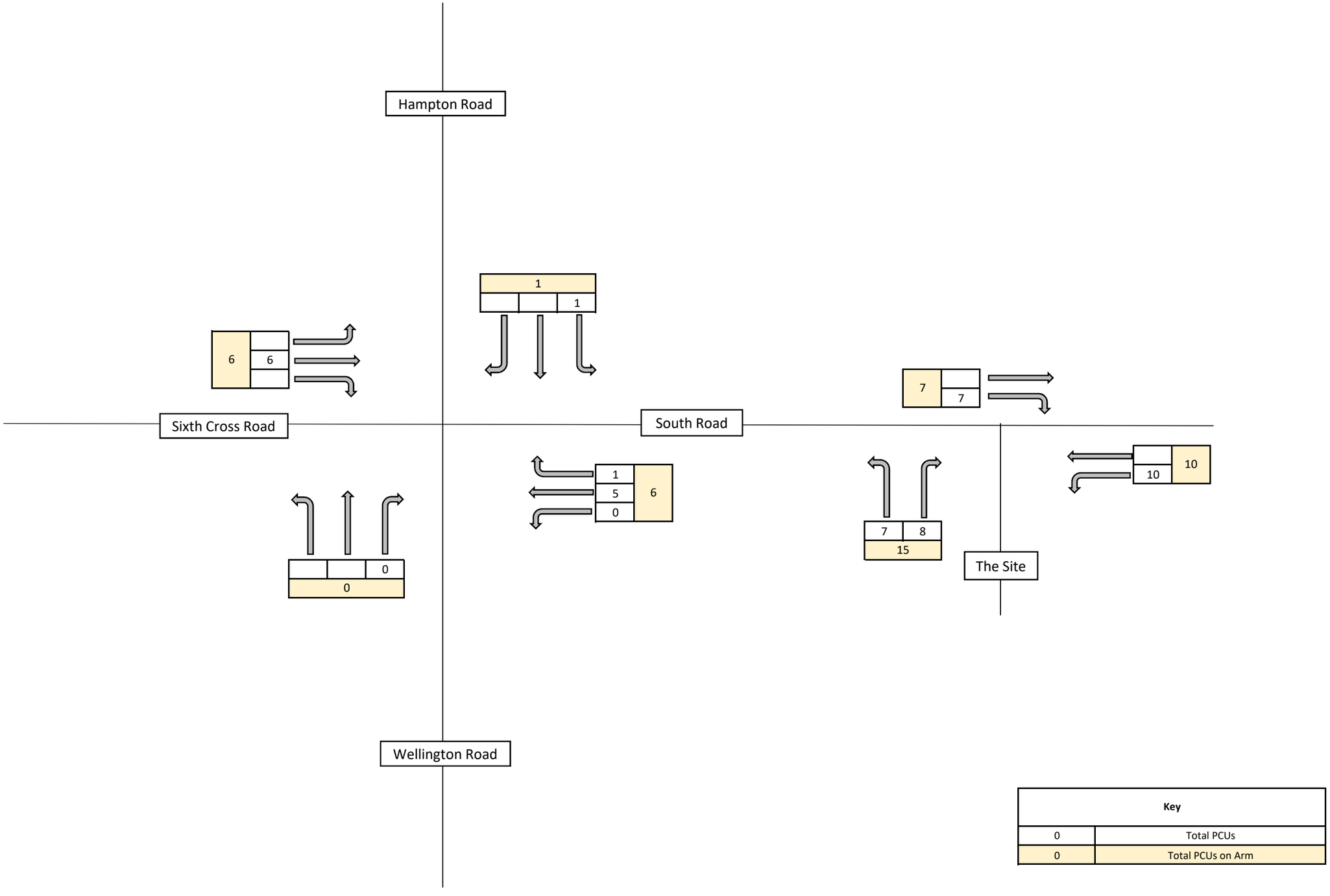
Figure TN 3.10



Former Wickes Unit, South Road, Fulwell

Friday Evening Peak Hour (16:00 - 17:00) - Proposed Non-food Retail Unit Traffic Flows

