

Appendix A

Land at Chapel Lane, Halton Transport Assessment Scoping Note

216175-TA Scoping Note-V1

May 2022

Introduction

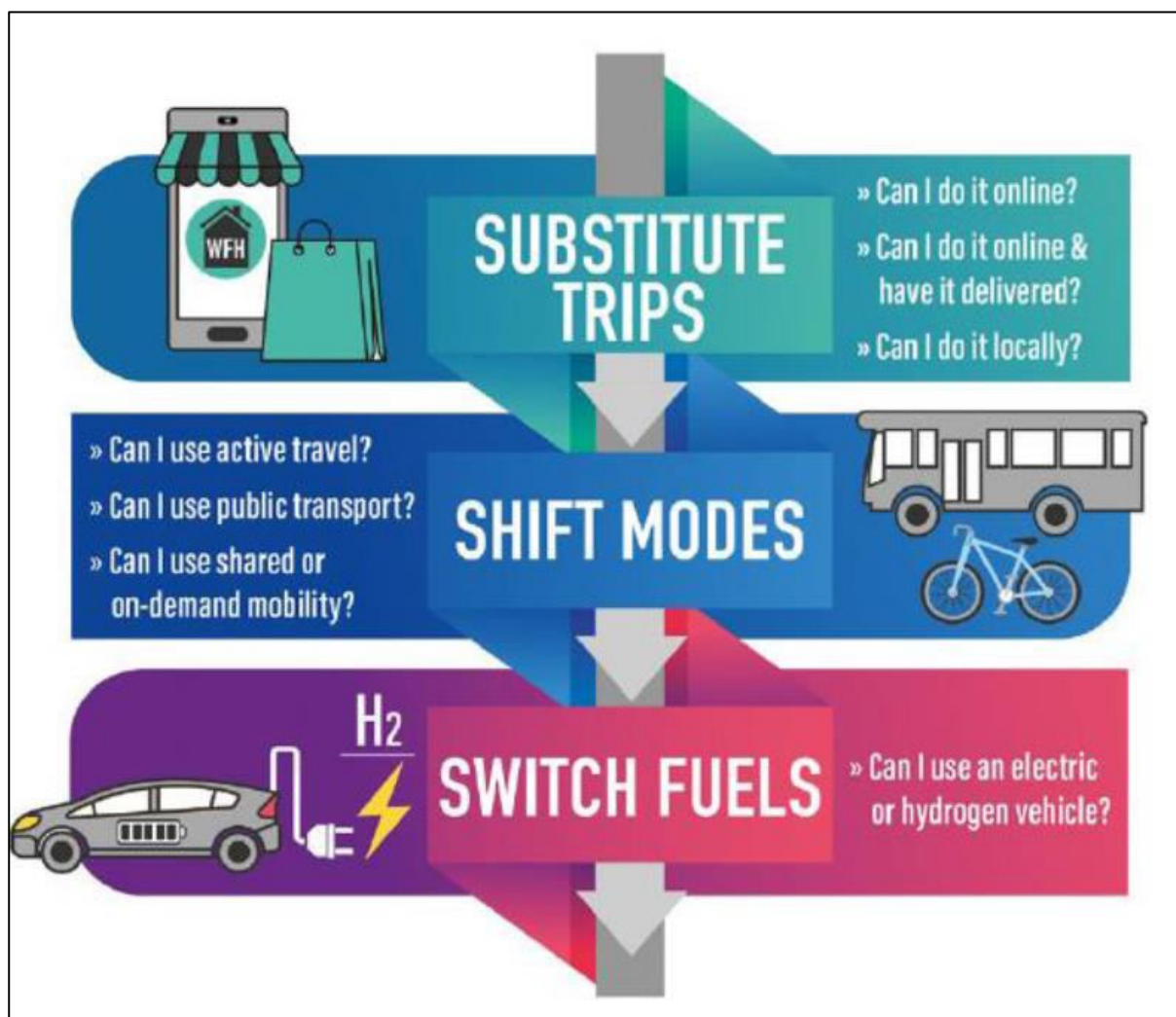
1. Vectos has been appointed by Taylor Wimpey (TW) to provide highways and transportation advice in relation to development proposals on land at Chapel Lane, Halton. The site is made up of the following two allocations contained within the adopted Halton Borough Council Delivery and Allocations Local Plan, and therefore the principle of housing development in this location has been accepted by Halton Borough Council (HBC) for up to 432 dwellings. Taylor Wimpey controls the majority of the overall allocations but not all.
 - Site Ref W4 (Chapel Lane to Old Upton Lane) comprising of 14.26ha and notional capacity of 299 units
 - Site W5 (Sandy Lane to Queensbury Way) comprising of 6.33ha and notional capacity of 133 units
2. The site is allocated via Policy RD1 in the Delivery and Allocations Plan, however there is no site-specific policy relating to specific highway considerations for the site, including there being no policy position on the access strategy for the site.
3. It is proposed to develop the site (within TW's control) to provide up to 361 residential dwellings containing a mix of house types and tenures. The intention is to create a sustainable, socially inclusive community with these overriding principles embodied within the indicative masterplan for the site.
4. Taylor Wimpey is progressing with the preparation of an outline planning application on their land ownership. It is intended that the application will be ready for submission by September 2022.
5. This Scoping Note sets out the scope and proposed approach for the Transport Assessment (TA) that will be prepared in support of the proposed development.

Mobility Strategy

6. The site is well located in terms of access and connectivity to local amenities and facilities (see Figure 2), and the mobility strategy will be to build on the existing sustainability of the site to create a development which is designed around walking, cycling, and public transport before the private car. In doing so, this will be policy compliant, particularly to National Planning Policy Framework (NPPF) and hence reducing and mitigating any severe effect.

7. Strategic sites allow for planned coordinated development and provide effective mobility infrastructure. They are based on achieving all of these aims and are substantially more effective than the alternative of smaller ad hoc and unplanned schemes.
8. The site, by design, will deliver many of these benefits within the site in terms of mobility, and being located close to local facilities including schools, employment, shopping, and public transport facilities, will deliver growth in that coordinated and sustainable manner. It will be one of the catalysts for the uptake of the increasing realistic travel choices within the community, in accordance with national and local policy.
9. This development has the opportunity to facilitate changes in attitudes towards new residential development in terms of sustainability and accessibility of services, and will provide measures to ensure that choice is provided so that travel behaviour is enabled to change. In this respect, the measures proposed will provide betterment to the existing community and hence have a more far-reaching effect on travel behaviour, choice, and modal split.
10. The Transport Vision for the site will include the following:
 - Active Travel Corridors – links to schools, local facilities, employment, and public transport interchanges;
 - An on-site Mobility Hub;
 - Bike sharing/electric bike schemes;
 - Technology (Virtual Mobility);
 - Car clubs/Carpooling;
 - Houses designed for home working and a Work Hub (the third-place); and
 - School Travel Planning.
11. One single initiative will not deliver mobility, but the combination of these services will provide people with the mobility and choice they desire.
12. Our suggested approach for the site will be a ‘vision and validate’ approach rather than a ‘predict and provide’ approach which does little to create a sense of place and seeks to make it more convenient for the car commuter i.e., the antithesis of transport policy.
13. The vision and validate approach for the development at Chapel Lane will embrace a place-based solution by demonstrating that many of the needs for day-to-day living are available within a walkable neighbourhood, thereby minimising the need for individual wider travel. This supports not only prevailing transport principles, but also key health and wellbeing aspirations, as well as aiding in working towards reduced carbon emissions.

14. The transport strategy supports the vision by following the SAM (sustainable accessibility and mobility) Framework¹. The first stage is a substitution of trips, this is minimising travel demand first through facilitating virtual mobility. This includes working from home, online shopping etc. Secondly, this refers to where travel needs to occur, ensuring it can be done locally by making certain that key needs are available within a walkable environment.
15. Shifting modes is making active and shared mobility the natural choice over the private car, with MaaS (mobility as a service) enabled transport options.
16. Finally, switching fuels refers to minimising the most polluting fuels. Future-proofing of the proposal to provide charging infrastructure is crucial.



¹ RTPI, Net Zero Transport: the role of spatial planning and place-based solutions, January 2021

The Transport Assessment

17. The application will be supported by a Transport Assessment (TA).
18. The TA will be prepared in accordance with the National Guidance on Transport Assessments (March 2007), National Planning Practice Guidance – Travel Plans, Transport Assessments and Statements in Decision Taking (2014), DCLG (2008), and Manual for Streets (MfS) and Manual for Streets 2 (MfS2), which are all widely regarded as providing best practice guidance within the UK.
19. MfS and MfS2 will be used as a framework for the design philosophy, encompassing a comprehensive movement strategy which will inform the shape and layout of the streets serving the development.
20. In particular, the movement strategy will focus on the movement hierarchy within MfS2 with priority given to pedestrians, cyclists, and other vulnerable road users.
21. The scope and extent of the TA will be as follows.

Introduction

22. This chapter will set out the purpose of the report and will describe the scope of the issues to be covered.

Existing Situation

23. This section of the report will consider the existing accessibility of the site having regard to a range of transport opportunities, including active travel, public transport, and the local highway network in the surrounding area. Existing transport conditions pertaining to the site will be established to provide baseline data against which the potential impacts of the development proposals can effectively be assessed. Baseline observations are to be informed by desktop investigations, site visits and traffic survey data.
24. A high-level review of the existing accessibility of the site is provided below and a more comprehensive review will be contained within the TA. It should be noted that where reference is made to the 'site', this refers to the land controlled by TW (see **Figure 1**).

Site Location

25. The site currently comprises an area of open agricultural land, which lies adjacent to the built area of Widnes. The site is bound to the north by open land, by woodland to the east, existing residential development to the south, and Chapel Lane to the west. The location of the site is shown in **Figure 1**.

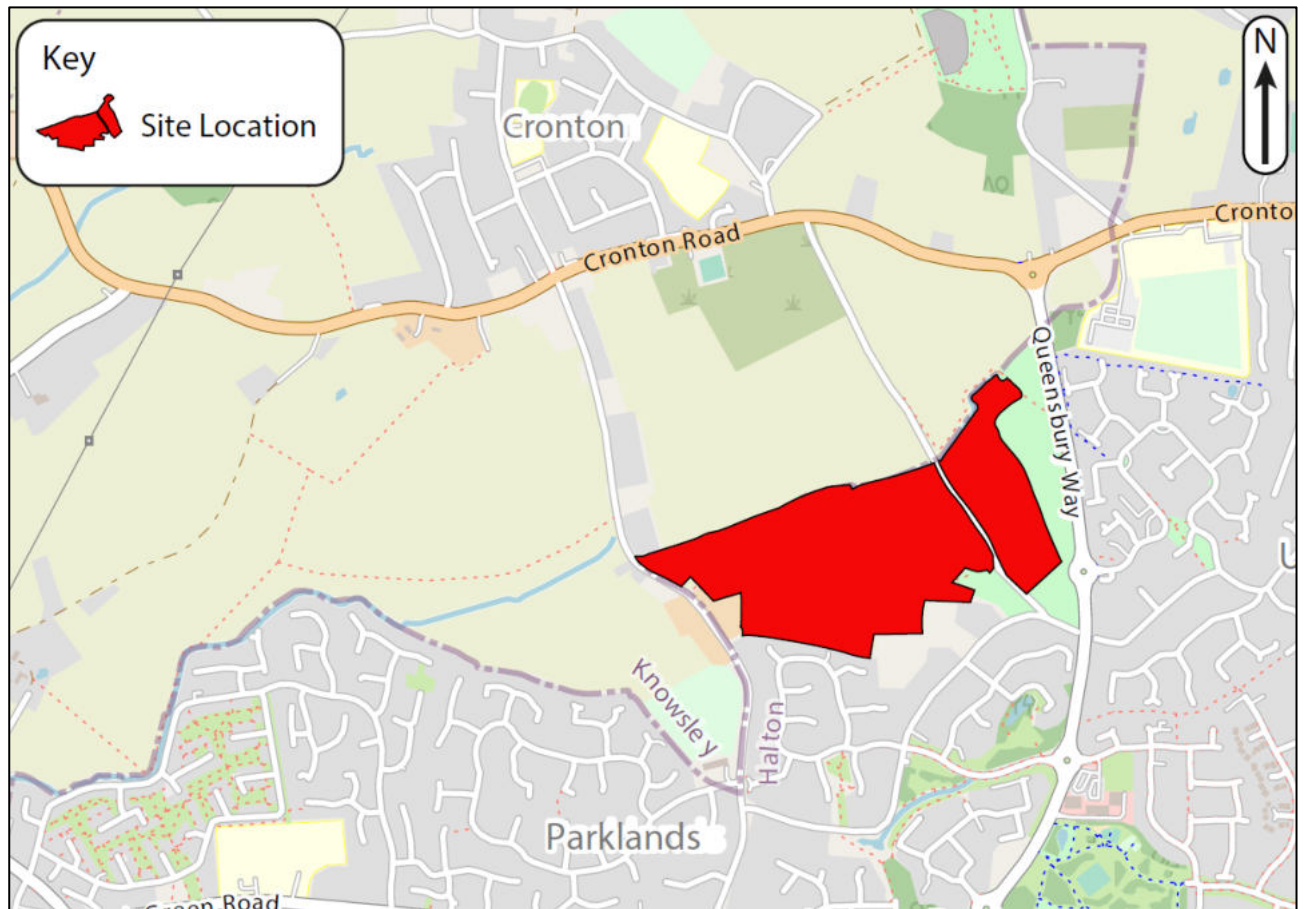


Figure 1 – Site Location Plan

26. Development of this site would be designed to encourage trips to be made by sustainable modes, including active travel (walking and cycling), by public transport and car sharing in an effort to maximise social inclusion and minimise the number of single occupancy private car trips. The location of the site is well suited to the promotion of sustainable travel and forms a natural extension of Widnes.

Active Travel

27. The area is served by good quality pedestrian and cycle routes, through attractive and active environments. Existing pedestrian facilities in the vicinity of the site include formal footways, shared footway/cycleways, and Public Rights of Way (PRoW).
28. There is a PRoW [W/16] that crosses the site in an east to west direction, connecting Chapel Lane with Sandy Lane. There are further PRoWs within the vicinity of the site which will be retained and improved (if necessary) to provide high quality links to local facilities / amenities and safe routes to schools.
29. Sandy Lane is marked as an off-road walking / cycle route on Halton Borough Council's definitive map; this connects Cronton to existing residential development and the built-up area of Widnes at Old Upton Lane, where it is restricted for vehicular traffic with the exception of emergency vehicles.

30. From the roundabout to the north with the A5080, Queensbury Way is a marked shared walking and cycle route on the definitive map and has a continuous, segregated shared route running north to south on the western edge of the carriageway. This route can be used to access Widnes Railway Station.
31. National Cycle Network (NCN) route 62 can be accessed via Croft Street, approximately five kilometres to the south of the site, this equates to around a 16-minute cycle.
32. NCN 62 connects Fleetwood on the Fylde region of Lancashire with Selby in North Yorkshire. It forms the west and central sections of The Trans Pennine Trail which is a long-distance path running from coast to coast across northern England.

Local Facilities

33. The local active travel network provides existing and future residents with access to a wide range of local facilities, including education, retail, healthcare, and leisure facilities. A summary of the local facilities is provided in **Table 1** and the location of these facilities relative to the site are shown in **Figure 2**, with walking and cycling times. Additional local facilities are also shown. It should be noted that the distances and walking/cycling times shown in **Table 1** are based on the existing highway/pedestrian/cycle networks.

Table 1 – Local Facilities

Local Facility	Distance (metres)	Walking Time (mins) based on 5km/h	Cycling Time (mins) based on 15km/h
Public Transport			
Bus stops – Queenbury Way	400	5	2
Bus stops – A5080	1,300	16	5
Widnes Railway Station	2,300	28	8
Education			
Cronton Sixth Form College	1,200	15	4
Farnworth C of E Primary School	1,700	22	6
Lunt's Heath Primary School	2,200	27	7
Cronton C of E Primary School	1,600	19	8
Wade Deacon High School	2,400	29	8
Ormiston Chadwick Academy	2,500	31	8
Restaurants			
The Observatory Bar & Restaurant	700	8	2
The Tavern	850	11	3
Pesto Widnes	1,500	19	6
Lifestyle/Healthcare Facilities			
Parkland Sports Club	1,200	14	3
Widnes Cricket Club	1,900	23	7
Upton Rocks Surgery	2,000	24	6
Hough Green Health Park	2,300	27	7
Farnworth Village Pharmacy	2,200	27	7
Retail			
Co-op Food - Widnes	800	10	2
Cronton Garden Centre	1,000	13	4
Spar Halton	1,600	19	6
Aldi	2,700	34	9

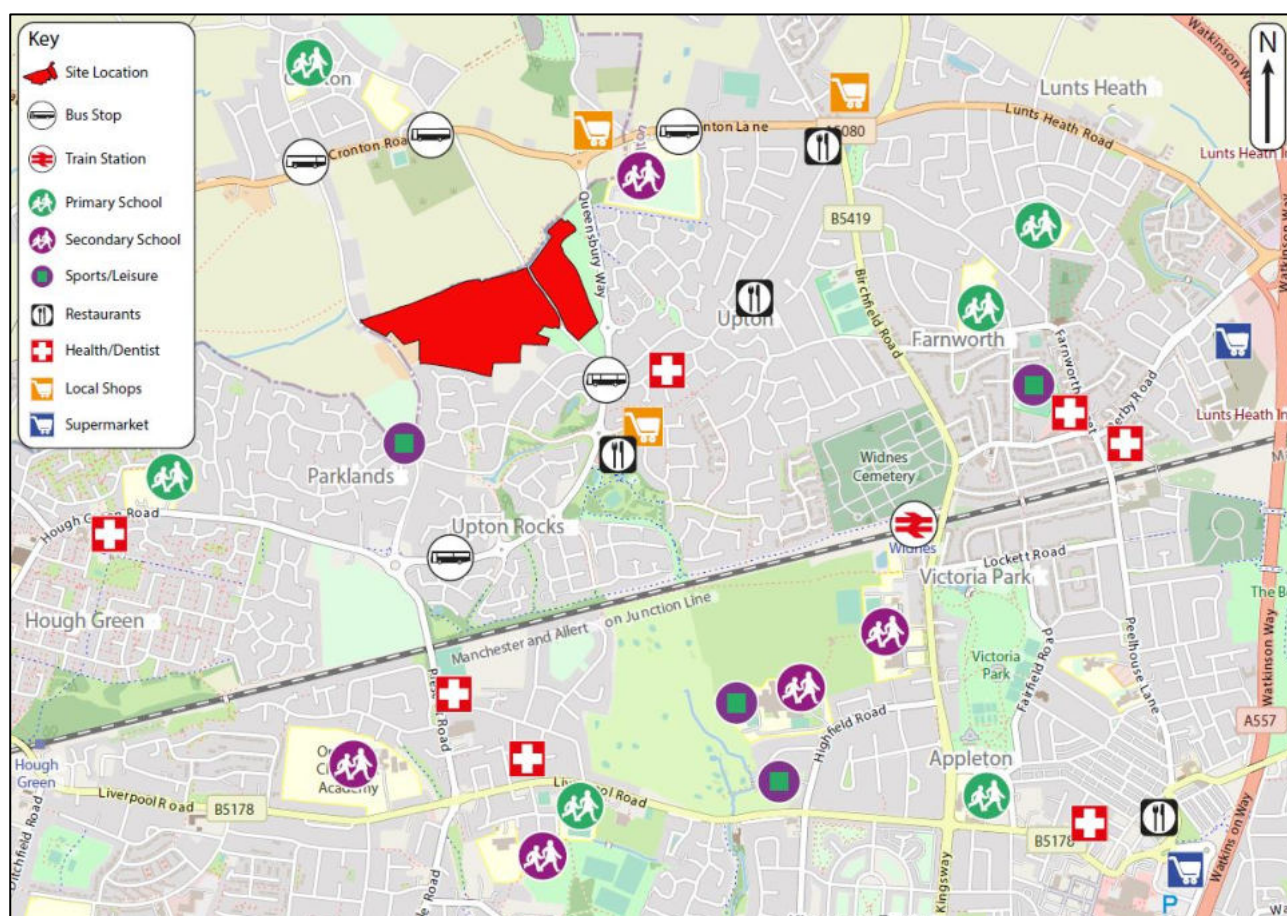


Figure 2 – Local Facilities Plan

34. As highlighted above, the site is well located with regard to local facilities within a convenient walk and cycle time based on existing infrastructure, such that future residents will have the opportunity to access key services via active travel modes.

