



Reading Borough Council

Wensley Road

Transport Statement

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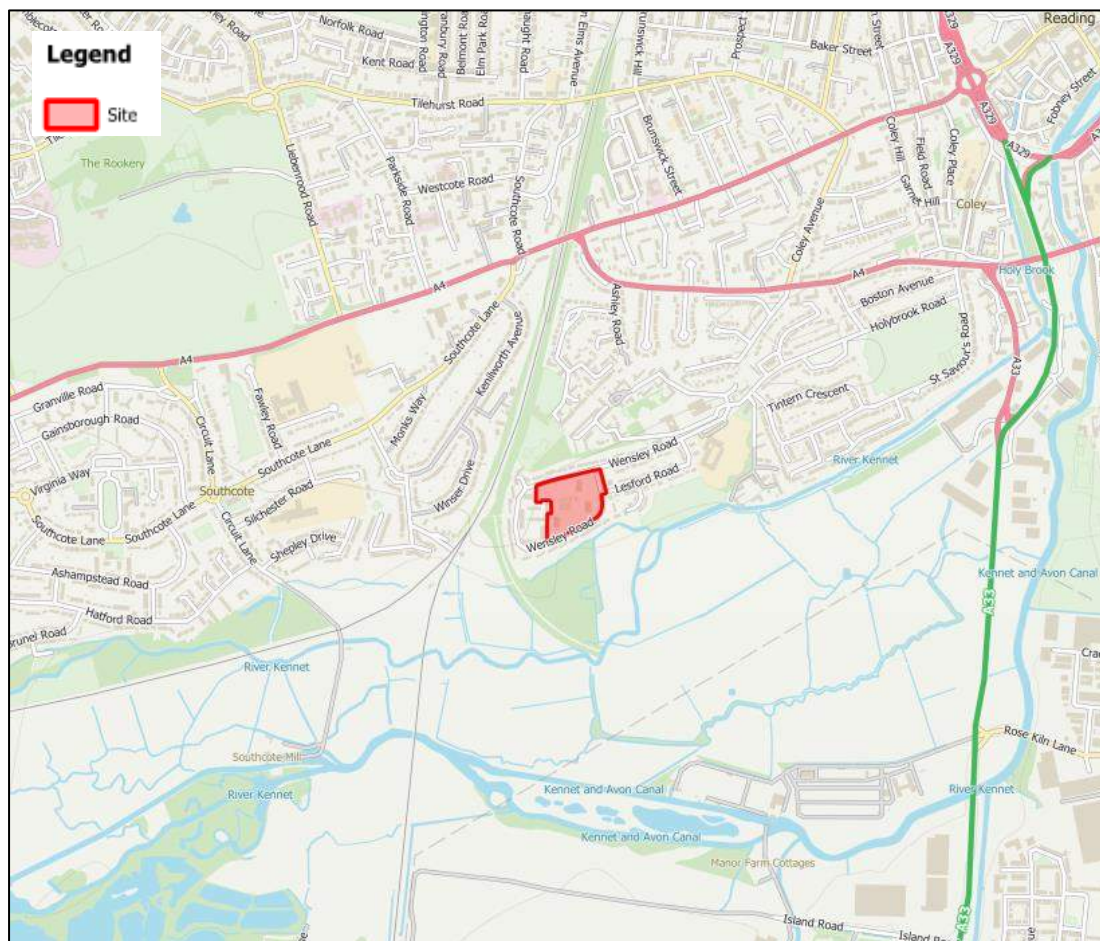
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1 Introduction

Background and Site Location

- 1.1 WYG has been commissioned by Reading Borough Council (the 'Applicant') to prepare a Transport Statement (TS) to support a proposed residential development at Wensley Road, Reading (the 'site').
- 1.2 The site is situated within the Wensley Road Loop, with the vast majority of the surrounding area made up of semi-detached/terrace housing and blocks of flats. There are a number of single-story garage blocks in the area while a newly constructed bungalow and three houses are located at the south-eastern corner of Wensley Road. The site lies directly to the east of the main railway line into Reading. While the A33 is located approximately 2km east of the site.
- 1.3 The location of the site in the context of the local highway is shown in **Figure 1.1**.

Figure 1.1 Site Location Plan



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- 1.4 This TS considers the transport characteristics of the proposed development, identifying the likely impact of the proposals and considers the means of access and potential parking requirements.



Development Proposals

- 1.5 The development proposal is for an outline planning application for a residential development up to 46 affordable dwellings with a mix of housing and flats, with associated infrastructure.

Report Structure

- 1.6 Following this introductory chapter, the remainder of this TA is structured as follows:
- **Chapter 2: Policy Review** – provides a review of national and local development and transport planning policy relevant to the location, scale and type of the proposal.
 - **Chapter 3: Existing Conditions** – provides an outline review of the existing transport conditions prevailing at the development Site and in the immediate surrounding area, including a review of the most recently available Personal Injury Accident (PIA) data statistics;
 - **Chapter 4: Development Proposals** – sets out the development proposals including existing and proposed land uses, access arrangements and parking provision;
 - **Chapter 5: Trip Assessment** – presents the results of the trip generation assessment and mode split relative to the proposal; and
 - **Chapter 6: Summary and Conclusions** – Provides a summary and conclusion by highlighting the key points raised within the report.



2 Policy Review

Introduction

- 2.1 This chapter of the TS examines the context of the site and how it relates to the relevant planning policies and guidelines. The specific policy documents which have been reviewed are as follows:

National Policy

- Transport White Paper (2011); and
- National Planning Policy Framework (NPPF) (2019).

Local Policy

- Reading Local Plan (2019);
- Reading Borough Council - Local Transport Plan 3: 2011 – 2026; and
- Reading Borough Council - Parking Standards.

National Policy

The Transport White Paper (2011)

- 2.2 The Government's vision for the local transport system is set out in the January 2011 Transport White paper "Creating Growth, Cutting Carbon – Making Sustainable Local Transport Happen".
- 2.3 The White Paper acknowledges that transport provision is essential for economic growth if the Government is to improve the economic deficit that it is currently facing. However, The Paper also recognises that the current levels of carbon emissions from transport cannot be sustained if the nation is to meet its national commitment on climate change as well as creating a safer and cleaner environment in which to live. With this in mind, the Government highlights sustainable transport solutions as a means by which the economy can grow which will also see a positive impact on the local environs.
- 2.4 Whilst the Paper outlines the funding options which will be available for sustainable transport schemes, it also recognises that investment alone will not be enough, and that help needs to be given to people to ensure that the transport choices they make are good for society as a whole. The Paper recognises that it is at the local level where most can be done to encourage sustainable transport modes and implement sustainable transport schemes. Solutions should be developed for the places they serve, tailored for the specific needs and behaviour patterns of individual communities.
- 2.5 Within the Paper, sustainable transport considers more than just public transport, walking and cycling schemes and acknowledges that it is not feasible for some trips to be undertaken by these modes. There is therefore a realisation that the car will continue to be an important mode of transport and focus should be given to making car travel greener through electric and other low emission vehicles.



National Planning Policy Framework (NPPF) (2019)

- 2.6 The NPPF was originally published in March 2012 but has subsequently been updated with the latest update in 2019.
- 2.7 The NPPF sets out the Government's expectations and requirements from the planning system. It is meant as a high-level guidance for local councils to use when defining their own personal local and neighbourhood plans. This approach allows the planning system to be tailored to reflect the needs and priorities of individual communities.
- 2.8 The NPPF defines the delivery of sustainable development through three roles:
- Planning for prosperity (an economic role);
 - Planning for people (a social role); and
 - Planning for places (an environmental role).
- 2.9 It notes that to achieve sustainable development, these roles should be sought jointly and simultaneously through the planning system.
- 2.10 NPPF recognises that transport policies have an important role to play in wider sustainability and health objectives as well as their direct influence on development. It seeks to ensure that the transport system is balanced in favour of sustainable transport modes giving people a real choice about how they travel.
- 2.11 NPPF states that all developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. It goes on to mention that plans and decisions should take account of whether:
- 'The opportunities for sustainable transport modes have been taken up depending on the nature and location of the Site, to reduce the need for major transport infrastructure;
 - Safe and suitable access to the Site can be achieved for all people; and
 - Improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.'
- 2.12 NPPF sets out to ensure that: 'developments that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised.'
- 2.13 It goes on to mention that Plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people. Therefore, developments should be located and designed where practical to:
- Give priority to pedestrian and cycle movements, and have access to high quality public transport facilities; and



- create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter.

2.14 Paragraph 105 covers parking standards and states:

- The accessibility of the development;
- The type, mix and use of development;
- The availability of and opportunities for public transport;
- Local car ownership levels; and
- The need to ensure an adequate provision of spaces for charging plug-in and other ultra-low emission vehicles.

Local Policy

Reading Local Plan (2019)

2.15 The Draft Local Plan sets out the policies that will guide development within Reading up to 2036.

2.16 The plan was adopted on the 4th November 2019. This means that, legally, it is the main consideration in deciding planning applications in Reading. The local plan will replace all existing development plans in Reading. This means that the Core Strategy (adopted 2008, amended 2015), and Detailed Policies Document (adopted 2012, amended 2015) will all cease to be used once the Local Plan is adopted.

2.17 Policy TR1 – Achieving the Transport Strategy sets out:

'Proposed development should contribute appropriately to meeting the objectives of the most up-to-date Local Transport Plan or any successor document, including sub-strategies, specific projects identified and the local action plans. Planning permission will not be granted for major development proposals unless there is a commitment to implement measures to promote and improve sustainable transport facilities, such as through provision to encourage walking, cycling and the use of public transport; and through agreed travel plans, safe routes to local facilities and services, including schools and parks, and similar measures. All development proposals should make appropriate provision for works and contributions to ensure an adequate level of accessibility and safety by all modes of transport from all parts of a development, particularly by public transport, walking and cycling, in accordance with any agreed transport assessment submitted as part of the application.'

