84 Swallowfield Way, Hayes
Response to London Borough of Hillingdon and Transport for London Comments

N03/226977
August 2023

Introduction

1. Vectos, part of SLR, is appointed by Wrenbridge (FRELD Hayes) LLP to provide highways and transport advice in relation to the proposed redevelopment of 84 Swallowfield Way, Hayes, which currently comprises an existing crane depot.

2. The site is located within the administrative boundary of the London Borough of Hillingdon (LBH) and Transport for London (TfL) are a statutory consultee.

3. Vectos prepared a Transport Assessment (TA), dated 2nd June 2023, to support application 63099/APP/2023/1608.

4. LBH provided comments, dated 28th June 2023, on the submitted TA. TfL also provided comments, dated 29th June 2023. This note has been prepared to address comments raised by TfL and LBH on the submitted TA. Comments have been grouped from both consultees under the following headings:

   — Healthy Streets, Active Travel, Pedestrian and Cycle Access

   — Vision Zero

   — Construction

   — Delivery, Servicing, and Cargo Bike Parking

   — Highway Impact

   — Car Parking

   — Cycle Parking

   — Travel Plan

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Healthy Streets, Active Travel, Pedestrian and Cycle Access

TfL Comment:

"TfL request that further commentary is provided in regard to the nighttime assessment in particular to Routes 1, and 5."

LBH Comments:

"The Highway Authority believes for the development to provide more safe and convenient access for pedestrians on-site that zebra crossings should be created at the front of each service yard for units 1-3."

"The Highway Authority would strongly recommend that a segregated cycle lane into the site is provided for cyclists, as this will support active modes of travel to the site and meet the Healthy Streets Approach"

Vectos Response:

Active Travel Zone (ATZ)

5. As part of the Active Travel Zone (ATZ) assessment, a night-time audit was conducted on four of the six key routes with routes 5 and 6 not included in the night-time audit.

6. In addition, further information on Route 1 is provided below. As mentioned in the TA, Route 1 is considered a convenient route for employees to travel between Hayes and Harlington rail station and the site. This route runs along Blyth Road, a residential street with several new-build apartments being provided in recent years, and some under construction as observed on the site visit. This provides good surveillance during night-time hours. This section of the footway is also lit and therefore provides a route suitable for nighttime hours where employees are travelling later in the evening or in winter. **Figure 1** below shows the section of route directly in front of the subway passage to Hayes and Harlington rail station.

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Figure 1: Blyth Road

7. As can be seen in **Figure 1**, there are three streetlights provided in this area providing adequate lighting.

8. The section of Route 1 which runs along Swallowfield Way has less surveillance with mainly commercial units set back from the carriageway. However, there is street lighting provided on footways along the length of Swallowfield Way and Rigby Lane forming a suitable route during night time hours. This gives employees a greater sense of safety and security. Route 1 is therefore determined to be a suitable route for employees travelling between the site and Hayes and Harlington Station.

9. It was determined unnecessary to evaluate Route 5 as part of the night-time assessment as it is considered that employees travelling to the site at nighttime would prefer a bus route with a stop closer to the site. The closest bus stops to the site are on Dawley Road, an 8-minute walk from the site. These bus stops on Dawley Road can be reached via Route 1 as detailed above and in the TA. The bus stops at the Square are a 13-minute walk. The route to the bus stops along Dawley Road is considered a more attractive route, with the U5 bus service stopping at both the Square and Dawley Road bus stops.

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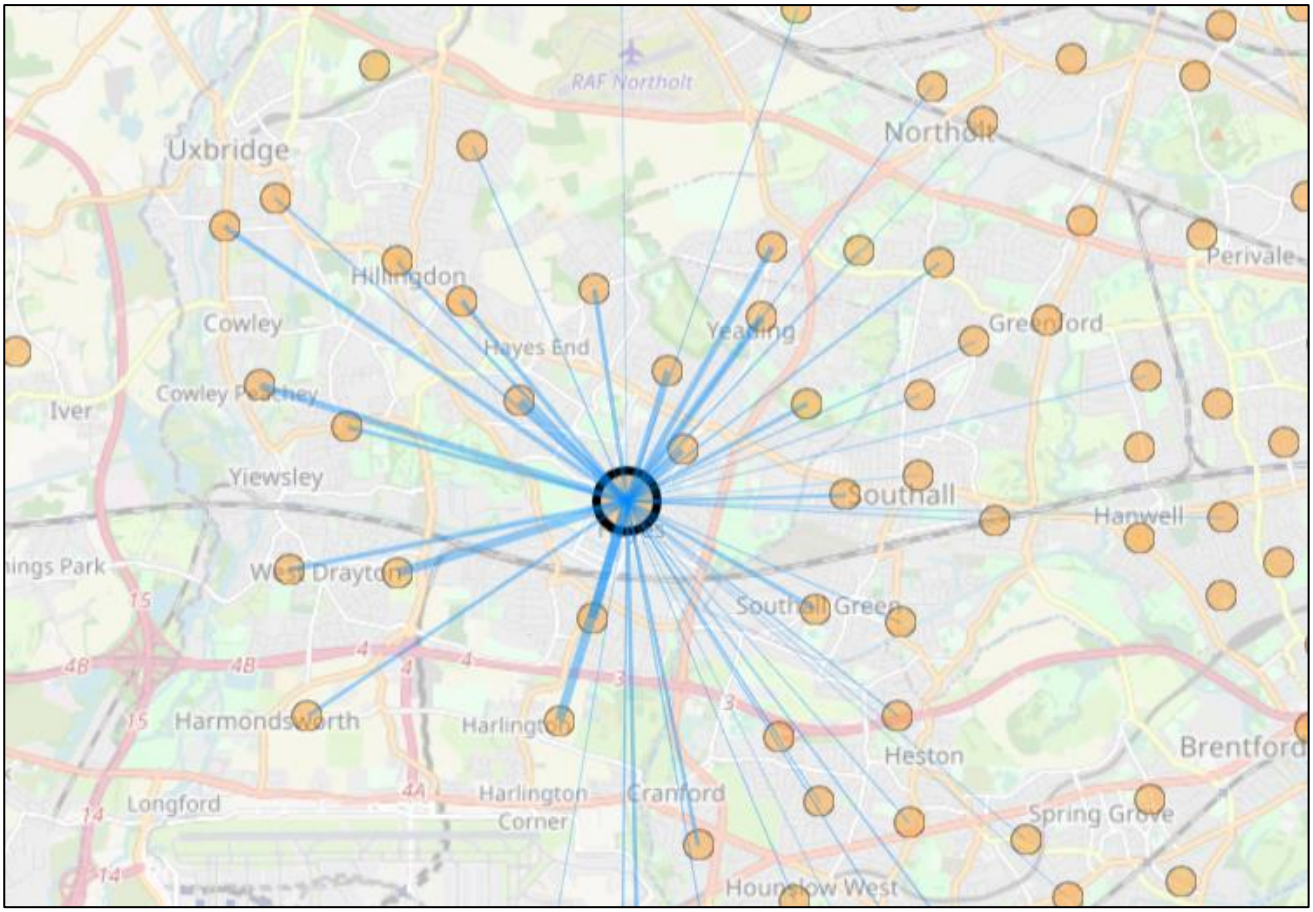
10. Furthermore, the total number of employees who would need to travel via route 5 during nighttime hours equals circa 10 employees. This is based on the number of people anticipated to commute to the site via bus over the course of the 24 hour day which equates to 212 employees. It is assumed that 71 employees would travel at night-time, for the night shift at the proposed development.

11. The Datashine census commuting tool has been used to understand where people travel from, via bus, as shown in **Figure 2** below. The percentage of people who would likely use the Square bus stops equate to circa 14% of all employees commuting by bus.

12. As such, of these 71 employees, circa 14% who travel by bus would access bus services from the Square. This equates to circa 10 people who would need to travel via route 5 during nighttime hours. On this basis the route does not warrant large scale upgrades.

Figure 2: Insert of Datashine Census Travel to and from Work for Bus/Coach



13. Route 6 was not evaluated as part of the night-time assessment as this route is deemed to be an alternative route to Hayes and Harlington Station. This route is not considered as direct as Route 1 and Route 6 includes a section along the Grand Union Canal, which lacks street lighting and any residential or commercial buildings overlooking this section of route. During the night-time for that reason, it is assumed that people would choose to travel along Route 1 instead of Route 6.

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14. We note the request for £132,000 via S106 contribution for healthy streets. However, no information has been provided to set out how the request meets the tests for planning obligations as set out in The Community Infrastructure Levy Regulations 2021 (as amended) Part 11, Regulation 122 which requires the Council to set out the following:

- [why the obligations is] necessary to make the development acceptable in planning terms;
- [how the payment is] directly related to the development; and
- [how the payment is] fairly and reasonably related in scale and kind to the development.

15. The request for payment via an obligation has not set out what mitigation would be put in place that is directly relatable to the development, and why it is required to make the application acceptable in planning terms. This also flows through to para 57 of the National Planning Policy Framework.

Pedestrian and cycle access

16. The site plan has been updated based on comments received from TfL and LBH. The updates include the provision of zebra crossings at the front of each service yard for units 1-3.

17. With regard to cycling, it is proposed that a dropped kerb will be provided at the pedestrian access and a sign indicating to cyclists to dismount and walk their bikes to the cycle parking. Additional signage will also be provided at the vehicular access warning drivers of the potential presence of pedestrians and people walking their bikes in the area. These improvements are illustrated on the drawing provided within **Appendix A**.

Vision Zero

TfL Comment:

"TfL request that HGV vehicle routing to and from the site is provided in order to establish the overall impact at key junctions and whether any contributions may be required towards road safety improvements."

Vectos Response:

18. A google journey time routing exercise has been undertaken to understand which routes are likely to be undertaken by HGV delivery drivers to the M4, M25 and M40.

19. These routes as shown in **Figures 5** to **9** indicate that all HGVs would route south as the M4 provides the quickest route further afield and is the quickest connection to the strategic network from the site.

20. The routes that HGVs are most likely to take are outlined in **Figure 4**.

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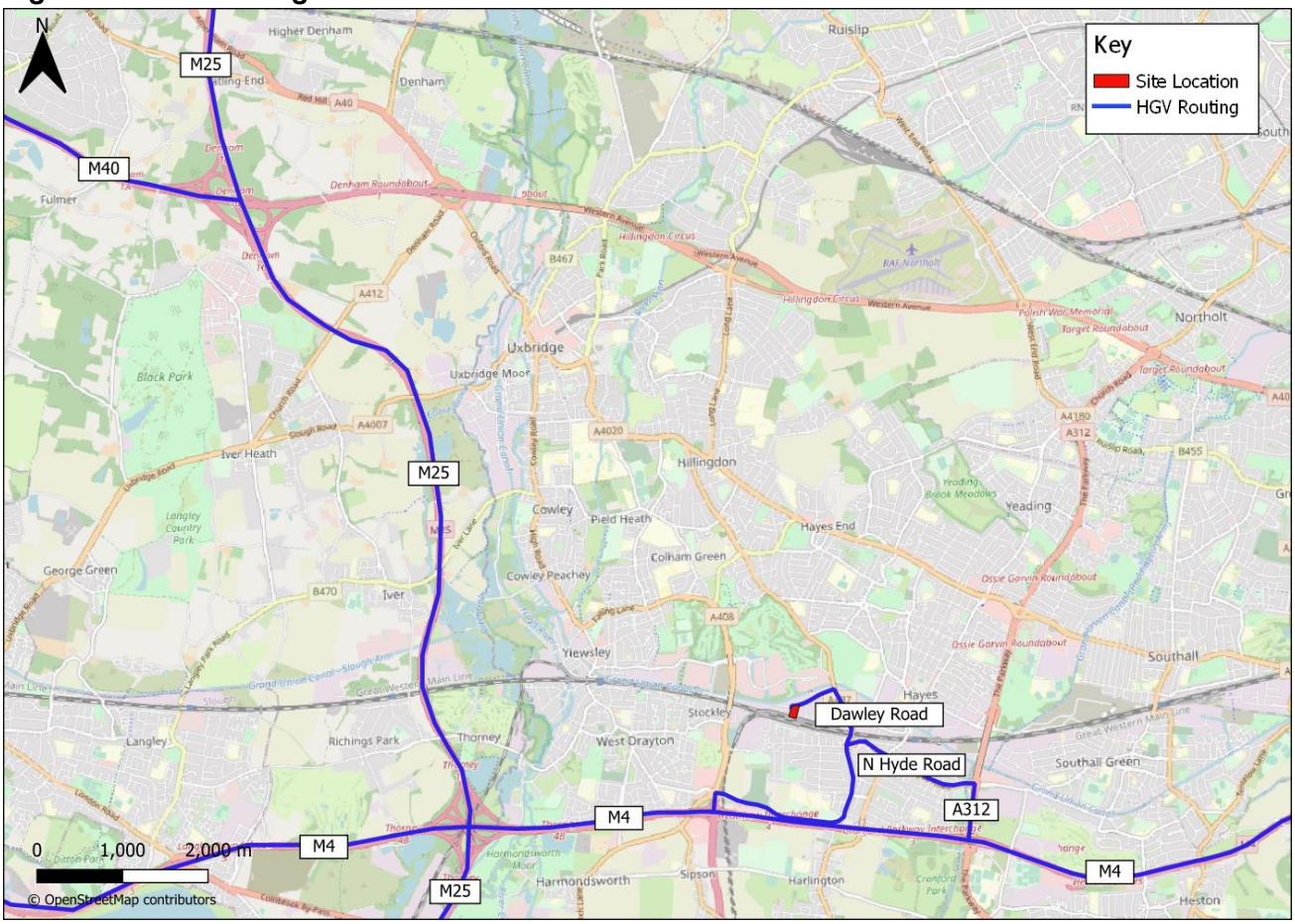
Figure 4: HGV Routing Plan



21. The routes shown in **Figure 4** have been determined using Google Maps journey times. These journeys are shown in **Figure 5 to 9** below.