Local Bus Routes

35. The nearest bus stops to the site are located on Queensbury Way, approximately 400 metres from the centre of the site, and are served by the 10, 26, C44, C44A and C45 bus routes. The 10 service is a school service and provides a return service for school pupils only. Number 26 provides an hourly service Monday to Saturday between Cronton Road and Green Oaks. C44 / C44A / C45 provide return services in the morning and afternoon peak periods towards Halton College.

Local Rail Services

36. The nearest rail station to the site is Widnes Railway Station which is located approximately 2.4km from the site, which is a comfortable walking and cycling distance at approximately 30 minutes and 12 minutes, respectively. The railway station provides seven secure cycle storage spaces.
37. A summary of the rail services from Widnes Railway Station is included at **Table 2**.

Table 2 – Local Rail Services

Destination	Frequency	Average Journey Time
Manchester Oxford Road	15 minutes	35 minutes
Liverpool Lime Street	10 / 15 minutes	30 minutes
Nottingham	60 minutes	150 minutes

Local Highway Network

38. Primary vehicular access to the site will be provided from Chapel Lane, with an emergency access and active travel link onto Sandy Lane. Walking and cycling connections will be made to Queensbury Way, as well as traffic calming measures to make the route more attractive to active travel users.
39. The local road network provides a link to the wider strategic highway network including the M62 and the M57, connecting the site to the wider area.

Collision Analysis

40. An analysis of personal injury collision data for the latest 5-year period available will be undertaken on the surrounding road network, in order to identify any patterns or trends.

Summary

41. The above review demonstrates that the site is well located with regard to accessing a range of transport networks including the active travel and public transport networks, such that future residents would not have to rely on the private car. It forms a natural extension to this part of Widnes and has the opportunity to capture the exiting accessibility features and enhance them, to the benefit of new and future residents of the area alike.

Policy Review

42. The TA will consider and be prepared in accordance with the following policy documents:
 - National Planning Policy Framework (NPPF), July 2021
 - National Planning Policy Guidance;
 - Decarbonising Transport, A Better Greener Britain, June 2021;
 - Manual for Streets (MfS, 2007);
 - Manual for Streets 2 (MfS 2, 2010);
 - Halton Borough Council Delivery and allocations Local Plan (Adopted March 2022));
 - Halton Borough Council Local Transport Plan (LTP3) 2011-2026; and

- The Third Transport Plan for Merseyside (Adopted 2011).

Proposed Scheme

43. This section will set out the development proposals in detail, which will include:

- Development composition;
- Mobility Strategy;
- Active Travel & Vehicular Access;
- Off site mobility network improvements;
- Parking Details including EV provision;
- Internal Highway Layout; and
- Servicing Arrangements.

The Masterplan

44. The movement network begins with movement for modes at the top of the hierarchy; that is walking followed by cycling. As such travelling around the site by these modes is the first consideration, importantly taking advantage of the PRowS running through and adjacent to the site, including Sandy Lane. The movement network within the site will therefore allow for direct and desirable links for active travel modes, followed by a hierarchy of roads which facilitate vehicular movement but do not necessarily encourage it.
45. A 20mph internal speed limit is proposed to ensure vehicles do not dominate, along with a 5.5m primary road with complementary 2m footways on either side connecting with the existing provision on Chapel Lane. For a settlement of this scale it is considered that alongside roads cyclists will be accommodated on carriageway. The low-speed environment and active frontage proposed will allow for comfortable movement.
46. The overarching objectives of the masterplan are set out in current transport and planning policy as:
- Design for community. Putting people, and their quality of life now and in the future at the centre of decision making;
 - Minimising the need to travel, providing choice in transport, and where travel occurs, encouraging greater use of more sustainable and healthy forms of travel; and
 - Establishing priorities so that development and day-to-day facilities are accessible in the first instance by walking and cycling, then by public transport, then by motor vehicles.

47. Hence, the approach to masterplanning will be based on the following:
- Design;
 - Choice;
 - Behaviour; and
 - Network Management.
48. The draft illustrative Masterplan is shown in **Figure 3** and is included at **Appendix A**.



Figure 3 – Draft Illustrative Masterplan

Mobility Strategy

49. The TA will contain a detailed Mobility Strategy which will demonstrate the approach to exemplary design for mobility, and sustainable travel.
50. A Mobility Hub, complete with a Work Hub will be proposed on site to act as a central point for travel and community integration with the existing communities to the south. Details of bus services, pedestrian routes, and safe cycling routes will be provided as well as a home delivery collection point.

51. Demand responsive transport (DRT) will also be considered as part of the development package in combination with traditional public transport services. Other forms of shared mobility will be investigated such as a car club and a carpooling platform.
52. The site is well-placed to take advantage of a bike or e-bike sharing scheme which may take the form of day-bike hire through lockers situated within the Mobility Hub. This will be investigated as part of the development proposals.

Active Travel and Vehicular Access Arrangements

53. The overarching strategy will be to reduce the effect of new car trips from the proposed development. Hence, the TA will be focused on enhancing existing pedestrian, cycle and public transport connectivity to local amenities and providing travel choice to future and existing residents.

Site Access

54. Access to the site by all modes is proposed from Chapel Lane in the form of a ghost-island right-hand turn lane, designed for a 30mph environment and taking into account recorded speeds on the road. The achievable visibility splays are demonstrated to be in accordance with the maximum recorded 85th percentile speeds on Chapel Lane of 35mph in a single direction, and these visibility splays sit within the red line boundary or adopted highway extents. The forward visibility along Chapel Lane is also in accordance with guidance.
55. Vehicular access in this location enables connection to the existing road network via Chapel Lane which is appropriate to accommodate this level of development. Chapel Lane already supports vehicular movement from a number of residential dwellings in this part of Widnes as well as likely through-movement, and facilitates journeys into the town to the south of the proposed access, and north towards the strategic road network.
56. Pedestrian access is proposed to connect seamlessly with the existing provision on Chapel Lane, with cyclists accommodated on carriageway as per the current situation on this link.
57. The proposed access with Chapel Lane will be subject to a Stage 1 Road Safety Audit in due course.
58. The preliminary site access is demonstrated in **Figure 4**.

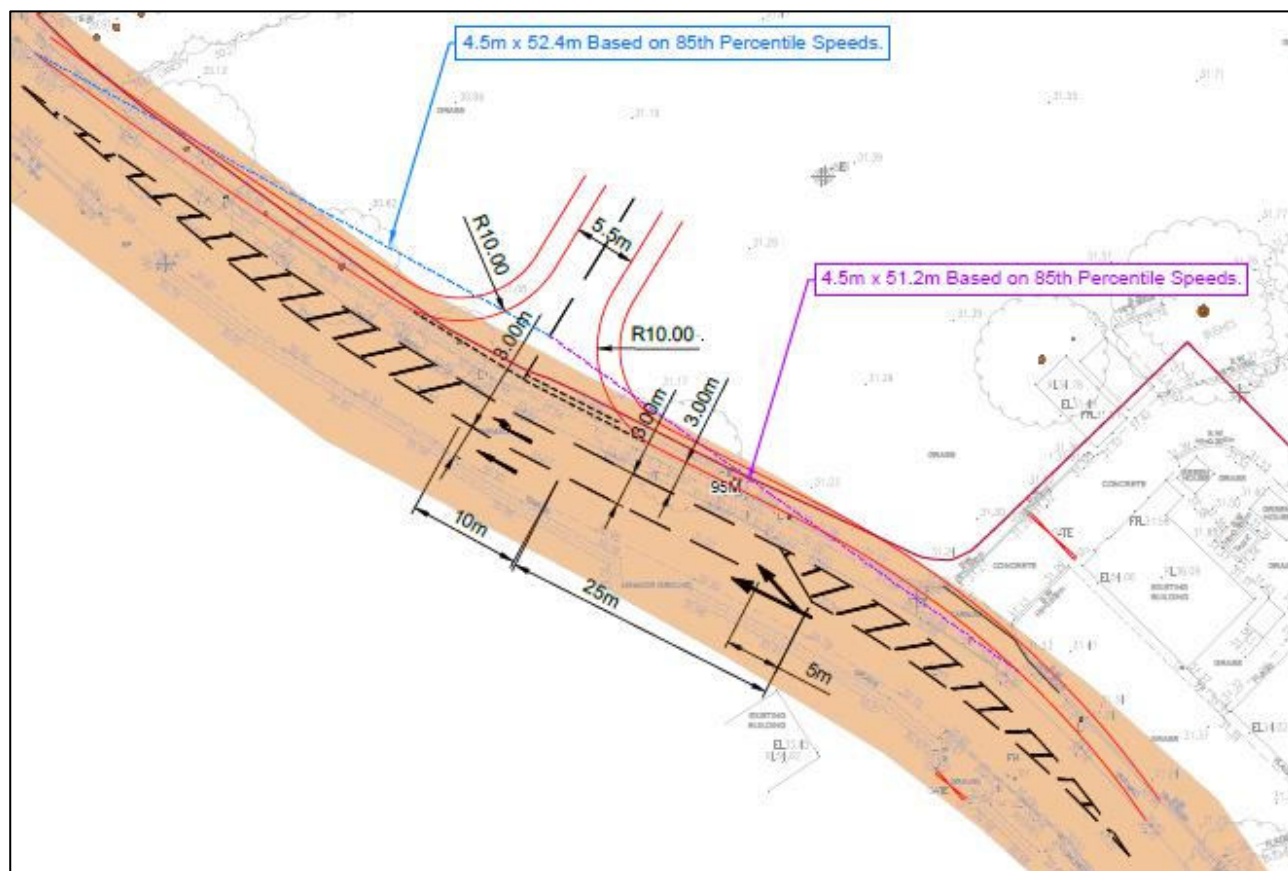


Figure 4 – Proposed Site Access

59. An emergency access onto Sandy Lane will be investigated and triggers will be discussed with officers at Halton Borough Council (HBC).
60. Additional active travel access points to the site will utilise Sandy Lane and PRowS as appropriate, including pedestrian and cyclist access with Queensbury Way to connect with the existing provision there.

Parking Details

61. Car and cycle parking for the site will be provided in accordance with parking standards as contained within Halton Borough Council's Parking Standards within the Delivery and Allocations Plan.
62. Parking provision across the site will also support electric vehicle charging and other low emission technology, in line with HBC guidance.

Assessment Methodology

63. The TA will consider the effect of the development proposals on the local movement networks. This section of the Scoping Note details the key parameters of the highway assessment of the development

proposals including the scope of junctions to be assessed, committed developments, traffic growth and trip attraction.

Traffic Growth

64. Historic ATC data will be examined (if available) to ascertain if growth has occurred on the local and strategic highway network.
65. The TA will consider if there is a direct link between population and employment growth and traffic growth, as people act to minimise their own inconvenience. The Covid-19 pandemic has altered the observed pattern of traffic growth which is now in flux. It is now widely acknowledged that traffic growth cannot grow exponentially and that a vision and validate methodology is the appropriate application (Decarbonising Transport, TRICS Guidance Note on the Practical Implementation of the Decide and Provide Approach).
66. It is therefore reasonable to plan for policy to succeed rather than adopting an historic predict and provide methodology whereby road capacity is prioritised above all other modes of travel. This would move against contemporary policy, whereas designing for a vision is in line with policy seeking to address the Climate Emergency declared in the UK and by Halton Borough Council.
67. If the study network is demonstrated to have experienced traffic growth linked to population and employment growth then appropriate growth factors will be obtained from NTM (with comparison to TEMPro local factors undertaken) and applied to the baseline year and future year assessment data. These factors will be adjusted to account for Local Plan growth of which the proposed site forms.
68. Standalone traffic modelling will be undertaken for the 'Opening Year' and 'Future Year' scenarios.

Committed Development

69. The TA will explore any committed development that has been agreed in proximity of the site and these will be included in the TA as part of the traffic analysis. Other local strategic sites will also be included, and information contained within the Council's strategic traffic model is requested.

Trip Rates

The TRICS database has been interrogated to derive an appropriate total people trip rate for use as a starting point for the trip generation exercise. The three-hour AM and PM peak periods will be considered in the TA, as well as a daily trip rate. These are set out in the following table.

Table 3 – TRICS Trip Rates – Total People

Time Period	Arrivals	Departures	Totals
07:00 – 08:00	0.122	0.514	0.636
08:00 – 09:00	0.191	0.779	0.970
09:00 – 10:00	0.201	0.287	0.488
16:00 – 17:00	0.534	0.273	0.807
17:00 – 18:00	0.602	0.257	0.859
18:00 – 19:00	0.502	0.291	0.793

Trip Generation

70. The trip generation methodology in the TA will disaggregate the total person trips by journey purpose, using National Travel Survey data to determine the proportion of trips in each peak period that relate to education, commuting, and leisure/recreation purposes.
71. This allows for a bespoke mode split to be applied to each set of trips to ultimately determine a realistic demand for the site, for all modes.
72. The trip generation methodology will follow this approach and reflects the agreed approach used at Hale Gate Road, Halton. The trip methodology for Hale Gate Road is included in **Appendix B**.
73. It is generally acknowledged that trip generation associated with private housing is greater than that associated with affordable housing and as such, whilst the proposals will likely include a proportion of affordable housing, the same trip rates associated with private housing used for Hale Gate Road will be used to provide a robust assessment.
74. Within the Hale Gate Road assessment, working from home has been acknowledged and as a result it was agreed to increase school trips by 10% to account for individuals who drive their children to school between 08:00-10:00, without an onward trip to work.
75. Developing on the strategy adopted for Hale Gate Road, it is considered that the case for home working is now clear, and that the trend is strongly that home (or remote) working in a hybrid form is here to stay. The expected level of future home working of all new residents who work has been calculated using the methodology below.
76. This is based on the working from home tool developed by Vectos SLR which collates data on pre-Covid (2019) levels of working from home at the Local Authority district level, and then estimating both

variation in working from home according to area classification within districts, as well as to estimate future (2022 and onwards) working from home rates by district and area classification. Using this tool shows a change in working from home proportion from 8.2% (pre Covid-19) to 18.2% (now). As such, the future expected level of home working has been applied to the trip generation set out in this section.

77. There has also been no internalisation in terms of education trips, as this development does not propose any school facilities.
78. Mode splits by journey purpose are set out in **Table 3** which are based on existing data which is representative of a situation now 12 years ago, and prior to the Covid-19 pandemic which has accelerated changed to typical travel patterns. It also does not represent any data for journeys for leisure/recreation purposes which form the main reason for travel across the day. For these reasons, in the TA the trip generation methodology will include a reasonable mode shift from these observed splits to reflect a move towards active travel.

Table 3 – Mode Split by Journey Purpose

Method of Travel	Commuting	Primary Education	Secondary Education	Leisure / Recreation
Train	3%	0%	0%	3%
Bus	3%	4%	8%	3%
Taxi	0%	0%	0%	0%
Motorcycle	1%	0%	0%	1%
Car Driver	84%	53%	19%	84%
Car Passenger	5%	0%	0%	5%
Bicycle	1%	3%	5%	1%
Foot	2%	40%	67%	2%
Other	0%	1%	1%	0%
Notes:	Census – MSOA Halton 002	NTS 0614 – Ages 5-10 – under 2 miles	NTS 0614 – Ages 11-16 – under 2 miles	Census – MSOA Halton 002

79. It is acknowledged that 2 out of 3 primary schools lie between 1-2 miles from the site, whilst the other is under 1 mile. Therefore, the NTS mode splits for under 1 mile and 1-2 miles have been combined using a 1:2 ratio respectively.
80. Similarly, 2 out of the 3 secondary schools, including Cronton Sixth Form College, are between 1-2 miles from the site, whilst the other is under 1 mile. Therefore, the NTS mode splits for under 1 mile and 1-2 miles have been combined using a 1:2 ratio respectively.
81. The TA will present the trip generation for the 3-hour peak periods, as well as across the day. However, for the purposes of the Scoping Note **Table 4** shows the total multi-modal trip generation for the development for the peak hours, for the full extent of the site allocation as a maximum.