2.18 The council's objectives for Transport are:

- To facilitate more physically active travel for journeys in a healthy environment;
- To improve personal safety on the transport network;
- To provide affordable, accessible and inclusive travel options for everyone;



- To ensure that the transport network operates safely and efficiently to meet the needs of all users;
- To align transport and land use planning to enable sustainable travel choices, improve mobility, reduce the need to travel and preserve the natural environment;
- To deliver balanced packages of value for money transport solutions and make best use of existing transport investment;
- To offer sustainable transport choices for the Travel to Work Area and beyond, integrating within and between different types of transport;
- To improve journey times, journey time reliability and the availability of information; and
- To reduce carbon emissions from transport, improve air quality and create a transport network which supports a mobile, affordable low-carbon future.

2.19 Policy TR3 states that:

In determining proposals involving a new or altered access onto the transport network, improvement works to the transport network, the creation of new transport infrastructure or the generation of additional trips on the transport network, consideration will be given to the effect on safety, congestion and the environment.

Development will only be permitted where:-

- Accesses and works to the highway comply with the adopted standards of the Transport Authority;*
- The development would not have a material detrimental impact on the functioning of the transport network;*
- The proposals would not be detrimental to the safety of users of the transport network, including pedestrians and cyclists;*
- The proposal would not generate regular movement of heavy goods vehicles (HGVs) on unsuitable roads, or on roads without easy access to the Classified Highway Network; and*
- For non-residential uses, or new dwellings on classified roads, off-street servicing would be provided.*

Proposals involving either the construction of a new site access, or a material increase in the use of an existing site access, directly onto the Classified Highway Network will not be acceptable if they would be likely to result in the encouragement of the use of the network for short local trips or compromise the safe movement and free flow of traffic on the network or the safe use of the road.

2.20 Policy TR5 – *Development should provide car parking and cycle parking that is appropriate to the accessibility of locations within the Borough to sustainable transport facilities, particularly public transport. Development should make the following provision for electric vehicle charging points:*



- *All new houses with dedicated off-street parking should provide charging points; and,*
- *Within communal car parks for residential or non-residential developments of at least 10 spaces, 10% of spaces should provide an active charging point.*

2.21 It is important to provide enough parking so that there is not a knock-on effect on the safety and function of the highway and public transport network through on-street parking. While the over-provision of car parking, particularly at places of work, can lead to less sustainable travel choices.

2.22 Policy H14 states that:

There is scope for some of Reading's suburban residential areas to undergo renewal and regeneration that would achieve the following aims:

- *Improve the local built environment;*
- *Improve and modernise the housing stock; and*
- *Deliver additional homes.*

Where development would fulfil the above aims, it would generally be supported, subject to other policies in this plan and provided that:

- *Any loss of undeveloped land would be outweighed by a qualitative improvement in open and green space and by the benefits of development to the community as a whole;*
- *Buildings and features that make a positive contribution to the area's character are retained;*
- *There would be adequate community facilities to serve the resulting community; and*
- *There would not be an unacceptable impact on the highway network as a result of loss of parking areas or garages.*

2.23 This impact on the highway from the loss of garages proposed as part of the development is considered in this report, however it is understood that the garages are not used for parking due to their small dimensions, and there would be no impact on the highway network resulting from their loss.

Reading Borough Council - Local Transport Plan 3: 2011 - 2026

2.24 The adopted Local Transport Plan (LTP) covers the period from 2011 to 2026, although this plan is superseded by the New Local Plan set out in paragraph 2.15. This document set out the previous transport vision for Reading which aimed to better connect people to places they wish to go to through safe, sustainable and comfortable means.

2.25 The transport vision for Reading sets out that:

"Transport in Reading will better connect people to the places that they want to go easily, swiftly, safely, sustainably and in comfort. We will meet the challenge of a dynamic, low carbon future to promote prosperity for Reading".

2.26 Page 99 sets out the opportunities for addressing challenges within Reading. It sets out that to implement a phased process of neighbourhood or corridor enhancement studies and schemes to deliver multi-targeted benefits including improved safety, local connectivity, public realm and integrated transport. The relevant local centres included comprise of:

- Wensley Road; and
- Coronation Square.

Reading Borough Council - Parking Standards

2.27 Parking standards for Reading Borough Council are set out in the Reading Borough Local Development Framework, Revised Parking Standards and Design which was adopted in October 2011.

2.28 The Revised Parking Standards and Design document sets out the Reading Borough Council parking standards as summarised in **Table 2.1**. The site falls between 'Zone 2 – Primary Core Area' and 'Zone 3- Secondary Core Area', both standards are set out below.

Table 2.1 Summary of Reading Borough Council Parking Standards – Zones 2/3

Use	Vehicle Parking		Cycle Parking
	Zone 2	Zone 3	Zones 1-4
Flat 1-2 bed	1	1.5	0.5*
Flat 3+ bed	1.5	2	1*
House 1 bed	1	1	1
House 2 bed	1	1.5	2
House 3 bed	2	2	2
House 4+ bed	2	2	2
Visitor Parking	1 space per 10 dwellings (Flats only)	1 space per 4 dwellings (Flats only)	-

*If no individual secure facility e.g. store or garage associated with property, dedicated parking required. This can be in the form of communal cycle parking.

2.29 Motorcycle parking is set out in the parking standards for developments of 10 or more units, or 1000 m² or more. The motorcycle parking must be at least 2% of the maximum total car parking provision identified for each zone highlighted above.

3 Existing Conditions

Introduction

- 3.1 This section of the TS reviews the existing conditions of the site with regard to its location and accessibility by sustainable modes.

Site Location and Description

- 3.2 The site is located within the Wensley Road loop within Coley Park Estate. The site currently comprises of three 15 storey tower blocks and semi-detached and terrace housing. There are currently three parking courts serving the tower blocks, each directly accessed from Wensley Road.
- 3.3 The three existing 15 storey tower blocks, Wensley Court, Irving Court and Riversley Court, are situated within the boundary of the development site. Each of the blocks contain 89 flats with a mix of 1, 2 and 3 bed flats. The majority of these flats are owned by Reading Brough Council.
- 3.4 The site lies directly to the east of the main railway line into Reading. The A33 is located approximately 2km east of the site, as shown in **Figure 1.1**.

Accessibility Guidance

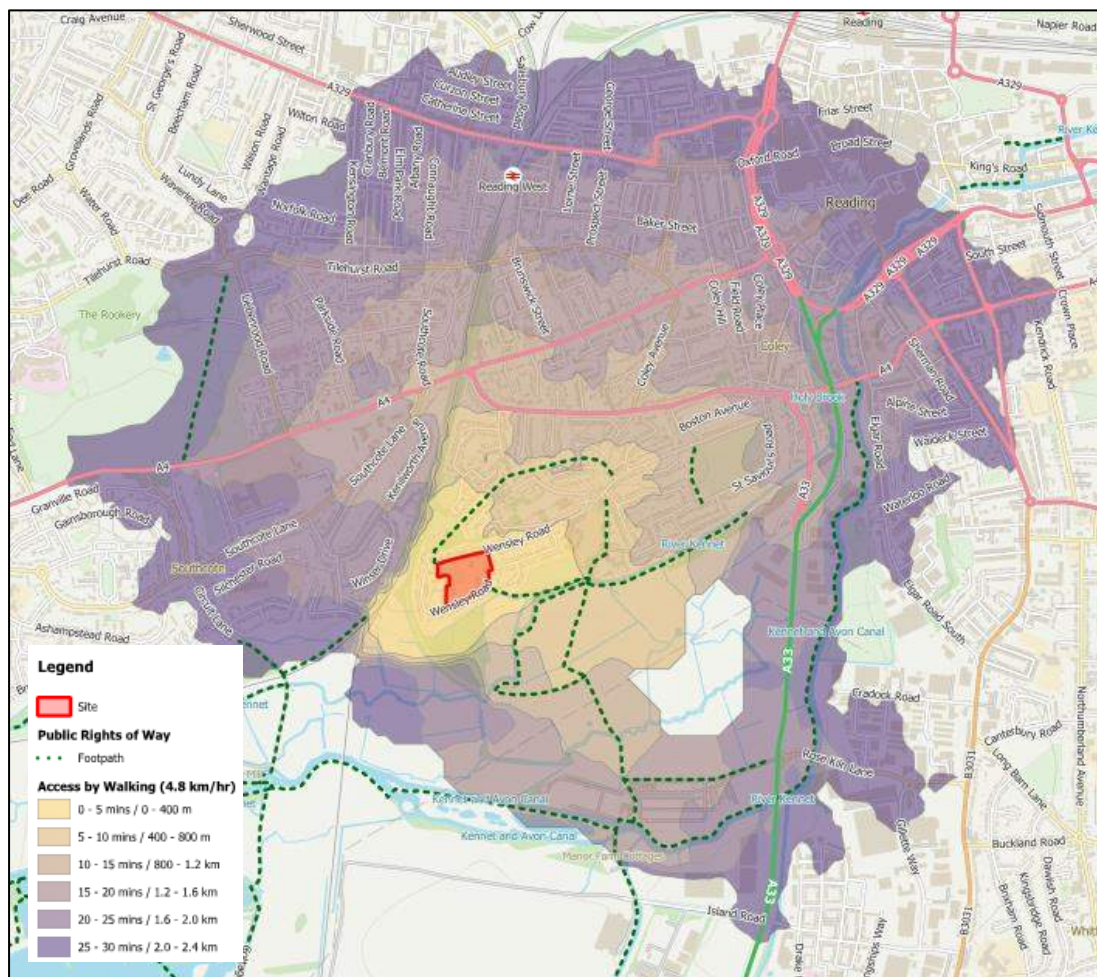
- 3.5 When considering the sustainability audit within the TS, WYG have reviewed the nationally available accessibility guidance prepared by central government and professional transport institutions for both walking and cycling.
- 3.6 The Institution of Highways and Transport (IHT) guidance document 'Planning for Walking' (April 2015) states that 80% of journeys shorter than 1.6 km are made wholly on foot with 20% for journeys that are 1.6 km to 3.2 km long also being undertaken on foot.
- 3.7 The Department for Transport; Local Transport Note 'Cycle Infrastructure Design' states that cyclists usually want to be able to travel at speeds of 19 kph, which is the average speed of a cyclist on a level surface. It is therefore considered that 16 kph is an appropriate average travel speed, given the time spent negotiating the urban realm (e.g. manoeuvring through junctions). On this basis taking the journey time for the NTS (National Travel Survey) DfT cycling speeds the average person is willing to cycle 24 minutes equating to of 6.4 km (approximately 4 miles). In terms of 79% of trips being up to 8 km (approximately 5 miles), this would equate to a cycling time of 30 minutes.
- 3.8 The Institution of Highways and Transport (IHT) guidance document 'Planning for Cycling' states most cycling trips are for short distances, with 80% being less than 8 km and with 40% being less than 3.2 km. However, most trips by all modes are also short distances (67% are less than 8 km, and 38% are less than 3.2). The bicycle is therefore a potential mode for many of these trips.