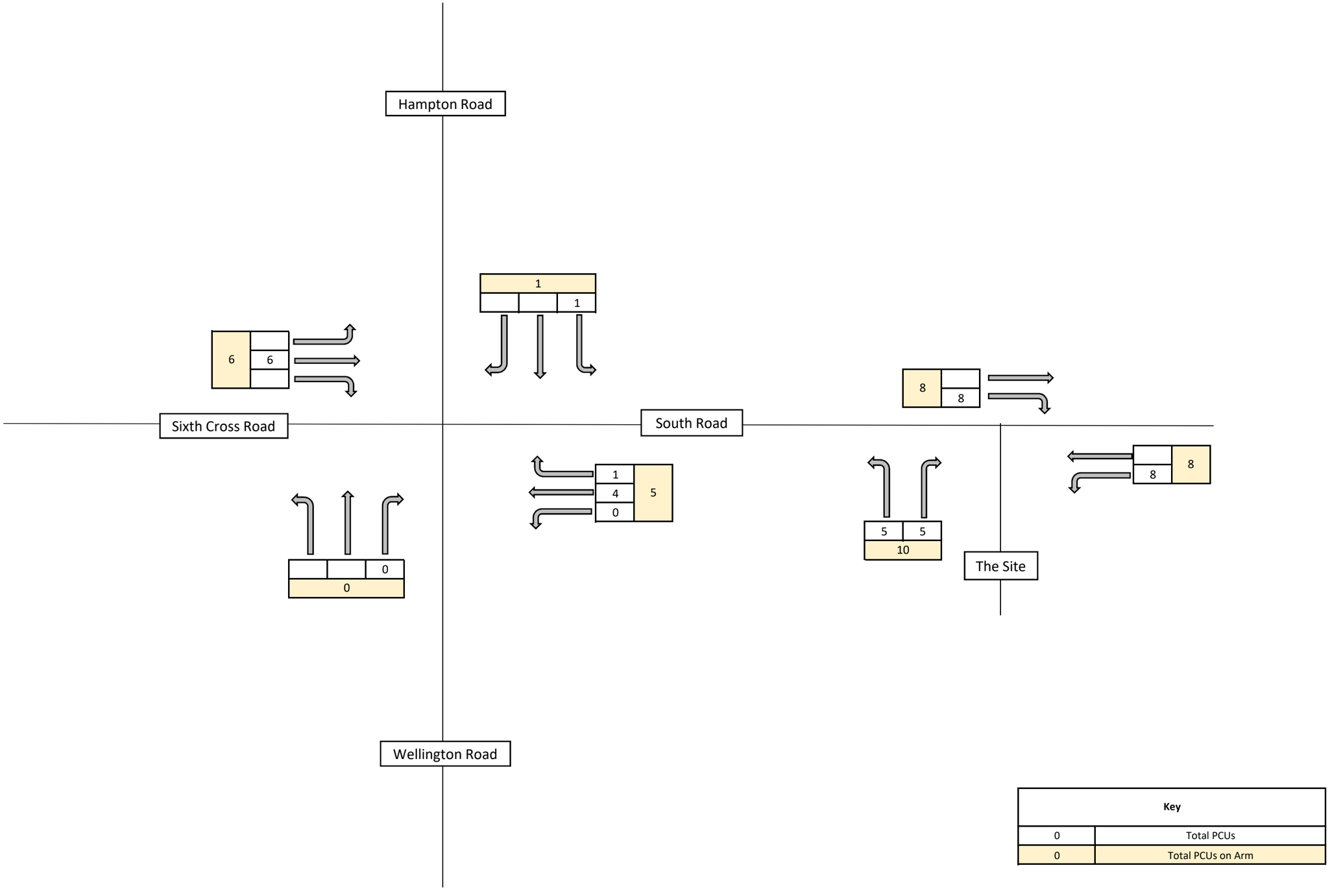
Figure TN 3.11



Former Wickes Unit, South Road, Fulwell

Saturday Peak Hour (11:00 - 12:00) - Proposed Non-food Retail Unit Traffic Flows

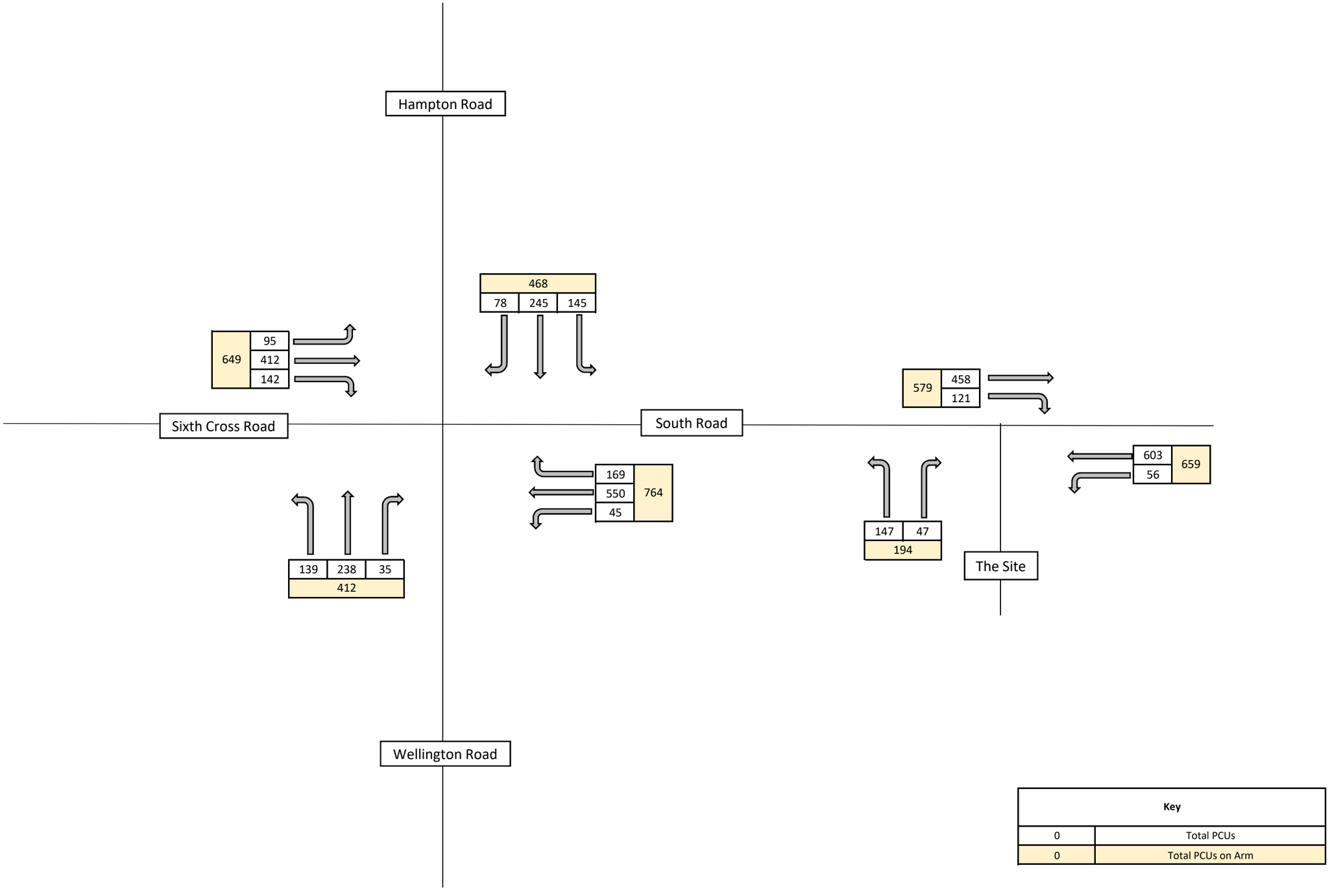
Figure TN 3.12



Former Wickes Unit, South Road, Fulwell

Friday Evening Peak Hour (16:00 - 17:00) - 2024 with Proposed Development Traffic

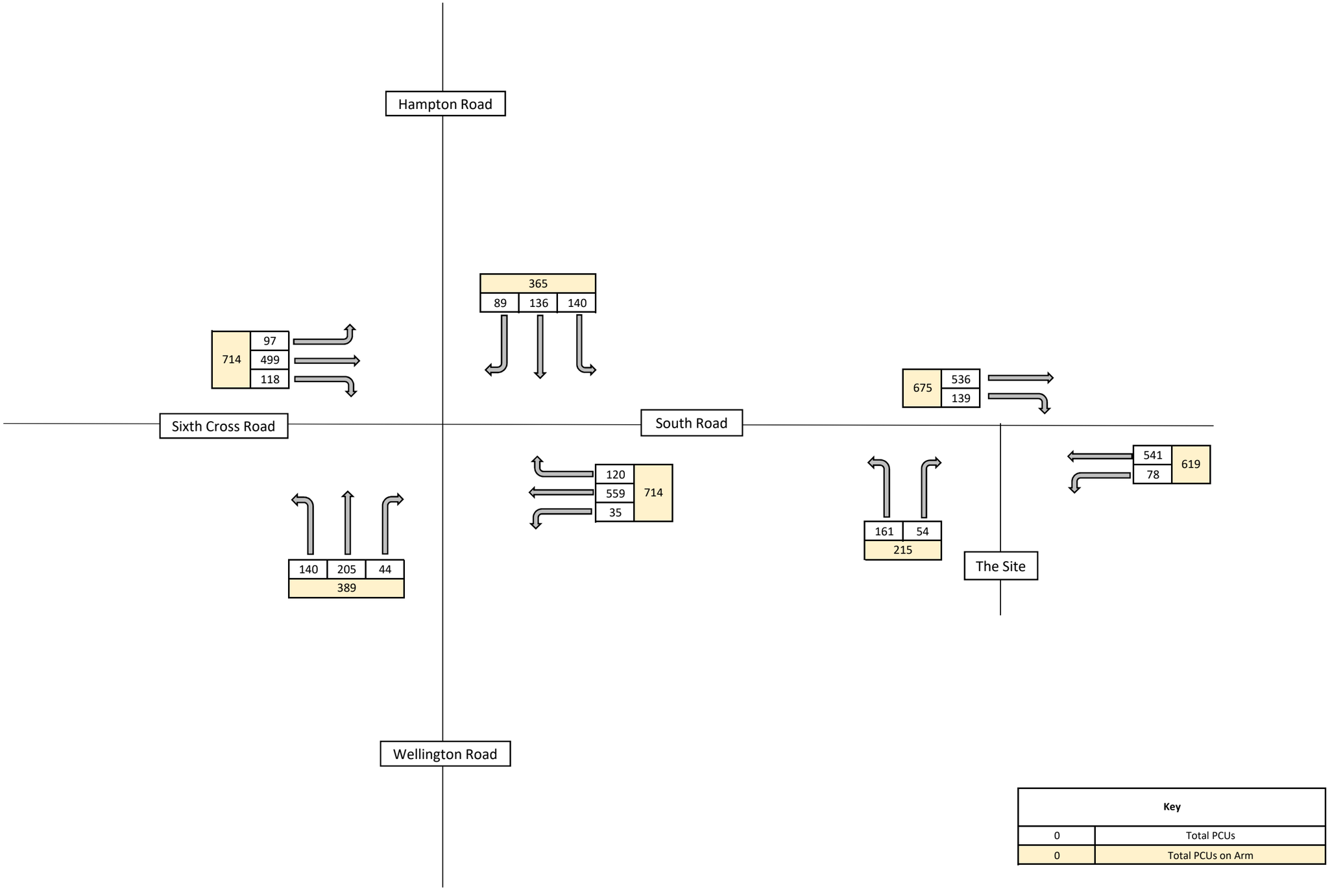
Figure TN 3.13



Former Wickes Unit, South Road, Fulwell

Saturday Peak Hour (11:00 - 12:00) - 2024 Baseline with Proposed Development Traffic

Figure TN 3.14



Appendix A

February 2019 London Borough of Richmond upon Thames Comments

50 South Road Amendment Request 28/02/2019

Transport and Highways:

- The development will lead to an additional 101 two-way bus trips during the afternoon weekday peak hour and 125 two-way trips between 12.00 and 13.00 on Saturdays. The applicant will need to liaise with Transport for London to find out whether a financial contribution towards improvements to local bus service frequencies is required. This will be secured in an agreement under S106 of the Town and Country Planning Act 1990.

- Whilst the number of cycle parking spaces that you have provided would accord with the London Plan's minimum cycle parking requirements, we are concerned with the siting of the cycle parking storage areas to the south eastern side of the site. These should be repositioned so that they would sit closer to the retail buildings. The London Plan notes that short stay cycle parking spaces should be situated within 15 metres of the main site entrance. In retaining the recycling bank, I imagine that you have already thought about repositioning these cycle stores.

- The applicant needs to list one of the objectives of the travel plan as the reduction of single occupancy car journeys to and from the development site by employees.

  The applicant has set a target of an increase of the number of employees who travel to and from the site by sustainable modes by 10% within five years of the opening year of the development. They list one of the measures with which they will achieve this as providing high quality cycle parking. This needs to be sheltered and secure. The applicant needs to provide details of the how this will be achieved before the commencement of development. This can be secured through a planning condition. A travel plan monitoring fee will also need to be secured through the above-mentioned S106 agreement.

- To allow for the change of use and adaptations to the site to accommodate the additional parking and servicing areas, demolition and construction work will take place. Prior to the commencement of development, the applicant must submit and get approved by the Planning Authority a Construction Management Plan which includes the following:

  - The phasing of construction of the development
  - What vehicles will be used to deliver construction materials to the site and to dispose of materials resulting from any demolition works
  - How many vehicular trips the construction of the site will generate per working day
  - The route construction vehicles will take to get to and from the site
  - Details of any pre-commencement highway condition surveys that need to be carried out
  - Details of any traffic management and/or highway licences the applicant might require during the construction and/or demolition process
  - Confirmation that deliveries of materials will take place between the hours of 09.30 and 15.30, Monday – Friday so as not to coincide with the AM and PM weekday peak hour traffic and home-school traffic.

  This is to be secured through a planning condition.