Table 4 – Total Multi-Modal Trip Generation – 432 Units

Method of Travel	AM (0800-0900)			PM (1700-1800)		
	Arr	Dep	Tot	Arr	Dep	Tot
Working from Home	4	15	19	18	8	26
Train	1	5	6	8	3	11
Bus	4	14	18	8	3	11
Taxi	0	1	1	1	0	1
Motorcycle	0	1	1	1	1	2
Car Driver	49	199	248	203	87	290
Car Passenger	2	8	10	12	5	17
Bicycle	2	7	9	3	1	4
Foot	22	90	112	12	5	17
Other	0	2	2	1	1	2
Total	84	343	427	268	115	383

Trip Distribution

82. The distribution of vehicle trips on the local highway network for employment purposes will be determined with reference to the 2011 Census with data obtained for the place of work for the resident

population of Halton 002 MSOA, within which the site is located. A journey planning tool will be utilised to assign trips on the local highway network.

83. Trip distribution for other journey purposes, i.e. education and leisure will be determined based on the locations of these facilities and the likely route from the site.
84. Alternatively, to inform trip distribution, distribution data from the Council's strategic traffic model is requested.
85. A more detailed analysis of trip distribution will be set out in the TA.

Highway Assessment

86. In the context of national and local transport policy, the focus should not be on traffic impact rather than accommodating people movement and providing safe and efficient active travel routes to key local amenities.
87. The scope of the highway assessment will be considered in the context of the sustainable location of the site, the mobility benefits this site could provide and the sustainable transport strategy for the site.
88. In the first instance, a percentage impact assessment will be undertaken at the junctions within the study area. Junctions with a percentage impact of more than 5% will be subject to more detailed junction modelling assessments. The site access will also be assessed.
89. The results of the highway network assessment will be reviewed in the context of NPPF which is the senior policy document.
90. Car travel on the highway network is a material matter, but not the highest priority in the context of policy. For instance, there is no expression of policy that sets nil detriment to the highway network as a test, and to do so would be the antithesis of policy.
91. The Secretary of State endorsed interpretation of NPPF in the context of commuter periods, stating that is that it is not the aim of policy to protect the convenience of car commuters.

Summary and Conclusion

92. This section will provide a summary of the report and will set out the recommendations and conclusions based on the analysis undertaken as detailed above.

Traffic Surveys

93. Manual Classified Turning Count (MCC) and queue length surveys will be undertaken for a typical weekday (Tuesday, Wednesday, or Thursday) during school term time at the following junctions between 07:00-10:00 in the AM peak and 16:00-19:00 in the PM peak:

— **MCC 1** – Liverpool Road / Precot Road / Hale Road Signals

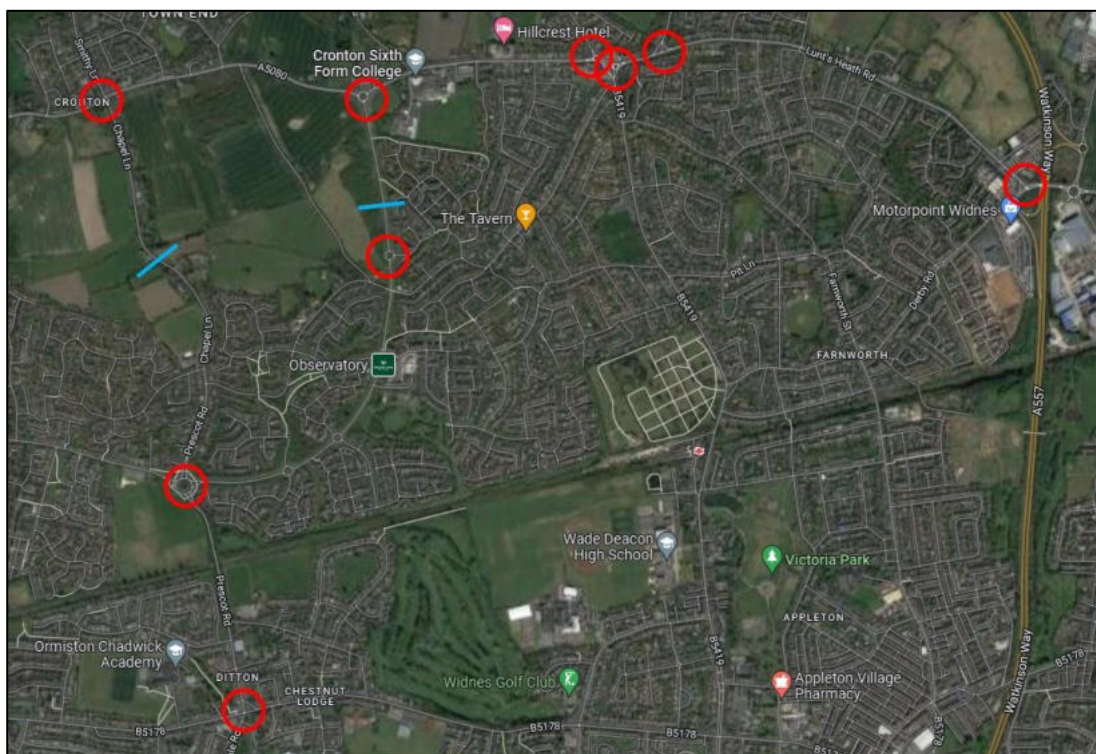
- **MCC 2** – Queensbury Way / Prescott Road / Hough Green Road Roundabout
- **MCC 3** – Chapel Lane / A5080 Cronton Road / Smithy Lane Signals
- **MCC 4** – Queensbury Way / A5080 Cronton Road Roundabout
- **MCC 5** – Queensbury Way / Upton Rock Avenue Roundabout
- **MCC 6 & 7** – A5080 Cronton Lane / A5080 Lunt's Heath Road Double Roundabout
- **MCC 8** – A5080 Lunt's Heath Road / B5419 Wilmere Lane
- **MCC 9** – A5080 Lunts Heath Road / A5080 Derby Road

94. In addition, week-long Automatic Traffic Count (ATC) survey will be undertaken at the following locations to ascertain the traffic volumes and speeds:

- **ATC 1** – Chapel Lane
- **ATC 2** – Queensbury Way

95. The proposed survey area is shown in **Figure 4**.

Figure 4 – Proposed Survey Extent



96. It is proposed to undertake the surveys as soon as possible in a neutral survey month. It is noted that consideration of fluctuations in traffic levels due to Covid-19 may be required.

Travel Plan

97. The TA will be supported by an Interim Travel Plan which will set out the overarching strategy to promote sustainable travel to and from the site and limit the number of single occupancy car trips to and from the proposed development.

Appendix A

Accommodation Schedule

Site Area: 15.00 ha
Green Infrastructure: 5.27 ha
Development Parcels: 9.73 ha
Number of Homes: 361 homes
Gross Density: 24 homes/ha
Net Density: 37 homes/ha

Key

- Allocation Boundary / Site Boundary
- Existing Trees
- Existing Hedgerows
- Existing Wetlands & Watercourses
- Indicative SuDS Ponds
- Green Infrastructure
- Development Parcels
- Public Right of Way
- Footpath/Cycleway
- Avenue
- Streets
- Lanes
- Shared Drives
- Landmark Elements
- Gateways (Primary & Secondary)

e*SCAPE 10 years
urbanists 2009 - 2019

Project Title
Chapel Lane, Widnes

e*SCAPE Job No.
022-009

Client
Taylor Wimpey North West

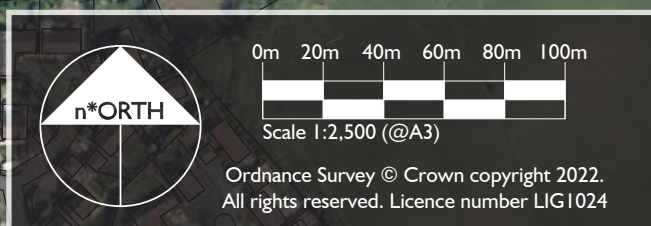
Drawing Number
022-009-P004

Revision
REV A

Drawing Title
Parameters Masterplan

Scale
1:2,500 @ A3

Date
May '22



Appendix B

HALE GATE ROAD, HALTON

Trip Generation

1. This note has been prepared by Vectos on behalf of Harworth, who are seeking to submit a hybrid planning application for residential development with some issues reserved but access being determined in full. The planning application will seek the development of up to 500 dwellings, a primary school and local centre.
2. Following a meeting with Halton Borough Council on Thursday 3rd of March. It was agreed that Vectos would consider a revised trip generation profile for the site which too into account the different land uses proposed in more detail. Therefore, this note has been prepared to outline the alternative approach proposed by Vectos.

Previous Trip Generation

3. The previous trip generation presented to Halton Borough Council (HBC) in our scoping correspondence is outlined below.
4. **Table 1** below provides a summary of the trip rates generated and the proposed trips for a development scale of 500 units for the AM peak period, as presented in the Transport Scoping Note provided to Halton Borough Council. **Table 2** shows the trip rates and proposed trips for the PM peak period.

Table 1: AM Peak Trip Rate and Proposed Trips

AM Peak (08:00 – 09:00)	Trip Rate (pre dwelling)			Trips (500 dwellings)		
	Arrive	Depart	Total	Arrive	Depart	Total
Vehicles	0.102	0.364	0.466	51	182	233
Pedestrians	0.023	0.068	0.091	12	34	46
Cyclists	0.008	0.013	0.021	4	7	11
Public Transport	0.000	0.026	0.026	0	13	13

5. **Table 1** highlights that, using the original methodology, a development scale of 500 dwellings would generate 233 two-way vehicle trips and 70 trips by sustainable modes of transport in the AM peak hour.

Table 2: PM Peak Trip Rate and Proposed Trips

PM Peak (17:00 – 18:00)	Trip Rate (pre dwelling)			Trips (500 dwellings)		
	Arrive	Depart	Total	Arrive	Depart	Total
Vehicles	0.313	0.135	0.448	157	68	224
Pedestrians	0.038	0.022	0.06	19	11	30
Cyclists	0.014	0.007	0.021	7	4	11
Public Transport	0.011	0.002	0.013	6	1	7

6. **Table 2** highlights that, using the original methodology, a development scale of 500 dwellings would generate 224 two-way vehicle trips and 48 sustainable transport trips in the PM peak hour.
7. In their response to the Vectos Scoping Note, HBC indicated that they have previously surveyed a single residential cul-de-sac within the authority area. HBC have outlined that the results of this survey suggest

that the AM peak hour trip rate should be closer to 0.8. No further details have been provided by HBC which would allow us to analyse these surveys or consider their appropriateness for our assessment. However, based on HBC's concerns that the original trips rate were too low and did not properly allow for the primary school, a revised trip generation exercise has been undertaken.

Revised Trip Generation

8. The revised trip generation profile considers the different land uses proposed within the site and utilises the TRICS online database, the Census Journey to Work database and the National Travel Survey results.
9. **This approach adopted by Vectos is referred to as Vision and Validate and is firmly enshrined in national policy and guidance. The vision is evidence based, initially using the industry standard tool TRICS to consider the person trips generated by a site of this scale and location and uses the National Travel Survey (NTS) and Census Journey to Work (JTW) databases to consider the trip purpose and mode split of these trips. The NTS and JTW databases are compiled using surveys, travel diaries and face-to-face interviews. Therefore, we consider that the trip generation presented is a realistic representation of the development trip demand on a traditional basis as it uses measured data from existing settlements and does not rely on aspirational modal shift patterns.**
10. As outlined within our Scoping Note, trip rates for the proposed development were established using the TRICS database and the following parameters;
 - Main Land Use, 03 - Residential, Sub Land Use, A – Houses Privately Owned;
 - Surveys undertaken between 2012 – 2021;
 - Site within Edge of Town areas were included, including those with enhanced sustainable transport infrastructure;
 - Sites in Ireland and Greater London were excluded; and,
 - Multi-modal trips were generated.
11. **The results of this exercise indicate that there are 24 sites which match the parameters set out above, 3 of which were undertaken during the COVID-19 pandemic. Therefore, due to the significant changes in travel behaviour which occurred during this period, these surveys were removed from this analysis. As per TRICS 2021 Best Practice Guidelines a minimum of 20 sites should be used to consider the trip generating potential of proposed developments as highlighted by HBC.**
12. **Based on this a revised trip rate was generated to consider the trip generating potential of the site. Therefore, this assessment meets this requirement by considering 21 sites. The tables in the following sections of this note have been updated accordingly.**
13. For the purposes of this revised assessment, person trip rates have been generated for a residential land use. Following this, the National Travel Survey (N.T.S) Journey Purpose, Census Journey to Work (J.T.W) and N.T.S Journey to School datasets were utilised to consider the number of vehicle trips generated for each land use and journey purpose.
14. In order to consider the external trip generating potential of the proposed primary school within the site, the TRICS database was interrogated for Primary Schools.

15. Further consideration of the trip generating potential of the Local Centre was also requested by HBC. Following a review of the masterplan the local centre is referred to as local community facilities within the masterplan documents and will be located in the centre of the site off the new internal spine road. It will not be located on the periphery of the site.
16. While there may be some element of retail space within the local centre it is unlikely that it will generate a material number of primary trips during the typical peak hours when the road network is at its busiest. Indeed, the majority of trips to the local centre are likely to be residents living within the development or pass-by trips linked to another trip and already present on the local road network e.g., someone visiting when driving home from work. Therefore, we do not feel that it is necessary to include peak hour development trips for a local centre.

Person Trips Rates

17. The person trip rates generated using TRICS and associated trips for 500 dwellings is presented in **Table 3**.

Table 3: TRICS Person Trip Rates

	Trip Rate (per dwelling)			Person Trips (500 dwellings)		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way
07:00 - 08:00	0.122	0.514	0.636	61	257	318
08:00 - 09:00	0.191	0.779	0.970	96	390	485
09:00 - 10:00	0.201	0.287	0.488	101	144	244
10:00 - 11:00	0.186	0.243	0.429	93	122	215
11:00 - 12:00	0.195	0.244	0.439	98	122	220
12:00 - 13:00	0.220	0.232	0.452	110	116	226
13:00 - 14:00	0.244	0.229	0.473	122	115	237
14:00 - 15:00	0.254	0.284	0.538	127	142	269
15:00 - 16:00	0.563	0.296	0.859	282	148	430
16:00 - 17:00	0.534	0.273	0.807	267	137	404
17:00 - 18:00	0.602	0.257	0.859	301	129	430
18:00 - 19:00	0.502	0.291	0.793	251	146	397

Journey Purpose

18. The person trips rates presented in **Table 3** have been broken down by trip purpose for each hour of the day using the N.T.S number 0502. **Table 4** provides a summary of this information. The 2019 N.T.S data has been utilised as this survey information was undertaken prior to the COVID-19 pandemic and are considered to be more representative of non-COVID related travel.

Table 4: N.T.S 0502 Journey Purpose

	Commuting	Education	Recreation/ Leisure
07:00 - 08:00	53%	20%	27%
08:00 - 09:00	23%	51%	26%
09:00 - 10:00	16%	10%	74%
10:00 - 11:00	9%	2%	89%
11:00 - 12:00	9%	3%	88%
12:00 - 13:00	11%	4%	85%
13:00 - 14:00	15%	3%	82%
14:00 - 15:00	14%	15%	72%
15:00 - 16:00	9%	47%	44%
16:00 - 17:00	26%	11%	63%
17:00 - 18:00	36%	5%	59%
18:00 - 19:00	24%	2%	74%

19. **Table 4** highlights that during the typical AM peak period 23% of trips are commuting trips, 51% of trips are for educational purposes and 26% are for recreation/leisure purposes. During the typical PM peak 36% of trips are commuting trips, 5% of trips are for educational purposes and 59% are for recreation/leisure purposes.

Commuting / Employment Trips

20. Following on from this, the person trip rates generated have been broken down by mode to consider the vehicle trips generated for each trip purpose. For commuting trips, the mode split exercise has considered how people travelled to work from the Halton 008 MSOA using the Journey to Work profile in the 2011 Census. **Table 5** provides a summary of this information.

Table 5: Census 2011 JTW Data

Method of Travel to Work	Percentage
Underground, metro, light rail, tram	0%
Train	2%
Bus, minibus or coach	6%
Taxi	0%
Motorcycle, scooter or moped	0%
Driving a car or van	76%
Passenger in a car or van	7%
Bicycle	2%
On foot	7%

21. Using the person trip rates generated in **Table 3**, the trip purpose presented in **Table 4** and the mode split presented in **Table 5**, **Table 6** provides a summary of the proposed commuting vehicle trips generated by the proposed development.

Table 6: Peak Hour Commuting Vehicle Trips

	Arrive	Depart	Two-way
08:00 - 09:00	27	110	137
17:00 - 18:00	127	54	181

Education Trips – Residential Development

22. This section of the note considers the number of education trips which would be generated from the residential led element of the development. For these trips, the mode split was considered using the N.T.S number 0614 – Education Mode Split by Journey Distance information. It is anticipated that 25% of school-age children living in the residential development would access the primary school on-site with these trips excluded from our analysis as they would be internal trip movements within the site. Furthermore, it has been assumed that another 25% of children would access a primary school off-site and the remaining 50% of children will attend a secondary school off-site.
23. The mode split exercise has considered two profiles; one for primary school trips within 1 mile and one for all school aged children outside of 1 mile.
24. **Table 7** provides a summary of the education mode split.

Table 7: Education Mode Split

Mode	Primary within 1 mile	All Ages outside 1 mile
Walk	81%	20%
Bicycle	1%	3%
Car / van	18%	33%
Bus	1%	38%
Other transport	0%	6%

25. Using the person trip rates generated in **Table 3**, the trip purpose presented in **Table 4** and the mode split presented in **Table 7**, **Table 8** provides a summary of the proposed education vehicle trips generated by the proposed development.

