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Project: Proposed Prescott Park Way Access
Land at Carr Lane, Prescott

Client: United Utilities Property Services

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1 Introduction

Background

- 1.1 CBO Transport Ltd [CBO] has been commissioned by United Utilities Property Services [UUPS] to provide advice on the provision of a new access off Prescott Park Way in Prescott. This access is being proposed in connection with the delivery of a parcel of land off Carr Lane for development.

Local Plan

- 1.2 The parcel of land in question is located on the south side of Carr Lane and Prescott Park Way and is bound by Carr Lane and Prescott Park Way to the north / northeast, residential properties to the south / southeast and parkland to the west. The location of the land is shown in **Figure 1.1**.
- 1.3 UUPS promoted this land through the Knowsley Local Plan process, with the site now being allocated as a Sustainable Urban Extension in the adopted Local Plan Core Strategy dated January 2016. This allocation refers to the delivery of a notional 74 residential dwellings on the site.

Discussions with Knowsley Council

- 1.4 UUPS and CBO held discussions with, and submitted information to, Knowsley Council [KC] back in 2016 regarding the provision of an access to the allocation site from Carr Lane. This culminated in the principle of an access arrangement being agreed from Carr Lane just west of the Prescott Park Way / Carr Lane / Cables Way roundabout.
- 1.5 However, a planning application has since been submitted for land north of Cables Way (application reference 20/00576/HYB) which proposes a left in / left out access arrangement on the north side of Carr Lane just west of the Prescott Park Way / Carr Lane / Cables Way roundabout. If this access were to come forward, KC highways has confirmed that the access previously agreed in principle for this allocation site would no longer be acceptable and could not be delivered.
- 1.6 In light of the above, UUPS and CBO have held extensive discussions with KC highways regarding the provision of an alternative access to the allocation site from Prescott Park Way. Such a solution would provide access to this allocation site whilst at the same time enabling the Carr Lane access for the land north of Cables Way to come forward.
- 1.7 As a result of these discussions, an access solution has been identified in principle to serve the allocation site via Prescott Park Way.
- 1.8 Based on this access solution, and to ensure the access to the allocation site is secured, it has been agreed that an access only application be submitted for the allocation site.
- 1.9 In this context CBO has prepared a plan of an access to the allocation site from Prescott Park Way. This Report has been prepared to set out the justification for, and suitability of, the access proposal to serve the Local Plan allocation and is submitted with a planning application for the proposed access. The planning application is for the junction only and not any development that it would serve. Planning applications for future development would be submitted with a Transport Assessment which would include detailed impact assessment.

Scope of Report

- 1.10 This report has been produced in 5 sections including this introduction.
- 1.11 Section 2 provides a summary of the relevant Policy of the Local Plan, together with details of relevant committed development.
- 1.12 Section 3 provides details of the proposed access, together with the review of a Road Safety Audit carried out for the proposed access.
- 1.13 Section 4 then considers the capacity of the access and adjacent Prescott Park Way / Carr Lane / Cables Way roundabout.
- 1.14 The conclusions and recommendations of the report are included in Section 5.

2 Local Plan Site & Policy and Committed Development

General

- 2.1 This section of the Report considers the site and policy of the Local Plan as relevant to the proposed access off Prescot Park Way, together with other development in the area which Knowsley Council has requested be considered as part of this Report.
- 2.2 **Figure 2.1**, which is an annotated reproduction of the Figure in the Local Plan, shows the area of the development site that would be served by the proposed access as identified in the Local Plan.

Local Plan

- 2.3 In relation to transport, Policy SUE2: Sustainable Urban Extensions – Development Principles of the adopted Local Plan Core Strategy (January 2016) sets out the following development principles for Sustainable Urban Extensions in the authority;
- “a) deliver sustainable development;*
- b) demonstrate a comprehensive approach to the development of the relevant Sustainable Urban Extension and to infrastructure provision;*
- f) include appropriate provision for public open space (POS), walking and cycling routes as part of the Green Infrastructure network.....”*
- g) provide good transport linkages within the relevant Sustainable Urban Extension and with surrounding areas”*
- 2.4 With regard to site specific requirements, these are set out at Appendix E: Sustainable Urban Extension Allocation Profiles of the Local Plan. For the site served by the proposed access, which has a notional capacity of 74 residential dwellings, the key site constraints and opportunities are listed as:
- *“Flood Zones 2 and 3 are located along the northern boundary of the site (Environment Agency Flood Map, February 2014 Update)*
 - *Local Wildlife Site 11 (Carr Lane Lake, Prescot) is adjacent to the northern boundary of the site*
 - *This site is located within the South Prescot Principal Regeneration Area.”*
- 2.5 Based on the above, there is no requirement for a specific access location or form to serve the allocation site.
- 2.6 It is noted that the policy refers to providing good connectivity within the site and to the surrounding area. This application is however for an access only with no development content being applied for. As such, it is expected that connectivity and accessibility will be dealt with in the future as part of any development that comes forward for the site.

Other Development Sites in Surrounding Area

- 2.7 Through discussions with KMBC, they have indicated that there are a number of committed developments in the surrounding area that need to be taken into account. These include:
- Planning Application 12/00400/HYB, Prescot Trade Centre, Oliver Lyme Road, Prescot: Conversion of former watch making factory to form 54 extra care apartments and ancillary uses (Use class C2/C3) together with demolition works to the remaining buildings forming Prescot Trade Centre to allow for the erection of 16 extra care bungalows, and outline application for 62 dwellings;
 - Planning Application 15/00022/OUT, Former Prysmian Cables & Systems, Hall Lane, Prescot: Outline application for mixed use development comprising up to 750 dwellings & up to 92sq.m of commercial / industrial buildings (Use classes B1/B2/B8);
 - Planning Application 18/00062/HYB, Land at Knowsley Lane, Huyton: Detailed application for 4,180sq.m of employment floor space (Use Class B1), 3,275sq.m ancillary floor space (Use Class A1/A4/C1/Sui Generis) and 154 residential dwellings, together with outline application for up to 26,350sq.m of employment floor space (Use class B1);

- Planning Application 19/00684/FUL, Whitakers Garden Centre, Liverpool Road, Prescott: Erection of 227 dwellings;
- Planning Application 20/00204/FUL, Vacant Land West Of Manchester Road Adjacent To Prescott Business Park, Prescott: Erection of a Garden Centre;
- Planning Application 20/00207/FUL, Sinclair Way, Prescott: Home Improvement Centre.

2.8 Although not a committed development, KMBC has indicated that the planning application on land north of Cables Way (application reference 20/00576/HYB) also needs to be included in the assessment of the proposed access.

2.9 With regard to the committed developments bulleted above, KMBC has noted that some of the housing has been built.

Summary

2.10 Based on the Local Plan policies for the proposed site and taking account of the committed / proposed development referred to by KMBC, the access from Prescott Park Way has been progressed.

3 Existing Highway Conditions

Highway Network

Prescot Park Way

- 3.1 Prescot Park Way passes the allocation site frontage over a distance of approximately 30 metres. As it passes the allocation site, the route is approximately 6.6 metres in width at the eastern boundary before widening to around 13 metres as it heads northwest. The route is lit and subject to a 30mph speed limit
- 3.2 Heading north-westbound, Prescot Park Way approaches the eastern boundary of the allocation site in a southeast – northwest direction. As it passes the allocation site, the route curves gently to head north, where it joins Carr Lane and Cables Way via a 3 arm roundabout arrangement.
- 3.3 Prescot Park Way itself is effectively a local road serving a residential link road function between Manchester Road and Carr Lane / Cables Way. As a result, it includes a number of simple priority T junction arrangements serving areas of residential development.

Prescot Park Way / Carr Lane / Cables Way Roundabout

- 3.4 With to the Prescot Park Way /Carr Lane / Cables Way roundabout, this is located approximately 45 metres from the eastern boundary of the allocation site and has an inscribed circle diameter of approximately 45 metres. All arms of the roundabout include a flared approach but retain a single lane width at the give way line.
- 3.5 From the roundabout, Carr Lane heads in a westerly direction and joins Huyton Lane. Cables Way heads in a northeast direction from the roundabout, before heading east to the retail park and on to Manchester Road.

Pedestrian and cycle provision

- 3.6 KC has recently implemented a combined footway / cycleway scheme on the southeast side of Prescot Park Way. This scheme runs along Prescot Park Way from the Carr Lane / Cables Way roundabout, past the allocation site and southeast to Emelia Drive.
- 3.7 At the Prescot Park Way / Carr Lane / Cables Way roundabout, this scheme links to existing footway / cycleway provisions on the south and east sides of the roundabout, which then links to a combined footway / cycleway running east – west on the north side of Carr Lane and Cables Way.
- 3.8 A footway is provided on the north side of Prescot Park Way.

Traffic Speeds

- 3.9 A speed survey has been undertaken on Prescot Park Way in order to ascertain speeds on the approaches to any access. The results of these surveys, which were undertaken on Wednesday 19th May 2021, are included at **Appendix A** and presented in Table 3.1 below.
- 3.10 In considering the results of this survey, DMRB now requires that 85th percentile dry weather speeds be used to determine visibility provision. Given that the speed survey was recorded in the dry, no adjustment therefore needs to be applied to these observed speeds.

Table 3.1: Prescot Park Way Speed Survey Results

	Observed 85 th Percentile Speed (mph)	
	Southeast / Eastbound	Northwest / Westbound
Prescot Park Way	21	30

Personal Injury Accident Record

- 3.11 Based on discussions with Knowsley Council, accident data has been obtained for the study area for the latest five year period. This data is reviewed below, whilst area of the search and accident details are provided at **Appendix B**.

Prescot Park Way

- 3.12 The accident data shows there have been no personal injury accidents recorded on Prescot Park Way past the allocation site frontage during the latest 5 year period.

Prescot Park Way / Carr Lane / Cables Way Roundabout

- 3.13 With regard to the Prescot Park Way / Carr Lane / Cables Way roundabout, the accident data shows there has been one personal injury accident recorded during the latest five year period. This accident occurred on the Carr Lane approach to the roundabout in November 2017 and was a slight injury accident. The accident occurred when a motorcyclist lost control due to a large amount of mud and stones on the road.

Summary

- 3.14 Based on the above it is evident that there is no notable highway safety issue in the immediate vicinity of the allocation site. As a result, it is considered that there are no existing highway safety issues in the immediate vicinity of the site upon which the allocation site would impact.

4 Proposed Access

Form and Location of Access

- 4.1 Based on the notional number of dwellings identified in the site's allocation, the access is required to serve a notional 74 residential dwellings. As set out in Section 3, Prescott Park Way is effectively a local road serving a residential link road function between Manchester Road and Carr Lane / Cables Way. As a result and as also set out in Section 3, it includes a number of simple priority T junction arrangements serving areas of residential development.
- 4.2 This existing function and arrangement point to a priority controlled junction being the most appropriate form of junction.
- 4.3 However, due to the short land frontage on Prescott Park Way and how this necessitates the access being located in close proximity to the Prescott Park Way / Carr Lane / Cables Way roundabout, it is not considered appropriate to allow the right turn movement out of the allocation site. Consequently, it is proposed that the access prohibit this movement, requiring traffic travelling east on Prescott Park Way to undertake a U-turn manoeuvre at the Prescott Park Way / Carr Lane / Cables Way roundabout.
- 4.4 With regard to the location of the access, the proximity of the Prescott Park Way / Carr Lane / Cables Way roundabout clearly points to it being situated as close as possible to the eastern boundary of the allocation site.

Proposed Access Junction

General

- 4.5 Planning permission is being sought for the access itself, the first section of the road serving the site and a section of drainage for the access. This is shown by the red line boundary plan which is included in **Appendix C**. Specific development contents and internal site arrangements will be the subject of future planning applications for development on the site. These future applications would need to show that the access under consideration in this application could suitably accommodate the development being proposed.

Junction layout

- 4.6 Based on the analysis in this section the proposed junction is shown on **drawing CBO-0206-012 Rev C** which is included in **Appendix C**. As set out above, this drawing shows a priority junction site access arrangement which includes a central island on the access itself and on Prescott Park Way in order to prevent the right turn movement out of the access. All other movements would be permitted.
- 4.7 Based on this principle, **drawing CBO-0206-012 Rev C** shows a 3.6 to 5.8 metre wide left turn only egress lane from the site. This egress lane joins Prescott Park Way via a 10 metre radius and is separated from the entry lane by a circa 8.5 metre wide central island. To prevent the right turn movement out of the access, the drawing then shows the splitter island on the Prescott Park Way arm of the Prescott Park Way / Carr Lane / Cables Way roundabout being extended to a point circa 4 metres past this island on the access.
- 4.8 To accommodate this extended island, **drawing CBO-0206-012 Rev C** also shows the Prescott Park Way kerbline being re-aligned along the site frontage before tying into the roundabout entry to the northwest and the existing Prescott Park Way to the east.
- 4.9 Entering the site, **drawing CBO-0206-012 Rev C** shows the provision of a 6 metre wide entry lane, which joins Prescott Park Way via a 6 metre radius.

Visibility provision

- 4.10 With regard to visibility provision, it has been agreed with Knowsley Council highways that this can be provided based on the standards set out in Manual for Streets [MfS].
- 4.11 Based on MfS, the left turn only exit arrangement and the observed 30mph north-westbound speed referred to in Section 3, a 'y' distance of 43 metres is required to the south-east for vehicles leaving the access. The 2.4 x 59 metre provision shown on drawing CBO-0206-012 Rev C is therefore more than sufficient.

- 4.12 With regard to drivers leaving the roundabout to travel along Prescott Park Way seeing vehicles that may be waiting to turn right into the site, and based on the observed 21mph south-eastbound speed referred to in Section 3, a stopping sight distance of 27 metres is required. The 33 metre provision shown on drawing CBO-0206-012 Rev C is therefore in excess of this provision. It is also sufficient for a design speed of 25mph, which is marginally more than the maximum observed 24mph speed leaving the roundabout.

Pedestrian and cycle provision

- 4.13 In terms of pedestrian and cycle provision, the proposed access would retain the recently implemented combined footway / cycleway scheme on the southeast side of Prescott Park Way, which would be relocated into the island within the site access and along the realigned kerblin between the access and the Prescott Park Way / Carr Lane / Cables Way roundabout.
- 4.14 2 metre wide footways would then be provided on both sides of the access from Prescott Park Way into the allocation site.

Road Safety Audit

- 4.15 Knowsley Council highways has indicated that a Road Safety Audit is required for the proposed access.
- 4.16 A road safety audit was therefore undertaken in January 2022. A copy of this road safety audit, which has been annotated with CBO's responses, is included at **Appendix D**.
- 4.17 The road safety audit at **Appendix D** did not raise any fundamental safety issues with the proposed access. In addition, the issues that were raised are addressed in the responses included on the annotated road safety audit and an updated access drawing **CBO-0206-012 Rev D**, which is included at **Appendix E**.
- 4.18 For completeness, Table 4.1 below summarises the problems / recommendation of the road safety audit, together with the subsequent response.

Table 4.1: Summary of Road Safety Audit Problems, Recommendations & Responses

Problem	Recommendation	Response
The design presents a left turn only out of the development, enforced by a physical island on Prescott Park Way. Drivers wanting to turn right are required to carry out a U-turn at the adjacent roundabout. Prescott Park Way links through to the centre of Prescott which could result in residents and particularly delivery drivers attempting to circumvent the U-turn by passing the wrong side of the traffic island at the development junction in order to turn right onto Prescott Parkway which could result in head on collisions with turning vehicles and vehicle / pedestrian collisions	It is recommended that the traffic island at the junction should be extended as far into the development access as possible without compromising swept paths	The traffic island has been extended into the development access. The revised layout is shown on Drawing Number CBO-0206-012 Rev D at Appendix E
The new alignment of the nearside kerb on the westbound approach to the roundabout from the development junction creates a kink in the alignment that protrudes into the carriageway on the approach to the development junction. The alignment of the subsequent road beyond the junction towards the roundabout could result in vehicles clipping the nearside kerb increasing the risk of loss of control collisions	It is recommended that the kerb line should be realigned to remove the protrusion	The kerblin and central island have been re-aligned to reduce the kink in the alignment. The revised layout is shown on Drawing Number CBO-0206-012 Rev D at Appendix E

Subsequent Changes to the Access Arrangement

- 4.19 As referred to above and shown on Drawing Number CBO-0206-012 Rev D at Appendix E, the following changes have been made to the proposed access to address the finding of the Road Safety Audit:

- The traffic island has been extended into the development access; and
- The kerbline and central island on Prescott Park Way have been re-aligned to reduce the kink in the alignment.

Swept path analysis

4.20 Based on this amended access arrangement, swept path analyses have been undertaken for a number of vehicles using the access and passing by on Prescott Park Way. These swept path analyses are provided at **Appendix E** and include:

- A refuse vehicle turning left and right into the access and left out of the access. This vehicle has been tracked at 10mph for all manoeuvres;
- A car turning left out of, and right into, the access. This vehicle has been tracked at 10mph for all manoeuvres; and
- An articulated HGV passing the site access. This vehicle has been tracked at 25mph heading west past the access then at 15mph turning left at the roundabout. Heading eastbound, the vehicle has been tracked at 10mph as it negotiates the roundabout, speeding up to 20mph as it exits the roundabout and passes the access.

4.21 These swept path analyses show that vehicles can suitably negotiate the proposed access.

Levels

4.22 KC highways has requested that a topographical survey of existing and proposed levels be submitted with the application. Based on a topographical survey, **Drawing number CBO-0206-012 Rev D at Appendix E** therefore shows the existing levels along Prescott Park Way and within the allocation site.

4.23 As can be seen from drawing CBO-0206-012 Rev D, the south-eastern Prescott Park Way channel line rises from around 45.0m to 45.5m as it travels north-westbound past the allocation site frontage. Approximately 12 metres into the allocation site, the topographical survey picks up a 'banking top' line running approximately parallel to Prescott Park Way. The height of this 'bank top' line is within around 300mm of the Prescott Park Way channel line. From here, the site drops to a level of around 43.5 metres.

4.24 Proposed levels for the access road have not been fixed at this stage as the scheme shown on drawing CBO-0206-012 Rev D has only been prepared to a sufficient level of detail for planning purposes. Levels of the access would therefore be determined as part of the detailed design process that would follow the approval of this access only application and once a scheme was prepared for the entire allocation site. However, based on the levels shown on drawing CBO-0206-012 Rev D, it is clear that suitable provision could be made for the access to tie into both Prescott Park Way and the allocation site.

Summary

4.25 Based on the above, it is considered that the provision shown on **drawing number CBO-0206-012 Rev D at Appendix E** provides an appropriate access arrangement for the site and appropriate levels of visibility to enable it to operate safely and efficiently.

4.26 The next section of the report considers the traffic capacity of the junction.

5 Junction Capacity

Context

- 5.1 Although the planning application is for the junction and not any development which would generate traffic in its own right it is clearly important to understand how the proposed junction would operate under potential future traffic demands.
- 5.2 A scenario has therefore been assessed whereby the 74 residential dwellings set out in the Local Plan is served via the proposed junction.
- 5.3 This work is not intended to be a detailed analysis of the potential impact of development on the allocation site but has been prepared to demonstrate that the proposed junction is of an appropriate scale to meet the requirements of the Local Plan policy. Planning applications for future development would be submitted with Transport Assessments which would include this detailed impact assessment.

'Base' Traffic Flows

Observed traffic flows

- 5.4 To inform access considerations, a survey was undertaken on Tuesday 19th October 2021. This consisted of a fully classified turning count at the Prescot Park Way / Carr Lane / Cables Way roundabout between the hours 7:00 – 10:00 and 16:00 – 19:00.
- 5.5 This survey showed that the weekday morning peak occurs during the hour 7:45 to 8:45, whilst the weekday evening peak occurs during the hour 16:45 to 17:45.
- 5.6 Based on the above, **Figure 5.1** shows the observed weekday morning and evening peak traffic flows at the Prescot Park Way / Carr Lane / Cables Way roundabout and past the location of the proposed site access.

