SCP

Transportation Planning : Infrastructure Design

Transport Assessment

Proposed Lidl Food Store

Roman Way, Strood

Lidl Great Britain Limited

June 2021

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APPENDICES

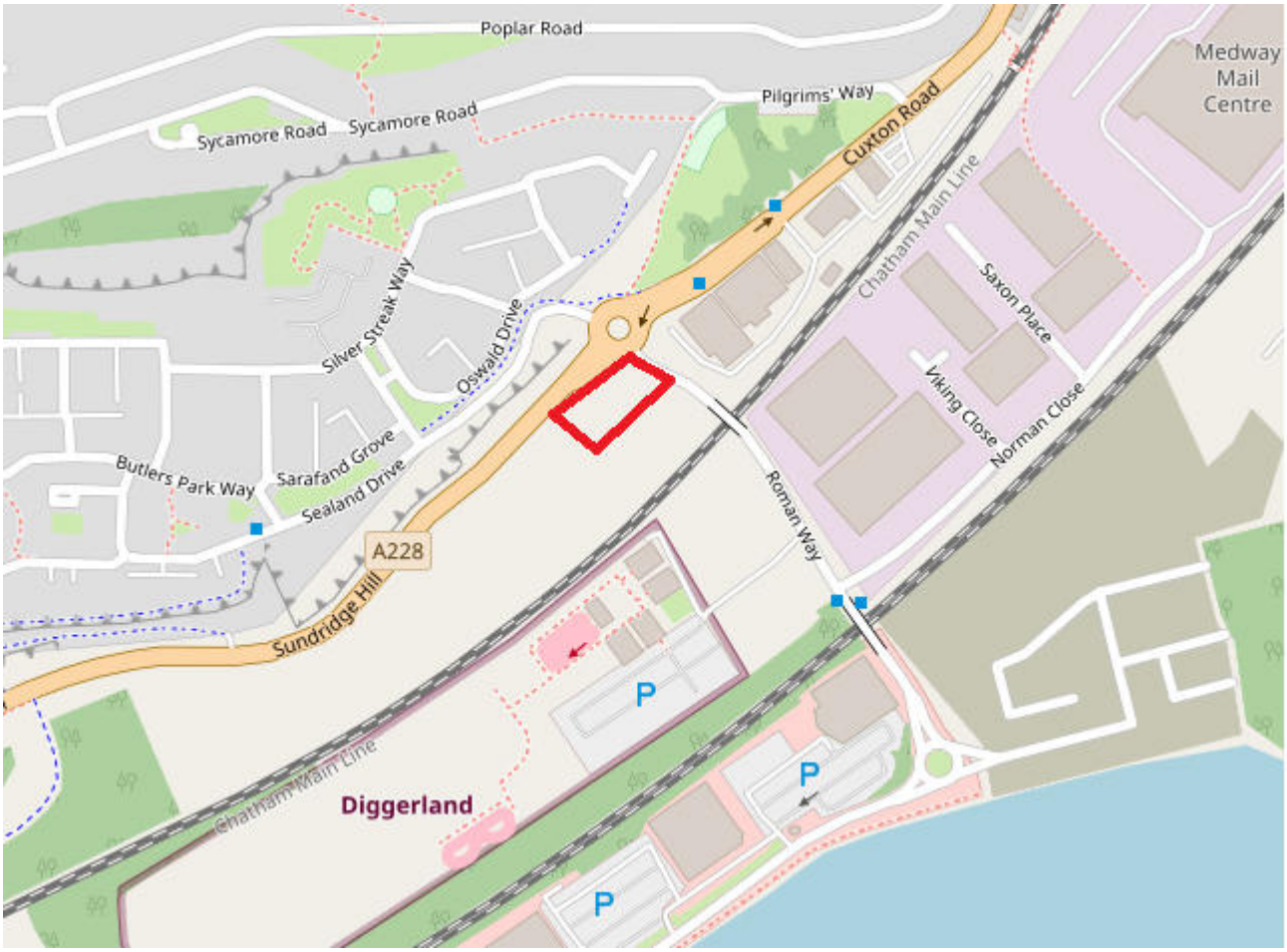
1.0 INTRODUCTION

1.1 This Transport Assessment has been prepared on behalf of Lidl Great Britain Limited and provides a review of the transport and highway impacts related to the proposed discount food store development and associated car parking on land adjacent to Roman Way, Strood, Rochester.

1.2 The store will have a retail floor area of 1,413sqm. The car park will provide 117 spaces of which six will be dedicated to disabled, nine to parents with children and two for electric vehicle charging points. Cycle parking will be provided on site in the form of 5 Sheffield cycle stands which will provide space for up to 10 bicycles. These cycle stands will serve both employees and customers of the food store. Furthermore, a loading bay will be provided on site to accommodate delivery vehicles.

1.3 The location of the Application Site in the context of the surrounding transport network is provided in **Figure 1.1** below.

Figure 1.1: Location of Application Site



Background

1.4 This Transport Assessment (TA) is being submitted to inform Medway Council of the impact of Lidl's proposals on the local highway network. No previous applications for similar land uses have been submitted for this application site, although SCP are aware that retrospective planning permission (MC/05/0212) was sought in 2005. The historic application applied for a change in use from landfill, to the construction of a theme park. This planning permission was refused.

Report Structure

1.5 The scope and content of this report is set out as follows:

- Section 2 reviews the relevant national, regional and local transport planning policy applicable to the site;
- Section 3 describes the existing site;
- Section 4 provides a review of the current site accessibility;
- Section 5 provides a review of local accident analysis for the local highway network;
- Section 6 provides a detailed description of the development proposal including land uses, parking provisions and access and circulation;
- Section 7 provides a forecast of the site's likely trip generation and how this is likely to distribute onto the local highway network;
- Section 8 provides forecast capacity assessments of the local highway network to review the potential impacts of the proposed development on the local highway infrastructure, and;
- Section 9 provides a summary and concludes the report.

2.0 TRANSPORT PLANNING POLICY

General

2.1 This chapter provides a summary of relevant national and local transport policies and provides a brief analysis of how the proposed development contributes towards the aims and objectives of these policies.

National Policy

National Planning Policy Framework (NPPF)

2.2 NPPF is published by the Ministry for Communities and Local Government, along with thematic Planning Practice Guidance (PPG) to set the framework under which local transport, parking and accessibility plans and policies are set. The NPPF has been revised in July 2018, with a further minor revision in February 2019.

2.3 Paragraph 108 of the NPPF states that when promoting developments "*it should be ensured that:-*

- *appropriate opportunities to promote sustainable transport modes are taken up, given the type of development and its location;*
- *safe and suitable access to the site can be achieved for all users; and*
- *any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree".*

2.4 Paragraph 109 goes on to say that "*Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."*

2.5 In the same chapter (paragraph 110) it is advocated that "*within this context, planning applications for development should:-*

- *give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport,*
- *address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*

- *create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;*
- *allow for the efficient delivery of goods, and access by service and emergency vehicles; and*
- *be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations".*

2.6 In reference to supporting documentation with planning applications, paragraph 111 of the NPPF states that "All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed". The trigger levels for the above are set locally but must be in line with the above.

The Chartered Institute of Highways and Transportation: Manual for Streets / Manual for Streets 2 (2007 / 2010);

2.7 Manual for Streets (MfS) presents technical guidance and focuses on lightly-trafficked residential streets although many of its key principles may be applicable to other types of street such as high streets or lightly-trafficked lanes in rural areas. MfS is directed to all stakeholders involved in the planning, design, approval or adoption of new residential streets, and modifications to existing residential streets.

2.8 MfS is used for the design, construction, adoption and maintenance of new residential streets, but it is also applicable to existing residential streets subject to re-design.

2.9 MfS sets out detailed recommendations for street design with a focus on residential areas and motor vehicles, whilst MfS2 puts more emphasis on how and where key principles of MfS and MfS2 can be applied to busier streets and non-trunk roads; cycle infrastructure design is covered within MfS2 in detail too.

2.10 MfS and MfS2 state that the streets should:

'Not be designed just to accommodate the movement of motor vehicles. It is important that designers place a high priority and meet the needs of all users such as pedestrians, cyclists and public transport users so that growth in these modes of travel is encouraged.'

Local Transport Policy

Medway Local Transport Plan 2011-2026 (2011)

2.11 Medway's Local Transport Plan sets out Medway's strategy up to 2026 and focuses on the following priorities:

- 'Support Medway's regeneration, economic competitiveness and growth by securing a reliable and efficient local transport network;
- Support a healthier natural environment by contributing to tackling climate change and improving air quality;
- Ensure Medway has good quality transport connections to key markets and major conurbations in Kent and London;
- Support equality of opportunity to access employment, education, goods and services for all residents in Medway, and;
- Support a safer, healthier and more secure community in Medway by promoting active lifestyles and by reducing the risk of death, injury or ill health or being the victim of crime.'

2.12 The strategy presents a framework which aims to deliver the priorities set out above focusing on several different long-term transport objectives:

- 'Undertake enhanced maintenance of the highway network in the most sustainable way practical;
- Respond to regeneration by efficiently and safely managing and improving Medway's road network, including improving road freight movements through Medway;
- Respond to the regeneration of Medway by encouraging travel by public transport including improving the quality, reliability, punctuality and efficiency of services;
- Contribute to improving health by promoting and developing transport corridors that encourage personal movement and by improving air quality, and;
- Reduce casualties on Medway's roads and to encourage changes to travel habits by the implementation of Safer Routes to School projects.'

3.0 EXISTING SITE

3.1 The proposed site is currently undeveloped and is situated to the south of the Roman Way/Cuxton Road A228 roundabout. Roman Way fronts the development site's northern boundary with the A228 Cuxton Road fronting the development site's western boundary. A railway line exists to the east, separating the site from direct frontage to the neighbouring industrial estate/Diggerland. Land to the south is open and undeveloped.

3.2 The proposed site illustrated in its local context below.

Figure 3.1: Application Site, Local Context

3.3 Cuxton Road A228 is subject to a 30mph speed limit within the vicinity of the development site, with this speed limit continuing along the road's length north towards the centre of Strood. The 30mph speed limit remains in enforcement to the south towards the M2 for an approximate 80m, before then transitioning to a 40mph speed limit. A circa 3.5m-wide shared footway/cycleway is provided on the roundabout's northern perimeter. This infrastructure extends northwards from the neighbouring residential estate towards Strood, before terminating at a push button pedestrian crossing on the roundabout's northern arm (Cuxton Road A228). Additional pedestrian infrastructure is provided at the mouth of the Roman Way junction in the form of tactile paving, dropped kerbs and a pedestrian island.

3.4 Roman Way is subject to a 30mph speed limit enforcement with street lighting provided for its length. An access point to the proposed development site exists circa 50m to the south of the Roman Way/Cuxton Road A228 roundabout. Footway is continuous along the northern edge of the carriageway, with a short section of footway provided along the carriageway's southern edge (from the Cuxton Road A228 roundabout to the proposed access). The carriageway at the site frontage is approximately 7m wide. Footway provision is circa 2m in width.

3.5 Roman Way maintains a reasonably flat topography for the first 100m south of the roundabout before than dropping down towards the River Medway. Towards the river the road provides access for a predominantly industrial area, with new residential development site currently under construction at the road's southern tip (permission ref. MC/09/0417).

4.0 ACCESSIBILITY

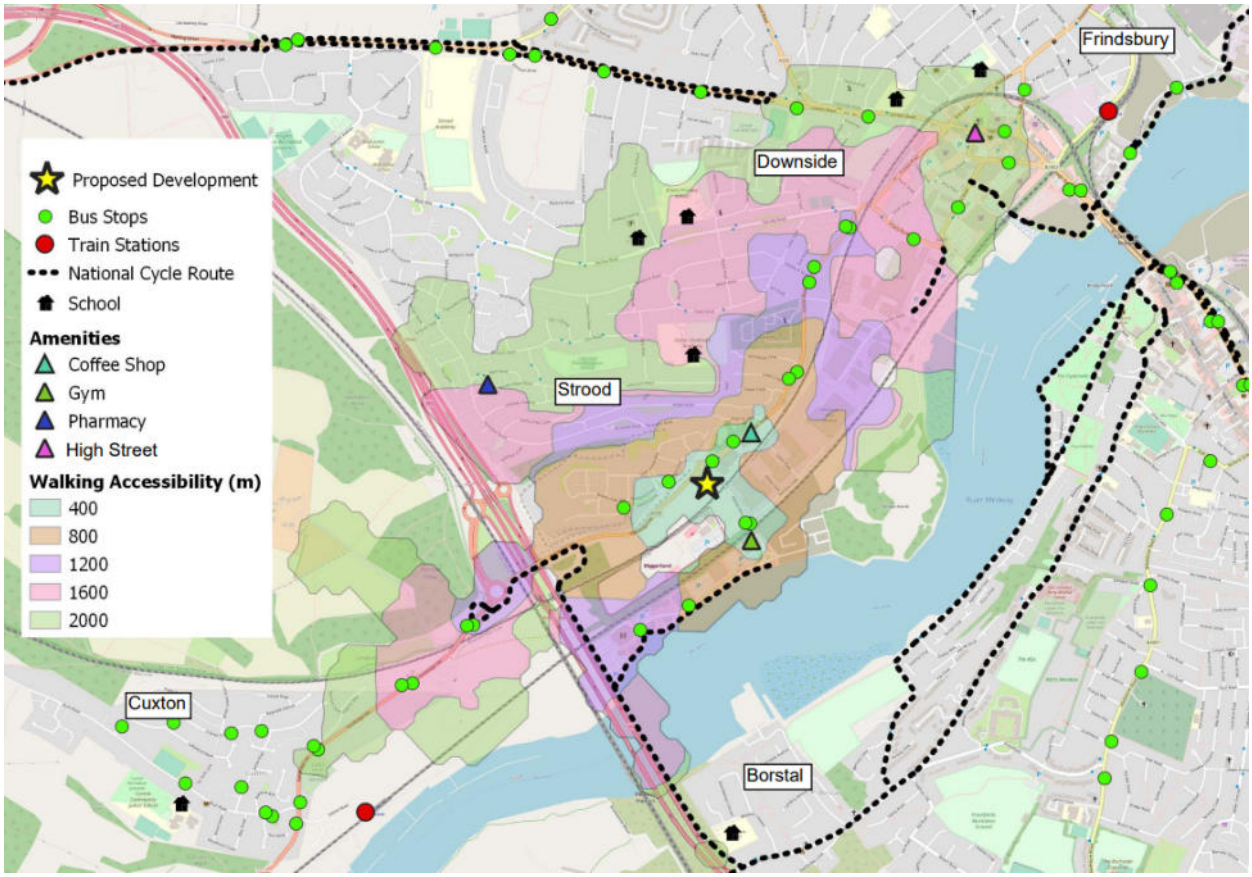
4.1 This section provides a review and description of the existing transport network surrounding the site. This will demonstrate the levels of existing accessibility to and from the site whilst identifying any opportunities for improvements as part of the development proposals.

Walking and cycling

Walking

4.2 Walking is recognised as the most important mode of travel at a local level and it offers the greatest potential to replace short car trips, particularly those under two kilometres. The pedestrian accessibility plan at **Figure 4.1** below shows the 2 kilometre walking catchment area from the site. The 2 kilometre walking catchment area includes the largely residential areas of Strood, Downside and parts of Cuxton.

Figure 4.1: Walk Accessibility within 2km



4.3 This demonstrates that, in alignment with Lidl policy, employees from the local area will be able to access the site on foot. In addition, it indicates that a significant proportion of potential customers will also be within reasonable walking distance of the site.

4.4 Highlighted in **Figure 4.1** are several examples of amenities available in the local area which could be utilised by staff of the proposed development, or as part of linked trips by customers. **Table 4.1** below highlights these amenities, as well as several other facilities accessible within a reasonable walking distance of the proposed development. This should not be thought of as an exhaustive list, but just as a few examples to highlight the variety of facilities available.

Table 4.1 - Accessibility to Local Facilities from the Development Site

Service	Detail	Distance
Bus stops	Cuxton Road and Roman Way	100m
Coffee shop	Costa, Esso Petrol Station, Cuxton Road	320m
ATM	Esso Petrol Station, Cuxton Road	320m
Medway Valley Park Employment Zone	Medway Valley Park, Saxon Place	350m
Gym	Nuffield Health, Medway Valley Leisure Park	480m
Restaurants	Frankie and Bennys/Chiquito/Mcdonalds, Medway Valley Leisure Park	960m
Cinema	Cineworld, Medway Valley Leisure Park	960m
Leisure Centre	Strood Leisure Centre, Watling Street	1.6km
High Street	Rochester High Street	1.8km

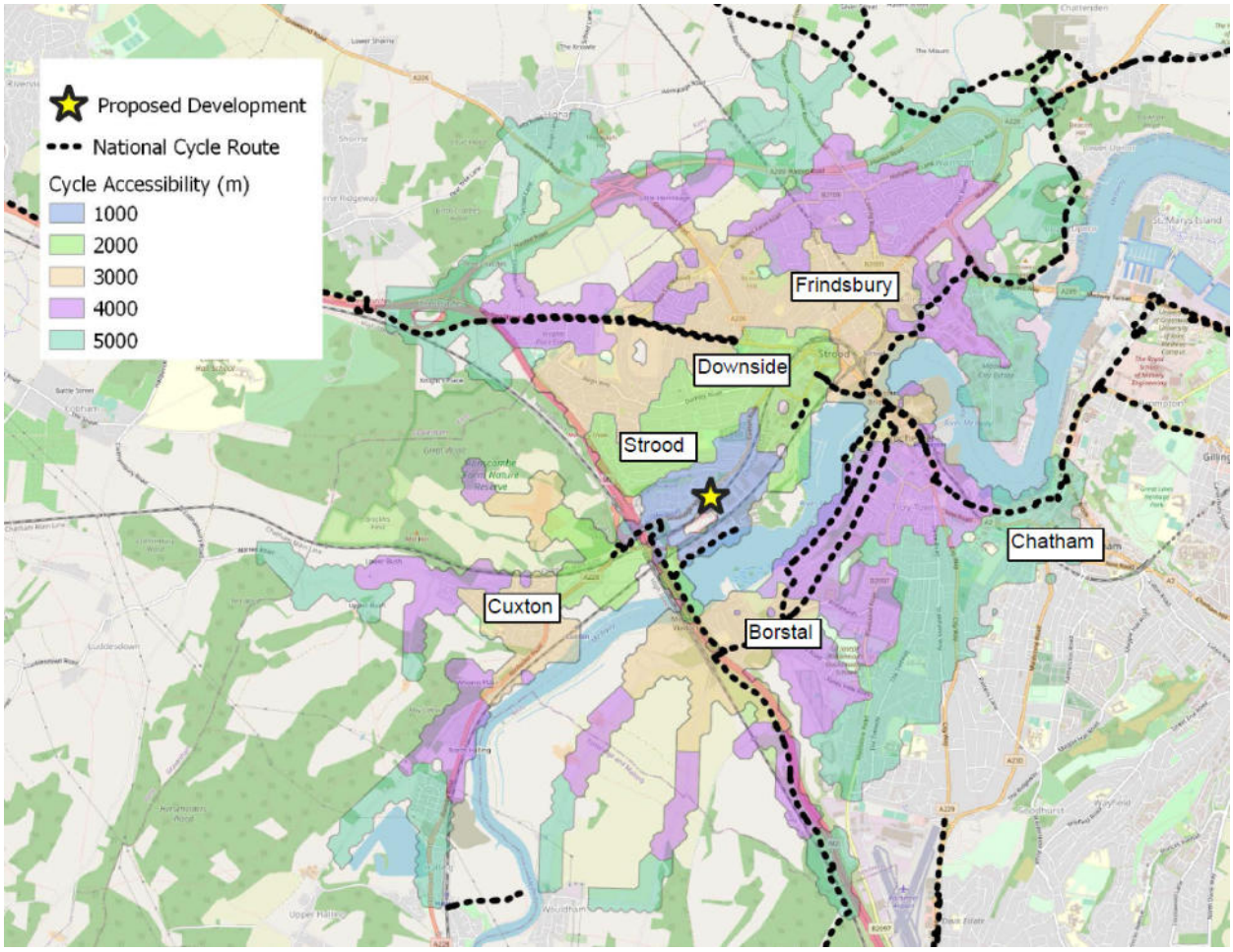
4.5 As previously discussed, pedestrian infrastructure in the form of shared footway/cycle ways, tactile paving and dropped kerbs and push button crossing facilities are provided within the surrounding area. This infrastructure allows pedestrians to access the development site while also safely navigating the Roman Way/Cuxton Road A228 roundabout. Footways in the surrounding area are considered to be of good width and quality, with street lighting provided to create a secure environment.

Cycling

4.6 Cycling has the potential to substitute for short car trips, particularly less than five kilometres. As such, all areas and facilities within a reasonable walking distance can also be considered to be within a reasonable cycling distance.

4.7 The cycle accessibility plan in **Figure 4.2** shows a 5 kilometre cycling catchment area from the application site. In addition to the areas that are accessible on foot, the 5 kilometre catchment also includes the areas of Borstal, Chatham and Frindsbury. The village of Cuxton can now also be accessed in its entirety.

Figure 4.2: Cycle Accessibility within 5km



4.8 The map also demonstrates the site's accessibility to the National Cycle Route (NCR) network. Locally, NCR 178 provides an out of carriageway connection for cyclists to travel in an east to west direction along the edge of the River Medway, with this route extending for circa 700m. NCR 17 can be accessed from Sundridge Hill A228 to the west of the development site. NCR 17 provides a connection over the River Medway south to the residential area of Borstal, as well as providing an out of carriageway route west towards the village of Cuxton, avoiding the Merrals Shaw Interchange. South of the river NCR 17 splits to provide additional routes towards Rochester and Blue Bell Hill.

4.9 The existing cycle infrastructure combined with the cycle parking provision on site will ensure that employees and customers will easily be able to access the proposed development by bike. A copy of Medway's Cycle Routes map is provided in **Appendix 1** to further highlight cycling opportunities within the surrounding area of the site

Public Transport

4.10 This section of the report outlines opportunities to access the site by varying means of public transport.

Bus

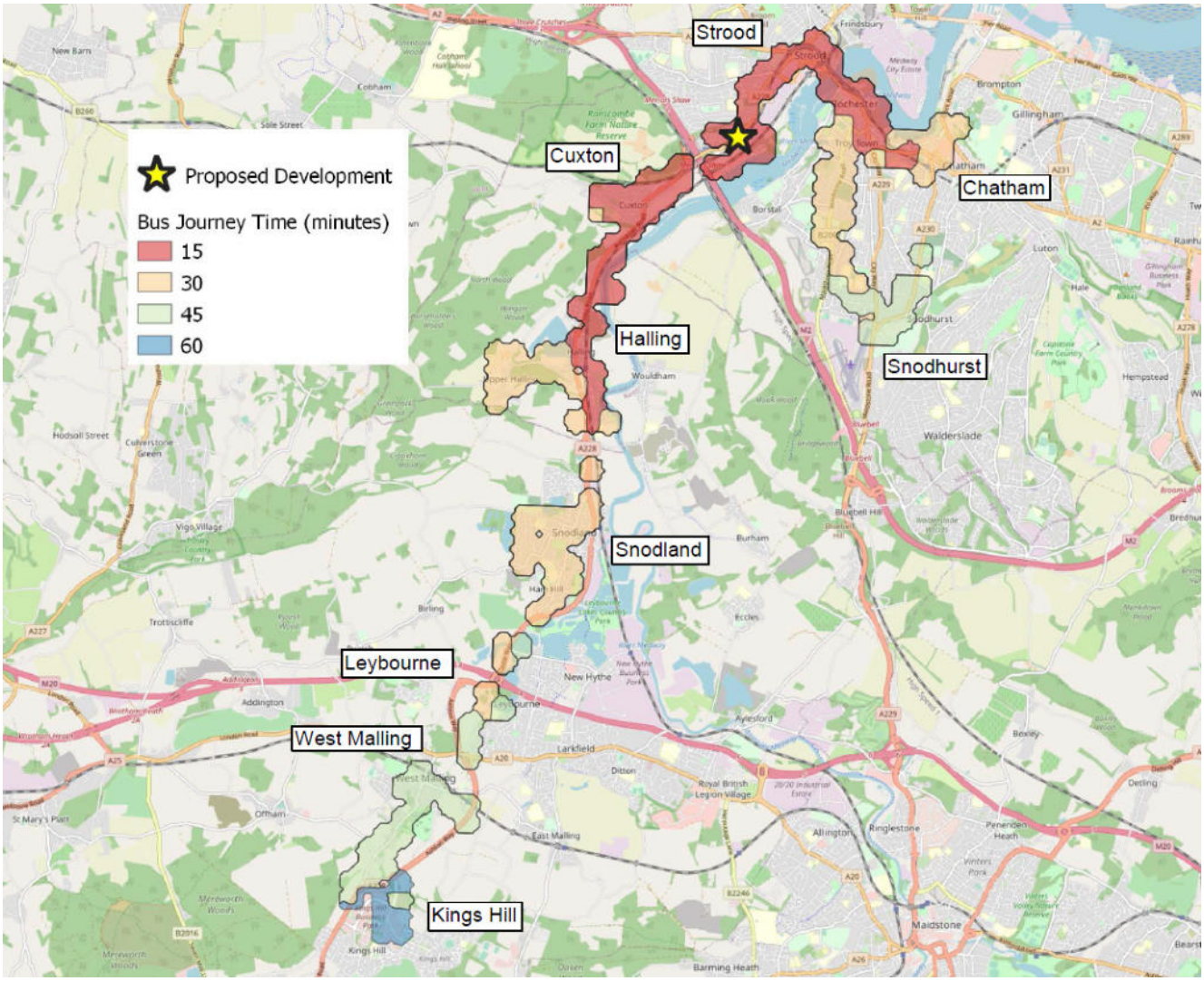
4.11 **Figure 4.1** presented above illustrates that there are 5 bus stops within approximately 400m walking distance from the site. The frequency of the different bus services available from these stops is outlined in **Table 4.2**.