- There are 3m wide footways from the A311 Wellington Road/B358 South Road signalised junction which is 120m north-west of the site. The private access road/B358 South Road junction also has an existing pedestrian refuge. However, there is no marked out footway through the site to the main access of the food retailer. This needs to be secured via a planning condition.

- The application is for a change of use of the existing 2639m^2 GIA from A1 non-food retail (currently occupied by a Tool Station and a Wickes DIY store, to 1596m^2 GIA A1 discount food retail, to be occupied by Lidl, and 1,043m^2 non-food retail land use where the occupier is unknown. The applicant has provided trip generation surveys from existing Lidl sites in London to assess the impact of the discount food retail and has used TRICS analysis to assess the impact of the remaining non-food retail land use. The surveys show that the hours when the site will see the most vehicular trips will be 17.00-18.00 on weekdays with Friday seeing the largest number, and Saturdays between 12.00 and 13.00.

  The applicant's analysis shows that the development will result in a net increase of 239 vehicular trips (125 arrivals and 114 departures) in the PM weekday peak hour and will result in a net reduction of 17 two-way vehicular trips between 12.00 and 13.00 on Saturdays (neutral arrivals and 17 fewer departures). This leads to one additional vehicular trip every 15 seconds on the local road network. In paragraph 5.32 of the transport assessment the applicant states that:

  It must be recognised that the above accounts for total trips by car and will incorporate a significant number of linked car trips with other retail facilities nearby. These trips will not be new to the network. Indeed, the proposals have the potential to transfer a large number of trips from nearby food stores. In addition, there will be diverted trips from the A311 Wellington Road that are not new to the network, as well as pass-by trips from South Road. As such whilst there will be more activity within the site, the wider road network, including Wellington Road will see a negligible change in trips.

  The applicant has not provided any trip distribution analysis to support this conclusion and does not give any examples of which existing supermarkets of comparable size that existing road users who are already on the road network during the PM weekday peak will be diverted from. This needs to be provided.

  Transport planning advice from Transport for London's Website, states that:

  Pass-by, diverted, or linked trips
  •As a starting point for assessment, TAs should assume person trips will be new to the transport network.
  •Where a TA assumes pass-by, diverted or linked trips, the TA must provide justification for specific assumptions with a transparent approach, so TfL can check assumptions at each point on the network.

  Because of the change of use of 75% of the GIA of the floorspace of the site to A1 food retail, and because the development will create more than 30 two-way vehicular trips in the PM weekday peak hour (see page 42 of the *Government Guidance on Transport Assessment* (2007)), we would expect the applicant to conduct baseline turning counts at the private access road/B358 South Road junction and on all arms of the B358 South Road/A311 Wellington Road signalised junction, and would expect the applicant to estimate the impact of the proposed

development on the junctions in the final assessment year of the development. Normally, a vehicular traffic impact would be considered material, and PICARDY and Linsig analysis needed, and mitigation measures may be required if:

- The development generates more than 30 vehicular trips in the AM and/or PM peak
- There is an increase of 2.5% or more on the total baseline junction flow in the final assessment year of the development in the AM and/or PM peak.
- There is an increase of 10% or more on the baseline flow of any arm of a junction that is assessed in the final assessment year of the development in the AM and/or PM peak.

The applicant is also advised to use TEMPRO to estimate background traffic growth between the baseline and final assessment years of the development.

- Whilst we have previously emphasised how many car parking spaces we require the proposal to provide, following feedback from the Council's Transport Officer, this has been slightly adjusted:

  The applicant proposes to provide a total of 142 vehicular parking spaces consisting of 97 standard spaces, 9 disabled parking spaces, 8 parent and child spaces, and 28 spaces with electric vehicle charging points (14 active, 14 passive). The London plan states that 1 vehicular parking space should be provided for every 20-30 square metres of gross internal area usable floorspace for A1 food retail in areas with PTAL scores of 2-4 and 1 spaces per 30-50 square metres of GIA internal area floorspace for non-food retail. Were these standards set, the applicant would need to provide 54-80 spaces for the food retail and 21-35 spaces for non-food retail, equating to a total of 75 – 115 car parking spaces.

  These parking standards are set at a maximum, and the London plan requires 10% of these spaces to be disabled parking spaces, 10% to be for electric vehicles with active charging points, and an additional 10% to be EVCP passive.

  I acknowledge your email dated 26/02/2019 providing justification on why 142 parking spaces would be required, however we are not prepared to accept any more than 115 car parking spaces are per the Transport Officer's feedback. This figure is appropriately derived from the London Plan's standards, furthermore the Council may often require a greater or lesser number of car parking spaces depending on site circumstances, and the nature of the developments being proposed. The Council are not prepared to negotiate on this issue, and will not be able to support the proposed development with an overprovision of parking.

Trees and Landscaping:

- Trees on the northern and western verges of the site are protected by TPO 1016 of 2019, made in response to tree removal on site. This was served on the agent and landowner on the 13th February 2019. The proposal intends to remove trees from within the existing car park to facilitate new parking bays. The existing car park trees are small groups of birch trees likely planted as part of the planning permission for Wickes. The existing car park is fairly sparse of vegetation and trees and the proposal offers no aesthetic or environmental improvement on this. In order to consider approval, we would need you to provide:
  - A BS5837:2012 tree survey and implications assessment for TPO boundary trees and those in the car park.

- An improved landscape plan that shows no net loss of trees for the car park and provision of sustainable rooting systems for trees to grow and thrive within a hard surface.

- In reducing the provision of car parking spaces, we expect you to make enhancements to the level of soft landscaping provided as part of the development. Please could make amendments to the layout of the site to maximise the provision of soft landscaping we would particular like to see soft landscaping improved to the northern boundary of the site, and would expect the parking spaces in this area to be removed.

Other Matters:

- When we spoke on the phone you indicated that you were proposing the installation of a new sub-station to the south eastern side of the site, could you please ensure that this is clearly labelled on the proposed site plan drawing. I assume that you have considered enclosing this as per relevant safety regulations? Please note that the proposed sub-station must not impair access to the recycling banks.

- In your email earlier today 28/02/2019 you indicated that 'the VW dealership has an arrangement with Wickes to park in the area near the recycle bank and bins. This arrangement will be revoked when Lidl gain access to the site. Therefore, the parking of vehicles near the recycle bank and bins will not be an issue.' Can you please ensure that this is indicated in the relevant submission documents.

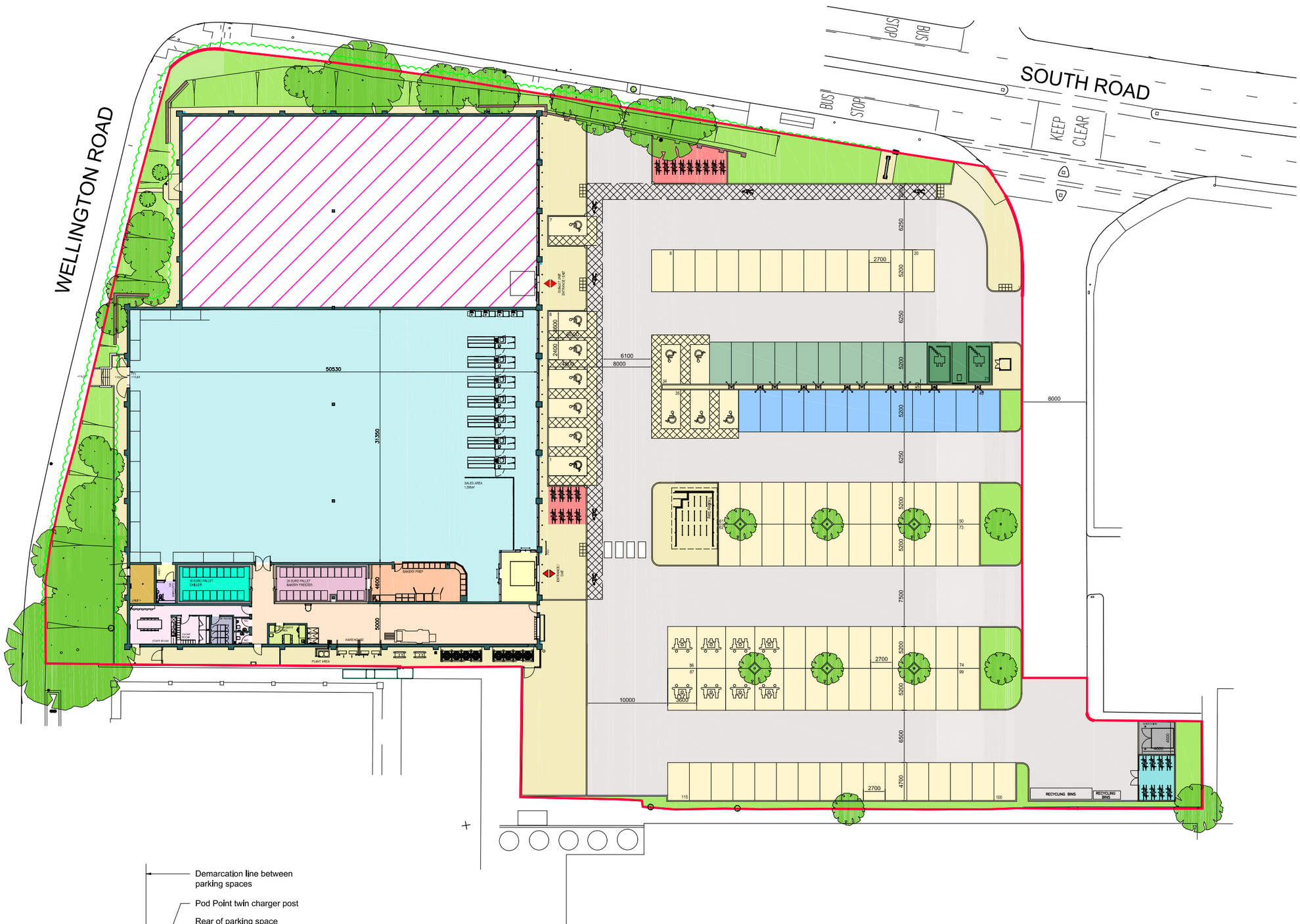
- The Council are not prepared to engage in discussions regarding the S106 agreement until we are firmly satisfied with the proposal.