Figure 5: M25 North Route

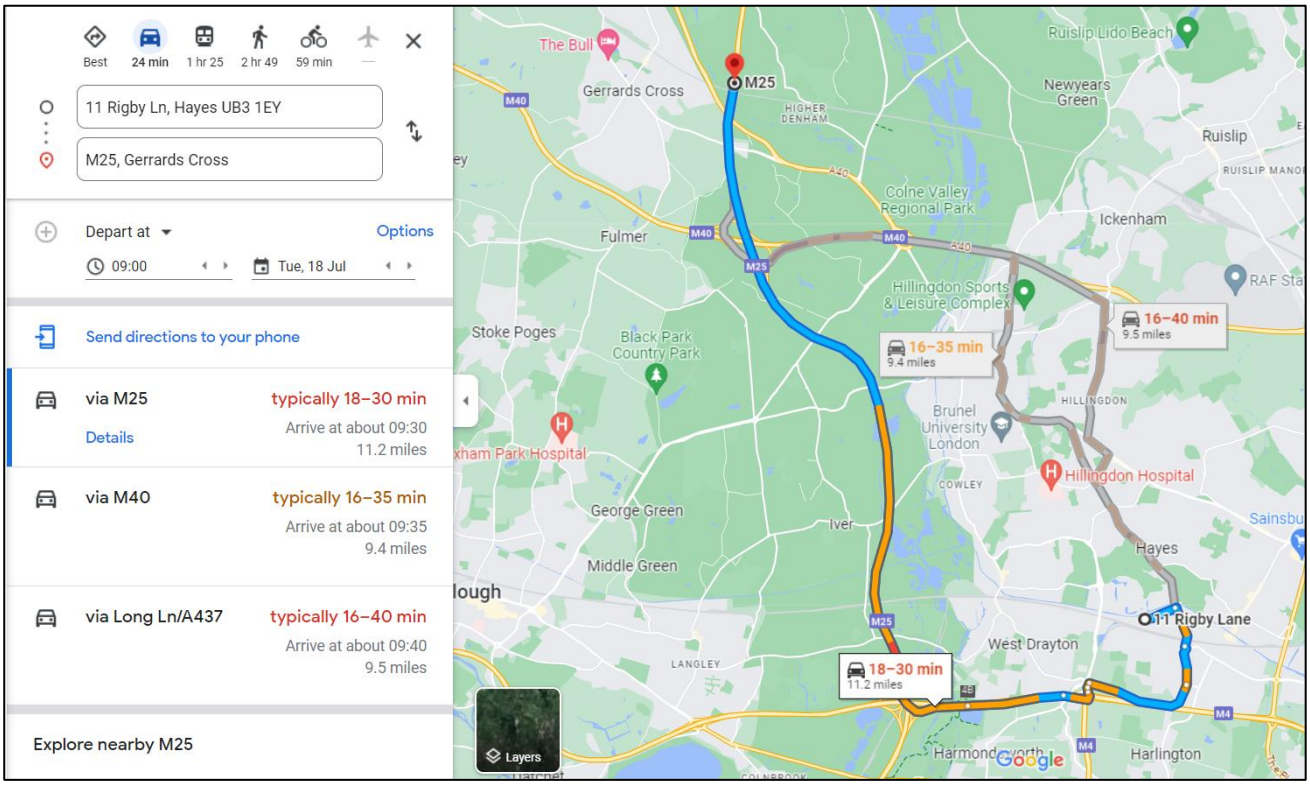


Figure 6: M40 Route

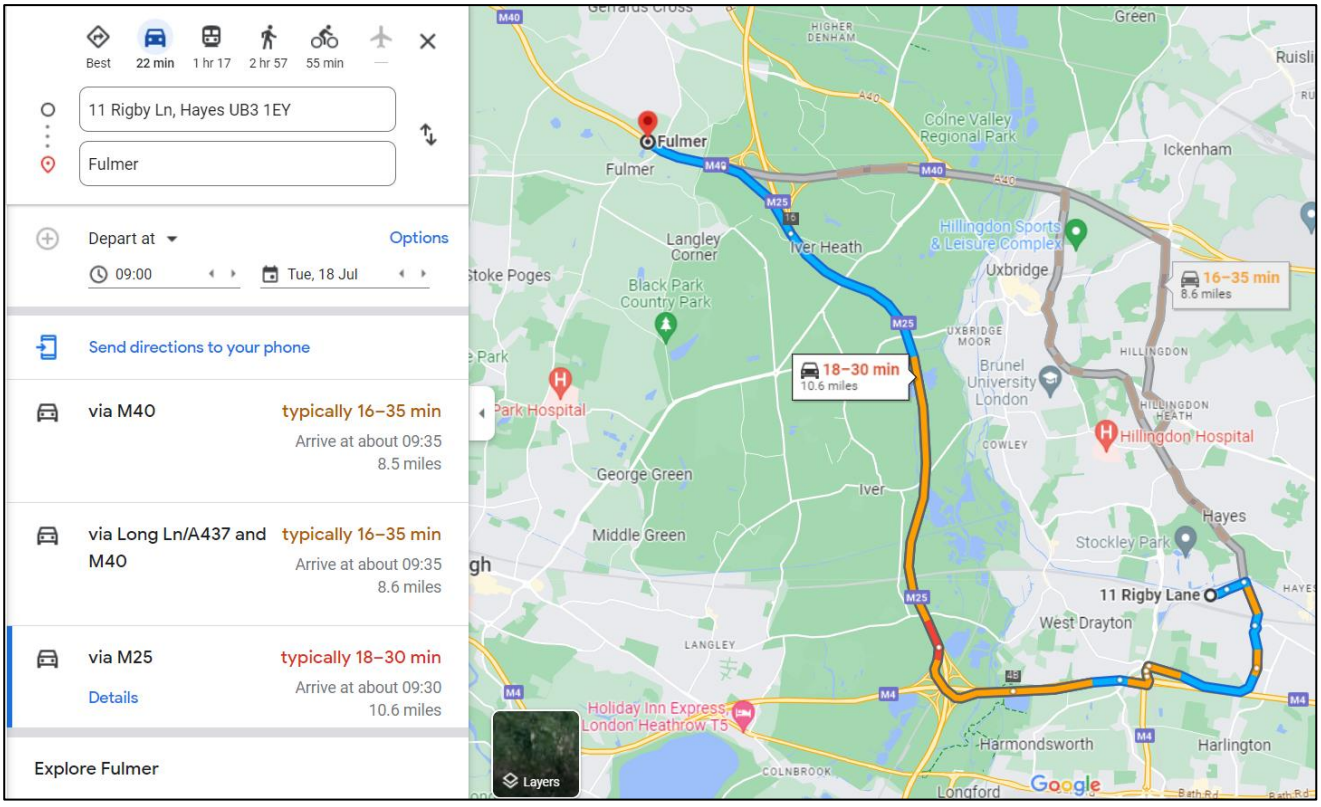


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Figure 7: M4 West Route

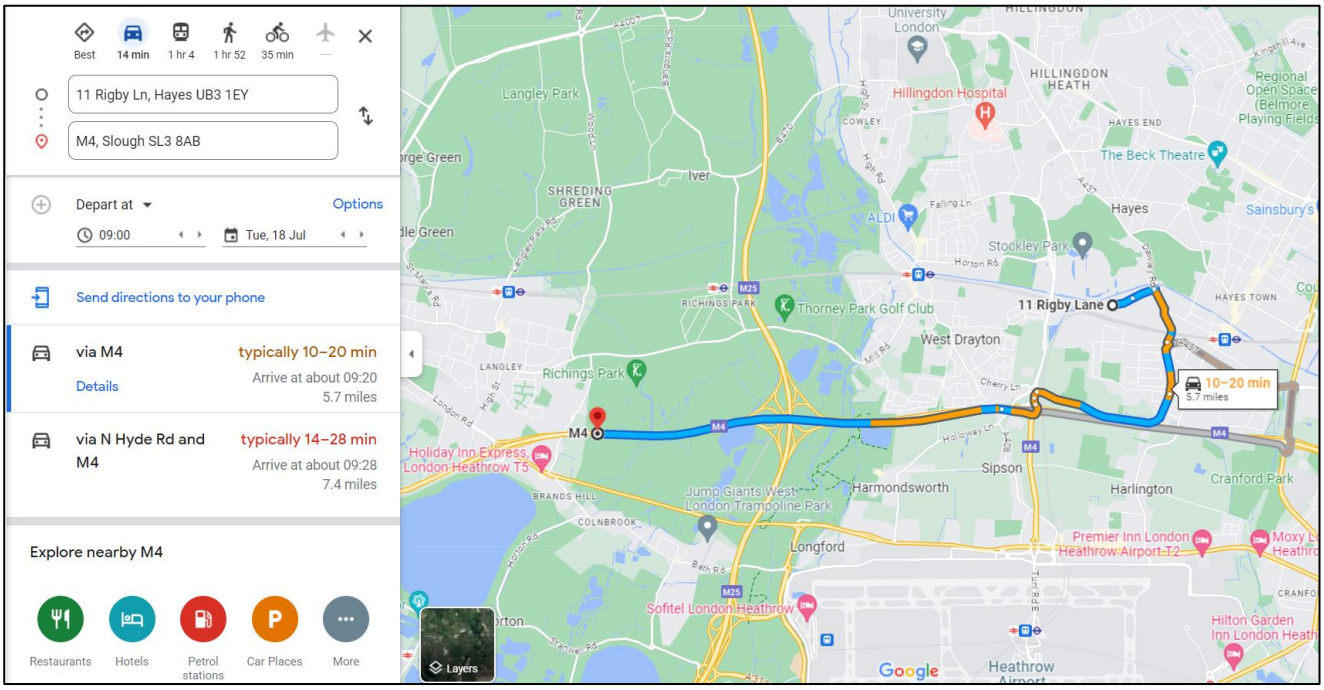

Figure 8: M25 South Route

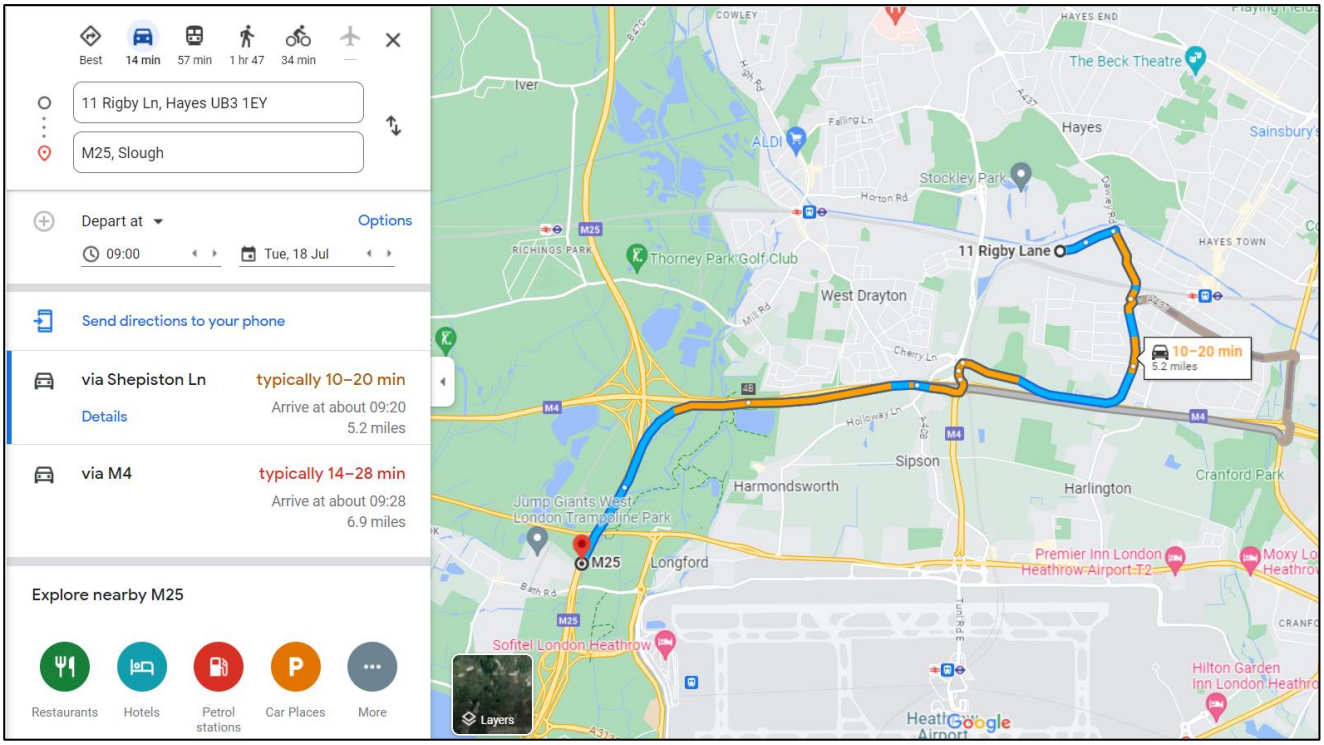

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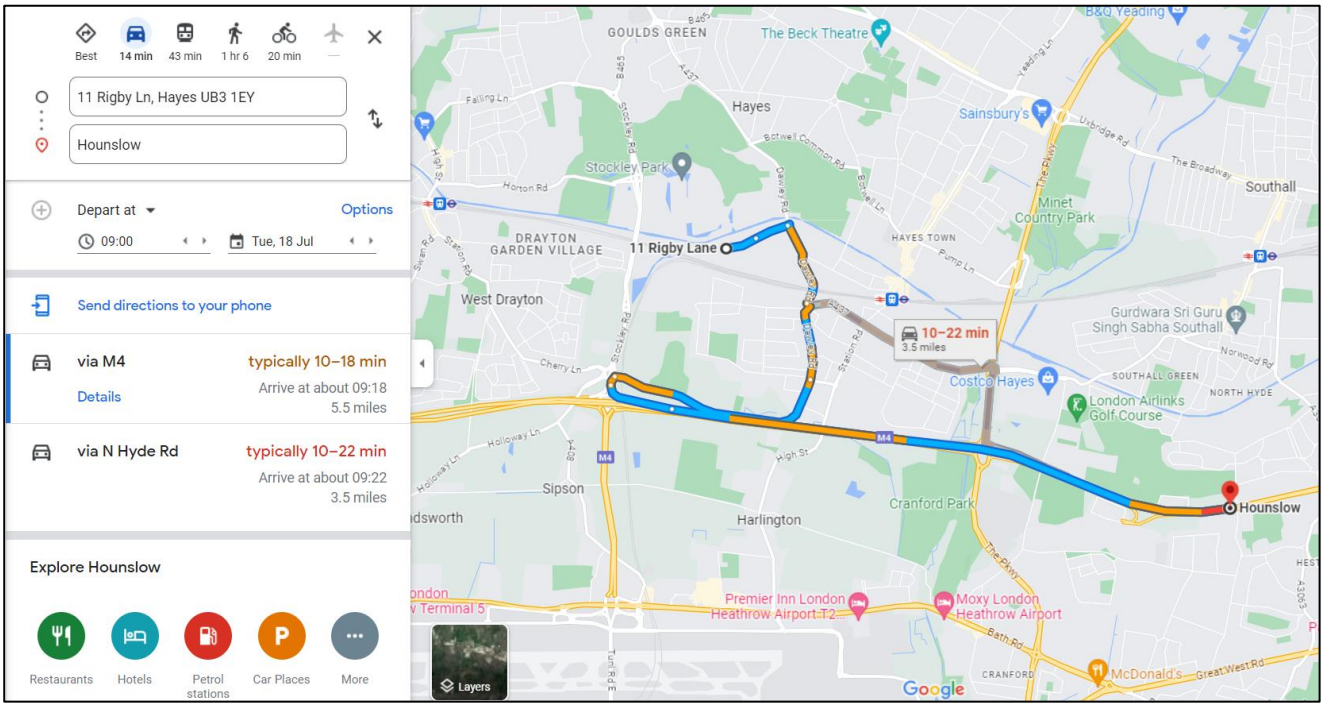
Figure 9: M4 East Route



22. As can be seen in **Figure 4** and **Figure 9**, HGVs routing to the east along the M4 will primarily route through the M4 junction 4 and then via junction 3. Some HGVs will route directly via the M4 junction 3, thus routing through the A312/North Hyde Road junction. Based on Google Maps routing data and Vectos' professional opinion it is anticipated that 85% of HGVs will route through junction 4 with 15% avoiding junction 4 and routing through A312/North Hyde Road junction.

23. Based on the net trip generation provided in the TA, **Table 1** below summarises the expected number of HGVs routing through junction 4 of the M4 and the A312/North Hyde Road junction.

Table 1: HGV Routing Distribution

Time Period	Net HGV Trip Generation			M4 Junction 4			A312/North Hyde Road		
	Arr	Dep	Total	Arr	Dep	Total	Arr	Dep	Total
AM Peak (08:00-09:00)	4	4	8	3	3	7	1	1	1
PM Peak (17:00-18:00)	1	3	4	1	3	3	0	0	1
Daily 24-Hour	32	38	71	27	32	60	5	6	11

Note: Discrepancies due to rounding

24. As can be seen in **Table 1**, the number of vehicles routing through the A312/North Hyde Road junction is expected to be minimal.