Walking and Cycling

Walking

- 3.9 Lit footways are provided along both sides of Wensley Road, Lesford Road and Berkeley Avenue. Berkeley Avenue provides a residential link into Southcote to the north of the site and to the A33 east of the site.
- 3.10 Public Right of Way (PRoW) 03 runs to the north of the site and provides an off-road link from the site to Coley Avenue. PRoW 44 runs to the south of the site and joins PRoW 36 and PRoW 06/06A. **Figure 3.1** illustrates the PRoWs in the vicinity of the site.
- 3.11 A GIS network analysis has been carried out to assess pedestrian accessibility from the development site. **Figure 3.1** shows a 30-minute walk isochrone, which has been calculated based upon a walk speed of 4.8 km/hr.

Figure 3.1 Walking Isochrone



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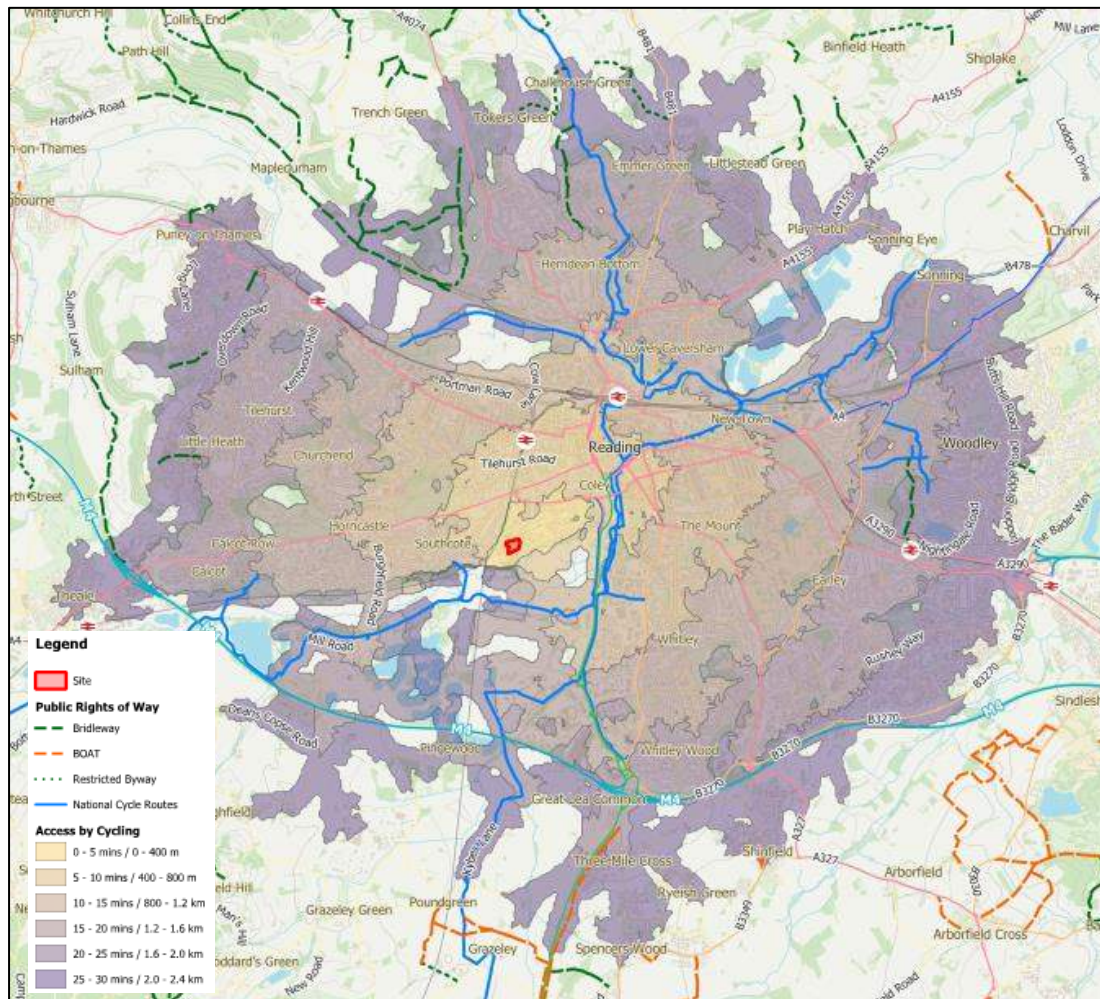


- 3.12 Analysis shows that that Reading town centre is within a 30-minute walk from the site, along with Reading West Railway Station and the local bus stops on Wensley Road, one of which will be relocated to within the site as part of the proposed development.
- 3.13 The proposed development is therefore well located and provides opportunities for future residents and Site users to access key facilities and transport networks by foot, therefore reducing the reliance on vehicle travel.

Cycling

- 3.14 National Cycle Network (NCN) 4 is located approximately 1km south of the site at the Fobney Island Nature Reserve. NCN 4 is a long-distance route between London and Fishguard via a number of major town and cities including Reading, Bath, Bristol and Newport. Within the vicinity of the site, NCN 4 comprises of a off-road route which provides a connection into Reading and subsequently to NCN 5 to the north of the site and NCN 23 to the south of the site.
- 3.15 **Figure 3.2** shows the location of the site in relation to the local cycle network.
- 3.16 A GIS network analysis has been carried out to assess cyclist accessibility from the development Site. **Figure 3.2** shows a 30-minute cycle isochrone, which has been calculated based upon a cycle speed of 16km/hr. This analysis shows that all of Reading is all within a 30-minute cycle from the development Site, in addition to the facilities set out in **Table 3.2**.

Figure 3.2 Cycling Isochrone



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- 3.17 The site is located within close proximity to a number of employment opportunities, with Reading and the surrounding areas including Caversham, Woodley and Theale.

Public Transport

Bus Services

- 3.18 The nearest bus stops in operation are located on Wensley Road adjacent to the site. These stops are served by the 11-bus service and the 'Coley Park Terminus' bus stop benefits from a shelter containing concise timetabling information.
- 3.19 **Table 3.1** shows details of the 11 route.

Table 3.1 Local Bus Services

Service	Route	Frequency (minutes)		
		Monday - Friday	Saturday	Sunday
11 ^{RB}	Reading – Coley Park	20 mins 05:58 – 23:58	20 mins 05:58 – 23:58	30 mins 08:28 – 22:33
	Coley Park – Reading	20 mins 06:00 – 12:00	20 mins 06:00 – 12:00	30 mins 08:30 – 22:33

^{RB} Reading Bus

Rail Services

- 3.20 Reading West Railway Station is located approximately 2.5km north of the site and 1.6km west of Reading town centre.
- 3.21 Reading West Railway Station is operated by Great Western Railway and is served by two trains an hour in the weekday to Basingstoke and one a hour to Newbury.
- 3.22 The journey time from Reading West to Reading Station takes approximately three minutes, with onward journey times of 20 minutes to Basingstoke, 25 minutes to Newbury and 30 minutes to London.

Local Highway Network

Wensley Road

- 3.23 Wensley Road forms a loop which runs around the outside of the development site, providing a link to Holybrook Road in the east and in turn to Berkeley Avenue. Wensley Road serves numerous residential properties and a number of commercial properties.
- 3.24 Wensley Road is subject to 20mph speed limit due in part to the presence of St Mary & All Saints C of E Primary School on Wensley Road.
- 3.25 Lit footways are provided on both sides of the carriageway and a formal pedestrian crossing is present in the form of a zebra crossing.

Berkeley Avenue

- 3.26 Berkeley Avenue provides a link from the site to the A33 in the east and Bath Road in the west. Berkeley Road is a two-way single carriageway road subject to a 30mph speed limit.
- 3.27 Lit footways are provided along both sides of the carriageway which provides direct access to numerous residential properties.
- 3.28 Berkeley Avenue benefits from a shared cycleway/footway on the south side of the carriageway which connects to the shared cycleway/footway on the A33.

A33

- 3.29 The A33 is a dual carriageway which provides a primary route into Reading Town Centre from the M4 at junction 11. The A33 is subject to a 40mph speed limit and is street lit. Footways are provided along both sides of the carriageway which provide a link into the town centre.

Accessibility to Local Services and Facilities

- 3.30 Numerous services and facilities to support local residents are provided within Reading. **Table 3.2** provides a summary of the local facilities within close proximity to the Proposed Development and the approximate walking and cycling times, using an average walking speed of 1.33 m/s and an average cycling time of 4.4m/s.

Table 3.2 Local Facilities

Service / Facility	Approximate Distance (Metres)	Approximate Walking Time (Minutes)	Approximate Cycling Time (Minutes)
Coley Park Bus Stop	To be located within site		
St Mary & All Saints C of E Primary School	450	5	1
Coley Park Doctors Surgery	550	6	2
Coley Post Office	650	8	3
Berkeley Avenue Bus Stop	1000	13	5
Coley Primary School and Nursery	1600	19	6
Castle Hill Dental Surgery	1600	21	7
Reading Town Centre	2100	26	10
Reading West Rail Station	2200	27	9
Tesco Express	2200	28	9
Morrisons	3200	39	12



Reading Gate Retail Park	4000	49	16
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- 3.31 Given the above, it is considered that the site is well located to encourage trips by future residents to be undertaken by sustainable and active modes of transport including walking and cycling.

Parking and Car Ownership

- 3.32 A total of 192 spaces are currently provided on site, comprising parking courtyards outside the three tower blocks, designated parking bays adjacent to Wensley Road in the vicinity of each tower block, and an area of garages and parking in the north-western corner of the site.
- 3.33 There are 267 flats across the three apartment blocks, and so the provision equates to 0.72 spaces per dwelling.
- 3.34 A parking survey to determine the existing use of the site was undertaken during the daytime and nighttime in November 2019. The full survey results are included as **Appendix A**. The survey showed that there was ample parking capacity during the daytime, and overnight there was spare capacity overall, principally on the roadside spaces, whilst double parking was observed in the parking courtyards.
- 3.35 2011 Census data has been used to determine car ownership in the Reading 013B output area, which covers the area around the western end of Wensley Road, as shown in **Figure 3.3**.