Committed development

- 5.7 Section 2 refers to committed developments and the planning application on land north of Cables Way which KMBC has indicated need to be considered in assessment of the access.
- 5.8 Having reviewed each of these applications, they have been taken forward as follows:
 - Planning Application 12/00400/HYB: The Transport Assessment that supported the application assigned no traffic to Prescot Park Way or the Prescot Park Way / Carr Lane / Cables Way roundabout. As a result and given that background growth will be applied, and in a consistent approach to that taken for the planning application on land north of Cables Way, there is considered to be no requirement to specifically allow for this application in the assessment;
 - Planning Application 15/00022/OUT: other than one parcel of land, which accounts for around 11% of the scheme, the residential element of this application is now built and will therefore be included in the October 2021 traffic surveys. As a result and making a robust assumption that 15% of the residential element of the development and all the commercial use are still to be built, and using a combination of the Transport Assessment and Technical Note that supported the application, the traffic flows for the remainder of this application are shown in **Figure 5.2**;
 - Planning Application 18/00062/HYB: The Transport Assessment that supported the application assigned no traffic to Prescot Park Way or the Prescot Park Way / Carr Lane / Cables Way roundabout. As a result and given that background growth will be applied, and in a consistent approach to that taken for the planning application on land north of Cables Way, there is considered to be no requirement to specifically allow for this application in the assessment;
 - Planning Application 19/00684/FUL: This site is located somewhat away from the proposed site, whilst the Transport Assessment Addendum that supported the application assigned no traffic to Manchester Road. It is therefore considered that this development traffic will not pass the proposed site and does not, therefore, need to be accounted for in the assessment;
 - Planning Application 20/00204/FUL: No weekday trip generation and assignment information has been provided with this application. However, a Saturday TRICS output provided as part of a parking accumulation assessment has been used to determine worst case weekday trip rates. Using these rates and assigning 35% along Cables Way, the traffic associated with this application has been allowed for based on the traffic flows shown in **Figure 5.3**. this is considered robust;

- Planning Application 20/00207/FUL: using indicative weekday traffic generations included within a note submitted for this application in response to KC comments, and assuming 50% of traffic travels to and from the west on Cables Way, the traffic generation associated with this application is included in **Figure 5.4**;
- Planning Application 20/00576/HYB: the weekday morning and evening peak traffic flows for this development has been taken from the Transport Assessment that supported the application. These traffic flows are reproduced in **Figure 5.5**.

5.9 Based on the above, **Figure 5.6** shows the total committed development traffic flows included in the assessment.

Traffic growth

- 5.10 In addition to the above and to allow a further level of robustness, the observed traffic flows referred to above have been growthed to allow for some additional background traffic growth. These figures have been growthed using TEMPRO 7.2, the geographical area of 'Knowsley 007', the 'all' parameter and a future year of 2032.
- 5.11 Based on the above and weekday morning and evening peak factors of 1.1058 and 1.1002 respectively, **Figure 5.7** shows the 2032 growthed background traffic flows.

Future year 'base' traffic flows

- 5.12 Adding the committed development traffic flows shown in **Figure 5.6** to the 2032 growthed background traffic flows referred to above, **Figure 5.8** shows the 2032 'base' traffic flows.

Site Allocation Traffic Generation

Traffic Generation

- 5.13 In order to determine a trip generation for the allocation site the TRICS database has been interrogated for the sub land use of 'Houses Privately Owned'. To achieve a broad dataset, sites have been chosen based on a 50 to 130 dwelling range, whilst sites from London and Ireland, as well as those with particularly low trip rates and those include large numbers of bungalows, have been removed. Multi modal sites have also been utilised.
- 5.14 Based on the above methodology, the trip rates for the allocation site are shown in Table 5.1 below, along with the resultant traffic generation based on a 74 dwelling development. The TRICS outputs are included at **Appendix F**.
- 5.15 Note that, for both peak hours, the below numbers relate to the typical 8:00 to 9:00 and 17:00 – 18:00 peak hours and not the observed 7:45 to 8:45 and 16:45 to 17:45 peak hours. The application of these generations to the observed peak hour flows will therefore result in a robust assessment.

Table 5.1: Trip Rates and Traffic Generation (74 Dwellings)

	Weekday Morning Peak			Weekday Evening Peak		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Trip Rate (per dwelling)	0.140	0.408	0.548	0.357	0.154	0.511
Traffic Generation	10	30	40	26	11	37

Trip Distribution

- 5.16 Trip distribution has been based on the 2011 census journey to work (JTW) information using journeys to work made by car drivers. The distribution is based on data at a middle super output area level [MSOA].
- 5.17 MSOA Knowsley 007 has been used in the analysis, which is considered to provide the best approximation of the JTW pattern from the site. Based on this MSOA, work destinations have been used to calculate the work based trip distributions and assignment for residential traffic leaving the site to travel to work. This is summarised below in Table 5.2.
- 5.18 Having determined the destination of car driver based journeys, these journeys have then been manually assigned to the study network based on the following routes / destinations:

- Route 1: Southeast along Prescott Park Way;
- Route 2: West along Carr Lane;
- Route 3: East along Cables Way.

- 5.19 The destination and origin areas associated with the above routes are shown in the information included at **Appendix G**, which provides the raw ward data used to derive the distribution.
- 5.20 Based on the methodology detailed above, Table 5.2 below shows the percentage of development related traffic assigned to each of the three routes.

Table 5.2: Trip Distribution and Assignment

Route	Origin / Destination	Percentage
1	Southeast along Prescott Park Way	20%
2	West along Carr Lane	58%
3	East along Cables Way	22%
Total		100%

Site allocation traffic flows

- 5.21 Based on the above, **Figure 5.9** shows the site allocation traffic flows at the proposed site access and the Prescott Park Way / Carr Lane / Cables Way roundabout.

'With Allocation' Traffic Flows

- 5.22 Adding the 2032 'base' traffic flows shown in **Figure 5.8** to the site allocation traffic flows referred to above, **Figure 5.10** shows the 2032 'With Allocation' traffic flows.

Junction Operation: Proposed Access

- 5.23 Using the Department for Transport's Junctions 9 software a model has been developed of the proposed access using the PICADY module. This model has been used to test the operation of the junction based on the 'with allocation' traffic flows set out above and shown in Figure 5.10. The Junctions 9 results are summarised below in Table 5.3, whilst the outputs are included in **Appendix H**.

Table 5.3: Proposed Site Access - Junction Capacity Assessment Results

	Weekday Morning Peak Hour		Weekday Evening Peak Hour	
	RFC	Q	RFC	Q
Prescot Park Way (right turn)	0.017	0	0.045	0
Site Access (left turn)	0.047	0	0.017	0

RFC: Ratio of Flow to Capacity Q: Queue length in vehicles

- 5.24 The results show that the proposed access would be operating well within capacity with the Local Plan flows. Furthermore, there is clearly reserved capacity to accommodate variations in development content or changes in traffic flow levels on Prescott Park Way.

Junction Operation: Prescott Park Way / Carr Lane / Cables Way

- 5.25 In addition to assessing the proposed site access, KMBC has also asked that the operation of the Prescott Park Way / Carr Lane / Cables Way roundabout be considered.
- 5.26 Using, therefore, the Department for Transport's Junctions 9 software a model has been developed of the roundabout using the ARCADY module. This model has been used to test the operation of the junction based on the observed traffic flows and the 'with allocation' traffic flows set out above and shown in Figure 5.10. The Junctions 9 results are summarised below in Table 5.4, whilst the outputs are included in **Appendix I**.

Table 5.4: Prescott Park Way / Carr Lane / Cables Way - Junction Capacity Assessment Results

	2021 Observed		2032 with Allocation	
	RFC	Q	RFC	Q
Weekday Morning Peak				
Prescot Park Way	0.114	0	0.178	0
Carr Lane	0.253	0	0.321	1
Cables Way	0.141	0	0.186	0
Weekday Evening Peak				
Prescot Park Way	0.071	0	0.105	0
Carr Lane	0.39	1	0.413	1
Cables Way	0.269	0	0.348	1

RFC: Ratio of Flow to Capacity

Q: Queue length in vehicles

- 5.27 The results show that the Prescott Park Way / Carr Lane / Cables Way roundabout would be operating well within capacity with the Local Plan flows. Furthermore, there is clearly reserved capacity to accommodate variations in development content or changes in traffic flow levels through the junction.

Summary

- 5.28 Based on the above, it is considered that the modelling presented demonstrates that the proposed access from Prescott Park Way, together with the adjacent Prescott Park Way / Carr Lane / Cables Way roundabout, has sufficient capacity to accommodate the full delivery of the notional number of dwellings attributed to the site's allocation, together with committed developments in the surrounding area.

6 Conclusions and Recommendations

Conclusions

6.1 Based on the findings of this report it is concluded that:

- UUPS promoted the land through the Knowsley Local Plan process, with the site now being allocated as a Sustainable Urban Extension in the adopted Local Plan Core Strategy dated January 2016. This allocation refers to the delivery of a notional 74 residential dwellings on the site;
- The principle of an access arrangement to the allocation site from Carr Lane just west of the Prescott Park Way / Carr Lane / Cables Way roundabout was agreed with Knowsley Council back in 2016. However, a planning application has since been submitted for land north of Cables Way (application reference 20/00576/HYB) which, if it came forward as proposed, would mean the access previously agreed in principle for this allocation site would no longer be acceptable and could not be delivered;
- UUPS and CBO have held extensive discussions with KC highways regarding the provision of an alternative access to the allocation site from Prescott Park Way which would provide access to this allocation site whilst at the same time enabling the land north of Cables Way to come forward. As a result of these discussions, an access solution has been identified in principle to serve the allocation site via Prescott Park Way.
- Based on this access solution, and to ensure the access to the allocation site is secured, it has been agreed that an access only application be submitted for the allocation site;
- This existing function and arrangement of Prescott Park Way point to a priority controlled junction being the most appropriate form of junction. However, due to the short land frontage on Prescott Park Way and how this necessitates the access being located in close proximity to the Prescott Park Way / Carr Lane / Cables Way roundabout, it is proposed that the access prohibit the right turn movement out of the allocation site, requiring traffic travelling east on Prescott Park Way to undertake a U-turn manoeuvre at the Prescott Park Way / Carr Lane / Cables Way roundabout;
- With regard to the location of the access, the proximity of the Prescott Park Way / Carr Lane / Cables Way roundabout clearly points to it being situated as close as possible to the eastern boundary of the allocation site;
- The proposed access therefore includes a circa 8.5 metre wide central island on the access itself, together with an extended central island on Prescott Park Way approximately 4 metres past the access egress, in order to prevent the right turn movement out of the access. The left turn out of the allocation site would be between 3.6 and 5.8 metres wide as it passes the central island and would join Prescott Park Way via a 10 metre radius. To accommodate the extended island on Prescott Park Way, the Prescott Park Way kerbline would be re-aligned along the site frontage before tying into the roundabout to the northwest. A 6 metre wide entry lane would be provided into the allocation site which joins Prescott Park Way via a 6 metre radius;
- At the request of KC highways, a Road Safety Audit has been undertaken for the proposed access. The recommendations of this audit have been taken on board and the access arrangement amended accordingly;
- The capacity of this access, together with the Prescott Park Way / Carr Lane / Cables Way roundabout, have been tested using observed traffic flows and allowing for committed development, assumptions regarding future year traffic flow and traffic generation for the allocation site derived from the TRICS database;
- The capacity has been tested assuming the full 74 dwelling development uses the access. These tests show the access, together with the Prescott Park Way / Carr Lane / Cables Way roundabout, would be operating well within capacity with the Local Plan flows. Furthermore, there is clearly reserved capacity to accommodate variations in development content or changes in traffic flow levels on Prescott Park Way, Carr Lane and Cables Way;
- In this context the proposed access is acceptable.

Recommendations

6.2 In light of the above it is the recommendation of CBO Transport that planning permission is granted for the proposed junction.



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Figures

Figure 1.1: Site Location

Figure 2.1: Local Plan Allocation Site

Figure 5.1: Observed Traffic Flows

Figure 5.2: Committed Development Traffic Flows: Hall Lane, Prescott (15/00022/OUT)

Figure 5.3: Committed Development Traffic Flows: Manchester Road, Prescott (20/00204/FUL)

Figure 5.4: Committed Development Traffic Flows: Sinclair Way, Prescott (20/00207/FUL)

Figure 5.5: Allowed for Development Traffic Flows: Land North of Cables Way (20/00576/HYB)

Figure 5.6: Total Committed Development Traffic Flows

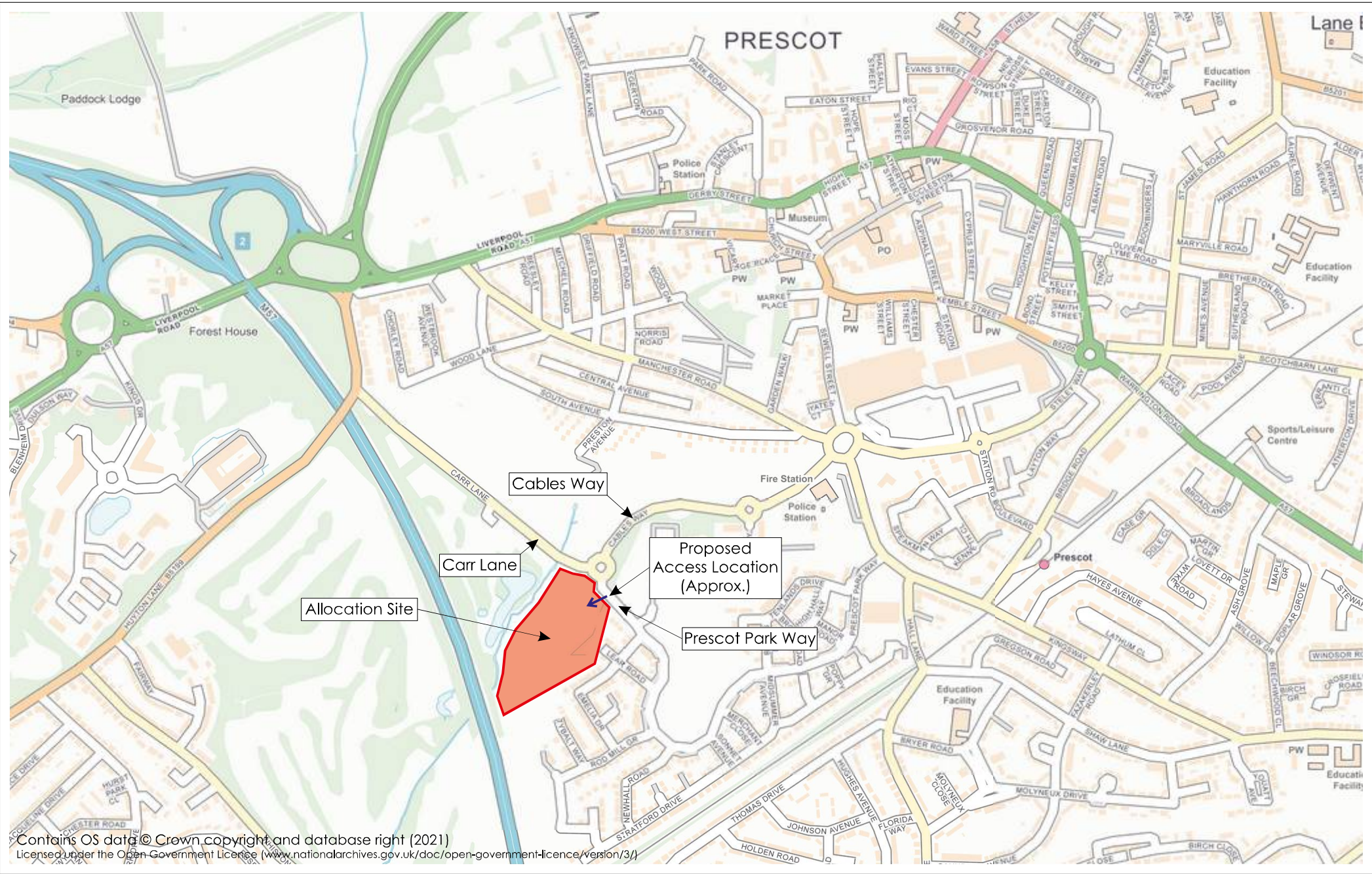
Figure 5.7: 2032 Growthed Background Traffic Flows

Figure 5.8: 2032 'Base' Traffic Flows

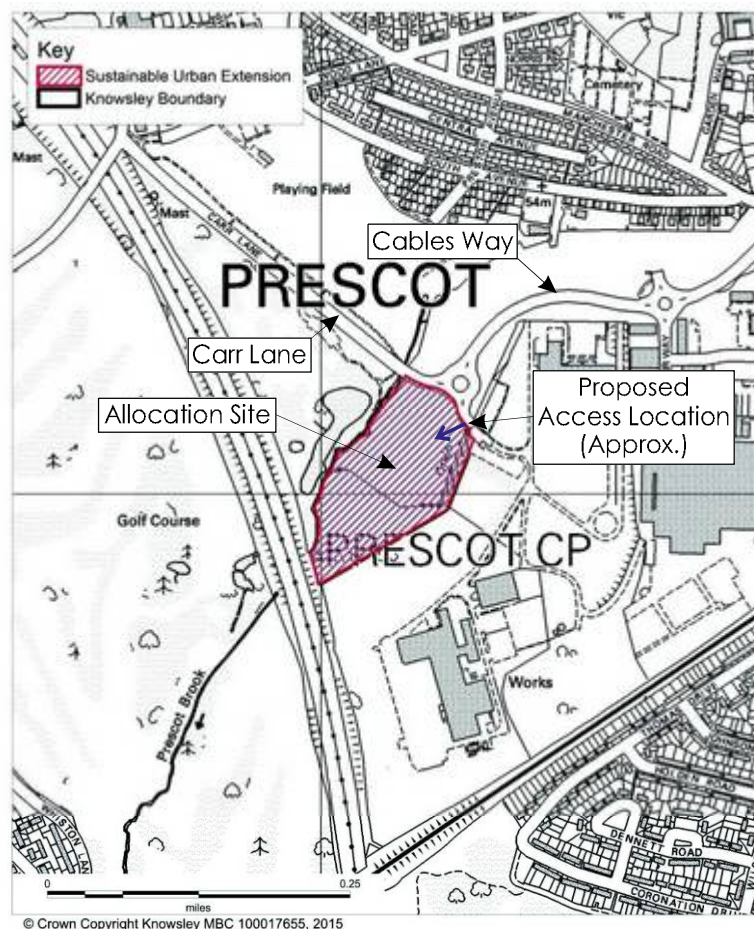
Figure 5.9: Site Allocation Traffic Flows

Figure 5.10: 2032 'With Allocation' Traffic Flows

Figure 1.1 Site Location



Site Name	Carr Lane, Prescot
Gross Site Size	3.31 hectares
Primary proposed use(s)	Residential
Notional Capacity	74 dwellings



Key Site Constraints and Opportunities

- Flood Zones 2 and 3 are located along the northern boundary of the site (Environment Agency Flood Map, February 2014 Update)
- Local Wildlife Site 11 (Carr Lane Lake, Prescot) is adjacent to the northern boundary of the site
- This site is located within the South Prescot Principal Regeneration Area

Figure 5.1 Observed Traffic Flows

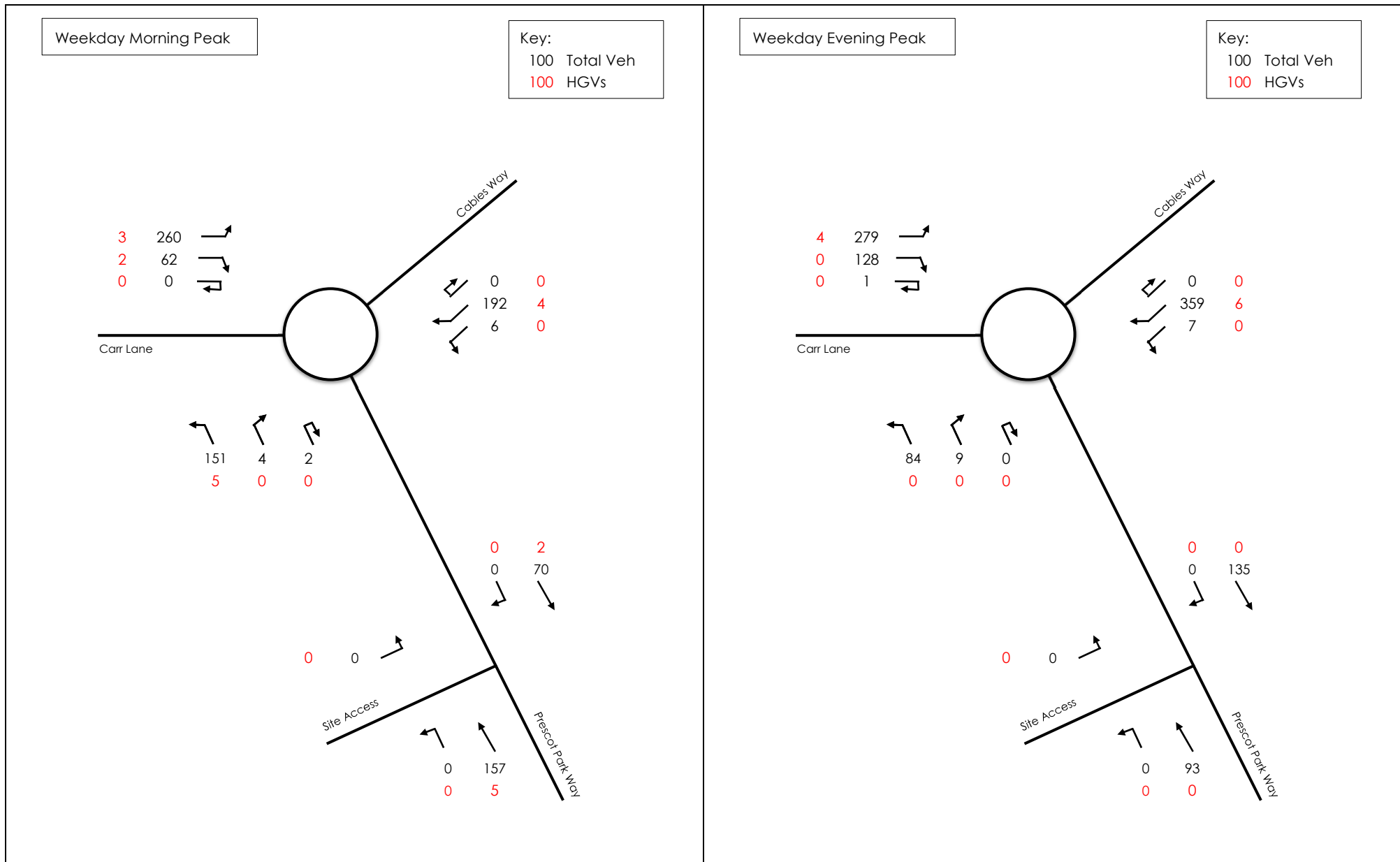


Figure 5.2 Committed Development Traffic Flows: Hall Lane, Prescott (15/00022/OUT)