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25. At the request of TfL, further analysis of collisions along these routes has been undertaken for where data was obtained. The fatal collision on these routes has already been discussed in the TA, as have the serious collisions. There is a further serious collision on these routes that was not previously discussed. This collision occurred on North Hyde Road circa 45m southeast of the junction with Old Station Road. This collision involved a motorcycle and a pedestrian. The cause of the collision is attributed to failure on the pedestrian's part to look properly. The pedestrian stepped into the carriageway into the path of the motorcycle.

26. A total of 12 collisions have been identified at the North Hyde Road junction with Old Station Road. All 12 collisions are marked as slight collisions. The collision data received does not provide a detailed description of the collisions in terms of exact locations and movements. In turn, a number of collisions have the description: "*Not Known How Collision Occurred*." Therefore, the attributing factors to each of these 12 collisions have been analysed to determine whether the road layout is a key attributing factor.

27. Two of these collisions were self-reported and had no attributing factor. Seven of these collisions had failed to look properly as the attributing factor. Two of these collisions were attributed to errors involving traffic signals, with one collision due to a defective traffic signal and one due to a driver disobeying a traffic signal. The remaining collision involved a driver impaired by alcohol.

28. As such, the road layout is not considered to be a key attributing factor in these collisions and the cause of the collisions is likely to be due to driver error.

Construction

TfL Comment:

"A framework Construction Logistics Plan (CLP) has not been submitted in support of the application and in line with Policy T7 TfL request that a draft document is submitted prior to the determination of the application with a full version secured by legal agreement. Once submitted TfL may provide additional commentary on the construction of the proposal."

Vectos Response:

29. A draft Framework Construction Logistics Plan is attached at **Appendix B**.

Delivery, Servicing, and Cargo Bike Parking

TfL Comments:

"In line with the Mayor's Vision Zero approach, the design of the development should seek to minimise the requirement for reversing. Where it can be demonstrated that this is not possible, management and design measures should be implemented to ensure that there is no conflict

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between different modes. TfL are not satisfied that effective management or design measures have been implemented to ensure that there is no conflict between different modes."

"[It] needs to be demonstrated that two goods vehicles will be able to pass safely without potential collision as there are serious concerns from TfL that the site is constrained with the high level of vehicular parking currently proposed."

"There is also a concern that vehicles could queue back onto the adjoining highway network, therefore impacting road safety contrary to Policy T4."

"An Operational Management Plan should be secured within a s106 agreement to outline how the site will operate in line with TfL's Freight and Servicing Action Plan which calls for safe, clean and efficient traffic in London."

"From an environmental perspective the use of electric vehicles should be maximised and promoted where possible and a cargo bike strategy should be put forward for the site including providing cargo bikes on site, not just spaces for these. The proposed timings of deliveries to and from the site also need to be carefully considered and agreed to minimise the impact on congestion, noise pollution and surrounding residential developments, given the location of the site. Additionally, the future operators will need to be committed to minimising the number of trips to the site by combining as many trips as possible to the site such as sharing materials between the operators on site and compacting waste from multiple sites before removal."

"The provision of cargo bikes in the form of flexible car parking spaces is questioned. The cargo bike spaces should be a permeant feature to encourage last mile cargo bike deliveries, increase active travel, and reduce HGV movement. The proposal to include the spaces flexibly may result in the spaces being used by vehicles for long periods of me, in addition how will the cargo bikes be secure? How will conflicts between vehicles be managed if the spaces are within the car park and poorly protected?"

Vectos Response:

30. The entrance to the proposed development and within the individual servicing yards will be a low-speed environment with banksmen and traffic marshals on site to manage the movement of servicing vehicles. The interaction of HGVs and employee shift-change overs would not occur during the same periods - in most scenarios employees would need to be on site prior to the arrival of a HGV to ensure they are present to load / unload the vehicle. When employee shift change overs do occur, pedestrians and cyclists would use the delineated pedestrian and cyclist routes along the frontage of the service yards. It should also be noted that the interaction of modes within a servicing yard like this is not uncommon and is considered to be an on-site management issue which will be managed on a daily basis.

31. Furthermore, this layout is in line with London Plan Policy E7 which supports the most efficient use of space and maximise the intensification of business uses. This policy is replicated below for reference:

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"be proactive and encourage the intensification of business uses in Use Classes B1c, B2 and B8 occupying all categories of industrial land through […] more efficient use of land through higher plot ratios having regard to operational yard space requirements (including servicing) and mitigating impacts on the transport network where necessary."

32. To avoid vehicles queuing on the highway network HGVs entering the site will be given priority. Furthermore, an assessment has been undertaken to determine the typical number of two-way HGV movements at the proposed development. The TRICS data, as presented in the TA, has been factored to 24 hours using a nearby ATC. The 24-hour HGV daily profile is provided in **Table 2** below.

Table 2: HGV 24-Hour Profile

Land Use	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
	Industrial Estate			Warehousing Commercial		
00:00-01:00	0	0	1	0	0	1
01:00-02:00	0	0	0	0	0	0
02:00-03:00	0	0	0	0	0	0
03:00-04:00	0	0	0	0	0	0
04:00-05:00	0	0	0	0	0	0
05:00-06:00	0	0	1	0	0	1
06:00-07:00	1	1	2	1	1	2
07:00-08:00	3	3	6	3	4	7
08:00-09:00	4	4	8	2	3	5
09:00-10:00	4	4	8	4	3	7
10:00-11:00	5	4	9	3	4	7
11:00-12:00	4	5	9	3	2	6
12:00-13:00	2	2	5	3	4	7
13:00-14:00	4	5	9	4	4	8
14:00-15:00	3	2	6	4	2	6
15:00-16:00	3	3	6	3	3	6
16:00-17:00	2	3	5	3	2	5
17:00-18:00	1	1	1	2	3	5
18:00-19:00	0	0	0	2	1	4
19:00-20:00	2	2	4	2	2	4
20:00-21:00	1	2	3	2	2	3
21:00-22:00	1	1	2	1	1	2
22:00-23:00	1	1	2	1	1	2
23:00-24:00	1	1	1	1	1	1
TOTAL	**44**	**45**	**88**	**45**	**44**	**90**

33. The HGV traffic profile in **Table 2** shows the maximum expected number of two-way movements per hour is 9. This is the equivalent of an arrival or departure every 6 minutes, as such the frequency of HGVs having to give-way to one another is likely to be minimal. In terms of opposing flows, 5 HGV

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arrivals an hour equates to an HGV arrival every 12 minutes, and 4 HGV departures an hour equates to an HGV departure every 15 minutes. On the basis each HGV manoeuvre takes about 10–15 seconds, the probability of conflicting HGV movements occurring at the same time is very low. This remains the case even allowing for the HGV movements to and from the adjoining site, which the survey demonstrates generates a maximum of 1 HGV arrival and 1 HGV departure in any one hour.

34. On the basis of a maximum of 11 HGV movements per hour at the site access and 10–15 seconds per manoeuvre, demonstrates that the site access – at its busiest - will only be in use for HGV movements for 165 seconds per hour, or circa 5% of the time.

35. In addition, and as already mentioned, priority will be given to HGVs accessing the site and banksmen will be on duty within the service yards.

36. Furthermore, with a maximum of 5 HGVs onsite at any one time (assuming the maximum number of arrivals in anyone hour are all on site at the same time), and 7 HGV loading bays on-site, it is considered that there would not be a series of HGVs waiting for a free loading bay.

37. It is accepted that an Operational Management Plan can be secured within a s106 agreement, with the expectation that this would detail the operation of the layout presented within this response note.

38. Electric vehicle charging for cars is provided on-site in line with the standards set out in The London Plan. Passive electric charging facilities for cars has also been provided to allow further electric charging facilities to be provided in the future. Ducting will be provided for HGV charging. However, active electric vehicle charging points for HGVs is not considered necessary as HGVs will not be on-site long enough to justify the provision of charging points with most HGVs arriving and departing within the same hour as shown above. Fuelling for these vehicles would take place off-site, as is the case with non-electric HGVs. It is therefore not considered appropriate to provide a fuelling station for an HGV on-site whether it be electric or non-electric.

39. Cargo bike spaces have been provided for future occupiers who may have a capacity for last mile deliveries by cargo bike. It is not in the interest for the applicant nor future occupiers to have an abundance of cargo bike spaces onsite in the event that the future occupier has use of such cargo bike spaces. Any a future occupier of the site would be aware of the layout and space onsite to allow them to make best use of the space in the event that further cargo bike spaces are desired. Furthermore, the site layout has been updated to avoid cargo bike spaces occupying electric vehicle charging spaces. This can be seen in **Appendix C**.

40. In regard to the security of cargo bike spaces, this would be the same as a fleet of delivery vans and be the responsibility of the future occupier. Fences are provided for security around each respective service yard and the opportunity for nighttime security is also available. If a future occupier has a need for cargo bike deliveries then there is also the possibility of providing cargo bike stands in such an event or providing spaces within the warehouse for overnight storage. This discretion is with the future occupier.

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Highway Impact

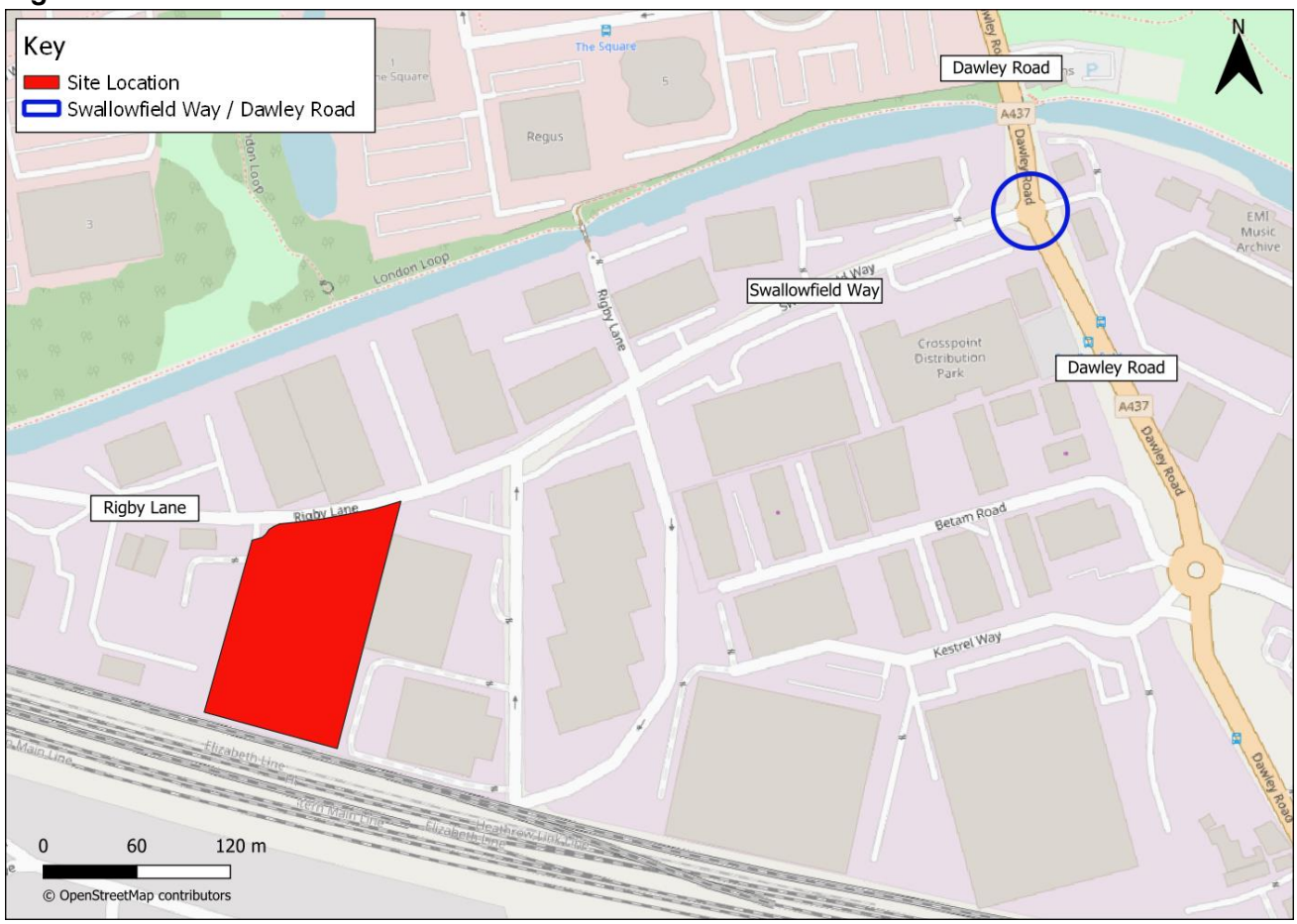
"TfL are awaiting the TA addendum to assess impacts on the local junctions and whether a financial contribution is required."

Vectos Response:

41. This response note contains the highway impact assessment that would otherwise be provided within a Transport Assessment Addendum. The highway impact assessment focuses on the Dawley Road/Swallowfield Way roundabout as all site traffic would route through this junction.

42. This roundabout can be seen in relation to the site in **Figure 10** below.

Figure 10: Location of Modelled Junction



43. It should be noted that the trip generation provided in the TA is considered to be a worst-case assessment. The likely future use of the site based on the current layout is B8 which, as detailed in the TA, provides fewer trips in the peak hours and over the course of the day.

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44. It is considered that the more realistic trip generation from this site is better aligned with a B8 use class. The B8 trip rates and trip generation have thus been re-provided below, with Car, HGV, and LGV trips presented.

45. **Table 3** shows a summary of the B8 trip rates and trip generation, as provided in the Transport Assessment.

Table 3: B8 Trip Rates and Trip Generation

Time Period	Trip Rates			Trip Generation (7,780 sqm)		
	Arrivals	Departures	Two-way	Arrivals	Departures	Two-way
Total Vehicle						
AM Peak (08:00-09:00)	0.406	0.101	0.507	32	8	39
PM Peak (17:00-18:00)	0.165	0.458	0.623	13	36	48
Daily 24-Hour	2.924	2.862	5.786	227	223	450
HGV						
AM Peak (08:00-09:00)	0.031	0.037	0.068	2	3	5
PM Peak (17:00-18:00)	0.030	0.037	0.067	2	3	5
Daily 24-Hour	0.581	0.571	1.152	45	44	90
Car						
AM Peak (08:00-09:00)	0.338	0.043	0.381	26	3	30
PM Peak (17:00-18:00)	0.107	0.388	0.495	8	30	39
Daily 24-Hour	1.844	1.793	3.637	143	139	283
LGV						
AM Peak (08:00-09:00)	0.037	0.021	0.058	3	2	5
PM Peak (17:00-18:00)	0.028	0.033	0.061	2	3	5
Daily 24-Hour	0.499	0.498	0.997	39	39	78

46. This trip generation is based on a 24-hour profile. This is roughly the equivalent of three shift changeovers at maximum output. Therefore, to represent a more realistic two-shift pattern where less staff are required, a 2/3rds factor has been applied to this trip generation.

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47. This two-shift pattern trip generation is shown in **Table 4** below.

Table 4: Realistic Shift Pattern Trip Generation

Time Period	Trip Generation (2/3rds)		
	Arrivals	Departures	Two-way
Total Vehicle			
AM Peak (08:00-09:00)	21	5	26
PM Peak (17:00-18:00)	9	24	32
Daily 24-Hour	152	148	300
HGV			
AM Peak (08:00-09:00)	2	2	4
PM Peak (17:00-18:00)	2	2	3
Daily 24-Hour	30	30	60
Car			
AM Peak (08:00-09:00)	18	2	20
PM Peak (17:00-18:00)	6	20	26
Daily 24-Hour	96	93	189
LGV			
AM Peak (08:00-09:00)	2	1	3
PM Peak (17:00-18:00)	1	2	3
Daily 24-Hour	26	26	52

48. Furthermore, a 5% reduction in trips has been applied to car trips as LGV and HGV are considered to be operational. This is in line with the 5% reduction in vehicle trips as stated in the Travel Plan.