Figure 3.3 Reading 013B Census Output Area



- 3.36 Within Reading 013B, car ownership has been calculated as 0.83 vehicles per dwelling. Consequently, parking for the additional dwellings will be provided at this rate. Given the existing mix of houses and flats within Reading 013B, this figure is considered representative of the likely car ownership of residents of the proposed development.
- 3.37 Anecdotal evidence suggests the garages are rarely used for parking and serve only as storage units. Therefore, they have not been included as spaces within the calculations, although the spaces in front of each garage have been counted. Additionally, in line with Policy H14 of the Reading Local Plan, it is not considered that the removal of the garages would have a material impact on the highway network.

Highway Safety

- 3.38 Personal injury collision (PIC) statistical data has been obtained from Crashmap for the highway network in the vicinity of the proposed development for the latest available five-year period from 2014 to 2018. The data is provided in full in **Appendix B**.

3.39 The study area for the assessment comprises of Wensley Road, Holybrook Road and St Saviours Road. In total 9 incidents were recorded within the study area, with 5 classified as 'slight' and 4 as 'serious'.

3.40 **Table 3.3** provides a summary of the location, of the recorded incidents.

Table 3.3 Incident Summary Location

Location	Severity	Date	Description
Wensley Road			
Wensley Road	Slight	25.04.2015	Vehicle two a car is performing a U turn. While vehicle one is proceeding normally along the carriageway.
Wensley Road	Slight	03.10.2015	Vehicle one proceeding normally along the carriageway on a left-hand bend. Vehicle two is parked on the carriageway.
Wensley Road Junction with Carsdale Close	Slight	17.12.2015	Vehicle one proceeding normally along the carriageway not on a bend.
Wensley Road Junction with Carsdale Close	Serious	24.02.2016	Vehicle one proceeding normally along the carriageway, not on a bend.
Wensley Road Junction with Carsdale Close	Slight	26.07.2016	Vehicle one proceeding normally along the carriageway, not on a bend. Vehicle two proceeding normally along the carriageway, not on a bend.
Wensley Road	Serious	20.06.2018	Vehicle one proceeding normally along the carriageway not on a bend.
Holybrook Road			
At the junction with Shaw Road	Serious	07.04.2015	Vehicle two proceeding normally along the carriageway. Vehicle one is in the act of turning right.
At the junction with Shaw Road	Serious	17.11.2017	Vehicle two a cyclist was proceeding normally along the carriageway. Vehicle one was in the act of turning right.
St Saviours Road			
At the junction with Holybrook Road	Slight	25.02.2015	Vehicle one a cyclist was proceeding normally along the carriageway and vehicle two was waiting to turn right.

3.41 It is considered that the current local highway network within the study area does not result in any existing undue highway safety implications for road users and the resultant factor for incidents is down to driver error.

4 Development Proposals

- 4.1 This chapter of the TS introduces and outlines the development proposals for the site. It includes a description of the proposed land use, proposed access arrangements and servicing strategy.

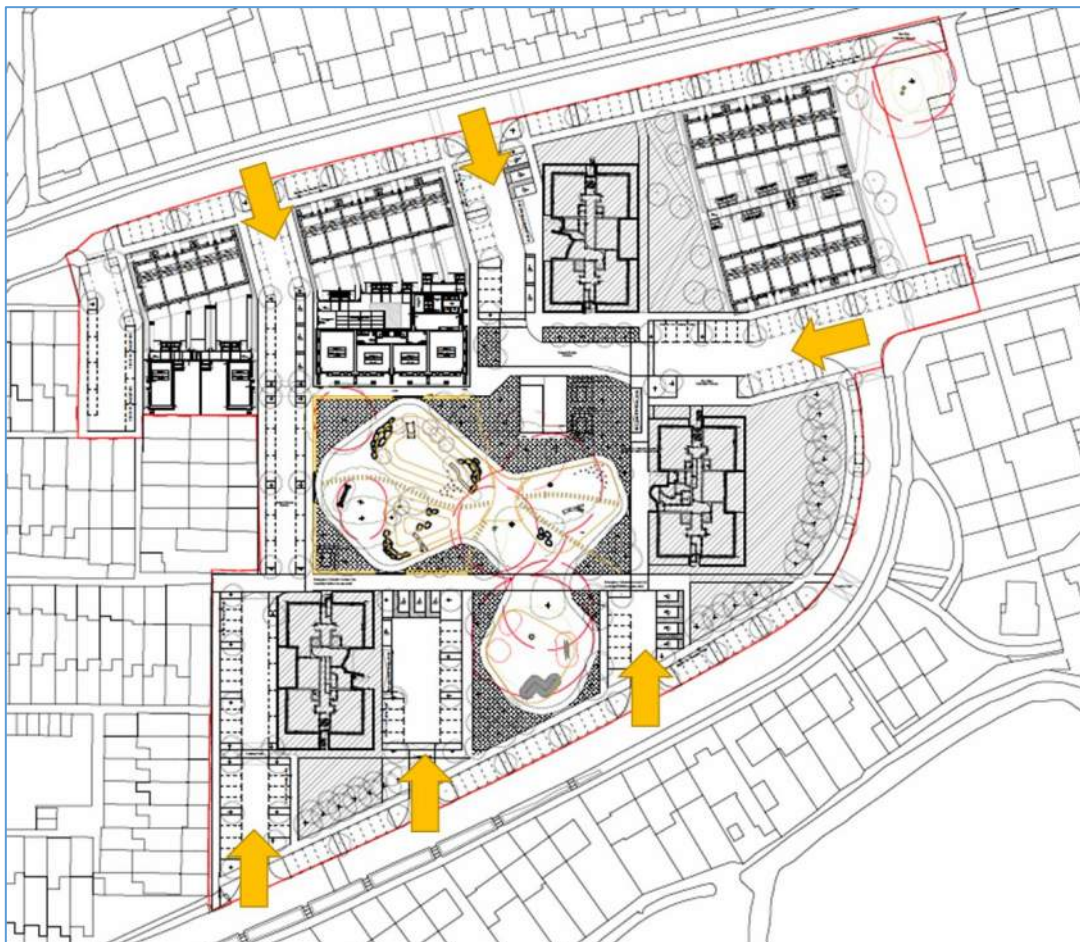
Proposed Development

- 4.2 The development proposals comprise of 46 affordable dwellings, comprising 28 houses and 18 flats, with associated infrastructure. The proposed site layout is included as **Appendix C**.

Vehicle Access

- 4.3 There are currently four vehicular access points; one each for the parking courtyards for Irving Court, Riversley Court and Wensley Court, and one serving the garages and associated parking.
- 4.4 As part of the proposals, there will be six vehicular points of access to the site from Wensley Road, as shown on **Figure 4.1**. Two through routes will be provided; one running north to south, at the western side of the site, and one running from north to east, emerging opposite Lesford Road. The other two access points will serve car parks for Irving Court and Riversley Court, the southernmost tower blocks.

Figure 4.1 Proposed Vehicular Access Points

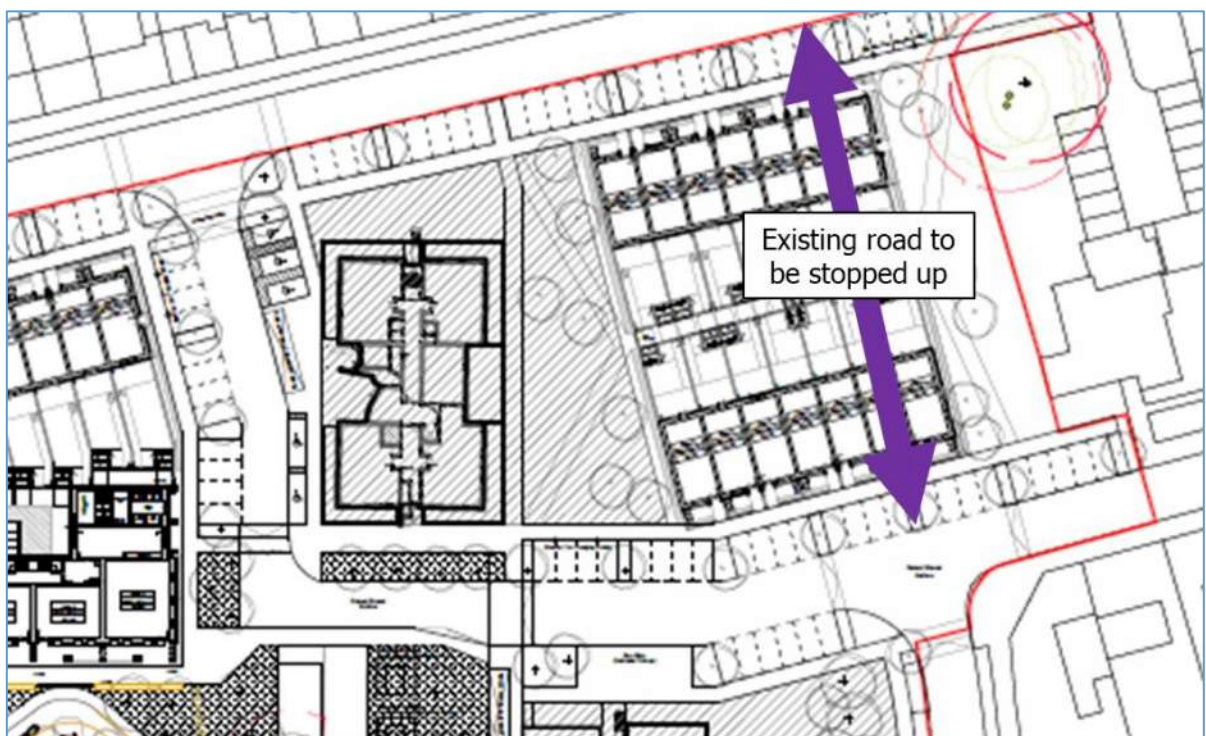


- 4.5 Wensley Road will be stopped up to the east of the site, to the north of Ledsford Road. The bus stop located on this section of the road will be relocated into the site.