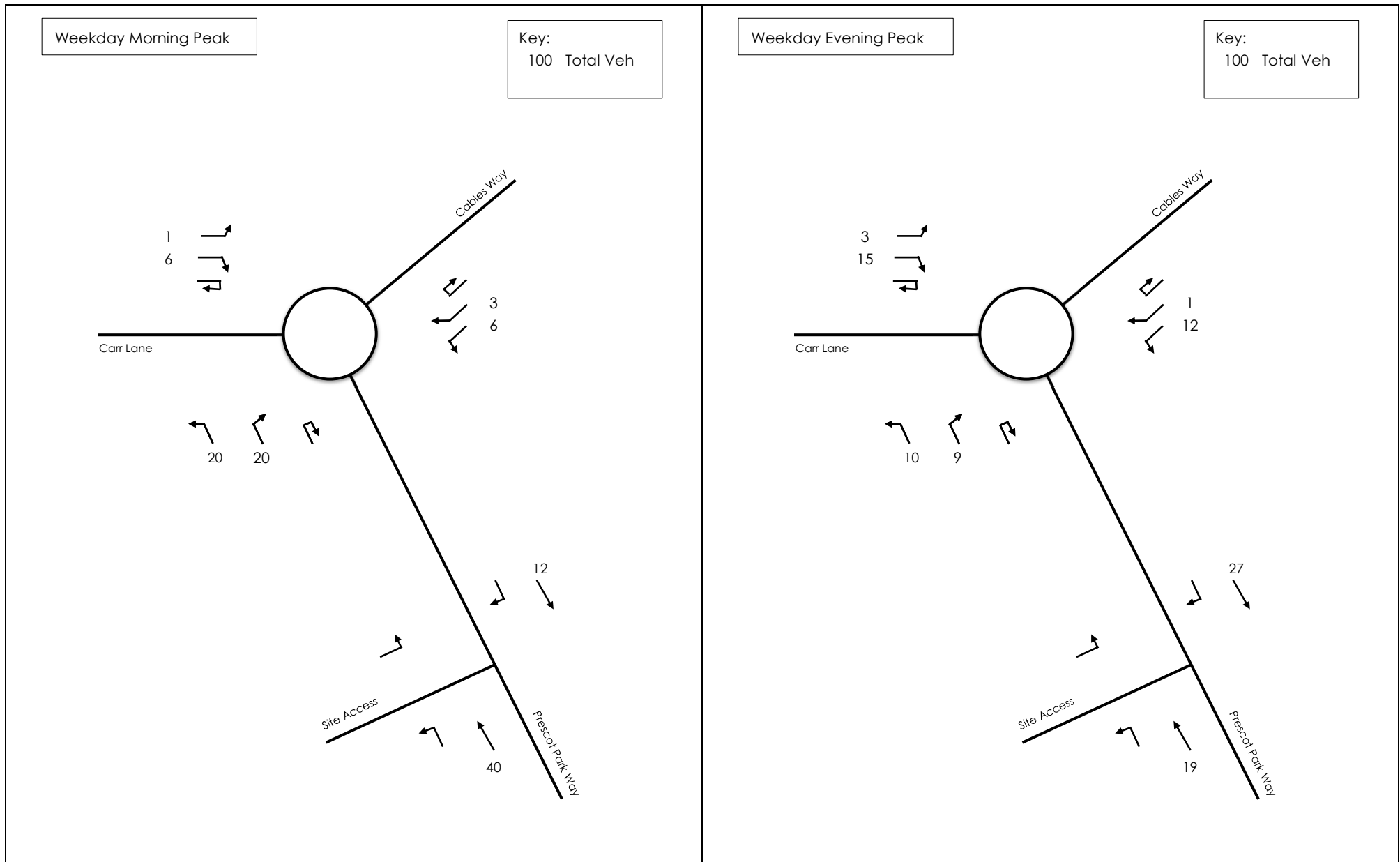


Figure 5.3 Committed Development Traffic Flows: Manchester Road, Prescott (20/00204/FUL)

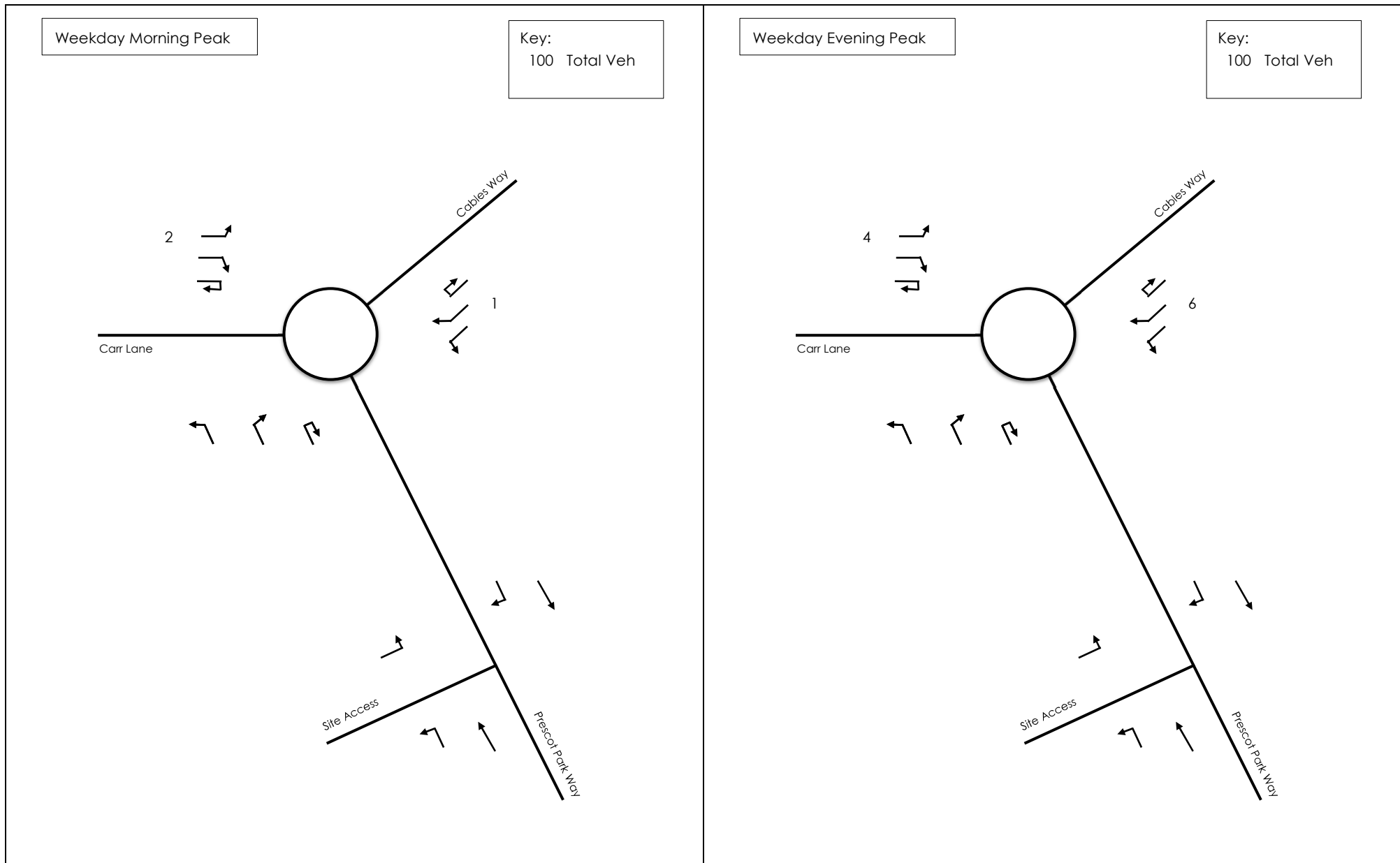


Figure 5.4 Committed Development Traffic Flows: Sinclair Way, Prescott (20/00207/FUL)

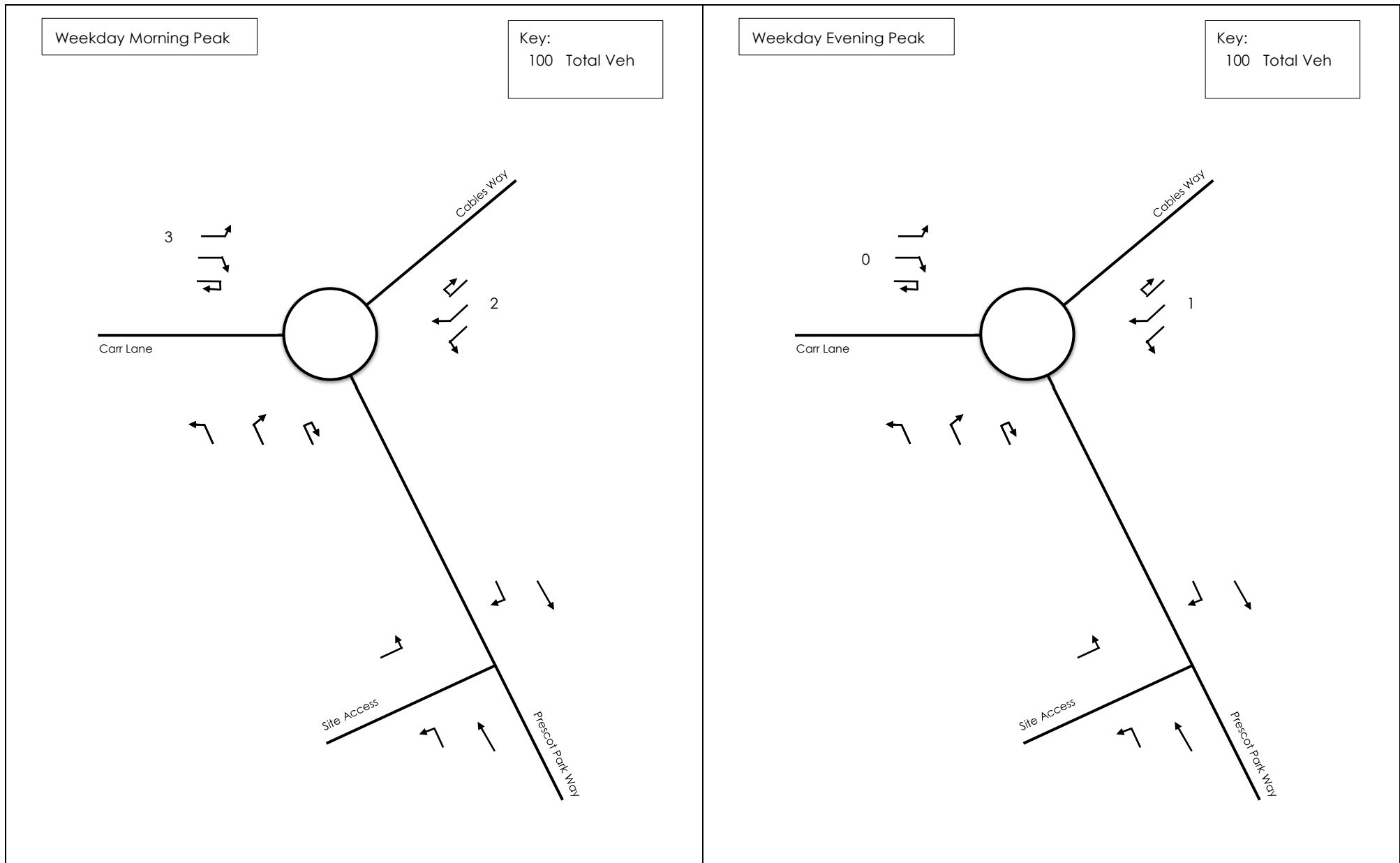


Figure 5.5 Allowed for Development Traffic Flows: Land North of Cables Way (20/00576/HYB)