49. This 5% reduction is shown in **Table 5** below.

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Table 5: Realistic Shift Pattern Trip Generation (Including 5% Car & LGV reduction)

Time Period	Trip Generation (2/3rds)		
	Arrivals	Departures	Two-way
Total Vehicle			
AM Peak (08:00-09:00)	20	5	25
PM Peak (17:00-18:00)	8	23	31
Daily 24-Hour	147	144	291
HGV			
AM Peak (08:00-09:00)	2	2	4
PM Peak (17:00-18:00)	2	2	3
Daily 24-Hour	30	30	60
Car			
AM Peak (08:00-09:00)	17	2	19
PM Peak (17:00-18:00)	5	19	24
Daily 24-Hour	91	88	179
LGV			
AM Peak (08:00-09:00)	2	1	3
PM Peak (17:00-18:00)	1	2	3
Daily 24-Hour	26	26	52

50. **Table 5** represents a more realistic trip generation. This represents a two-shift pattern where less staff are required and a 5% reduction in car trips, as stated within the Travel Plan. This is presented in comparison to the worst-case trip generation as presented in the Transport Assessment. Both the worst case and realistic case scenario have been modelled and are presented below.

Traffic Survey

51. In order to establish the baseline traffic flows on the local highway network surrounding the site, Classified Turning Counts (CTCs) and Queue Surveys were undertaken at the Dawley Road/Swallowfield Way roundabout.

52. These surveys were undertaken between 07:00-10:00 and 16:00-19:00 on 10th May 2023.

Assessment Scenarios

53. The scenarios assessed are provided below:

- **2023 Baseline** - The traffic survey provided the observed traffic flows which are referred to as the 2023 Baseline.

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— **2023 Baseline + Development (worst case) scenario** – The net trip generation as presented in the Transport Assessment, and re-provided at **Table 6** below, was then used to inform the development flows. These development flows were then added to the 2023 Baseline to provide the traffic flows for the 2023 Baseline + Development scenario.

— **2023 Baseline + Development (realistic case) scenario** – The realistic shift pattern trip generation as provided in **Table 5**. These development flows were then added to the 2023 Baseline to provide the traffic flows for the 2023 Baseline + Development (realistic case) scenario.

54. The trip generation for the AM and PM peaks as presented in the Transport Assessment are included in **Table 6**, with HGV movements shown in brackets.

Table 6: Trip Generation

Time Period	Existing			Proposed			Net		
	Arr	Dep	Total	Arr	Dep	Total	Arr	Dep	Total
AM Peak (08:00-09:00)	4 (0)	0 (0)	4 (0)	76 (4)	42 (4)	117 (8)	72 (4)	42 (4)	113 (8)
PM Peak (17:00-18:00)	1 (1)	7 (0)	8 (0)	22 (2)	53 (3)	75 (5)	21 (1)	46 (3)	67 (4)

55. As can be seen in **Table 6**, there are 113 and 67 two-way net trips generated in the peak hour. As Swallowfield Way is a no-through road, 100% of development trips have been distributed through the Swallowfield Way/Dawley Road roundabout.

56. These traffic flows were then added to the baseline survey flows to establish the **2023 Baseline + Development** scenario.

Modelling Results

57. The junction was modelled using Junctions 9 ARCADY modelling software.

58. Junctions 9 shows the Ratio of Flow to Capacity (RFC) of the junction as a decimal, which indicates if a junction is operating under, at, or over capacity. A value of 1.00 on a link indicates that the traffic flows are equal to the capacity at the junction. Notwithstanding this, it is generally accepted an RFC of over 1.00 is considered to be representative of a junction operating over its practical capacity and may be subject to periods of congestion/delay.

59. Based upon these results it also predicts the anticipated queue lengths (in vehicles) and delays (in seconds) that are likely to occur at the junction.

60. The junction modelling output is provided at **Appendix D**.

61. A summary of the modelling results is shown in **Table 7** below.

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Table 7: Modelling Results

	AM			PM		
	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)	RFC
2023 Baseline						
1 - Dawley Road (N)	5.6	26.65	0.86	2	12.35	0.67
2 - Vinyl Place	0	7.5	0.03	0.1	5.64	0.07
3 - Dawley Road (S)	1.9	8.82	0.66	1.9	8.63	0.66
4 - Swallowfield Way	0.2	6.17	0.13	0.6	8.61	0.38
2023 Baseline + Development (worst case)						
1 - Dawley Road (N)	8.1	38.32	0.91	2.2	13.52	0.69
2 - Vinyl Place	0	7.91	0.03	0.1	5.85	0.07
3 - Dawley Road (S)	2.5	10.72	0.72	2	9.07	0.67
4 - Swallowfield Way	0.3	6.67	0.2	0.9	9.95	0.46
2023 Baseline + Development (realistic case)						
1 - Dawley Road (N)	6.3	30.12	0.88	2.1	12.92	0.68
2 - Vinyl Place	0	7.61	0.03	0.1	5.75	0.07
3 - Dawley Road (S)	2.1	9.3	0.68	1.9	8.83	0.66
4 - Swallowfield Way	0.2	6.3	0.14	0.7	9.25	0.42

62. The capacity modelling presented above demonstrates that the junction operates within capacity with the addition of development traffic.

63. In the worst-case scenario, in the AM peak hour, Dawley Road North experiences an increase in RFC from 0.86 to 0.91. There is also an increase in the delay from 26.65 seconds in the baseline scenario to a 38.32 second delay with the addition of development traffic. This also leads to an increase in queuing at the arm from 5.6 to 8.1 vehicles. This is not considered to result in a severe impact on this junction.

64. Beyond this junction the development traffic will disperse across the network and as such the development impact on each junction would significantly decrease. Therefore, no contribution to any wider junction improvements is required by the proposed development.

Car Parking

TfL Comments:

"The proposals include 61 parking spaces, which is in line with the London Plan maximum standards. However, these are maximum standards. The provision of staff parking within the site should be

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significantly reduced to support a mode shift away from car travel, in line with the strategic target for 80% of trips to be made on foot, cycle or public transport by 2041."

"Whilst a forecast parking demand for the proposed development has been provided over a 24 hour period, this does not take into account any reductions in vehicle movements that may arise following the Travel Plan being implanted successfully on site, therefore the actual demand for parking spaces is expected to be lower."

"Blue Badge parking is to be provided on site. However, clarity on the quantum is requested as there is a discrepancy between the Transport Assessment (5) and Car Parking Management Plan (4)."

"EVCP is provided on site for 18 spaces, however 4 of the spaces are where the cargo bikes are currently suggested to be parked in flexible spaces. As highlighted above, the cargo bike parking situation is not appropriate, given that they are also part of the EVCP TfL deem the whole situation unacceptable. Further thought should be given to provide sperate cargo spaces that are not also acting as EVCP spaces."

LBH Comment:

"Information has been supplied that if this were to occur HGVs have sufficient space to manoeuvre within the yard to allow a vehicle to leave. The Highway Authority believes that if this was to be a frequent occurrence that this practice would be impracticable to conduct either every day or multiple times a day. Therefore, the Highway Authority would request that the applicant reconsider the parking layout altered accordingly."

Vectos Response:

65. LBH and TfL both confirm that the parking is in line with policy and LBH has not raised any issues with the number of spaces provided. In light of the parking accumulation undertaken as part of the TA it is considered that the current level of parking would serve to minimise the risk of overspill parking onto LBH's road network.

66. As a sensitivity test an updated parking accumulation based on a 5% reduction in employees driving to work outlined in the travel plan has been provided. As in the TA, this is based on an average of B2 and B8 use classes. This can be seen in **Table 8** below.

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Table 8: Updated Parking Demand for Development Proposals

Time	Arrivals	Departures	Parking Accumulation
00:00-01:00	3	3	0
01:00-02:00	2	2	0
02:00-03:00	1	1	0
03:00-04:00	1	1	0
04:00-05:00	1	1	0
05:00-06:00	4	4	0
06:00-07:00	11	10	0
07:00-08:00	32	15	18
08:00-09:00	48	20	45
09:00-10:00	37	25	57
10:00-11:00	34	30	61
11:00-12:00	33	37	57
12:00-13:00	31	35	53
13:00-14:00	31	29	54
14:00-15:00	26	30	51
15:00-16:00	25	29	46
16:00-17:00	21	30	37
17:00-18:00	15	40	11
18:00-19:00	14	22	3
19:00-20:00	20	20	3
20:00-21:00	15	14	3
21:00-22:00	9	9	3
22:00-23:00	8	8	3
23:00-00:00	6	6	3

67. As can be seen in **Table 8**, the updated parking demand, based on a B2 use class with a 5% reduction in employees travelling to work via car, there could be a maximum demand of up to 61 vehicles. This is three vehicles less than the maximum demand of 64 vehicles identified within the TA, and once again demonstrates that the proposed level of parking is appropriate.

68. The CPMP had a typo which incorrectly stated the number of blue badge parking spaces provided. There are five blue badge spaces provided. This has been corrected and the updated CPMP is re-provided.

69. As previously mentioned, the site layout has been updated to avoid cargo bike spaces occupying electric charging spaces.

70. Regarding the loading bay arrangement, a similar arrangement has been provided by Vectos in a recently approved planning application in Portsmouth, reference: 23/00063/FUL. A snip of this arrangement can be seen in **Figure 11** below.

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Figure 11: Limberline Road, Portsmouth Parking Arrangement

71. As can be seen in **Figure 11,** car parking is located adjacent to the loading bays in five of the seven units.

72. Another example of this parking and loading bay arrangement can be seen in a development known as Hawkers Yard in Ruislip, Hillingdon, planning reference: 1660/APP/2019/1018. This development has been built and is currently in operation. A snip from Google Streetview is provided in **Figure 12** below showing the working arrangement where cars would be blocked in by HGVs if loading. This snip also shows cycle parking provided adjacent to the loading bay, with a pedestrian footway provided in front of the units.

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Figure 12: Hawkers Yard Loading Bay / Parking Arrangement

73. As can be seen in **Figure 12**, the proposed layout forms a common arrangement, and the movements of different modes will be managed on-site.

74. As previously stated, the proposed development is in line with London Plan Policy E7 which supports the most efficient use of space and maximising the intensification of business uses. Furthermore, Policy E5 of the London Plan states that Boroughs should "*explore opportunities to intensify and make more efficient use of land in Strategic Industrial Locations.*" On this basis, the proposed parking locations provide a convenient and secure cycle location whilst adhering to Policies E5 and E7.

Cycle Parking

TfL Comments:

"TfL request information regarding short stay parking for visitors to the site, which should be located in visible well-lit places that have high natural surveillance."

"…there is a concern that the current locations and access arrangements will result in possible conflicts between HGVs/vehicles and cyclists, who are required to navigate the entrance/exit with reversing HGVs to access the cycle parking. The applicant should seek to provide long-stay cycle parking within the main building. Should it be robustly demonstrated that this is not possible, then further thought on the current location of cycle parking facilities is required."

Vectos Response:

75. There will be 16 staff and 8 visitor cycle parking space provided and these will be provided in the same location which allows for flexibility in visitors or staff exhibiting higher or lower levels of cycle

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parking requirements. Cycle parking will be provided within each individual unit's fenced-off area. Cycle parking is provided on-site in a sheltered and secure location within 50m of each unit's door access with good surveillance from each unit. Further details are provided within Section 11 of the Design and Access statement. Adequate lighting will be provided on-site in accordance with the submitted external lighting plan **22280-MBA-EX-SP-DR-E-0001**.

76. Having cycle parking within the building will not lead to an efficient use of floorspace within this allocated employment site. The London Plan E7, Hillingdon Local Plan and supporting evidence (as set out from Section 6.6 of the Planning Statement) clearly emphasis the need to intensify SIL floorspace. The proposed cycle parking encompasses covered cycle storage shelters located within secure and private service yards a short distance from the unit entrances.

77. As previously mentioned, the entrance to the proposed development and within the individual servicing yards will be a low-speed environment with banksmen and traffic marshals on site to manage the movement of servicing vehicles. The interaction of HGVs and staff shift-change overs would not occur during the same periods as the staff are needed to load/unload the lorries. When staff shift change overs do occur, pedestrians and cyclists would use the shared pedestrian and cyclist routes delineated by white lining / zebra crossings along the frontage of the service yards. It should also be noted that the interaction of modes within a servicing yard like this is not uncommon and is considered to be an on-site management issue which will be managed on a daily basis..

78. It is considered that the proximity of loading bays and car/cycle parking is commonplace on developments in urban areas. Two examples have been provided above to demonstrate this. In both of these developments, car and cycle parking are located adjacent to loading bay areas. This can be seen in **Figure 12**, with sheltered cycle parking provided to the front of the parking spaces. This is considered to be well-located in line with Policy T5 of the London Plan.

Travel Plan

"Presently there is only one 'Action Target' which is to reduce car driver mode by 5%. However, this is not a SMART Target, there is little information regarding when this is expected to be achieved and how it is likely to be achieved at the site. In addition, TfL would expect more than one Action Target from a development of this size and the proposed increase in vehicle trip numbers."

"Measures to reduce staff reliance on private car travel should also be included within a draft Travel Plan and measures to incentivise staff to use active travel should be promoted."

Vectos Response:

79. The Travel Plan has been updated and provided.

Conclusion

80. Consequently, the proposed development:

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- provides opportunities for sustainable transport modes to be taken up given the site's location;
- ensures safe and suitable access to the site can be achieved for all users; and
- demonstrates there would be no severe impacts from the development on the transport network or on highway safety

81. It is therefore concluded that the proposed development would satisfy each criterion of the National Planning Policy Framework as set out in the submitted Transport Assessment. The proposed development is also in accordance with the London Plan and the Hillingdon Local Plan.

82. As such, the proposed development would not result in an adverse impact on highway safety or a severe impact on the highway network, and therefore the proposed development should be supported in transport terms.