Modification of Wensley Road

- 4.6 In order to facilitate the development, it is proposed that the section of Wensley Road running to the north from Lesford Road, which currently accommodates a bus lay-by and stop, will be stopped up and diverted through the development site, as illustrated on **Figure 4.2** below.

Figure 4.2 **Diversion of Wensley Road**



- 4.7 The 11 bronze bus route will be diverted along the new road alignment, with a new bus stop provided within the development. A swept path analysis of the new route is provided at **Appendix D**, which shows that the bus used on the 11 bronze route can safely negotiate the new route and access the new bus stop.
- 4.8 The bus stop will provide adequate weather protection, have seating, integral light, integral information case, flag bracket and provision for the installation of a Real Time Information screen.
- 4.9 Permission for the stopping up order and diversion will be sought separately to this planning application.



Pedestrian Access

- 4.10 Pedestrian access to the site is gained from footpaths adjacent to the vehicular accesses on Wensley Road, with footpaths through the site from the west from the adjacent houses. There will be an additional access to the east of Wensley Court, the northernmost tower block.
- 4.11 The internal layout of the site will promote walking as a sustainable mode of travel, by providing a permeable network that allows uninterrupted access to the wider area, and improving the environment for existing residents.

Refuse and Servicing Strategy

- 4.12 The proposed vehicular access strategy will be conducive towards the movements of emergency and service vehicles. A swept path assessment of the site has been undertaken for the refuse vehicle used to serve the area, as well as the Dennis Enviro 300 SG used on the 11 Bronze route, and the fire appliance used by Royal Berkshire Fire and Rescue Service to access high-rise buildings.
- 4.13 It should be noted that the vehicle used for tracking (a rigid truck) is of comparable dimensions to the high-rise fire appliance used, and is larger than the standard fire appliance. It therefore represents a worst-case scenario.
- 4.14 The swept path assessments are included as **Appendix D**.

Vehicle Parking Provision

- 4.15 As set out in Chapter 3, there is residual capacity around Wensley Road for overnight parking, and therefore additional parking will be provided for the proposed dwellings commensurate with the likely car ownership (0.82 vehicles per dwelling), which represents a higher parking:dwelling ratio than the existing situation.
- 4.16 Based on an additional 46 dwellings, an additional 38 unallocated spaces are to be provided. Therefore, there will be a total of 230 parking spaces across the site. Disabled parking will be provided in accordance with the Reading Borough Council parking standards.
- 4.17 As part of the scheme, the existing 192 parking spaces will be reorganised and rationalised to provide a safer, more efficient layout. The current parking arrangements do not provide sufficient circulation space within the parking courtyards, with difficult manoeuvres often required to access and egress spaces.
- 4.18 The proposed layout provides spaces of 2.4 x 4.8m, with an aisle width of at least 6m provided adjacent to spaces to facilitate manoeuvring, in line with current design guidance. Currently, a significant proportion of spaces are smaller than this, with aisle widths of around 4.5m within the parking courtyards.



- 4.19 Consequently, the proposed parking layout provides a significant betterment for users of the existing car parks.

5 Trip Generation

Introduction

5.1 This section of the report sets out the trip rates and trip generation for the proposed development.

Vehicle Trip Rates

5.2 The vehicle trip rates for the Proposed Development have been taken from the TRICS database. The assessment is based on the AM (08:00-09:00) and PM (17:00-18:00) peak hours.

5.3 Sites have been selected from the 'Mixed Affordable Housing (Flats and Houses)' category within TRICS. The derivation of these trip rates therefore represents a worst-case scenario which in turn provides a robust assessment of the likely traffic impact on the operation of the local highway network.

5.4 The following TRICS search criteria were applied:

- Greater London, Ireland and Northern Ireland removed; and
- 5-100 units.

5.5 The vehicle trip rates are set out in **Table 5.1** and **Appendix E**.

Table 5.1 Vehicle Trip Rates and Generation

	Trip Rate			Vehicle Trips		
	In	Out	Two-Way	In	Out	Two-Way
Network peak AM 0800-0900	0.13	0.256	0.386	6	11	17
Network Peak PM 1700-1800	0.242	0.231	0.473	11	10	21

5.6 **Table 5.1** illustrates that the Proposed Development is forecast to add an additional 17 vehicle trips (two-way) onto the network during the AM peak and 21 vehicle trips (two-way) during the PM peak.

5.7 Based on the above it is considered that the potential impact on the capacity of the local highway network is likely to be minimal.

Forecast Mode Share

5.8 The multi-modal trip generation for the Proposed Development has been calculated using the 2011 Census 'Method of Travel to Work' for a representative area of Reading (E01016389 : Reading 013B), which is set out in **Table 5.2** below.

Table 5.2 Forecast Mode Share (Representative Dataset)

Mode of Travel	Mode Share
Driving a car or van	49%
Passenger in a car or van	6%
On foot	13%
Bus, minibus or coach	19%
Motorcycle, scooter or moped	1%
Train	6%
Bicycle	6%
Taxi	0%
Other	1%
Total	100%

- 5.9 The 2011 Census 'Method of Travel to Work' dataset recorded that 55% of people travel to work by car/van, either as a driver or passenger, with 45% travelling by sustainable modes of transport.

Multi-Modal Trip Generation

- 5.10 **Table 5.3** provides a summary of the multi-modal trip generation by the proposed development.

Table 5.3 Multi-Modal Trip Generation

Mode of Travel	AM Peak (0800-0900)			PM Peak (1700-1800)		
	Arrivals	Departures	Two Way	Arrivals	Departures	Two Way
Car Driver	6	15	21	15	4	19
Car Passenger	0	1	1	1	1	2
On foot	1	1	2	1	1	2
Bus	2	1	3	2	2	4
Motorcycle	0	0	0	0	0	0
Train	0	1	1	1	1	2
Bicycle	0	1	1	1	1	2
Taxi	0	0	0	0	0	0
Total	9	20	29	21	10	31

- 5.11 **Table 5.3** shows that Proposed Development is forecast to generate 29 two-way person trips in the AM peak, with 9 arriving and 20 departing. In the PM peak, it is forecast that the Proposed Development will generate 31 two-way person trips, with 21 arriving and 10 departing.



- 5.12 A total of 21 vehicular trips are forecast in the AM peak hour, and 19 in the PM peak hour, equivalent to one movement every three minutes. The impact of the development is therefore predicted to be negligible, with no severe impact on the surrounding highway network.



6 Summary and Conclusion

Summary

- 6.1 WYG has been commissioned by Reading Borough Council (the 'Applicant') to prepare a Transport Statement (TS) to support a proposed residential development at Wensley Road, Reading (the 'site').
- 6.2 The site is located within the Wensley Road loop within Coley Park Estate. The site currently comprises of three 15 storey tower blocks and semi-detached and terrace housing. There are currently three parking courts severing the tower blocks, each directly accessed from Wensley Road loop.
- 6.3 The development proposal is for an outline planning application for a residential development up to 46 affordable dwellings with a mix of housing and flats, with associated infrastructure.
- 6.4 A review of existing walking and cycling routes have shown that there are opportunities within the local area for the site to integrate into the existing sustainable transport network. Therefore, the site will assist in encouraging future users to travel by sustainable modes of travel, therefore reducing the sites impact on the local road network.
- 6.5 An assessment of the forecast trip generation for the development has been undertaken, this shows that the development is forecast to generate 29 two-way person trips in the AM peak, with 9 arriving and 20 departing and 31 two-way person trips in the PM peak, with 21 arriving and 10 departing.

Conclusion

- 6.6 This TS demonstrates that the development benefits from being well located to sustainable modes of travel, therefore providing future residents the opportunity to travel sustainably.
- 6.7 It is therefore considered that the impact generated by the proposed development will not be severe or significantly impact the local or wider area and the site presents an excellent opportunity for a highly sustainable development.





Appendix A

PARKING SURVEY RESULTS

Wensley Road Parking Survey				
Date of Survey	Thursday 21 November 2019			
Time of Survey	13:00			
	Capacity	Occupied	Free Spaces	Parking Stress
Wensley Court (roadside)	19	9	10	47%
Wensley Court (excluding garages)	34	28	6	82%
Garages (spaces in front of garages)	16	1	15	6%
Garages (spaces away from garages)	15	10	5	67%
Irving Court	45	36	9	80%
Irving Court (roadside)	12	4	8	33%
Riversley Court	36	20	16	56%
Riversley Court (roadside)	15	7	8	47%
Total	192	115	77	60%

Wensley Road Parking Survey				
Date of Survey	Wednesday 27 November			
Time of Survey	00:30			
	Capacity	Occupied	Free Spaces	Parking Stress
Wensley Court (roadside)	19	17	2	89%
Wensley Court (excluding garages)	34	40	-6	118%
Garages (spaces in front of garages)	16	4	12	25%
Garages (spaces away from garages)	15	14	1	93%
Irving Court	45	50	-5	111%
Irving Court (roadside)	12	11	1	92%
Riversley Court	36	41	-5	114%
Riversley Court (roadside)	15	10	5	67%
Total	192	187	5	97%



Appendix B

PERSONAL INJURY ACCIDENT DATA



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Crash Date: Saturday, April 25, 2015 **Time of Crash:** 4:33:00 PM **Crash Reference:** 201543W163045