Table 4.2: Bus services within 400m of the site

Service No.	Destinations	Bus Times and Frequency		
		Weekday	Saturday	Sunday
170	Chatham – Medway Valley Park	**0747 – 1847** Approx. 1 trip/30 mins	**0747 – 1835** Approx. 1 trip/1hr 20 mins	-
	Medway Valley Park - Chatham	**0701 – 1835** Approx. 1 trip/30 mins	**0806 – 1806** Approx. 1 trip/30 mins	-
151 (Operation varies throughout week - Frequency dependent on weekday)	Kings Hill – St Marys Island (Varying operational days throughout week)	**0651 – 1959** Approx. 1 trip/45 mins	-	-
	Kings Hill - Chatham	-	**0735 – 1949** Approx. 1 trip/ 1hr	-
	St Marys Island - Mereworth	**0605 – 1919** Approx. 1 trip/ 30 mins	-	-
	Chatham - Mereworth	**0805 – 1807** Approx. 1 trip/ 1hr	-	-
	West Malling – St Marys Island	-	-	**1028 – 1833** Approx. 1 trip/ 2hr
	St Marys Island - West Malling			**0915 – 1715** Approx. 1 trip/ 2hr
653 (school bus)	Rochester - Haling	1601	-	-
	Haling - Chatham	0736	-	-
652 (School bus – 1 additional service on a Wednesday*)	Strood - Cuxton	1451* and 1551	-	-
	St Marys Island - Strood	0810	-	-
549	East Malling - Strood	1616	-	-
	Strood – East Malling	0729	-	-
149	West Malling - Strood	1625	-	-
	Chatham – Kings Hill	0722	-	-

4.12 The public transport accessibility map shown at **Figure 4.3** shows the different locations accessible within 60 minutes from the site using public transport. The plan demonstrates that the site is accessible by numerous locations within 60 minutes travel time such as Chatham, Cuxton, Snodhurst, Halling, Snodland, Leybourne and West Malling. Note the following service information relates to the period pre lock-down and the impacts of Covid-19.

Figure 4.3: Public transport accessibility within 60 minutes



4.13 It is demonstrated that there are a variety of bus services within close proximity to the site which provide opportunity for employees and customers to access the store via bus seven days a week.

Rail

4.14 Cuxton Railway Station and Strood Railway Station are the nearest stations to the development site. Both of these stations are located within an approximate 30 minute walk.

4.15 Cuxton Railway station has no car park, but does provide 4 cycle storage spaces. Other facilities include a ramp for train access, accessible ticket machines, a taxi rank and a bus stop a short distance from the station. A staffed help desk is available throughout operational periods.

4.16 Strood Train Station car park accommodates up to 112 vehicles and includes 3 accessible spaces. The station also provides storage for up to 40 bicycles. Other facilities include step free access, ramp for train access, accessible ticket machines, a taxi rank and bus services.

4.17 Services from these stations run to a variety of destinations, including Luton, Rainham, Faversham, Paddock Wood, Maidstone West and St Pancras International. The approximate frequencies are presented in **Table 4.3** below for the peak period during the day.

Table 4.3 Rail service from the Application Site

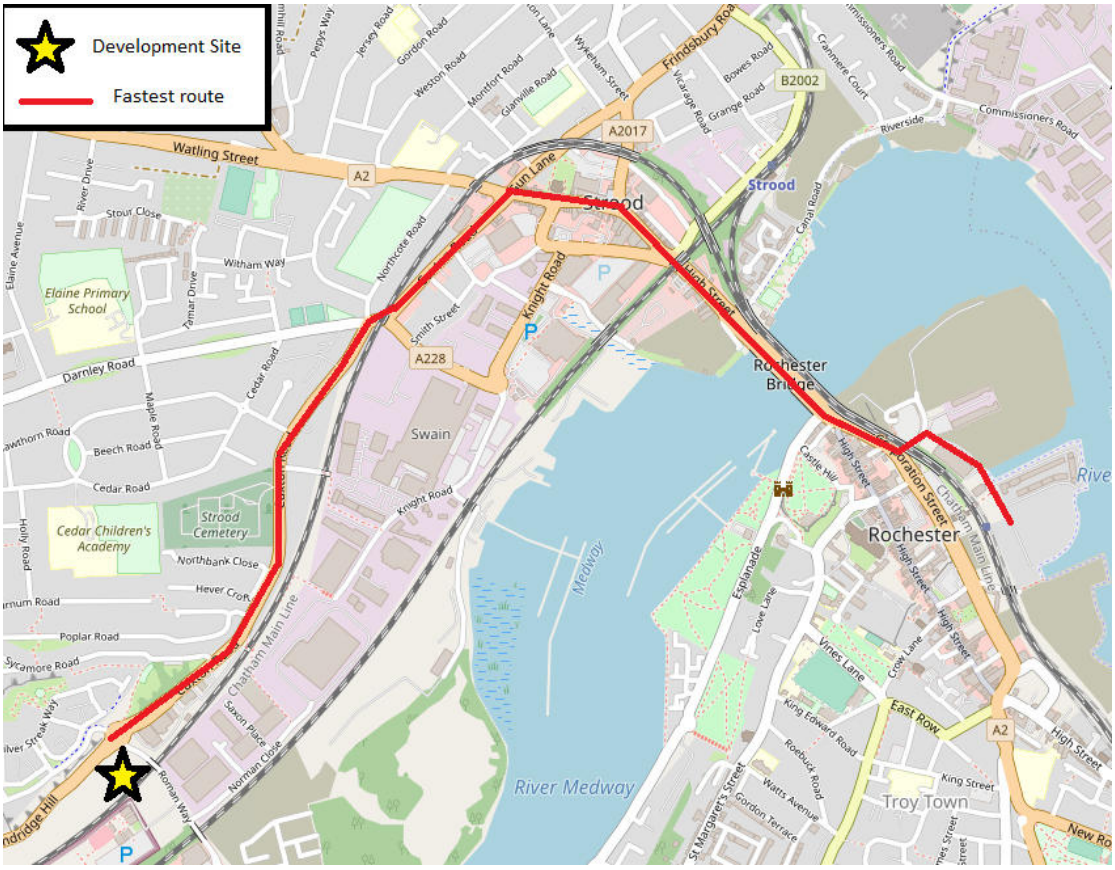
Station	Destination	Frequency
Strood Train Station	Luton	Approx. 1 train/ 30 mins
	Rainham	Approx. 1 train/ 20 mins
	St Pancras International	Approx. 1 train/ 15 mins
	Tonbridge	Approx. 4 trains per day
	Maidstone West	Approx. 1 train/ 20 mins
	Faverhsam	Approx. 1 train/ 30 mins
	Paddock Wood	Approx. 1 train/ 1hr
Cuxton Train Station	Strood	Approx. 1 train/ 30 mins
	Tonbridge	Approx. 4 trains per day
	Maidstone West	Approx. 1 train/ 30 mins
	Paddock Wood	Approx. 1 train/ 1hr

Private Vehicle

4.18 The site is well served by the existing highway network, with Cuxton Road acting as an arterial route to connect the development site to the main residential areas of Strood and the M2.

4.19 Car clubs provide an alternative to private car ownership and significant use can tackle congestion and air pollution levels. A car club bay operated by Enterprise is located adjacent to Rochester Train Station. This car club can be reached in a circa 10 minute cycling time from the development site, with the quickest route shown below in **Figure 4.4**.

Figure 4.4: Car club location



Summary

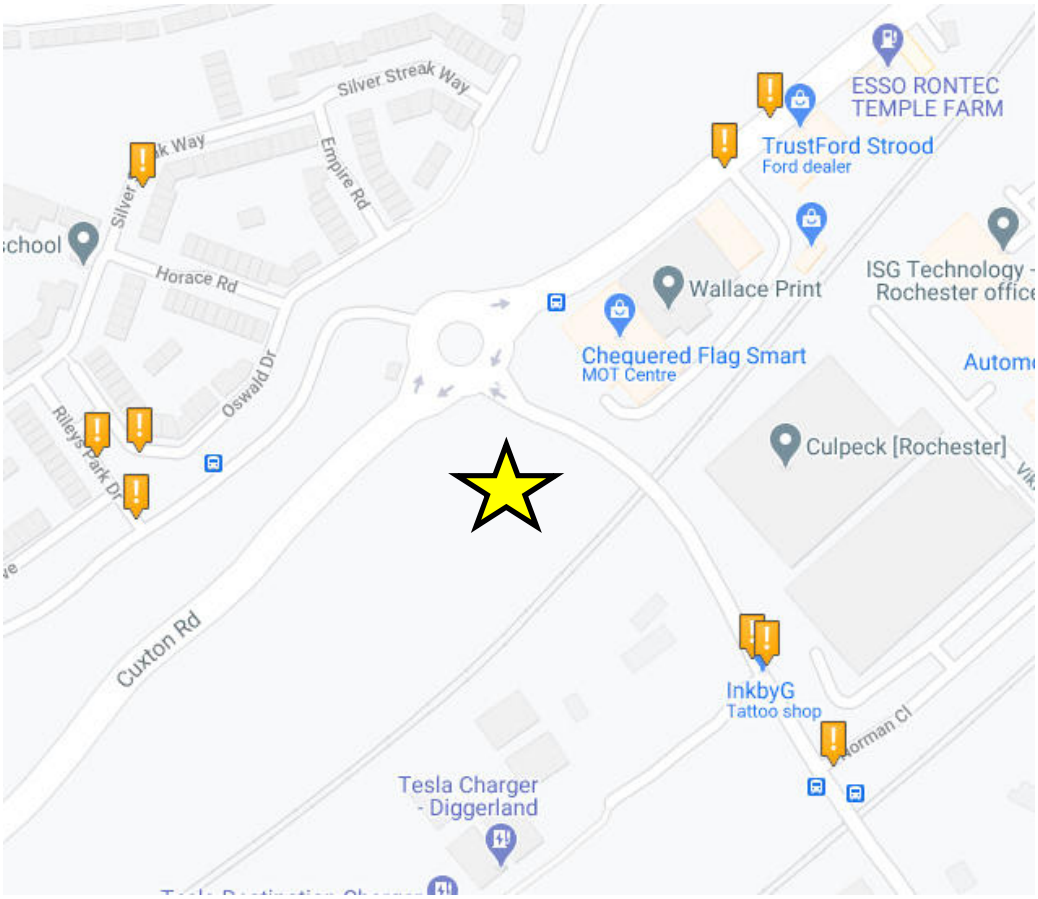
4.20 Following the review of the accessibility options by different modes of transport, it is considered that the site has very good levels of accessibility. Access to the site on foot and by bicycle is well provided for, there are several bus stops nearby providing access to a range of local destinations and both Strood/Cuxton Rail Station can take staff and customers further afield. Moreover, the site is also well connected to the adjacent highway network.

5.0 ACCIDENT ANALYSIS

5.1 Personal injury collision data obtained from Crash Map online mapping software identifies the historic safety of the highway network within the proposed site's vicinity for the last five years: 2015 – 2019. These accident reports provide more understanding into the surrounding highway network, giving insight into its performance in terms of safety.. The accident data provided highlights the location and severity of all accidents which have taken place within the latest 5-year period. Each accident report includes information detailing the vehicles involved, casualties, weather description, road and lighting condition, and in some cases, a brief description of how the accident occurred. The accident reports analysed are provided in **Appendix 2**.

5.2 The study area considered for the accident analysis is set out below in **Figure 5.1.**

Figure 5.1 – Collision Data within the vicinity of the proposed development site



5.3 During the five-year period, a total of 9 accidents occurred in the area surrounding the site, all of which were classed as slight in severity. Of the accidents, 1 involved a cyclist and 1 involved a pedestrian, all remaining accidents involved vehicles only.

5.4 The accident which involved a cyclist occurred at the junction of Butlers Park Way/Rileys Park Drive. The incident occurred during daylight hours in wet/damp conditions, with the details stating that the cyclist has fallen in the carriageway and has not impacted any objects or vehicles.

5.5 The accident which involved a pedestrian occurred along Rileys Park Drive. The incident occurred during daylight hours in dry conditions, with the details stating that a vehicle has struck a pedestrian when they have attempted to cross the carriageway.

5.6 All other accidents to occur involved vehicles only, with the details provided suggesting that they occurred as a result of driver error, or driving without due care and attention.

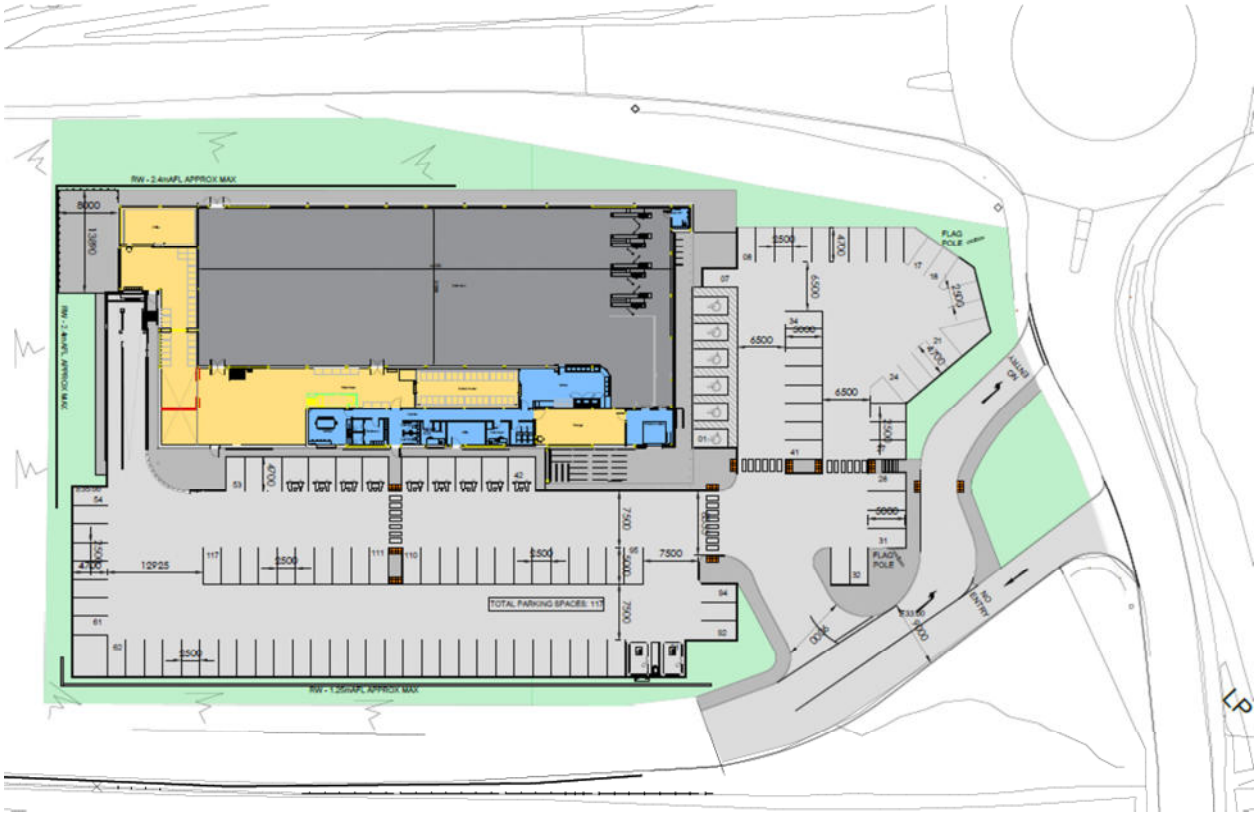
5.7 It is considered, in summary, that the accident analysis in this section presents no consistent pattern of collisions and raises no concerns in regards to any concentration of accidents at a particular part of the network. It is therefore considered that there are no existing highway design factors affecting the cause of the accidents nearby.

6.0 PROPOSED DEVELOPMENT

6.1 The proposals comprise a discount food store with a sales area of 1,413sqm. Parking for 117 cars will be provided on site out of which 6 will be dedicated to disabled, 9 to parents with children and 2 for electric vehicle charging points. Cycle parking will be provided on site in the form of 5 Sheffield cycle stands which will provide space for up to 10 bicycles. These cycle stands will serve both employees and customers of the food store. Furthermore, a loading bay will be provided on site to accommodate delivery vehicles.

6.2 The proposed site layout showing the store is illustrated at **Figure 6.1.** A 1:250 scale drawing of the proposal is provided in **Appendix 3**.

Figure 6.1: Proposed Site Layout



Proposed Site Access and Off-site Highway Improvements

6.3 To accommodate the potential traffic generation of the development site a separate access and egress arrangement will be developed.

6.4 The existing access point from Roman Way will be upgraded to accord with current highway design standards to allow for safe vehicular access. No vehicles will be allowed to egress from

this point. The access will be widened to accommodate a 4.5m wide carriageway, with a western corner radius of 2m and eastern corner radius of 6.5m provided.

6.5 A new egress will be provided approximately 25m to the north-west of the access point. This egress will maintain a minimum carriageway width of 4.5m., with a western corner radius of 9m and an eastern corner radius of 0.5m provided. Vehicles will be limited to a left turn only.

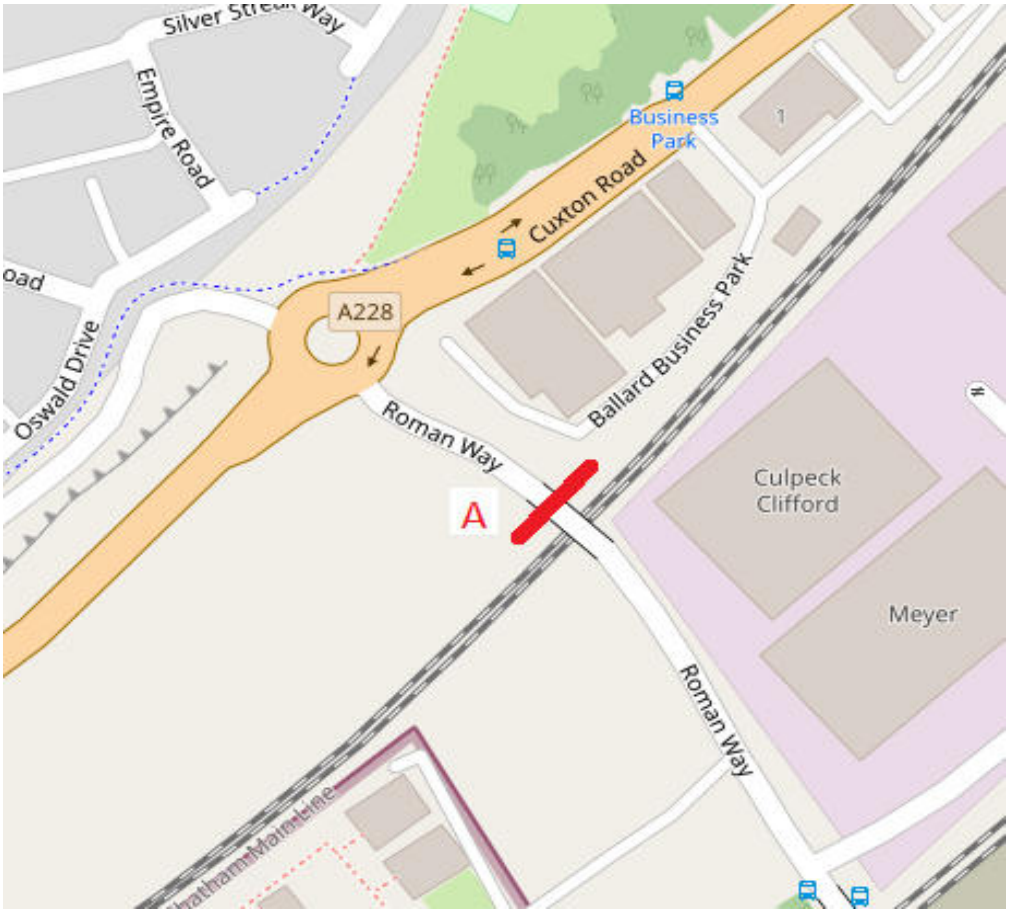
6.6 New carriageway will extend from the Roman Way access, and a direct site access into the store car park will be provided from this. The direct site access will consist of a 9m wide carriageway and 7m corner radii.

6.7 Footways of 2m width will be provided from Roman Way, extending along both the egress and access carriageways. These footways will continue into the site via the direct store access. The addition of tactile paving across the egress carriageway to meet with a second pedestrian access at the stores northern boundary will help to further facilitate pedestrian movements.

6.8 A visibility assessment of the site access to Roman Way has been carried out and the forward visibility and lateral visibility splays are shown at **Appendix 4**. The visibility splay is defined based on the stopping sight distance which is the distance within which drivers need to be able to see ahead and stop from a given speed. An ATC was placed along Roman Way in order to capture traffic speeds and to derive site specific visibility splays. The approximate location of the ATC is shown below in **Figure 6.1**, with this being circa 40m south of the existing access to Roman way.

6.9 For the purposes of a robust assessment 85th%ile measured speeds have been used. The northbound speed was measured to be 29.8mph, which results in the site access providing visibility splays that have an ‘x’ (minor arm setback distance) of 2.4m and a ‘y’ (major road visibility) distance of 43m to the south. This visibility splay is based upon MfS standards. Speed survey results are provided at **Appendix 5**.

Figure 6.1: ATC placement along Roman Way



6.10 The vertical plane of the visibility splay ensures that car or lorry drivers will be able to see obstructions 2m high down to a point of 0.6m above the carriageway. Therefore, the vertical plane of this envelope of visibility will be free from any obstacles such as vegetation or street furniture.

6.11 The development of the split access and egress solution arose from the need to provide visibility to the south of 2.4m by 43m. A standard bellmouth located in the current position was shown to require third party land to the south of the access under this requirement. Attempts at securing this third-party land (edged red on the drawing at Appendix 4) to include as part of the proposal have not proven successful. Therefore the submitted solution has been developed as a viable alternative. The submitted solution is fully compliant with visibility standards and will ensure that traffic leaving the site turns left only to u-turn at the roundabout if needing to head southwards towards the river.

6.12 Swept path analyses have been completed to demonstrate that Lidl's standard delivery vehicle can safely enter and exit the site in a forward gear. The drawings provided in **Appendix 6** show

a maximum legal length articulated vehicle (16.5m) entering the site, servicing the store at the designated loading bay and exiting the site in forward gear.

6.13 The internal proposals include safe pedestrian linkages through the car park to the store from the adopted highway network. The site layout plan shows safe pedestrian routes from Roman Way through the car park. The route is enhanced with a zebra crossings within the site.

Parking

Parking Standards and Provision

6.14 Within the site, dedicated vehicle and cycle parking will be provided for the employees and customers of the food store which will be provided in line with the parking standards set out in the Medway Council Parking Standards adopted in 2001. The parking standards for A1 food store land uses are presented at **Table 6.1** below.

Table 6.1: Vehicle parking standards for A1 food stores and application to 2275m^2 GEA proposal

	Car Parking	Min Cycle Parking	Disabled (min)
Standards	1 space per 18 sqm	1 space per 250 sqm	3 bays or 6% of max standards, whichever greater
Requirement	127	9	7
Provision	117	10	6 (plus 9 over-sized bays for parents and children available for blue badge holders also)

6.15 It should be noted that the standards outlined within the Medway Council document are maximum standards for car parking. The circa 6% difference between this maximum standard and the 117 spaces to be provided is therefore considered reasonable. Cycle parking provision exceeds Medway Parking standards which in turn helps to encourage sustainable travel.

6.16 All car park aisles are a minimum of 6.5m wide and car parking spaces are 2.5m wide by 5.0m in length; spaces around the boundary where cars can overhang landscaping are 4.7m in length, in accordance with the operator's standard requirements for new stores.