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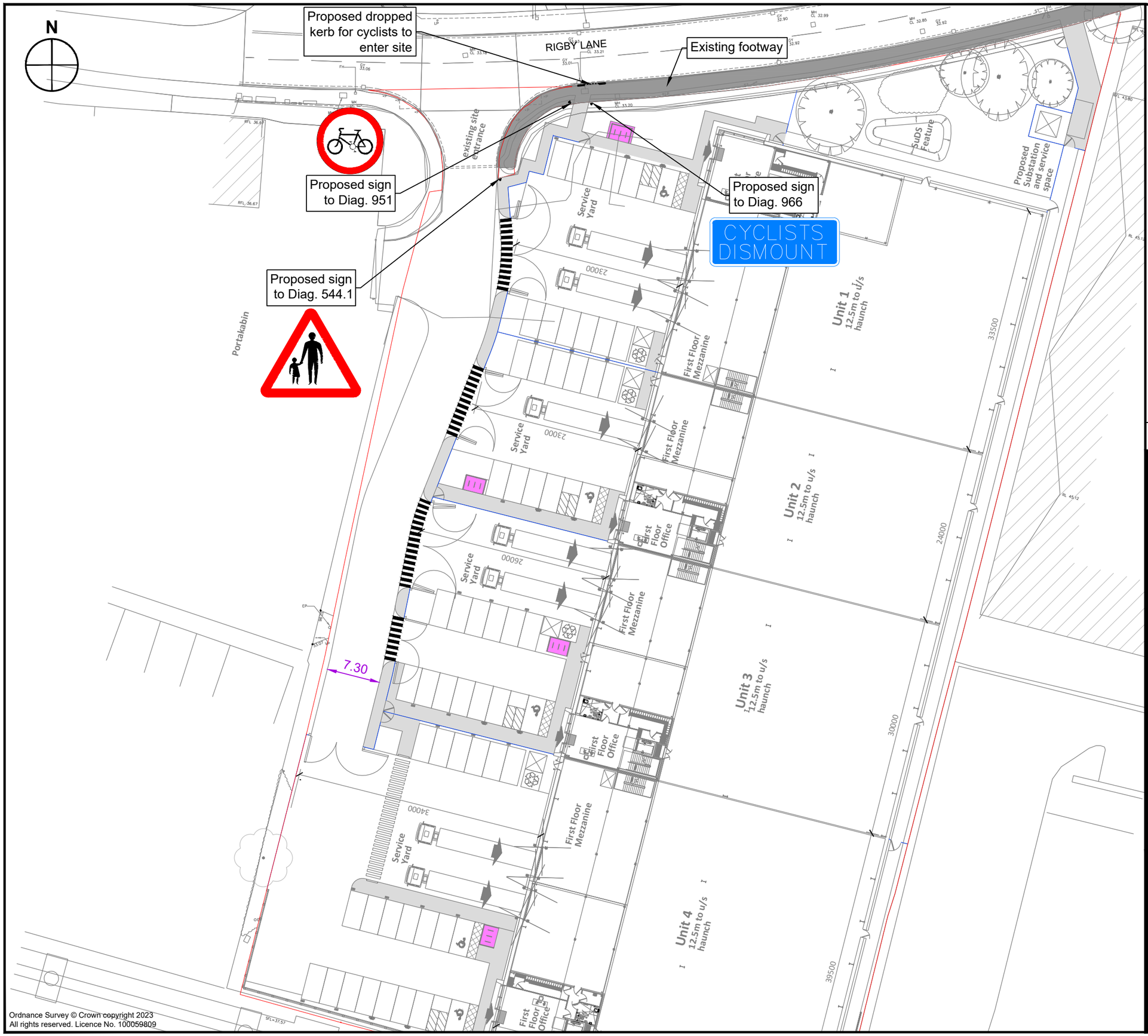
Appendix A



Notes:
1. This is not a construction drawing and is intended for illustrative purposes only
2. White lining is indicative only.
3. Drawing based on CMP Architects drawing: H067-CMP-SI-ZZ-DR-A-00100 Rev P12, Proposed Site Plan.

Key

- Site Boundary
- Proposed white road markings
- Proposed sign
- Existing footway

Architects Key

- Footway
- Cycle parking shelter
- 2.4m Palladin fence

REV.	DETAILS	DRAWN	CHECKED	DATE
-	-	-	-	-

STATUS: INFORMATION ONLY

CLIENT: Wrenbridge

PROJECT: Swallowfield Way, Hayes

DRAWING TITLE: Pedestrian movements

SCALES: 1:500 at A3

DRAWN:	CHECKED:	DATE:
NS	IS	04.08.2023

SLR

DRAWING NUMBER: 226977/PD05

REVISION: -

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Appendix B

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CONSTRUCTION LOGISTICS PLAN

Wrenbridge (FRELD Hayes) LLP

Swallowfield Way, Hayes

May 2023

Construction Logistics Plan

Contents

Figures

Appendices

1 Introduction

1.1 Vectos has been appointed by Wrenbridge (FRELD Hayes) LLP to provide transport planning advice regarding the proposed redevelopment of 84 Swallowfield Way, Hayes, which is an existing crane depot site.

1.2 The site is located within the administrative boundary of the London Borough of Hillingdon (LBH) and Transport for London (TfL) are a statutory consultee.

1.3 The proposals comprise the redevelopment of the site to provide four units with a flexible E(g)(iii)/B2/B8 land use and a combined floor area of 7,780 sqm. Vehicular access to the site will be achieved via the existing access from Rigby Lane, which is shared by an adjacent storage facility to the west.

1.4 This draft Construction Logistics Plan (CLP) has been prepared to support the full planning application of the site.

1.5 This CLP has been prepared in accordance with TfL guidance and sets out the approach and management of construction related traffic at the site.

CLP Objectives

1.6 The main aim of this CLP is to manage all types of construction vehicle activity to and from the site during the construction period. The CLP will improve the safety and reliability of construction related vehicle movement in relation to the site, minimise any potential impacts on local traffic conditions and mitigate any potential for adverse environmental impacts.

1.7 This CLP has been prepared with the following objectives:

- To ensure that construction traffic does not have a detrimental effect on the surrounding public highway and local community including protecting the safety for all road users (including vulnerable road users) during the construction period;
- To reduce the impact of construction traffic on the conventional network peak traffic hours; and
- To identify measures to ensure safe and efficient movement of construction traffic.

Site Context

1.8 The site is in an existing industrial area circa 1.6km west of Hayes & Harlington Rail Station within the London Borough of Hillingdon (LBH). Rigby Lane borders the site to the north, with industrial uses bordering the site to the east. The site is bordered to the south by a rail line.

1.9 The site is accessed to the north via Rigby Lane. Rigby Lane links east to Swallowfield Way. Swallowfield Way links east to the A437. The site is located circa 2.9km drive from the A312. The A312 links south to the M4 and the A4, and north to the A40. The A312, A4, and A40 form part of the TfL ‘Red Routes’ network.

Development Proposals

1.10 The proposals seek to construct four warehouse units with associated offices totalling circa 7,780 sqm of floorspace with a flexible E(g)(iii)/B2/B8 use class.

CLP Structure

1.11 The report is set out as listed below:

- **Chapter 2: Context, considerations and** challenges – Key information about the site is provided to support access for construction staff;
- **Chapter 3: Construction Programme and Methodology** – provides information on the key construction processes and vehicle arrangements;
- **Chapter 4: Vehicle Routing and Access** – details the access routes to and from the site;
- **Chapter 5: Strategies to Reduce Impacts** – identifies the measures and initiatives that will be used to promote a safe and efficient construction period at this stage;
- **Chapter 6: Estimated Vehicle Movements** – provides an estimate of the number of vehicle movements associated with the construction of the development;
- **Chapter 7: Implementing, monitoring and updating** – presents the proposed methodology for monitoring.

2 Context, Considerations and Challenges

Introduction

2.1 Information relating to transport accessibility to/from the site is provided in this section.

2.2 Along with the majority of Greater London, the site is located within an Air Quality Management Area (AQMA).

Policy Context

National Planning Policy Framework

2.3 The National Planning Policy Framework (NPPF) was published in July 2021 and sets out national planning policies for England and how they should be applied. The NPPF should be considered in preparing the development plan and is a material consideration in planning decisions. The NPPF includes 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."

Adopted London Plan (2021)

2.4 Policy T4 *'Assessing and Mitigating Transport Impacts'* of the Adopted London Plan states:

"…Travel Plans, Parking Design and Management Plans, Construction Logistics Plans and Delivery and Servicing Plans will be required having regard to Transport for London or Mayoral guidance."

Traffic Management Act (2004)

2.5 Part 2 of the Traffic Management Act sets out the responsibility of local authorities to manage traffic networks within their geographical area of responsibility.

Mayors Transport Strategy

2.6 The Mayor for London's Mayor's Transport Strategy was published in March 2018. The strategy includes a definition of CLPs:

'A travel plan that aims to improve the sustainability of construction freight movements by establishing site management and procurement processes to reduce the impact of construction traffic on the street network'.

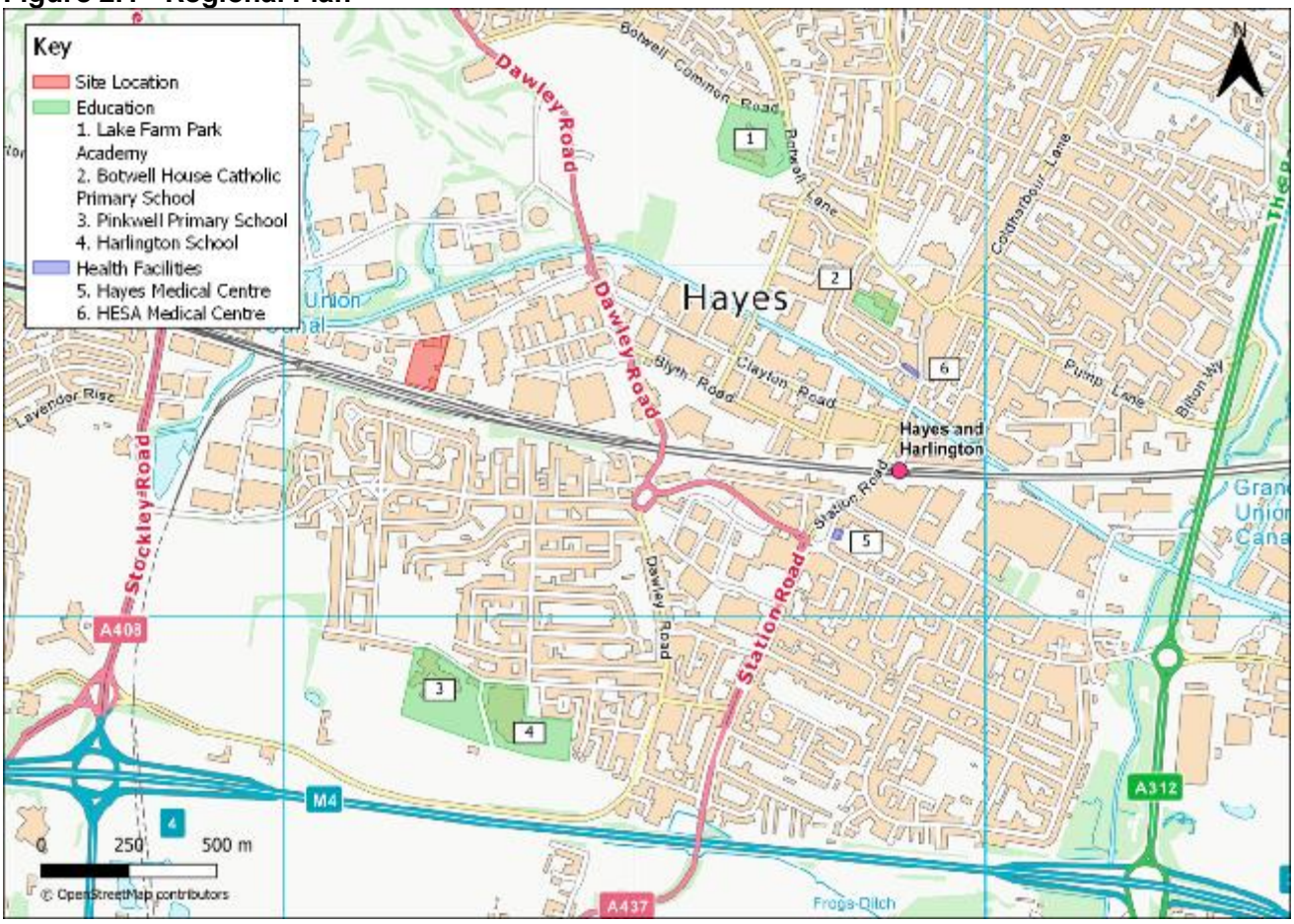
2.7 This CLP has been prepared in accordance with the principles set out within TfL's Construction Logistics Plan guidance.

Context Maps

2.8 The following maps show the area around the development site.

2.9 **Figure 2.1** shows a regional plan illustrating the location of the site in the context of the strategic road network.

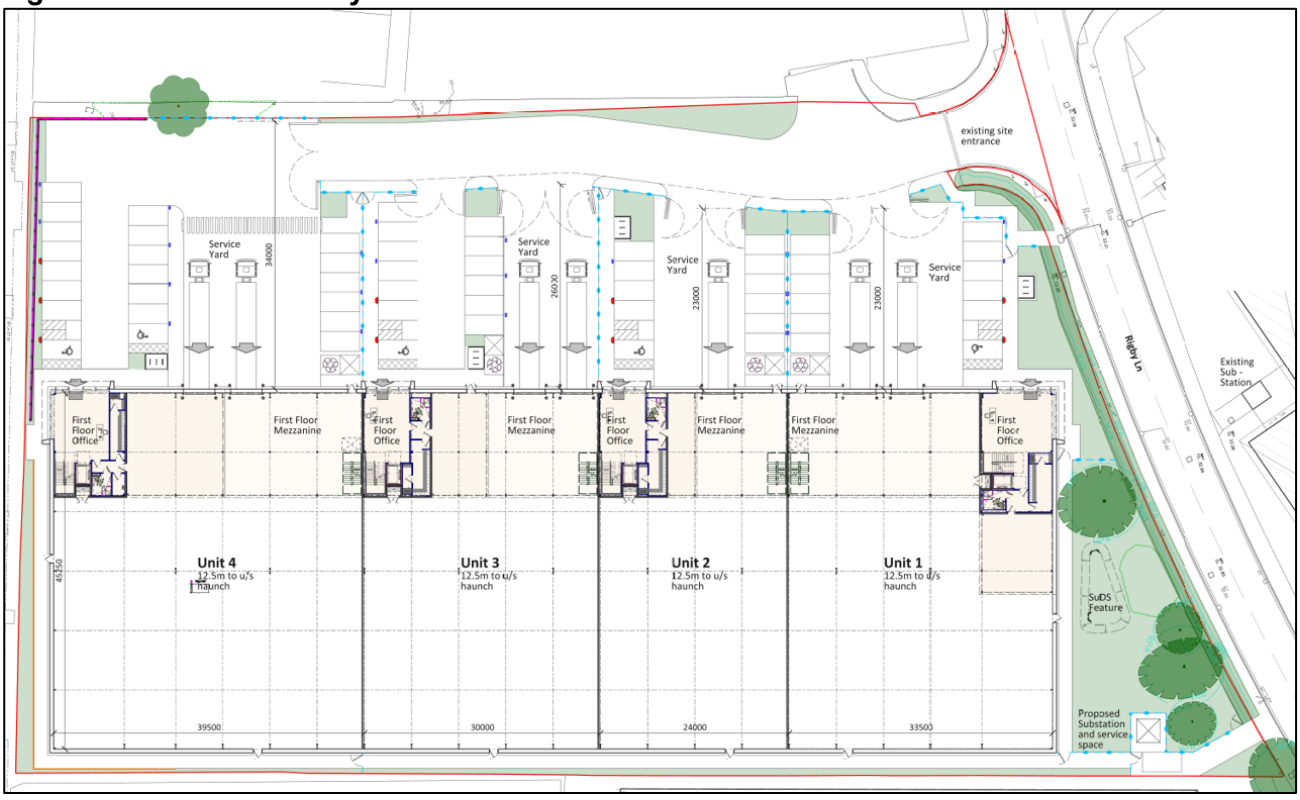
Figure 2.1 - Regional Plan



2.10 **Figure 2.1** shows that the site is not located near any schools or medical centres. As such, there will be minimal impact on these educational and medical facilities.

2.11 **Figure 2.2** shows the site layout plan showing the extent of footways and other buildings. The full drawing is also provided in **Appendix A** for clarity.

Figure 2.2 – Site Boundary Plan



Local Access including Highways, Public Transport, Cycling & Walking

Highways, Carriageways and Footway

2.12 Vehicular access to the site will be provided via the existing access on Rigby Lane. This is a no-through road in an industrial estate. There are footways on both sides of the carriageway.

2.13 The closest red route to the site is the A312, approximately 2.9km driving distance to the east of the site. The A4, another red route, is located 4.1km to the south of the site.

Walking & Cycling

2.14 The site benefits from being in proximity to a network of footways and crossing points. Rigby Lane, which fronts the site, provides footways either side of the carriageway. The southern footway provides direct access to the site.

Rigby Lane connects to the surrounding network of footways including Dawley Road. Pedestrians can access Hayes & Harlington Station to the east via Dawley Road and Blyth Road. Dropped kerbs are present at crossing points along the route towards the station. These routes also benefit from street lighting.