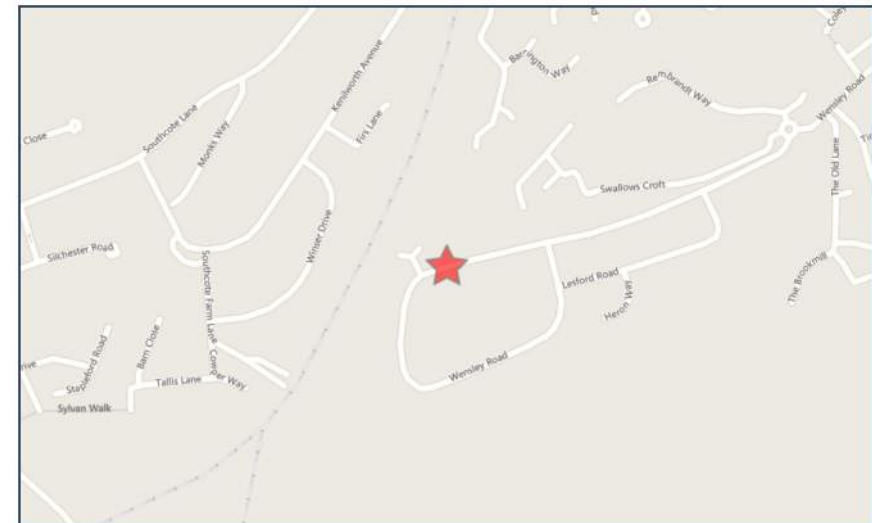
Highest Injury Severity: Slight
Highway Authority: Reading
Local Authority: Reading
Weather Description: Fine without high winds
Road Surface Description: Dry
Speed Limit: 30
Light Conditions: Daylight: regardless of presence of streetlights
Carriageway Hazards: None
Junction Detail: Not at or within 20 metres of junction
Junction Pedestrian Crossing: No physical crossing facility within 50 metres
Road Type: Single carriageway
Junction Control: Not Applicable

Road Number: U0

Number of Casualties: 4

Number of Vehicles: 2

OS Grid Reference: 469977 172005



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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
2	Car (excluding private hire)		4 Female	21 - 25	Vehicle is performing a U turn	Offside	Other	None	None
1	Car (excluding private hire)		-1 Male	26 - 35	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Male	26 - 35	Unknown or other	Unknown or other
1	2	Slight	Vehicle or pillion passenger	Female	26 - 35	Unknown or other	Unknown or other
2	3	Slight	Driver or rider	Female	21 - 25	Unknown or other	Unknown or other
2	4	Slight	Vehicle or pillion passenger	Female	21 - 25	Unknown or other	Unknown or other

For more information about the data please visit: www.crashmap.co.uk/home/Faq

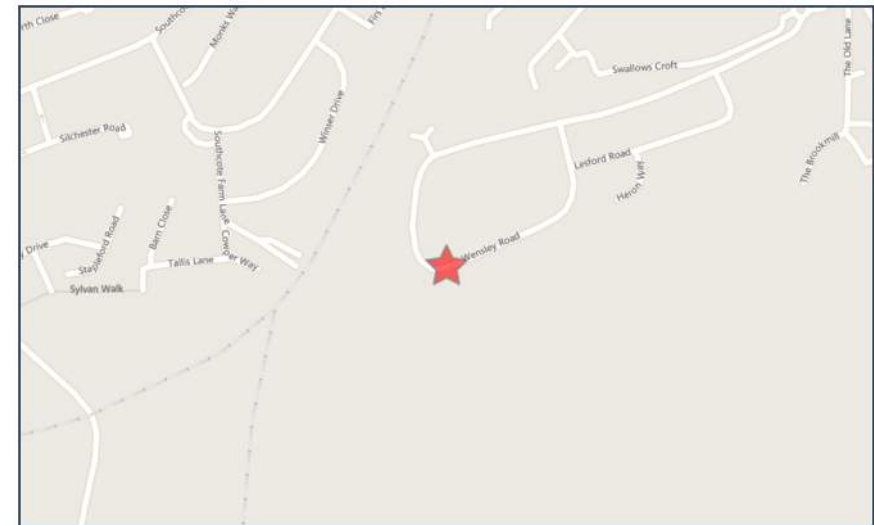
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Crash Date: Saturday, October 03, 2015 **Time of Crash:** 9:44:00 PM **Crash Reference:** 201543W023105

Highest Injury Severity:	Slight	Road Number:	U0	Number of Casualties:	1
Highway Authority:	Reading			Number of Vehicles:	2
Local Authority:	Reading			OS Grid Reference:	469961 171828
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Not Applicable				



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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	17	Male	16 - 20	Vehicle proceeding normally along the carriageway, on a left hand bend	Front	Other	None	None
2	Car (excluding private hire)	13	Unknown	Unknown	Vehicle is parked in the carriageway	Offside	Other	None	None

Casualties

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

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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Motorcycle over 50cc and up to 125cc	10	Male	16 - 20	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Serious	Pedestrian	Female	66 - 75	In carriageway, crossing elsewhere	Crossing from driver's offside - masked by parked or stationary vehicle

For more information about the data please visit: www.crashmap.co.uk/home/Faq

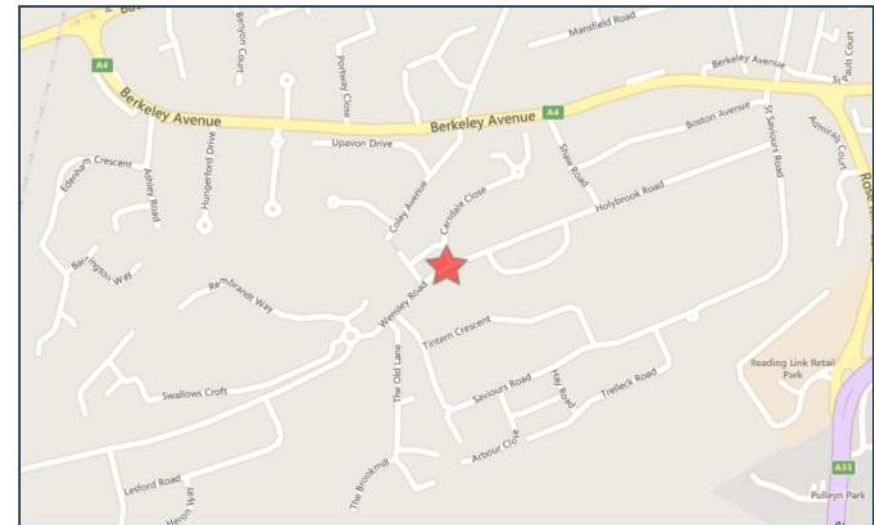
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Crash Date: Thursday, December 17, 2015 **Time of Crash:** 9:13:00 AM **Crash Reference:** 201543W172125

Highest Injury Severity:	Slight	Road Number:	U0	Number of Casualties:	1
Highway Authority:	Reading			Number of Vehicles:	1
Local Authority:	Reading			OS Grid Reference:	470624 172321
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	Zebra crossing				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	9	Female	26 - 35	Vehicle proceeding normally along the carriageway, not on a bend	Nearside	Taking pupil to/from school	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Pedestrian	Female	0 - 5	In carriageway, crossing on pedestrian crossing facility	Crossing from driver's nearside

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Crash Date: Tuesday, July 26, 2016 **Time of Crash:** 12:43:00 PM **Crash Reference:** 201643W180076

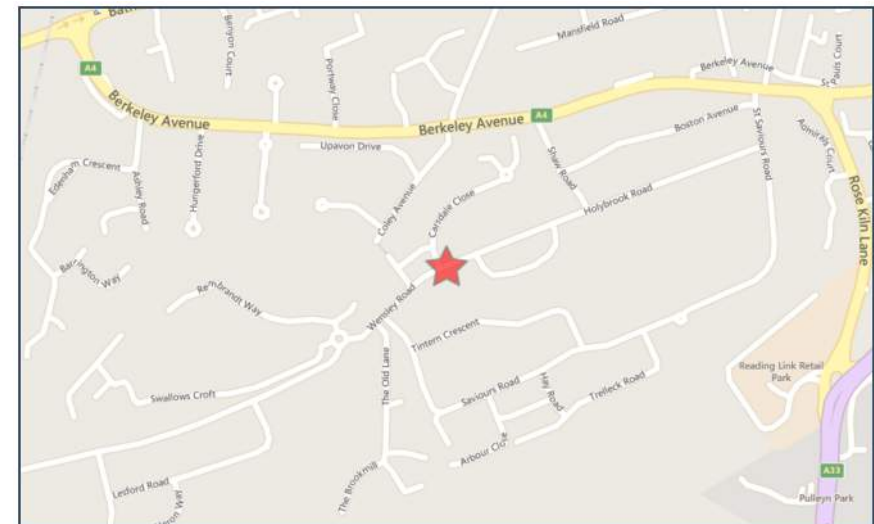
Highest Injury Severity: Slight
Highway Authority: Reading
Local Authority: Reading Borough
Weather Description: Fine without high winds
Road Surface Description: Dry
Speed Limit: 30
Light Conditions: Daylight: regardless of presence of streetlights
Carriageway Hazards: None
Junction Detail: T or staggered junction
Junction Pedestrian Crossing: No physical crossing facility within 50 metres
Road Type: Single carriageway
Junction Control: Give way or uncontrolled

Road Number: U0

Number of Casualties: 1

Number of Vehicles: 2

OS Grid Reference: 470641 172327



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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	10	Female	36 - 45	Vehicle proceeding normally along the carriageway, not on a bend	Front	Commuting to/from work	None	None
2	Bus or coach (17+ passenger seats)	3	Male	46 - 55	Vehicle proceeding normally along the carriageway, not on a bend	Back	Journey as part of work	None	None

Casualties

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

For more information about the data please visit: www.crashmap.co.uk/home/Faq

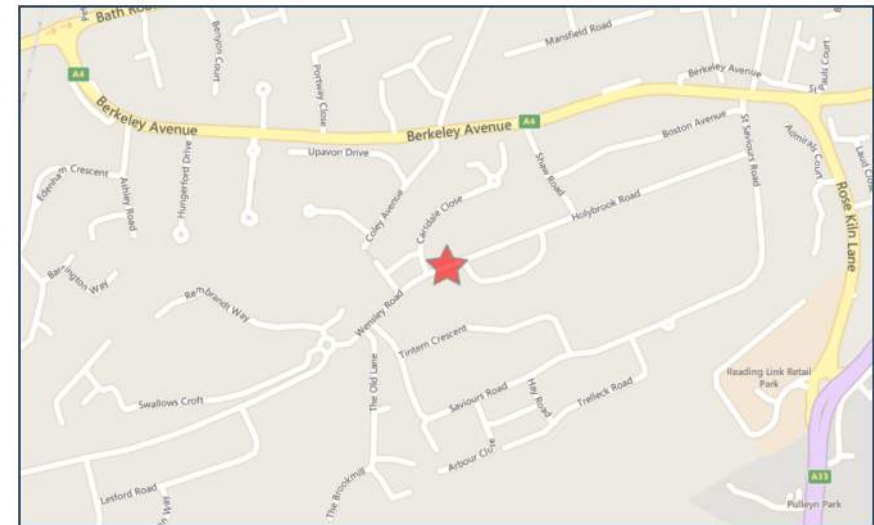
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Crash Date: Wednesday, February 24, 2016 **Time of Crash:** 11:50:00 AM **Crash Reference:** 201643W212026