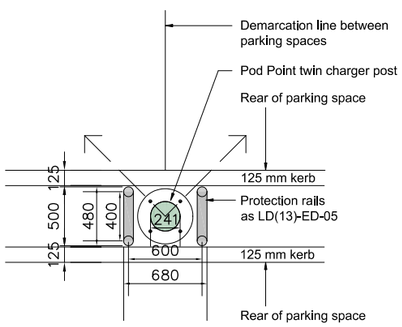
- Please ensure that any documents submitted as part of application 18/4072/VRC are up to date following the actioning of the above amendments.

Please note that the Council are not yet able to conclusively confirm if we will be recommending the application for approval. This will depend on the above amendments being carried out to the Council's satisfaction.

Appendix B

Architect's Site Layout Plan





EVCP DETAIL 1:50

AREA SCHEDULE

	Site area	0.9406	ha
	Sales area	1,596	sq m
	WAREHOUSE		
	Warehouse	182	
	Bakery warehouse	46	
	Additional chillers	37	
	Total Warehouse	265	
	ANCILLARY AREA		
	Bakery prep	57	
	Manager's offlce / cash office	11	
	Welfare	60	
	IT room	9	
	Customer wc	7	
	Utility	14	
	Circulation	32	
	Internal partitions	45	
	Total Ancillary	235	
	Total Lidl GIA	2,096	sq m
	Lidl GEA	2,152	sq m
	Sublet unit GIA	1,043	sq m
	Sublet unit GEA	1,081	sq m
	TOTAL GIA	3,139	sq m
	TOTAL GEA	3,233	sq m

PARKING

Standard		71	
Disabled		12	
Parent & child		8	
EVC rapid charging point		2	
EVC active		10	
EVC passive		12	
TOTAL		115	spaces
Short stay cycle parking		34	
Long stay cycle parking		16	

0 10 40m

WORKING WITH

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5 OBSERVATION COURT 84 PRINCES STREET IPSWICH SUFFOLK IP1 1RY

Project	Date	Scale	
LIDL, SOUTH ROAD, TWICKENHAM	JUL 2018	1:500 @ A3	
Drawing: SITE PLAN AS PROPOSED	3900	101	Y

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Appendix C

Linsig Output

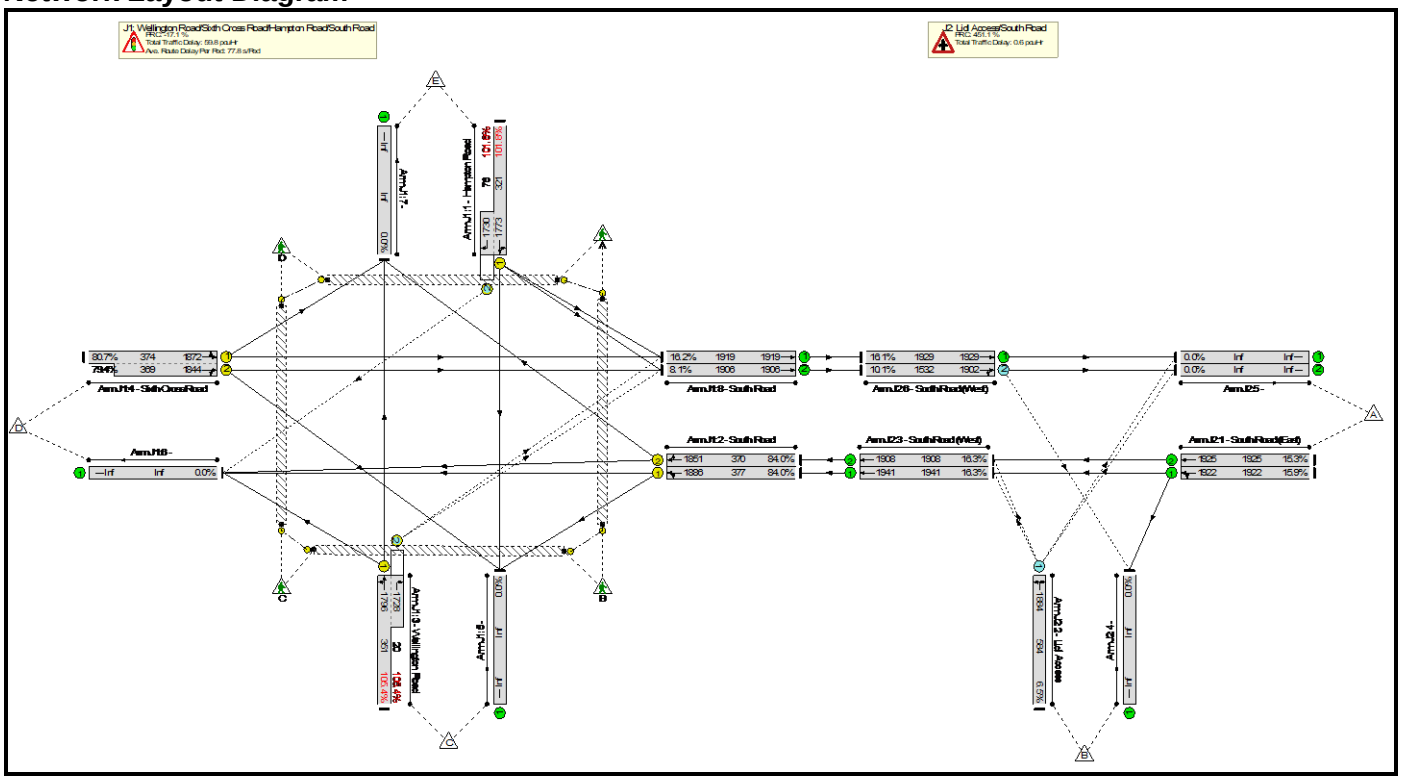
Proposed Lidl Fulwell Network Modelling

User and Project Details

Project:	**Proposed Lidl Foodstore, South Road, Fulwell**
Title:	**Wellington Road/Sixth Cross Road/Hampton Road/South Road Signalised Junction Arrangement**
Location:	
Additional detail:	
File name:	M01 - South Road LinSig 2019-03-25.lsg3x
Author:	
Company:	
Address:	

Scenario 1: '2019 Observed - Friday PM Peak' (FG1: '2019 Observed - Friday PM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Proposed Lidl Fulwell Network Modelling

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Wellington Road/Sixth Cross Road/Hampton Road/South Road Signalised Junction Arrangement	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**105.4%**	**57**	**0**	**88**	**60.4**	**-**	**-**
J1: Wellington Road/Sixth Cross Road/Hampton Road/South Road	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**105.4%**	**0**	**0**	**88**	**59.8**	**-**	**-**
1/1+1/2	Hampton Road Ahead Right Left	U+O	C		1	20	-	404	1773:1730	321+76	101.8 : 101.8%	0	0	69	17.6	156.7	22.7
2/1	South Road Left Ahead	U	B		1	20	-	317	1886	377	84.0%	-	-	-	6.0	68.1	11.2
2/2	South Road Ahead Right	U	B		1	20	-	311	1851	370	84.0%	-	-	-	5.9	68.5	11.1
3/1+3/2	Wellington Road Left Ahead Right	U+O	D		1	20	-	391	1796:1728	351+20	105.4 : 105.4%	0	0	20	21.6	198.7	27.7
4/1+4/2	Sixth Cross Road Right Left Ahead	U	A		1	20	-	595	1872:1844	374+369	80.7 : 79.4%	-	-	-	8.6	51.8	10.3
8/1	South Road Ahead	U	-		-	-	-	314	1919	1919	16.2%	-	-	-	0.1	1.1	0.1
8/2	South Road Ahead	U	-		-	-	-	155	1906	1906	8.1%	-	-	-	0.0	1.0	0.0
Ped Link: P1	South Road Peds	-	E		1	6	-	6	-	4114	0.1%	-	-	-	0.1	61.8	0.2
Ped Link: P2	Wellington Road Peds	-	E		1	6	-	4	-	4114	0.1%	-	-	-	0.1	58.4	0.1
Ped Link: P3	Sixth Cross Road Peds	-	E		1	6	-	2	-	4114	0.0%	-	-	-	0.0	48.0	0.1
Ped Link: P4	Hampton Road Peds	-	E		1	6	-	4	-	4114	0.1%	-	-	-	0.1	58.2	0.1