Public Transport

Bus

2.15 The closest bus stop is on Dawley Road, circa 0.6km (8-minute walking time) to the east of the site. This bus stop is served by the U5 service. The U5 bus service links the site east to Hayes & Harlington Station. The west, this bus service links the site with residential areas such as West Drayton, as well as services including Hillingdon Hospital.

2.16 Further bus services are available to the south and the north of the site. To the south of the site, there are bus stops located on Bourne Avenue, circa 1.3km (16-minute walking time). This stop is served by the U4 bus service. This bus service links the site east to Hayes & Harlington Rail Station, and north to residential areas such as Hayes, Goulds Green, and Uxbridge.

2.17 To the north of the site, there are bus stops located on The Square, in the industrial park. This stop is circa 1.1km (13-minute walking time) and is served by the A10 and the 350 bus services. The A10 links the site north towards Uxbridge while the 350 links the site west towards West Drayton and south towards Heathrow.

2.18 A summary of the bus services calling at these stops is provided in **Table 2.1** below.

Table 2.1: Summary of bus services available within walking distance of the site

Bus Service	Bus Route	Frequency (per hour)		
		Mon – Fri	Sat	Sun
A10	Uxbridge Station – Heathrow Central Bus Station	3	2-3	2
U4	Prologis Park – Belmont Road	3-6	3-6	2-4
U5	York Road – Blyth Road	3-5	2-5	2-3
350	Millington Road – Heathrow Terminal 5	3	3	3

Rail

2.19 Hayes & Harlington Rail Station is a 1.6km (20-minute) walk to the east of the site. The station is served by the Elizabeth Line and the Great Western Railway. This station provides access to direct connections to Heathrow (Terminals 4 and 5), Reading, Abbey Wood, Maidenhead, Didcot Parkway, and Paddington.

2.20 **Table 2.2** below summarises the services from this station.

Table 2.2: Summary of rail services from Hayes & Harlington Rail Station

Rail Service	Destination	Frequency (services per hour)		
		Mon-Fri	Sat	Sun
Elizabeth Line	Heathrow (Terminal 4)	2	2	2
	Heathrow (Terminal 5)	2	3	2
	Reading	3-8	4	3-4
	Abbey Wood	8	7-8	4-9
Great Western Railway	Didcot Parkway	1-2	1-2	1
	Paddington	2	2	2

Consideration and Challenges

2.21 LBH monitor construction work to minimise pollution caused by noise, dust and other nuisances. In line with the Control of Pollution Act 1974, any noisy building work would be carried out between:

- Weekdays: 08:00 to 18:00;
- Saturdays: 08:00 to 13:00; and
- Sundays and Bank Holidays: no work.

2.22 If, in an exceptional circumstance, work is required outside these hours, an appropriate application will be made to LBH/TfL and extended hours will only be used on a short-term basis if approved in writing.

2.23 During the construction works the contractor will work with the local highway authority to ensure that the working hours do not result in any conflicts on the local highway network. As such, the contractor will work to minimise vehicle access and egress from the site during peak periods (08:00-9:00 and 17:00-18:00) as far as practicable.

Community Considerations

2.24 Within the vicinity of the site there are a number of Community Considerations that have been taken into account during the preparation of this CLP.

2.25 Four education facilities have been identified in the local area as follows:

- **Lake Farm Park Academy –** located on Botwell Common Road, 2.4km northeast of the site;
- **Botwell House Catholic Primary School –** located on Botwell Lane, 2.2km northeast of the site;

- **Pinkwell Primary School –** located on Pinkwell Lane, 2.4km south of the site;
- **Harlington School –** located on Pinkwell Lane, 2.3km south of the site.

2.26 In addition to the six schools identified above, two local health facilities in the vicinity of the site has been identified:

- **Hayes Medical Centre –** located on Old Station Road, 1.9km east of the site;
- **HESA Medical Centre** – located on Station Road, 1.9km east of the site.

2.27 Vehicle routing is described later in this report, but it should be noted that the aforementioned schools and health centres will not be affected by construction traffic as traffic will be south towards the M4. On this basis, construction traffic will avoid the majority of the schools and health centres in the area.

3 Construction Programme and Methodology

Construction Programme

3.1 The overall programme of the works will span approximately 12 months (with tasks overlapping) finishing in August 2025.

Buildings

Site setup and demolition

3.2 Includes establishing welfare accommodation, setting-up hoarding, demolishing existing buildings and clearing the site of debris. Demolition will be carried out using mechanical plant and craneage. Licenced waste carriers will deliver and collect waste skips on a regular basis.

Groundwork and Foundations

3.3 The site will be enabled by setting levels and undertaking a cut and fill exercise, using the site won crushed material and forming boundary details as required. The building footprint will be prioritised to enable excavation of foundations to commence, which will commence at the office position of the unit nearest the road, and then carry on sequentially towards the rail line.

Superstructure

3.4 Steelwork will be installed in the same order as the foundations. Steel will be lifted into position utilising a crane, positioned within the yard area.

Envelope

3.5 Roof cladding will be installed initially with walkable liner sheets, and then insulation and top sheets. The wall cladding will then be installed from MEWPs, with liner sheet commencing initially followed by insulation and top sheets. The Curtain walling will be installed to each office as soon as possible to create a weather tight envelope in the office areas to enable CAT A works to commence.

Fit-out

3.6 Once watertight, the office fit out will commence with dry lining, raised access floors and first fix M&E; followed by second fix M&E, ceilings, FF&E and decorations.

3.7 The programme has been designed to unlock the scheme logistically by forming the offices and buildings as a priority, with the external works being completed at off of the critical path during the main construction works.

4 Vehicle Routing and Site Access

Access Route

4.1 The appointed contractor will ensure that all construction traffic travels to and from the site via the strategic road network (i.e. A437, A312, M4, and M25) so as to limit any effect on local roads. The appointed contractor will ensure that all suppliers are aware of this requirement.

4.2 The site is strategically located to the north of the M4. Construction traffic will arrive to the site via the M4. Vehicles arriving from the east will travel north along the A312, turning west along North Hyde Road (A437). Vehicles will continue west before turning north onto Dawley Road (A437). Finally, vehicles will turn west on Swallowfield Lane, continuing towards the site.

4.3 Vehicles arriving from the west will travel along the M4, turning north onto the Stockley Road/Shepiston Lane roundabout. Vehicles will then turn east onto Shepiston Lane, contiuining along this road as it curves northbound, leading into Dawley Road. Vehicles will continue north along Dawley Road as it joins with the A437. Finally, vehicles will turn west on Swallowfield Lane, continuing towards the site.

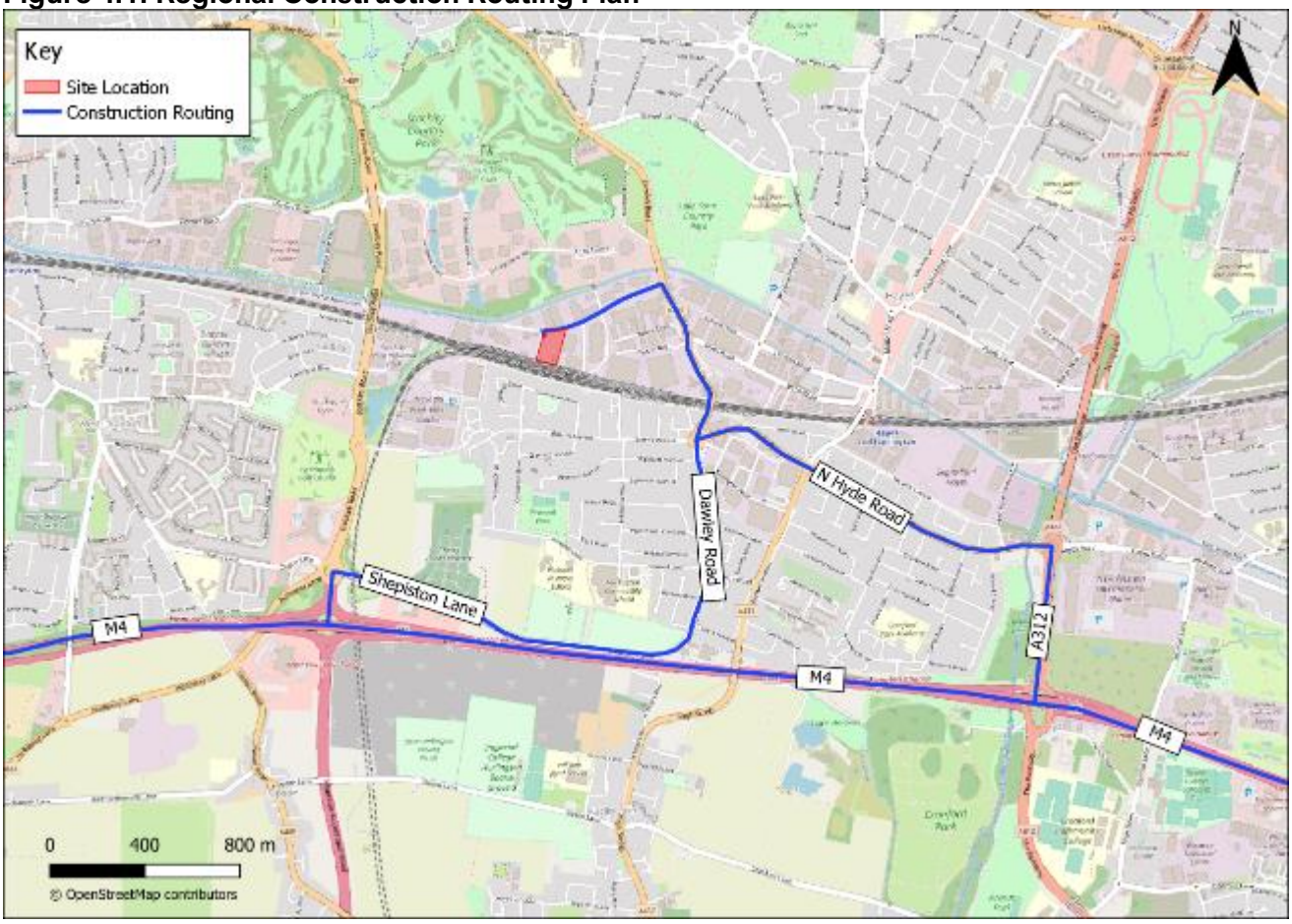
4.4 On egress, vehicles will make the same journey in reverse, travelling south towards the M4.

4.5 Construction routing has been identified based on the following criteria:

- Minimise use of residential roads as far as practical;
- Avoiding roads with HGV and or width restrictions.

4.6 The proposed construction traffic route is illustrated in a regional context in **Figure 4.1**.

Figure 4.1: Regional Construction Routing Plan



4.7 Banksmen will manage the movement of construction vehicles in and out of the site.

Site Access

Demolition & Construction

4.8 Vehicular access to the site during both the demolition and construction phases will be provided from the existing access to the north of the site via Rigby Lane.

4.9 Deliveries will be controlled by a 48-hour advanced booking system with the logistics team. This will encourage planning of works to ensure that materials are bought in on time without impact to the surrounding vicinity.

Fleet Operator Recognition Scheme (FORS)

4.10 FORS is a voluntary national fleet accreditation scheme designed to help improve fleet operator performance in key areas such as environmental performance, safety and operational efficiency. Its purpose is to raise the level of quality within fleet operations and to recognise those operators that are achieving the environmental, safety and efficiency requirements of the FORS standard.

4.11 The appointed contractor will be required to adhere to FORS Silver standard. This includes demonstrating evidence that HGVs are fitted with enhanced vulnerable road user safety equipment among other safety equipment features. FORS silver standard is included within the Committed measures in **Table 5.1** (detailed in next Section).

5 Strategies to Reduce Impact

5.1 In line with TfL's CLP guidance, strategies have been considered on the basis of:

- **Committed** – indicates a measure that will be implemented as part of the CLP, secured via a appropriate agreements;
- **Proposed** – indicates a measure that is feasible and should be studied further to determine its practicality;
- **Considered** – indicates a measure that is not currently relevant but may be in the future.

5.2 A review of measures is provided in **Table 5.1.**

Table 5.1 – CLP Measures

Planned Measures Checklist	Committed	Proposed	Considered
Measures influencing construction/demolition vehicles and deliveries			
Safety and environmental standards and programmes (FORS Silver)	X		
Adherence to designated routes	X		
Stop Works Sign	X		
Delivery scheduling	X		
Dust and Noise Suppression		X	
Re-timing for out of peak deliveries		X	
Re-timing for out of hours deliveries		X	
Use of holding areas and vehicle call off areas			X
Use of logistics and consolidation centres		X	
Measures to encourage sustainable freight			
Freight by Water*			X
Freight by Rail*			X
Material procurement measures			
DfMA and off-site manufacture			X
Re-use of material on site			X
Smart procurement			X
Other measures			
Fleet Operator Recognition Scheme	X		
Wheel Washing	X		
Collaboration with other sites in the area		X	
Implement a staff travel plan		X	

5.3 The Applicant and Contractor will contact all people in the immediate vicinity of the site prior to the start of the construction programme detailing the scope of the project and the contact details for the Contractor and the Site Manager, who they can contact in the event that they have any concerns or difficulties. The applicant will insist that all tendering Contractors are members of the Considerate Contractors Scheme.

Safety and Environmental Standards and Programmes

5.4 The effects of construction traffic will be carefully managed. The following measures will be implemented by the Contractor to ensure that any disruption is minimised.

5.5 Banksmen are operatives trained and responsible for the safe movement of plant and vehicles into and out of the site. They should use industry standard signalling and communicate with the driver before any manoeuvres start.

5.6 In addition, Traffic Marshals shall be utilised to provide an interface control point between the public highway and construction site who will also oversee the safety of pedestrians and cyclists.

Adherence to Designated Routes

5.7 All drivers will be fully trained and will be provided with a copy of a routing plan to ensure that they use the correct roads when driving to and from the site. Drivers will be aware of other road users, including pedestrians and cyclists, particularly when undertaking turning movements at the site access and egress points. Banksmen will also be present to manage the movements of construction vehicles in and out of the site.

Stop Works Sign

5.8 A 'stop works sign' (TSRGD 7031) will be used when vehicles are required to stop to enable plant and construction vehicles to enter and exit the site. This sign must only be used for maximum of 2 minutes and only for the provision of facilitating delivery and construction vehicles. The sign will be double sided, reflective to the standards and to the size stated within the Traffic Signs Regulations and General Directions (TSRGD).

Delivery Scheduling

5.9 A booking system will be set up so that two vehicles do not arrive at the same time. If a vehicle is running late for a scheduled time slot, they will be expected to call ahead to agree a new time slot. If a vehicle arrives outside of their scheduled time slot, they will be turned away and rescheduled.

5.10 No construction vehicles will be permitted to park on the surrounding roads, if construction vehicles are found parking on the surrounding roads, they will be the subject of remedial action.

5.11 The construction site will only operate between Monday and Friday 08:00-18:00 and Saturday 08:00-13:00. The contractor will work to minimise HGV vehicle access and egress from the site during peak periods (before 09:00 and after 15:00) as far as practicable to reduce disruption to local residents and businesses.

5.12 Operations which are adjacent to areas such as pedestrian routes, vehicular routes, etc will be accompanied by a designated banksman at all times during its operation.

Construction Worker Travel

5.13 Construction workers will be advised to travel to the site via public transport or by walking/cycling. This will be monitored by the site contractors. The site contractor will be advised to provide secure locker facilities so that workers can leave their tools on-site. This will make it easier to travel to and from the site by walking, cycling or public transport.