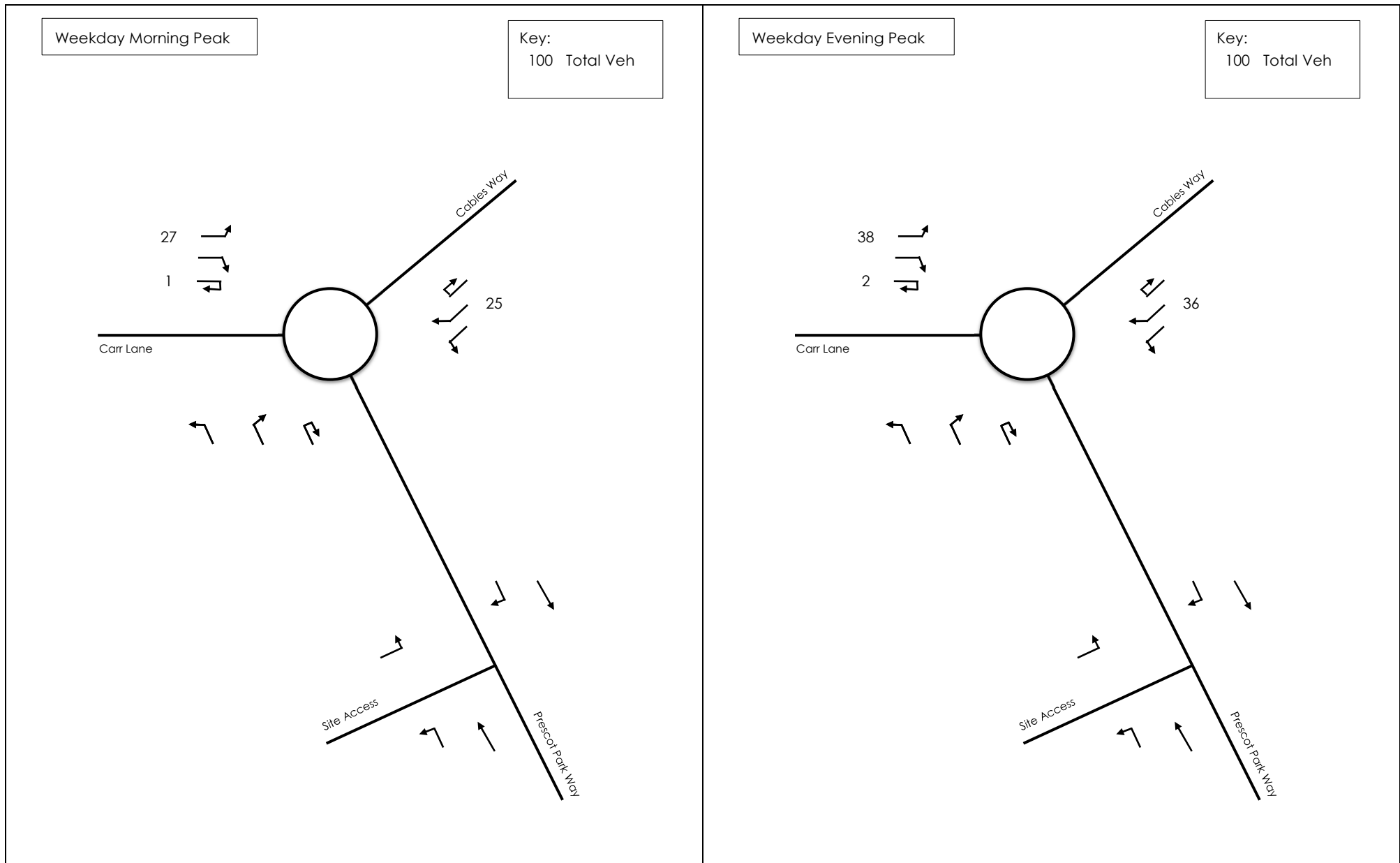


Figure 5.6 Total Committed Development Traffic Flows

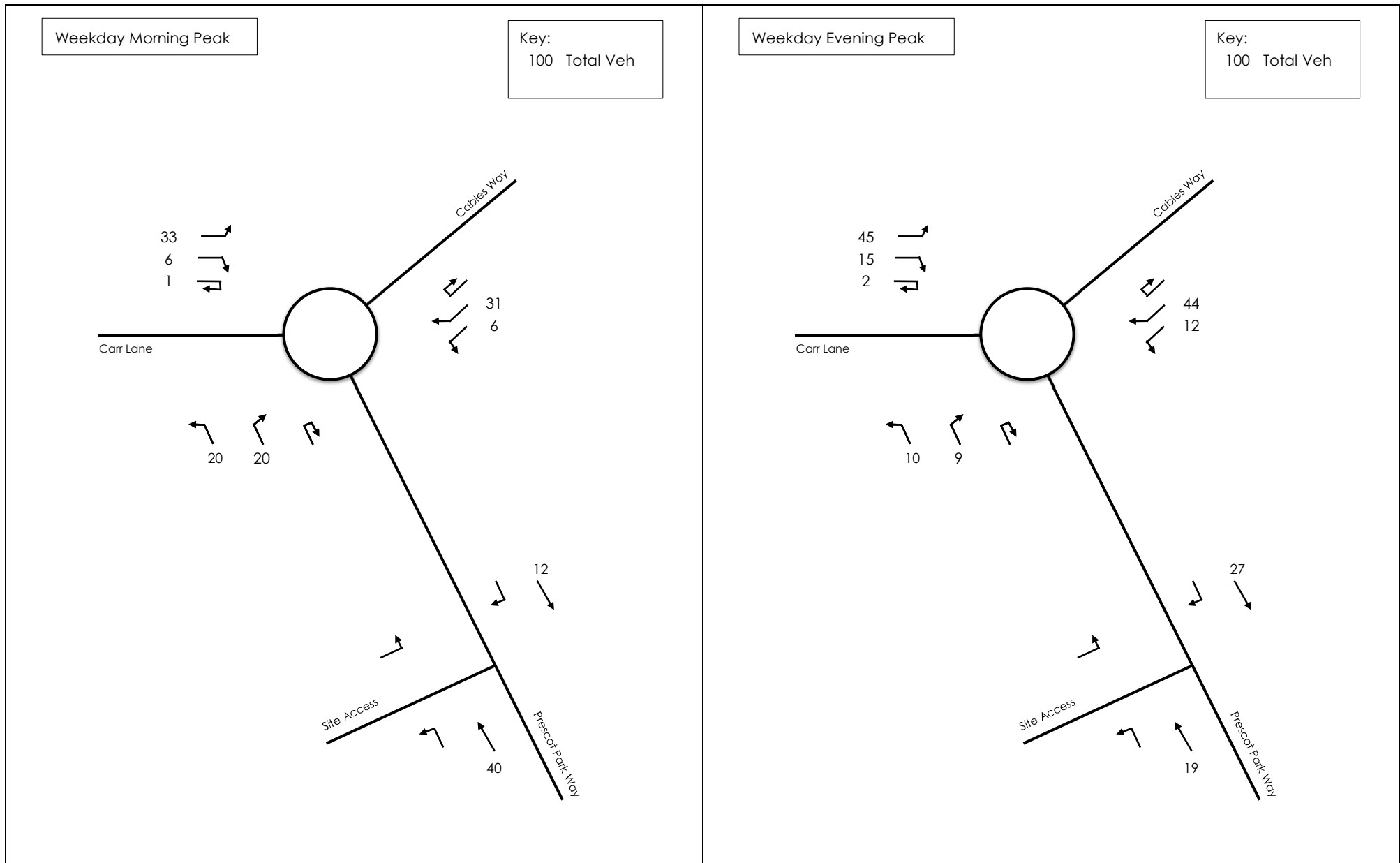


Figure 5.7

2032 Growth Background Traffic Flows

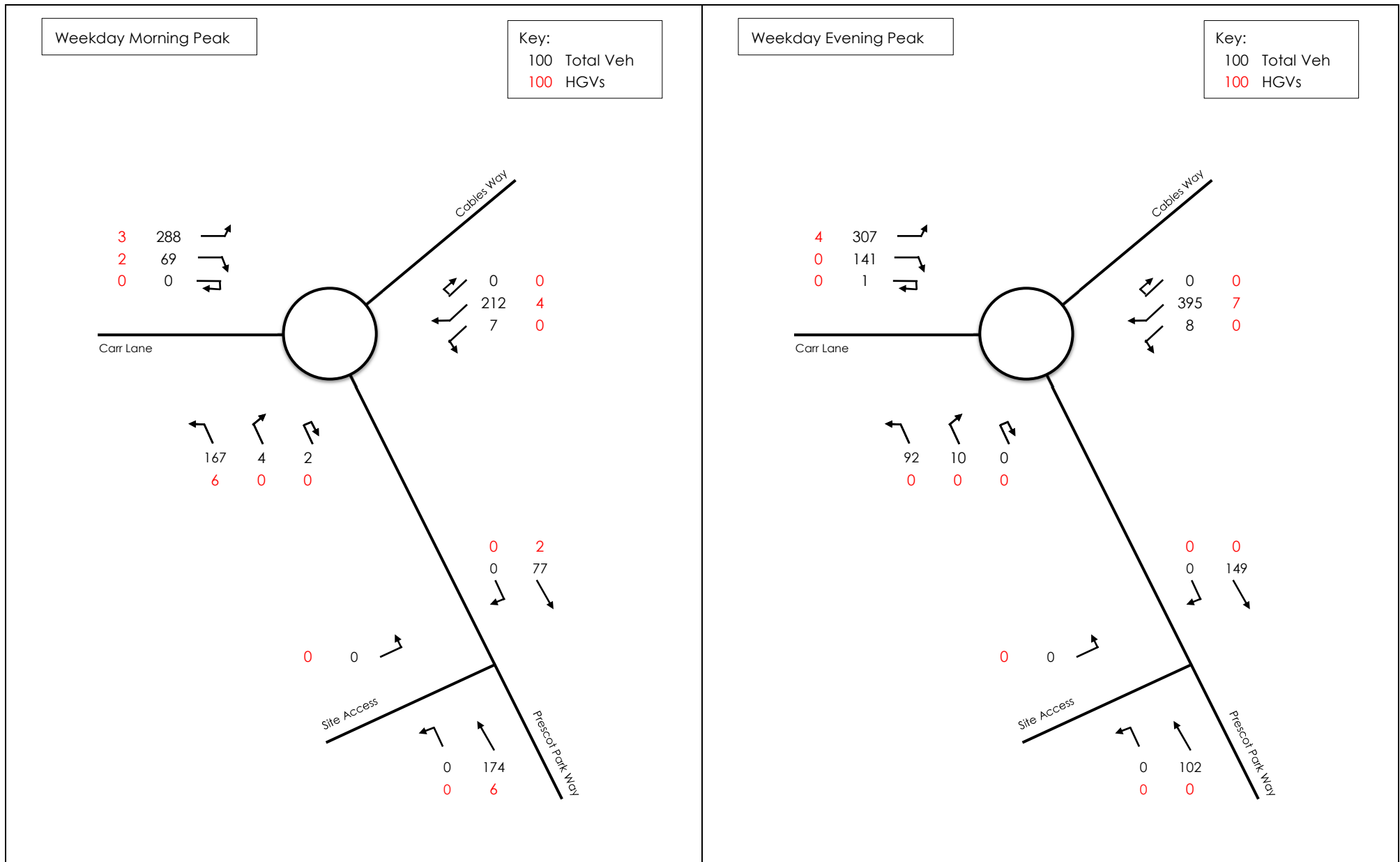


Figure 5.8 2032 'Base' Traffic Flows

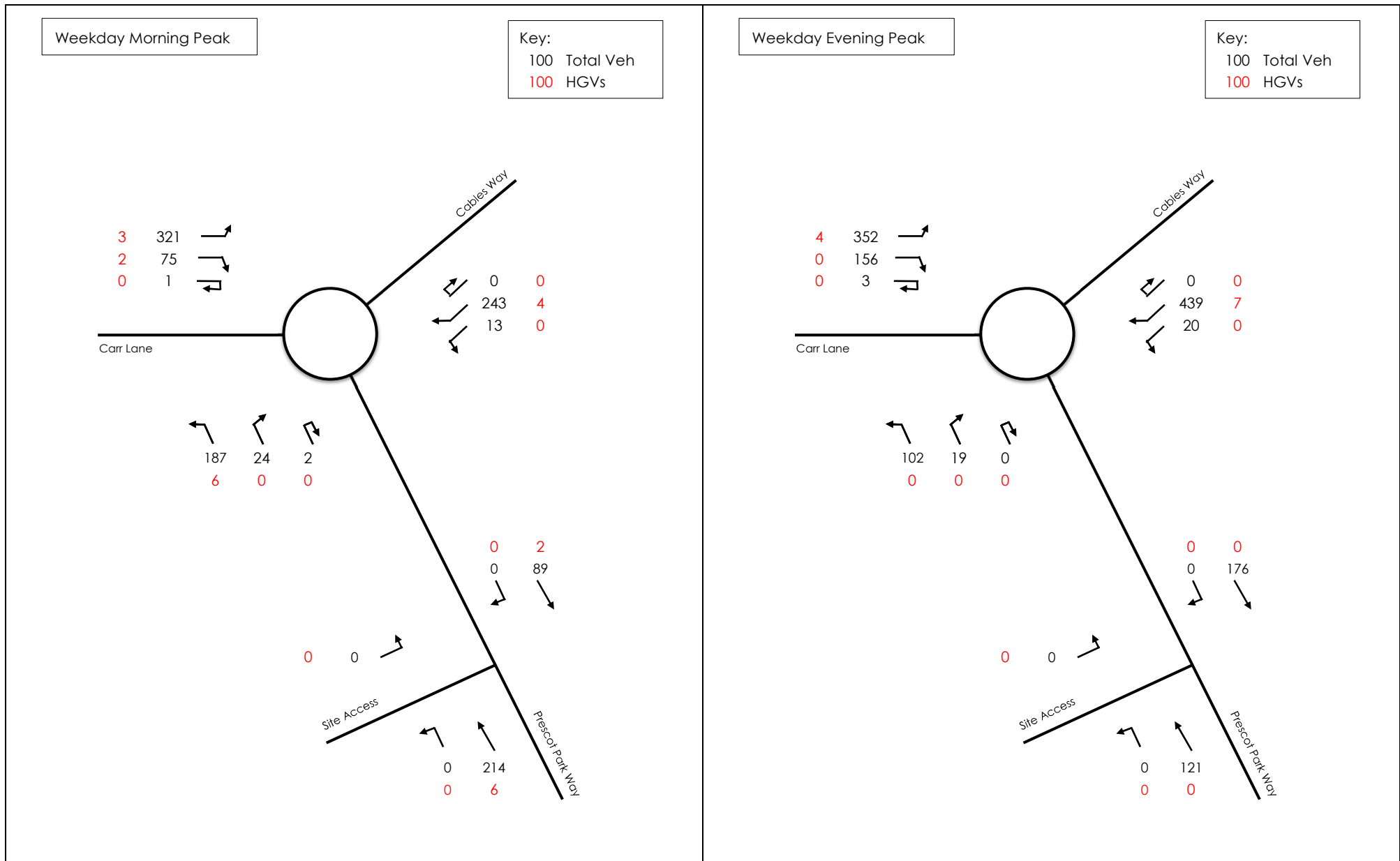


Figure 5.9 Site Allocation Traffic Flows

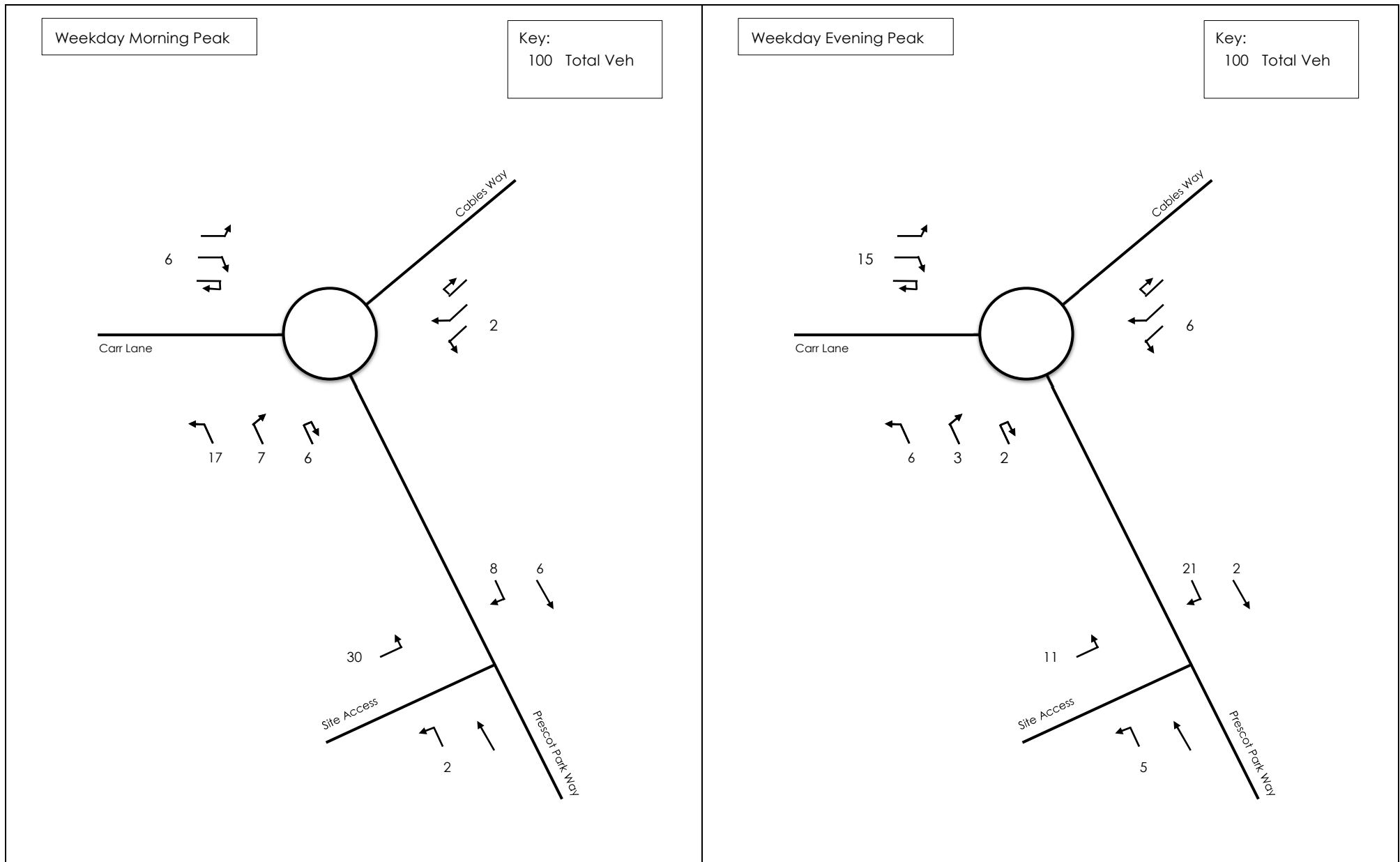
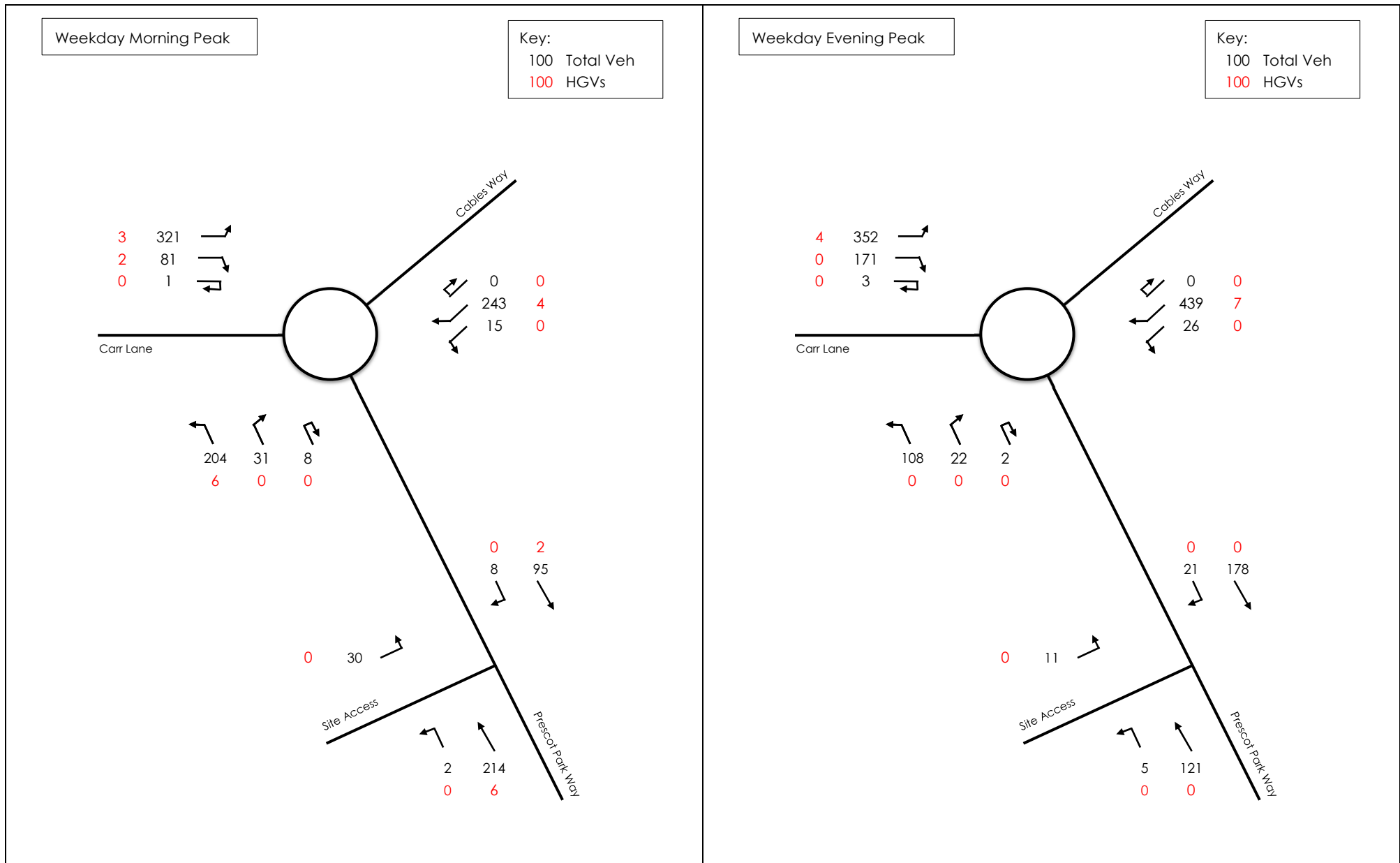


Figure 5.10 2032 'With Allocation' Traffic Flows





Appendix A: Speed Survey Results

Prescot Park Way, Prescot - Speed Survey (Wednesday 19th May 2021)

Weather Conditions - Fine, Sunny Periods & Breezy/Road Surface - Dry

South-eastbound

19	17	19	21	19	14	20	16	20	17
14	18	21	18	15	19	17	20	17	19
20	16	18	20	19	22	20	18	20	17
19	21	20	16	16	18	17	20	17	21
15	18	16	20	18	20	18	20	18	16
18	19	17	19	16	18	20	16	21	19
15	21	19	22	20	16	18	20	18	17
19	17	21	19	18	20	23	18	22	19
19	20	18	21	24	18	19	17	20	22
16	18	20	16	19	20	23	15	19	18
17	20	17	19	17	20	18	22	18	20
19	17	20	23	19	17	20	18	20	18
22	19	18	18	19	20	18	19	18	21
18	20	19	17	20	19	21	17	19	17
20	18	16	19	24	17	20	19	16	18
20	18	21	18	21	18	21	17	19	20
18	22	19	21	17	21	19	22	21	18
21	18	20	14	19	17	21	19	16	18
18	20	18	20	18	15	18	20	18	20
20	18	19	17	19	22	19	14	21	19

Max - 24

Min - 14

85% - 21

Ave - 19

Sp. Limit - 30

19 - Cars/LGV's

16 - HGV's/PSV's

Prescot Park Way, Prescot - Speed Survey (Wednesday 19th May 2021)

Weather Conditions - Fine, Sunny Periods & Breezy/Road Surface - Dry

North-westbound

30	27	23	26	19	25	29	20	27	29
28	25	29	27	24	28	22	36	22	25
24	26	28	18	26	23	26	24	31	22
27	32	25	29	20	28	22	26	22	24
22	26	21	24	27	24	27	23	35	26
28	24	29	26	22	29	23	26	25	23
25	21	23	28	25	22	26	24	22	26
20	25	32	18	24	26	23	27	34	22
29	17	25	29	19	22	27	24	27	30
25	27	31	21	26	32	23	33	23	27
30	23	41	25	28	23	29	23	26	21
27	32	23	27	31	28	22	26	23	28
31	27	21	30	28	33	26	29	27	25
22	29	27	24	34	27	30	24	19	27
29	23	27	25	38	30	21	25	30	27
20	28	25	31	28	26	29	22	27	24
28	25	33	28	23	31	22	28	23	26
25	22	29	35	26	22	32	25	28	30
22	27	24	28	23	37	25	29	25	20
28	25	27	31	24	27	29	23	27	25