Proposed Lidl Fulwell Network Modelling

J2: Lidl Access/South Road	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**16.3%**	**57**	**0**	**0**	**0.6**	**-**	**-**
1/1	South Road (East) Ahead Left	U	-		-	-	-	306	1922	1922	15.9%	-	-	-	0.1	1.1	0.1
1/2	South Road (East) Ahead	U	-		-	-	-	294	1925	1925	15.3%	-	-	-	0.1	1.1	0.1
2/1	Lidl Access Left Right	O	-		-	-	-	38	1884	584	6.5%	38	0	0	0.0	3.3	0.0
3/1	South Road (West) Ahead	U	-		-	-	-	317	1941	1941	16.3%	-	-	-	0.1	1.1	0.1
3/2	South Road (West) Ahead	U	-		-	-	-	311	1908	1908	16.3%	-	-	-	0.1	1.1	0.1
6/1	South Road (West) Ahead	U	-		-	-	-	314	1929	1929	16.1%	-	-	-	0.1	1.1	0.1
6/2	South Road (West) Right Ahead	O	-		-	-	-	155	1902	1532	10.1%	19	0	0	0.1	1.3	0.1

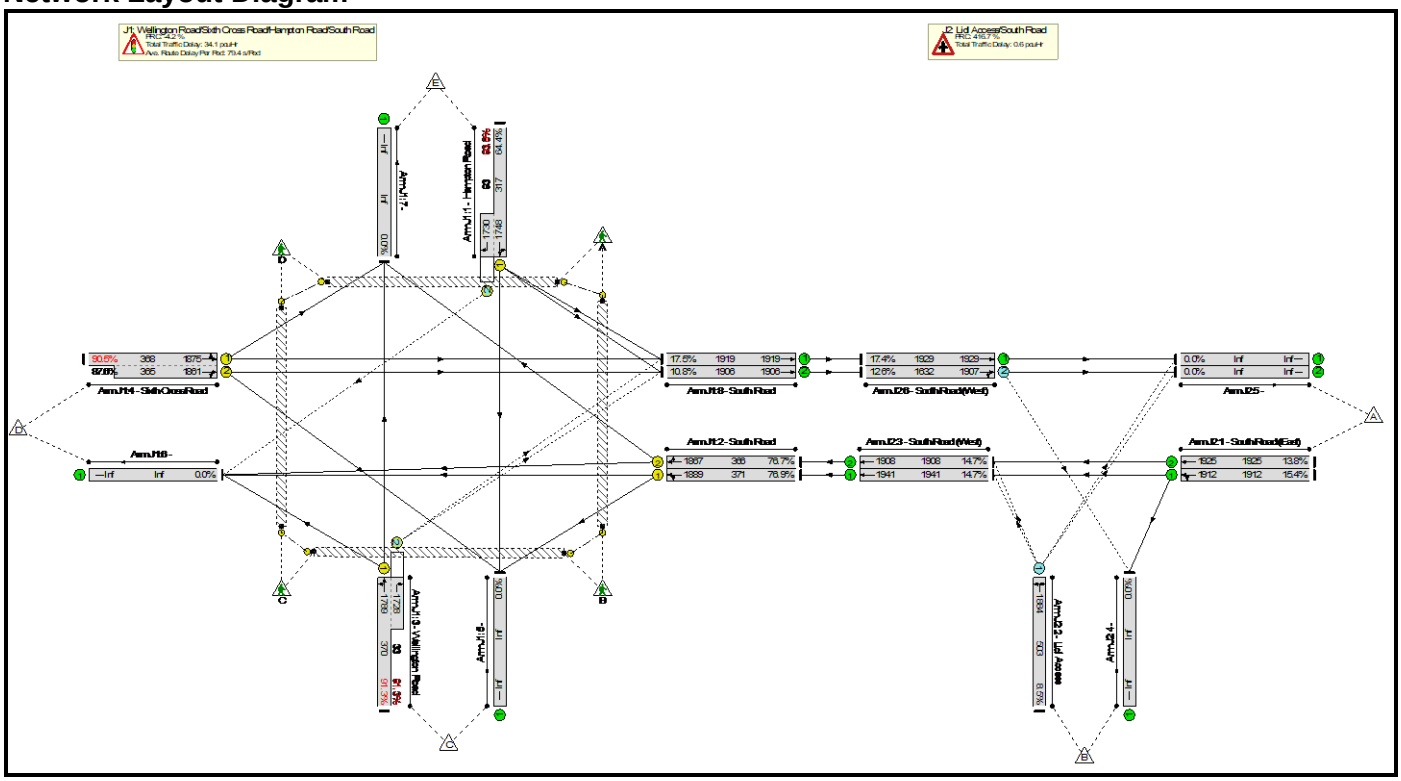
C1 PRC for Signalled Lanes (%): -17.1 Total Delay for Signalled Lanes (pcuHr): 59.65 Cycle Time (s): 105

PRC Over All Lanes (%): -17.1 Total Delay Over All Lanes(pcuHr): 60.35

Proposed Lidl Fulwell Network Modelling

Scenario 2: '2019 Observed - Saturday Peak' (FG2: '2019 Observed - Saturday Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Proposed Lidl Fulwell Network Modelling

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Wellington Road/Sixth Cross Road/Hampton Road/South Road Signalised Junction Arrangement	-	-	-		-	-	-	-	-	-	**93.8%**	**116**	**0**	**62**	**34.7**	-	-
J1: Wellington Road/Sixth Cross Road/Hampton Road/South Road	-	-	-		-	-	-	-	-	-	**93.8%**	**55**	**0**	**62**	**34.1**	-	-
1/1+1/2	Hampton Road Ahead Right Left	U+O	C		1	22	-	291	1748:1730	317+93	64.4 : 93.8%	25	0	62	4.6	57.1	6.8
2/1	South Road Left Ahead	U	B		1	20	-	285	1889	371	76.9%	-	-	-	4.8	60.9	9.6
2/2	South Road Ahead Right	U	B		1	20	-	281	1867	366	76.7%	-	-	-	4.8	61.0	9.5
3/1+3/2	Wellington Road Left Ahead Right	U+O	D		1	22	-	368	1789:1728	370+33	91.3 : 91.3%	30	0	0	8.4	82.3	14.3
4/1+4/2	Sixth Cross Road Right Left Ahead	U	A		1	20	-	653	1875:1861	368+365	90.5 : 87.6%	-	-	-	11.3	62.4	13.3
8/1	South Road Ahead	U	-		-	-	-	336	1919	1919	17.5%	-	-	-	0.1	1.1	0.1
8/2	South Road Ahead	U	-		-	-	-	205	1906	1906	10.8%	-	-	-	0.1	1.1	0.1
Ped Link: P1	South Road Peds	-	E		1	6	-	6	-	4037	0.1%	-	-	-	0.1	63.1	0.2
Ped Link: P2	Wellington Road Peds	-	E		1	6	-	4	-	4037	0.1%	-	-	-	0.1	59.7	0.1
Ped Link: P3	Sixth Cross Road Peds	-	E		1	6	-	2	-	4037	0.0%	-	-	-	0.0	49.0	0.1
Ped Link: P4	Hampton Road Peds	-	E		1	6	-	4	-	4037	0.1%	-	-	-	0.1	59.5	0.1

J2: Lidl Access/South Road	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**17.4%**	**61**	**0**	**0**	**0.6**	**-**	**-**
1/1	South Road (East) Ahead Left	U	-		-	-	-	295	1912	1912	15.4%	-	-	-	0.1	1.1	0.1
1/2	South Road (East) Ahead	U	-		-	-	-	265	1925	1925	13.8%	-	-	-	0.1	1.1	0.1
2/1	Lidl Access Left Right	O	-		-	-	-	43	1884	503	8.5%	43	0	0	0.0	4.0	0.2
3/1	South Road (West) Ahead	U	-		-	-	-	285	1941	1941	14.7%	-	-	-	0.1	1.1	0.1
3/2	South Road (West) Ahead	U	-		-	-	-	281	1908	1908	14.7%	-	-	-	0.1	1.1	0.1
6/1	South Road (West) Ahead	U	-		-	-	-	336	1929	1929	17.4%	-	-	-	0.1	1.1	0.1
6/2	South Road (West) Right Ahead	O	-		-	-	-	205	1907	1632	12.6%	18	0	0	0.1	1.3	0.1