Table 8: Education Peak Hour Vehicle Trips (Residential Land Use)

	Arrive	Depart	Two-way
08:00 - 09:00	11	45	56
17:00 - 18:00	3	1	5

26. The comments received by HBC suggested that as a result of the COVID 19 pandemic the number of vehicle trips for educational purposes has increased in the AM peak due to parents driving their children to school and then returning home to work. While we feel this pattern may change over time, consideration has been given to the request from HBC to include these trip movements in our assessment.
27. A review of the working from home data for rural town/urban fringes within Halton indicates that the percentage of people working from home has increased from 8.2% in 2019 to 18.2% in early 2022. This suggests an increased of 10%. While not all of these individuals would have school aged children and not all of these individuals would drive their children to school and return home a 10% uplift has been applied to car / van driving mode presented in **Table 7** for the AM peak period between 08:00 – 10:00.

Education Trips – Primary School On-site

28. As part of the development proposals a single-entry primary school is proposed within the site. It is estimated that this school will accommodate a total of 210 pupils, based upon 6 year group classes and a reception class. It is anticipated that half of these pupils (105) would travel to the site for educational purposes. In order to consider the trip generating potential of these pupils the TRICS database was considered using the following parameters;

- Main Land Use, 04 - Education, Sub Land Use, A – Primary;
- Surveys undertaken between 2013 – 2019;
- Site within Suburban Areas and Neighbourhood Centre;
- Sites in Ireland and Greater London were excluded; and,
- Multi-modal trips were generated.

29. **Table 9** provides a summary of the trip rates and proposed trips with the full TRICS output files included at the end of this note. The TRICS profile for primary schools does not extend to the typical peak period presented for the other land uses within the site, therefore trips have been presented for the afternoon peak period between 15:00 – 16:00.

Table 9: Education Peak Hour Vehicle Trips (Educational Land Use)

	Trip Rate (per pupil)			Vehicle Trips (105 pupils)		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way
07:00 - 08:00	0.309	0.246	0.555	32	26	58
15:00 - 16:00	0.173	0.211	0.384	18	22	40

30. Initial comments from HBC requested further information be provided in relation to how children will travel to school until the new on-site school is constructed. Officers suggested that a sensitivity test may be required. However, Vectos do not consider it necessary to complete an additional sensitivity test for the school given that the above methodology provides a robust assessment of school trips as outlined below.

31. In terms of the school trips, the calculations presented assumes that 25% of primary school trips would be within 1 mile and 75% of all school trips would be outside 1 mile. There is a primary school within 1 mile of the site, and it would be reasonable to assume that some of the pupils from the site would attend this school. In addition, we have also assumed that 50% of children would travel to the school from off-site, even though in reality more children within the development are likely to attend the school. We have also done a TRICS assessment for the primary school and added these trips to the school trip generation providing an assessment of both on-site and off-site trips.

Recreation / Leisure Trips

32. For recreation/leisure trips the 2011 Census Journey to Work data for trips will be utilised to consider the mode split for these trips. While a local centre will be provided on site and some of the recreation/leisure trips are likely to be internal trips, no internalisation factor has been applied to these trips. It has been assumed however that any external trips to the local centre will consist of pass-by traffic during the peak hour.

33. Using the person trip rates generated in **Table 3**, the trip purpose presented in **Table 4** and the mode split presented in **Table 5**, **Table 10** provides a summary of the proposed recreation/leisure vehicle trips generated by the proposed development.

Table 10: Peak Hour Recreation / Leisure Vehicle Trips

	Arrive	Depart	Two-way
08:00 - 09:00	8	34	42
17:00 - 18:00	90	38	128

Total Trips

34. **Table 11** provides a summary of the total trips generated for the site using the above mentioned methodology.

Table 11: Total Development Trips

	Total Residential Development Trips		
	Arrive	Depart	Two-way
07:00 - 08:00	46	171	217
08:00 - 09:00	79	214	293
09:00 - 10:00	75	105	180
10:00 - 11:00	71	93	164
11:00 - 12:00	75	92	167
12:00 - 13:00	83	88	170
13:00 - 14:00	93	88	181
14:00 - 15:00	91	100	191
15:00 - 16:00	161	97	258
16:00 - 17:00	194	107	301
17:00 - 18:00	220	94	314
18:00 - 19:00	188	109	296

Summary

35. The revised trip generation profile has considered the different land uses proposed within the development site. It has utilised existing travel data to consider how people who live within residential developments travel on a daily basis. Therefore, we feel that this is an appropriate and robust way to consider the trip generating potential of the proposed development.
36. It should also be highlighted that no discounting has been undertaken for new residents making use of the sustainable travel alternatives proposed for the site, such as improved public transport services, future links to Ditton Station (once re-opened) and cycle and pedestrian infrastructure. The nature of this infrastructure is still being considered in detail and will form an integral part of the forthcoming planning submission. In addition, this analysis does not make an allowance for any changes in travel behaviour – including reductions in car use – as a result of the COVID-19 pandemic.

Encl.**TRICS Output Files – Residential Development****TRICS Output Files – Primary School****N.T.S 0502 – Journey Purpose****N.T.S 0614 – Education Mode Split**

TRICS Output Files – Residential Development

Calculation Reference: AUDIT-715001-220420-0408

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL VEHICLESSelected regions and areas:

02	SOUTH EAST	
	ES	EAST SUSSEX 2 days
	EX	ESSEX 1 days
	HC	HAMPSHIRE 4 days
	HF	HERTFORDSHIRE 1 days
	KC	KENT 2 days
	SC	SURREY 1 days
	WS	WEST SUSSEX 4 days
04	EAST ANGLIA	
	NF	NORFOLK 3 days
05	EAST MIDLANDS	
	DS	DERBYSHIRE 1 days
06	WEST MIDLANDS	
	ST	STAFFORDSHIRE 1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NE	NORTH EAST LINCOLNSHIRE 1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
 Actual Range: 110 to 799 (units:)
 Range Selected by User: 100 to 800 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/12 to 23/11/21

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

Selected survey days:

Monday	7 days
Tuesday	2 days
Wednesday	5 days
Thursday	5 days
Friday	2 days

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

Selected survey types:

Manual count	21 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town 21

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

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

Secondary Filtering selection:

Use Class:

C3 21 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,000 or Less	1 days
5,001 to 10,000	7 days
10,001 to 15,000	7 days
15,001 to 20,000	4 days
20,001 to 25,000	2 days

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

Population within 5 miles:

5,001 to 25,000	3 days
25,001 to 50,000	1 days
50,001 to 75,000	2 days
75,001 to 100,000	5 days
125,001 to 250,000	7 days
250,001 to 500,000	3 days

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

Car ownership within 5 miles:

0.6 to 1.0	5 days
1.1 to 1.5	14 days
1.6 to 2.0	2 days

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

Travel Plan:

Yes	13 days
No	8 days

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

PTAL Rating:

No PTAL Present	21 days
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This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	DS-03-A-02	MIXED HOUSES	DERBYSHIRE
	RADBOURNE LANE		
	DERBY		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	371	
	Survey date: TUESDAY	10/07/18	Survey Type: MANUAL
2	ES-03-A-03	MIXED HOUSES & FLATS	EAST SUSSEX
	SHEPHAM LANE		
	POLEGATE		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	212	
	Survey date: MONDAY	11/07/16	Survey Type: MANUAL
3	ES-03-A-04	MIXED HOUSES & FLATS	EAST SUSSEX
	NEW LYDD ROAD		
	CAMBER		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	134	
	Survey date: FRIDAY	15/07/16	Survey Type: MANUAL
4	EX-03-A-03	MIXED HOUSES	ESSEX
	KESTREL GROVE		
	RAYLEIGH		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	123	
	Survey date: MONDAY	27/09/21	Survey Type: MANUAL
5	HC-03-A-24	MIXED HOUSES & FLATS	HAMPSHIRE
	STONEHAM LANE		
	EASTLEIGH		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	243	
	Survey date: WEDNESDAY	10/11/21	Survey Type: MANUAL
6	HC-03-A-25	MIXED HOUSES & FLATS	HAMPSHIRE
	BARNFIELD WAY		
	NEAR SOUTHAMPTON		
	HEDGE END		
	Edge of Town		
	Out of Town		
	Total No of Dwellings:	250	
	Survey date: TUESDAY	12/10/21	Survey Type: MANUAL
7	HC-03-A-26	MIXED HOUSES & FLATS	HAMPSHIRE
	BOTLEY ROAD		
	WHITELEY		
	Edge of Town		
	Out of Town		
	Total No of Dwellings:	270	
	Survey date: THURSDAY	24/06/21	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15	NF-03-A-30 BRANDON ROAD SWAFFHAM	MIXED HOUSES		NORFOLK
	Edge of Town Residential Zone Total No of Dwellings:		266	
	Survey date: THURSDAY		23/09/21	Survey Type: MANUAL
16	SC-03-A-05 REIGATE ROAD HORLEY	MIXED HOUSES		SURREY
	Edge of Town Residential Zone Total No of Dwellings:		207	
	Survey date: MONDAY		01/04/19	Survey Type: MANUAL
17	ST-03-A-07 BEACONSIDE STAFFORD MARSTON GATE	DETACHED & SEMI-DETACHED		STAFFORDSHIRE
	Edge of Town Residential Zone Total No of Dwellings:		248	
	Survey date: WEDNESDAY		22/11/17	Survey Type: MANUAL
18	WS-03-A-04 HILLS FARM LANE HORSHAM BROADBRIDGE HEATH	MIXED HOUSES		WEST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings:		151	
	Survey date: THURSDAY		11/12/14	Survey Type: MANUAL
19	WS-03-A-06 ELLIS ROAD WEST HORSHAM S BROADBRIDGE HEATH	MIXED HOUSES		WEST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings:		799	
	Survey date: THURSDAY		02/03/17	Survey Type: MANUAL
20	WS-03-A-08 ROUNDSTONE LANE ANGMERING	MIXED HOUSES		WEST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings:		180	
	Survey date: THURSDAY		19/04/18	Survey Type: MANUAL
21	WS-03-A-14 TODDINGTON LANE LITTLEHAMPTON WICK	MIXED HOUSES		WEST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings:		117	
	Survey date: WEDNESDAY		20/10/21	Survey Type: MANUAL

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
SF-03-A-10	COVID-19 Affected Survey
WS-03-A-12	COVID-19 Affected Survey
WS-03-A-13	COVID-19 Affected Survey

Vectos (North) Limited 4th Floor, Oxford Place, 61 Oxford St Manchester

Licence No: 715001

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Total People to Total Vehicles ratio (all time periods and directions): 1.71

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	21	261	0.083	21	261	0.325	21	261	0.408
08:00 - 09:00	21	261	0.132	21	261	0.390	21	261	0.522
09:00 - 10:00	21	261	0.137	21	261	0.172	21	261	0.309
10:00 - 11:00	21	261	0.121	21	261	0.146	21	261	0.267
11:00 - 12:00	21	261	0.129	21	261	0.149	21	261	0.278
12:00 - 13:00	21	261	0.139	21	261	0.146	21	261	0.285
13:00 - 14:00	21	261	0.153	21	261	0.143	21	261	0.296
14:00 - 15:00	21	261	0.159	21	261	0.176	21	261	0.335
15:00 - 16:00	21	261	0.258	21	261	0.171	21	261	0.429
16:00 - 17:00	21	261	0.278	21	261	0.159	21	261	0.437
17:00 - 18:00	21	261	0.353	21	261	0.149	21	261	0.502
18:00 - 19:00	21	261	0.307	21	261	0.160	21	261	0.467
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.249			2.286			4.535

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

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

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Parameter summary

Trip rate parameter range selected: 110 - 799 (units:)
 Survey date date range: 01/01/12 - 23/11/21
 Number of weekdays (Monday-Friday): 21
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 1
 Surveys manually removed from selection: 3

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

Vectos (North) Limited 4th Floor, Oxford Place, 61 Oxford St Manchester

Licence No: 715001

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Total People to Total Vehicles ratio (all time periods and directions): 1.71

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	21	261	0.122	21	261	0.514	21	261	0.636
08:00 - 09:00	21	261	0.191	21	261	0.779	21	261	0.970
09:00 - 10:00	21	261	0.201	21	261	0.287	21	261	0.488
10:00 - 11:00	21	261	0.186	21	261	0.243	21	261	0.429
11:00 - 12:00	21	261	0.195	21	261	0.244	21	261	0.439
12:00 - 13:00	21	261	0.220	21	261	0.232	21	261	0.452
13:00 - 14:00	21	261	0.244	21	261	0.229	21	261	0.473
14:00 - 15:00	21	261	0.254	21	261	0.284	21	261	0.538
15:00 - 16:00	21	261	0.563	21	261	0.296	21	261	0.859
16:00 - 17:00	21	261	0.534	21	261	0.273	21	261	0.807
17:00 - 18:00	21	261	0.602	21	261	0.257	21	261	0.859
18:00 - 19:00	21	261	0.502	21	261	0.291	21	261	0.793
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.814			3.929			7.743

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

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

TRICS Output Files – Primary School

Calculation Reference: AUDIT-715001-220311-0300

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 04 - EDUCATION

Category : A - PRIMARY

MULTI-MODAL TOTAL VEHICLESSelected regions and areas:

03	SOUTH WEST	
	CW CORNWALL	1 days
	SM SOMERSET	1 days
	WL WILTSHIRE	1 days
08	NORTH WEST	
	LC LANCASHIRE	1 days
10	WALES	
	MT MERTHYR TYDFIL	1 days

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

Primary Filtering selection:

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

Parameter: Number of pupils
 Actual Range: 184 to 449 (units:)
 Range Selected by User: 92 to 449 (units:)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 03/04/19

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

Selected survey days:

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

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

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	2
Neighbourhood Centre (PPS6 Local Centre)	3

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

Selected Location Sub Categories:

Residential Zone	3
Village	2

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

Secondary Filtering selection:

Use Class:

F1(a) 5 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

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

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

Population within 5 miles:

25,001 to 50,000	1 days
50,001 to 75,000	2 days
75,001 to 100,000	1 days
250,001 to 500,000	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	3 days

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

Travel Plan:

No 5 days

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

PTAL Rating:

No PTAL Present 5 days

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

LIST OF SITES relevant to selection parameters

1	CW-04-A-03	PRIMARY ACADEMY	CORNWALL
	TREVERBYN RISE		
	PENRYN		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	440	
	Survey date: THURSDAY	28/03/19	Survey Type: MANUAL
2	LC-04-A-06	PRIMARY SCHOOL	LANCASHIRE
	SEVERN ROAD		
	BLACKPOOL		
	SOUTH SHORE		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Number of pupils:	449	
	Survey date: TUESDAY	27/09/16	Survey Type: MANUAL
3	MT-04-A-01	PRIMARY SCHOOL	MERTHYR TYDFIL
	BRECON ROAD		
	MERTHYR TYDFIL		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	184	
	Survey date: FRIDAY	18/10/13	Survey Type: MANUAL
4	SM-04-A-01	PRIMARY SCHOOL	SOMERSET
	BRIDGWATER ROAD		
	NEAR TAUNTON		
	BATHPOOL		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	407	
	Survey date: THURSDAY	27/09/18	Survey Type: MANUAL
5	WL-04-A-02	C OF E PRIMARY ACADEMY	WILTSHIRE
	HIGH STREET		
	ROWDE		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	199	
	Survey date: WEDNESDAY	03/04/19	Survey Type: MANUAL

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

Vectos (North) Limited 4th Floor, Oxford Place, 61 Oxford St Manchester

Licence No: 715001

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY

MULTI-MODAL TOTAL VEHICLES

Calculation factor: 1 PUPILS

BOLD print indicates peak (busiest) period

Total People to Total Vehicles ratio (all time periods and directions): 2.65

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	336	0.059	5	336	0.031	5	336	0.090
08:00 - 09:00	5	336	0.309	5	336	0.246	5	336	0.555
09:00 - 10:00	5	336	0.039	5	336	0.036	5	336	0.075
10:00 - 11:00	5	336	0.018	5	336	0.018	5	336	0.036
11:00 - 12:00	5	336	0.023	5	336	0.018	5	336	0.041
12:00 - 13:00	5	336	0.019	5	336	0.021	5	336	0.040
13:00 - 14:00	5	336	0.023	5	336	0.032	5	336	0.055
14:00 - 15:00	5	336	0.045	5	336	0.032	5	336	0.077
15:00 - 16:00	5	336	0.173	5	336	0.211	5	336	0.384
16:00 - 17:00	5	336	0.073	5	336	0.111	5	336	0.184
17:00 - 18:00	4	370	0.014	4	370	0.032	4	370	0.046
18:00 - 19:00	3	432	0.015	3	432	0.013	3	432	0.028
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.810			0.801			1.611

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

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

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Parameter summary

Trip rate parameter range selected: 184 - 449 (units:)
 Survey date range: 01/01/13 - 03/04/19
 Number of weekdays (Monday-Friday): 5
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

Vectos (North) Limited 4th Floor, Oxford Place, 61 Oxford St Manchester

Licence No: 715001

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY

MULTI-MODAL TOTAL PEOPLE**Calculation factor: 1 PUPILS****BOLD print indicates peak (busiest) period**

Total People to Total Vehicles ratio (all time periods and directions): 2.65

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	336	0.126	5	336	0.037	5	336	0.163
08:00 - 09:00	5	336	1.220	5	336	0.285	5	336	1.505
09:00 - 10:00	5	336	0.082	5	336	0.107	5	336	0.189
10:00 - 11:00	5	336	0.027	5	336	0.043	5	336	0.070
11:00 - 12:00	5	336	0.039	5	336	0.029	5	336	0.068
12:00 - 13:00	5	336	0.036	5	336	0.046	5	336	0.082
13:00 - 14:00	5	336	0.033	5	336	0.060	5	336	0.093
14:00 - 15:00	5	336	0.122	5	336	0.071	5	336	0.193
15:00 - 16:00	5	336	0.317	5	336	0.993	5	336	1.310
16:00 - 17:00	5	336	0.099	5	336	0.339	5	336	0.438
17:00 - 18:00	4	370	0.024	4	370	0.082	4	370	0.106
18:00 - 19:00	3	432	0.019	3	432	0.027	3	432	0.046
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.144			2.119			4.263

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

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N.T.S 0502 – Journey Purpose

Table NTS0502

Trip start time by trip purpose (Monday to Friday only): England, 2015/2019¹

Start time	Percentage										Unweighted sample size (trips '000s)
	Commuting	Business	Education	Escort education	Shopping	Other work, other escort and personal business	visiting friends / entertainment / sport	Holiday / Day trip / Other	All purposes		
0000 - 0059	49	3	1	-	3	11	27	5	100	1	
0100 - 0159	51	4	-	-	1	8	32	4	100	-	
0200 - 0259	63	3	0	-	2	7	13	10	100	-	
0300 - 0359	62	7	2	-	2	9	8	10	100	1	
0400 - 0459	71	8	-	-	1	8	3	9	100	2	
0500 - 0559	75	6	-	-	1	6	3	7	100	7	
0600 - 0659	66	7	1	-	2	9	4	10	100	20	
0700 - 0759	48	6	14	5	3	14	4	6	100	56	
0800 - 0859	20	3	29	23	4	14	3	4	100	118	
0900 - 0959	11	5	3	7	22	26	15	12	100	58	
1000 - 1059	5	4	2	-	34	24	17	14	100	60	
1100 - 1159	5	4	2	2	35	23	18	11	100	61	
1200 - 1259	7	4	2	2	30	25	20	9	100	58	
1300 - 1359	10	5	2	1	28	24	19	10	100	54	
1400 - 1459	10	4	4	11	25	20	17	10	100	61	
1500 - 1559	7	2	26	21	12	14	12	6	100	112	
1600 - 1659	22	4	7	4	15	20	18	10	100	75	
1700 - 1759	32	3	3	2	12	20	20	8	100	76	
1800 - 1859	21	3	1	1	15	18	31	11	100	55	
1900 - 1959	11	2	1	-	16	18	41	11	100	37	
2000 - 2059	13	3	1	-	14	15	43	11	100	23	
2100 - 2159	14	3	1	-	9	15	49	9	100	16	
2200 - 2259	22	3	-	-	5	11	50	9	100	11	
2300 - 2359	24	2	1	-	3	11	52	6	100	6	
All day	18	4	9	8	17	19	18	9	100	985	

¹ Five survey years combined.