Max - 41

Min - 17

85% - 30

Ave - 26

Sp. Limit - 30

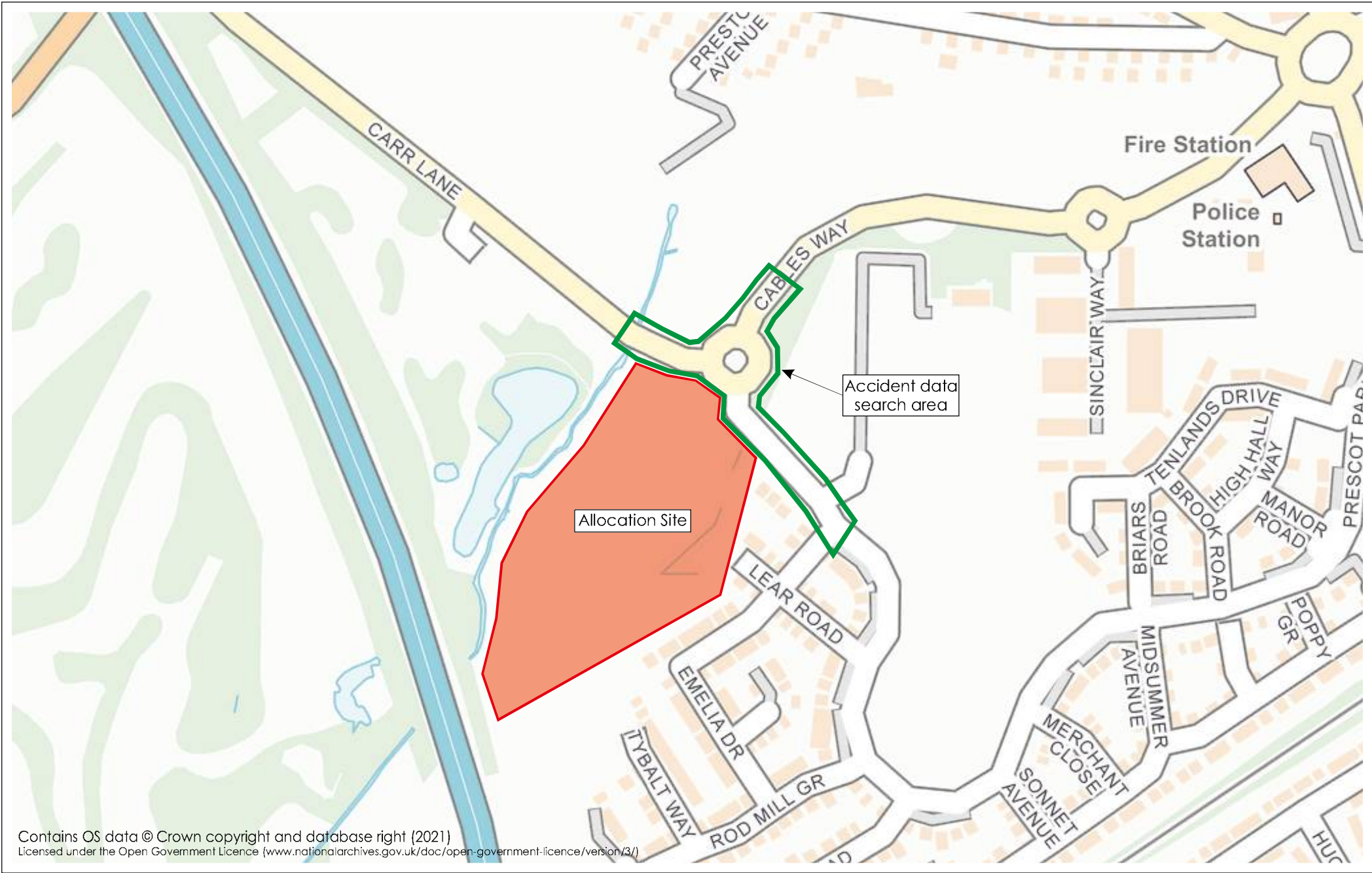
30 - Cars/LGV's

28 - HGV's/PSV's



Appendix B: Personal Injury Accident Locations

Figure B Accident Data Search Area

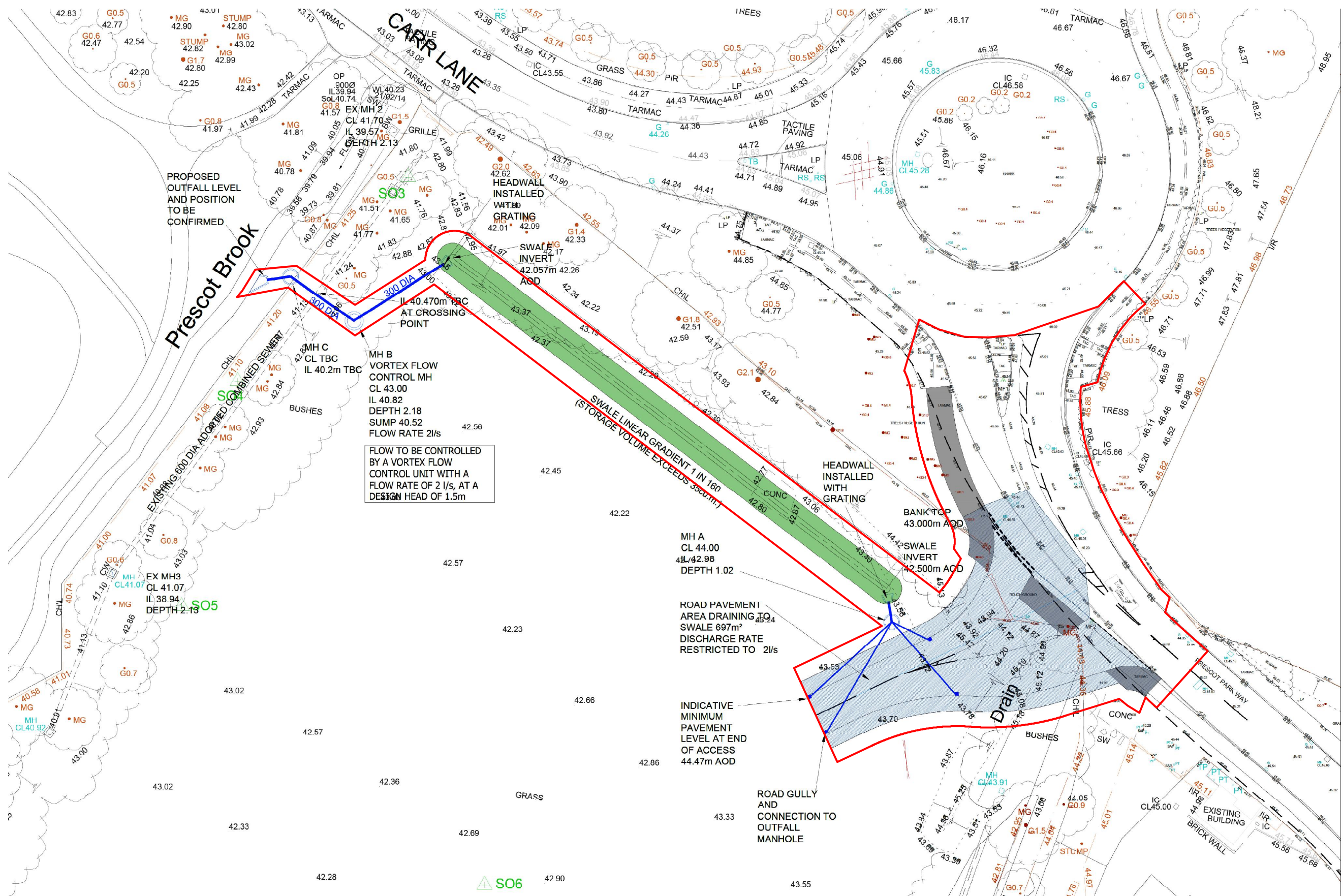


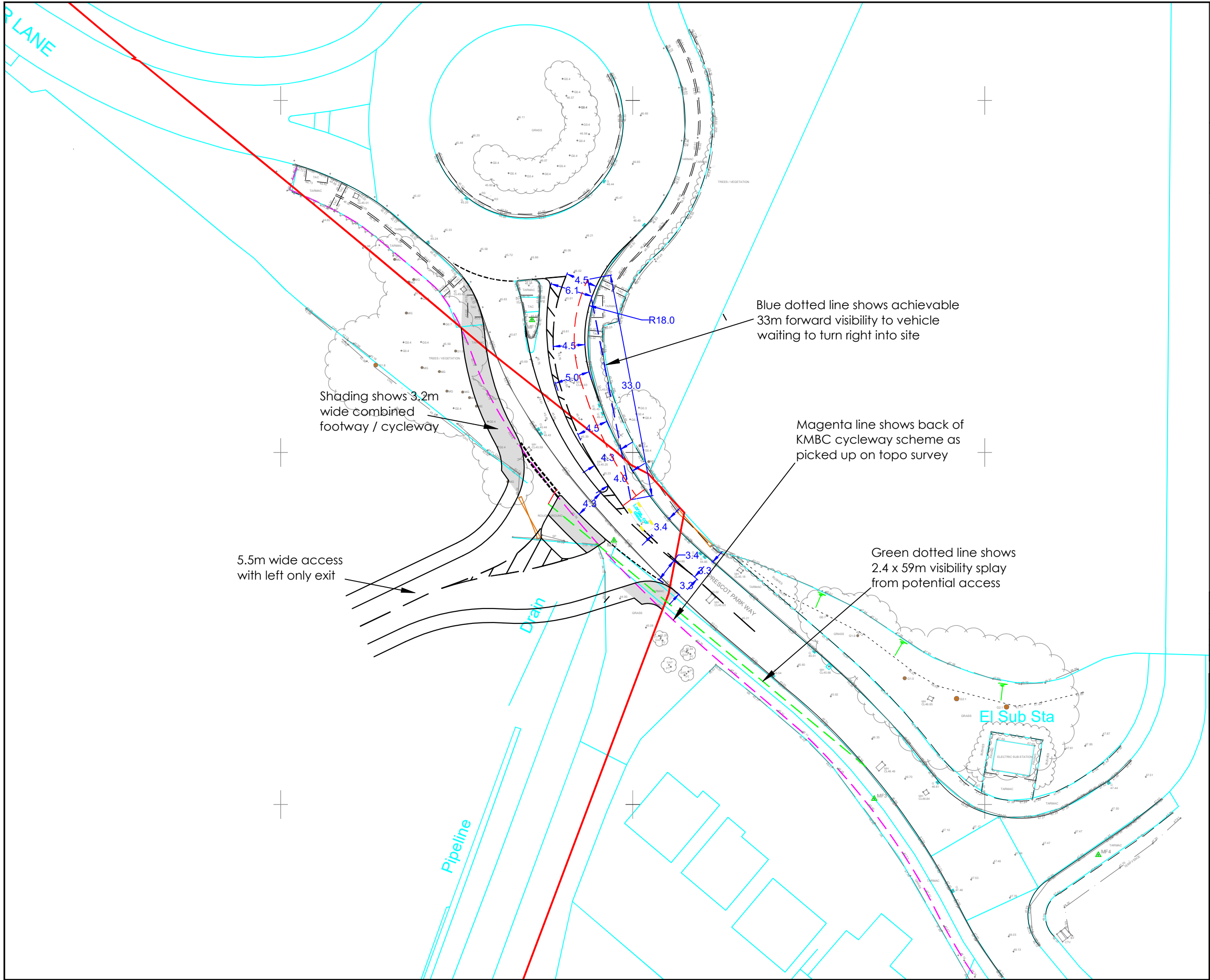
Carr Lane Roundabout collision stats

No.	Area L/A	Reference	Severity	Day	Date	Time	Grid Coords	Link/Node	Street			
1	E08000011	1703052	Slight	Wednesday	29/11/2017	13:12	346141/392154					
Location: CABLES WAY and CARR LANE 1st Rd: U 2nd Rd: U												
Speed	C'Way	Jct Det/Ctrl	Lighting		Weather	Rd Surf	PedX - Human	- Phy Fac	Special	Hazard		
30 MPH	Single c'way	R'dabt Give	Daylight		Fine	Dry	None	None	None	Objt		
Veh	Vehicle type	Towing	Manoeuvre	Dir	Veh loc	Junct. loc	Skidding	Hit obj in	Left cway	Hit obj off	Sex	Age B
1	M/cycle 125	- No	Lt hand bend	NW	SE On main	Mid junction	Yes	None		None	Male	22
Cas No	Veh ref	Cas Class	Sex	Age	Severity	Car Pass	Ped Direction	Ped Movement	Ped location	School Pupil		
1	1	Drv/Rider	Male	22	Slight	No	Not ped	Not ped	Not ped	Other		
Description: VEHICLE 1 TRAVELLING SOUTH EAST ALONG CARR LANE. AT THE FIRST ROUNDABOUT RIDER LOSES CONTROL DUE TO A LARGE AMOUNT OF MUD AND STONES ON THE ROAD (BELIEVED FROM THE BUILDING SITE LOCATED OFF THE ROUNDABOUT). RIDER FALLS OFF MOTORBIKE AND SUFFERS MINOR INJURIES.												
User Information:						Contributory Factors: 102V001A 307V001B						



Appendix C: Redline and Proposed Site Access Drawings

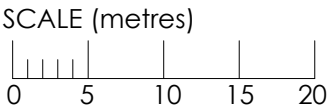




Key

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C	10.01.22	General amendments	SFB	SFB	PRC
B	06.12.21	General amendments	SFB	SFB	PRC
A	02.11.21	General amendments	SFB	SFB	PRC
Rev.	Date	Revision Details	Drawn	Check	App.



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Client

United Utilities

Project

Carr Lane, Prescott

Drawing Title

Potential Access Arrangement from Prescott Park Way

Drawn	Checked	Approved
SFB	PRC	PRC

Scale / Size	Date
1:500 @ A3	22.10.21

Status	Drg No	Rev
Information	CBO-0206-012	C



Appendix D: Road Safety Audit

Carr Lane
Prescot

Road Safety Audit
Stage 1 Report



Contents

- 1.0 Project details
- 2.0 Introduction
- 3.0 Items raised at previous road safety audits
- 4.0 Items raised at this stage 1 road safety audit
- 5.0 Audit team statement
- 6.0 List of documents presented for road safety audit
- 7.0 Problem location plan

1.0 Project details

Report title:	Carr Lane - Prescott
Date:	24 th January 2020
Document reference and revision:	CLP/CBO/1/0
Prepared by:	Network Road Safety Limited
On behalf of:	CBO Transport Ltd

2.0 Introduction

Site location:

Prescot Parkway, Prescot

Scheme purpose:

The proposed works are the highway elements to a scheme to develop land adjacent to Prescot Parkway, Prescot. The proposals comprise creation of a priority junction on Prescot Parkway. The works are to provide access to a proposed residential housing development.

85thile speeds of 21mph south-eastbound and 30mph north-westbound were recorded in May 2021.

The RSA brief was instructed by Steve Bowers, CBO Transport Ltd.

The RSA team membership consisted of:

D Ramsden DipASM CertAI FIHIE MRSGB MAIRSO
Network Road Safety Limited
HE Certificate of Competency

N Jones BA(hons) DipTEDM MSoRSA MCIHT
Network Road Safety Limited
HE Certificate of Competency

The road safety audit took place during January 2022. The audit comprised of an examination of the documents provided by the design team, which are listed in section 6.0 and an examination of the site of the proposed scheme.

The road safety audit team visited the site on Thursday 20th January. The weather during the site visit was sunny, the road surface was dry. Traffic conditions were considered light and free flowing.

The terms of reference of this report are as described within GG119. The road safety 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.

No departures from standard have been brought to the attention of the road safety audit team regarding the scheme as presented.

3.0 Items raised at previous road safety audits

No previous road safety audits have been carried out on the scheme as pre:

4.0 Items raised at this stage 1 road safety audit

PROBLEM – 1

Location: Development access

Summary: Risk of drivers driving the wrong side of the traffic island to turn right

The design presents a left turn only out of the development, enforced by a physical island on Prescott Park Way. Drivers wanting to turn right are required to carry out a U-turn at the adjacent roundabout. Prescott Park Way links through to the centre of Prescott which could result in residents and particularly delivery drivers attempting to circumvent the U-turn by passing the wrong side of the traffic island at the development junction in order to turn right onto Prescott Parkway which could result in head on collisions with turning vehicles and vehicle / pedestrian collisions.

RECOMMENDATION

The traffic island at the junction should be extended as far into the development access as possible without compromising swept paths.

CBO Response (Problem 1):

The traffic island has been extended into the development access.

The revised layout is shown on Drawing Number CBO-0206-012 Rev D

PROBLEM – 2

Location: Prescott Park Way – westbound approach to development junction

Summary: Risk of kerb strikes

The new alignment of the nearside kerb on the westbound approach to the roundabout from the development junction creates a kink in the alignment that protrudes into the carriageway on the approach to the development junction. The alignment of the subsequent road beyond the junction towards the roundabout could result in vehicles clipping the nearside kerb increasing the risk of loss of control collisions.

RECOMMENDATION

The kerb line should be realigned to remove the protrusion.

CBO Response (Problem 2):

The kerblines and central island have been re-aligned to reduce the kink in the alignment.

The revised layout is shown on Drawing Number CBO-0206-012 Rev D

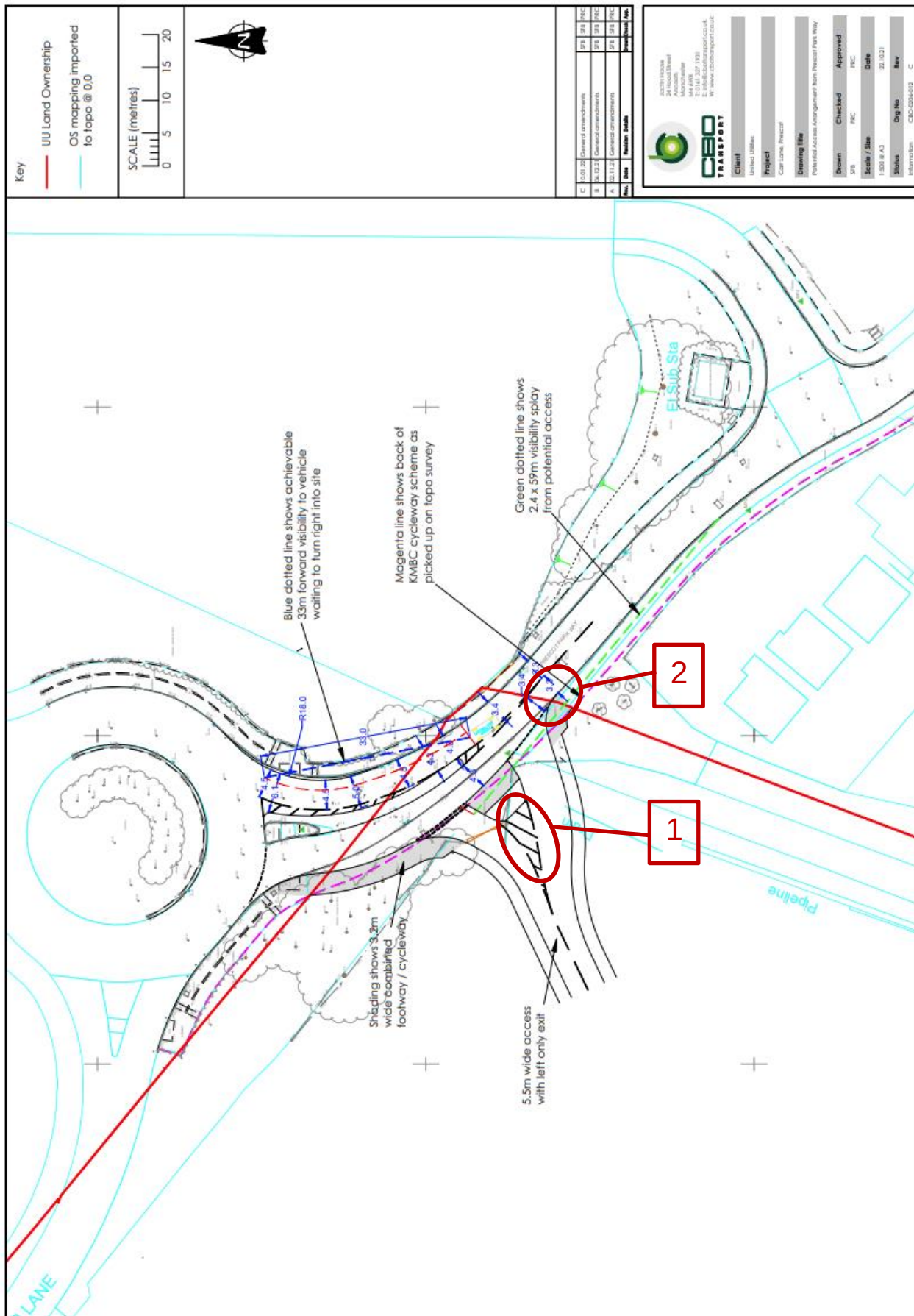
5.0 Audit team statement

We certify that this road safety audit has been carried out in accordance with GG 119	
Road Safety Audit Team Leader	
Name:	David Ramsden
Signed:	
Position:	Director
Organisation:	Network Road Safety Limited
Date:	21 st January 2022
Road Safety Audit Team Member(s)	
Name:	Neil Jones
Signed:	
Position:	Consultant Road Safety Engineer
Organisation:	Network Road Safety Limited
Date:	23 rd January 2022

6.0 List of documents presented for road safety audit

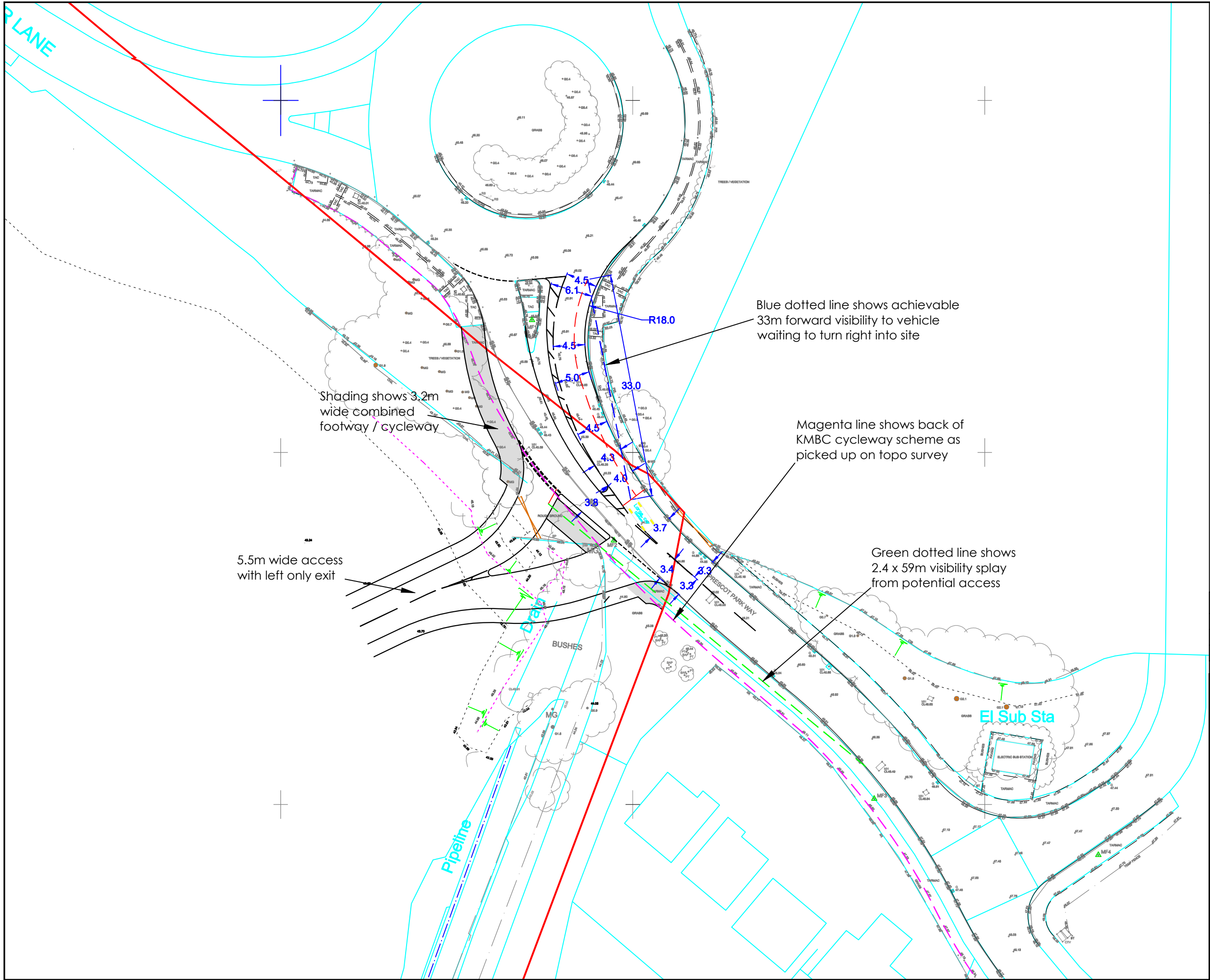
CBO-0206-012	C	Potential access arrangement from Prescott Park Way
CBO-0206-012	C	Potential access arrangement from Prescott Park Way – Swept path – Articulated lorry past access
CBO-0206-012	C	Potential access arrangement from Prescott Park Way – Swept path – Car right in / left out
CBO-0206-012	C	Potential access arrangement from Prescott Park Way – Swept path – Refuse vehicle left in / left out
CBO-0206-012	C	Potential access arrangement from Prescott Park Way – Swept path – Refuse vehicle right in
Fig A		Observed traffic flows
Fig B		Site allocation traffic flows
Speed survey		Speed survey Prescott Park Way 19 th May 2021