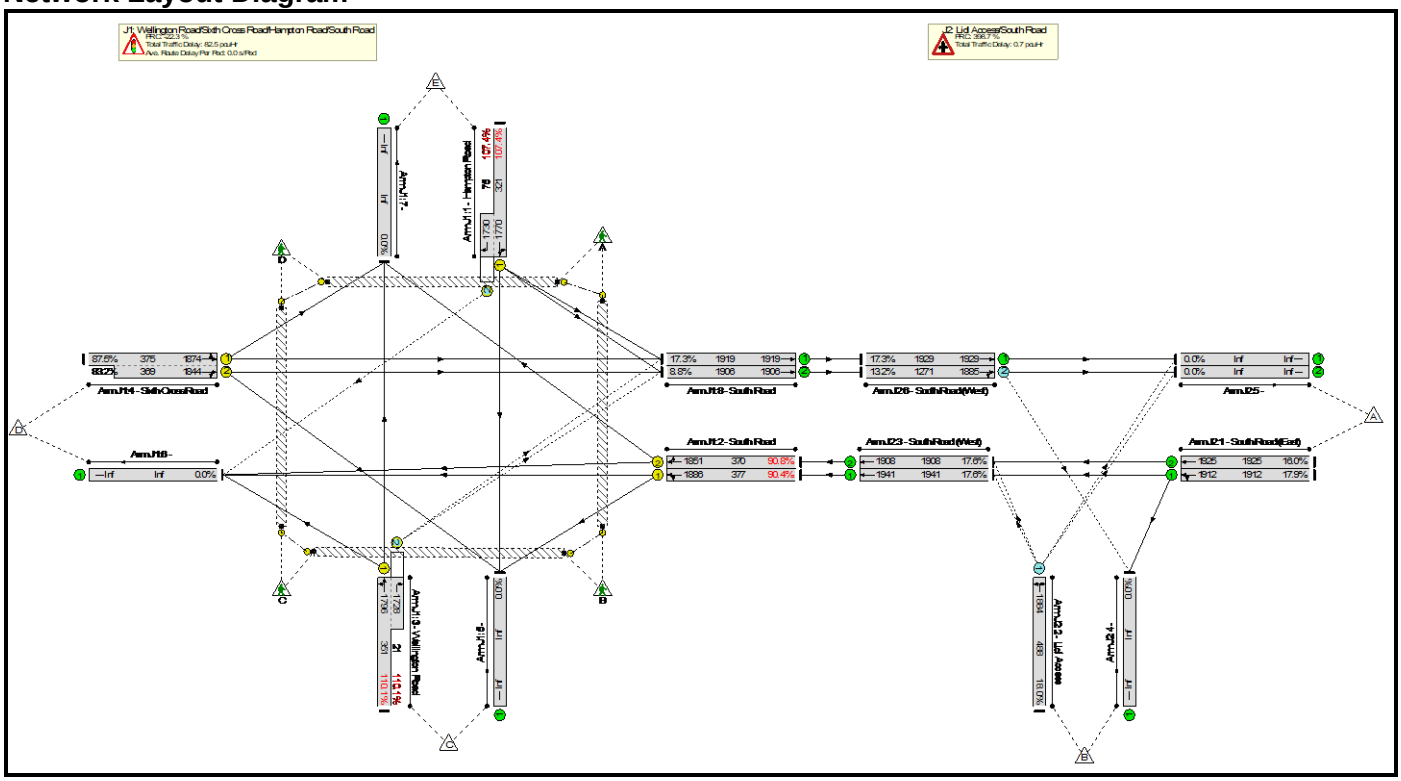
C1 PRC for Signalled Lanes (%): -4.2 Total Delay for Signalled Lanes (pcuHr): 33.93 Cycle Time (s): 107

PRC Over All Lanes (%): -4.2 Total Delay Over All Lanes(pcuHr): 34.67

Proposed Lidl Fulwell Network Modelling

Scenario 3: '2024 with Existing - Friday PM Peak' (FG3: '2024 with Existing - Friday PM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Proposed Lidl Fulwell Network Modelling

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Wellington Road/Sixth Cross Road/Hampton Road/South Road Signalised Junction Arrangement	-	-	-		-	-	-	-	-	-	**110.1%**	**127**	**0**	**89**	**83.2**	-	-
J1: Wellington Road/Sixth Cross Road/Hampton Road/South Road	-	-	-		-	-	-	-	-	-	**110.1%**	**0**	**0**	**89**	**82.5**	-	-
1/1+1/2	Hampton Road Ahead Right Left	U+O	C		1	20	-	425	1770:1730	321+75	107.4 : 107.4%	0	0	69	26.9	228.2	32.3
2/1	South Road Left Ahead	U	B		1	20	-	341	1886	377	90.4%	-	-	-	7.8	82.0	13.5
2/2	South Road Ahead Right	U	B		1	20	-	336	1851	370	90.8%	-	-	-	7.8	83.7	13.5
3/1+3/2	Wellington Road Left Ahead Right	U+O	D		1	20	-	409	1796:1728	351+21	110.1 : 110.1%	0	0	21	29.9	263.1	36.2
4/1+4/2	Sixth Cross Road Right Left Ahead	U	A		1	20	-	635	1874:1844	375+369	87.5 : 83.2%	-	-	-	9.9	56.3	12.0
8/1	South Road Ahead	U	-		-	-	-	341	1919	1919	17.3%	-	-	-	0.1	1.1	0.1
8/2	South Road Ahead	U	-		-	-	-	168	1906	1906	8.8%	-	-	-	0.0	1.0	0.0
Ped Link: P1	South Road Peds	-	E		1	6	-	0	-	4114	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P2	Wellington Road Peds	-	E		1	6	-	0	-	4114	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P3	Sixth Cross Road Peds	-	E		1	6	-	0	-	4114	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P4	Hampton Road Peds	-	E		1	6	-	0	-	4114	0.0%	-	-	-	0.0	0.0	0.0

Proposed Lidl Fulwell Network Modelling

J2: Lidl Access/South Road	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**18.0%**	**127**	**0**	**0**	**0.7**	**-**	**-**
1/1	South Road (East) Ahead Left	U	-		-	-	-	342	1912	1912	17.9%	-	-	-	0.1	1.1	0.1
1/2	South Road (East) Ahead	U	-		-	-	-	308	1925	1925	16.0%	-	-	-	0.1	1.1	0.1
2/1	Lidl Access Left Right	O	-		-	-	-	88	1884	488	18.0%	88	0	0	0.1	4.5	0.1
3/1	South Road (West) Ahead	U	-		-	-	-	341	1941	1941	17.6%	-	-	-	0.1	1.1	0.1
3/2	South Road (West) Ahead	U	-		-	-	-	336	1908	1908	17.6%	-	-	-	0.1	1.1	0.1
6/1	South Road (West) Ahead	U	-		-	-	-	341	1929	1929	17.3%	-	-	-	0.1	1.1	0.1
6/2	South Road (West) Right Ahead	O	-		-	-	-	168	1885	1271	13.2%	39	0	0	0.1	1.6	0.1

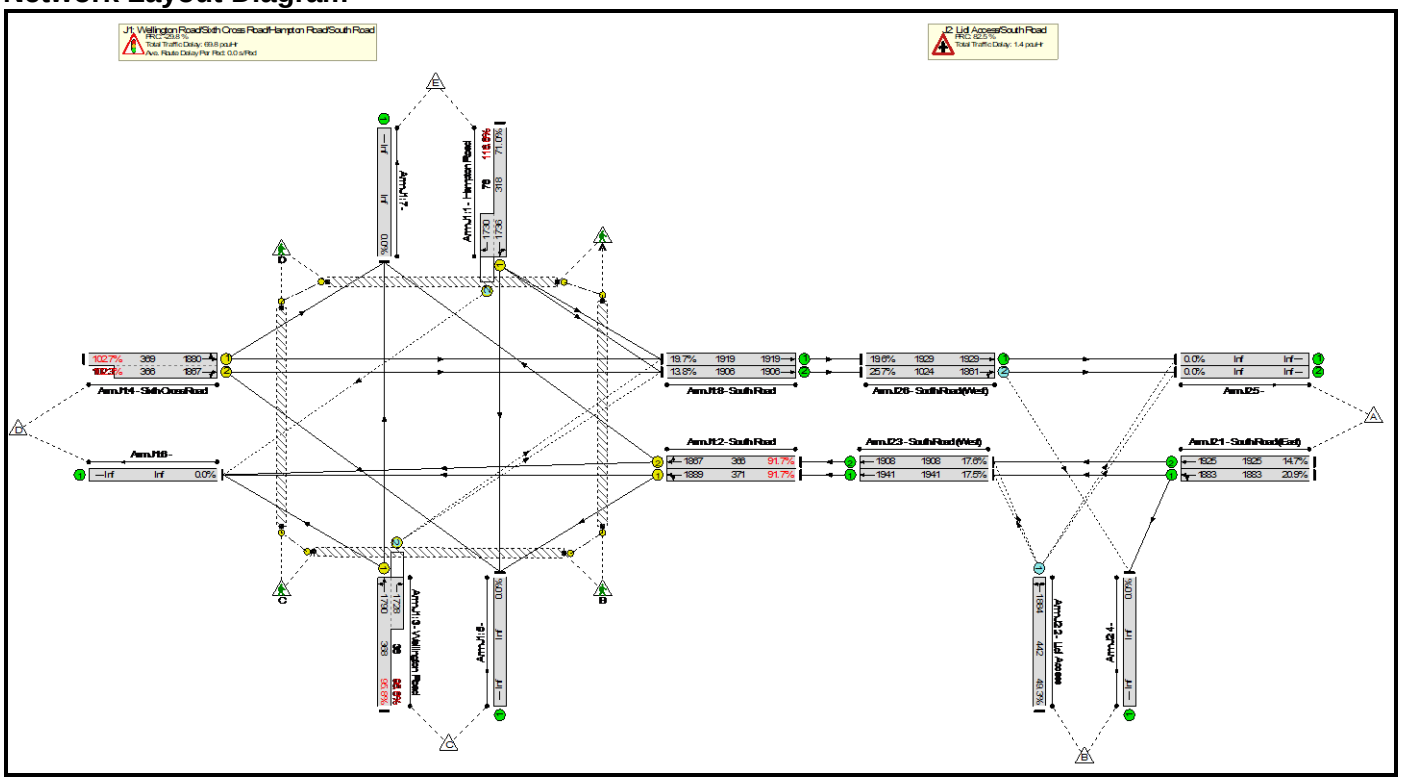
C1 PRC for Signalled Lanes (%): -22.3 Total Delay for Signalled Lanes (pcuHr): 82.35 Cycle Time (s): 105