The figures in this table are National Statistics

The results presented in this table are weighted. The base (unweighted sample size) is shown in the table for information. Weights are applied to adjust for non-response to ensure the characteristics of the achieved sample match the population of Great Britain (1995-2012) or England (2013 onwards) and for the drop off in trip recording in diary data. The survey results are subject to sampling error.

Data for 2002-2015 have been revised, see publication for details.

N.T.S 0614 – Education Mode Split

Table NTS0614

Trips to school¹ by main mode, trip length and age: England, 2002 onwards

Select year: 2019

Main mode	Percentage									
	Aged 5-10 years					Aged 11-16 years				
	Under 1 mile	1 to under 2 miles	2 to under 5 miles	5 miles and over	All lengths	Under 1 mile	1 to under 2 miles	2 to under 5 miles	5 miles and over	All lengths
Walk	80	19	1	0	46	95	53	6	0	39
Bicycle	1	4	1	0	1	2	6	3	0	3
Car / van	18	71	87	73	47	3	28	37	36	26
Bus ²	1	5	9	18	5	1	11	50	54	29
Other transport ³	-	1	1	9	1	0	1	5	11	4
All modes	100	100	100	100	100	100	100	100	100	100
Unweighted sample size: trips	3,801	1,770	1,237	582	7,390	1,649	1,455	1,809	1,409	6,322

Select main mode: All modes

Year	Percentage (all modes = 100%)									
	Aged 5-10 years					Aged 11-16 years				
	Under 1 mile	1 to under 2 miles	2 to under 5 miles	5 miles and over	All lengths	Under 1 mile	1 to under 2 miles	2 to under 5 miles	5 miles and over	All lengths
2002	100	100	100	100	100	100	100	100	100	100
2003	100	100	100	100	100	100	100	100	100	100
2004	100	100	100	100	100	100	100	100	100	100
2005	100	100	100	100	100	100	100	100	100	100
2006	100	100	100	100	100	100	100	100	100	100
2007	100	100	100	100	100	100	100	100	100	100
2008	100	100	100	100	100	100	100	100	100	100
2009	100	100	100	100	100	100	100	100	100	100
2010	100	100	100	100	100	100	100	100	100	100
2011	100	100	100	100	100	100	100	100	100	100
2012	100	100	100	100	100	100	100	100	100	100
2013	100	100	100	100	100	100	100	100	100	100
2014	100	100	100	100	100	100	100	100	100	100
2015	100	100	100	100	100	100	100	100	100	100
2016	100	100	100	100	100	100	100	100	100	100
2017	100	100	100	100	100	100	100	100	100	100
2018	100	100	100	100	100	100	100	100	100	100
2019	100	100	100	100	100	100	100	100	100	100

1 Education trips of under 50 miles only.

2 Private and local bus.

3 Rail and other modes of transport.

4 Walk includes all travel on foot. It is also used when respondents ride in non-motorised wheelchairs, prams or pushchairs, as well as when they ride on toy bicycles, roller-skates, skateboards, non-motorised scooters, or when they jog. For example, children who accompany their parents on a visit to the shops on toy bicycles/tricycles (where the parents are walking) are coded as having walked there.

In this table figures show the proportion of trips of that length by that age group which were made using that main mode

The figures in this table are National Statistics.

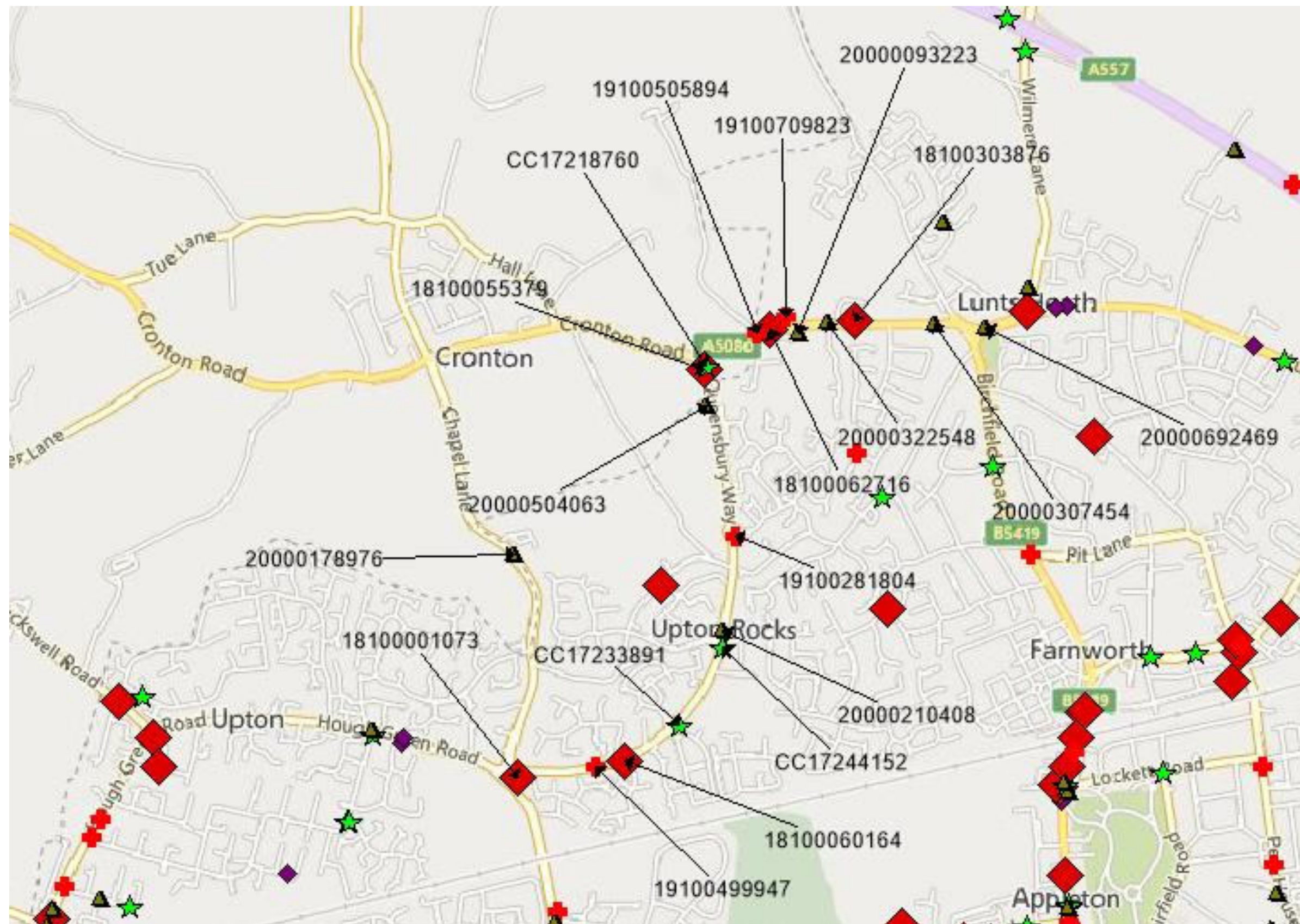
The results presented in this table are weighted. The base (unweighted sample size) is shown in the table for information.

The survey results are subject to sampling error.

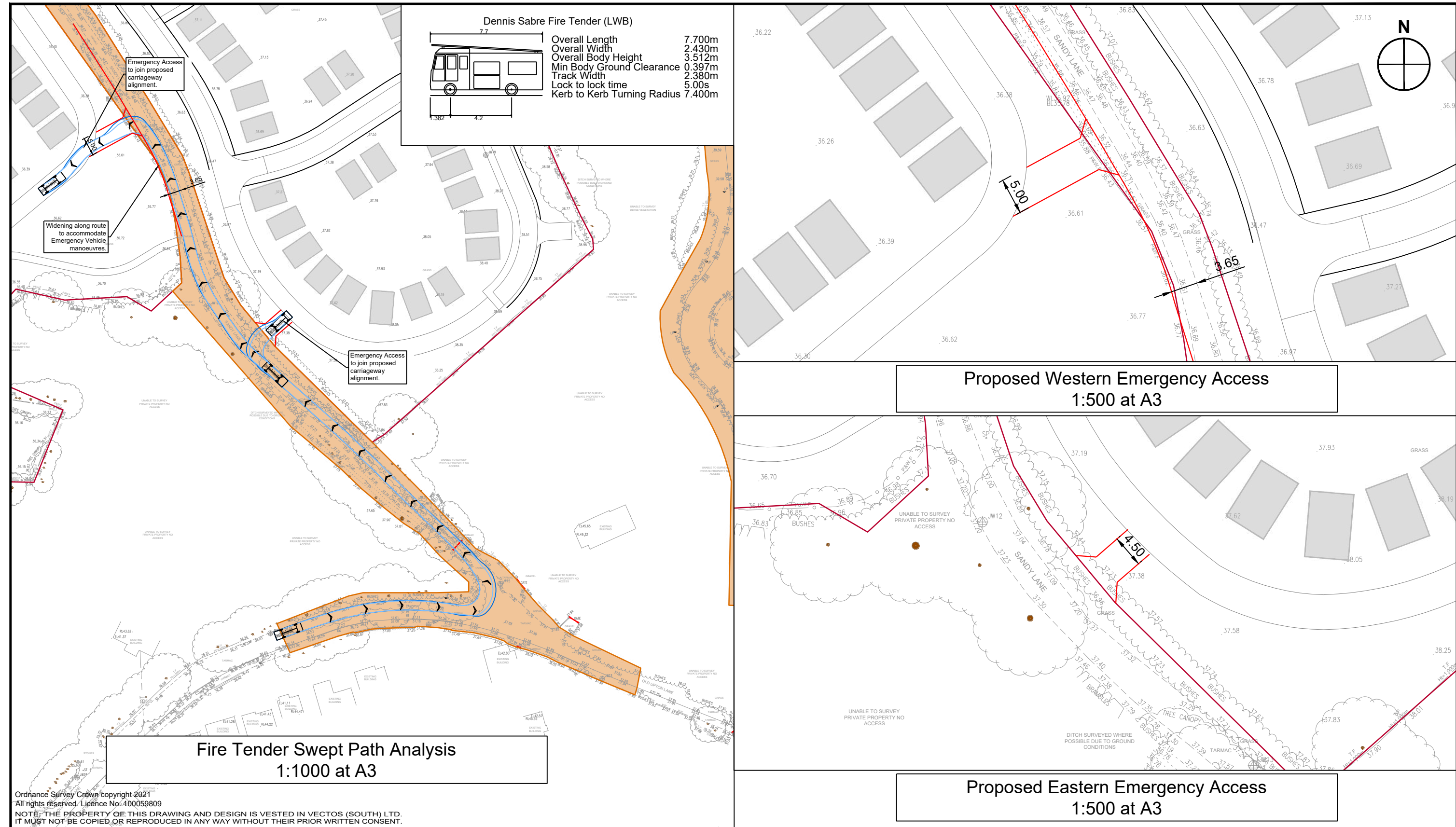
Appendix B

Ref. No.	Date	Time	Easting	Northing	Severity	Road conditions	No. of vehicles	No. of casualties	Weather	Pedestrians	Cycle	Causation Factors	Location	Description
20000178976	23/03/2020	17:15	349644	387676	Slight	Dry	2	1	Fine / dry	0	0	None recorded	Chapel Lane	Description removed
18100001073	10/01/2018	18:43	349654	387006	Slight	Dry	2	1	Fine / dry	0	0	None recorded	Queensbury Way at Prescott Road roundabout	Description removed
19100499947	04/09/2019	14:48	349888	387042	Slight	Dry	1	1	Fine / dry	0	0	403 - Poor turn or manoeuvre	Queensbury Way	Description removed
18100060164	05/03/2018	19:35	349976	387054	Slight	Dry	2	2	Fine / dry	0	0	None recorded	Queensbury Way at Lingwell Avenue roundabout	Description removed
CC17233891	22/07/2017	14:15	350138	387163	Slight	Dry	2	1	Fine / dry	0	0	405 - Failed to look properly 406 - Failed to judge other person's path or speed	Queensbury Way at Galway Avenue roundabout	Description removed
CC17244152	30/07/2017	18:22	350269	387401	Slight	Wet / damp	1	1	Fine / dry	0	0	103 - Slippery Road (due to weather)	Queensbury Way at Lanark Gardens roundabout	Description removed
20000210408	10/04/2020	14:40	350272	387449	Serious	Dry	2	2	Fine / dry	0	0	None recorded	Queensbury Way at Lanark Gardens roundabout	Description removed
19100281804	01/06/2019	14:04	350310	387733	Slight	Dry	1	2	Fine / dry	0	0	505 - Illness or disability, mental or physical	Queensbury Way at Upton Rocks Ave roundabout	Description removed
20000504063	21/08/2020	17:20	350222	388121	Slight	Dry	2	1	Windy / dry	0	0	None recorded	Queensbury Way south of Cronton Lane	Description removed
18100055379	01/03/2018	11:18	359217	388232	Slight	Dry	1	1	Windy / dry	0	0	None recorded	Queensbury Way at Cronton Lane roundabout	Description removed
CC17218760	10/07/2017	10:05	350220	388243	Slight	Wet / damp	1	1	Raining	0	0	101 - Poor or defective road surface 102 - Deposit on road	Queensbury Way at Cronton Lane roundabout	Description removed
19100505894	07/09/2019	17:20	350375	388339	Slight	Dry	2	1	Other	0	0	706 - Vision affected by dazzling sun	Cronton Lane	Description removed
18100062716	08/03/2018	09:26	350411	388350	Slight	Wet / damp	2	1	Raining	0	0	None recorded	Cronton Lane	Description removed
19100709823	04/12/2019	18:00	350463	388390	Slight	Dry	2	1	Fine / dry	0	0	306 - Exceeding speed limit 308 - Following too close 405 - Failed to look properly 406 - Failed to judge other person's path or speed 509 - Distraction in vehicle 706 - Vision affected by dazzling sun	Cronton Lane	Description removed
20000093223	12/02/2020	11:20	350499	388344	Slight	Dry	1	1	Fine / dry	1	0	None recorded	Cronton Lane	Description removed
20000322548	03/06/2020	18:50	350589	388372	Slight	Dry	2	2	Fine / dry	0	0	None recorded	Cronton Lane	Description removed
18100303876	28/09/2018	12:55	350668	388380	Slight	Dry	1	1	Fine / dry	0	0	None recorded	Cronton Lane	Description removed
20000307454	27/05/2020	07:00	350909	388370	Slight	Dry	2	1	Fine / dry	0	0	None recorded	Cronton Lane	Description removed
20000692469	14/11/2020	13:31	351060	388358	Slight	Wet / damp	2	2	Raining	0	0	None recorded	Lunts Heath Road at Birchfield Road roundabout	Description removed

A5080 CRONTON LANE / QUEENSBURY WAY / CHAPEL LANE, WIDNES – RTCs 2017 -2021



Appendix C



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REV.	DETAILS	DRAWN	CHECKED	DATE
1				

INFORMATION ONLY

Notes:

1. This is not a construction drawing and is intended for illustrative purposes only.

2. White lining is indicative only.

Legend:

Land Ownership Boundary

Adopted Highway Data

Chapel Lane, Halton

Proposed Emergency Access

As Shown at A3

Taylor Wimpey

vectorso

PART OFSLR

Ground Floor, Helmont House, Churchill Way, Cardiff CF10 2HE
t: 02920 720 860
e: vectos@vectos.co.uk

DRAWING NUMBER: 216175_PD07

REVISION: .