7.0 Problem location plan





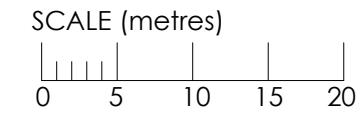
Appendix E: Updated Access Drawing and Swept Path Analysis



Key

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OS mapping imported to topo @ 0,0



Shading shows 3.2m wide combined footway / cycleway

5.5m wide access with left only exit

Blue dotted line shows achievable 33m forward visibility to vehicle waiting to turn right into site

Magenta line shows back of KMBC cycleway scheme as picked up on topo survey

Green dotted line shows 2.4 x 59m visibility splay from potential access

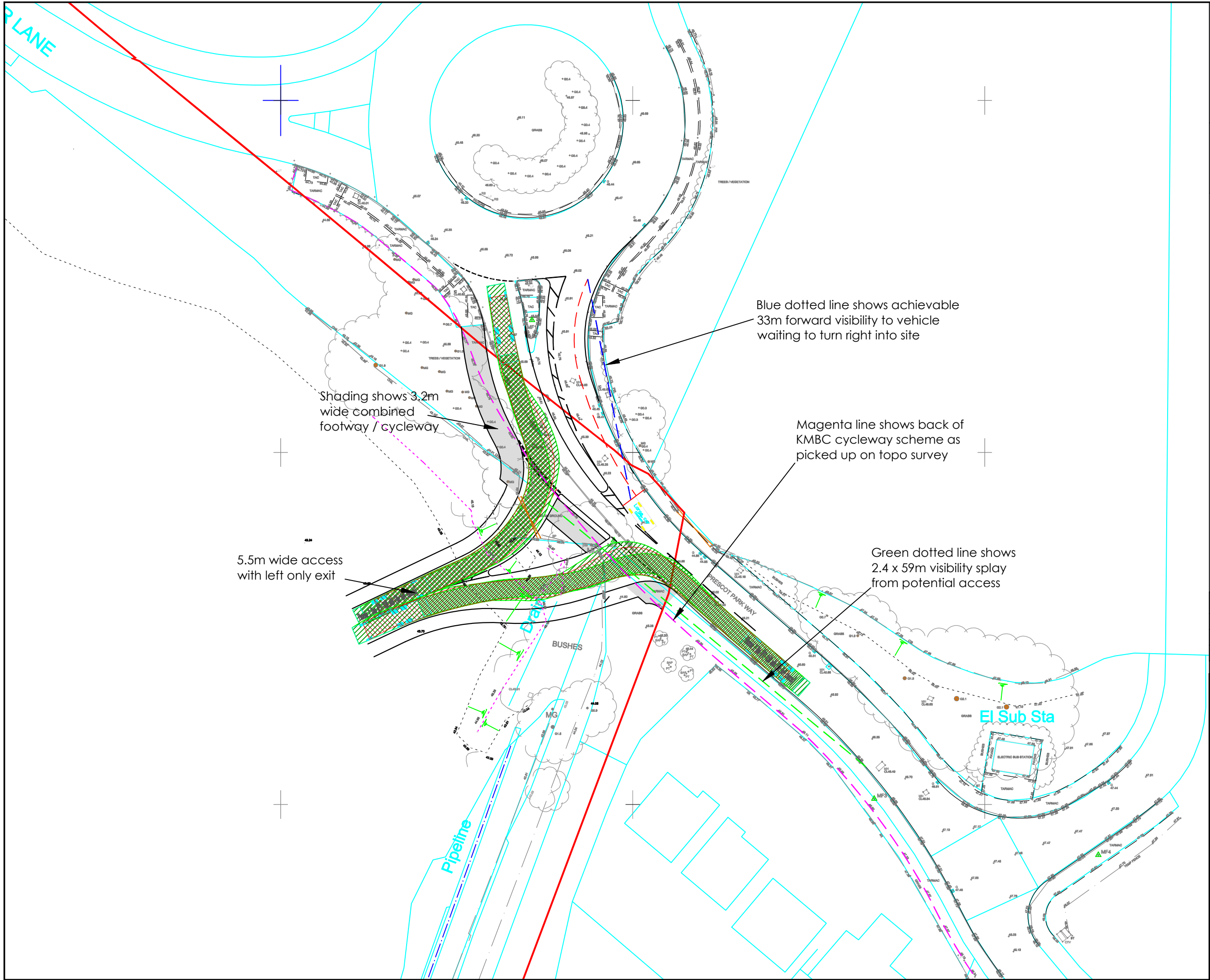
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C	10.01.22	General amendments	SFB	SFB	PRC
B	06.12.21	General amendments	SFB	SFB	PRC
A	02.11.21	General amendments	SFB	SFB	PRC
Rev.	Date	Revision Details	Drawn	Check	App.



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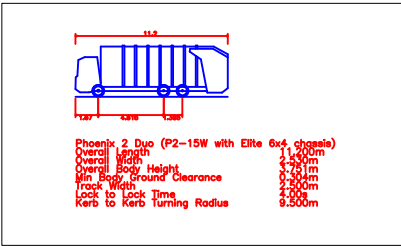
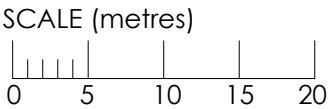
Client		
United Utilities		
Project		
Carr Lane, Prescott		
Drawing Title		
Proposed Access Arrangement from Prescott Park Way		
Drawn	Checked	Approved
SFB	PRC	PRC
Scale / Size		Date
1:500 @ A3		22.10.21
Status	Drq No	Rev
Information	CBO-0206-012	D



Key

UU Land Ownership

OS mapping imported to topo @ 0,0



D	27.01.22	General amendments to take on board Road Safety Audit findings	SFB	SFB	PRC
C	10.01.22	General amendments	SFB	SFB	PRC
B	06.12.21	General amendments	SFB	SFB	PRC
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United Utilities

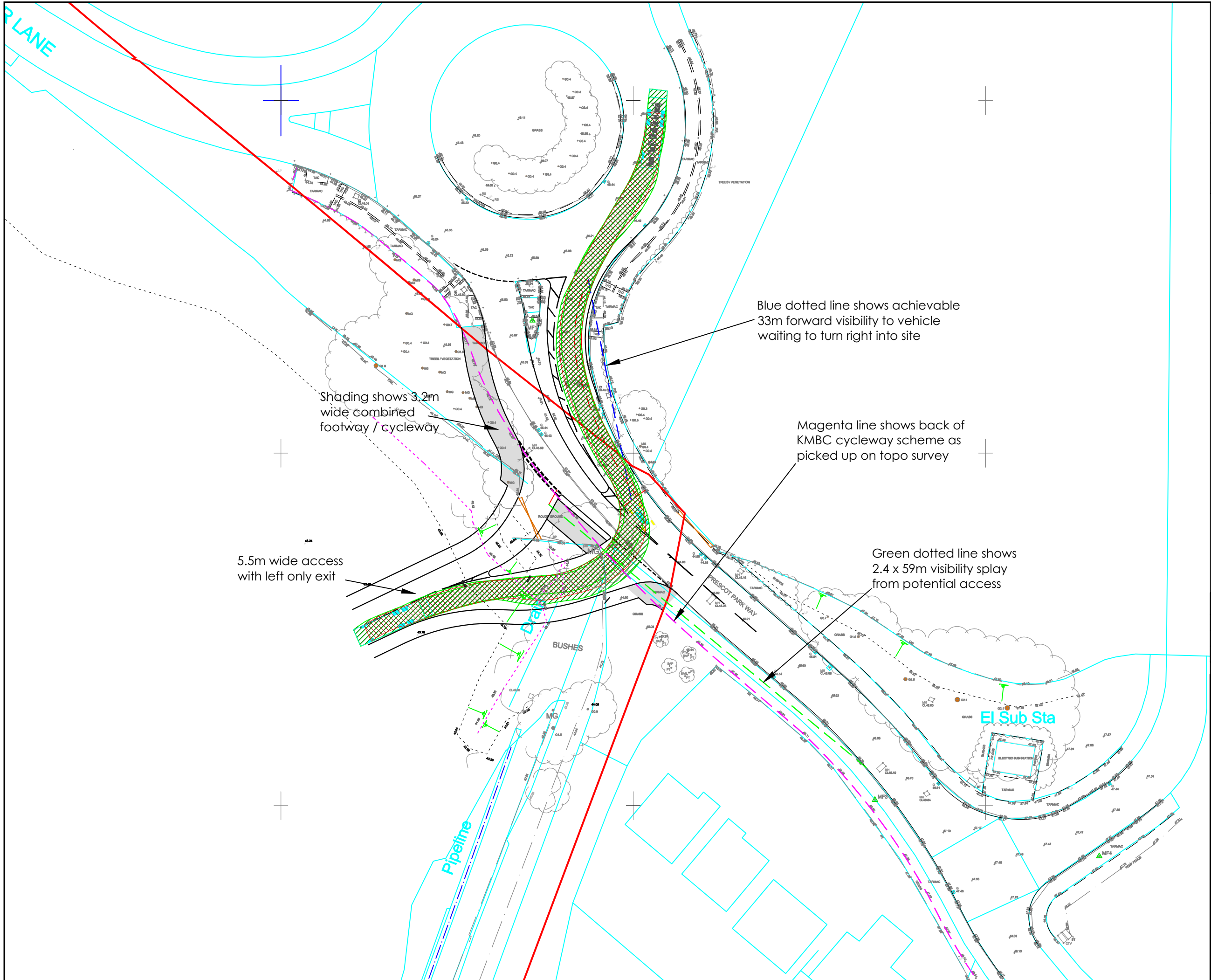
Project

Carr Lane, Prescott

Drawing Title

Proposed Access Arrangement from Prescott Park Way

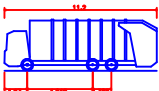
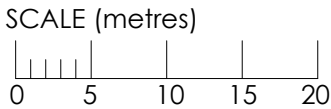
Drawn	Checked	Approved
SFB	PRC	PRC
Scale / Size	Date	
1:500 @ A3	22.10.21	
Status	Drg No	Rev
Information	CBO-0206-012	D



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OS mapping imported to topo @ 0,0



Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)
Overall Length 11.500m
Overall Width 2.400m
Overall Body Height 2.500m
Min Body Ground Clearance 2.300m
Track Width 2.300m
Lock to Lock Time 9.500m
Kerb to Kerb Turning Radius 9.500m

D	27.01.22	General amendments to take on board Road Safety Audit findings	SFB	SFB	PRC
C	10.01.22	General amendments	SFB	SFB	PRC
B	06.12.21	General amendments	SFB	SFB	PRC
A	02.11.21	General amendments	SFB	SFB	PRC
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United Utilities

Project

Carr Lane, Prescot

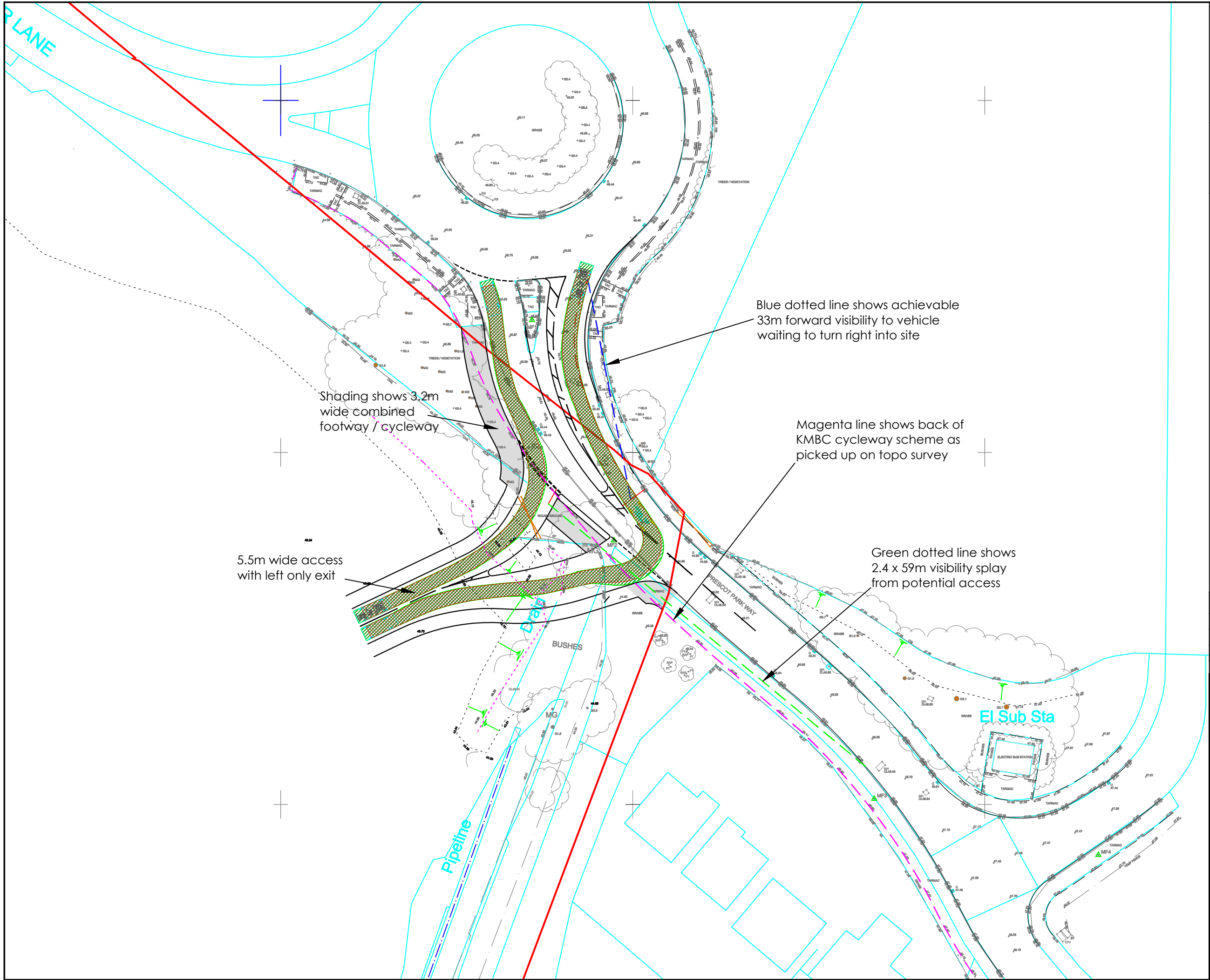
Drawing Title

Proposed Access Arrangement from Prescott Park Way

Drawn	Checked	Approved
SFB	PRC	PRC

Scale / Size	Date
1:500 @ A3	22.10.21

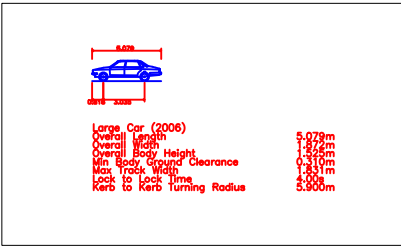
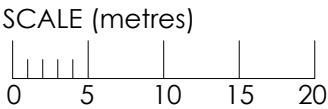
Status	Drg No	Rev
Information	CBO-0206-012	D



Key

UU Land Ownership

OS mapping imported to topo @ 0,0



D	27.01.22	General amendments to take on board Road Safety Audit findings	SFB	SFB	PRC
C	10.01.22	General amendments	SFB	SFB	PRC
B	06.12.21	General amendments	SFB	SFB	PRC
A	02.11.21	General amendments	SFB	SFB	PRC
Rev.	Date	Revision Details	Drawn	Check	App.



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Client

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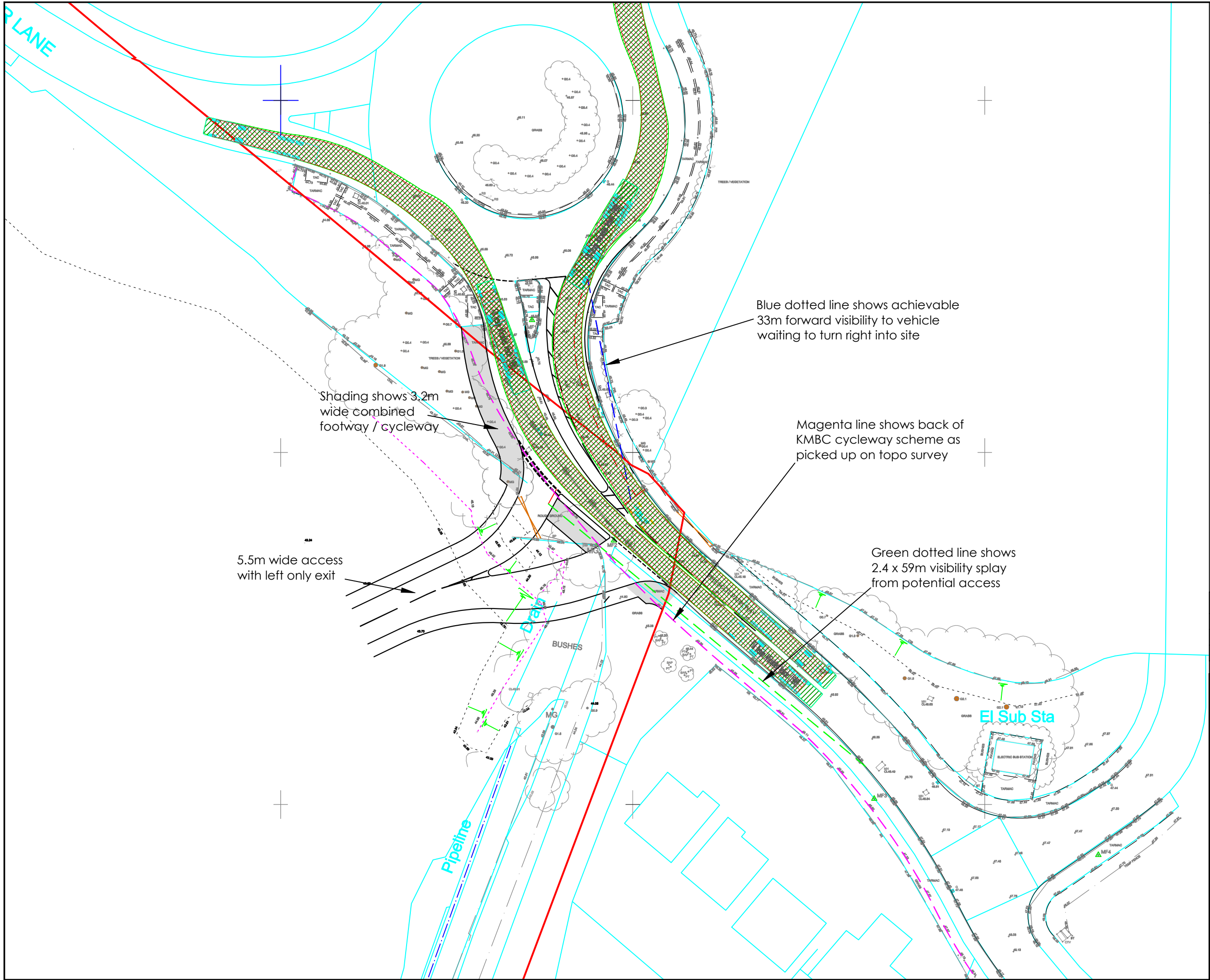
Project