Highest Injury Severity:	Serious	Road Number:	U0	Number of Casualties:	1
Highway Authority:	Reading	Number of Vehicles:	1	OS Grid Reference:	470660 172333
Local Authority:	Reading Borough				
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Not Applicable				



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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	-1	Male	36 - 45	Vehicle proceeding normally along the carriageway, not on a bend	Offside	Journey as part of work	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Serious	Pedestrian	Female	16 - 20	On footway or verge	Unknown or other

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Crash Date: Tuesday, April 07, 2015 **Time of Crash:** 3:02:00 PM **Crash Reference:** 201543W037045

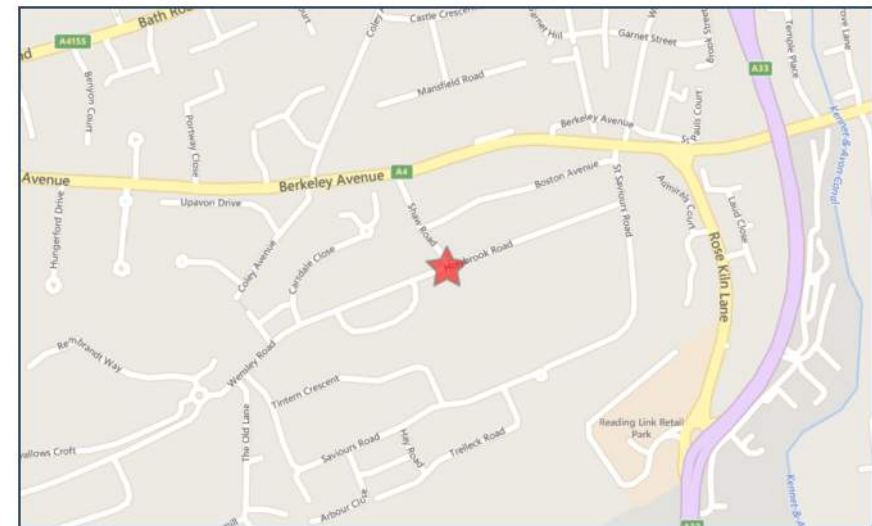
Highest Injury Severity: Serious
Highway Authority: Reading
Local Authority: Reading
Weather Description: Fine without high winds
Road Surface Description: Dry
Speed Limit: 30
Light Conditions: Daylight: regardless of presence of streetlights
Carriageway Hazards: None
Junction Detail: T or staggered junction
Junction Pedestrian Crossing: No physical crossing facility within 50 metres
Road Type: Single carriageway
Junction Control: Give way or uncontrolled

Road Number: U0

Number of Casualties: 1

Number of Vehicles: 2

OS Grid Reference: 470849 172410



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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
2	Motorcycle over 50cc and up to 125cc	-1	Male	26 - 35	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None
1	Goods vehicle over 3.5 tonnes and under 7.5 tonnes mgw	3	Male	46 - 55	Vehicle is in the act of turning right	Front	Journey as part of work	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Serious	Driver or rider	Male	26 - 35	Unknown or other	Unknown or other

For more information about the data please visit: www.crashmap.co.uk/home/Faq

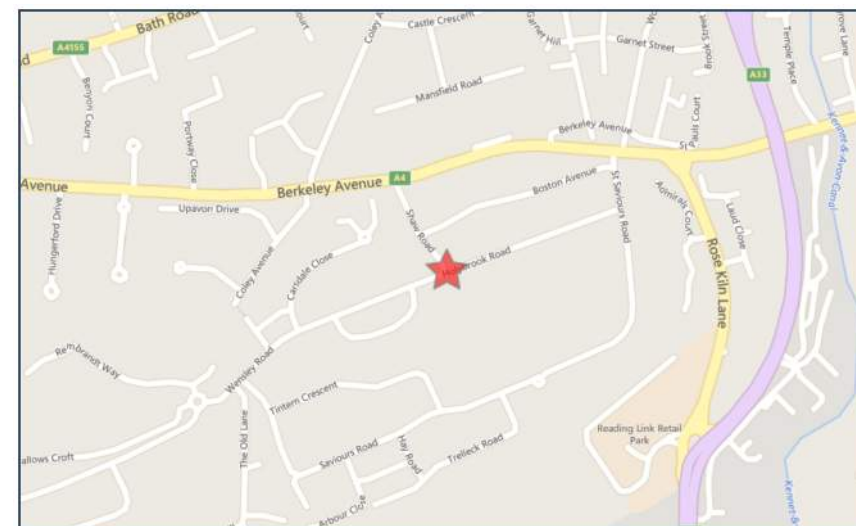
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Crash Date: Friday, November 17, 2017 **Time of Crash:** 2:44:00 PM **Crash Reference:** 2017430348257

Highest Injury Severity:	Serious	Road Number:	U0	Number of Casualties:	1
Highway Authority:	Reading			Number of Vehicles:	2
Local Authority:	Reading Borough			OS Grid Reference:	470850 172416
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
2	Pedal cycle	-1	Male	66 - 75	Vehicle proceeding normally along the carriageway, not on a bend	Offside	Commuting to/from work	None	None
1	Van or goods vehicle 3.5 tonnes mgw and under	8	Male	26 - 35	Vehicle is in the act of turning right	Front	Journey as part of work	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Serious	Driver or rider	Male	66 - 75	Unknown or other	Unknown or other

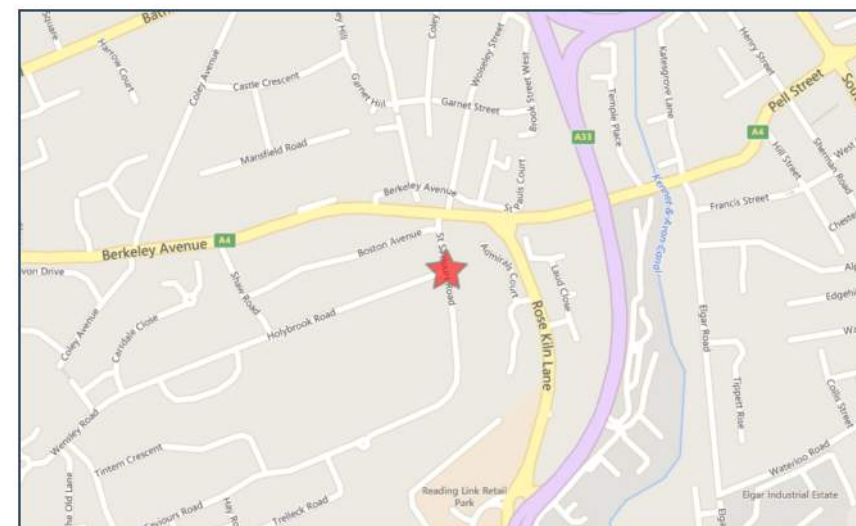
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Crash Date:	Wednesday, March 25, 2015	Time of Crash:	4:50:00 PM	Crash Reference:	201543W164035
Highest Injury Severity:	Slight	Road Number:	U0	Number of Casualties:	1
Highway Authority:	Reading			Number of Vehicles:	2
Local Authority:	Reading			OS Grid Reference:	471110 172511
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	30				
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	T or staggered junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				
Road Type:	Single carriageway				
Junction Control:	Give way or uncontrolled				



For more information about the data please visit: www.crashmap.co.uk/home/Faq
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Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Maneouvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Pedal cycle	-1	Male	11 - 15	Vehicle proceeding normally along the carriageway, not on a bend	Nearside	Pupil riding to/from school	None	None
2	Car (excluding private hire)	-1	Female	21 - 25	Vehicle is waiting to turn right	Front	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Male	11 - 15	Unknown or other	Unknown or other

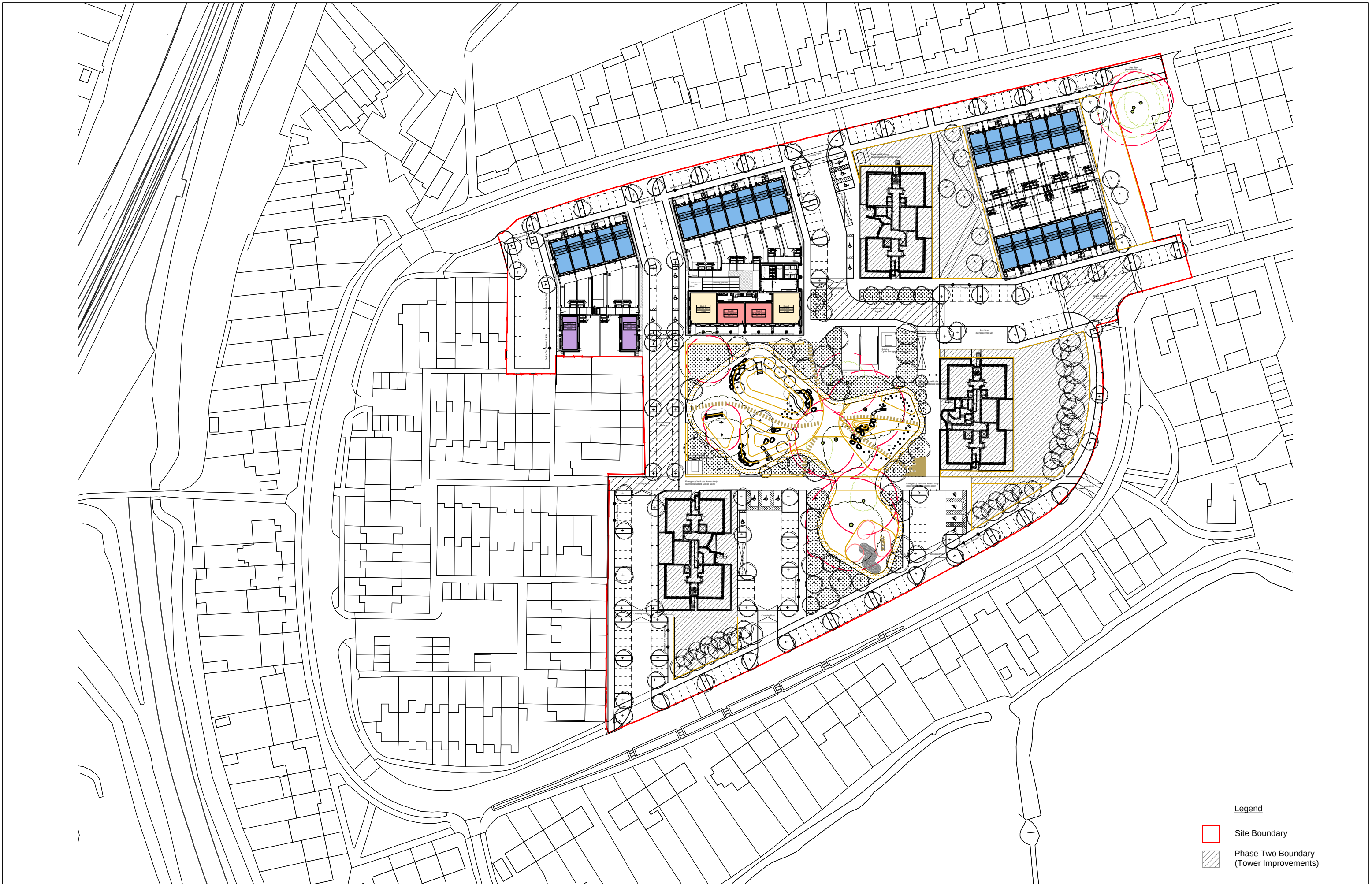
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Appendix C