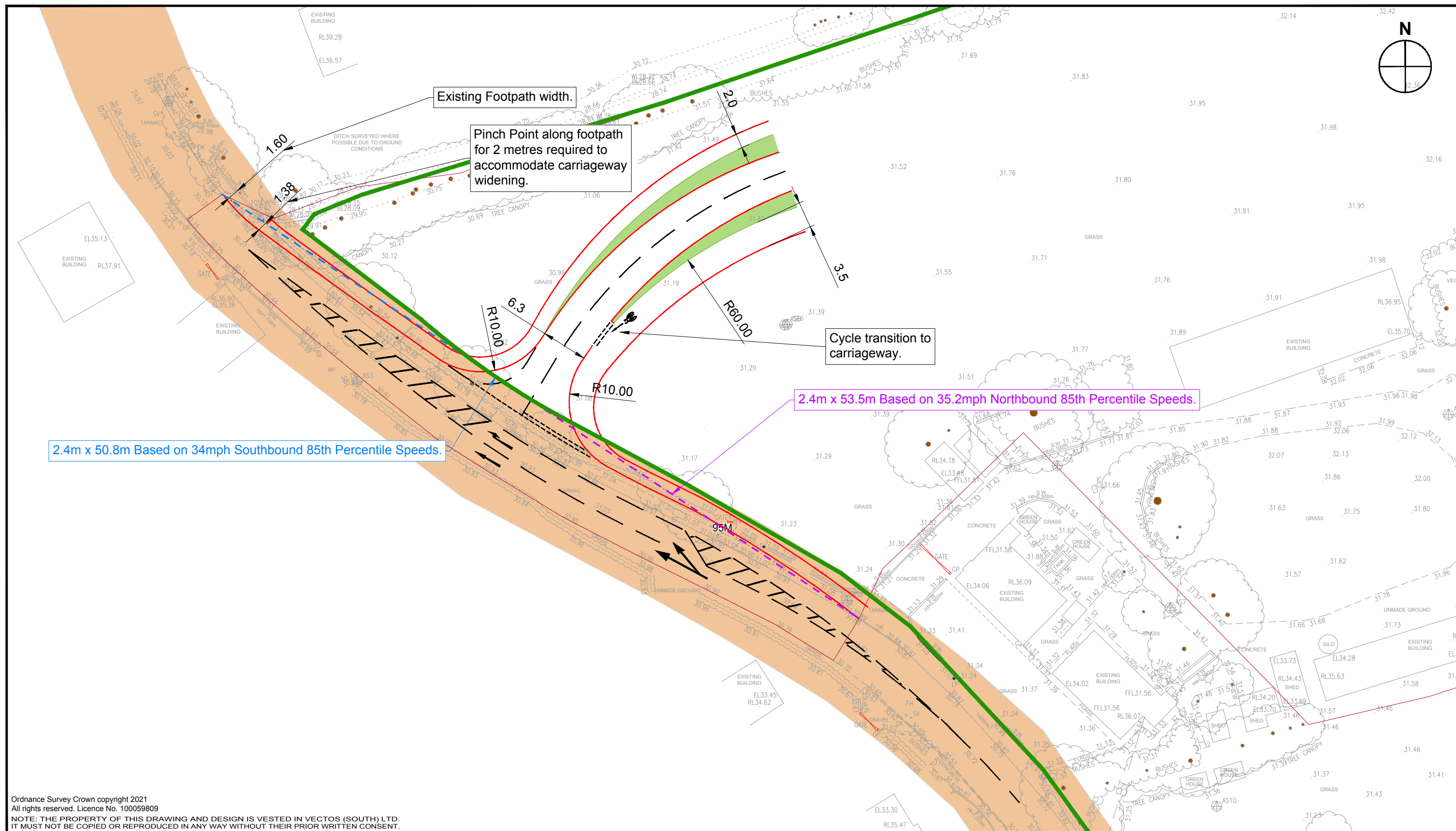
DRAWN: KR

CHECKED: MR

DATE: 09.09.22

SCALES:

Appendix D



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REV.	DETAILS	DRAWN	CHECKED	DATE
A	Ghost Island relocated North.	KR	MR	14.07.22
B	Proposed Access Amended.	KR	MR	14.10.22
C	Red Line Boundary Amended	KR	MR	02.11.22
D	Knowsley Ward Boundary Added	KR	MR	11.11.22
E	Cycle transition added to access	KR	MR	16.11.22

Notes:	
1. This is not a construction drawing and is intended for illustrative purposes only. 2. White lining is indicative only.	
Legend:	
	Land Ownership Boundary
	Adopted Highway Boundary
	Knowsley Ward Boundary - Indicative

INFORMATION ONLY

Chapel Lane, Halton				Taylor Wimpey	
Proposed Ghost Island Arrangement					
Ground Floor, Helmont House, Churchill Way, Cardiff CF10 2HE t: 02920 720 860 e: vectos@vectos.co.uk					
DRAWN: KR	CHECKED: EH	DATE: 11.05.22	SCALES: 1:500 at A3	DRAWING NUMBER: 216175_PD03	REVISION: E

Appendix E

STAGE 1 ROAD SAFETY AUDIT

Taylor Wimpey

Chapel Lane, Halton

October 2022

Halton Borough Council

Stage 1 Road Safety Audit

Report control

Document: Stage 1 Road Safety Audit

Project: Chapel Lane, Halton

Client: Taylor Wimpey

Job number: 216175

File origin: H:\Projects\W210000\216175 - Chapel Lane, Halton\Technical\F - RSA\216175-Chapel Lane Halton-RSAS1 - 031022.docx

Document checking

Primary Author: Alastair Pike

Initialled: AP

Contributor: Wing Lee

Initialled: WL

Review by: Alastair Pike

Initialled: AP

Issue	Date	Status	Checked for issue
1	23/09/2022	DRAFT	WL
2	03/10/2022	FINAL	WL
3			

Contents

1 Introduction 4

 Departures from Standards 5

2 Matters arising from the previous Stage 1 RSA 6

3 Matters arising from this Stage 1 RSA 7

 Drawing No. 216175_PD03 Rev A - Ghost Island Right Turn 7

4 Audit Team Statement 8

Appendices

- Appendix A – Site Location Plan
- Appendix B – Documents Submitted for Audit
- Appendix C – Problem Location Plan

1 Introduction

- 1.1 This report results from a Stage 1 Road Safety Audit (RSA) carried out on Monday 3rd October 2022. The Audit was carried out on behalf of Taylor Wimpey. The Overseeing Organisation for this Stage 1 RSA is Halton Borough Council.
- 1.2 An Audit Brief was prepared by Sasha Boland of Vectos South Ltd on 13th September 2022. This Brief was accepted by the Audit Team on the same date.
- 1.3 This Road Safety Audit team was as follows:
- ALASTAIR PIKE, MICE, MCIHT, MSoRSA, HE Approved Cert. Comp.
Audit Team Leader
Head of Road Safety
Vectos South Limited
- WING LEE, BEng (hons), PGCert, MCIHT, MIHE, HE Approved Cert. Comp.
Audit Team Member
Director
Grange Transport Consulting
- 1.4 A site visit was undertaken on Thursday 22nd September 2022 between the hours of 12:00pm and 13:00pm. The weather was overcast and raining and the carriageway surface wet. At the time of the site visit low levels of vehicular traffic were observed on the surrounding road network.
- 1.5 A site location plan can be found at **Appendix A** of this report.
- 1.6 The terms of reference of the Road Safety Audit are as described in the Design Manual for Roads and Bridges (DMRB) Standard, GG119 Road Safety Audit.
- 1.7 The Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria. However, to clearly explain a safety problem or the recommendation to resolve a problem the Audit Team may, on occasion, have referred to a design standard without touching on technical audit.
- 1.8 The scheme subject to Stage 1 RSA seeks to create a primary site access junction serving a proposed residential development. The access junction is to be arranged as a priority controlled 'T' junction with ghost right hand turn from Chapel Lane.
- 1.9 The scheme will also provide an emergency access to residential parcels both sides of the carriageway from Sandy Lane.
- 1.10 A list of the documents and drawings submitted for this Stage 1 Road Safety Audit can be found at **Appendix B**.
- 1.11 A submitted design drawing has been annotated to show the locations of any problems identified during this Stage 1 Road Safety Audit. This plan can be found at **Appendix C**.

- 1.12 Whilst recommendations have been made within this report, there may be equally satisfactory alternatives. The Audit Team will be pleased to consider alternatives if required.

Departures from Standards

- 1.13 The Audit Team were not informed of any Departures from Standards (DfS) within the proposed designs.

2 Matters arising from the previous Stage 1 RSA

2.1 The Audit Team are not aware of any previous RSA's being undertaken on this design scheme.

3 Matters arising from this Stage 1 RSA

Drawing No. 216175_PD03 Rev A - Ghost Island Right Turn

3.1 Problem.

Location: General.

Summary: Lack of warning signage may lead to injudicious vehicle movements at the junction potentially causing side swipe / shunt type collisions.

Design drawings do not show any new road layout ahead signage or warning to alert approaching drivers to the presence of the proposed access junction. Failure to provide signage of this type may lead to drivers not assimilating the junction in time potentially leading to side swipe / shunt type collisions.

Recommendation:

It is recommended that the appropriate signage is provided on approach to the junction from both directions.

3.2 Problem.

Location A: Chapel Lane proposed site access junction.

Summary: Existing 'slow' road markings not shown to be replaced may lead to excessive vehicle speeds which may in turn contribute to speed related collisions on Chapel Lane.

Design drawings do not show two existing 'slow' road marking to be replaced. These markings are currently located to the east of the site access junction. Failure to replace the markings may lead to speed related collisions on Chapel Lane.

Recommendation:

It is recommended that the existing road markings are replaced in their current location.

4 Audit Team Statement

4.1 We certify that this Audit has been carried out in accordance with the requirements of GG119.

Road Safety Audit Team Leader

Name: Alastair Pike

Signed:



Position: Head of Road Safety

Organisation: Vectos South Ltd

Date: 3rd October 2022.

Road Safety Audit Team Member

Name: Wing Lee

Signed:

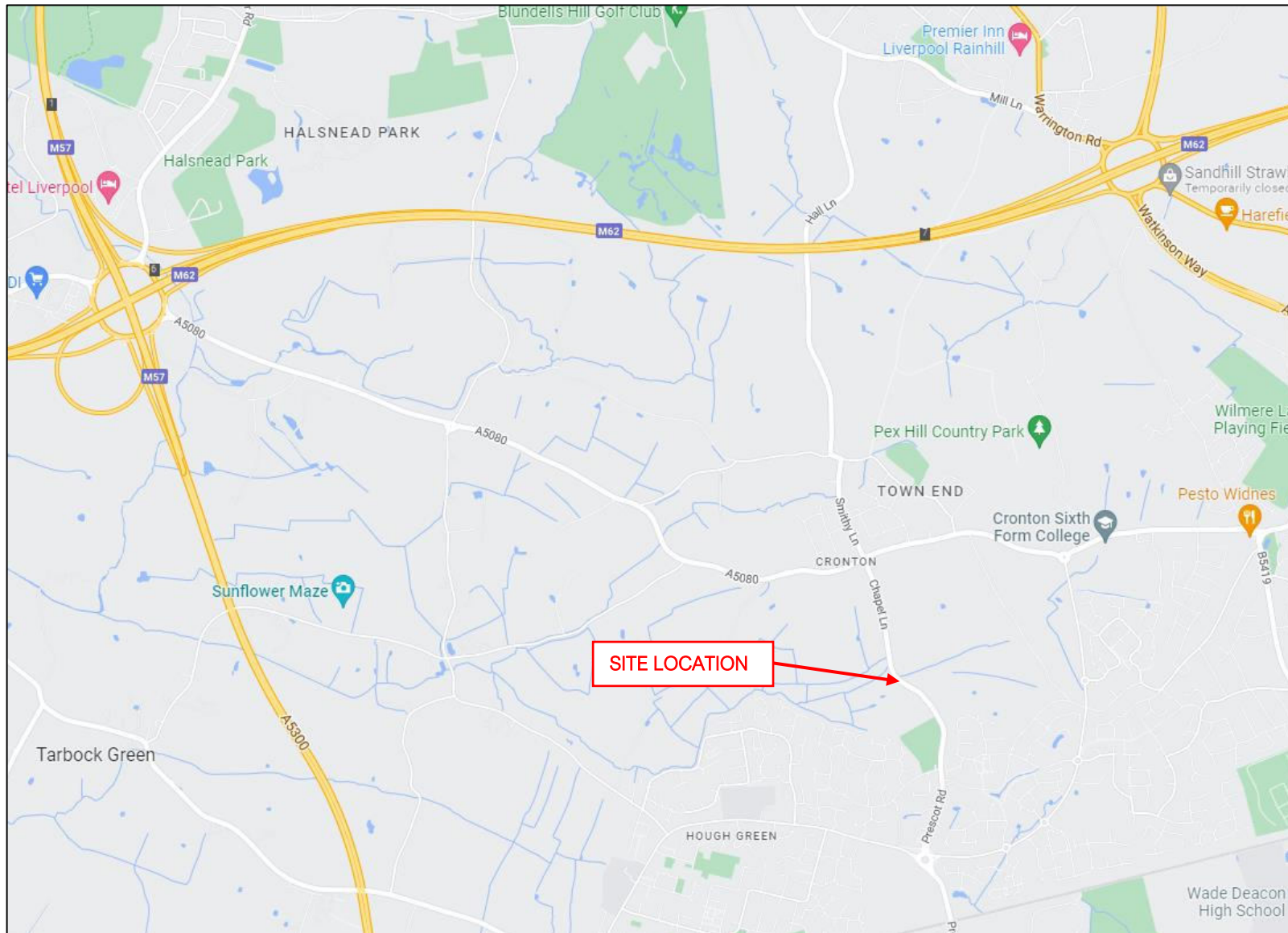


Position: Director

Organisation: Grange Transport Consulting

Date: 3rd October 2022.

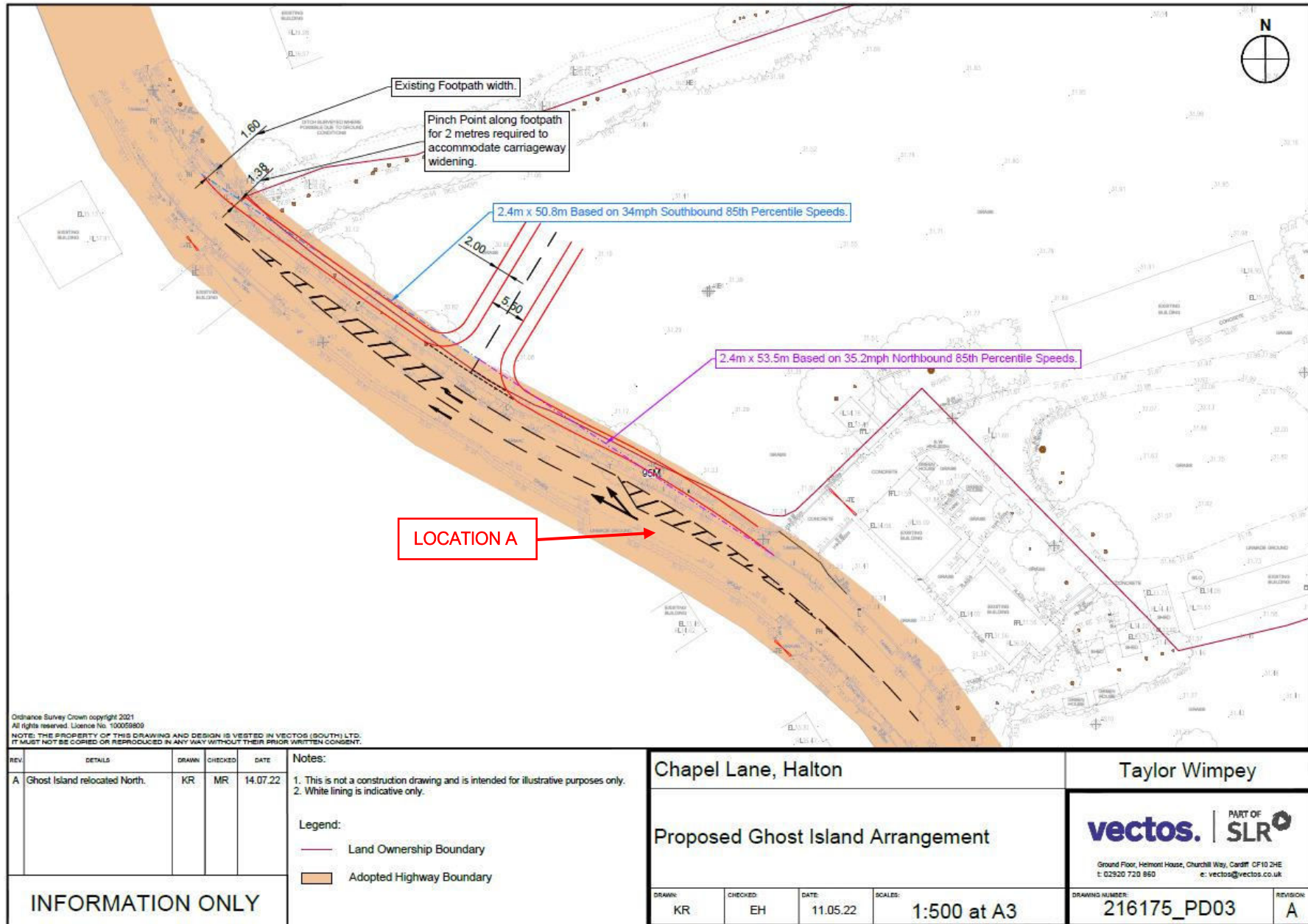
Appendix A



Appendix B

<i>DOCUMENT</i>	<i>DOCUMENT TITLE</i>
Audit Brief	216175 - Chapel Lane - Road Safety Audit Brief V0A
Design Drawing	216175_PD03 Rev A - Ghost Island Right Turn
Design Drawing	216175_PD07 - Emergency Access
Design Drawing	Access Plan
Design Drawing	Local Site Area
Design Drawing	Strategic Site Location

Appendix C



Appendix F

HALE GATE ROAD, HALTON

Trip Generation

1. This note has been prepared by Vectos on behalf of Harworth, who are seeking to submit a hybrid planning application for residential development with some issues reserved but access being determined in full. The planning application will seek the development of up to 500 dwellings, a primary school and local centre.
2. Following a meeting with Halton Borough Council on Thursday 3rd of March. It was agreed that Vectos would consider a revised trip generation profile for the site which too into account the different land uses proposed in more detail. Therefore, this note has been prepared to outline the alternative approach proposed by Vectos.