Carr Lane, Prescott

Drawing Title

Proposed Access Arrangement from Prescott Park Way

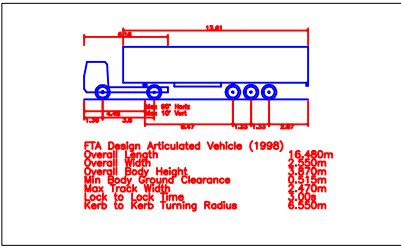
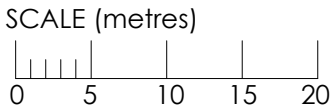
Drawn	Checked	Approved
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1:500 @ A3	22.10.21	
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Proposed Access Arrangement from Prescott Park Way		
Drawn	Checked	Approved
SFB	PRC	PRC
Scale / Size		Date
1:500 @ A3		22.10.21
Status	Drg No	Rev
Information	CBO-0206-012	D



Appendix F: TRICS Outputs

Calculation Reference: AUDIT-751701-220110-0118

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED
 MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	ES EAST SUSSEX	1 days
	HC HAMPSHIRE	1 days
	KC KENT	2 days
	SC SURREY	1 days
	WS WEST SUSSEX	1 days
03	SOUTH WEST	
	DV DEVON	1 days
04	EAST ANGLIA	
	NF NORFOLK	3 days
	SF SUFFOLK	1 days
05	EAST MIDLANDS	
	LE LEICESTERSHIRE	1 days
06	WEST MIDLANDS	
	SH SHROPSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	1 days
	SY SOUTH YORKSHIRE	1 days
09	NORTH	
	DH DURHAM	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: 51 to 110 (units:)
 Range Selected by User: 50 to 130 (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: 01/01/13 to 21/09/21

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	1 days
Tuesday	3 days
Wednesday	4 days
Thursday	6 days
Friday	2 days

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

Selected survey types:

Manual count	16 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)	5
Edge of Town	9

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	13
Village	2
No Sub Category	1

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

Secondary Filtering selection:

Use Class:

C3	16 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	1 days
5,001 to 10,000	6 days
10,001 to 15,000	3 days
15,001 to 20,000	4 days
20,001 to 25,000	1 days
25,001 to 50,000	1 days

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

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	3 days
50,001 to 75,000	2 days
75,001 to 100,000	4 days
100,001 to 125,000	1 days
125,001 to 250,000	4 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	14 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	5 days
No	11 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	16 days
-----------------	---------

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

LIST OF SITES relevant to selection parameters

1	DH-03-A-03 PILGRIMS WAY DURHAM	SEMI-DETACHED & TERRACED	DURHAM
	Edge of Town Residential Zone Total No of Dwellings: 57 Survey date: FRIDAY 19/10/18		Survey Type: MANUAL
2	DV-03-A-03 LOWER BRAND LANE HONITON	TERRACED & SEMI DETACHED	DEVON
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 70 Survey date: MONDAY 28/09/15		Survey Type: MANUAL
3	ES-03-A-05 RATTLE ROAD NEAR EASTBOURNE STONE CROSS	MIXED HOUSES & FLATS	EAST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings: 99 Survey date: WEDNESDAY 05/06/19		Survey Type: MANUAL
4	HC-03-A-23 CANADA WAY LIPHOOK	HOUSES & FLATS	HAMPSHIRE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 62 Survey date: TUESDAY 19/11/19		Survey Type: MANUAL
5	KC-03-A-03 HYTHE ROAD ASHFORD WILLESBOROUGH	MIXED HOUSES & FLATS	KENT
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 51 Survey date: THURSDAY 14/07/16		Survey Type: MANUAL
6	KC-03-A-04 KILN BARN ROAD AYLESFORD DITTON	SEMI-DETACHED & TERRACED	KENT
	Edge of Town Residential Zone Total No of Dwellings: 110 Survey date: FRIDAY 22/09/17		Survey Type: MANUAL
7	LE-03-A-02 MELBOURNE ROAD IBSTOCK	DETACHED & OTHERS	LEICESTERSHIRE
	Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 85 Survey date: THURSDAY 28/06/18		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	NF-03-A-04	MIXED HOUSES	NORFOLK
	NORTH WALSHAM ROAD NORTH WALSHAM		
	Edge of Town Residential Zone Total No of Dwellings: 70 Survey date: WEDNESDAY 18/09/19		
9	NF-03-A-25	MIXED HOUSES & FLATS	NORFOLK
	WOODFARM LANE GORLESTON-ON-SEA		
	Edge of Town Residential Zone Total No of Dwellings: 55 Survey date: TUESDAY 21/09/21		
10	NF-03-A-27	MIXED HOUSES & FLATS	NORFOLK
	YARMOUTH ROAD NEAR NORWICH BLOFIELD Neighbourhood Centre (PPS6 Local Centre) Village Total No of Dwellings: 93 Survey date: THURSDAY 16/09/21		
11	NY-03-A-10	HOUSES AND FLATS	NORTH YORKSHIRE
	BOROUGHBRIDGE ROAD RIPON		
	Edge of Town No Sub Category Total No of Dwellings: 71 Survey date: TUESDAY 17/09/13		
12	SC-03-A-04	DETACHED & TERRACED	SURREY
	HIGH ROAD BYFLEET		
	Edge of Town Residential Zone Total No of Dwellings: 71 Survey date: THURSDAY 23/01/14		
13	SF-03-A-07	MIXED HOUSES	SUFFOLK
	FOXHALL ROAD IPSWICH		
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 73 Survey date: THURSDAY 09/05/19		
14	SH-03-A-05	SEMI-DETACHED / TERRACED	SHROPSHIRE
	SANDCROFT TELFORD SUTTON HILL Edge of Town Residential Zone Total No of Dwellings: 54 Survey date: THURSDAY 24/10/13		

Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15	SY-03-A-01 A19 BENTLEY ROAD DONCASTER BENTLEY RISE Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 54 Survey date: WEDNESDAY 18/09/13	SEMI DETACHED HOUSES	SOUTH YORKSHIRE	Survey Type: MANUAL
16	WS-03-A-10 TODDINGTON LANE LITTLEHAMPTON WICK Edge of Town Residential Zone Total No of Dwellings: 79 Survey date: WEDNESDAY 07/11/18	MIXED HOUSES	WEST SUSSEX	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
DH-03-A-01	Low rates
DH-03-A-02	Low rates
DV-03-A-02	Bungalows
NY-03-A-09	Bungalows
SC-03-A-06	Covid
WS-03-A-07	Bungalows

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): 1.75

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	16	72	0.076	16	72	0.337	16	72	0.413
08:00 - 09:00	16	72	0.140	16	72	0.408	16	72	0.548
09:00 - 10:00	16	72	0.141	16	72	0.165	16	72	0.306
10:00 - 11:00	16	72	0.115	16	72	0.160	16	72	0.275
11:00 - 12:00	16	72	0.136	16	72	0.156	16	72	0.292
12:00 - 13:00	16	72	0.163	16	72	0.146	16	72	0.309
13:00 - 14:00	16	72	0.172	16	72	0.176	16	72	0.348
14:00 - 15:00	16	72	0.163	16	72	0.185	16	72	0.348
15:00 - 16:00	16	72	0.272	16	72	0.181	16	72	0.453
16:00 - 17:00	16	72	0.313	16	72	0.171	16	72	0.484
17:00 - 18:00	16	72	0.357	16	72	0.154	16	72	0.511
18:00 - 19:00	16	72	0.302	16	72	0.160	16	72	0.462
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.350			2.399			4.749

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: 51 - 110 (units:)
 Survey date range: 01/01/13 - 21/09/21
 Number of weekdays (Monday-Friday): 16
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 3
 Surveys manually removed from selection: 6

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

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

MULTI-MODAL TAXIS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

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	16	72	0.003	16	72	0.004	16	72	0.007
08:00 - 09:00	16	72	0.003	16	72	0.003	16	72	0.006
09:00 - 10:00	16	72	0.003	16	72	0.003	16	72	0.006
10:00 - 11:00	16	72	0.003	16	72	0.003	16	72	0.006
11:00 - 12:00	16	72	0.004	16	72	0.004	16	72	0.008
12:00 - 13:00	16	72	0.003	16	72	0.003	16	72	0.006
13:00 - 14:00	16	72	0.004	16	72	0.004	16	72	0.008
14:00 - 15:00	16	72	0.004	16	72	0.004	16	72	0.008
15:00 - 16:00	16	72	0.005	16	72	0.005	16	72	0.010
16:00 - 17:00	16	72	0.003	16	72	0.003	16	72	0.006
17:00 - 18:00	16	72	0.003	16	72	0.003	16	72	0.006
18:00 - 19:00	16	72	0.003	16	72	0.003	16	72	0.006
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.041			0.042			0.083

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.

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

MULTI-MODAL OGVS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

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	16	72	0.002	16	72	0.001	16	72	0.003
08:00 - 09:00	16	72	0.001	16	72	0.001	16	72	0.002
09:00 - 10:00	16	72	0.004	16	72	0.004	16	72	0.008
10:00 - 11:00	16	72	0.003	16	72	0.003	16	72	0.006
11:00 - 12:00	16	72	0.004	16	72	0.003	16	72	0.007
12:00 - 13:00	16	72	0.002	16	72	0.003	16	72	0.005
13:00 - 14:00	16	72	0.003	16	72	0.003	16	72	0.006
14:00 - 15:00	16	72	0.001	16	72	0.002	16	72	0.003
15:00 - 16:00	16	72	0.003	16	72	0.003	16	72	0.006
16:00 - 17:00	16	72	0.002	16	72	0.003	16	72	0.005
17:00 - 18:00	16	72	0.000	16	72	0.000	16	72	0.000
18:00 - 19:00	16	72	0.001	16	72	0.000	16	72	0.001
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.026			0.026			0.052

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.

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

MULTI-MODAL PSVS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

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	16	72	0.000	16	72	0.000	16	72	0.000
08:00 - 09:00	16	72	0.000	16	72	0.000	16	72	0.000
09:00 - 10:00	16	72	0.000	16	72	0.000	16	72	0.000
10:00 - 11:00	16	72	0.000	16	72	0.000	16	72	0.000
11:00 - 12:00	16	72	0.002	16	72	0.002	16	72	0.004
12:00 - 13:00	16	72	0.000	16	72	0.000	16	72	0.000
13:00 - 14:00	16	72	0.000	16	72	0.000	16	72	0.000
14:00 - 15:00	16	72	0.001	16	72	0.001	16	72	0.002
15:00 - 16:00	16	72	0.000	16	72	0.000	16	72	0.000
16:00 - 17:00	16	72	0.000	16	72	0.000	16	72	0.000
17:00 - 18:00	16	72	0.001	16	72	0.000	16	72	0.001
18:00 - 19:00	16	72	0.000	16	72	0.000	16	72	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.004			0.003			0.007

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

MULTI-MODAL CYCLISTS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

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	16	72	0.009	16	72	0.012	16	72	0.021
08:00 - 09:00	16	72	0.009	16	72	0.024	16	72	0.033
09:00 - 10:00	16	72	0.003	16	72	0.006	16	72	0.009
10:00 - 11:00	16	72	0.002	16	72	0.006	16	72	0.008
11:00 - 12:00	16	72	0.004	16	72	0.006	16	72	0.010
12:00 - 13:00	16	72	0.003	16	72	0.004	16	72	0.007
13:00 - 14:00	16	72	0.007	16	72	0.001	16	72	0.008
14:00 - 15:00	16	72	0.003	16	72	0.001	16	72	0.004
15:00 - 16:00	16	72	0.012	16	72	0.009	16	72	0.021
16:00 - 17:00	16	72	0.012	16	72	0.005	16	72	0.017
17:00 - 18:00	16	72	0.010	16	72	0.005	16	72	0.015
18:00 - 19:00	16	72	0.012	16	72	0.004	16	72	0.016
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.086			0.083			0.169

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.

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

MULTI-MODAL VEHICLE OCCUPANTS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

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	16	72	0.088	16	72	0.477	16	72	0.565
08:00 - 09:00	16	72	0.175	16	72	0.638	16	72	0.813
09:00 - 10:00	16	72	0.172	16	72	0.224	16	72	0.396
10:00 - 11:00	16	72	0.139	16	72	0.206	16	72	0.345
11:00 - 12:00	16	72	0.185	16	72	0.192	16	72	0.377
12:00 - 13:00	16	72	0.198	16	72	0.192	16	72	0.390
13:00 - 14:00	16	72	0.225	16	72	0.226	16	72	0.451
14:00 - 15:00	16	72	0.205	16	72	0.226	16	72	0.431
15:00 - 16:00	16	72	0.447	16	72	0.244	16	72	0.691
16:00 - 17:00	16	72	0.481	16	72	0.251	16	72	0.732
17:00 - 18:00	16	72	0.513	16	72	0.209	16	72	0.722
18:00 - 19:00	16	72	0.423	16	72	0.227	16	72	0.650
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.251			3.312			6.563

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.

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

MULTI-MODAL PEDESTRIANS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

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	16	72	0.017	16	72	0.056	16	72	0.073
08:00 - 09:00	16	72	0.058	16	72	0.143	16	72	0.201
09:00 - 10:00	16	72	0.061	16	72	0.052	16	72	0.113
10:00 - 11:00	16	72	0.026	16	72	0.047	16	72	0.073
11:00 - 12:00	16	72	0.036	16	72	0.023	16	72	0.059
12:00 - 13:00	16	72	0.031	16	72	0.031	16	72	0.062
13:00 - 14:00	16	72	0.033	16	72	0.027	16	72	0.060
14:00 - 15:00	16	72	0.034	16	72	0.027	16	72	0.061
15:00 - 16:00	16	72	0.120	16	72	0.063	16	72	0.183
16:00 - 17:00	16	72	0.054	16	72	0.037	16	72	0.091
17:00 - 18:00	16	72	0.068	16	72	0.041	16	72	0.109
18:00 - 19:00	16	72	0.052	16	72	0.041	16	72	0.093
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.590			0.588			1.178

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.

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

MULTI-MODAL BUS/TRAM PASSENGERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

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	16	72	0.000	16	72	0.029	16	72	0.029
08:00 - 09:00	16	72	0.001	16	72	0.043	16	72	0.044
09:00 - 10:00	16	72	0.006	16	72	0.016	16	72	0.022
10:00 - 11:00	16	72	0.015	16	72	0.013	16	72	0.028
11:00 - 12:00	16	72	0.005	16	72	0.008	16	72	0.013
12:00 - 13:00	16	72	0.012	16	72	0.014	16	72	0.026
13:00 - 14:00	16	72	0.004	16	72	0.004	16	72	0.008
14:00 - 15:00	16	72	0.010	16	72	0.008	16	72	0.018
15:00 - 16:00	16	72	0.038	16	72	0.012	16	72	0.050
16:00 - 17:00	16	72	0.022	16	72	0.002	16	72	0.024
17:00 - 18:00	16	72	0.013	16	72	0.004	16	72	0.017
18:00 - 19:00	16	72	0.025	16	72	0.003	16	72	0.028
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.151			0.156			0.307

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.

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

MULTI-MODAL TOTAL RAIL PASSENGERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

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	16	72	0.000	16	72	0.022	16	72	0.022
08:00 - 09:00	16	72	0.000	16	72	0.017	16	72	0.017
09:00 - 10:00	16	72	0.000	16	72	0.004	16	72	0.004
10:00 - 11:00	16	72	0.000	16	72	0.002	16	72	0.002
11:00 - 12:00	16	72	0.001	16	72	0.001	16	72	0.002
12:00 - 13:00	16	72	0.002	16	72	0.002	16	72	0.004
13:00 - 14:00	16	72	0.002	16	72	0.000	16	72	0.002
14:00 - 15:00	16	72	0.002	16	72	0.002	16	72	0.004
15:00 - 16:00	16	72	0.002	16	72	0.000	16	72	0.002
16:00 - 17:00	16	72	0.009	16	72	0.000	16	72	0.009
17:00 - 18:00	16	72	0.018	16	72	0.000	16	72	0.018
18:00 - 19:00	16	72	0.016	16	72	0.002	16	72	0.018
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.052			0.052			0.104

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.

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

MULTI-MODAL COACH PASSENGERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

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	16	72	0.000	16	72	0.000	16	72	0.000
08:00 - 09:00	16	72	0.000	16	72	0.000	16	72	0.000
09:00 - 10:00	16	72	0.000	16	72	0.000	16	72	0.000
10:00 - 11:00	16	72	0.000	16	72	0.000	16	72	0.000
11:00 - 12:00	16	72	0.000	16	72	0.000	16	72	0.000
12:00 - 13:00	16	72	0.000	16	72	0.000	16	72	0.000
13:00 - 14:00	16	72	0.000	16	72	0.000	16	72	0.000
14:00 - 15:00	16	72	0.001	16	72	0.000	16	72	0.001
15:00 - 16:00	16	72	0.000	16	72	0.000	16	72	0.000
16:00 - 17:00	16	72	0.000	16	72	0.000	16	72	0.000
17:00 - 18:00	16	72	0.000	16	72	0.000	16	72	0.000
18:00 - 19:00	16	72	0.000	16	72	0.000	16	72	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.001			0.000			0.001

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.

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

MULTI-MODAL PUBLIC TRANSPORT USERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

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	16	72	0.000	16	72	0.051	16	72	0.051
08:00 - 09:00	16	72	0.001	16	72	0.061	16	72	0.062
09:00 - 10:00	16	72	0.006	16	72	0.021	16	72	0.027
10:00 - 11:00	16	72	0.015	16	72	0.015	16	72	0.030
11:00 - 12:00	16	72	0.006	16	72	0.009	16	72	0.015
12:00 - 13:00	16	72	0.014	16	72	0.016	16	72	0.030
13:00 - 14:00	16	72	0.006	16	72	0.004	16	72	0.010
14:00 - 15:00	16	72	0.012	16	72	0.010	16	72	0.022
15:00 - 16:00	16	72	0.040	16	72	0.012	16	72	0.052
16:00 - 17:00	16	72	0.030	16	72	0.002	16	72	0.032
17:00 - 18:00	16	72	0.031	16	72	0.004	16	72	0.035
18:00 - 19:00	16	72	0.042	16	72	0.004	16	72	0.046
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.203			0.209			0.412

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.

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): 1.75

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	16	72	0.114	16	72	0.596	16	72	0.710
08:00 - 09:00	16	72	0.243	16	72	0.866	16	72	1.109
09:00 - 10:00	16	72	0.241	16	72	0.303	16	72	0.544
10:00 - 11:00	16	72	0.181	16	72	0.274	16	72	0.455
11:00 - 12:00	16	72	0.231	16	72	0.231	16	72	0.462
12:00 - 13:00	16	72	0.247	16	72	0.244	16	72	0.491
13:00 - 14:00	16	72	0.271	16	72	0.258	16	72	0.529
14:00 - 15:00	16	72	0.255	16	72	0.263	16	72	0.518
15:00 - 16:00	16	72	0.619	16	72	0.328	16	72	0.947
16:00 - 17:00	16	72	0.577	16	72	0.295	16	72	0.872
17:00 - 18:00	16	72	0.621	16	72	0.259	16	72	0.880
18:00 - 19:00	16	72	0.529	16	72	0.276	16	72	0.805
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			4.129			4.193			8.322

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.

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

MULTI-MODAL CARS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

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	16	72	0.059	16	72	0.294	16	72	0.353
08:00 - 09:00	16	72	0.115	16	72	0.371	16	72	0.486
09:00 - 10:00	16	72	0.113	16	72	0.144	16	72	0.257
10:00 - 11:00	16	72	0.078	16	72	0.122	16	72	0.200
11:00 - 12:00	16	72	0.108	16	72	0.121	16	72	0.229
12:00 - 13:00	16	72	0.136	16	72	0.122	16	72	0.258
13:00 - 14:00	16	72	0.140	16	72	0.143	16	72	0.283
14:00 - 15:00	16	72	0.133	16	72	0.149	16	72	0.282
15:00 - 16:00	16	72	0.240	16	72	0.153	16	72	0.393
16:00 - 17:00	16	72	0.269	16	72	0.144	16	72	0.413
17:00 - 18:00	16	72	0.311	16	72	0.135	16	72	0.446
18:00 - 19:00	16	72	0.281	16	72	0.139	16	72	0.420
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.983	2.037			4.020		

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.