Parking Accumulation

6.17 To assess the suitability of the proposed parking provision on site, a parking accumulation exercise has been undertaken based upon the forecast trip generation associated with the new development. Details on the trip rates and the estimated generated traffic are presented at Section 7.

6.18 Initial iterations were run to identify if in any instances the accumulation dropped below zero (where departure trips exceeded arrival trips) and in any instances where this occurred, the starting point for the accumulation was increased to a point where the minimum accumulation was no less than zero.

6.19 Assessments have been carried out for both a weekday and Saturday peak and results are shown in **Figure 6.2** and **Figure 6.3**.

6.20 **Figure 6.2** shows that car parking demand peaks at approximately 50 spaces during 15:00-16:00 on a weekday. **Figure 6.3** demonstrates that demand peaks at 59 car parking spaces during 11:00-12:00, 12:00-13:00 and 14:00-15:00 on a Saturday.

Figure 6.2: Estimated car trip generation and parking accumulation on a weekday

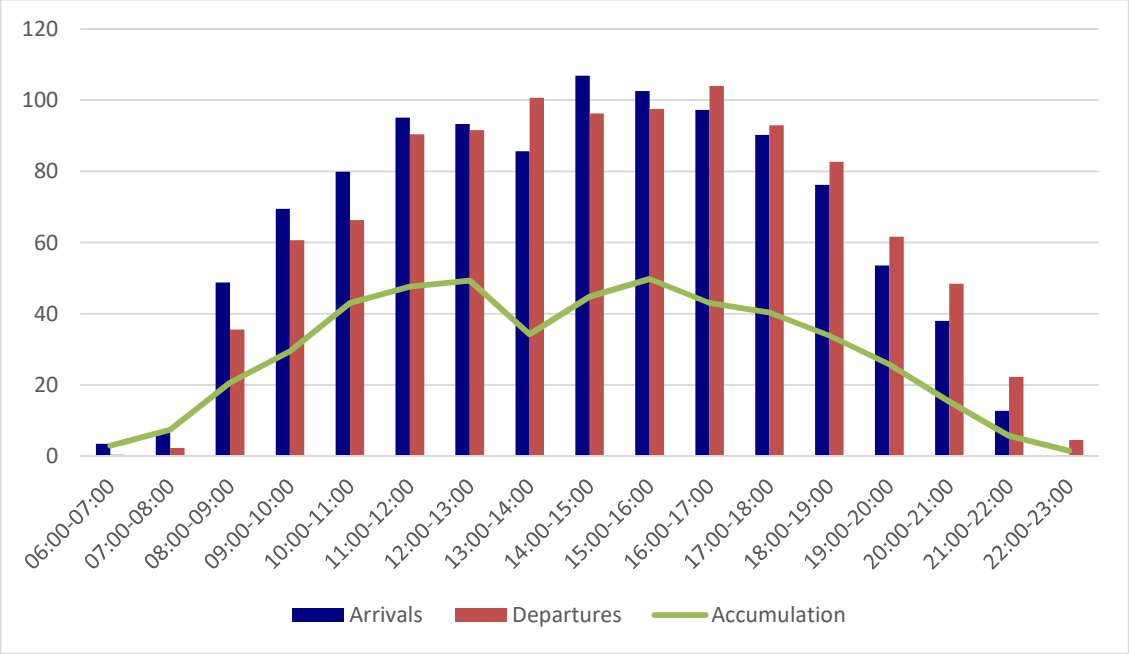
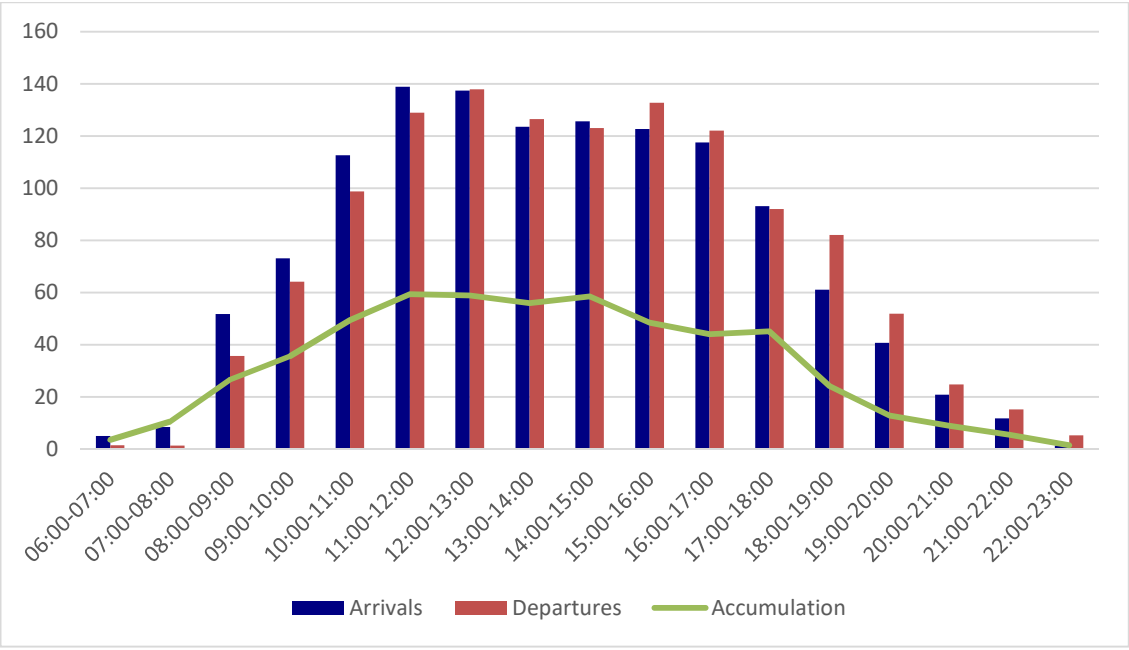


Figure 6.3: Estimated trip generation and parking accumulation, Saturday



6.21 The provision of 117 spaces will therefore cover the estimated car parking demand. Furthermore it offers additional headroom to service peaks in demand at the busiest times of year such as Christmas and Easter.

7.0 TRIP GENERATION AND DISTRIBUTION

7.1 This section provides a forecast of the trips likely to be generated by the proposed development. Furthermore, the proportion of pass by and linked trips will be set out.

7.2 A Manual Classified Turning Count survey was undertaken for a weekday PM period (15:30-18:30) and a Saturday inter-peak period (11:00-14:00) for the Roman Way/Cuxton Road A228 roundabout. The days in question were Friday 16th October 2020 and Saturday 17th October 2020. These surveys were undertaken so that peak hour traffic flows could be calculated. The following peak times were identified:

- 16:15-17:15 on a Weekday, and;
- 12:45-13:45 on a Saturday.

7.3 It is acknowledged that the traffic survey took place during the Covid-19 pandemic, however it should also be noted that the survey was completed outside of any national lockdown restrictions. In order to provide a robust assessment and to help identify any loss in traffic level as a result of Covid-19, the Transport Assessment supporting the approved development at the southern end of Roman Way (ref. MC/09/0417) has been reviewed.

7.4 Application MC/09/0417 had utilised traffic surveys from 2007 and factored these surveys to a future 2018 assessment year. SCP have then factored these 2018 flows to 2020 using the relevant TEMPro factor. It was apparent that the most recent survey flows were slightly lower in comparison to the factored MC/09/0417 flows, and as such, a factor was then derived between the two. The factor was applied to the most recent survey in order to help account for any reduction in traffic as a result of Covid-19. Further details for this exercise are outline below in **Section 8.**

7.5 The factored 2020 observed peak hour traffic flows for the weekday and Saturday peaks are presented in **Traffic Figures 1** included within **Appendix 7**.

7.6 The forecast trip generation for the proposed development is derived from trip rates extracted from the TRICS database. The surveys selected reflect similar characteristics to those of the proposed discount food store. Full details of the selected parameters are provided in **Appendix 8**. The vehicle trip rates and total trips for the peak times based on the observed traffic in the surrounding network are presented at **Table 7.1** below.

Table 7.1: Trip rates and trips associated with 1,413 sqm sales area of Discount Food Store

	Weekday PM Peak (16-17:00)			Saturday Peak (13-14:00)		
	Arrivals	Departures	Totals	Arrivals	Departures	Totals
Vehicle trip rates	7.329	7.81	15.139	9.182	9.287	18.469
Vehicle trips	103	110	213	129	131	260

Source: TRICS

Adopted Traffic Distribution

7.7 The forecast trip distribution for the site routes 100% of Lidl traffic left onto Roman Way towards the Roman Way/ Cuxton Road A228 roundabout, with 8% of this traffic performing a 'U turn' at the roundabout to head towards the River Medway. At the Roman Way/ Cuxton Road A228 roundabout, 20% of traffic is expected to turn left towards the M2 while 70% would turn right towards the main residential hub of Strood. The remaining 2% of traffic is expected to travel across the roundabout to the Butlers Park Way housing estate. The same distribution is to be applied for both the weekday and Saturday peaks. This distribution is shown at **Traffic Figures 3** included within **Appendix 7**.

7.8 The proposed development traffic shown at **Table 7.1** has been distributed to the surrounding network during the Weekday and Weekend peak periods based on the distribution presented at **Traffic Figures 3** included in **Appendix 7,** with the associated traffic flow viewed in **Traffic Figures 5.**

Linked and Pass-By Trips

7.9 Given that the proposal is to develop a new discount food store, it has also been forecast that a number of trips to the site will not comprise new trips on the highway network, but instead originate as linked and pass-by trips which are already on the network and are re-routed via the new store before continuing on their existing route.

7.10 A number of studies have been undertaken to review the level of pass-by and linked trips associated with food related retail.

7.11 TRICS research report 14/1 'Pass-By & Diverted Trips' provided an update to the outdated 95/2 report and sought to identify how trip generation has changed over the years, as well as looking at how levels of pass-by and linked trips can change for each development. The report also

provides a review of a number of policies and studies in an attempt to summarise current application of such trips.

7.12 One such study reviewed the linked trips associated with a number of Tesco stores and trips to and from local town centre locations where the stores were also located within existing shopping areas. The results demonstrated that an average of 49% of trips comprised linked trips with other stores.

7.13 A study on pass-by trips to food stores completed by Wrigley (2006) entitled 'The Effects of Corporate Food stores on the High Street: Rebalancing the Debates, University of Southampton' also identified that a high proportion of trips to food related stores comprised pas-by trips. In this instance the results of two food store surveys found that between 58% and 65% of all trips were pass-by trips.

7.14 Given the evidence gathered it is considered that the application of 50% as a rate for pass-by and linked trips is reasonable. It is felt that this figure does not overestimate the extent to which trips associated with the food retail elements of the site will already be on the network. These pass-by trips have been distributed based upon the proportion of north to south movements along Cuxton Road as these are the predominant movements during both the weekday and Saturday peaks.

The pass by trip distribution can be seen in **Traffic Figures 4** with the associated trip seen in **Traffic Figures 6** included in **Appendix 7.**

8.0 IMPACT ASSESSMENT

8.1 This chapter presents a forecast of potential impact for the additional trips generated by the proposed development on the operation of the local highway network.

8.2 Based upon the trip generation and the traffic counts outlined in the previous chapter, a review of the forecast impacts on the local transport network has been completed. This assessment allows us to better understand the scale of any impacts arising from the proposed development. The assessment has been undertaken for the observed peak traffic times during a weekday and a Saturday.

Assessment Methodology

8.3 The site access and the Roman Way/ Cuxton Road A228 roundabout have been modelled using Junctions 9 software.

8.4 The results generated through the use of Junctions 9 provide a Ratio to Flow capacity (RFC) along with an estimate of the likely traffic queues. RFC values between 0.00 and 0.85 are generally accepted as representing stable and acceptable operating conditions within the junction's practical capacity. Values between 0.85 and 1.00 represent variable operation (i.e. possible queues building up at the junction during the period under consideration and increases in vehicular delay moving through the junction). RFC values in excess of one represent overloaded conditions (i.e. congestion).

8.5 Junctions 9 also provides a summary of the Level of Service (LoS) which refers either to single arms or to the overall performance of a junction. The LoS is based on queueing delays on each arm and the values range from A to F with the different traffic flow levels defined as follows:

- A = Free flow;
- B = Reasonably free flow;
- C = Stable flow;
- D = Approaching unstable flow;
- E = Unstable flow, and;
- F = Forced or breakdown flow.

Capacity Assessment Scenarios

8.6 As previously discussed (paras 7.4 to 7.7 above) a comparison was made between the observed 2020 surveyed flows and those derived in support of planning application ref. MC/09/0417 at the southern end of Roman Way. An expansion factor was derived in order to

help compensate for any reduction in traffic levels as a result of the Covid-19 pandemic. The factor was applied to the October 2020 base survey scenarios, as seen in **Traffic Figures 1** included within **Appendix 7.**

8.7 The derivation of this factor is presented in **Table 8.1** below. The factor was derived through a comparison of both northbound and southbound movements across the Roman Way/ Cuxton Road A228 roundabout, with these being the predominant flows and also those least likely to be affected by newly generated local development traffic. Averaged across both directions of travel, an expansion factor of 1.282 was derived. Observed 2020 flows have therefore been multiplied by 1.282 to represent a non-Covid19-affected baseline.

Table 8.1: Growth factors applied for 2025 assessment

Type	Observed 2020 Flow	MC/09/0417 2020 TEMPRo Flow	Factor
Cuxton Road N	3524	4538	1.288
Cuxton Road S	5047	6437	1.275
Applied Average Factor			**1.282**

8.8 To provide for a future scenario assessment in 2025, growth factors from TEMPro software have been extracted. The parameters selected reflect the local characteristics of the area and the surrounding highway network, with the TEMPro factors derived being unadjusted for any future development to allow for a robust assessment. The growth factors used for the 2025 assessment are presented at **Table 8.2** below

Table 8.2: Growth factors applied for 2025 assessment

Type	Growth factor
Car driver – Weekday PM peak	1.061
Car driver – Saturday	1.067

Source: TEMPro

8.9 The 2025 Baseline traffic flows for Weekday and Weekend peak traffic periods are shown at **Traffic Figures 2** included within **Appendix 7.**

8.10 The 2025 With Development traffic flows have been derived by adding the proposed total development traffic (**Traffic Figures 7** within **Appendix 7)** to the 2025 Baseline traffic flows (presented at **Traffic Figures 2**). The 2025 with Development traffic flows are displayed in **Traffic Figures 8** within **Appendix 7**.

8.11 The neighbouring MC/09/0417 development flows have not been manually added to any traffic flow diagrams for the purposes of this assessment. When comparing the uplifted 2020 base

flows (**Table 8.3** below) and the '2018 with development PM flows' (derived from page 103 of the Transport Assessment supporting planning application MC/09/0417), It can be seen that the uplifted base surveys account for an approximate +2% increase in traffic utilising the Roman Way/ Cuxton Road A228 roundabout. It can therefore be considered that the MC/09/0417 traffic has been accounted for within these flows, with the unadjusted derived TEMPro factors further helping to account for any future development.

Table 8.3: Uplifted 2020 Base survey comparison to MC/09/0417 '2018 with development PM' flows for Roman Way/ Cuxton Road roundabout

MC/09/0417 – 2018 with development PM flows	Uplifted 2020 base survey PM	% difference
3000	3049	Circa +2%

Capacity Assessment Analysis

8.12 The junction capacity assessment results are presented below for both junctions included in the analysis. All the Junctions 9 output reports are provided in **Appendix 9**.

Site Access Road

8.13 A summary of the capacity assessment results for the site access T-junction to Roman Way is presented in **Table 8.4**. It is demonstrated that the site access to Roman Way will operate with significant levels of spare capacity. The maximum RFC value observed is 0.39 during the 2025 With Development Saturday peak scenario with an associated delay of approximately 6.72 seconds. The level of service of the junction is maintained at the best possible score of A.

8.14 A queue of just one PCU (passenger car unit) is forecast for the right turn into the site from Roman Way. The delay to southbound vehicles is just 6 to 7 seconds. The distance between the site access and the exit from the roundabout is circa 40m. Allowing for 6m per PCU, a queue of 7 cars could wait between the site access and the roundabout. There is no evidence to suggest that any such queue would result from these proposals.

Table 8.4: Site access

Arm	Weekday PM				Saturday midday peak			
	RFC	Queue (PCU)	Junction Delay	Junction LOS	RFC	Queue (PCU)	Junction Delay	Junction LOS
2025 with Development								
Site Access Road left turn to Roman Way north	0.22	0.3	8.35	A	0.24	0.3	8.15	A
Roman Way north right turn to Site Access	0.36	1.2	6.02	A	0.39	1.1	6.72	A

Cuxton Road/Roman Way Roundabout

8.15 **Table 8.5** shows the performance of the Cuxton Road/Roman Way Roundabout following a capacity assessment using Junctions 9 modelling software. It is demonstrated that the junction operates with spare capacity during the 2020 base assessment year for the weekday peak. During the weekday 'Future Base 2025' assessment year the roundabout continues to operate with spare capacity, with the highest RFC of 0.9 measured on Cuxton Road south (all other arms remain below 0.85 RFC). This RFC coincides with a slight increase in queues (7.9 vehicles) and delay (18.7 seconds) when compared to the 2020 baseline scenario.

8.16 The performance of the junction remains within capacity with the addition of development traffic. The Cuxton Road south arm remains the highest RFC with a marginal increase of 0.03. This results in a slight junction delay increase of circa 7 seconds and 3 additional vehicles queuing. Limitations exist within the Junctions 9 software, which show an almost exponential reduction in performance of a junction when the practical capacity threshold (0.85) is exceeded. This should be kept in mind when reviewing these results. In any case, the development traffic can certainly not be considered to have a 'severe' impact.

8.17 All Saturday scenarios flows operate with ample capacity and maintain an 'A' LoS (level of service), with a maximum RFC of 0.77 measured for Cuxton Road south.

Table 8.5: Cuxton Road/Roman Way Roundabout

Arm	Weekday PM				Saturday (13-14:00)			
	RFC	Queue (PCU)	Junction Delay	Junction LOS	RFC	Queue (PCU)	Junction Delay	Junction LOS
2020 Baseline								
Cuxton Road North	0.71	2.4	7.68	A	0.57	1.3	5.17	A
Roman Way	0.59	1.4	9.06	A	0.42	0.7	5.94	A
Cuxton Road South	0.84	5.0	12.31	B	0.69	2.2	6.32	A
Butlers Park Way	0.24	0.3	7.72	A	0.19	0.2	6.17	A
Future Base 2025								
Cuxton Road North	0.76	3.1	9.41	A	0.62	1.6	5.89	A
Roman Way	0.64	1.8	10.89	A	0.46	0.8	6.67	A
Cuxton Road South	0.90	7.9	18.70	C	0.74	2.9	7.78	A
Butlers Park Way	0.28	0.4	8.96	A	0.22	0.3	6.92	A
2025 with Development								
Cuxton Road North	0.80	3.9	11.54	B	0.67	2.0	6.89	A
Roman Way	0.76	3.1	16.02	C	0.59	1.4	8.61	A
Cuxton Road South	0.93	11.1	26.55	D	0.77	3.4	9.29	A
Butlers Park Way	0.31	0.4	10.31	B	0.25	0.3	7.92	A

Summary

8.18 The Proposed Development is forecast to have a negligible impact on the operation of the surrounding highway network with all arms of both junctions forecast to remain below 1.0 RFC for both assessment periods. Although the practical capacity is exceeded (>0.85 RFC) for the Cuxton Road south arm of the roundabout, it should be noted that this exceedance is forecast during the Future Base 2025 assessment, without the proposed development. The addition of the proposed development adds a marginal 0.03 RFC increase for this arm, and as such its impact can be considered negligible, with all other arms remaining within practical capacity

9.0 SUMMARY AND CONCLUSION

9.1 This Transport Assessment has been prepared on behalf of Lidl Great Britain Limited and provides a review of the transport and highway impacts related to the proposed new development on land adjacent to Roman Way, Strood, Rochester.

9.2 The proposed site is currently undeveloped and is situated to the south of the Roman Way/Cuxton Road A228 roundabout. Roman Way fronts the development site's northern boundary with Cuxton Road A228 fronting the development site's western boundary. '

9.3 Following the review of the accessibility options by different modes of transport, it is considered that the site has very good levels of accessibility. Access to the site on foot and by bicycle is well provided for, there are several bus stops nearby providing access to a range of local destinations and both Strood/Cuxton Rail Stations can take staff and customers further afield. Moreover, the site is also well connected to the adjacent highway network.

9.4 The proposals comprise a discount food store with a sales area of 1,413sqm. Parking for 117 cars will be provided on site out of which 6 will be dedicated to disabled, 9 to parents with children and 2 for electric vehicle charging points. Cycle parking will be provided on site in the form of 5 Sheffield cycle stands which will provide space for up to 10 bicycles. These cycle stands will serve both employees and customers of the food store. Furthermore, a loading bay will be provided on site to accommodate delivery vehicles.

9.5 Vehicular access to the site will be accommodated through an existing site access to Roman Way. This access will be upgraded in order to accommodate the increased traffic demand from the proposed development, with all upgrades being in accordance to current highway standards. Access and egress are segregated due to visibility constraints dictated by third party land to the south of the site. Speed surveys have confirmed that the visibility splay out of the proposed egress to the south is commensurate with the prevailing 85%ile speed of the road.

9.6 A direct access to the proposed Lidl store will be provided from the new road developed in tandem with the upgraded access to Roman Way. Again, this will be provided in accordance with current highway standards.

9.7 A swept path analysis has demonstrated that a maximum legal length articulated vehicle (16.5m) can safely enter and exit the site in a forward gear.

9.8 Within the site, dedicated vehicle and cycle parking will be provided for the employees and customers of the food store which will be provided in line with the parking standards set out in

the Medway Council Parking Standards adopted in 2001. To assess the suitability of the proposed parking provision on site, a parking accumulation exercise has been undertaken based upon the forecast trip generation associated with the new development.

9.9 It is shown that car parking demand peaks at approximately 50 spaces during 15:00-16:00 on a weekday. Moreover, it is demonstrated that demand peaks at 59 car parking spaces during 11:00-12:00 on a Saturday. The provision of 117 spaces will therefore cover the estimated car parking demand. Furthermore it offers some additional headroom to service any peaks in demand over those forecast.

9.10 Based upon the forecast trip generation and the traffic counts collected on site, a review of the forecast transport impacts on the local transport infrastructure has been completed to understand the scale of any impacts arising from the proposed development. The assessment has been undertaken for the peak traffic times during a weekday and a Saturday. The site access and Roman Way/ Cuxton Road A228 roundabout have been modelled using Junctions 9 software.

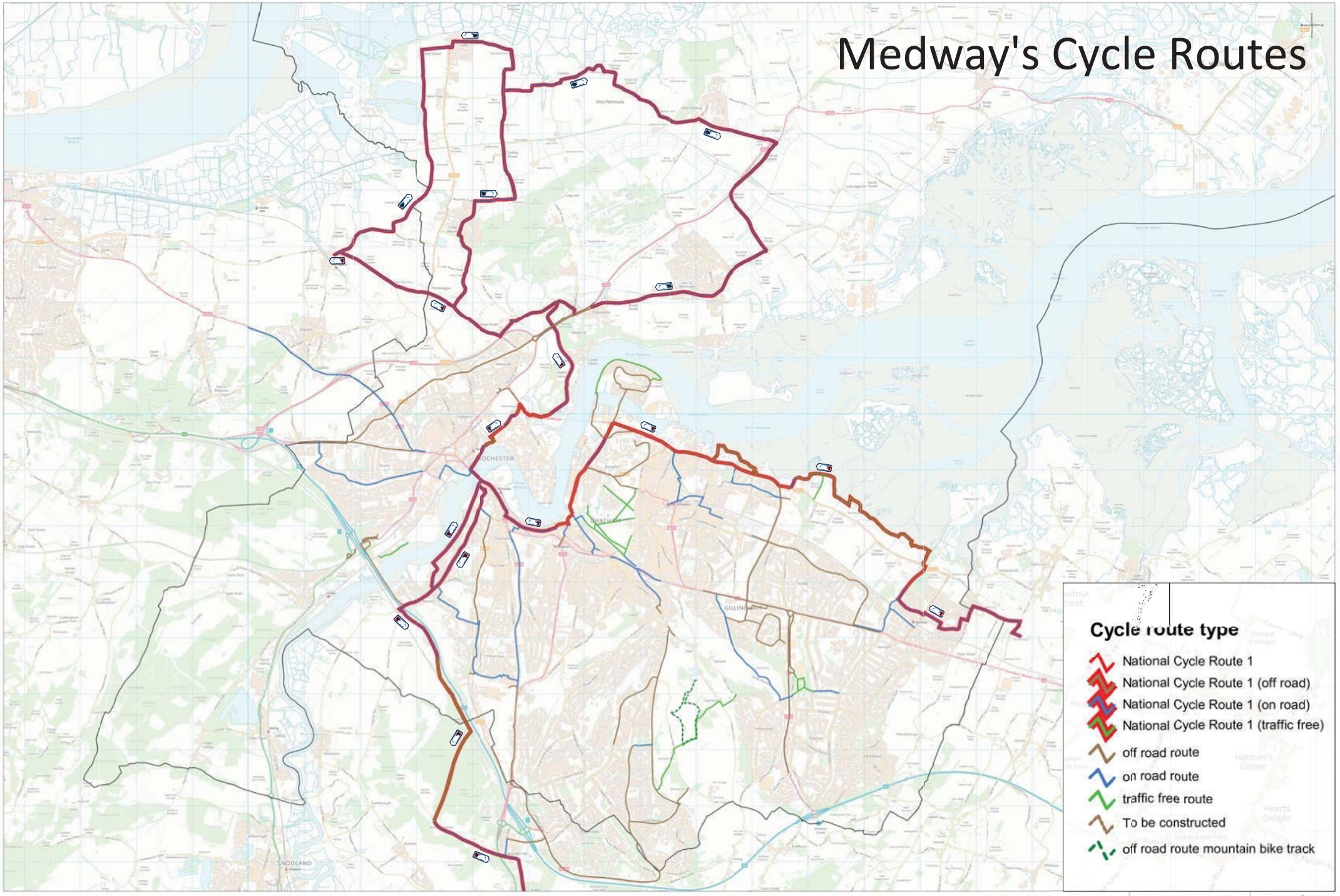
9.11 The results of the junction modelling have shown that the Proposed Development is forecast to have a negligible impact on the operation of the surrounding highway network with all arms of both junctions forecast to remain within capacity for both the Weekday PM and Weekend peak periods with an RFC of <1.0.