PRC Over All Lanes (%): -22.3 Total Delay Over All Lanes(pcuHr): 83.21

Proposed Lidl Fulwell Network Modelling

Scenario 4: '2024 with Existing - Saturday Peak' (FG4: '2024 with Existing - Saturday Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Proposed Lidl Fulwell Network Modelling

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Wellington Road/Sixth Cross Road/Hampton Road/South Road Signalised Junction Arrangement	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**116.8%**	**369**	**0**	**68**	**71.2**	**-**	**-**
J1: Wellington Road/Sixth Cross Road/Hampton Road/South Road	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**116.8%**	**45**	**0**	**68**	**69.8**	**-**	**-**
1/1+1/2	Hampton Road Ahead Right Left	U+O	C		1	22	-	317	1736:1730	318+78	71.0 : 116.8%	11	0	67	12.9	146.9	15.0
2/1	South Road Left Ahead	U	B		1	20	-	340	1889	371	91.7%	-	-	-	8.3	87.5	14.1
2/2	South Road Ahead Right	U	B		1	20	-	336	1867	366	91.7%	-	-	-	8.2	87.9	14.0
3/1+3/2	Wellington Road Left Ahead Right	U+O	D		1	22	-	389	1790:1728	368+38	95.8 : 95.8%	35	0	1	11.0	101.9	17.2
4/1+4/2	Sixth Cross Road Right Left Ahead	U	A		1	20	-	754	1880:1867	369+366	102.7 : 102.3%	-	-	-	29.2	139.2	30.7
8/1	South Road Ahead	U	-		-	-	-	386	1919	1919	19.7%	-	-	-	0.1	1.2	0.1
8/2	South Road Ahead	U	-		-	-	-	269	1906	1906	13.8%	-	-	-	0.1	1.1	0.1
Ped Link: P1	South Road Peds	-	E		1	6	-	0	-	4037	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P2	Wellington Road Peds	-	E		1	6	-	0	-	4037	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P3	Sixth Cross Road Peds	-	E		1	6	-	0	-	4037	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P4	Hampton Road Peds	-	E		1	6	-	0	-	4037	0.0%	-	-	-	0.0	0.0	0.0

Proposed Lidl Fulwell Network Modelling

J2: Lidl Access/South Road	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**49.3%**	**324**	**0**	**0**	**1.4**	**-**	**-**
1/1	South Road (East) Ahead Left	U	-		-	-	-	393	1883	1883	20.9%	-	-	-	0.1	1.2	0.1
1/2	South Road (East) Ahead	U	-		-	-	-	283	1925	1925	14.7%	-	-	-	0.1	1.1	0.1
2/1	Lidl Access Left Right	O	-		-	-	-	218	1884	442	49.3%	218	0	0	0.6	10.1	2.3
3/1	South Road (West) Ahead	U	-		-	-	-	340	1941	1941	17.5%	-	-	-	0.1	1.1	0.1
3/2	South Road (West) Ahead	U	-		-	-	-	336	1908	1908	17.6%	-	-	-	0.1	1.1	0.1
6/1	South Road (West) Ahead	U	-		-	-	-	386	1929	1929	19.6%	-	-	-	0.1	1.2	0.1
6/2	South Road (West) Right Ahead	O	-		-	-	-	269	1861	1024	25.7%	106	0	0	0.3	3.8	7.1

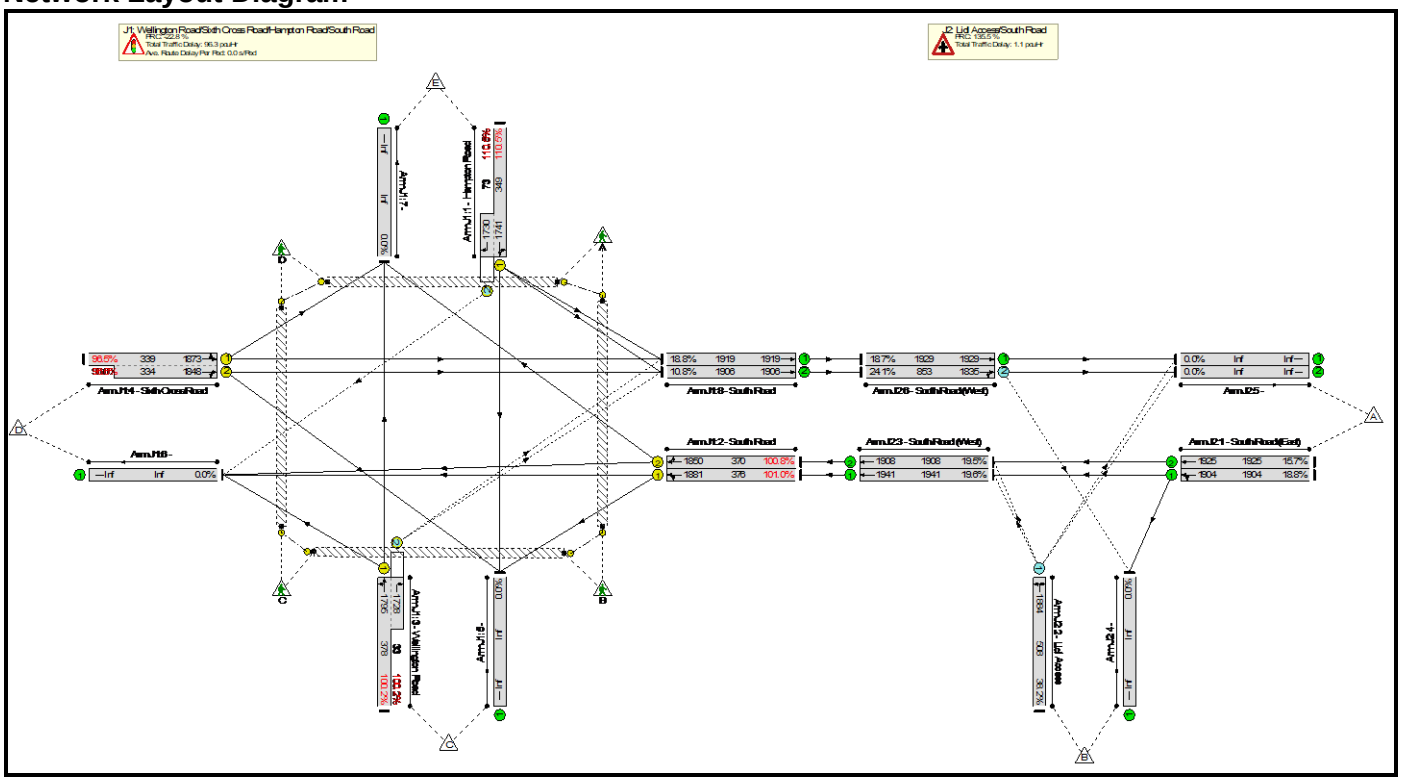
C1 PRC for Signalled Lanes (%): -29.8 Total Delay for Signalled Lanes (pcuHr): 69.57 Cycle Time (s): 107

PRC Over All Lanes (%): -29.8 Total Delay Over All Lanes(pcuHr): 71.21

Proposed Lidl Fulwell Network Modelling

Scenario 5: '2024 with Development - Friday PM Peak' (FG5: '2024 with Development - Friday PM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Proposed Lidl Fulwell Network Modelling

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Wellington Road/Sixth Cross Road/Hampton Road/South Road Signalised Junction Arrangement	-	-	-		-	-	-	-	-	-	**110.5%**	**314**	**0**	**101**	**97.4**	-	-
J1: Wellington Road/Sixth Cross Road/Hampton Road/South Road	-	-	-		-	-	-	-	-	-	**110.5%**	**0**	**0**	**101**	**96.3**	-	-
1/1+1/2	Hampton Road Ahead Right Left	U+O	C		1	22	-	467	1741:1730	349+73	110.5 : 110.5%	0	0	69	34.8	268.0	41.0
2/1	South Road Left Ahead	U	B		1	20	-	380	1881	376	101.0%	-	-	-	15.4	145.4	21.9
2/2	South Road Ahead Right	U	B		1	20	-	373	1850	370	100.8%	-	-	-	14.9	144.1	21.4
3/1+3/2	Wellington Road Left Ahead Right	U+O	D		1	22	-	412	1795:1728	378+33	100.2 : 100.2%	0	0	32	15.2	132.9	21.9
4/1+4/2	Sixth Cross Road Right Left Ahead	U	A		1	18	-	650	1873:1848	339+334	96.5 : 96.6%	-	-	-	15.9	88.0	17.6
8/1	South Road Ahead	U	-		-	-	-	373	1919	1919	18.8%	-	-	-	0.1	1.2	0.1
8/2	South Road Ahead	U	-		-	-	-	208	1906	1906	10.8%	-	-	-	0.1	1.1	0.1
Ped Link: P1	South Road Peds	-	E		1	6	-	0	-	4114	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P2	Wellington Road Peds	-	E		1	6	-	0	-	4114	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P3	Sixth Cross Road Peds	-	E		1	6	-	0	-	4114	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P4	Hampton Road Peds	-	E		1	6	-	0	-	4114	0.0%	-	-	-	0.0	0.0	0.0