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

MULTI-MODAL LGVS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

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	16	72	0.012	16	72	0.036	16	72	0.048
08:00 - 09:00	16	72	0.020	16	72	0.029	16	72	0.049
09:00 - 10:00	16	72	0.019	16	72	0.012	16	72	0.031
10:00 - 11:00	16	72	0.029	16	72	0.029	16	72	0.058
11:00 - 12:00	16	72	0.016	16	72	0.026	16	72	0.042
12:00 - 13:00	16	72	0.022	16	72	0.018	16	72	0.040
13:00 - 14:00	16	72	0.025	16	72	0.025	16	72	0.050
14:00 - 15:00	16	72	0.023	16	72	0.024	16	72	0.047
15:00 - 16:00	16	72	0.023	16	72	0.019	16	72	0.042
16:00 - 17:00	16	72	0.032	16	72	0.017	16	72	0.049
17:00 - 18:00	16	72	0.038	16	72	0.016	16	72	0.054
18:00 - 19:00	16	72	0.016	16	72	0.018	16	72	0.034
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.275			0.269			0.544

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.

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

MULTI-MODAL MOTOR CYCLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

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	16	72	0.000	16	72	0.003	16	72	0.003
08:00 - 09:00	16	72	0.001	16	72	0.004	16	72	0.005
09:00 - 10:00	16	72	0.002	16	72	0.001	16	72	0.003
10:00 - 11:00	16	72	0.003	16	72	0.003	16	72	0.006
11:00 - 12:00	16	72	0.001	16	72	0.000	16	72	0.001
12:00 - 13:00	16	72	0.001	16	72	0.001	16	72	0.002
13:00 - 14:00	16	72	0.000	16	72	0.001	16	72	0.001
14:00 - 15:00	16	72	0.001	16	72	0.004	16	72	0.005
15:00 - 16:00	16	72	0.001	16	72	0.001	16	72	0.002
16:00 - 17:00	16	72	0.006	16	72	0.003	16	72	0.009
17:00 - 18:00	16	72	0.003	16	72	0.001	16	72	0.004
18:00 - 19:00	16	72	0.001	16	72	0.000	16	72	0.001
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.020			0.022			0.042

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.



Appendix G: Super Output Area and Traffic Distribution Data

The map displays the Knowsley 007 ward boundary in red. Key roads shown include the A58, A57, and M57. Surrounding areas include Prescot, Whiston, Mosscroft, and Pluckington. The map also shows the Liverpool to Manchester Lines and the Knowsley Safari Park Train Station. A legend in the top right corner indicates 'Area' and 'Hover over an area'. The map is credited to Leaflet and OpenStreetMap contributors.

Table G1: Workplace Destinations

Location	Car	Outside	Route		
	Driver	Peak	1	2	3
Allerdale	1	1			
Blackburn with Darwen	1			1	
Bolton	2			2	
Bury	1			1	
Cheshire East	6			6	
Cheshire West and Chester	23			23	
Chorley	1				1
Copeland	2	2			
Halton	66		33	33	
Lancaster	1	1			
Liverpool	324			324	
Manchester	19		9	10	
Oldham	4	4			
Pendle	1	1			
Preston	6			3	3
Rochdale	5			5	
Salford	17		9	8	
Sefton	60			60	
Stockport	6		3	3	
Tameside	2	2			
Trafford	14		7	7	
Warrington	84		84		
West Lancashire	53			53	
Wigan	22				22
Wirral	17			17	
E02001327 : Knowsley 001	17			17	
E02001329 : Knowsley 003	16			16	
E02001330 : Knowsley 004	4			4	
E02001331 : Knowsley 005	76			76	
E02001332 : Knowsley 006	2			2	
E02001333 : Knowsley 007	109				109
E02001334 : Knowsley 008	13			13	
E02001335 : Knowsley 009	97		65		32
E02001336 : Knowsley 010	12			12	
E02001337 : Knowsley 011	20			20	
E02001338 : Knowsley 012	3			3	
E02001339 : Knowsley 013	20		20		
E02001340 : Knowsley 014	2			2	
E02001341 : Knowsley 015	67			67	
E02001342 : Knowsley 016	32			32	
E02001343 : Knowsley 017	40		20	20	
E02001344 : Knowsley 018	1			1	
E02001345 : Knowsley 019	1			1	
E02001346 : Knowsley 020	19			19	
E02001406 : St. Helens 001	13				13
E02001408 : St. Helens 003	1				1
E02001409 : St. Helens 004	3				3
E02001410 : St. Helens 005	9				9
E02001411 : St. Helens 006	1				1
E02001412 : St. Helens 007	7				7
E02001413 : St. Helens 008	1				1
E02001414 : St. Helens 009	6				6
E02001416 : St. Helens 011	2				2
E02001417 : St. Helens 012	29				29
E02001418 : St. Helens 013	1		1		
E02001419 : St. Helens 014	41				41
E02001420 : St. Helens 015	7		3		4
E02001421 : St. Helens 016	11				11
E02001422 : St. Helens 017	3				3
E02001423 : St. Helens 018	12				12
E02001424 : St. Helens 019	28		14		14
E02001425 : St. Helens 020	5		2		3
E02001426 : St. Helens 021	11		11		
E02001427 : St. Helens 022	9		9		
E02001428 : St. Helens 023	16		16		
	1,505	11	306	861	327

149420.48%57.63%21.89%100.00%

20.00%58.00%22.00%100.00%



Appendix H: Junctions 9 Outputs:
Site Access

Junctions 9
PICADY 9 - Priority Intersection Module
Version: 9.5.1.7462 © Copyright TRL Limited, 2019
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Filename: Site access.j9

Path: L:\Projects\CBO-0206 Carr Lane, Prescott & AXIS, Liverpool\2021\Modelling

Report generation date: 27/01/2022 12:21:00

»Proposed Junction - 2032 with Allocation, AM

»Proposed Junction - 2032 with Allocation, PM

Summary of junction performance

	AM							PM						
	Set ID	Q (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Res Cap	Set ID	Q (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Res Cap
Proposed Junction - 2032 with Allocation														
Stream B-AC	D1	0.0	5.40	0.05	A	0.61	554 %	D2	0.0	5.01	0.02	A	0.62	480 %
Stream C-AB		0.0	5.88	0.02	A		[Stream B-AC]		0.1	5.48	0.05	A		[Stream C-AB]

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of Av. delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted Av.s. Res Cap indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	Site access, Prescot Way
Location	
Site number	
Date	27/01/2022
Version	
Status	
Identifier	
Client	
Jobnumber	CBO-0206
Enumerator	CBO
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Av. delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Calculate Q Percentiles	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Av. Delay threshold (s)	Q threshold (PCU)
	✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2032 with Allocation	AM	ONE HOUR	07:30	09:00	15
D2	2032 with Allocation	PM	ONE HOUR	16:30	18:00	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	Proposed Junction	100.000

Proposed Junction - 2032 with Allocation, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.61	A

Junction Network Options

Driving side	Lighting	Res Cap (%)	First arm reaching threshold
Left	Normal/unknown	554	Stream B-AC

Arms

Arms

Arm	Name	Description	Arm type
A	Prescot Park Way (SE)		Major
B	Site Access		Minor
C	Prescot Park Way (NW)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.80			60.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	5.00	30	27

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (Veh/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	601	0.106	0.267	0.168	0.381
B-C	769	0.114	0.288	-	-
C-B	609	0.228	0.228	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.
Streams may be combined, in which case capacity will be adjusted.
Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2032 with Allocation	AM	ONE HOUR	07:30	09:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Av. Demand (Veh/hr)	Scaling Factor (%)
A		✓	216	100.000
B		✓	30	100.000
C		✓	103	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	2	214
	B	0	0	30
	C	95	8	0

Vehicle Mix

HV %s

	To			
From		A	B	C
	A	0	0	2
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Q (Veh)	Max LOS
B-AC	0.05	5.40	0.0	A
C-AB	0.02	5.88	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:30 - 07:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	23	722	0.031	22	0.0	5.147	A
C-AB	7	620	0.011	7	0.0	5.874	A
C-A	71			71			
A-B	2			2			
A-C	161			161			

07:45 - 08:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	27	713	0.038	27	0.0	5.250	A
C-AB	8	622	0.013	8	0.0	5.864	A
C-A	84			84			
A-B	2			2			
A-C	192			192			

08:00 - 08:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	33	700	0.047	33	0.0	5.397	A
C-AB	11	626	0.017	11	0.0	5.851	A
C-A	103			103			
A-B	2			2			
A-C	236			236			

08:15 - 08:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	33	700	0.047	33	0.0	5.397	A
C-AB	11	626	0.017	11	0.0	5.852	A
C-A	103			103			
A-B	2			2			
A-C	236			236			

08:30 - 08:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
--------	-----------------------	-------------------	-----	---------------------	-----------------	-----------	-------------------------------

B-AC	27	713	0.038	27	0.0	5.250	A
C-AB	8	622	0.013	8	0.0	5.867	A
C-A	84			84			
A-B	2			2			
A-C	192			192			

08:45 - 09:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	23	722	0.031	23	0.0	5.150	A
C-AB	7	620	0.011	7	0.0	5.877	A
C-A	71			71			
A-B	2			2			
A-C	161			161			

Proposed Junction - 2032 with Allocation, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.62	A

Junction Network Options

Driving side	Lighting	Res Cap (%)	First arm reaching threshold
Left	Normal/unknown	480	Stream C-AB

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2032 with Allocation	PM	ONE HOUR	16:30	18:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Av. Demand (Veh/hr)	Scaling Factor (%)
A		✓	126	100.000
B		✓	11	100.000
C		✓	199	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
From	A	0	5	121
	B	0	0	11
	C	178	21	0

Vehicle Mix

HV %s

	To			
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Q (Veh)	Max LOS
B-AC	0.02	5.01	0.0	A
C-AB	0.05	5.48	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	8	743	0.011	8	0.0	4.901	A
C-AB	20	677	0.029	20	0.0	5.473	A
C-A	130			130			
A-B	4			4			
A-C	91			91			

16:45 - 17:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	10	737	0.013	10	0.0	4.947	A
C-AB	25	691	0.036	25	0.0	5.400	A
C-A	154			154			
A-B	4			4			

A-C	109			109			
-----	-----	--	--	-----	--	--	--

17:00 - 17:15

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	12	730	0.017	12	0.0	5.012	A
C-AB	32	710	0.045	32	0.1	5.308	A
C-A	187			187			
A-B	6			6			
A-C	133			133			

17:15 - 17:30

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	12	730	0.017	12	0.0	5.012	A
C-AB	32	710	0.045	32	0.1	5.307	A
C-A	187			187			
A-B	6			6			
A-C	133			133			

17:30 - 17:45

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	10	737	0.013	10	0.0	4.949	A
C-AB	25	691	0.036	25	0.0	5.402	A
C-A	154			154			
A-B	4			4			
A-C	109			109			

17:45 - 18:00

Stream	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
B-AC	8	743	0.011	8	0.0	4.903	A
C-AB	20	677	0.029	20	0.0	5.476	A
C-A	130			130			
A-B	4			4			
A-C	91			91			



Appendix I:

Junctions 9 Outputs:
Prescot Park Way / Carr Lane / Cables Way

Junctions 9
ARCADY 9 - Roundabout Module
Version: 9.5.1.7462 © Copyright TRL Limited, 2019
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Filename: Prescott PW_Carr Lane.j9

Path: L:\Projects\CBO-0206 Carr Lane, Prescott & AXIS, Liverpool\2021\Modelling

Report generation date: 27/01/2022 12:24:47

- »Existing Junction - 2021 Observed, AM
- »Existing Junction - 2021 Observed, PM
- »Existing Junction - 2032 With Allocation, AM
- »Existing Junction - 2032 With Allocation, PM

Summary of junction performance

	AM							PM						
	Set ID	Q (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Res Cap	Set ID	Q (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Res Cap
	Existing Junction - 2021 Observed													
Arm A	D1	0.2	2.72	0.14	A	3.04	269 %	D2	0.4	3.28	0.27	A	3.43	193 %
Arm B		0.1	2.67	0.11	A		[Arm C]		0.1	2.68	0.07	A		[Arm C]
Arm C		0.3	3.44	0.25	A				0.5	3.75	0.32	A		
	Existing Junction - 2032 With Allocation													
Arm A	D3	0.2	2.90	0.19	A	3.31	183 %	D4	0.5	3.76	0.35	A	3.95	124 %
Arm B		0.2	2.91	0.18	A		[Arm C]		0.1	2.90	0.10	A		[Arm C]
Arm C		0.5	3.83	0.32	A				0.7	4.38	0.41	A		

Values shown are the highest values encountered over all time segments. Delay is the maximum value of Av. delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted Av.s. Res Cap indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	Prescot Park Way / Carr Lane / Cables Way
Location	
Site number	
Date	27/01/2022
Version	
Status	
Identifier	
Client	

Jobnumber	CBO-0206
Enumerator	CBO
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Av. delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin

Analysis Options

Calculate Q Percentiles	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Av. Delay threshold (s)	Q threshold (PCU)
	✓	Delay	0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2021 Observed	AM	ONE HOUR	07:30	09:00	15
D2	2021 Observed	PM	ONE HOUR	16:30	18:00	15
D3	2032 With Allocation	AM	ONE HOUR	07:30	09:00	15
D4	2032 With Allocation	PM	ONE HOUR	16:30	18:00	15

Analysis Set Details

ID	Name	Network flow scaling factor (%)
A1	Existing Junction	100.000

Existing Junction - 2021 Observed, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C	3.04	A

Junction Network Options

Driving side	Lighting	Res Cap (%)	First arm reaching threshold
Left	Normal/unknown	269	Arm C

Arms

Arms

Arm	Name	Description
A	Cables Way	
B	Prescot Park Way	
C	Carr Lane	

Roundabout Geometry

Arm	V (m)	E (m)	I' (m)	R (m)	D (m)	PHI (deg)	Exit only
A	3.60	6.30	10.8	27.0	45.0	20.0	
B	3.40	6.10	28.2	15.0	45.0	17.0	
C	3.50	6.10	7.3	15.0	45.0	26.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.626	1619
B	0.637	1704
C	0.573	1425

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2021 Observed	AM	ONE HOUR	07:30	09:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Av. Demand (Veh/hr)	Scaling Factor (%)
A		✓	198	100.000
B		✓	157	100.000
C		✓	322	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	6	192
	B	4	2	151
	C	260	62	0

Vehicle Mix

HV %s

	To			
From		A	B	C
	A	0	0	2
	B	0	0	3
	C	1	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Q (Veh)	Max LOS
A	0.14	2.72	0.2	A
B	0.11	2.67	0.1	A
C	0.25	3.44	0.3	A

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	149	48	1557	0.096	149	0.1	2.555	A
B	118	144	1565	0.076	118	0.1	2.487	A
C	242	5	1403	0.173	242	0.2	3.098	A

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	178	57	1551	0.115	178	0.1	2.620	A
B	141	173	1547	0.091	141	0.1	2.559	A
C	289	5	1403	0.206	289	0.3	3.233	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	218	70	1543	0.141	218	0.2	2.715	A
B	173	211	1523	0.114	173	0.1	2.666	A
C	355	7	1402	0.253	354	0.3	3.435	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	218	70	1543	0.141	218	0.2	2.716	A
B	173	211	1523	0.114	173	0.1	2.666	A
C	355	7	1402	0.253	355	0.3	3.435	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	178	58	1551	0.115	178	0.1	2.621	A
B	141	173	1547	0.091	141	0.1	2.562	A
C	289	5	1403	0.206	290	0.3	3.234	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	149	48	1557	0.096	149	0.1	2.558	A
B	118	145	1565	0.076	118	0.1	2.489	A
C	242	5	1403	0.173	243	0.2	3.104	A

Existing Junction - 2021 Observed, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C	3.43	A

Junction Network Options

Driving side	Lighting	Res Cap (%)	First arm reaching threshold
Left	Normal/unknown	193	Arm C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2021 Observed	PM	ONE HOUR	16:30	18:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Av. Demand (Veh/hr)	Scaling Factor (%)
A		✓	366	100.000
B		✓	93	100.000
C		✓	408	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	7	359
	B	9	0	84
	C	279	128	1

Vehicle Mix

HV %s

	To			
		A	B	C
	A	0	0	2
	B	0	0	0
From	C	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Q (Veh)	Max LOS
A	0.27	3.28	0.4	A
B	0.07	2.68	0.1	A
C	0.32	3.75	0.5	A

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	276	97	1528	0.180	275	0.2	2.871	A
B	70	270	1529	0.046	70	0.0	2.467	A
C	307	7	1412	0.218	306	0.3	3.253	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	329	116	1516	0.217	329	0.3	3.031	A
B	84	323	1494	0.056	84	0.1	2.552	A
C	367	8	1411	0.260	366	0.3	3.446	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	403	142	1500	0.269	403	0.4	3.280	A
B	102	396	1447	0.071	102	0.1	2.677	A
C	449	10	1410	0.319	449	0.5	3.743	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	403	142	1500	0.269	403	0.4	3.280	A
B	102	396	1447	0.071	102	0.1	2.677	A
C	449	10	1410	0.319	449	0.5	3.746	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	329	116	1516	0.217	329	0.3	3.036	A
B	84	324	1494	0.056	84	0.1	2.552	A
C	367	8	1411	0.260	367	0.4	3.452	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	276	97	1528	0.180	276	0.2	2.877	A
B	70	271	1528	0.046	70	0.0	2.469	A
C	307	7	1412	0.218	307	0.3	3.260	A

Existing Junction - 2032 With Allocation, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C	3.31	A

Junction Network Options

Driving side	Lighting	Res Cap (%)	First arm reaching threshold
Left	Normal/unknown	183	Arm C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2032 With Allocation	AM	ONE HOUR	07:30	09:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Av. Demand (Veh/hr)	Scaling Factor (%)
A		✓	258	100.000
B		✓	243	100.000
C		✓	403	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
		A	B	C
	A	0	15	243
	B	31	8	204
	C	321	81	1

Vehicle Mix

HV %s

	To			
		A	B	C
	A	0	0	2
	B	0	0	2
	C	1	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Q (Veh)	Max LOS
A	0.19	2.90	0.2	A
B	0.18	2.91	0.2	A
C	0.32	3.83	0.5	A

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	194	68	1546	0.126	194	0.1	2.659	A
B	183	183	1559	0.117	182	0.1	2.615	A
C	303	29	1392	0.218	302	0.3	3.301	A

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	232	81	1538	0.151	232	0.2	2.755	A
B	218	219	1536	0.142	218	0.2	2.731	A
C	362	35	1388	0.261	362	0.4	3.507	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
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A	284	99	1527	0.186	284	0.2	2.896	A
B	268	268	1504	0.178	267	0.2	2.909	A
C	444	43	1384	0.321	443	0.5	3.824	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	284	99	1527	0.186	284	0.2	2.896	A
B	268	269	1504	0.178	268	0.2	2.910	A
C	444	43	1384	0.321	444	0.5	3.827	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	232	81	1538	0.151	232	0.2	2.756	A
B	218	220	1536	0.142	219	0.2	2.735	A
C	362	35	1388	0.261	363	0.4	3.510	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	194	68	1546	0.126	194	0.1	2.662	A
B	183	184	1559	0.117	183	0.1	2.617	A
C	303	29	1392	0.218	304	0.3	3.311	A

Existing Junction - 2032 With Allocation, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C	3.95	A

Junction Network Options

Driving side	Lighting	Res Cap (%)	First arm reaching threshold
Left	Normal/unknown	124	Arm C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2032 With Allocation	PM	ONE HOUR	16:30	18:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Av. Demand (Veh/hr)	Scaling Factor (%)
A		✓	465	100.000
B		✓	132	100.000
C		✓	526	100.000

Origin-Destination Data

Demand (Veh/hr)

	To			
From		A	B	C
	A	0	26	439
	B	22	2	108
	C	352	171	3

Vehicle Mix

HV %s

	To			
From		A	B	C
	A	0	0	2
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Q (Veh)	Max LOS
A	0.35	3.76	0.5	A
B	0.10	2.90	0.1	A
C	0.41	4.38	0.7	A

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	350	132	1507	0.232	349	0.3	3.104	A
B	99	332	1489	0.067	99	0.1	2.590	A
C	396	18	1405	0.282	394	0.4	3.556	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	418	158	1491	0.280	418	0.4	3.353	A
B	119	397	1446	0.082	119	0.1	2.711	A
C	473	22	1403	0.337	472	0.5	3.865	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	512	194	1470	0.348	511	0.5	3.755	A
B	145	486	1388	0.105	145	0.1	2.895	A
C	579	26	1401	0.413	578	0.7	4.374	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	512	194	1469	0.348	512	0.5	3.758	A
B	145	487	1388	0.105	145	0.1	2.896	A
C	579	26	1401	0.413	579	0.7	4.381	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	418	158	1491	0.280	419	0.4	3.357	A
B	119	398	1446	0.082	119	0.1	2.715	A
C	473	22	1403	0.337	474	0.5	3.874	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
A	350	133	1507	0.232	350	0.3	3.112	A
B	99	333	1488	0.067	99	0.1	2.594	A
C	396	18	1405	0.282	396	0.4	3.568	A