9.12 In conclusion, this transport assessment has demonstrated that the impact of the proposed development on the local highway network can be easily and safely accommodated. There is no evidence of any residual harm to the interests of the free-flow of traffic or highway safety that could be categorised as severe.

S|C|P

APPENDIX 1

Medway's Cycle Routes



Medway's Cycle Routes

HM Government

SOUTH EAST LOCAL ENTERPRISE PARTNERSHIP

Medway Serving You

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APPENDIX 2

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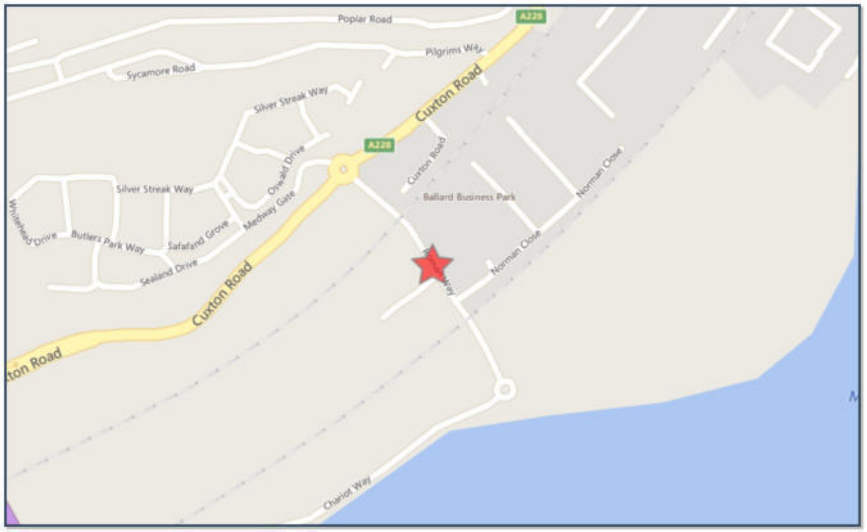
No

Crash Date:	Sunday, April 05, 2015	**Time of Crash:**	5:35:00 PM	**Crash Reference:**	**2015460255005**

Highest Injury Severity:	Slight	**Road Number:**	U0	**Number of Casualties:**	1
Highway Authority:	Medway Towns			**Number of Vehicles:**	3
Local Authority:	Medway			**OS Grid Reference:**	572723 167879
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Using private drive or entrance				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



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No

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	3	Female	21 - 25	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None
2	Car (excluding private hire)	1	Female	26 - 35	Vehicle is slowing down or stopping	Back	Other	None	None
3	Car (excluding private hire)	9	Male	46 - 55	Vehicle is waiting to turn right	Back	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Female	21 - 25	Unknown or other	Unknown or other

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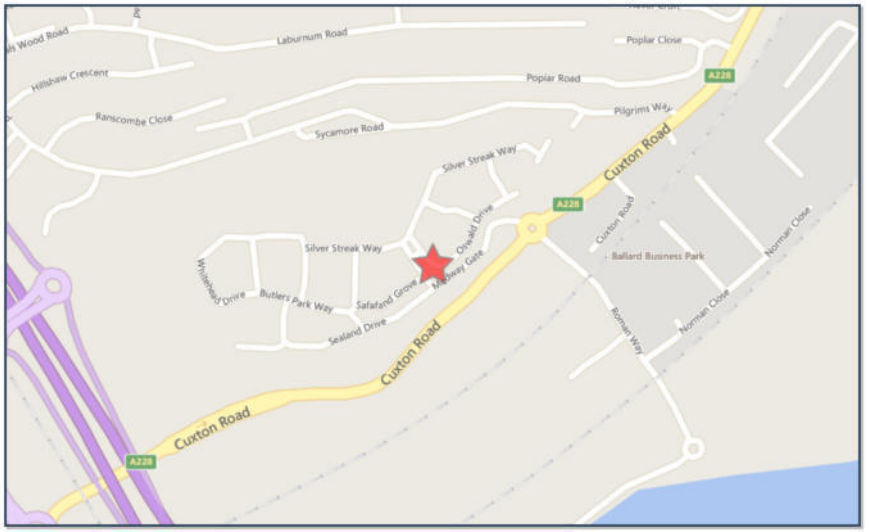
No

Crash Date:	Wednesday, December 09, 2015	**Time of Crash:**	9:00:00 AM	**Crash Reference:**	**2015460264880**
Highest Injury Severity:	Slight	**Road Number:**	U0	**Number of Casualties:**	2
Highway Authority:	Medway Towns			**Number of Vehicles:**	2
Local Authority:	Medway			**OS Grid Reference:**	572439 167964
Weather Description:	Fine without high winds				
Road Surface Description:	Wet or Damp				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Not Applicable				



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No

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	6	Female	46 - 55	Vehicle proceeding normally along the carriageway, on a right hand bend	Offside	Other	None	None
2	Car (excluding private hire)	5	Male	36 - 45	Vehicle is slowing down or stopping	Offside	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Female	46 - 55	Unknown or other	Unknown or other
2	2	Slight	Driver or rider	Male	36 - 45	Unknown or other	Unknown or other

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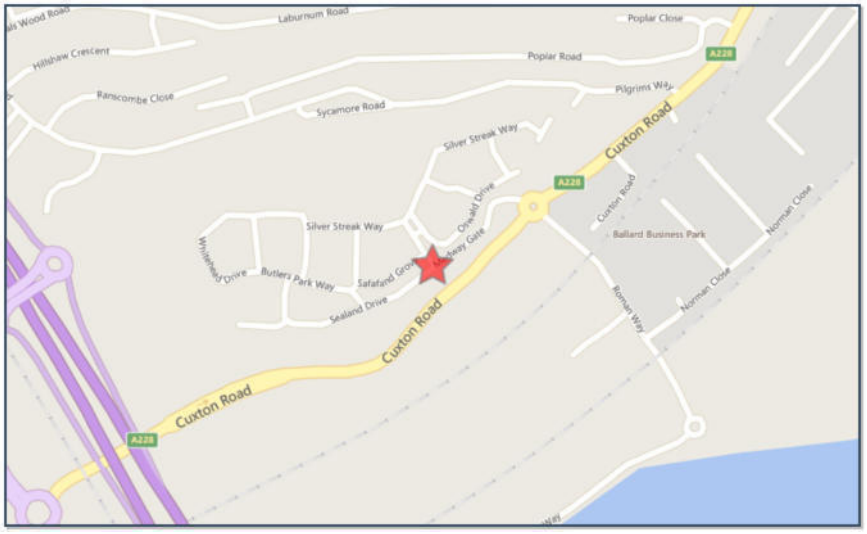
No

Crash Date:	Sunday, February 05, 2017	**Time of Crash:**	10:15:00 AM	**Crash Reference:**	**2017460155517**

Highest Injury Severity:	Slight	**Road Number:**	U0	**Number of Casualties:**	1
Highway Authority:	Medway Towns			**Number of Vehicles:**	1
Local Authority:	Medway			**OS Grid Reference:**	572436 167933
Weather Description:	Fine without high winds				
Road Surface Description:	Wet or Damp				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Not Applicable				



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No

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Pedal cycle	-1	Male	21 - 25	Vehicle proceeding normally along the carriageway, not on a bend	Did not impact	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Male	21 - 25	Unknown or other	Unknown or other

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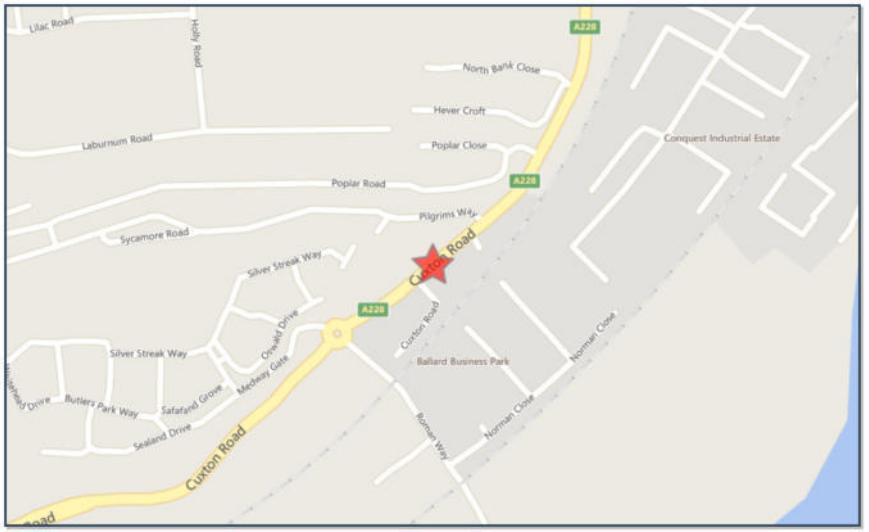
No

Crash Date:	Friday, February 03, 2017	**Time of Crash:**	8:42:00 AM	**Crash Reference:**	**2017460158712**

Highest Injury Severity:	Slight	**Road Number:**	U0	**Number of Casualties:**	1
Highway Authority:	Medway Towns			**Number of Vehicles:**	2
Local Authority:	Medway			**OS Grid Reference:**	572721 168127
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Not Applicable				



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No

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	12	Female	26 - 35	Vehicle is in the act of turning right	Nearside	Journey as part of work	None	None
2	Car (excluding private hire)	5	Male	16 - 20	Vehicle proceeding normally along the carriageway, not on a bend	Offside	Journey as part of work	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Slight	Driver or rider	Male	16 - 20	Unknown or other	Unknown or other

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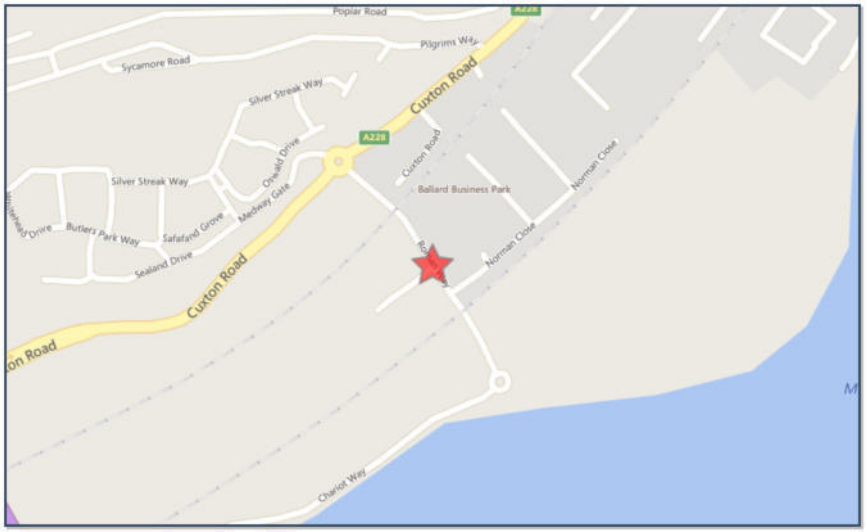
No

Crash Date:	Monday, May 01, 2017	**Time of Crash:**	9:35:00 AM	**Crash Reference:**	**2017460180249**

Highest Injury Severity:	Slight	**Road Number:**	U0	**Number of Casualties:**	2
Highway Authority:	Medway Towns			**Number of Vehicles:**	3
Local Authority:	Medway			**OS Grid Reference:**	572728 167876
Weather Description:	Raining without high winds				
Road Surface Description:	Wet or Damp				
Speed Limit:	30				
Light Conditions:	Darkness: street lighting unknown				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Unknown				
Junction Control:	Not Applicable				



No

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	-1	Male	36 - 45	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None
2	Car (excluding private hire)	9	Female	36 - 45	Vehicle is waiting to proceed normally but is held up	Back	Other	None	None
3	Car (excluding private hire)	14	Female	16 - 20	Vehicle is waiting to turn right	Back	Other	None	None

Casualties

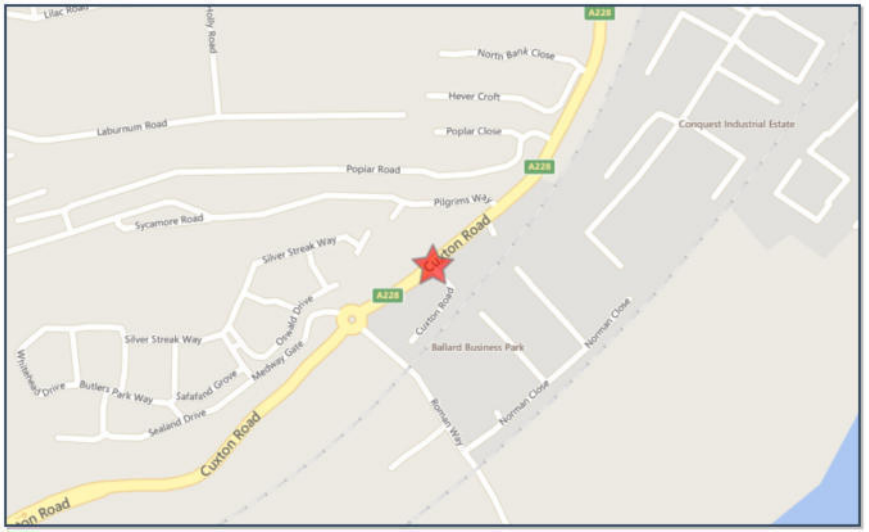
Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	2	Slight	Driver or rider	Female	36 - 45	Unknown or other	Unknown or other
3	1	Slight	Driver or rider	Female	16 - 20	Unknown or other	Unknown or other

crashmap.co.uk

No

Crash Date:	Friday, April 28, 2017	**Time of Crash:**	6:50:00 PM	**Crash Reference:**	**2017460181720**

Highest Injury Severity:	Slight	**Road Number:**	A228	**Number of Casualties:**	1
Highway Authority:	Medway Towns			**Number of Vehicles:**	2
Local Authority:	Medway			**OS Grid Reference:**	572701 168103
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Not Applicable				



For more information about the data please visit: *www.crashmap.co.uk/home/Faq*
To subscribe to unlimited reports using CrashMap Pro visit *www.crashmap.co.uk/Home/Premium_Services*

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No

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	-1	Unknown	26 - 35	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None
2	Car (excluding private hire)	8	Male	16 - 20	Vehicle is slowing down or stopping	Back	Other	None	None

Casualties

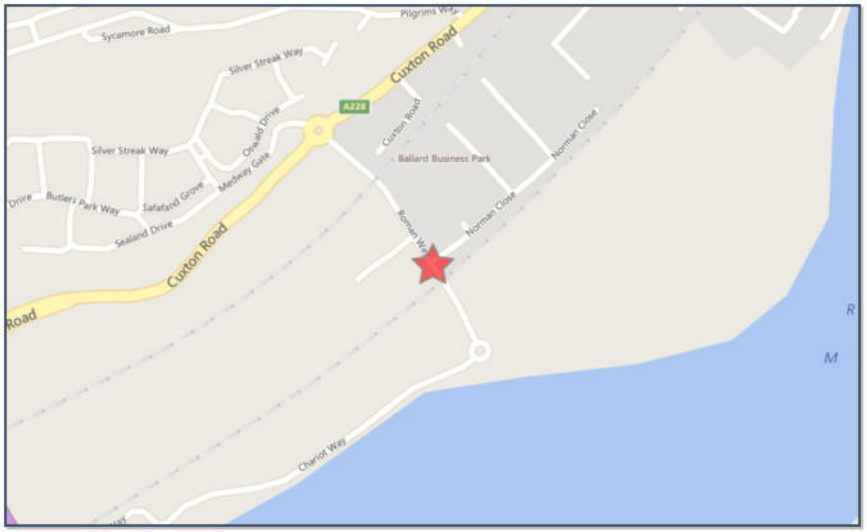
Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Slight	Vehicle or pillion passenger	Female	16 - 20	Unknown or other	Unknown or other

crashmap.co.uk

No

Crash Date:	Saturday, September 02, 2017	**Time of Crash:**	11:00:00 PM	**Crash Reference:**	**2017460219829**

Highest Injury Severity:	Slight	**Road Number:**	U0	**Number of Casualties:**	1
Highway Authority:	Medway Towns			**Number of Vehicles:**	2
Local Authority:	Medway			**OS Grid Reference:**	572760 167831
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Darkness: street lights present and lit				
Carriageway Hazards:	None				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



For more information about the data please visit: *www.crashmap.co.uk/home/Faq*
To subscribe to unlimited reports using CrashMap Pro visit *www.crashmap.co.uk/Home/Premium_Services*

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No

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	3	Female	26 - 35	Vehicle is performing a U turn	Offside	Other	None	None
2	Car (excluding private hire)	11	Female	26 - 35	Vehicle proceeding normally along the carriageway, not on a bend	Nearside	Other	None	None

Casualties

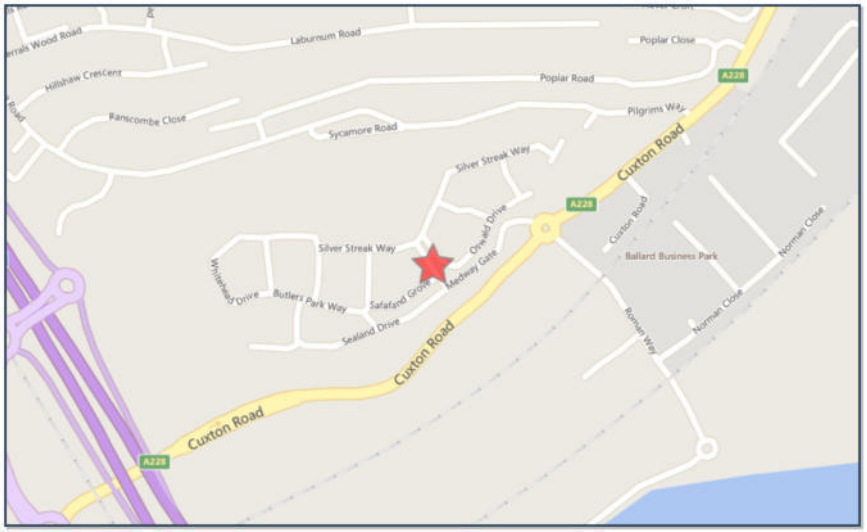
Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	2	Slight	Driver or rider	Female	26 - 35	Unknown or other	Unknown or other

crashmap.co.uk

No

Crash Date:	Sunday, February 11, 2018	**Time of Crash:**	10:30:00 AM	**Crash Reference:**	**2018460270784**

Highest Injury Severity:	Slight	**Road Number:**	U0	**Number of Casualties:**	1
Highway Authority:	Medway Towns			**Number of Vehicles:**	1
Local Authority:	Medway			**OS Grid Reference:**	572417 167961
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	Other object in carriageway				
Junction Detail:	Other junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



No

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	6	Female	21 - 25	Vehicle proceeding normally along the carriageway, not on a bend	Nearside	Other	Other object	None

Casualties

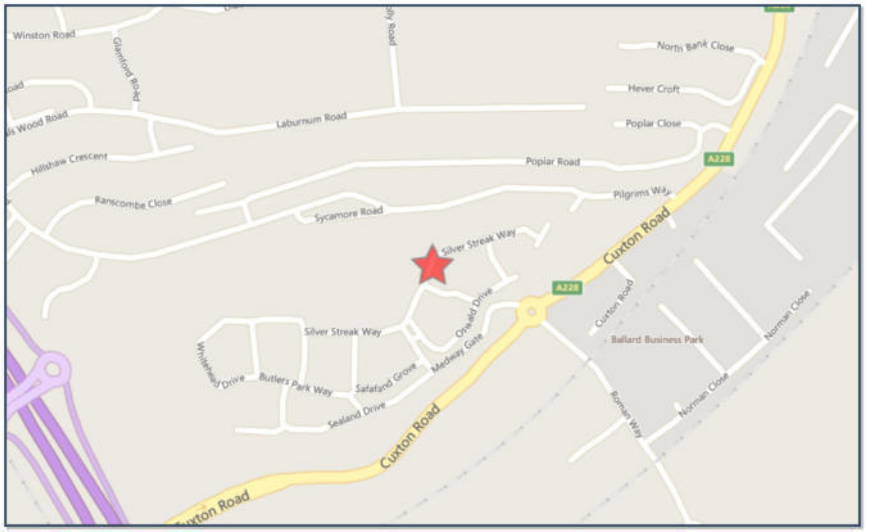
Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Pedestrian	Male	26 - 35	In carriageway, crossing elsewhere	Crossing from driver's nearside

crashmap.co.uk

No

Crash Date:	Saturday, July 07, 2018	**Time of Crash:**	10:14:00 AM	**Crash Reference:**	**2018460311925**

Highest Injury Severity:	Slight	**Road Number:**	U0	**Number of Casualties:**	2
Highway Authority:	Medway Towns			**Number of Vehicles:**	2
Local Authority:	Medway			**OS Grid Reference:**	572434 168085
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Not Applicable				



For more information about the data please visit: *www.crashmap.co.uk/home/Faq*
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No

Vehicles involved

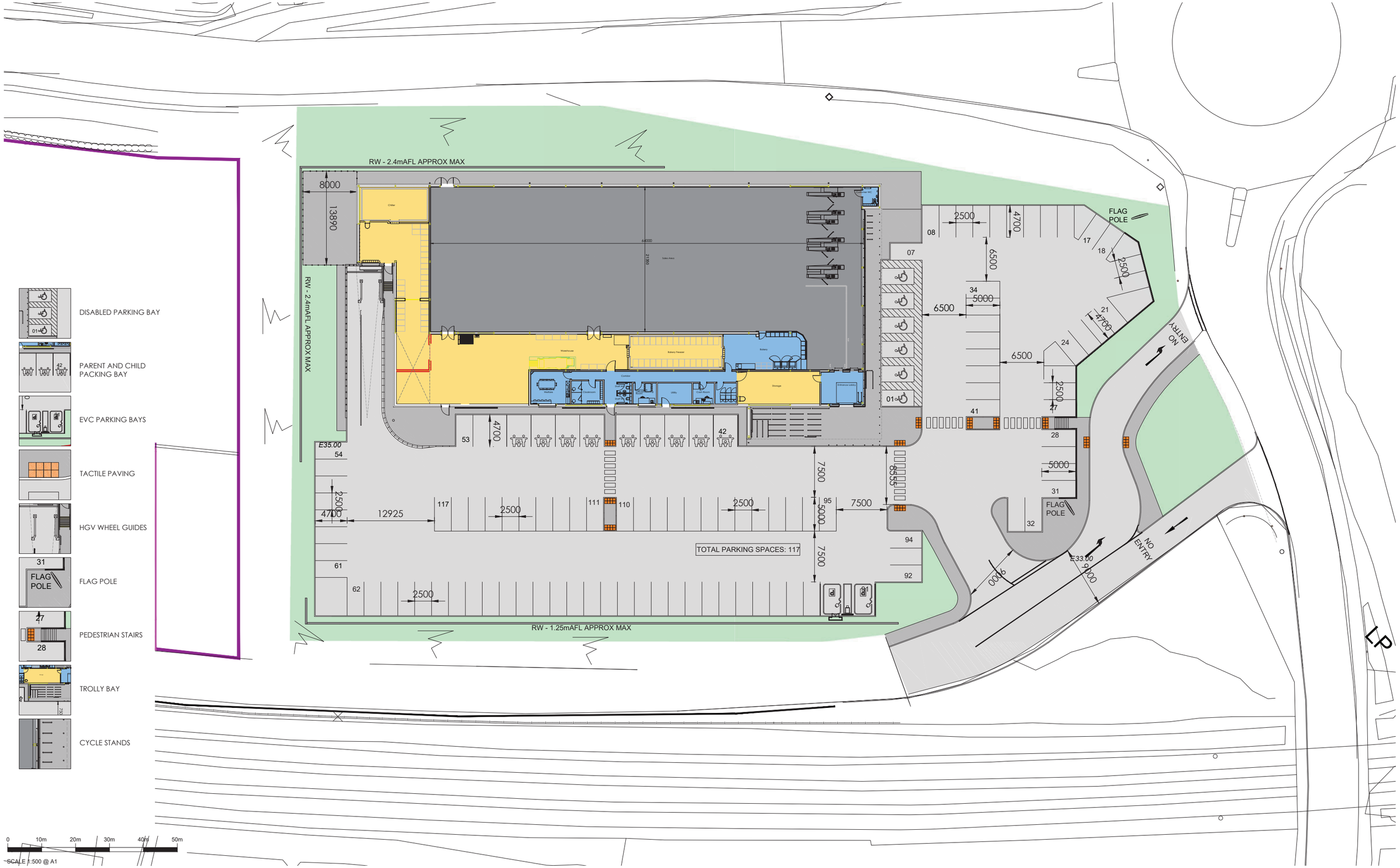
Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	1	Male	46 - 55	Vehicle is passing a stationary vehicle on its offside	Front	Other	None	None
2	Car (excluding private hire)	19	Male	21 - 25	Vehicle is passing another vehicle (moving or stationary) on its nearside	Front	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	2	Slight	Vehicle or pillion passenger	Male	6 - 10	Unknown or other	Unknown or other
2	1	Slight	Driver or rider	Male	21 - 25	Unknown or other	Unknown or other

S|C|P

APPENDIX 3



RIBA Chartered Practice

arb Architects Registration Board

CIAT

DIMENSIONS TO BE CONFIRMED ON SITE PRIOR TO START OF WORKS AND ODA TO BE INFORMED OF DISCREPANCIES IMMEDIATELY. NO DIMENSIONS TO BE SCALED FROM THIS DRAWING.
ALL MATERIALS AND WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE LATEST REVISION OF THE APPROPRIATE **BRITISH STANDARDS OR EURO CODE, PLANNING APPROVAL, CURRENT BUILDING REGULATIONS AND CODES OF PRACTICE.**
PARTY WALL ACT - NOTICES UNDER THE PARTY WALL ACT ARE TO BE SERVED BY THE PROPERTY OWNER OR APPOINTED THIRD PARTY BY PROPERTY OWNER. HEALTH AND SAFETY - CDM 2015 REGULATIONS APPLY TO ALL CONSTRUCTION WORKS TO BE CARRIED OUT AND APPLY TO DESIGNERS, CONTRACTORS AND THE CLIENT, AS SUCH ALL PARTIES HAVE DUTIES UNDER THESE REGULATIONS.