Proposed Lidl Fulwell Network Modelling

J2: Lidl Access/South Road	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**38.2%**	**314**	**0**	**0**	**1.1**	**-**	**-**
1/1	South Road (East) Ahead Left	U	-		-	-	-	357	1904	1904	18.8%	-	-	-	0.1	1.2	0.1
1/2	South Road (East) Ahead	U	-		-	-	-	303	1925	1925	15.7%	-	-	-	0.1	1.1	0.1
2/1	Lidl Access Left Right	O	-		-	-	-	194	1884	508	38.2%	194	0	0	0.3	5.7	0.3
3/1	South Road (West) Ahead	U	-		-	-	-	380	1941	1941	19.6%	-	-	-	0.1	1.2	0.1
3/2	South Road (West) Ahead	U	-		-	-	-	373	1908	1908	19.5%	-	-	-	0.1	1.2	0.1
6/1	South Road (West) Ahead	U	-		-	-	-	373	1929	1929	18.7%	-	-	-	0.1	1.1	0.1
6/2	South Road (West) Right Ahead	O	-		-	-	-	208	1835	853	24.1%	120	0	0	0.2	3.5	4.8

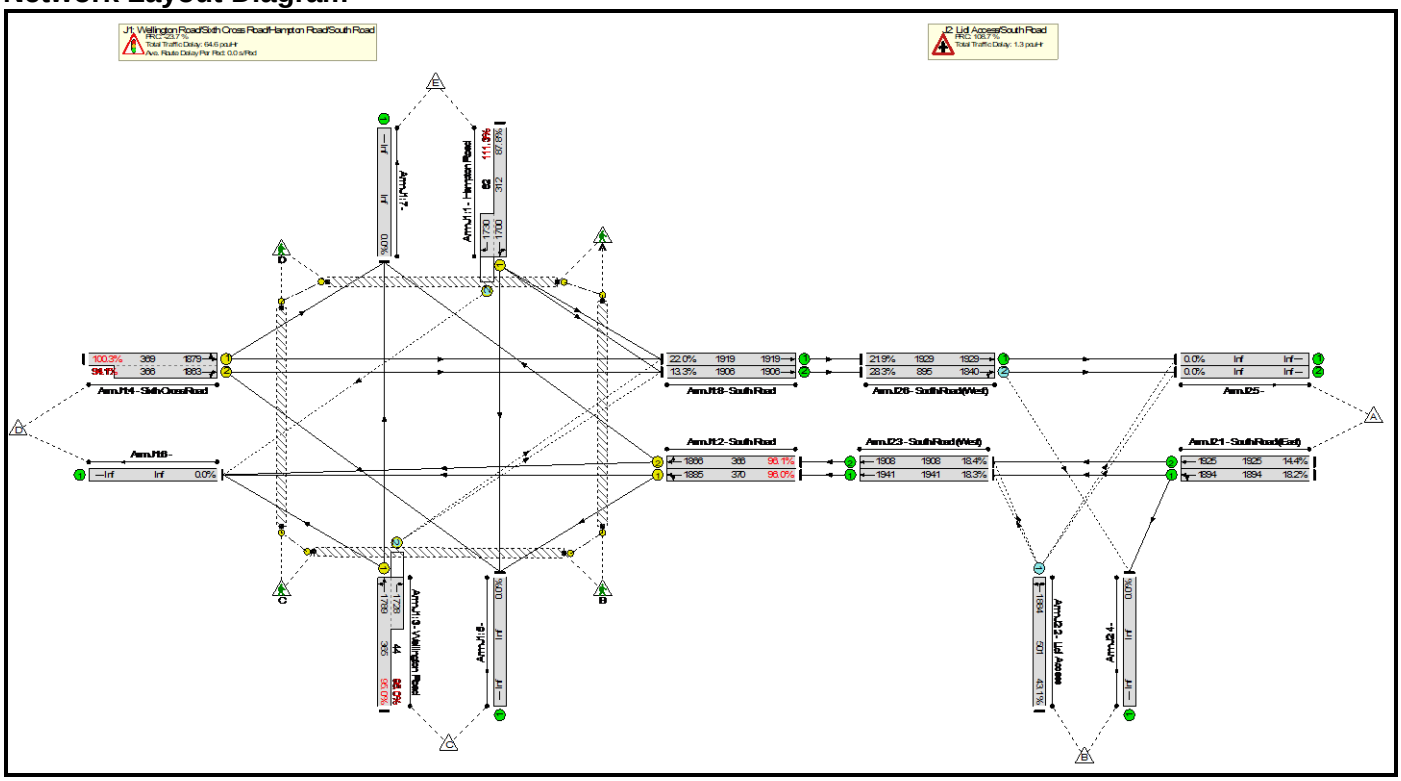
C1 PRC for Signalled Lanes (%): -22.8 Total Delay for Signalled Lanes (pcuHr): 96.14 Cycle Time (s): 105

PRC Over All Lanes (%): -22.8 Total Delay Over All Lanes(pcuHr): 97.39

Proposed Lidl Fulwell Network Modelling

Scenario 6: '2024 with Development - Saturday Peak' (FG6: '2024 with Development - Saturday Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Proposed Lidl Fulwell Network Modelling

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Wellington Road/Sixth Cross Road/Hampton Road/South Road Signalised Junction Arrangement	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**111.3%**	**411**	**0**	**68**	**65.9**	**-**	**-**
J1: Wellington Road/Sixth Cross Road/Hampton Road/South Road	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**111.3%**	**55**	**0**	**68**	**64.6**	**-**	**-**
1/1+1/2	Hampton Road Ahead Right Left	U+O	C		1	22	-	365	1700:1730	312+82	87.8 : 111.3%	14	0	67	14.3	140.8	18.1
2/1	South Road Left Ahead	U	B		1	20	-	355	1885	370	96.0%	-	-	-	10.6	107.4	16.8
2/2	South Road Ahead Right	U	B		1	20	-	352	1866	366	96.1%	-	-	-	10.6	108.8	16.7
3/1+3/2	Wellington Road Left Ahead Right	U+O	D		1	22	-	389	1789:1728	365+44	95.0 : 95.0%	41	0	1	10.5	97.3	16.6
4/1+4/2	Sixth Cross Road Right Left Ahead	U	A		1	20	-	714	1879:1863	369+366	100.3 : 94.1%	-	-	-	18.3	92.5	20.8
8/1	South Road Ahead	U	-		-	-	-	423	1919	1919	22.0%	-	-	-	0.1	1.2	0.1
8/2	South Road Ahead	U	-		-	-	-	253	1906	1906	13.3%	-	-	-	0.1	1.1	0.1
Ped Link: P1	South Road Peds	-	E		1	6	-	0	-	4037	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P2	Wellington Road Peds	-	E		1	6	-	0	-	4037	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P3	Sixth Cross Road Peds	-	E		1	6	-	0	-	4037	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P4	Hampton Road Peds	-	E		1	6	-	0	-	4037	0.0%	-	-	-	0.0	0.0	0.0

Proposed Lidl Fulwell Network Modelling

J2: Lidl Access/South Road	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**43.1%**	**356**	**0**	**0**	**1.3**	**-**	**-**
1/1	South Road (East) Ahead Left	U	-		-	-	-	344	1894	1894	18.2%	-	-	-	0.1	1.2	0.1
1/2	South Road (East) Ahead	U	-		-	-	-	277	1925	1925	14.4%	-	-	-	0.1	1.1	0.1
2/1	Lidl Access Left Right	O	-		-	-	-	216	1884	501	43.1%	216	0	0	0.4	6.3	1.3
3/1	South Road (West) Ahead	U	-		-	-	-	355	1941	1941	18.3%	-	-	-	0.1	1.1	0.1
3/2	South Road (West) Ahead	U	-		-	-	-	352	1908	1908	18.4%	-	-	-	0.1	1.2	0.1
6/1	South Road (West) Ahead	U	-		-	-	-	423	1929	1929	21.9%	-	-	-	0.1	1.2	0.1
6/2	South Road (West) Right Ahead	O	-		-	-	-	253	1840	895	28.3%	140	0	0	0.3	4.9	6.5

C1 PRC for Signalled Lanes (%): -23.7 Total Delay for Signalled Lanes (pcuHr): 64.38 Cycle Time (s): 107

PRC Over All Lanes (%): -23.7 Total Delay Over All Lanes(pcuHr): 65.88