Consolidation Centres

5.14 Consolidation centres are a good way to reduce on-site storage requirements and reduce vehicle movements. The appointed contractor and sub-contractors will look to make use of consolidation centres where possible to store materials before they arrive at the site. The final decision on the use of consolidation centres will be made by the appointed contractor.

Road Closures

5.15 The need for road closures to assist the construction process is not expected. If it is the case that they are required, all relevant temporary Traffic Management Orders will be applied for.

Pedestrian and Cyclist Safety

5.16 All construction vehicle movements from the highway will be controlled and monitored by a trained marshal. This will ensure that manoeuvres are carried out safely and that pedestrian and cyclist movements are not impeded by the movement of construction vehicles.

5.17 The following procedures / arrangements for will apply for pedestrian routes on site:

- All traffic and pedestrian routes will be clearly separated from each other by designated walkways and suitable barriers;
- Road crossing points will be clearly identified; and.
- Vehicles will be subject to a 5mph speed limit.

Driver Checks

5.18 Before commencing work on the contract, a driver licence check will be carried out with the DVLA for all regular drivers, and these will be re-checked on a regular basis. Within 60 days of the contract date, all regular drivers will also carry out the Safe Urban Driving (SUD) training course (or equivalent), unless this has been undertaken in the last three years.

Wheel Washing

5.19 Vehicles exiting the site are not expected to but may inadvertently carry deposits of clay or wet concrete, trapped on their tyres, out on to the surrounding highway network.

5.20 A wheel-cleaning regime will be implemented throughout the duration of the contract.

5.21 An area will be designated within the site to be utilised for portable tyre wash set into the ground that all vehicles leaving site will have to pass through. This will contain any material to this area, the remainder of the outbound route will be hard standing and is not anticipated to create a risk. In addition, the Traffic Marshall shall conduct a spot check and utilise a high-pressure jet if required.

5.22 Local drainage will be provided inside the site boundary to avoid discharge of water onto the highway and settling of silts prior to discharge to the local sewer. In any event the traffic marshal will be responsible for ensuring vehicles are checked prior to leaving the site area.

5.23 Mechanical road sweeping of the roads surrounding the site will be undertaken daily / as and when required for the duration of the works.

5.24 The proposed wheel cleaning procedure will consist of:

- Before leaving the site, vehicles will be inspected for any heavy deposits left on wheels.
- Following inspection, all wheels are to be washed down by driving through the tyre wash and the Traffic Marshall utilising a high-pressure jet wash until clear of all deposits.
- Vehicles will be permitted to leave site following approval of the site representative that the above steps have been completed to a satisfactory standard.
- The site boundary and adjacent roads will be monitored daily to ensure that both pedestrian and vehicular access routes are kept clear, clean and maintained at all times.

Road Cleaning

5.25 The contractor will sweep the roads and footpaths on the local highway network as required on a daily basis to remove any spoil or debris deposited on the highway resulting from the construction period. This will be undertaken to maintain public safety during the construction period.

Dust and Noise Suppression

5.26 The contractor will take reasonable steps to minimise noise and supress dust, dirt and debris generated by the scheme working to the relevant British Standards and best working practices.

6 Estimated Vehicle Movements

6.1 Vehicular movement will be managed and will be encouraged to occur outside of school or rush hours. A 48-hour material booking system will be enforced to allow planned delivery strategies to be undertaken.

6.2 The HGV movements would be spread across the working day outside of the AM and PM peak periods. The arrival and departure of light vehicles would be concentrated during the morning and evening periods but would be less than the predicted levels of traffic during the operational phase of the Development.

6.3 The estimated number of construction vehicle movements will be provided following the appointment of a Contractor.

Frequency of Deliveries and Collections

6.4 Access for all vehicles will be via Rigby Lane.

6.5 All vehicles delivering to and on site will be controlled by qualified Traffic Marshalls who will be in place to manage these operations to ensure they occur in a safe and practical manner. Deliveries to the site will also be scheduled to avoid multiple HGVs on site at any time.

6.6 On a typical day, vehicles larger than those highlighted above are not expected to visit the site. To ensure safety, the movement of larger vehicles at the site will be managed by a trained marshal at the site access. Furthermore, the timings of any large vehicle movements will be co-ordinated so as to avoid the morning and afternoon/ evening peak periods.

7 Implementation, Monitoring and Update

Overview

7.1 This document is produced using information provided by the demolition contractor.

Monitoring

7.2 The movement of all construction related vehicles will be monitored by the appointed contractor to ensure that it is carried out in accordance with the details contained within this CLP and subsequently agreed practices with the local authority.

7.3 It is envisaged that regular correspondence will be undertaken as necessary between the site contractor, site management team and the local planning authority throughout the construction period. Any activities not undertaken in accordance with the details contained within this CLP will be discussed and corrective action taken as appropriate.

7.4 This CLP has provided the following:

- Set out the multimodal accessibility to the site for the benefit of construction workers;
- Detailed the envisaged construction programme;
- Detailed the construction traffic routing and how this will be managed for the duration of the construction period;
- Identified a series of Mitigation Measures including wheel washing and site access marshalling, further details of which will be confirmed following appointment of a contractor; and
- Monitoring is also proposed with regular correspondence between the appointed Contractor, Site Management team and the local authority.

Appendix C

Portakabin

existing site entrance

Service Yard

34000

Service Yard

26000

Service Yard

23000

Service Yard

23000

Rigby Ln

Existing Sub - Station

First Floor Office

First Floor Mezzanine

First Floor Office

First Floor Mezzanine

First Floor Office

First Floor Mezzanine

First Floor Mezzanine

First Floor Office

Unit 4
12.5m to u/s haunch

Unit 3
12.5m to u/s haunch

Unit 2
12.5m to u/s haunch

Unit 1
12.5m to u/s haunch

45250

39500

30000

24000

33500

SuDS Feature

Proposed Substation and service space

Total Site Area: 1.18 ha / 2.93 acres

Unit 1 GIA:	m²	ft²
Ground Floor	1,521	16,372
First Floor Office (15%)	226	2,433
First Floor Mezzanine	313	3,369
Total:	**2,060**	**22,174**

Unit 1 GEA:	m²	ft²
Ground Floor	1,579	16,997
First Floor Office	254	2,734
First Floor Mezzanine	335	3,606
Total:	**2,168**	**23,337**

Unit 2 GIA:	m²	ft²
Ground Floor	1,078	11,604
First Floor Office (15%)	156	1,679
First Floor Mezzanine	145	1,561
Total:	**1,379**	**14,844**

Unit 2 GEA:	m²	ft²
Ground Floor	1,108	11,927
First Floor Office	171	1,841
First Floor Mezzanine	157	1,690
Total:	**1,436**	**15,458**

Unit 3 GIA:	m²	ft²
Ground Floor	1,349	14,521
First Floor Office (15%)	202	2,174
First Floor Mezzanine	177	1,905
Total:	**1,728**	**18,600**

Unit 3 GEA:	m²	ft²
Ground Floor	1,385	14,908
First Floor Office	219	2,357
First Floor Mezzanine	191	2,056
Total:	**1,795**	**19,321**

Unit 4 GIA:	m²	ft²
Ground Floor	1,772	19,074
First Floor Office (18.5%)	277	2,982
First Floor Mezzanine	223	2,400
Total:	**2,272**	**24,456**

Unit 4 GEA:	m²	ft²
Ground Floor	1,836	19,763
First Floor Office	306	3,294
First Floor Mezzanine	239	2,573
Total:	**2,381**	**25,630**

Total GIA	m²	ft²
	7,439	**80,074**

Blg Area to Site Ratio: 27,329ft² per acre

Total GEA	m²	ft²
	7,780	**83,746**

Blg Area to Site Ratio: 28,582ft² per acre

ALL AREAS SUBJECT TO DETAILED DESIGN

GEA calculations based on an external wall build-up of 480mm to the Warehouse measured from grid-lines.

Parking:

Unit	No.	GIA Ratio
Unit 1	13	1:158
Unit 2	12	1:115
Unit 3	14	1:123
Unit 4	22	1:103
Total	**61**	**1:122**

Scale Bar - metres: 0 2 4 6 8 16

N

Based on ordnance and topographical measured survey

Ordnance Survey Licence Number: 100022432

Topographical & measured building survey prepared by Terrain Surveys:
Drawing Number TS23-044-1

Landscape shown illustratively only, refer to Landscape Architects Plan for full details

- Planning Boundary
- 2.4m Palladin Fence
- Existing fence retained
- Active EVCP Pedestal
- Passive EVCP Space
- Refuse Area
- Cycle parking shelters
- Space can be be used to park 2 cargo bikes or 1 car
- 3.5m high acoustic fence
- Retaining wall
- Existing Tree
- Proposed Tree

Rev PL15: Verge line removed. MS - 29.08.2023
Rev PL14: Cycle lane removed. MS - 08.08.2023
Rev PL13: Cargo bikes relocated. Cycle lane and pedestrian crossing points added. MS - 26.07.2023
Rev PL12: Planning Issue. MS - 24.05.2023

Drawing Status:
PLANNING ISSUE

CMP Architects

Client
Wrenbridge (FRELD Hayes) LLP

WRENBRIDGE

Project
Ainscough Crane Hire Site, 84 Swallowfield Way, Hayes, London, UB3 1DQ

Title
Proposed Site Plan

Scale	Drawn	Date
1:250@A1 1:500@A3	MS	01.03.2023

Drg.No. **H067-CMP-SI-ZZ-DR-A-00100** Revision **PL15**

Do not scale from this drawing, use figured dimensions only. Subject to accurate site survey. All dimensions to be checked and verified for any discrepancies. All drawings to be read in conjunction with all CMP Architects and other consultants' contract documentation. Any discrepancies to be reported before any work commences. All items installed by others are to be fully site coordinated and programmed with the Contractor. All products to be installed to manufacturers recommendations.
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Appendix D

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.2.1013
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Filename: Swallowfield Way-Dawley Road RBT with realistic scenario.j9
Path: X:\Projects\220000\226977 - Swallowfield Way, Hayes\TOPIC FOLDERS\Modelling\Swallowfield Way-Dawley Road RBT
Report generation date: 24/07/2023 14:59:36

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
	2023							
1 - Dawley Road (N)	5.6	26.65	0.86	D	2.0	12.35	0.67	B
2 - Vinyl Place	0.0	7.50	0.03	A	0.1	5.64	0.07	A
3 - Dawley Road (S)	1.9	8.82	0.66	A	1.9	8.63	0.66	A
4 - Swallowfield Way	0.2	6.17	0.13	A	0.6	8.61	0.38	A
	2023 + Development (worst case)							
1 - Dawley Road (N)	8.1	38.32	0.91	E	2.2	13.52	0.69	B
2 - Vinyl Place	0.0	7.91	0.03	A	0.1	5.85	0.07	A
3 - Dawley Road (S)	2.5	10.72	0.72	B	2.0	9.07	0.67	A
4 - Swallowfield Way	0.3	6.67	0.20	A	0.9	9.95	0.46	A
	2023 + Development (realistic case)							
1 - Dawley Road (N)	6.3	30.12	0.88	D	2.1	12.92	0.68	B
2 - Vinyl Place	0.0	7.61	0.03	A	0.1	5.75	0.07	A
3 - Dawley Road (S)	2.1	9.30	0.68	A	1.9	8.83	0.66	A
4 - Swallowfield Way	0.2	6.30	0.14	A	0.7	9.25	0.42	A

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	12/05/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SLR\Daragh.Crowe
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	Veh	Veh	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	2023	AM	ONE HOUR	07:45	09:15	15
D2	2023	PM	ONE HOUR	16:45	18:15	15
D3	2023 + Development (worst case)	AM	ONE HOUR	07:45	09:15	15
D4	2023 + Development (worst case)	PM	ONE HOUR	16:45	18:15	15
D5	2023 + Development (realistic case)	AM	ONE HOUR	07:45	09:15	15
D6	2023 + Development (realistic case)	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2023, AM

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	Swallowfield Way	Standard Roundabout		1, 2, 3, 4	16.97	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Dawley Road (N)	
2	Vinyl Place	
3	Dawley Road (S)	
4	Swallowfield 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
1 - Dawley Road (N)	3.08	5.19	1.6	20.0	23.5	46.6	
2 - Vinyl Place	3.53	5.00	1.6	9.3	23.5	34.2	
3 - Dawley Road (S)	3.75	5.85	2.1	24.8	23.5	32.3	
4 - Swallowfield Way	3.15	4.71	2.5	20.5	23.5	28.2	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Dawley Road (N)	0.499	993
2 - Vinyl Place	0.516	1097
3 - Dawley Road (S)	0.579	1289
4 - Swallowfield Way	0.546	1120

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	2023	AM	ONE HOUR	07:45	09:15	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 (Veh/hr)	Scaling Factor (%)
1 - Dawley Road (N)		✓	724	100.000
2 - Vinyl Place		✓	13	100.000
3 - Dawley Road (S)		✓	717	100.000
4 - Swallowfield Way		✓	82	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Dawley Road (N)	2 - Vinyl Place	3 - Dawley Road (S)	4 - Swallowfield Way
From	1 - Dawley Road (N)	0	11	644	69
	2 - Vinyl Place	3	0	6	4
	3 - Dawley Road (S)	596	14	1	106
	4 - Swallowfield Way	22	1	59	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Dawley Road (N)	2 - Vinyl Place	3 - Dawley Road (S)	4 - Swallowfield Way
From	1 - Dawley Road (N)	0	9	2	4
	2 - Vinyl Place	0	0	33	50
	3 - Dawley Road (S)	3	0	0	6
	4 - Swallowfield Way	5	0	12	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Dawley Road (N)	0.86	26.65	5.6	D
2 - Vinyl Place	0.03	7.50	0.0	A
3 - Dawley Road (S)	0.66	8.82	1.9	A
4 - Swallowfield Way	0.13	6.17	0.2	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	545	56	941	0.579	540	1.3	8.856	A
2 - Vinyl Place	10	576	606	0.016	10	0.0	6.041	A
3 - Dawley Road (S)	540	57	1213	0.445	537	0.8	5.299	A
4 - Swallowfield Way	62	460	784	0.079	61	0.1	4.981	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	651	67	935	0.696	647	2.2	12.367	B
2 - Vinyl Place	12	691	559	0.021	12	0.0	6.579	A
3 - Dawley Road (S)	645	68	1206	0.534	643	1.1	6.379	A
4 - Swallowfield Way	74	551	737	0.100	74	0.1	5.425	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	797	82	927	0.860	785	5.2	23.555	C
2 - Vinyl Place	14	839	499	0.029	14	0.0	7.432	A
3 - Dawley Road (S)	789	83	1198	0.659	786	1.9	8.691	A
4 - Swallowfield Way	90	673	675	0.134	90	0.2	6.158	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	797	83	927	0.860	796	5.6	26.646	D
2 - Vinyl Place	14	850	494	0.029	14	0.0	7.497	A
3 - Dawley Road (S)	789	84	1197	0.660	789	1.9	8.824	A
4 - Swallowfield Way	90	676	673	0.134	90	0.2	6.174	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	651	68	935	0.696	664	2.4	13.842	B
2 - Vinyl Place	12	708	552	0.021	12	0.0	6.662	A
3 - Dawley Road (S)	645	70	1205	0.535	648	1.2	6.490	A
4 - Swallowfield Way	74	555	735	0.100	74	0.1	5.445	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	545	57	941	0.579	549	1.4	9.277	A
2 - Vinyl Place	10	586	602	0.016	10	0.0	6.083	A
3 - Dawley Road (S)	540	58	1212	0.445	541	0.8	5.376	A
4 - Swallowfield Way	62	463	782	0.079	62	0.1	5.002	A