Previous Trip Generation

3. The previous trip generation presented to Halton Borough Council (HBC) in our scoping correspondence is outlined below.
4. **Table 1** below provides a summary of the trip rates generated and the proposed trips for a development scale of 500 units for the AM peak period, as presented in the Transport Scoping Note provided to Halton Borough Council. **Table 2** shows the trip rates and proposed trips for the PM peak period.

Table 1: AM Peak Trip Rate and Proposed Trips

AM Peak (08:00 – 09:00)	Trip Rate (pre dwelling)			Trips (500 dwellings)		
	Arrive	Depart	Total	Arrive	Depart	Total
Vehicles	0.102	0.364	0.466	51	182	233
Pedestrians	0.023	0.068	0.091	12	34	46
Cyclists	0.008	0.013	0.021	4	7	11
Public Transport	0.000	0.026	0.026	0	13	13

5. **Table 1** highlights that, using the original methodology, a development scale of 500 dwellings would generate 233 two-way vehicle trips and 70 trips by sustainable modes of transport in the AM peak hour.

Table 2: PM Peak Trip Rate and Proposed Trips

PM Peak (17:00 – 18:00)	Trip Rate (pre dwelling)			Trips (500 dwellings)		
	Arrive	Depart	Total	Arrive	Depart	Total
Vehicles	0.313	0.135	0.448	157	68	224
Pedestrians	0.038	0.022	0.06	19	11	30
Cyclists	0.014	0.007	0.021	7	4	11
Public Transport	0.011	0.002	0.013	6	1	7

6. **Table 2** highlights that, using the original methodology, a development scale of 500 dwellings would generate 224 two-way vehicle trips and 48 sustainable transport trips in the PM peak hour.
7. In their response to the Vectos Scoping Note, HBC indicated that they have previously surveyed a single residential cul-de-sac within the authority area. HBC have outlined that the results of this survey suggest

that the AM peak hour trip rate should be closer to 0.8. No further details have been provided by HBC which would allow us to analyse these surveys or consider their appropriateness for our assessment. However, based on HBC's concerns that the original trips rate were too low and did not properly allow for the primary school, a revised trip generation exercise has been undertaken.

Revised Trip Generation

8. The revised trip generation profile considers the different land uses proposed within the site and utilises the TRICS online database, the Census Journey to Work database and the National Travel Survey results.
9. **This approach adopted by Vectos is referred to as Vision and Validate and is firmly enshrined in national policy and guidance. The vision is evidence based, initially using the industry standard tool TRICS to consider the person trips generated by a site of this scale and location and uses the National Travel Survey (NTS) and Census Journey to Work (JTW) databases to consider the trip purpose and mode split of these trips. The NTS and JTW databases are compiled using surveys, travel diaries and face-to-face interviews. Therefore, we consider that the trip generation presented is a realistic representation of the development trip demand on a traditional basis as it uses measured data from existing settlements and does not rely on aspirational modal shift patterns.**
10. As outlined within our Scoping Note, trip rates for the proposed development were established using the TRICS database and the following parameters;
 - Main Land Use, 03 - Residential, Sub Land Use, A – Houses Privately Owned;
 - Surveys undertaken between 2012 – 2021;
 - Site within Edge of Town areas were included, including those with enhanced sustainable transport infrastructure;
 - Sites in Ireland and Greater London were excluded; and,
 - Multi-modal trips were generated.
11. **The results of this exercise indicate that there are 24 sites which match the parameters set out above, 3 of which were undertaken during the COVID-19 pandemic. Therefore, due to the significant changes in travel behaviour which occurred during this period, these surveys were removed from this analysis. As per TRCIS 2021 Best Practice Guidelines a minimum of 20 sites should be used to consider the trip generating potential of proposed developments as highlighted by HBC.**
12. **Based on this a revised trip rate was generated to consider the trip generating potential of the site. Therefore, this assessment meets this requirement by considering 21 sites. The tables in the following sections of this note have been updated accordingly.**
13. For the purposes of this revised assessment, person trip rates have been generated for a residential land use. Following this, the National Travel Survey (N.T.S) Journey Purpose, Census Journey to Work (J.T.W) and N.T.S Journey to School datasets were utilised to consider the number of vehicle trips generated for each land use and journey purpose.
14. In order to consider the external trip generating potential of the proposed primary school within the site, the TRICS database was interrogated for Primary Schools.

15. Further consideration of the trip generating potential of the Local Centre was also requested by HBC. Following a review of the masterplan the local centre is referred to as local community facilities within the masterplan documents and will be located in the centre of the site off the new internal spine road. It will not be located on the periphery of the site.
16. While there may be some element of retail space within the local centre it is unlikely that it will generate a material number of primary trips during the typical peak hours when the road network is at its busiest. Indeed, the majority of trips to the local centre are likely to be residents living within the development or pass-by trips linked to another trip and already present on the local road network e.g., someone visiting when driving home from work. Therefore, we do not feel that it is necessary to include peak hour development trips for a local centre.

Person Trips Rates

17. The person trip rates generated using TRICS and associated trips for 500 dwellings is presented in **Table 3**.

Table 3: TRICS Person Trip Rates

	Trip Rate (per dwelling)			Person Trips (500 dwellings)		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way
07:00 - 08:00	0.122	0.514	0.636	61	257	318
08:00 - 09:00	0.191	0.779	0.970	96	390	485
09:00 - 10:00	0.201	0.287	0.488	101	144	244
10:00 - 11:00	0.186	0.243	0.429	93	122	215
11:00 - 12:00	0.195	0.244	0.439	98	122	220
12:00 - 13:00	0.220	0.232	0.452	110	116	226
13:00 - 14:00	0.244	0.229	0.473	122	115	237
14:00 - 15:00	0.254	0.284	0.538	127	142	269
15:00 - 16:00	0.563	0.296	0.859	282	148	430
16:00 - 17:00	0.534	0.273	0.807	267	137	404
17:00 - 18:00	0.602	0.257	0.859	301	129	430
18:00 - 19:00	0.502	0.291	0.793	251	146	397

Journey Purpose

18. The person trips rates presented in **Table 3** have been broken down by trip purpose for each hour of the day using the N.T.S number 0502. **Table 4** provides a summary of this information. The 2019 N.T.S data has been utilised as this survey information was undertaken prior to the COVID-19 pandemic and are considered to be more representative of non-COVID related travel.

Table 4: N.T.S 0502 Journey Purpose

	Commuting	Education	Recreation/ Leisure
07:00 - 08:00	53%	20%	27%
08:00 - 09:00	23%	51%	26%
09:00 - 10:00	16%	10%	74%
10:00 - 11:00	9%	2%	89%
11:00 - 12:00	9%	3%	88%
12:00 - 13:00	11%	4%	85%
13:00 - 14:00	15%	3%	82%
14:00 - 15:00	14%	15%	72%
15:00 - 16:00	9%	47%	44%
16:00 - 17:00	26%	11%	63%
17:00 - 18:00	36%	5%	59%
18:00 - 19:00	24%	2%	74%

19. **Table 4** highlights that during the typical AM peak period 23% of trips are commuting trips, 51% of trips are for educational purposes and 26% are for recreation/leisure purposes. During the typical PM peak 36% of trips are commuting trips, 5% of trips are for educational purposes and 59% are for recreation/leisure purposes.

Commuting / Employment Trips

20. Following on from this, the person trip rates generated have been broken down by mode to consider the vehicle trips generated for each trip purpose. For commuting trips, the mode split exercise has considered how people travelled to work from the Halton 008 MSOA using the Journey to Work profile in the 2011 Census. **Table 5** provides a summary of this information.

Table 5: Census 2011 JTW Data

Method of Travel to Work	Percentage
Underground, metro, light rail, tram	0%
Train	2%
Bus, minibus or coach	6%
Taxi	0%
Motorcycle, scooter or moped	0%
Driving a car or van	76%
Passenger in a car or van	7%
Bicycle	2%
On foot	7%

21. Using the person trip rates generated in **Table 3**, the trip purpose presented in **Table 4** and the mode split presented in **Table 5**, **Table 6** provides a summary of the proposed commuting vehicle trips generated by the proposed development.

Table 6: Peak Hour Commuting Vehicle Trips

	Arrive	Depart	Two-way
08:00 - 09:00	27	110	137
17:00 - 18:00	127	54	181

Education Trips – Residential Development

22. This section of the note considers the number of education trips which would be generated from the residential led element of the development. For these trips, the mode split was considered using the N.T.S number 0614 – Education Mode Split by Journey Distance information. It is anticipated that 25% of school-age children living in the residential development would access the primary school on-site with these trips excluded from our analysis as they would be internal trip movements within the site. Furthermore, it has been assumed that another 25% of children would access a primary school off-site and the remaining 50% of children will attend a secondary school off-site.
23. The mode split exercise has considered two profiles; one for primary school trips within 1 mile and one for all school aged children outside of 1 mile.
24. **Table 7** provides a summary of the education mode split.

Table 7: Education Mode Split

Mode	Primary within 1 mile	All Ages outside 1 mile
Walk	81%	20%
Bicycle	1%	3%
Car / van	18%	33%
Bus	1%	38%
Other transport	0%	6%

25. Using the person trip rates generated in **Table 3**, the trip purpose presented in **Table 4** and the mode split presented in **Table 7**, **Table 8** provides a summary of the proposed education vehicle trips generated by the proposed development.

Table 8: Education Peak Hour Vehicle Trips (Residential Land Use)

	Arrive	Depart	Two-way
08:00 - 09:00	11	45	56
17:00 - 18:00	3	1	5

26. The comments received by HBC suggested that as a result of the COVID 19 pandemic the number of vehicle trips for educational purposes has increased in the AM peak due to parents driving their children to school and then returning home to work. While we feel this pattern may change over time, consideration has been given to the request from HBC to include these trip movements in our assessment.
27. A review of the working from home data for rural town/urban fringes within Halton indicates that the percentage of people working from home has increased from 8.2% in 2019 to 18.2% in early 2022. This suggests an increased of 10%. While not all of these individuals would have school aged children and not all of these individuals would drive their children to school and return home a 10% uplift has been applied to car / van driving mode presented in **Table 7** for the AM peak period between 08:00 – 10:00.

Education Trips – Primary School On-site

28. As part of the development proposals a single-entry primary school is proposed within the site. It is estimated that this school will accommodate a total of 210 pupils, based upon 6 year group classes and a reception class. It is anticipated that half of these pupils (105) would travel to the site for educational purposes. In order to consider the trip generating potential of these pupils the TRICS database was considered using the following parameters;

- Main Land Use, 04 - Education, Sub Land Use, A – Primary;
- Surveys undertaken between 2013 – 2019;
- Site within Suburban Areas and Neighbourhood Centre;
- Sites in Ireland and Greater London were excluded; and,
- Multi-modal trips were generated.

29. **Table 9** provides a summary of the trip rates and proposed trips with the full TRICS output files included at the end of this note. The TRICS profile for primary schools does not extend to the typical peak period presented for the other land uses within the site, therefore trips have been presented for the afternoon peak period between 15:00 – 16:00.

Table 9: Education Peak Hour Vehicle Trips (Educational Land Use)

	Trip Rate (per pupil)			Vehicle Trips (105 pupils)		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way
07:00 - 08:00	0.309	0.246	0.555	32	26	58
15:00 - 16:00	0.173	0.211	0.384	18	22	40

30. Initial comments from HBC requested further information be provided in relation to how children will travel to school until the new on-site school is constructed. Officers suggested that a sensitivity test may be required. However, Vectos do not consider it necessary to complete an additional sensitivity test for the school given that the above methodology provides a robust assessment of school trips as outlined below.

31. In terms of the school trips, the calculations presented assumes that 25% of primary school trips would be within 1 mile and 75% of all school trips would be outside 1 mile. There is a primary school within 1 mile of the site, and it would be reasonable to assume that some of the pupils from the site would attend this school. In addition, we have also assumed that 50% of children would travel to the school from off-site, even though in reality more children within the development are likely to attend the school. We have also done a TRICS assessment for the primary school and added these trips to the school trip generation providing an assessment of both on-site and off-site trips.

Recreation / Leisure Trips

32. For recreation/leisure trips the 2011 Census Journey to Work data for trips will be utilised to consider the mode split for these trips. While a local centre will be provided on site and some of the recreation/leisure trips are likely to be internal trips, no internalisation factor has been applied to these trips. It has been assumed however that any external trips to the local centre will consist of pass-by traffic during the peak hour.

33. Using the person trip rates generated in **Table 3**, the trip purpose presented in **Table 4** and the mode split presented in **Table 5**, **Table 10** provides a summary of the proposed recreation/leisure vehicle trips generated by the proposed development.

Table 10: Peak Hour Recreation / Leisure Vehicle Trips

	Arrive	Depart	Two-way
08:00 - 09:00	8	34	42
17:00 - 18:00	90	38	128

Total Trips

34. **Table 11** provides a summary of the total trips generated for the site using the above mentioned methodology.

Table 11: Total Development Trips

	Total Residential Development Trips		
	Arrive	Depart	Two-way
07:00 - 08:00	46	171	217
08:00 - 09:00	79	214	293
09:00 - 10:00	75	105	180
10:00 - 11:00	71	93	164
11:00 - 12:00	75	92	167
12:00 - 13:00	83	88	170
13:00 - 14:00	93	88	181
14:00 - 15:00	91	100	191
15:00 - 16:00	161	97	258
16:00 - 17:00	194	107	301
17:00 - 18:00	220	94	314
18:00 - 19:00	188	109	296

Summary

35. The revised trip generation profile has considered the different land uses proposed within the development site. It has utilised existing travel data to consider how people who live within residential developments travel on a daily basis. Therefore, we feel that this is an appropriate and robust way to consider the trip generating potential of the proposed development.
36. It should also be highlighted that no discounting has been undertaken for new residents making use of the sustainable travel alternatives proposed for the site, such as improved public transport services, future links to Ditton Station (once re-opened) and cycle and pedestrian infrastructure. The nature of this infrastructure is still being considered in detail and will form an integral part of the forthcoming planning submission. In addition, this analysis does not make an allowance for any changes in travel behaviour – including reductions in car use – as a result of the COVID-19 pandemic.

Encl.**TRICS Output Files – Residential Development****TRICS Output Files – Primary School****N.T.S 0502 – Journey Purpose****N.T.S 0614 – Education Mode Split**

TRICS Output Files – Residential Development

Calculation Reference: AUDIT-715001-220420-0408

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL VEHICLESSelected regions and areas:

02 SOUTH EAST	
ES EAST SUSSEX	2 days
EX ESSEX	1 days
HC HAMPSHIRE	4 days
HF HERTFORDSHIRE	1 days
KC KENT	2 days
SC SURREY	1 days
WS WEST SUSSEX	4 days
04 EAST ANGLIA	
NF NORFOLK	3 days
05 EAST MIDLANDS	
DS DERBYSHIRE	1 days
06 WEST MIDLANDS	
ST STAFFORDSHIRE	1 days
07 YORKSHIRE & NORTH LINCOLNSHIRE	
NE NORTH EAST LINCOLNSHIRE	1 days

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

Primary Filtering selection:

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

Parameter: No of Dwellings
 Actual Range: 110 to 799 (units:)
 Range Selected by User: 100 to 800 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/12 to 23/11/21

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

Selected survey days:

Monday	7 days
Tuesday	2 days
Wednesday	5 days
Thursday	5 days
Friday	2 days

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

Selected survey types:

Manual count	21 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town 21

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

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

Secondary Filtering selection:

Use Class:

C3 21 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,000 or Less	1 days
5,001 to 10,000	7 days
10,001 to 15,000	7 days
15,001 to 20,000	4 days
20,001 to 25,000	2 days

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

Population within 5 miles:

5,001 to 25,000	3 days
25,001 to 50,000	1 days
50,001 to 75,000	2 days
75,001 to 100,000	5 days
125,001 to 250,000	7 days
250,001 to 500,000	3 days

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

Car ownership within 5 miles:

0.6 to 1.0	5 days
1.1 to 1.5	14 days
1.6 to 2.0	2 days

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

Travel Plan:

Yes	13 days
No	8 days

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

PTAL Rating:

No PTAL Present	21 days
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This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	DS-03-A-02 RADBOURNE LANE DERBY	MIXED HOUSES	DERBYSHIRE
	Edge of Town Residential Zone Total No of Dwellings: 371 Survey date: TUESDAY 10/07/18		Survey Type: MANUAL
2	ES-03-A-03 SHEPHAM LANE POLEGATE	MIXED HOUSES & FLATS	EAST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings: 212 Survey date: MONDAY 11/07/16		Survey Type: MANUAL
3	ES-03-A-04 NEW LYDD ROAD CAMBER	MIXED HOUSES & FLATS	EAST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings: 134 Survey date: FRIDAY 15/07/16		Survey Type: MANUAL
4	EX-03-A-03 KESTREL GROVE RAYLEIGH	MIXED HOUSES	ESSEX
	Edge of Town Residential Zone Total No of Dwellings: 123 Survey date: MONDAY 27/09/21		Survey Type: MANUAL
5	HC-03-A-24 STONEHAM LANE EASTLEIGH	MIXED HOUSES & FLATS	HAMPSHIRE
	Edge of Town Residential Zone Total No of Dwellings: 243 Survey date: WEDNESDAY 10/11/21		Survey Type: MANUAL
6	HC-03-A-25 BARNFIELD WAY NEAR SOUTHAMPTON HEDGE END	MIXED HOUSES & FLATS	HAMPSHIRE
	Edge of Town Out of Town Total No of Dwellings: 250 Survey date: TUESDAY 12/10/21		Survey Type: MANUAL
7	HC-03-A-26 BOTLEY ROAD WHITELEY	MIXED HOUSES & FLATS	HAMPSHIRE
	Edge of Town Out of Town Total No of Dwellings: 270 Survey date: THURSDAY 24/06/21		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	HC-03-A-28 EAGLE AVENUE WATERLOOVILLE LOVEDEAN Edge of Town Residential Zone Total No of Dwellings: <i>Survey date: MONDAY</i>	MIXED HOUSES & FLATS 125 <i>08/11/21</i>	HAMPSHIRE <i>Survey Type: MANUAL</i>
9	HF-03-A-03 HARE STREET ROAD BUNTINGFORD Edge of Town Residential Zone Total No of Dwellings: <i>Survey date: MONDAY</i>	MIXED HOUSES 160 <i>08/07/19</i>	HERTFORDSHIRE <i>Survey Type: MANUAL</i>
10	KC-03-A-04 KILN BARN ROAD AYLESFORD DITTON Edge of Town Residential Zone Total No of Dwellings: <i>Survey date: FRIDAY</i>	SEMI-DETACHED & TERRACED 110 <i>22/09/17</i>	KENT <i>Survey Type: MANUAL</i>
11	KC-03-A-07 RECVLVER ROAD HERNE BAY Edge of Town Residential Zone Total No of Dwellings: <i>Survey date: WEDNESDAY</i>	MIXED HOUSES 288 <i>27/09/17</i>	KENT <i>Survey Type: MANUAL</i>
12	NE-03-A-02 HANOVER WALK SCUNTHORPE Edge of Town No Sub Category Total No of Dwellings: <i>Survey date: MONDAY</i>	SEMI DETACHED & DETACHED 432 <i>12/05/14</i>	NORTH EAST LINCOLNSHIRE <i>Survey Type: MANUAL</i>
13	NF-03-A-06 BEAUFORT WAY GREAT YARMOUTH BRADWELL Edge of Town Residential Zone Total No of Dwellings: <i>Survey date: MONDAY</i>	MIXED HOUSES 275 <i>23/09/19</i>	NORFOLK <i>Survey Type: MANUAL</i>
14	NF-03-A-23 SILFIELD ROAD WYMONDHAM Edge of Town Out of Town Total No of Dwellings: <i>Survey date: WEDNESDAY</i>	MIXED HOUSES & FLATS 514 <i>22/09/21</i>	NORFOLK <i>Survey Type: MANUAL</i>

LIST OF SITES relevant to selection parameters (Cont.)