Notes

Revisions

Rev	Description	Date	Rev by	Chk by
-				

Client
LIDL GREAT BRITAIN LTD.
Northfleet RDC, Crete Hall Road,
Gravesend, DA11 9BU

Project
STROOD
OFF ROMAN WAY

Drawing
PROPOSED SITE PLAN

Project No: 19051
Drawing No: AD_110

Purpose of Issue
PLANNING

Scale @ A1
1:250

Drawn EH
Checked LMC

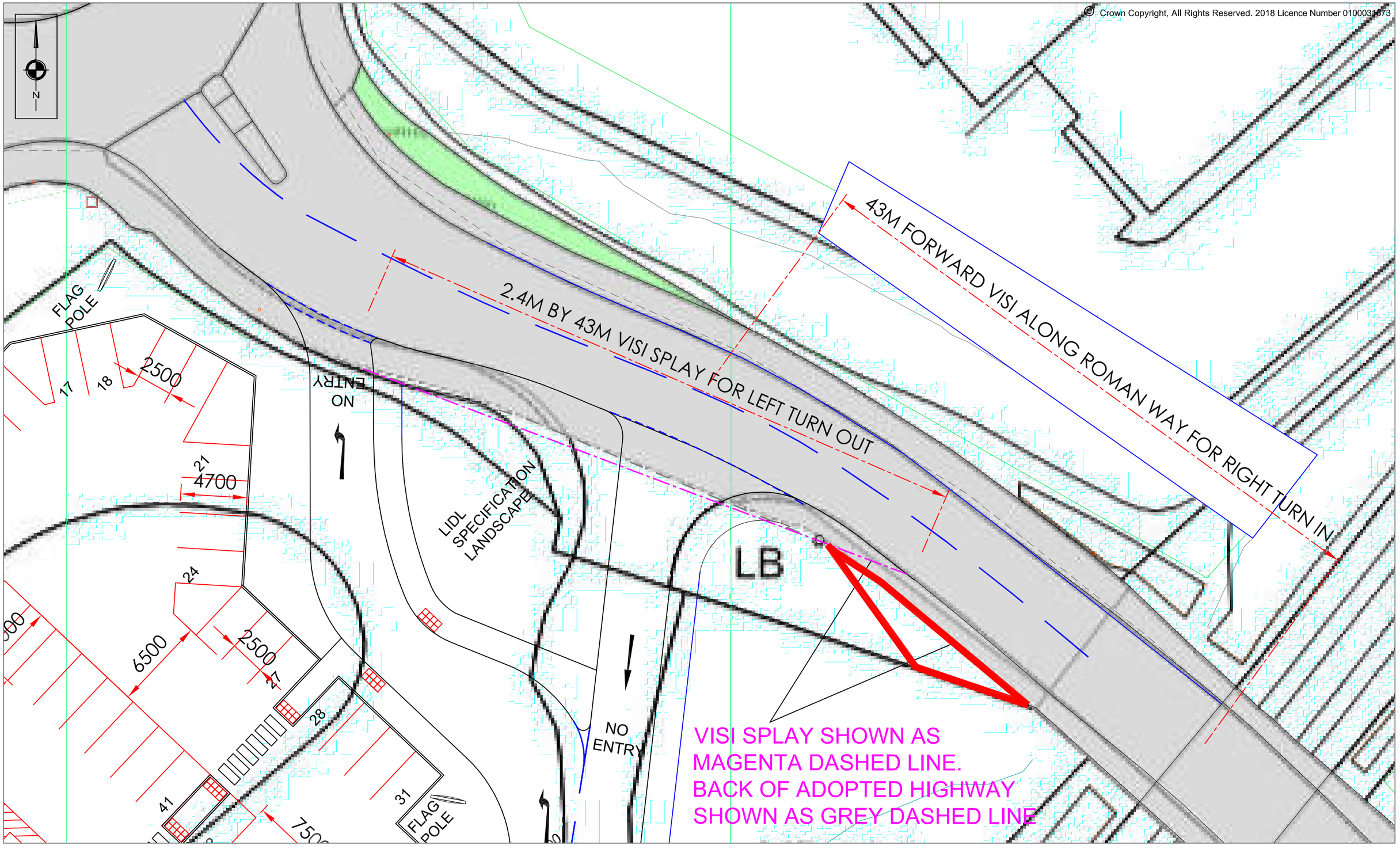
Revision -
Date MAR 2021

ONE DESIGN Architects
One Design Architects Ltd, Unit 1 Merchants Quay, Phase II, Ashley Lane, Shipley, West Yorkshire, BD17 7DB
Tel: 01274 591188
www.onedesignarchs.com mail@onedesignarchs.com
Registered in England & Wales No: 8355643

Architectural

S|C|P

APPENDIX 4



S C P

Transportation Planning : Infrastructure Design

Colwyn Chambers, 19 York Street, Manchester, M2 3BA, Tel 0161 832 4400,
www.scptransport.co.uk, Email info@scptransport.co.uk

Client	LIDL GREAT BRITAIN LTD
Project Title	LAND AT ROMAN WAY, STROOD
Drawing Title	PROPOSED SPLIT ACCESS / EGRESS SOLUTION TO ENSURE 2.4M BY 43M VISI SPLAY REQUIRES NO THIRD-PARTY LAND
Scale	1:250 @ A3
By	JRB
Date	09.03.2021
Checked	JRB
Approved/ Unapproved	-
Status	PLANNING

Rev	Description	Date	By
–	–	–	–
–	–	–	–
–	–	–	–
–	–	–	–

Drawing No.	SCP/200289/SK100
Revision	A

S|C|P

APPENDIX 5

Automatic Classified Counts, Strood

LOCATION: ROMAN WAY

Direction : NORTHBOUND

AVERAGE SPEEDS							
Hr Ending	Friday 16-Oct-20	Saturday 17-Oct-20	Sunday 18-Oct-20	Monday 19-Oct-20	Tuesday 20-Oct-20	Wednesday 21-Oct-20	Thursday 22-Oct-20
1	21.6	23.2	28.0	25.5	23.8	22.2	22.3
2	23.7	23.1	22.8	23.5	23.7	25.0	19.7
3	24.0	24.3	21.8	23.0	25.5	21.1	18.6
4	24.3	22.3	28.2	24.4	23.9	22.1	23.5
5	22.3	23.4	22.4	21.2	22.1	20.9	23.7
6	21.6	23.2	27.2	22.5	20.4	20.2	20.6
7	24.8	24.0	21.7	25.7	24.7	24.5	24.5
8	25.2	23.4	23.1	24.9	24.9	25.4	25.4
9	25.1	23.7	23.8	25.5	25.0	24.8	25.3
10	24.0	23.1	23.7	24.1	23.9	24.2	25.0
11	23.6	22.8	23.9	23.9	23.2	24.0	24.9
12	23.5	23.5	23.4	23.8	23.8	23.3	23.3
13	24.4	23.8	23.3	23.8	24.3	24.3	24.2
14	23.8	23.2	22.5	23.0	24.3	23.8	22.9
15	23.5	23.4	23.4	23.5	23.3	23.4	23.0
16	24.1	23.3	23.3	24.3	24.0	25.0	24.8
17	23.6	22.9	23.3	23.1	23.7	23.4	23.2
18	23.3	23.5	23.9	23.8	23.1	23.6	23.4
19	25.1	23.7	23.3	24.3	24.8	25.4	24.7
20	24.1	23.2	23.8	23.7	23.3	24.1	23.9
21	25.6	23.9	23.3	25.1	24.1	24.4	24.4
22	24.2	23.2	24.0	23.7	24.2	23.8	23.5
23	25.7	24.2	23.5	25.9	24.7	25.7	25.4
24	26.2	23.7	21.8	26.5	25.3	25.1	27.0
10-12	23.5	23.1	23.6	23.8	23.5	23.7	24.1
14-16	23.8	23.3	23.3	23.9	23.7	24.2	23.9
0-24	24.1	23.4	23.7	24.1	23.9	23.7	23.6

85TH PERCENTILE							
Hr Ending	Friday 16-Oct-20	Saturday 17-Oct-20	Sunday 18-Oct-20	Monday 19-Oct-20	Tuesday 20-Oct-20	Wednesday 21-Oct-20	Thursday 22-Oct-20
1	27.8	29.5	33.0	31.2	28.3	27.8	27.3
2	30.7	29.2	28.3	27.9	29.2	30.9	25.5
3	27.7	30.3	26.7	28.3	25.5	26.2	23.4
4	29.9	28.9	32.9	28.2	27.6	28.1	27.6
5	27.5	29.6	28.4	26.9	27.8	26.1	28.6
6	27.8	29.2	31.5	30.3	26.6	26.3	27.9
7	31.8	30.7	26.7	33.4	31.0	31.5	32.0
8	31.8	29.8	30.3	31.5	31.8	32.0	32.3
9	31.4	30.3	30.0	31.7	31.4	31.1	31.8
10	30.3	29.4	29.8	30.1	29.9	30.6	31.4
11	29.0	28.9	30.1	30.1	29.2	30.2	30.9
12	29.7	29.5	29.8	30.4	29.9	29.6	29.2
13	30.0	29.9	29.6	30.0	30.2	30.4	30.4
14	29.7	29.4	28.8	28.7	29.8	29.6	28.6
15	29.5	29.7	30.0	29.1	28.7	29.1	28.7
16	30.3	29.6	29.5	30.4	30.2	30.8	31.3
17	29.2	29.0	29.3	28.5	29.6	29.2	29.3
18	29.3	29.8	30.0	29.5	28.3	29.6	29.2
19	31.8	30.0	29.5	31.2	31.1	31.8	31.0
20	30.1	29.2	31.1	29.0	29.3	30.2	29.7
21	31.5	30.3	29.3	30.9	30.6	30.4	30.5
22	30.5	29.8	30.4	29.2	29.8	30.0	29.7
23	31.9	29.7	29.5	32.4	30.8	32.5	32.2
24	33.9	31.4	27.6	35.5	32.8	33.0	33.9
10-12	29.3	29.2	29.9	30.2	29.6	29.9	30.1
14-16	29.9	29.6	29.7	29.7	29.4	29.9	30.0
0-24	30.1	29.7	29.7	30.2	29.6	29.9	29.7

7 DAY AVERAGE SPEED	23.8
7 DAY AVERAGE 85th PERCENTILE	29.8

LOCATION: ROMAN WAY

Direction : SOUTHBOUND

AVERAGE SPEEDS							
Hr Ending	Friday 16-Oct-20	Saturday 17-Oct-20	Sunday 18-Oct-20	Monday 19-Oct-20	Tuesday 20-Oct-20	Wednesday 21-Oct-20	Thursday 22-Oct-20
1	22.7	23.1	28.7	23.5	22.9	23.2	22.5
2	22.4	24.7	23.0	21.0	21.3	22.4	20.4
3	23.9	24.1	22.0	24.2	22.9	22.3	25.0
4	21.8	24.9	28.1	21.9	20.8	23.3	22.9
5	21.7	24.0	24.0	21.4	18.7	22.6	22.9
6	22.5	24.4	30.0	21.3	22.9	22.1	22.5
7	23.9	24.5	22.5	24.2	23.3	24.5	24.2
8	25.1	24.6	25.2	24.8	25.3	25.8	24.5
9	24.9	24.2	25.1	24.8	24.6	24.6	24.4
10	23.4	24.1	23.5	23.8	24.8	23.8	24.1
11	24.5	23.0	24.0	24.4	24.6	24.5	24.1
12	23.5	24.0	24.2	24.3	23.7	24.1	23.8
13	24.4	24.1	24.1	24.9	25.2	24.9	24.0
14	23.1	23.8	24.4	23.6	23.5	23.9	22.8
15	24.0	24.0	24.2	23.6	24.3	24.0	23.6
16	24.6	24.0	23.9	24.0	25.2	25.1	25.7
17	23.5	23.7	23.1	23.2	24.4	23.5	22.8
18	23.6	24.4	24.1	23.3	23.7	23.4	22.7
19	24.9	24.3	23.8	24.7	25.8	25.2	24.9
20	23.9	25.1	23.8	24.1	23.6	23.6	23.5
21	25.0	24.9	23.5	23.9	25.1	25.4	24.7
22	24.0	23.8	23.6	24.7	23.5	24.4	23.3
23	26.0	21.8	23.2	24.1	26.5	24.0	25.8
24	24.9	22.1	23.0	25.0	27.8	25.1	25.7
10-12	24.0	23.5	24.1	24.3	24.2	24.3	23.9
14-16	24.3	24.0	24.0	23.8	24.7	24.6	24.6
0-24	23.8	24.0	24.4	23.7	23.9	24.0	23.8

85TH PERCENTILE							
Hr Ending	Friday 16-Oct-20	Saturday 17-Oct-20	Sunday 18-Oct-20	Monday 19-Oct-20	Tuesday 20-Oct-20	Wednesday 21-Oct-20	Thursday 22-Oct-20
1	28.9	29.5	32.5	28.9	28.3	27.5	27.2
2	29.5	30.6	30.7	26.5	28.1	28.4	26.0
3	28.3	30.4	29.3	28.2	27.4	27.1	28.7
4	27.3	31.9	32.9	26.8	25.9	28.3	28.0
5	26.6	31.3	28.5	26.9	23.5	27.7	28.0
6	29.4	30.5	33.7	28.0	29.5	29.0	30.0
7	30.7	30.8	28.2	31.5	29.7	30.8	29.9
8	32.2	31.4	31.8	31.0	31.7	33.1	31.6
9	31.1	31.1	31.8	30.6	30.5	30.7	30.9
10	30.0	30.3	29.8	30.2	31.3	30.5	30.4
11	30.3	29.5	31.3	29.9	30.1	30.2	30.0
12	29.5	30.3	30.9	30.6	29.5	30.1	29.9
13	30.7	30.6	30.4	30.7	30.9	31.4	29.9
14	29.2	30.1	31.3	29.6	29.7	29.6	28.4
15	30.0	30.5	30.3	28.9	29.9	29.4	29.8
16	31.1	30.7	30.6	30.4	31.4	31.7	32.1
17	29.3	30.4	29.2	28.9	30.3	28.9	28.3
18	29.7	31.3	30.6	29.1	29.7	29.2	28.1
19	31.6	31.1	30.5	31.2	32.6	31.6	31.3
20	30.0	31.6	29.9	29.6	29.0	29.4	29.4
21	31.3	31.4	30.5	29.6	30.7	31.0	30.1
22	29.9	30.7	30.2	30.2	29.6	30.8	29.8
23	33.2	27.3	28.9	30.5	32.2	30.2	33.1
24	31.9	28.7	28.6	32.7	35.5	31.2	34.0
10-12	29.9	29.9	31.1	30.3	29.8	30.2	29.9
14-16	30.5	30.6	30.4	29.7	30.6	30.5	31.0
0-24	30.1	30.5	30.5	29.6	29.9	29.9	29.8

7 DAY AVERAGE SPEED	23.9
7 DAY AVERAGE 85th PERCENTILE	30.0

S|C|P

APPENDIX 6

OUT OF HOURS SERVICING

RW - 2.4mAFL APPROX MAX

RW - 1.25mAFL APPROX MAX

2.4M BY 43M VISI SPLAY FOR LEFT TUR

ENTRY ON

NO ENTRY

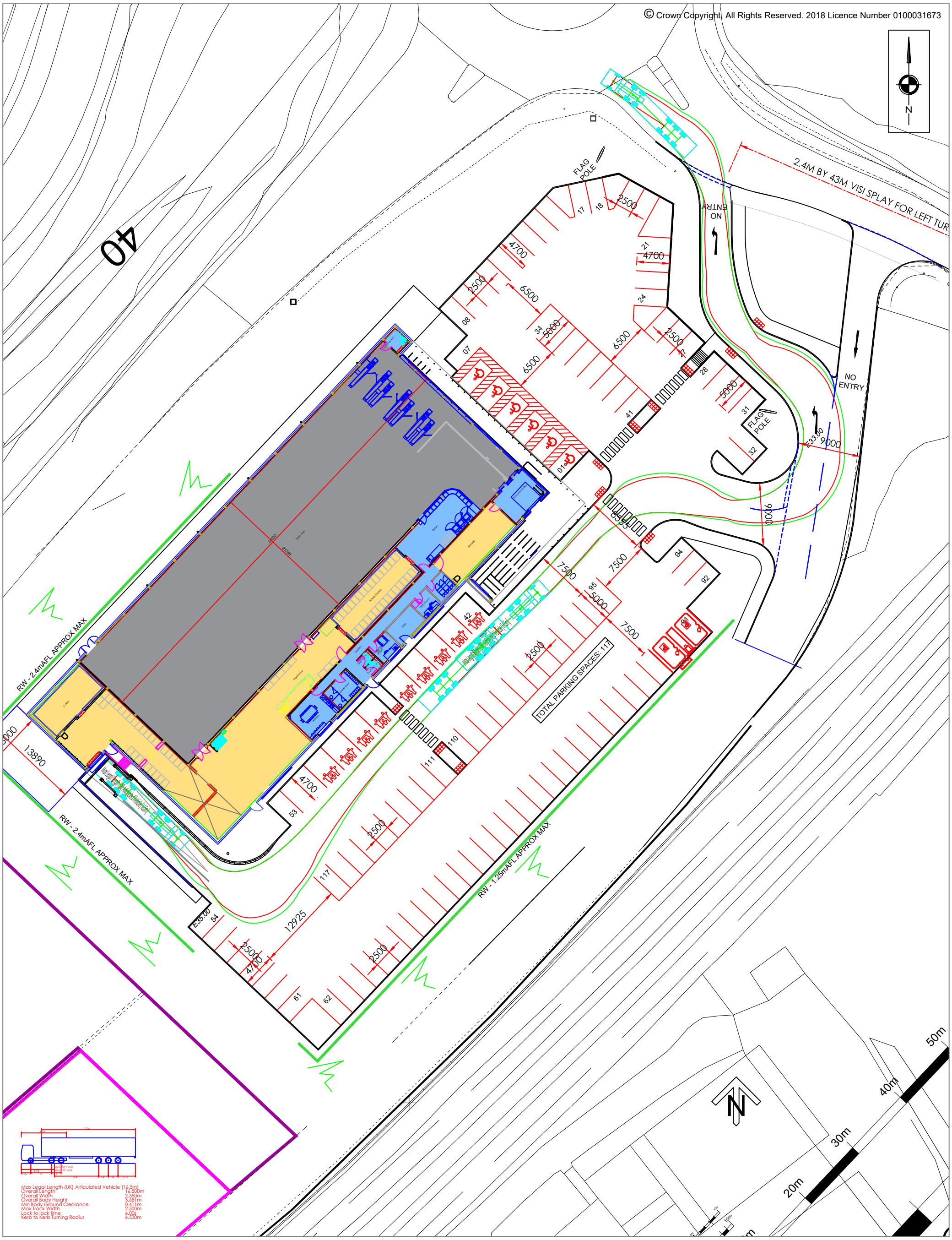
FLAG POLE

TOTAL PARKING SPACES: 117

Max Legal Length (UK) Articulated Vehicle (16.5m)

Overall Length	16.500m
Overall Width	2.550m
Overall Body Height	3.481m
Min Body Ground Clearance	0.411m
Max Track Width	2.500m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	6.330m

S|C|P Transportation Planning : Infrastructure Design Colwyn Chambers, 19 York Street, Manchester, M2 3BA, Tel 0161 832 4400, www.scptransport.co.uk, Email info@scptransport.co.uk	Client: LIDL GREAT BRITAIN LTD Project Title: PROPOSED NEW STORE AT ROMAN WAY, STROOD, MEDWAY	Drawing Title: SWEPT PATH OF MAXIMUM LEGAL ARTICULATED HGV INBOUND	Scale: 1:500 @ A3 Date: 04.06.2021 Approved/ Unapproved: -	By: JRB Checked: JRB Status: PLANNING	Drawing No.: SCP/200289/ ATR04 Revision: E



S|C|P Transportation Planning : Infrastructure Design Colwyn Chambers, 19 York Street, Manchester, M2 3BA, Tel 0161 832 4400, www.scptransport.co.uk, Email info@scptransport.co.uk	Client: LIDL GREAT BRITAIN LTD Project Title: PROPOSED NEW STORE AT ROMAN WAY, STROOD, MEDWAY	Drawing Title: SWEPT PATH OF MAXIMUM LEGAL ARTICULATED HGV OUTBOUND	Scale: 1:500 @ A3 Date: 04.06.2021 Approved/ Unapproved: -	By: JRB Checked: JRB Status: PLANNING	Drawing No.: SCP/200289/ ATR05 Revision: E