2023, PM

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	Swallowfield Way	Standard Roundabout		1, 2, 3, 4	9.85	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	2023	PM	ONE HOUR	16:45	18:15	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 (Veh/hr)	Scaling Factor (%)
1 - Dawley Road (N)		✓	544	100.000
2 - Vinyl Place		✓	42	100.000
3 - Dawley Road (S)		✓	724	100.000
4 - Swallowfield Way		✓	237	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Dawley Road (N)	2 - Vinyl Place	3 - Dawley Road (S)	4 - Swallowfield Way
From	1 - Dawley Road (N)	8	4	503	29
	2 - Vinyl Place	17	0	25	0
	3 - Dawley Road (S)	666	3	5	50
	4 - Swallowfield Way	96	1	140	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Dawley Road (N)	2 - Vinyl Place	3 - Dawley Road (S)	4 - Swallowfield Way
From	1 - Dawley Road (N)	0	0	2	7
	2 - Vinyl Place	0	0	4	0
	3 - Dawley Road (S)	2	33	0	18
	4 - Swallowfield Way	2	100	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Dawley Road (N)	0.67	12.35	2.0	B
2 - Vinyl Place	0.07	5.64	0.1	A
3 - Dawley Road (S)	0.66	8.63	1.9	A
4 - Swallowfield Way	0.38	8.61	0.6	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	410	111	916	0.447	406	0.8	7.020	A
2 - Vinyl Place	32	512	809	0.039	31	0.0	4.630	A
3 - Dawley Road (S)	545	40	1225	0.445	542	0.8	5.245	A
4 - Swallowfield Way	178	523	814	0.219	177	0.3	5.647	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	489	134	905	0.540	488	1.2	8.595	A
2 - Vinyl Place	38	614	756	0.050	38	0.1	5.011	A
3 - Dawley Road (S)	651	48	1220	0.533	650	1.1	6.290	A
4 - Swallowfield Way	213	627	757	0.281	213	0.4	6.606	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	599	163	890	0.673	596	2.0	12.089	B
2 - Vinyl Place	46	750	686	0.067	46	0.1	5.627	A
3 - Dawley Road (S)	797	59	1214	0.657	794	1.9	8.511	A
4 - Swallowfield Way	261	767	681	0.383	260	0.6	8.539	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	599	164	890	0.673	599	2.0	12.352	B
2 - Vinyl Place	46	754	684	0.068	46	0.1	5.643	A
3 - Dawley Road (S)	797	59	1214	0.657	797	1.9	8.628	A
4 - Swallowfield Way	261	770	679	0.384	261	0.6	8.605	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	489	135	905	0.541	492	1.2	8.802	A
2 - Vinyl Place	38	620	753	0.050	38	0.1	5.032	A
3 - Dawley Road (S)	651	49	1220	0.533	654	1.2	6.387	A
4 - Swallowfield Way	213	631	755	0.282	214	0.4	6.668	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	410	112	916	0.447	411	0.8	7.159	A
2 - Vinyl Place	32	517	806	0.039	32	0.0	4.652	A
3 - Dawley Road (S)	545	41	1225	0.445	546	0.8	5.317	A
4 - Swallowfield Way	178	528	811	0.220	179	0.3	5.694	A

2023 + Development (worst case), AM

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	Swallowfield Way	Standard Roundabout		1, 2, 3, 4	22.69	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)
D3	2023 + Development (worst case)	AM	ONE HOUR	07:45	09:15	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 (Veh/hr)	Scaling Factor (%)
1 - Dawley Road (N)		✓	742	100.000
2 - Vinyl Place		✓	13	100.000
3 - Dawley Road (S)		✓	770	100.000
4 - Swallowfield Way		✓	124	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Dawley Road (N)	2 - Vinyl Place	3 - Dawley Road (S)	4 - Swallowfield Way
From	1 - Dawley Road (N)	0	11	644	87
	2 - Vinyl Place	3	0	6	4
	3 - Dawley Road (S)	596	14	1	159
	4 - Swallowfield Way	33	1	90	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Dawley Road (N)	2 - Vinyl Place	3 - Dawley Road (S)	4 - Swallowfield Way
From	1 - Dawley Road (N)	0	9	3	5
	2 - Vinyl Place	0	0	33	50
	3 - Dawley Road (S)	3	0	0	6
	4 - Swallowfield Way	6	0	11	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Dawley Road (N)	0.91	38.32	8.1	E
2 - Vinyl Place	0.03	7.91	0.0	A
3 - Dawley Road (S)	0.72	10.72	2.5	B
4 - Swallowfield Way	0.20	6.67	0.3	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	559	79	919	0.608	553	1.5	9.662	A
2 - Vinyl Place	10	613	588	0.017	10	0.0	6.224	A
3 - Dawley Road (S)	580	70	1203	0.482	576	0.9	5.712	A
4 - Swallowfield Way	93	459	787	0.119	93	0.1	5.185	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	667	95	911	0.732	663	2.6	14.238	B
2 - Vinyl Place	12	735	538	0.022	12	0.0	6.840	A
3 - Dawley Road (S)	692	84	1194	0.580	690	1.4	7.120	A
4 - Swallowfield Way	111	551	740	0.151	111	0.2	5.725	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	817	116	900	0.908	799	7.2	30.984	D
2 - Vinyl Place	14	887	475	0.030	14	0.0	7.810	A
3 - Dawley Road (S)	848	101	1184	0.716	843	2.4	10.438	B
4 - Swallowfield Way	137	673	677	0.202	136	0.3	6.649	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	817	117	900	0.908	813	8.1	38.321	E
2 - Vinyl Place	14	901	469	0.031	14	0.0	7.912	A
3 - Dawley Road (S)	848	103	1183	0.717	848	2.5	10.715	B
4 - Swallowfield Way	137	676	676	0.202	137	0.3	6.675	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	667	96	911	0.732	688	2.9	17.460	C
2 - Vinyl Place	12	760	528	0.022	12	0.0	6.978	A
3 - Dawley Road (S)	692	87	1193	0.580	696	1.4	7.316	A
4 - Swallowfield Way	111	555	737	0.151	112	0.2	5.757	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	559	80	919	0.608	564	1.6	10.275	B
2 - Vinyl Place	10	624	583	0.017	10	0.0	6.278	A
3 - Dawley Road (S)	580	71	1202	0.482	582	0.9	5.822	A
4 - Swallowfield Way	93	464	784	0.119	94	0.1	5.211	A

2023 + Development (worst case), PM

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	Swallowfield Way	Standard Roundabout		1, 2, 3, 4	10.65	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)
D4	2023 + Development (worst case)	PM	ONE HOUR	16:45	18:15	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 (Veh/hr)	Scaling Factor (%)
1 - Dawley Road (N)		✓	549	100.000
2 - Vinyl Place		✓	42	100.000
3 - Dawley Road (S)		✓	739	100.000
4 - Swallowfield Way		✓	283	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Dawley Road (N)	2 - Vinyl Place	3 - Dawley Road (S)	4 - Swallowfield Way
From	1 - Dawley Road (N)	8	4	503	34
	2 - Vinyl Place	17	0	25	0
	3 - Dawley Road (S)	666	3	5	65
	4 - Swallowfield Way	108	1	174	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Dawley Road (N)	2 - Vinyl Place	3 - Dawley Road (S)	4 - Swallowfield Way
From	1 - Dawley Road (N)	0	0	2	7
	2 - Vinyl Place	0	0	4	0
	3 - Dawley Road (S)	2	33	0	15
	4 - Swallowfield Way	3	100	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Dawley Road (N)	0.69	13.52	2.2	B
2 - Vinyl Place	0.07	5.85	0.1	A
3 - Dawley Road (S)	0.67	9.07	2.0	A
4 - Swallowfield Way	0.46	9.95	0.9	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	413	137	903	0.458	410	0.8	7.263	A
2 - Vinyl Place	32	541	793	0.040	31	0.0	4.725	A
3 - Dawley Road (S)	556	44	1222	0.455	553	0.8	5.353	A
4 - Swallowfield Way	213	523	807	0.264	212	0.4	6.034	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	494	164	889	0.555	492	1.2	9.036	A
2 - Vinyl Place	38	649	737	0.051	38	0.1	5.145	A
3 - Dawley Road (S)	664	53	1217	0.546	663	1.2	6.476	A
4 - Swallowfield Way	254	627	750	0.339	254	0.5	7.240	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	604	201	870	0.694	601	2.2	13.154	B
2 - Vinyl Place	46	793	663	0.070	46	0.1	5.833	A
3 - Dawley Road (S)	814	65	1210	0.672	810	2.0	8.924	A
4 - Swallowfield Way	312	767	675	0.462	310	0.8	9.839	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	604	201	870	0.695	604	2.2	13.517	B
2 - Vinyl Place	46	797	661	0.070	46	0.1	5.854	A
3 - Dawley Road (S)	814	65	1210	0.672	814	2.0	9.067	A
4 - Swallowfield Way	312	770	673	0.463	312	0.9	9.951	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	494	165	888	0.556	497	1.3	9.296	A
2 - Vinyl Place	38	655	734	0.051	38	0.1	5.173	A
3 - Dawley Road (S)	664	53	1217	0.546	668	1.2	6.591	A
4 - Swallowfield Way	254	631	748	0.340	256	0.5	7.333	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	413	138	902	0.458	415	0.9	7.418	A
2 - Vinyl Place	32	547	790	0.040	32	0.0	4.749	A
3 - Dawley Road (S)	556	45	1222	0.455	558	0.8	5.433	A
4 - Swallowfield Way	213	528	804	0.265	214	0.4	6.101	A

2023 + Development (realistic case), AM

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	Swallowfield Way	Standard Roundabout		1, 2, 3, 4	18.76	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	2023 + Development (realistic case)	AM	ONE HOUR	07:45	09:15	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 (Veh/hr)	Scaling Factor (%)
1 - Dawley Road (N)		✓	729	100.000
2 - Vinyl Place		✓	13	100.000
3 - Dawley Road (S)		✓	732	100.000
4 - Swallowfield Way		✓	87	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Dawley Road (N)	2 - Vinyl Place	3 - Dawley Road (S)	4 - Swallowfield Way
From	1 - Dawley Road (N)	0	11	644	74
	2 - Vinyl Place	3	0	6	4
	3 - Dawley Road (S)	596	14	1	121
	4 - Swallowfield Way	23	1	63	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Dawley Road (N)	2 - Vinyl Place	3 - Dawley Road (S)	4 - Swallowfield Way
From	1 - Dawley Road (N)	0	9	3	5
	2 - Vinyl Place	0	0	33	50
	3 - Dawley Road (S)	3	0	0	6
	4 - Swallowfield Way	6	0	13	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Dawley Road (N)	0.88	30.12	6.3	D
2 - Vinyl Place	0.03	7.61	0.0	A
3 - Dawley Road (S)	0.68	9.30	2.1	A
4 - Swallowfield Way	0.14	6.30	0.2	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	549	59	930	0.590	543	1.4	9.177	A
2 - Vinyl Place	10	583	601	0.016	10	0.0	6.093	A
3 - Dawley Road (S)	551	60	1210	0.456	548	0.8	5.410	A
4 - Swallowfield Way	65	459	777	0.084	65	0.1	5.058	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	655	71	924	0.709	652	2.3	13.043	B
2 - Vinyl Place	12	699	553	0.021	12	0.0	6.653	A
3 - Dawley Road (S)	658	72	1203	0.547	657	1.2	6.576	A
4 - Swallowfield Way	78	551	730	0.107	78	0.1	5.519	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	803	87	915	0.877	789	5.8	25.930	D
2 - Vinyl Place	14	847	492	0.029	14	0.0	7.538	A
3 - Dawley Road (S)	806	88	1193	0.675	803	2.0	9.132	A
4 - Swallowfield Way	96	673	668	0.143	96	0.2	6.283	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	803	87	915	0.877	801	6.3	30.120	D
2 - Vinyl Place	14	859	487	0.029	14	0.0	7.614	A
3 - Dawley Road (S)	806	89	1193	0.676	806	2.1	9.296	A
4 - Swallowfield Way	96	676	667	0.144	96	0.2	6.300	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	655	71	924	0.710	670	2.6	14.974	B
2 - Vinyl Place	12	718	545	0.021	12	0.0	6.749	A
3 - Dawley Road (S)	658	74	1201	0.548	661	1.2	6.704	A
4 - Swallowfield Way	78	555	728	0.107	78	0.1	5.541	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	549	60	930	0.590	553	1.5	9.663	A
2 - Vinyl Place	10	593	596	0.016	10	0.0	6.137	A
3 - Dawley Road (S)	551	61	1209	0.456	553	0.8	5.497	A
4 - Swallowfield Way	65	464	775	0.085	66	0.1	5.080	A

2023 + Development (realistic case), PM

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	Swallowfield Way	Standard Roundabout		1, 2, 3, 4	10.22	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)
D6	2023 + Development (realistic case)	PM	ONE HOUR	16:45	18:15	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 (Veh/hr)	Scaling Factor (%)
1 - Dawley Road (N)		✓	546	100.000
2 - Vinyl Place		✓	42	100.000
3 - Dawley Road (S)		✓	730	100.000
4 - Swallowfield Way		✓	260	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Dawley Road (N)	2 - Vinyl Place	3 - Dawley Road (S)	4 - Swallowfield Way
From	1 - Dawley Road (N)	8	4	503	31
	2 - Vinyl Place	17	0	25	0
	3 - Dawley Road (S)	666	3	5	56
	4 - Swallowfield Way	102	1	157	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Dawley Road (N)	2 - Vinyl Place	3 - Dawley Road (S)	4 - Swallowfield Way
From	1 - Dawley Road (N)	0	0	2	8
	2 - Vinyl Place	0	0	4	0
	3 - Dawley Road (S)	2	33	0	18
	4 - Swallowfield Way	2	100	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1 - Dawley Road (N)	0.68	12.92	2.1	B
2 - Vinyl Place	0.07	5.75	0.1	A
3 - Dawley Road (S)	0.66	8.83	1.9	A
4 - Swallowfield Way	0.42	9.25	0.7	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	411	124	909	0.452	408	0.8	7.144	A
2 - Vinyl Place	32	526	801	0.039	31	0.0	4.678	A
3 - Dawley Road (S)	550	42	1223	0.450	546	0.8	5.298	A
4 - Swallowfield Way	196	523	809	0.242	194	0.3	5.842	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	491	149	896	0.548	489	1.2	8.816	A
2 - Vinyl Place	38	631	746	0.051	38	0.1	5.079	A
3 - Dawley Road (S)	656	50	1218	0.539	655	1.2	6.380	A
4 - Swallowfield Way	234	627	753	0.310	233	0.4	6.919	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	601	182	879	0.684	598	2.1	12.612	B
2 - Vinyl Place	46	771	674	0.069	46	0.1	5.730	A
3 - Dawley Road (S)	804	61	1211	0.664	801	1.9	8.703	A
4 - Swallowfield Way	286	767	677	0.423	285	0.7	9.161	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	601	183	879	0.684	601	2.1	12.921	B
2 - Vinyl Place	46	775	672	0.069	46	0.1	5.749	A
3 - Dawley Road (S)	804	62	1211	0.664	804	1.9	8.829	A
4 - Swallowfield Way	286	770	675	0.424	286	0.7	9.246	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	491	150	896	0.548	494	1.2	9.048	A
2 - Vinyl Place	38	637	743	0.051	38	0.1	5.104	A
3 - Dawley Road (S)	656	51	1218	0.539	659	1.2	6.485	A
4 - Swallowfield Way	234	631	751	0.311	235	0.5	6.992	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - Dawley Road (N)	411	125	908	0.453	413	0.8	7.293	A
2 - Vinyl Place	32	532	798	0.040	32	0.0	4.701	A
3 - Dawley Road (S)	550	42	1222	0.450	551	0.8	5.375	A
4 - Swallowfield Way	196	528	807	0.243	196	0.3	5.901	A