15	NF-03-A-30 BRANDON ROAD SWAFFHAM	MIXED HOUSES		NORFOLK
	Edge of Town Residential Zone Total No of Dwellings:		266	
	Survey date: THURSDAY		23/09/21	Survey Type: MANUAL
16	SC-03-A-05 REIGATE ROAD HORLEY	MIXED HOUSES		SURREY
	Edge of Town Residential Zone Total No of Dwellings:		207	
	Survey date: MONDAY		01/04/19	Survey Type: MANUAL
17	ST-03-A-07 BEACONSIDE STAFFORD MARSTON GATE	DETACHED & SEMI-DETACHED		STAFFORDSHIRE
	Edge of Town Residential Zone Total No of Dwellings:		248	
	Survey date: WEDNESDAY		22/11/17	Survey Type: MANUAL
18	WS-03-A-04 HILLS FARM LANE HORSHAM BROADBRIDGE HEATH	MIXED HOUSES		WEST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings:		151	
	Survey date: THURSDAY		11/12/14	Survey Type: MANUAL
19	WS-03-A-06 ELLIS ROAD WEST HORSHAM S BROADBRIDGE HEATH	MIXED HOUSES		WEST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings:		799	
	Survey date: THURSDAY		02/03/17	Survey Type: MANUAL
20	WS-03-A-08 ROUNDSTONE LANE ANGMERING	MIXED HOUSES		WEST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings:		180	
	Survey date: THURSDAY		19/04/18	Survey Type: MANUAL
21	WS-03-A-14 TODDINGTON LANE LITTLEHAMPTON WICK	MIXED HOUSES		WEST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings:		117	
	Survey date: WEDNESDAY		20/10/21	Survey Type: MANUAL

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
SF-03-A-10	COVID-19 Affected Survey
WS-03-A-12	COVID-19 Affected Survey
WS-03-A-13	COVID-19 Affected Survey

Vectos (North) Limited 4th Floor, Oxford Place, 61 Oxford St Manchester

Licence No: 715001

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL VEHICLES**Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

Total People to Total Vehicles ratio (all time periods and directions): 1.71

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	21	261	0.083	21	261	0.325	21	261	0.408
08:00 - 09:00	21	261	0.132	21	261	0.390	21	261	0.522
09:00 - 10:00	21	261	0.137	21	261	0.172	21	261	0.309
10:00 - 11:00	21	261	0.121	21	261	0.146	21	261	0.267
11:00 - 12:00	21	261	0.129	21	261	0.149	21	261	0.278
12:00 - 13:00	21	261	0.139	21	261	0.146	21	261	0.285
13:00 - 14:00	21	261	0.153	21	261	0.143	21	261	0.296
14:00 - 15:00	21	261	0.159	21	261	0.176	21	261	0.335
15:00 - 16:00	21	261	0.258	21	261	0.171	21	261	0.429
16:00 - 17:00	21	261	0.278	21	261	0.159	21	261	0.437
17:00 - 18:00	21	261	0.353	21	261	0.149	21	261	0.502
18:00 - 19:00	21	261	0.307	21	261	0.160	21	261	0.467
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.249			2.286			4.535

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

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

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The Company accepts no responsibility for loss which may arise from reliance on data contained in the TRICS Database. [No warranty of any kind, express or implied, is made as to the data contained in the TRICS Database.]

Parameter summary

Trip rate parameter range selected:	110 - 799 (units:)
Survey date range:	01/01/12 - 23/11/21
Number of weekdays (Monday-Friday):	21
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	3

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

Vectos (North) Limited 4th Floor, Oxford Place, 61 Oxford St Manchester

Licence No: 715001

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Total People to Total Vehicles ratio (all time periods and directions): 1.71

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	21	261	0.122	21	261	0.514	21	261	0.636
08:00 - 09:00	21	261	0.191	21	261	0.779	21	261	0.970
09:00 - 10:00	21	261	0.201	21	261	0.287	21	261	0.488
10:00 - 11:00	21	261	0.186	21	261	0.243	21	261	0.429
11:00 - 12:00	21	261	0.195	21	261	0.244	21	261	0.439
12:00 - 13:00	21	261	0.220	21	261	0.232	21	261	0.452
13:00 - 14:00	21	261	0.244	21	261	0.229	21	261	0.473
14:00 - 15:00	21	261	0.254	21	261	0.284	21	261	0.538
15:00 - 16:00	21	261	0.563	21	261	0.296	21	261	0.859
16:00 - 17:00	21	261	0.534	21	261	0.273	21	261	0.807
17:00 - 18:00	21	261	0.602	21	261	0.257	21	261	0.859
18:00 - 19:00	21	261	0.502	21	261	0.291	21	261	0.793
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.814			3.929			7.743

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

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

TRICS Output Files – Primary School

Calculation Reference: AUDIT-715001-220311-0300

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 04 - EDUCATION

Category : A - PRIMARY

MULTI-MODAL TOTAL VEHICLESSelected regions and areas:

03	SOUTH WEST	
	CW CORNWALL	1 days
	SM SOMERSET	1 days
	WL WILTSHIRE	1 days
08	NORTH WEST	
	LC LANCASHIRE	1 days
10	WALES	
	MT MERTHYR TYDFIL	1 days

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

Primary Filtering selection:

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

Parameter: Number of pupils
 Actual Range: 184 to 449 (units:)
 Range Selected by User: 92 to 449 (units:)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 03/04/19

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

Selected survey days:

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

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

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	2
Neighbourhood Centre (PPS6 Local Centre)	3

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

Selected Location Sub Categories:

Residential Zone	3
Village	2

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

Secondary Filtering selection:

Use Class:

F1(a) 5 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

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

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

Population within 5 miles:

25,001 to 50,000	1 days
50,001 to 75,000	2 days
75,001 to 100,000	1 days
250,001 to 500,000	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	3 days

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

Travel Plan:

No 5 days

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

PTAL Rating:

No PTAL Present 5 days

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

LIST OF SITES relevant to selection parameters

1	CW-04-A-03	PRIMARY ACADEMY	CORNWALL
	TREVERBYN RISE		
	PENRYN		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	440	
	Survey date: THURSDAY	28/03/19	Survey Type: MANUAL
2	LC-04-A-06	PRIMARY SCHOOL	LANCASHIRE
	SEVERN ROAD		
	BLACKPOOL		
	SOUTH SHORE		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Number of pupils:	449	
	Survey date: TUESDAY	27/09/16	Survey Type: MANUAL
3	MT-04-A-01	PRIMARY SCHOOL	MERTHYR TYDFIL
	BRECON ROAD		
	MERTHYR TYDFIL		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of pupils:	184	
	Survey date: FRIDAY	18/10/13	Survey Type: MANUAL
4	SM-04-A-01	PRIMARY SCHOOL	SOMERSET
	BRIDGWATER ROAD		
	NEAR TAUNTON		
	BATHPOOL		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	407	
	Survey date: THURSDAY	27/09/18	Survey Type: MANUAL
5	WL-04-A-02	C OF E PRIMARY ACADEMY	WILTSHIRE
	HIGH STREET		
	ROWDE		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of pupils:	199	
	Survey date: WEDNESDAY	03/04/19	Survey Type: MANUAL

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

Vectos (North) Limited 4th Floor, Oxford Place, 61 Oxford St Manchester

Licence No: 715001

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY

MULTI-MODAL TOTAL VEHICLES

Calculation factor: 1 PUPILS

BOLD print indicates peak (busiest) period

Total People to Total Vehicles ratio (all time periods and directions): 2.65

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	336	0.059	5	336	0.031	5	336	0.090
08:00 - 09:00	5	336	0.309	5	336	0.246	5	336	0.555
09:00 - 10:00	5	336	0.039	5	336	0.036	5	336	0.075
10:00 - 11:00	5	336	0.018	5	336	0.018	5	336	0.036
11:00 - 12:00	5	336	0.023	5	336	0.018	5	336	0.041
12:00 - 13:00	5	336	0.019	5	336	0.021	5	336	0.040
13:00 - 14:00	5	336	0.023	5	336	0.032	5	336	0.055
14:00 - 15:00	5	336	0.045	5	336	0.032	5	336	0.077
15:00 - 16:00	5	336	0.173	5	336	0.211	5	336	0.384
16:00 - 17:00	5	336	0.073	5	336	0.111	5	336	0.184
17:00 - 18:00	4	370	0.014	4	370	0.032	4	370	0.046
18:00 - 19:00	3	432	0.015	3	432	0.013	3	432	0.028
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.810			0.801			1.611

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

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

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Parameter summary

Trip rate parameter range selected: 184 - 449 (units:)
 Survey date range: 01/01/13 - 03/04/19
 Number of weekdays (Monday-Friday): 5
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

Vectos (North) Limited 4th Floor, Oxford Place, 61 Oxford St Manchester

Licence No: 715001

TRIP RATE for Land Use 04 - EDUCATION/A - PRIMARY

MULTI-MODAL TOTAL PEOPLE**Calculation factor: 1 PUPILS****BOLD print indicates peak (busiest) period**

Total People to Total Vehicles ratio (all time periods and directions): 2.65

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate	No. Days	Ave. PUPILS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	336	0.126	5	336	0.037	5	336	0.163
08:00 - 09:00	5	336	1.220	5	336	0.285	5	336	1.505
09:00 - 10:00	5	336	0.082	5	336	0.107	5	336	0.189
10:00 - 11:00	5	336	0.027	5	336	0.043	5	336	0.070
11:00 - 12:00	5	336	0.039	5	336	0.029	5	336	0.068
12:00 - 13:00	5	336	0.036	5	336	0.046	5	336	0.082
13:00 - 14:00	5	336	0.033	5	336	0.060	5	336	0.093
14:00 - 15:00	5	336	0.122	5	336	0.071	5	336	0.193
15:00 - 16:00	5	336	0.317	5	336	0.993	5	336	1.310
16:00 - 17:00	5	336	0.099	5	336	0.339	5	336	0.438
17:00 - 18:00	4	370	0.024	4	370	0.082	4	370	0.106
18:00 - 19:00	3	432	0.019	3	432	0.027	3	432	0.046
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.144			2.119			4.263

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

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

N.T.S 0502 – Journey Purpose

Table NTS0502

Trip start time by trip purpose (Monday to Friday only): England, 2015/2019¹

	Percentage										Unweighted sample size (trips '000s)
Start time	Commuting	Business	Education	Escort education	Shopping	Other work, other escort and personal business	visiting friends / entertainment / sport	Holiday / Day trip / Other	All purposes		
0000 - 0059	49	3	1	-	3	11	27	5	100	1	
0100 - 0159	51	4	-	-	1	8	32	4	100	-	
0200 - 0259	63	3	0	-	2	7	13	10	100	-	
0300 - 0359	62	7	2	-	2	9	8	10	100	1	
0400 - 0459	71	8	-	-	1	8	3	9	100	2	
0500 - 0559	75	6	-	-	1	6	3	7	100	7	
0600 - 0659	66	7	1	-	2	9	4	10	100	20	
0700 - 0759	48	6	14	5	3	14	4	6	100	56	
0800 - 0859	20	3	29	23	4	14	3	4	100	118	
0900 - 0959	11	5	3	7	22	26	15	12	100	58	
1000 - 1059	5	4	2	-	34	24	17	14	100	60	
1100 - 1159	5	4	2	2	35	23	18	11	100	61	
1200 - 1259	7	4	2	2	30	25	20	9	100	58	
1300 - 1359	10	5	2	1	28	24	19	10	100	54	
1400 - 1459	10	4	4	11	25	20	17	10	100	61	
1500 - 1559	7	2	26	21	12	14	12	6	100	112	
1600 - 1659	22	4	7	4	15	20	18	10	100	75	
1700 - 1759	32	3	3	2	12	20	20	8	100	76	
1800 - 1859	21	3	1	1	15	18	31	11	100	55	
1900 - 1959	11	2	1	-	16	18	41	11	100	37	
2000 - 2059	13	3	1	-	14	15	43	11	100	23	
2100 - 2159	14	3	1	-	9	15	49	9	100	16	
2200 - 2259	22	3	-	-	5	11	50	9	100	11	
2300 - 2359	24	2	1	-	3	11	52	6	100	6	
All day	18	4	9	8	17	19	18	9	100	985	

¹ Five survey years combined.

The figures in this table are National Statistics

The results presented in this table are weighted. The base (unweighted sample size) is shown in the table for information. Weights are applied to adjust for non-response to ensure the characteristics of the achieved sample match the population of Great Britain (1995-2012) or England (2013 onwards) and for the drop off in trip recording in diary data. The survey results are subject to sampling error.

Data for 2002-2015 have been revised, see publication for details.

N.T.S 0614 – Education Mode Split

Table NTS0614

Trips to school¹ by main mode, trip length and age: England, 2002 onwards

Select year: 2019

Main mode	Percentage									
	Aged 5-10 years					Aged 11-16 years				
	Under 1 mile	1 to under 2 miles	2 to under 5 miles	5 miles and over	All lengths	Under 1 mile	1 to under 2 miles	2 to under 5 miles	5 miles and over	All lengths
Walk	80	19	1	0	46	95	53	6	0	39
Bicycle	1	4	1	0	1	2	6	3	0	3
Car / van	18	71	87	73	47	3	28	37	36	26
Bus ²	1	5	9	18	5	1	11	50	54	29
Other transport ³	-	1	1	9	1	0	1	5	11	4
All modes	100	100	100	100	100	100	100	100	100	100
Unweighted sample size: trips	3,801	1,770	1,237	582	7,390	1,649	1,455	1,809	1,409	6,322

Select main mode: All modes

Year	Percentage (all modes = 100%)									
	Aged 5-10 years					Aged 11-16 years				
	Under 1 mile	1 to under 2 miles	2 to under 5 miles	5 miles and over	All lengths	Under 1 mile	1 to under 2 miles	2 to under 5 miles	5 miles and over	All lengths
2002	100	100	100	100	100	100	100	100	100	100
2003	100	100	100	100	100	100	100	100	100	100
2004	100	100	100	100	100	100	100	100	100	100
2005	100	100	100	100	100	100	100	100	100	100
2006	100	100	100	100	100	100	100	100	100	100
2007	100	100	100	100	100	100	100	100	100	100
2008	100	100	100	100	100	100	100	100	100	100
2009	100	100	100	100	100	100	100	100	100	100
2010	100	100	100	100	100	100	100	100	100	100
2011	100	100	100	100	100	100	100	100	100	100
2012	100	100	100	100	100	100	100	100	100	100
2013	100	100	100	100	100	100	100	100	100	100
2014	100	100	100	100	100	100	100	100	100	100
2015	100	100	100	100	100	100	100	100	100	100
2016	100	100	100	100	100	100	100	100	100	100
2017	100	100	100	100	100	100	100	100	100	100
2018	100	100	100	100	100	100	100	100	100	100
2019	100	100	100	100	100	100	100	100	100	100

1 Education trips of under 50 miles only.

2 Private and local bus.

3 Rail and other modes of transport.

4 Walk includes all travel on foot. It is also used when respondents ride in non-motorised wheelchairs, prams or pushchairs, as well as when they ride on toy bicycles, roller-skates, skateboards, non-motorised scooters, or when they jog. For example, children who accompany their parents on a visit to the shops on toy bicycles/tricycles (where the parents are walking) are coded as having walked there.

In this table figures show the proportion of trips of that length by that age group which were made using that main mode

The figures in this table are National Statistics.

The results presented in this table are weighted. The base (unweighted sample size) is shown in the table for information.

The survey results are subject to sampling error.