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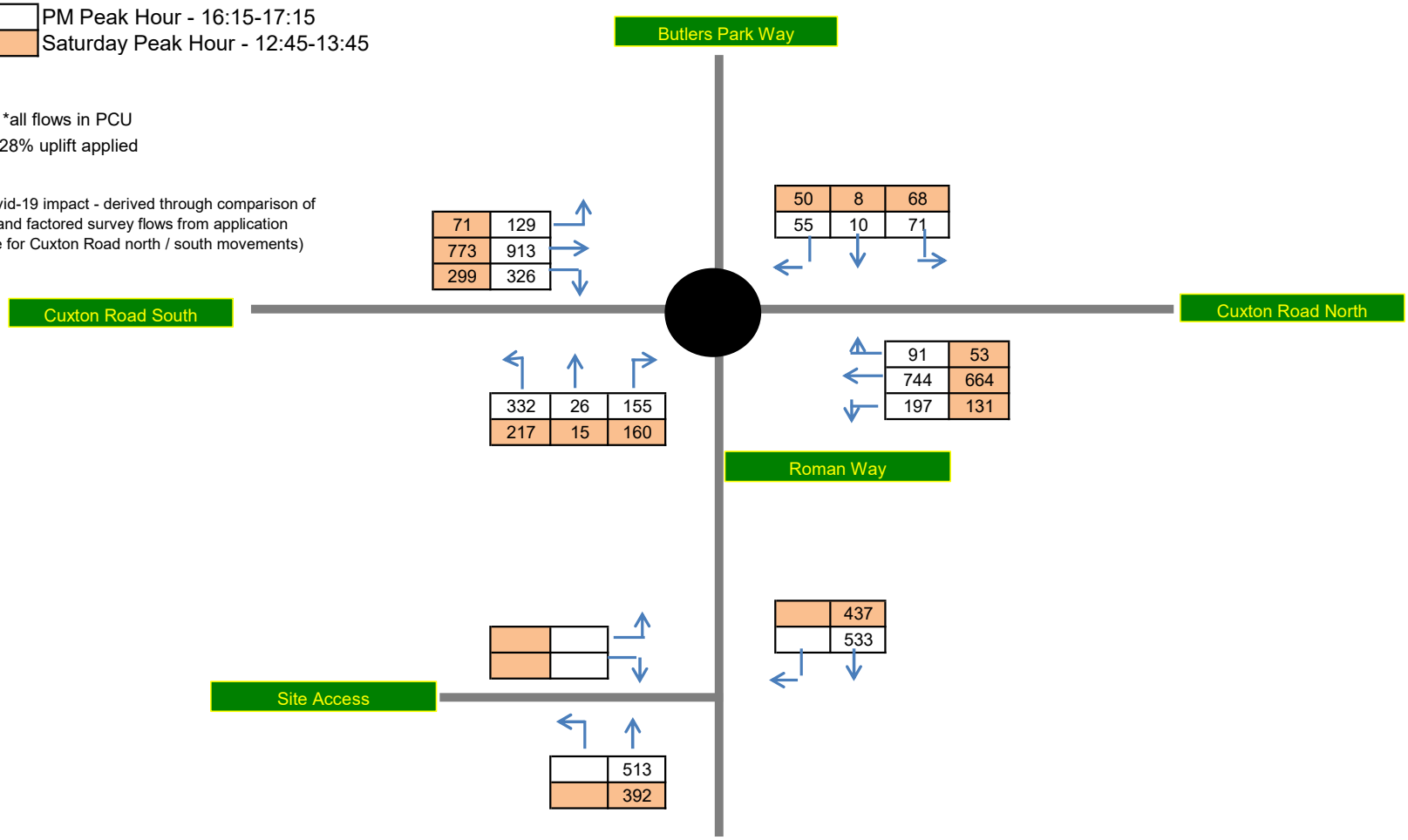
APPENDIX 7

PM Peak Hour - 16:15-17:15
Saturday Peak Hour - 12:45-13:45

*all flows in PCU
*28% uplift applied

Uplift applied to help mitigate Covid-19 impact - derived through comparison of 2020 observed survey flows and factored survey flows from application MC/09/0417 (comparison made for Cuxton Road north / south movements)

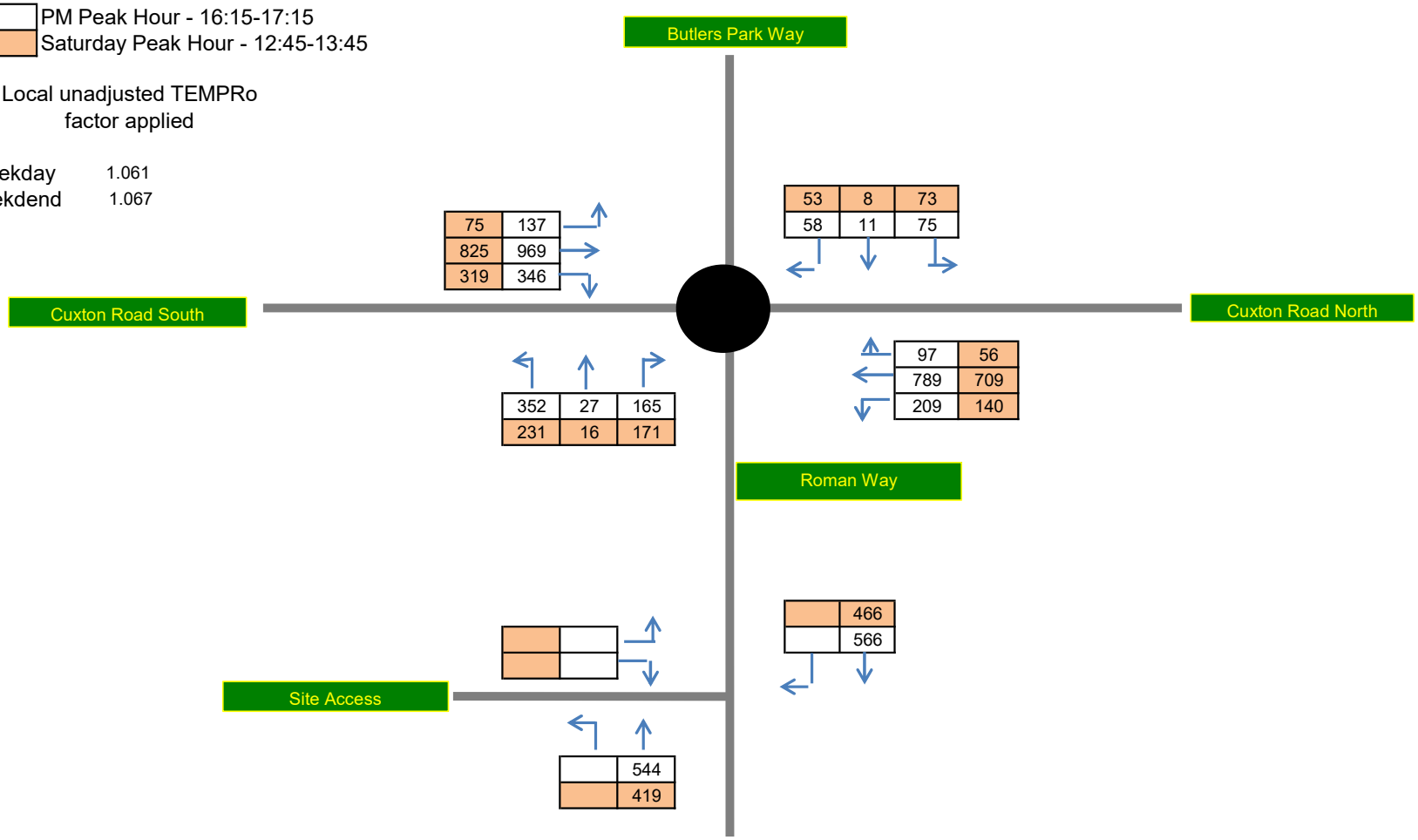


SCP Transportation Planning : Infrastructure Design	**Base Flows**		Job Number - SCP/200289
	Proposed Lidl, Roman Way Strood, Rochester		**Traffic Figure 1**

PM Peak Hour - 16:15-17:15
Saturday Peak Hour - 12:45-13:45

Local unadjusted TEMPRo factor applied

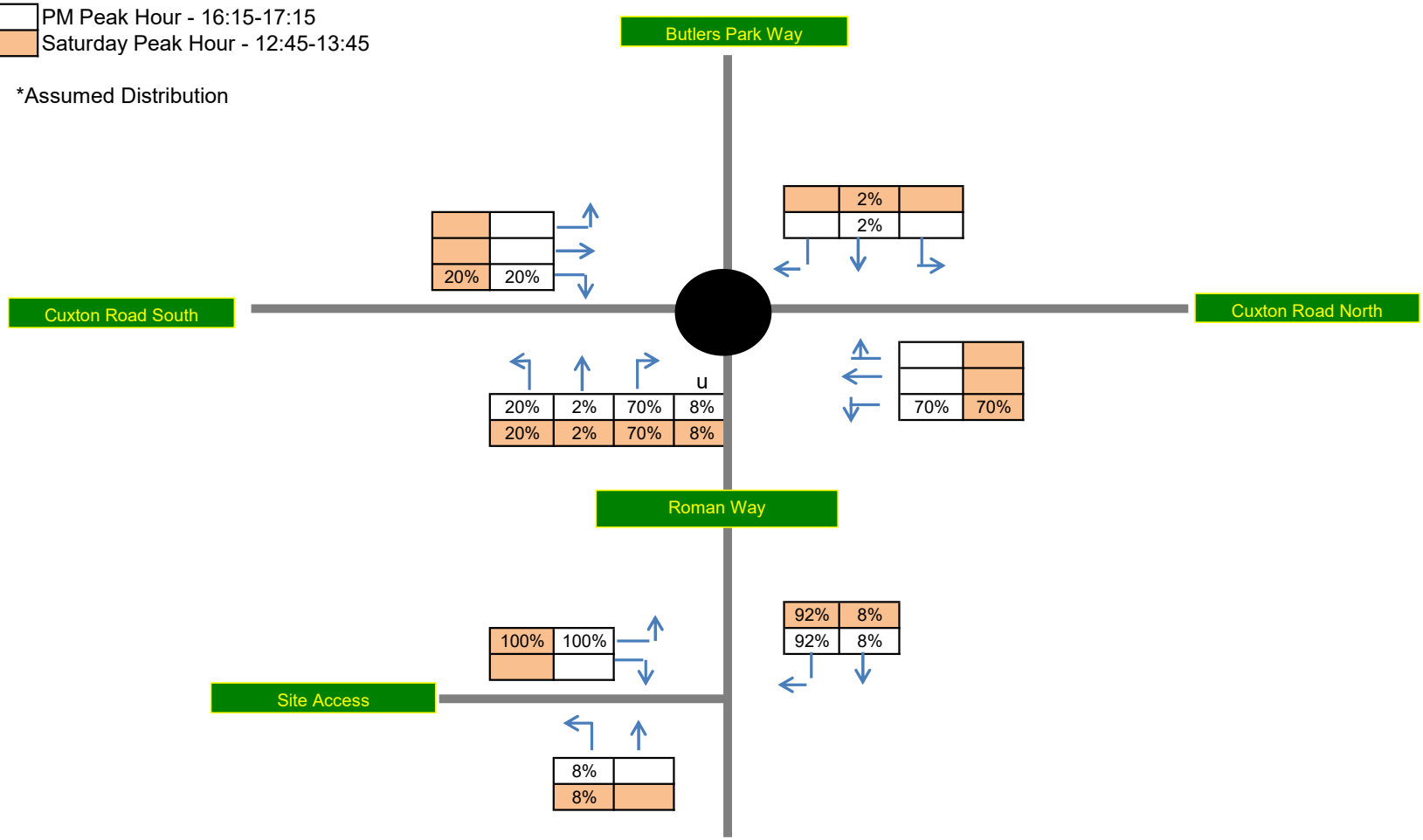
Weekday	1.061
Weekdend	1.067



SCP Transportation Planning : Infrastructure Design	**Future Base Flows 2025**	Job Number - SCP/200289
	Proposed Lidl, Roman Way Strood, Rochester	**Traffic Figure 2**

PM Peak Hour - 16:15-17:15
Saturday Peak Hour - 12:45-13:45

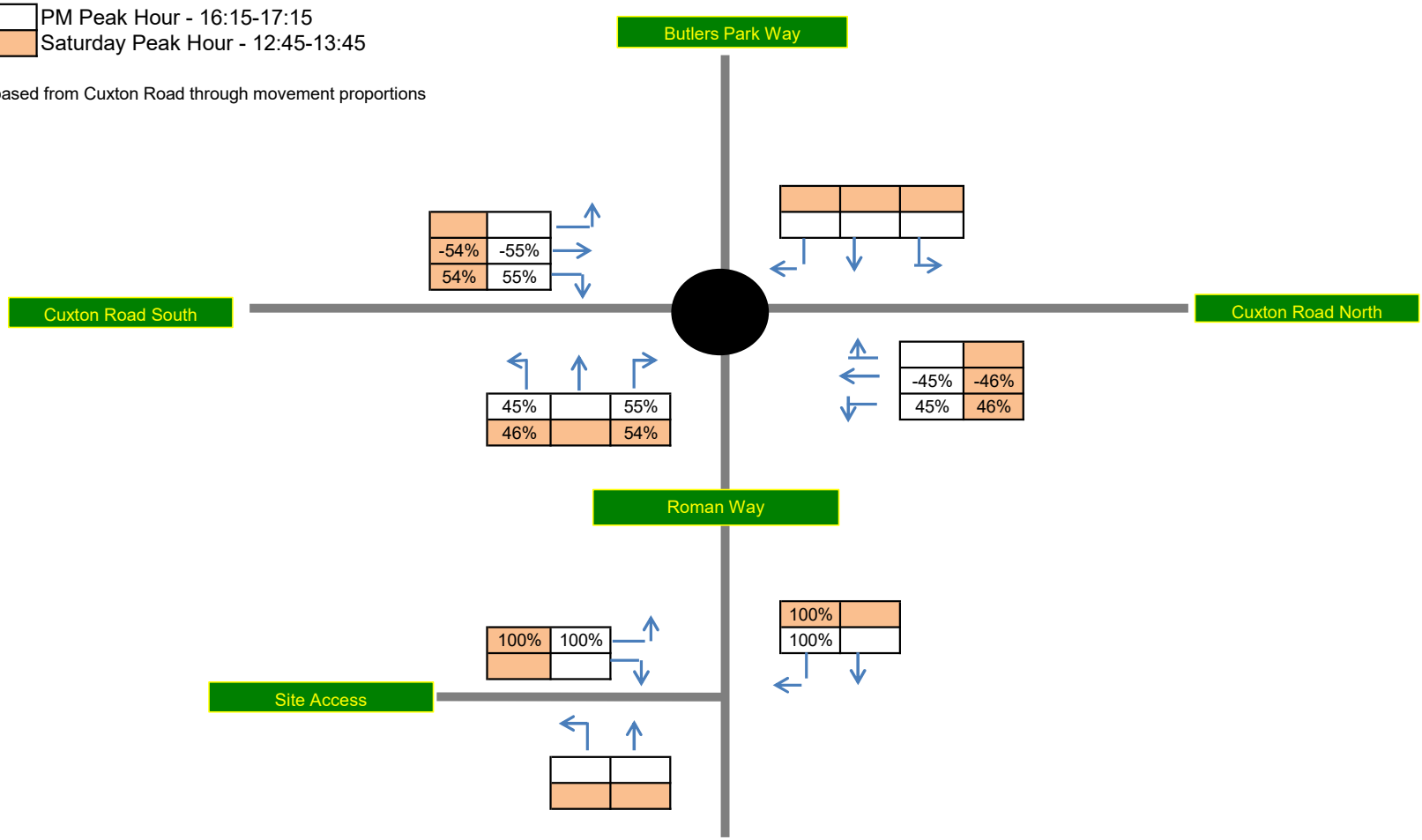
*Assumed Distribution



SCP Transportation Planning : Infrastructure Design	**Primary Development Distribution**	Job Number - SCP/200289
	Proposed Lidl, Roman Way Strood, Rochester	**Traffic Figure 3**

PM Peak Hour - 16:15-17:15
Saturday Peak Hour - 12:45-13:45

*based from Cuxton Road through movement proportions



SCP Transportation Planning : Infrastructure Design	**Pass-by Development Distribution**	Job Number - SCP/200289
	Proposed Lidl, Roman Way Strood, Rocheste	**Traffic Figure 4**

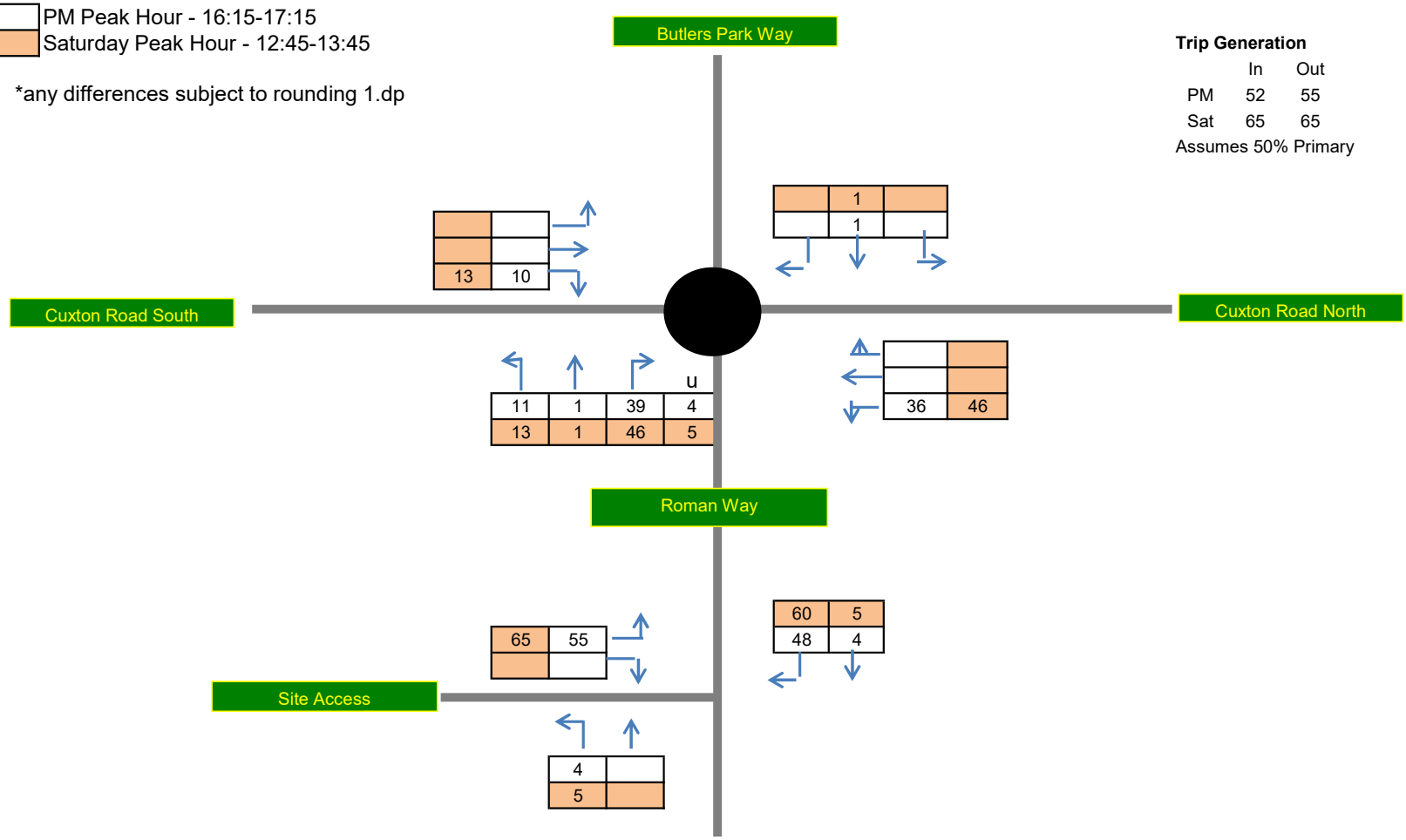
PM Peak Hour - 16:15-17:15
Saturday Peak Hour - 12:45-13:45

*any differences subject to rounding 1.dp

Trip Generation

	In	Out
PM	52	55
Sat	65	65

Assumes 50% Primary



SCP Transportation Planning : Infrastructure Design	**Development Traffic**	Job Number - SCP/200289
	PProposed Lidl, Roman Way Strood, Rocheste	**Traffic Figure 5**

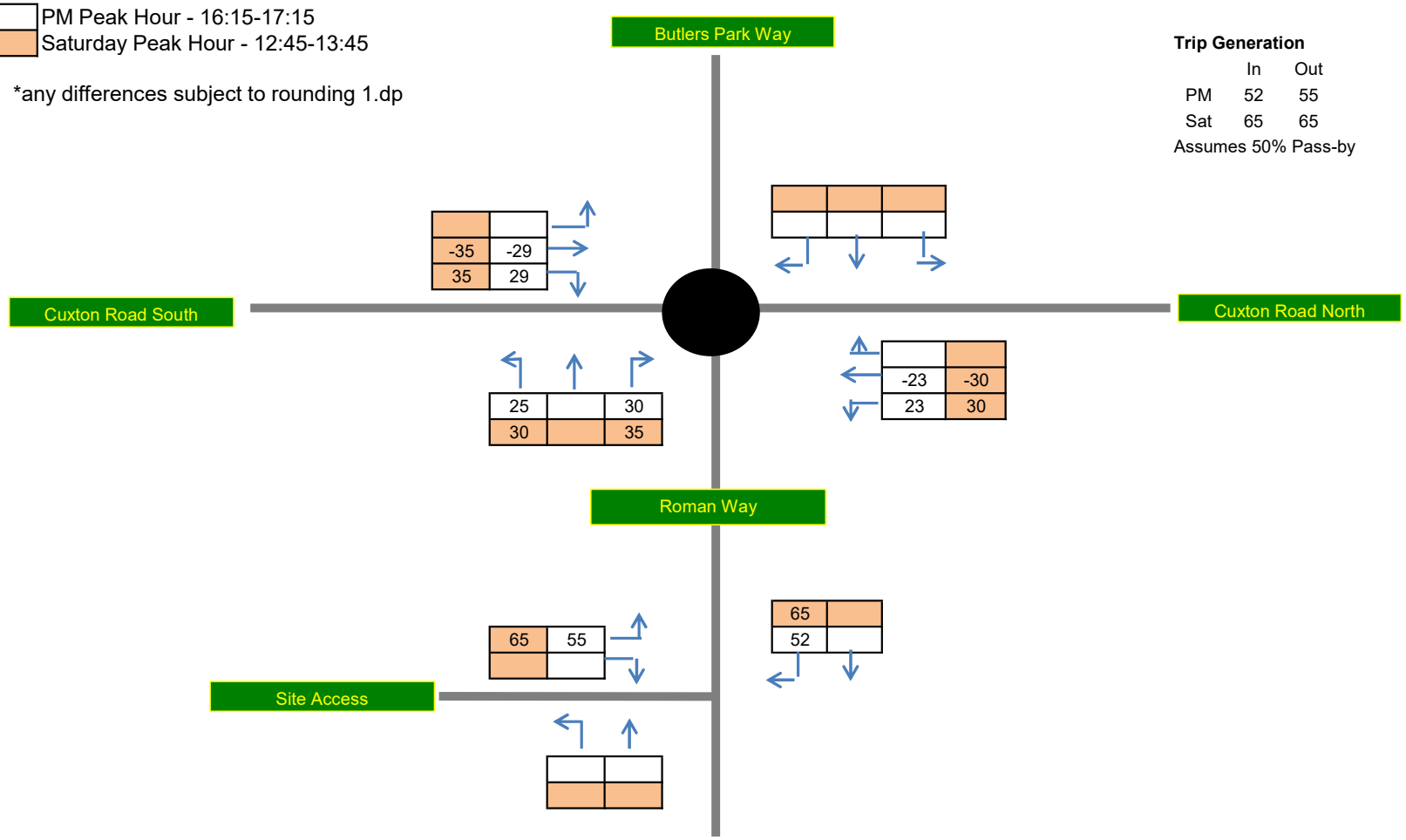
PM Peak Hour - 16:15-17:15
Saturday Peak Hour - 12:45-13:45

*any differences subject to rounding 1.dp

Trip Generation

	In	Out
PM	52	55
Sat	65	65

Assumes 50% Pass-by



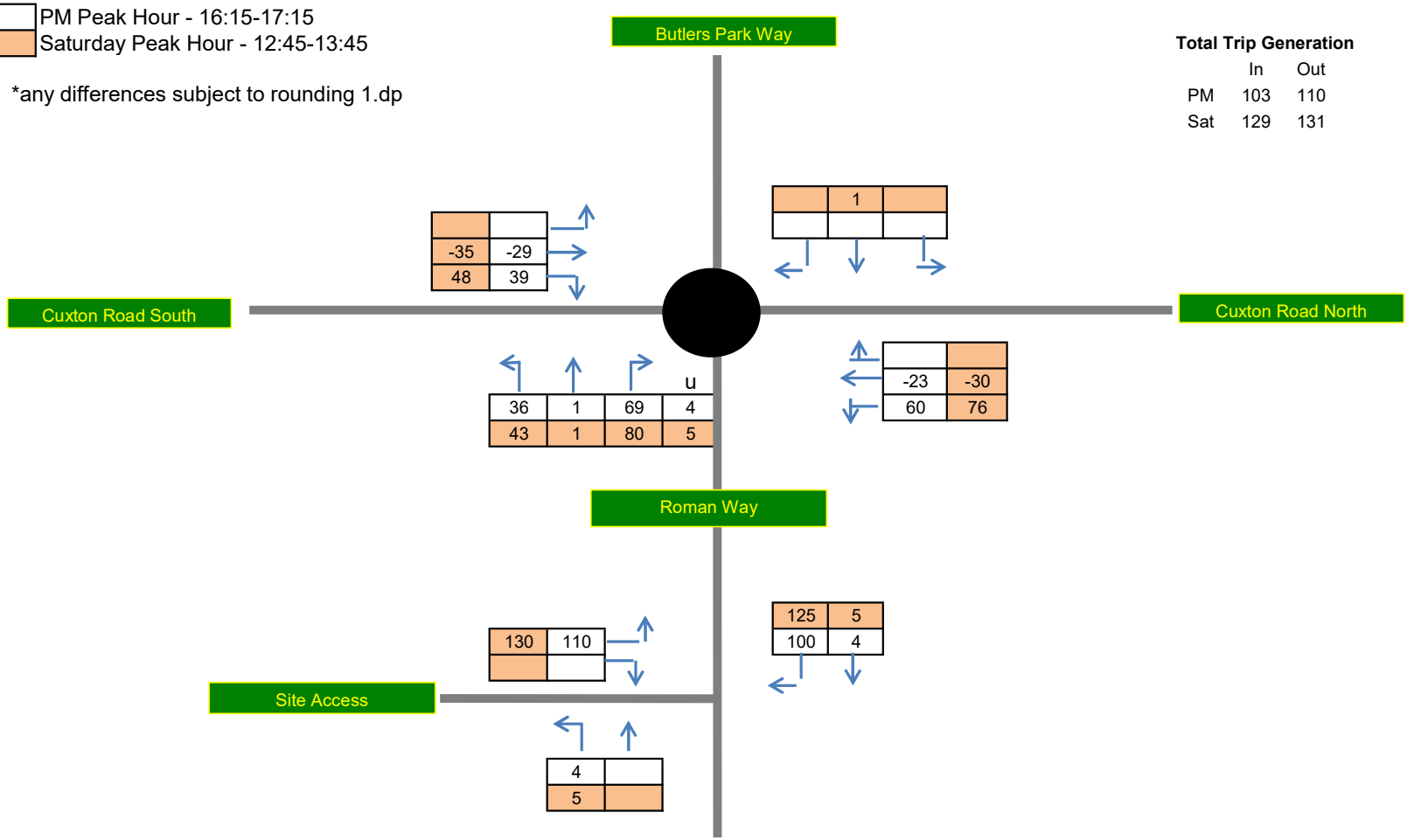
SCP Transportation Planning : Infrastructure Design	**Development Traffic**		Job Number - SCP/200289
	Proposed Lidl, Roman Way Strood, Rocheste		**Traffic Figure 6**

PM Peak Hour - 16:15-17:15
Saturday Peak Hour - 12:45-13:45

*any differences subject to rounding 1.dp

Total Trip Generation

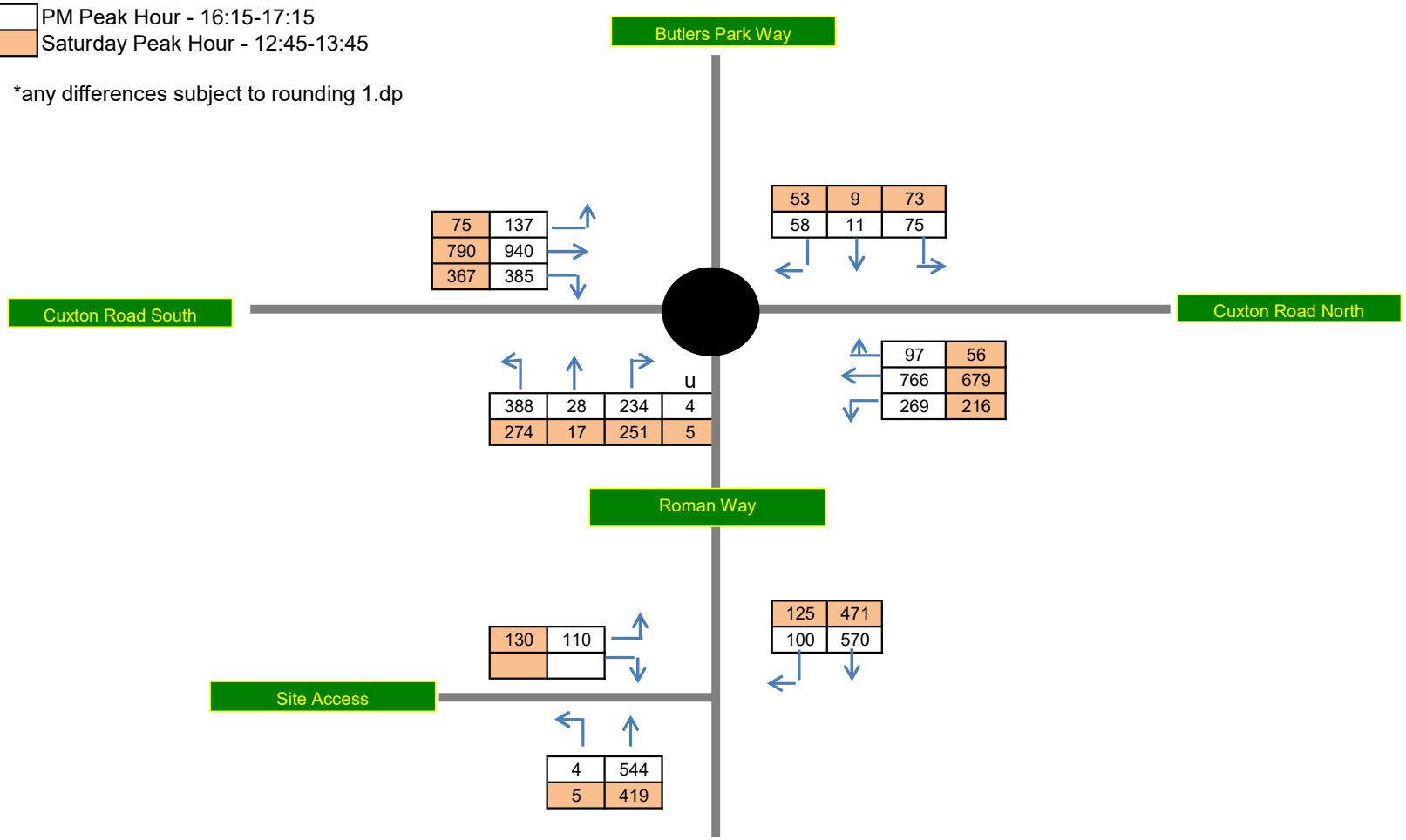
	In	Out
PM	103	110
Sat	129	131



SCP Transportation Planning : Infrastructure Design	**Development Traffic**		Job Number - SCP/200289
	Proposed Lidl, Roman Way Strood, Rocheste		**Traffic Figure 7**

PM Peak Hour - 16:15-17:15
Saturday Peak Hour - 12:45-13:45

*any differences subject to rounding 1.dp



SCP Transportation Planning : Infrastructure Design	**2025 With Development flows**		Job Number - SCP/200289
	Proposed Lidl, Roman Way Strood, Rocheste		**Traffic Figure 8**

S|C|P

APPENDIX 8

Calculation Reference: AUDIT-726001-201103-1111

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
Category : C - DISCOUNT FOOD STORES

TOTAL VEHICLES

Selected regions and areas:

03	**SOUTH WEST**		
	SM	SOMERSET	1 days
05	**EAST MIDLANDS**		
	LN	LINCOLNSHIRE	1 days
	NR	NORTHAMPTONSHIRE	1 days
	NT	NOTTINGHAMSHIRE	1 days
06	**WEST MIDLANDS**		
	WO	WORCESTERSHIRE	1 days
09	**NORTH**		
	NB	NORTHUMBERLAND	1 days

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

Primary Filtering selection:

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

Parameter: Retail floor area
Actual Range: 1407 to 1425 (units: sqm)
Range Selected by User: 600 to 1690 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/07/16 to 29/11/19

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	1 days
Tuesday	2 days
Wednesday	1 days
Thursday	1 days
Friday	1 days

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

Selected survey types:

Manual count	6 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town Centre	3
Edge of Town	3

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

Selected Location Sub Categories:

Industrial Zone	1
Residential Zone	1
Retail Zone	1
Built-Up Zone	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.

Secondary Filtering selection:

Use Class:

A1	6 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 500m Range:

All Surveys Included

Population within 1 mile:

5,001 to 10,000	2 days
10,001 to 15,000	2 days
20,001 to 25,000	1 days
50,001 to 100,000	1 days

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

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 75,000	1 days
75,001 to 100,000	1 days
125,001 to 250,000	1 days
250,001 to 500,000	1 days

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

Car ownership within 5 miles:

1.1 to 1.5	6 days

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

Petrol filling station:

Included in the survey count	0 days
Excluded from count or no filling station	6 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

Not Known	1 days
Yes	2 days
No	3 days

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

PTAL Rating:

No PTAL Present	6 days

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

LIST OF SITES relevant to selection parameters

1 **LN-01-C-01** **LIDL** **LINCOLNSHIRE**
RICHMOND DRIVE
SKEGNESS

Edge of Town Centre
Built-Up Zone
Total Retail floor area: 1424 sqm
Survey date: TUESDAY *19/07/16* *Survey Type: MANUAL*

2 **NB-01-C-01** **LIDL** **NORTHUMBERLAND**
SCHALKSMUHLE ROAD
BEDLINGTON

Edge of Town Centre
No Sub Category
Total Retail floor area: 1425 sqm
Survey date: MONDAY *12/06/17* *Survey Type: MANUAL*

3 **NR-01-C-02** **LIDL** **NORTHAMPTONSHIRE**
NEWTON ROAD
RUSHDEN

Edge of Town Centre
Residential Zone
Total Retail floor area: 1424 sqm
Survey date: TUESDAY *19/07/16* *Survey Type: MANUAL*

4 **NT-01-C-01** **LIDL** **NOTTINGHAMSHIRE**
CHAPEL LANE
BINGHAM

Edge of Town
Industrial Zone
Total Retail floor area: 1424 sqm
Survey date: FRIDAY *15/07/16* *Survey Type: MANUAL*

5 **SM-01-C-01** **LIDL** **SOMERSET**
SEAWARD WAY
MINEHEAD

Edge of Town
No Sub Category
Total Retail floor area: 1407 sqm
Survey date: THURSDAY *22/06/17* *Survey Type: MANUAL*

6 **WO-01-C-01** **LIDL** **WORCESTERSHIRE**
BLACKPOLE ROAD
WORCESTER
BRICKFIELDS
Edge of Town
Retail Zone
Total Retail floor area: 1424 sqm
Survey date: WEDNESDAY *13/07/16* *Survey Type: MANUAL*

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
CA-01-C-01	non-representative
DH-01-C-01	non-representative
WO-01-C-02	non-representative

TRIP RATE for Land Use 01 - RETAIL/C - DISCOUNT FOOD STORES
TOTAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. RFA	Trip Rate	No. Days	Ave. RFA	Trip Rate	No. Days	Ave. RFA	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	1424	0.281	2	1424	0.070	2	1424	0.351
07:00 - 08:00	6	1421	0.516	6	1421	0.188	6	1421	0.704
08:00 - 09:00	6	1421	3.694	6	1421	2.674	6	1421	6.368
09:00 - 10:00	6	1421	5.394	6	1421	4.597	6	1421	9.991
10:00 - 11:00	6	1421	5.922	6	1421	5.019	6	1421	10.941
11:00 - 12:00	6	1421	7.000	6	1421	6.660	6	1421	13.660
12:00 - 13:00	6	1421	6.907	6	1421	6.825	6	1421	13.732
13:00 - 14:00	6	1421	6.449	6	1421	7.516	6	1421	13.965
14:00 - 15:00	**6**	**1421**	**7.856**	6	1421	7.141	6	1421	14.997
15:00 - 16:00	6	1421	7.622	6	1421	7.294	6	1421	14.916
16:00 - 17:00	6	1421	7.329	**6**	**1421**	**7.810**	**6**	**1421**	**15.139**
17:00 - 18:00	6	1421	6.836	6	1421	6.977	6	1421	13.813
18:00 - 19:00	6	1421	5.687	6	1421	6.180	6	1421	11.867
19:00 - 20:00	6	1421	4.116	6	1421	4.737	6	1421	8.853
20:00 - 21:00	6	1421	2.873	6	1421	3.717	6	1421	6.590
21:00 - 22:00	6	1421	0.973	6	1421	1.735	6	1421	2.708
22:00 - 23:00	6	1421	0.023	6	1421	0.364	6	1421	0.387
23:00 - 24:00									
Total Rates:			79.478			79.504			158.982

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:	1407 - 1425 (units: sqm)
Survey date date range:	01/07/16 - 29/11/19
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	3

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

TRIP RATE for Land Use 01 - RETAIL/C - DISCOUNT FOOD STORES

CARS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. RFA	Trip Rate	No. Days	Ave. RFA	Trip Rate	No. Days	Ave. RFA	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	1424	0.246	2	1424	0.035	2	1424	0.281
07:00 - 08:00	6	1421	0.481	6	1421	0.164	6	1421	0.645
08:00 - 09:00	6	1421	3.459	6	1421	2.521	6	1421	5.980
09:00 - 10:00	6	1421	4.925	6	1421	4.303	6	1421	9.228
10:00 - 11:00	6	1421	5.664	6	1421	4.702	6	1421	10.366
11:00 - 12:00	6	1421	6.742	6	1421	6.414	6	1421	13.156
12:00 - 13:00	6	1421	6.614	6	1421	6.496	6	1421	13.110
13:00 - 14:00	6	1421	6.074	6	1421	7.141	6	1421	13.215
14:00 - 15:00	**6**	**1421**	**7.575**	6	1421	6.825	**6**	**1421**	**14.400**
15:00 - 16:00	6	1421	7.270	6	1421	6.918	6	1421	14.188
16:00 - 17:00	6	1421	6.895	**6**	**1421**	**7.376**	6	1421	14.271
17:00 - 18:00	6	1421	6.402	6	1421	6.590	6	1421	12.992
18:00 - 19:00	6	1421	5.406	6	1421	5.863	6	1421	11.269
19:00 - 20:00	6	1421	3.799	6	1421	4.374	6	1421	8.173
20:00 - 21:00	6	1421	2.697	6	1421	3.436	6	1421	6.133
21:00 - 22:00	6	1421	0.903	6	1421	1.583	6	1421	2.486
22:00 - 23:00	6	1421	0.023	6	1421	0.328	6	1421	0.351
23:00 - 24:00									
Total Rates:			75.175			75.069			150.244

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.*

Calculation Reference: AUDIT-726001-201103-1135

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
Category : C - DISCOUNT FOOD STORES
TOTAL VEHICLES

Selected regions and areas:

03	**SOUTH WEST**		
	SM	SOMERSET	1 days
05	**EAST MIDLANDS**		
	LN	LINCOLNSHIRE	1 days
	NR	NORTHAMPTONSHIRE	1 days
	NT	NOTTINGHAMSHIRE	1 days
06	**WEST MIDLANDS**		
	WO	WORCESTERSHIRE	1 days
09	**NORTH**		
	NB	NORTHUMBERLAND	1 days

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

Primary Filtering selection:

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

Parameter: Retail floor area
Actual Range: 1407 to 1425 (units: sqm)
Range Selected by User: 600 to 1690 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/07/16 to 29/11/19

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:

Saturday	6 days

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

Selected survey types:

Manual count	6 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town Centre	3
Edge of Town	3

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

Selected Location Sub Categories:

Industrial Zone	1
Residential Zone	1
Retail Zone	1
Built-Up Zone	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.

Secondary Filtering selection:

Use Class:

A1	6 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 500m Range:

All Surveys Included

Population within 1 mile:

5,001 to 10,000	2 days
10,001 to 15,000	2 days
20,001 to 25,000	1 days
50,001 to 100,000	1 days

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

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 75,000	1 days
75,001 to 100,000	1 days
125,001 to 250,000	1 days
250,001 to 500,000	1 days

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

Car ownership within 5 miles:

1.1 to 1.5	6 days

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

Petrol filling station:

Included in the survey count	0 days
Excluded from count or no filling station	6 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

Not Known	1 days
Yes	2 days
No	3 days

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

PTAL Rating:

No PTAL Present	6 days

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

LIST OF SITES relevant to selection parameters

1 **LN-01-C-01** **LIDL** **LINCOLNSHIRE**
RICHMOND DRIVE
SKEGNESS

Edge of Town Centre
Built-Up Zone
Total Retail floor area: 1424 sqm
Survey date: SATURDAY *16/07/16* *Survey Type: MANUAL*

2 **NB-01-C-01** **LIDL** **NORTHUMBERLAND**
SCHALKSMUHLE ROAD
BEDLINGTON

Edge of Town Centre
No Sub Category
Total Retail floor area: 1425 sqm
Survey date: SATURDAY *10/06/17* *Survey Type: MANUAL*

3 **NR-01-C-02** **LIDL** **NORTHAMPTONSHIRE**
NEWTON ROAD
RUSHDEN

Edge of Town Centre
Residential Zone
Total Retail floor area: 1424 sqm
Survey date: SATURDAY *16/07/16* *Survey Type: MANUAL*

4 **NT-01-C-01** **LIDL** **NOTTINGHAMSHIRE**
CHAPEL LANE
BINGHAM

Edge of Town
Industrial Zone
Total Retail floor area: 1424 sqm
Survey date: SATURDAY *16/07/16* *Survey Type: MANUAL*

5 **SM-01-C-01** **LIDL** **SOMERSET**
SEAWARD WAY
MINEHEAD

Edge of Town
No Sub Category
Total Retail floor area: 1407 sqm
Survey date: SATURDAY *24/06/17* *Survey Type: MANUAL*

6 **WO-01-C-01** **LIDL** **WORCESTERSHIRE**
BLACKPOLE ROAD
WORCESTER
BRICKFIELDS
Edge of Town
Retail Zone
Total Retail floor area: 1424 sqm
Survey date: SATURDAY *16/07/16* *Survey Type: MANUAL*

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

TRIP RATE for Land Use 01 - RETAIL/C - DISCOUNT FOOD STORES
TOTAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. RFA	Trip Rate	No. Days	Ave. RFA	Trip Rate	No. Days	Ave. RFA	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	1424	0.386	2	1424	0.140	2	1424	0.526
07:00 - 08:00	6	1421	0.715	6	1421	0.141	6	1421	0.856
08:00 - 09:00	6	1421	3.893	6	1421	2.732	6	1421	6.625
09:00 - 10:00	6	1421	5.476	6	1421	4.773	6	1421	10.249
10:00 - 11:00	6	1421	8.302	6	1421	7.294	6	1421	15.596
11:00 - 12:00	**6**	**1421**	**10.237**	6	1421	9.510	6	1421	19.747
12:00 - 13:00	6	1421	9.991	**6**	**1421**	**10.108**	**6**	**1421**	**20.099**
13:00 - 14:00	6	1421	9.182	6	1421	9.287	6	1421	18.469
14:00 - 15:00	6	1421	9.381	6	1421	9.088	6	1421	18.469
15:00 - 16:00	6	1421	9.041	6	1421	9.791	6	1421	18.832
16:00 - 17:00	6	1421	8.724	6	1421	8.994	6	1421	17.718
17:00 - 18:00	6	1421	6.907	6	1421	6.801	6	1421	13.708
18:00 - 19:00	6	1421	4.585	6	1421	6.156	6	1421	10.741
19:00 - 20:00	6	1421	3.072	6	1421	3.999	6	1421	7.071
20:00 - 21:00	6	1421	1.724	6	1421	1.982	6	1421	3.706
21:00 - 22:00	6	1421	0.950	6	1421	1.255	6	1421	2.205
22:00 - 23:00	6	1421	0.106	6	1421	0.387	6	1421	0.493
23:00 - 24:00									
Total Rates:			92.672			92.438			185.110

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:	1407 - 1425 (units: sqm)
Survey date date range:	01/07/16 - 29/11/19
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	6
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 01 - RETAIL/C - DISCOUNT FOOD STORES
CARS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. RFA	Trip Rate	No. Days	Ave. RFA	Trip Rate	No. Days	Ave. RFA	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	1424	0.351	2	1424	0.105	2	1424	0.456
07:00 - 08:00	6	1421	0.598	6	1421	0.094	6	1421	0.692
08:00 - 09:00	6	1421	3.670	6	1421	2.533	6	1421	6.203
09:00 - 10:00	6	1421	5.183	6	1421	4.550	6	1421	9.733
10:00 - 11:00	6	1421	7.985	6	1421	7.000	6	1421	14.985
11:00 - 12:00	**6**	**1421**	**9.850**	6	1421	9.146	6	1421	18.996
12:00 - 13:00	6	1421	9.744	**6**	**1421**	**9.780**	**6**	**1421**	**19.524**
13:00 - 14:00	6	1421	8.759	6	1421	8.970	6	1421	17.729
14:00 - 15:00	6	1421	8.912	6	1421	8.724	6	1421	17.636
15:00 - 16:00	6	1421	8.701	6	1421	9.416	6	1421	18.117
16:00 - 17:00	6	1421	8.337	6	1421	8.654	6	1421	16.991
17:00 - 18:00	6	1421	6.602	6	1421	6.520	6	1421	13.122
18:00 - 19:00	6	1421	4.327	6	1421	5.816	6	1421	10.143
19:00 - 20:00	6	1421	2.885	6	1421	3.682	6	1421	6.567
20:00 - 21:00	6	1421	1.477	6	1421	1.759	6	1421	3.236
21:00 - 22:00	6	1421	0.833	6	1421	1.079	6	1421	1.912
22:00 - 23:00	6	1421	0.094	6	1421	0.375	6	1421	0.469
23:00 - 24:00									
Total Rates:			88.308			88.203			176.511

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.*

S|C|P

APPENDIX 9

Junctions 9

ARCADY 9 - Roundabout Module

Filename: Cuxton Road roundabout _without ComDev_No RT Lane.j9
Path: Z:\Job Library\2020\200289 - Lidl, Roman Rd, Strood, Rochester\Traffic Model
Report generation date: 24/02/2021 17:21:36

Summary of junction performance

	PM Peak				Inter Peak			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	Cuxton Road/Roman Way roundabout - 2020 Base							
Cuxton Road North	2.4	7.68	0.71	A	1.3	5.17	0.57	A
Roman Way	1.4	9.06	0.59	A	0.7	5.94	0.42	A
Cuxton Road South	5.0	12.31	0.84	B	2.2	6.32	0.69	A
Butlers Park Way	0.3	7.72	0.24	A	0.2	6.17	0.19	A
	Cuxton Road/Roman Way roundabout - Future Base 2025							
Cuxton Road North	3.1	9.41	0.76	A	1.6	5.89	0.62	A
Roman Way	1.8	10.89	0.64	B	0.8	6.67	0.46	A
Cuxton Road South	7.9	18.70	0.90	C	2.9	7.78	0.74	A
Butlers Park Way	0.4	8.96	0.28	A	0.3	6.92	0.22	A
	Cuxton Road/Roman Way roundabout - 2025 with Lidl							
Cuxton Road North	3.9	11.54	0.80	B	2.0	6.89	0.67	A
Roman Way	3.1	16.02	0.76	C	1.4	8.61	0.59	A
Cuxton Road South	11.1	26.55	0.93	D	3.4	9.29	0.77	A
Butlers Park Way	0.4	10.31	0.31	B	0.3	7.92	0.25	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	
Location	
Site number	
Date	05/11/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SCP\anthony.morley
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2020 Base	PM Peak	ONE HOUR	16:00	17:30	15
D2	2020 Base	Inter Peak	ONE HOUR	12:30	14:00	15
D3	Future Base 2025	PM Peak	ONE HOUR	16:00	17:30	15
D4	Future Base 2025	Inter Peak	ONE HOUR	12:30	14:00	15
D5	2025 with Lidl	PM Peak	ONE HOUR	16:00	17:30	15
D6	2025 with Lidl	Inter Peak	ONE HOUR	12:30	14:00	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	Cuxton Road/Roman Way roundabout	100.000

Cuxton Road/Roman Way roundabout - 2020 Base, PM Peak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Cuxton Road Roundabout	Standard Roundabout		1, 2, 3, 4	9.99	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Cuxton Road North	
2	Roman Way	
3	Cuxton Road South	
4	Butlers Park Way	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
Cuxton Road North	3.78	7.49	29.4	27.7	42.0	42.0	
Roman Way	3.42	7.03	22.1	11.4	42.0	60.0	
Cuxton Road South	4.29	9.24	26.0	14.3	42.0	55.0	
Butlers Park Way	4.04	6.90	6.1	27.0	42.0	41.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
Cuxton Road North	0.666	1891
Roman Way	0.556	1507
Cuxton Road South	0.663	1995
Butlers Park Way	0.595	1529

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2020 Base	PM Peak	ONE HOUR	16:00	17:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
Cuxton Road North		✓	1032	100.000
Roman Way		✓	513	100.000
Cuxton Road South		✓	1368	100.000
Butlers Park Way		✓	136	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		Cuxton Road North	Roman Way	Cuxton Road South	Butlers Park Way
From	Cuxton Road North	0	197	744	91
	Roman Way	155	0	332	26
	Cuxton Road South	913	326	0	129
	Butlers Park Way	71	10	55	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		Cuxton Road North	Roman Way	Cuxton Road South	Butlers Park Way
From	Cuxton Road North	0	0	0	0
	Roman Way	0	0	0	0
	Cuxton Road South	0	0	0	0
	Butlers Park Way	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
Cuxton Road North	0.71	7.68	2.4	A
Roman Way	0.59	9.06	1.4	A
Cuxton Road South	0.84	12.31	5.0	B
Butlers Park Way	0.24	7.72	0.3	A

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	777	293	1696	0.458	774	0.8	3.888	A
Roman Way	386	667	1136	0.340	384	0.5	4.776	A
Cuxton Road South	1030	204	1859	0.554	1025	1.2	4.290	A
Butlers Park Way	102	1044	907	0.113	102	0.1	4.466	A

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	928	351	1658	0.560	926	1.3	4.910	A
Roman Way	461	799	1063	0.434	460	0.8	5.964	A
Cuxton Road South	1230	244	1833	0.671	1227	2.0	5.909	A
Butlers Park Way	122	1250	785	0.156	122	0.2	5.429	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	1136	428	1606	0.707	1132	2.4	7.519	A
Roman Way	565	976	964	0.586	562	1.4	8.906	A
Cuxton Road South	1506	298	1797	0.838	1495	4.8	11.517	B
Butlers Park Way	150	1524	622	0.241	149	0.3	7.607	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	1136	430	1605	0.708	1136	2.4	7.678	A
Roman Way	565	980	962	0.587	565	1.4	9.057	A
Cuxton Road South	1506	299	1796	0.839	1505	5.0	12.309	B
Butlers Park Way	150	1534	616	0.243	150	0.3	7.722	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	928	355	1655	0.561	932	1.3	5.009	A
Roman Way	461	804	1060	0.435	464	0.8	6.062	A
Cuxton Road South	1230	246	1832	0.671	1241	2.1	6.217	A
Butlers Park Way	122	1264	776	0.157	123	0.2	5.511	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	777	295	1695	0.459	779	0.9	3.938	A
Roman Way	386	672	1133	0.341	387	0.5	4.832	A
Cuxton Road South	1030	205	1858	0.554	1033	1.3	4.381	A
Butlers Park Way	102	1053	902	0.113	103	0.1	4.501	A

Cuxton Road/Roman Way roundabout - 2020 Base, Inter Peak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Cuxton Road Roundabout	Standard Roundabout		1, 2, 3, 4	5.86	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2020 Base	Inter Peak	ONE HOUR	12:30	14:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
Cuxton Road North		✓	848	100.000
Roman Way		✓	392	100.000
Cuxton Road South		✓	1143	100.000
Butlers Park Way		✓	126	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		Cuxton Road North	Roman Way	Cuxton Road South	Butlers Park Way
From	Cuxton Road North	0	131	664	53
	Roman Way	160	0	217	15
	Cuxton Road South	773	299	0	71
	Butlers Park Way	68	8	50	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		Cuxton Road North	Roman Way	Cuxton Road South	Butlers Park Way
From	Cuxton Road North	0	0	0	0
	Roman Way	0	0	0	0
	Cuxton Road South	0	0	0	0
	Butlers Park Way	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
Cuxton Road North	0.57	5.17	1.3	A
Roman Way	0.42	5.94	0.7	A
Cuxton Road South	0.69	6.32	2.2	A
Butlers Park Way	0.19	6.17	0.2	A

Main Results for each time segment

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	638	268	1713	0.373	636	0.6	3.336	A
Roman Way	295	575	1187	0.249	294	0.3	4.024	A
Cuxton Road South	861	171	1881	0.457	857	0.8	3.503	A
Butlers Park Way	95	924	979	0.097	94	0.1	4.067	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	762	320	1678	0.454	761	0.8	3.924	A
Roman Way	352	689	1124	0.314	352	0.5	4.660	A
Cuxton Road South	1028	205	1859	0.553	1026	1.2	4.314	A
Butlers Park Way	113	1106	871	0.130	113	0.1	4.749	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	934	392	1630	0.573	932	1.3	5.140	A
Roman Way	432	843	1038	0.416	431	0.7	5.914	A
Cuxton Road South	1258	250	1828	0.688	1255	2.2	6.233	A
Butlers Park Way	139	1353	724	0.192	138	0.2	6.143	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	934	393	1629	0.573	934	1.3	5.174	A
Roman Way	432	844	1037	0.416	432	0.7	5.942	A
Cuxton Road South	1258	251	1828	0.688	1258	2.2	6.316	A
Butlers Park Way	139	1356	722	0.192	139	0.2	6.174	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	762	322	1677	0.455	764	0.8	3.954	A
Roman Way	352	691	1122	0.314	353	0.5	4.686	A
Cuxton Road South	1028	206	1858	0.553	1031	1.2	4.373	A
Butlers Park Way	113	1111	868	0.131	114	0.2	4.776	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	638	269	1712	0.373	639	0.6	3.359	A
Roman Way	295	578	1185	0.249	296	0.3	4.049	A
Cuxton Road South	861	172	1881	0.458	862	0.8	3.539	A
Butlers Park Way	95	929	976	0.097	95	0.1	4.088	A

Cuxton Road/Roman Way roundabout - Future Base 2025 , PM Peak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Cuxton Road Roundabout	Standard Roundabout		1, 2, 3, 4	13.81	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Future Base 2025	PM Peak	ONE HOUR	16:00	17:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
Cuxton Road North		✓	1095	100.000
Roman Way		✓	544	100.000
Cuxton Road South		✓	1452	100.000
Butlers Park Way		✓	144	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		Cuxton Road North	Roman Way	Cuxton Road South	Butlers Park Way
From	Cuxton Road North	0	209	789	97
	Roman Way	165	0	352	27
	Cuxton Road South	969	346	0	137
	Butlers Park Way	75	11	58	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		Cuxton Road North	Roman Way	Cuxton Road South	Butlers Park Way
From	Cuxton Road North	0	0	0	0
	Roman Way	0	0	0	0
	Cuxton Road South	0	0	0	0
	Butlers Park Way	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
Cuxton Road North	0.76	9.41	3.1	A
Roman Way	0.64	10.89	1.8	B
Cuxton Road South	0.90	18.70	7.9	C
Butlers Park Way	0.28	8.96	0.4	A

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	824	311	1684	0.489	821	1.0	4.150	A
Roman Way	410	707	1114	0.368	407	0.6	5.081	A
Cuxton Road South	1093	216	1851	0.591	1087	1.4	4.680	A
Butlers Park Way	108	1108	869	0.125	108	0.1	4.724	A

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	984	372	1643	0.599	982	1.5	5.427	A
Roman Way	489	847	1036	0.472	488	0.9	6.553	A
Cuxton Road South	1305	259	1823	0.716	1301	2.5	6.848	A
Butlers Park Way	129	1326	740	0.175	129	0.2	5.895	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	1206	452	1590	0.758	1199	3.0	9.073	A
Roman Way	599	1034	932	0.643	596	1.7	10.597	B
Cuxton Road South	1599	316	1785	0.896	1579	7.3	16.178	C
Butlers Park Way	159	1611	570	0.278	158	0.4	8.717	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	1206	456	1587	0.760	1205	3.1	9.408	A
Roman Way	599	1039	929	0.645	599	1.8	10.889	B
Cuxton Road South	1599	318	1784	0.896	1596	7.9	18.701	C
Butlers Park Way	159	1627	560	0.283	159	0.4	8.957	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	984	378	1639	0.601	991	1.5	5.605	A
Roman Way	489	854	1032	0.474	493	0.9	6.714	A
Cuxton Road South	1305	262	1821	0.717	1326	2.6	7.575	A
Butlers Park Way	129	1351	725	0.179	130	0.2	6.059	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	824	314	1682	0.490	827	1.0	4.219	A
Roman Way	410	713	1111	0.369	411	0.6	5.153	A
Cuxton Road South	1093	218	1850	0.591	1098	1.5	4.815	A
Butlers Park Way	108	1119	863	0.126	109	0.1	4.772	A

Cuxton Road/Roman Way roundabout - Future Base 2025, Inter Peak

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Cuxton Road Roundabout	Standard Roundabout		1, 2, 3, 4	6.92	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	Future Base 2025	Inter Peak	ONE HOUR	12:30	14:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
Cuxton Road North		✓	905	100.000
Roman Way		✓	418	100.000
Cuxton Road South		✓	1219	100.000
Butlers Park Way		✓	134	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		Cuxton Road North	Roman Way	Cuxton Road South	Butlers Park Way
From	Cuxton Road North	0	140	709	56
	Roman Way	171	0	231	16
	Cuxton Road South	825	319	0	75
	Butlers Park Way	73	8	53	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		Cuxton Road North	Roman Way	Cuxton Road South	Butlers Park Way
From	Cuxton Road North	0	0	1	0
	Roman Way	0	0	2	0
	Cuxton Road South	2	5	0	3
	Butlers Park Way	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
Cuxton Road North	0.62	5.89	1.6	A
Roman Way	0.46	6.67	0.8	A
Cuxton Road South	0.74	7.78	2.9	A
Butlers Park Way	0.22	6.92	0.3	A

Main Results for each time segment

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	681	285	1701	0.400	679	0.7	3.538	A
Roman Way	315	613	1166	0.270	313	0.4	4.262	A
Cuxton Road South	918	182	1874	0.490	914	1.0	3.841	A
Butlers Park Way	101	986	942	0.107	100	0.1	4.274	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	814	341	1664	0.489	812	1.0	4.255	A
Roman Way	376	734	1099	0.342	375	0.5	5.026	A
Cuxton Road South	1096	218	1850	0.592	1094	1.5	4.883	A
Butlers Park Way	120	1180	827	0.146	120	0.2	5.095	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	996	417	1614	0.618	994	1.6	5.830	A
Roman Way	460	898	1007	0.457	459	0.8	6.622	A
Cuxton Road South	1342	267	1818	0.738	1337	2.8	7.614	A
Butlers Park Way	148	1442	671	0.220	147	0.3	6.871	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	996	418	1613	0.618	996	1.6	5.888	A
Roman Way	460	901	1006	0.457	460	0.8	6.666	A
Cuxton Road South	1342	268	1817	0.739	1342	2.9	7.782	A
Butlers Park Way	148	1448	667	0.221	148	0.3	6.924	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	814	343	1663	0.489	816	1.0	4.298	A
Roman Way	376	738	1097	0.343	377	0.5	5.067	A
Cuxton Road South	1096	219	1849	0.593	1101	1.5	4.985	A
Butlers Park Way	120	1188	822	0.147	121	0.2	5.136	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	681	287	1700	0.401	683	0.7	3.568	A
Roman Way	315	617	1164	0.270	315	0.4	4.291	A
Cuxton Road South	918	183	1873	0.490	920	1.0	3.893	A
Butlers Park Way	101	992	939	0.107	101	0.1	4.299	A

Cuxton Road/Roman Way roundabout - 2025 with Lidl, PM Peak

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Cuxton Road Roundabout	Standard Roundabout		1, 2, 3, 4	18.82	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2025 with Lidl	PM Peak	ONE HOUR	16:00	17:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
Cuxton Road North		✓	1132	100.000
Roman Way		✓	654	100.000
Cuxton Road South		✓	1462	100.000
Butlers Park Way		✓	144	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		Cuxton Road North	Roman Way	Cuxton Road South	Butlers Park Way
From	Cuxton Road North	0	269	766	97
	Roman Way	234	4	388	28
	Cuxton Road South	940	385	0	137
	Butlers Park Way	75	11	58	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		Cuxton Road North	Roman Way	Cuxton Road South	Butlers Park Way
From	Cuxton Road North	0	0	0	0
	Roman Way	0	0	0	0
	Cuxton Road South	0	0	0	0
	Butlers Park Way	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
Cuxton Road North	0.80	11.54	3.9	B
Roman Way	0.76	16.02	3.1	C
Cuxton Road South	0.93	26.55	11.1	D
Butlers Park Way	0.31	10.31	0.4	B

Main Results for each time segment

16:00 - 16:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	852	343	1663	0.513	848	1.0	4.397	A
Roman Way	492	690	1123	0.438	489	0.8	5.652	A
Cuxton Road South	1101	272	1814	0.607	1095	1.5	4.960	A
Butlers Park Way	108	1170	833	0.130	108	0.1	4.962	A

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	1018	410	1618	0.629	1015	1.7	5.947	A
Roman Way	588	826	1048	0.561	586	1.3	7.765	A
Cuxton Road South	1314	325	1779	0.739	1309	2.7	7.589	A
Butlers Park Way	129	1400	696	0.186	129	0.2	6.351	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	1246	496	1561	0.799	1238	3.7	10.890	B
Roman Way	720	1007	947	0.761	713	3.0	14.994	B
Cuxton Road South	1610	396	1732	0.929	1581	9.8	20.867	C
Butlers Park Way	159	1693	521	0.304	158	0.4	9.877	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	1246	503	1556	0.801	1246	3.9	11.544	B
Roman Way	720	1014	943	0.763	720	3.1	16.020	C
Cuxton Road South	1610	399	1730	0.931	1604	11.1	26.553	D
Butlers Park Way	159	1716	508	0.312	158	0.4	10.307	B

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	1018	421	1611	0.632	1026	1.7	6.246	A
Roman Way	588	835	1043	0.564	595	1.3	8.166	A
Cuxton Road South	1314	330	1776	0.740	1347	2.9	9.004	A
Butlers Park Way	129	1437	673	0.192	130	0.2	6.639	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	852	346	1660	0.513	855	1.1	4.484	A
Roman Way	492	696	1120	0.440	494	0.8	5.775	A
Cuxton Road South	1101	274	1813	0.607	1106	1.6	5.136	A
Butlers Park Way	108	1182	825	0.131	109	0.2	5.026	A

Cuxton Road/Roman Way roundabout - 2025 with Lidl, Inter Peak

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Cuxton Road Roundabout	Standard Roundabout		1, 2, 3, 4	8.30	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2025 with Lidl	Inter Peak	ONE HOUR	12:30	14:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
Cuxton Road North		✓	951	100.000
Roman Way		✓	547	100.000
Cuxton Road South		✓	1232	100.000
Butlers Park Way		✓	135	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		Cuxton Road North	Roman Way	Cuxton Road South	Butlers Park Way
From	Cuxton Road North	0	216	679	56
	Roman Way	251	5	274	17
	Cuxton Road South	790	367	0	75
	Butlers Park Way	73	9	53	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		Cuxton Road North	Roman Way	Cuxton Road South	Butlers Park Way
From	Cuxton Road North	0	0	1	0
	Roman Way	0	0	2	0
	Cuxton Road South	2	5	0	3
	Butlers Park Way	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
Cuxton Road North	0.67	6.89	2.0	A
Roman Way	0.59	8.61	1.4	A
Cuxton Road South	0.77	9.29	3.4	A
Butlers Park Way	0.25	7.92	0.3	A

Main Results for each time segment

12:30 - 12:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	716	325	1675	0.428	713	0.7	3.760	A
Roman Way	412	591	1178	0.349	410	0.5	4.716	A
Cuxton Road South	928	246	1831	0.507	923	1.0	4.063	A
Butlers Park Way	102	1059	899	0.113	101	0.1	4.510	A

12:45 - 13:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	855	389	1632	0.524	854	1.1	4.649	A
Roman Way	492	707	1114	0.442	491	0.8	5.827	A
Cuxton Road South	1108	295	1799	0.616	1105	1.6	5.324	A
Butlers Park Way	121	1268	775	0.157	121	0.2	5.508	A

13:00 - 13:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	1047	476	1574	0.665	1044	2.0	6.785	A
Roman Way	602	865	1026	0.587	600	1.4	8.480	A
Cuxton Road South	1356	361	1755	0.773	1350	3.4	8.980	A
Butlers Park Way	149	1548	608	0.245	148	0.3	7.825	A

13:15 - 13:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	1047	478	1573	0.666	1047	2.0	6.891	A
Roman Way	602	868	1024	0.588	602	1.4	8.605	A
Cuxton Road South	1356	362	1754	0.773	1356	3.4	9.286	A
Butlers Park Way	149	1555	603	0.246	149	0.3	7.919	A

13:30 - 13:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	855	393	1630	0.525	858	1.1	4.720	A
Roman Way	492	711	1111	0.442	494	0.8	5.915	A
Cuxton Road South	1108	297	1798	0.616	1115	1.7	5.479	A
Butlers Park Way	121	1278	768	0.158	122	0.2	5.572	A

13:45 - 14:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
Cuxton Road North	716	328	1673	0.428	717	0.8	3.801	A
Roman Way	412	594	1176	0.350	413	0.5	4.769	A
Cuxton Road South	928	248	1830	0.507	930	1.1	4.130	A
Butlers Park Way	102	1067	894	0.114	102	0.1	4.544	A

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: Roman Way Site Access _without ComDev_No RT Lane.j9
Path: Z:\Job Library\2020\200289 - Lidl, Roman Rd, Strood, Rochester\Traffic Model
Report generation date: 24/02/2021 17:00:55

»2025 with Lidl , PM
»2025 with Lidl, Weekend Inter

Summary of junction performance

	PM				Weekend Inter			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2025 with Lidl							
Stream B-AC	0.3	8.35	0.22	A	0.3	8.15	0.24	A
Stream C-AB	1.2	6.02	0.36	A	1.1	6.72	0.39	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

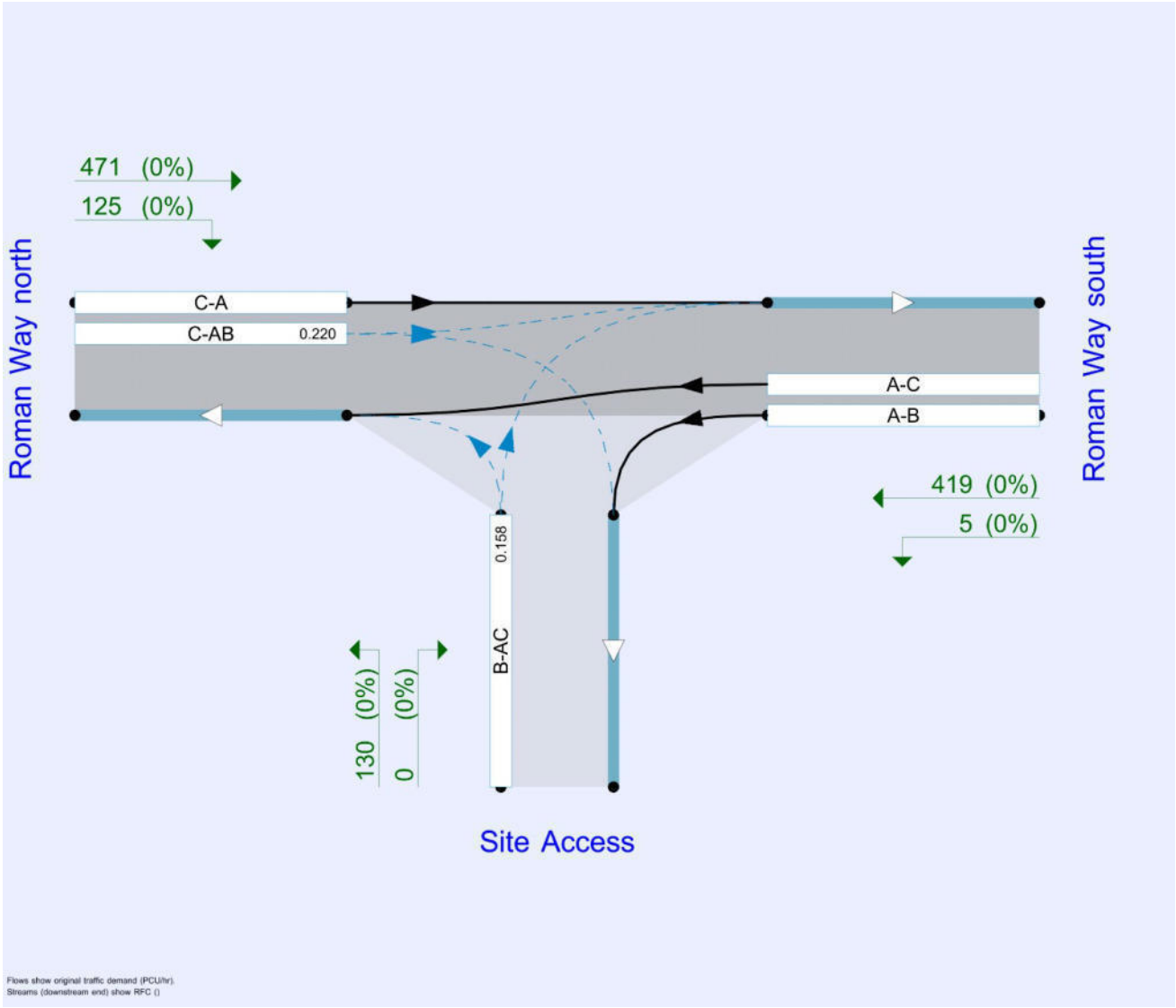
File summary

File Description

Title	
Location	
Site number	
Date	11/11/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SCP\anthony.morley
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2025 with Lidl	PM	ONE HOUR	16:00	17:30	15
D2	2025 with Lidl	Weekend Inter	ONE HOUR	12:30	14:00	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2025 with Lidl , PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Site Access	T-Junction	Two-way		1.87	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Roman Way south		Major
B	Site Access		Minor
C	Roman Way north		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
Roman Way north	8.70			43.5	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
Site Access	One lane	3.65	30	45

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	543	0.087	0.220	0.139	0.315
1	B-C	695	0.094	0.238	-	-
1	C-B	599	0.205	0.205	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2025 with Lidl	PM	ONE HOUR	16:00	17:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
Roman Way south		✓	548	100.000
Site Access		✓	110	100.000
Roman Way north		✓	670	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		Roman Way south	Site Access	Roman Way north
From	Roman Way south	0	4	544
	Site Access	0	0	110
	Roman Way north	570	100	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		Roman Way south	Site Access	Roman Way north
From	Roman Way south	0	0	0
	Site Access	0	0	0
	Roman Way north	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.22	8.35	0.3	A
C-AB	0.36	6.02	1.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	83	597	0.139	82	0.2	6.982	A
C-AB	158	821	0.192	156	0.4	5.411	A
C-A	347			347			
A-B	3			3			
A-C	410			410			

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	99	578	0.171	99	0.2	7.508	A
C-AB	220	869	0.254	220	0.7	5.554	A
C-A	382			382			
A-B	4			4			
A-C	489			489			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	121	552	0.219	121	0.3	8.342	A
C-AB	336	938	0.358	334	1.1	5.981	A
C-A	402			402			
A-B	4			4			
A-C	599			599			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	121	552	0.219	121	0.3	8.354	A
C-AB	337	940	0.358	337	1.2	6.017	A
C-A	401			401			
A-B	4			4			
A-C	599			599			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	99	578	0.171	99	0.2	7.518	A
C-AB	222	871	0.254	224	0.7	5.600	A
C-A	381			381			
A-B	4			4			
A-C	489			489			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	83	597	0.139	83	0.2	7.006	A
C-AB	159	822	0.193	160	0.5	5.458	A
C-A	345			345			
A-B	3			3			
A-C	410			410			

2025 with Lidl, Weekend Inter

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Site Access	T-Junction	Two-way		2.50	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2025 with Lidl	Weekend Inter	ONE HOUR	12:30	14:00	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
Roman Way south		✓	424	100.000
Site Access		✓	130	100.000
Roman Way north		✓	596	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		Roman Way south	Site Access	Roman Way north
From	Roman Way south	0	5	419
	Site Access	0	0	130
	Roman Way north	471	125	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		Roman Way south	Site Access	Roman Way north
From	Roman Way south	0	0	0
	Site Access	0	0	0
	Roman Way north	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.24	8.15	0.3	A
C-AB	0.39	6.72	1.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

12:30 - 12:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	98	619	0.158	97	0.2	6.882	A
C-AB	172	783	0.220	170	0.5	5.868	A
C-A	277			277			
A-B	4			4			
A-C	315			315			

12:45 - 13:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	117	605	0.193	117	0.2	7.371	A
C-AB	233	822	0.283	232	0.7	6.112	A
C-A	303			303			
A-B	4			4			
A-C	377			377			

13:00 - 13:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	143	585	0.245	143	0.3	8.143	A
C-AB	339	878	0.386	337	1.1	6.679	A
C-A	317			317			
A-B	6			6			
A-C	461			461			

13:15 - 13:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	143	585	0.245	143	0.3	8.154	A
C-AB	340	879	0.387	340	1.1	6.722	A
C-A	316			316			
A-B	6			6			
A-C	461			461			

13:30 - 13:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	117	605	0.193	117	0.2	7.389	A
C-AB	234	824	0.284	236	0.7	6.162	A
C-A	302			302			
A-B	4			4			
A-C	377			377			

13:45 - 14:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	98	619	0.158	98	0.2	6.909	A
C-AB	173	784	0.221	174	0.5	5.921	A
C-A	276			276			
A-B	4			4			
A-C	315			315			