PROPOSED SITE LAYOUT



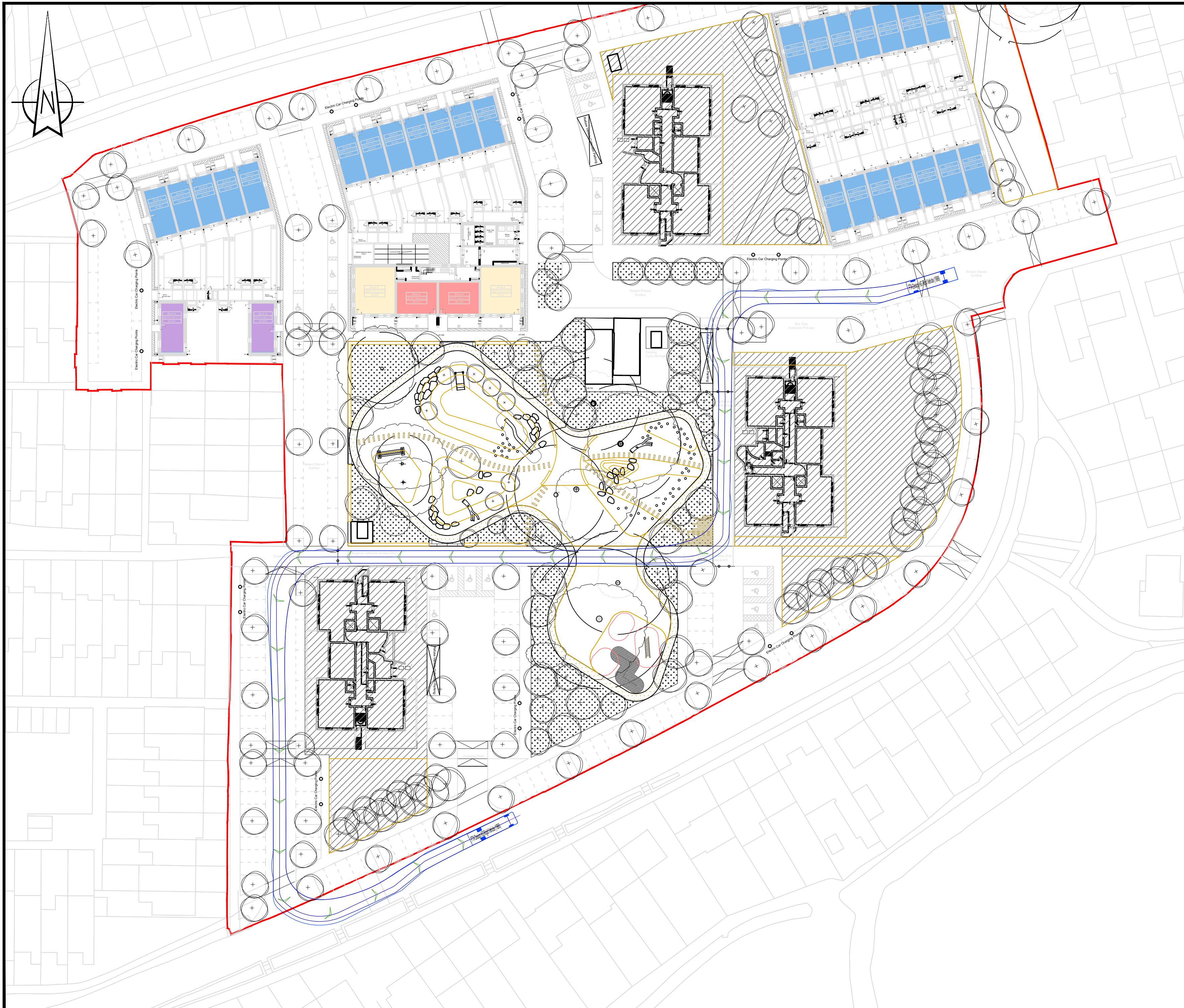
Legend

-  Site Boundary
-  Phase Two Boundary (Tower Improvements)



Appendix D

SWEPT PATH ANALYSIS



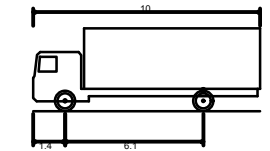
Notes:

General

1. Do not scale from drawing.
2. All dimensions are in metres, unless stated otherwise.
3. This drawing is to be read & printed in colour.
4. This drawing is for illustrative purposes only.

Disclaimer

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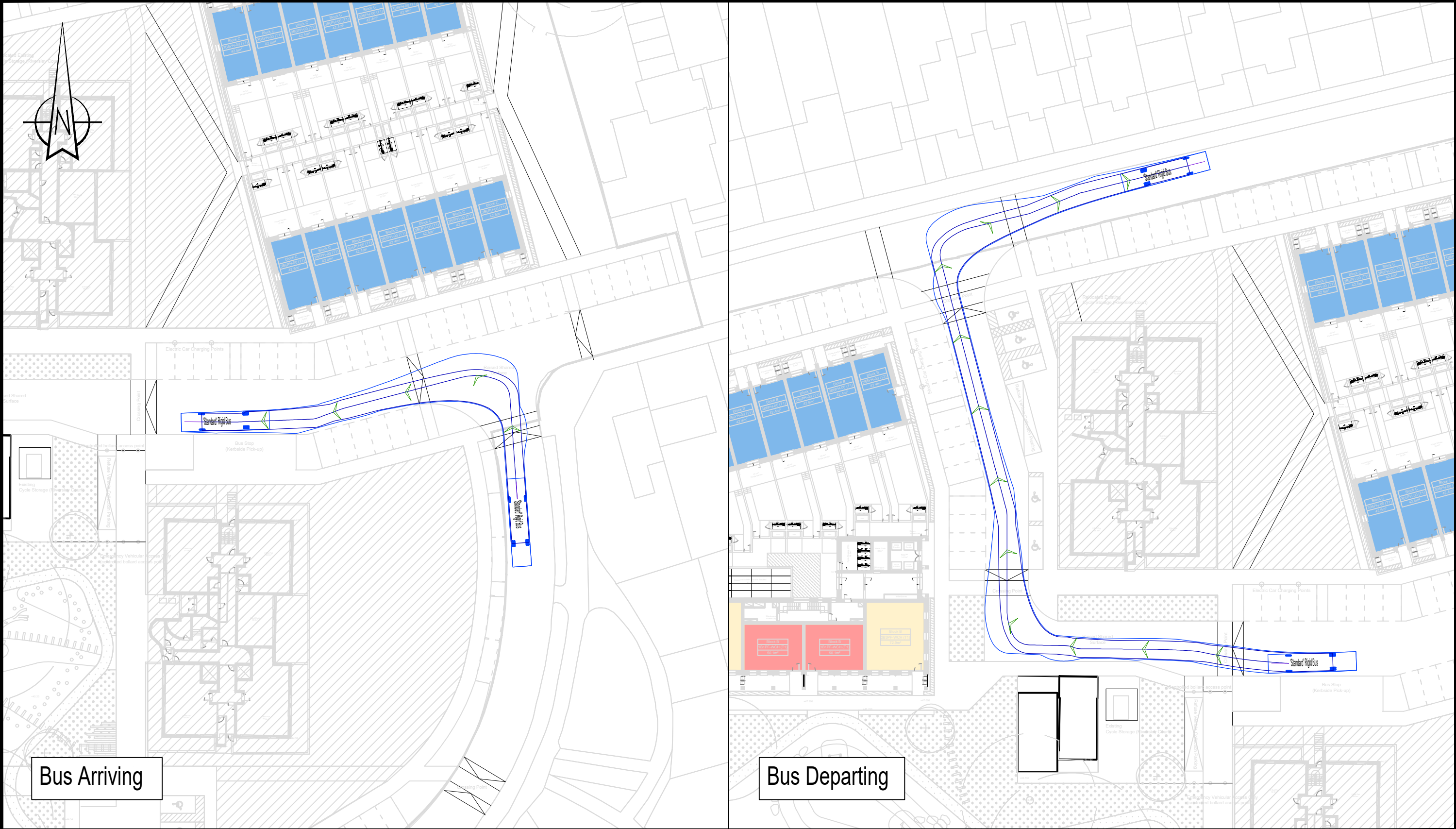


FTA Design HG Rigid Vehicle (1998)

Overall Length	10.000m
Overall Width	2.500m
Overall Body Height	3.645m
Min Body/Ground Clearance	0.440m
Track Width	2.470m
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	11.000m

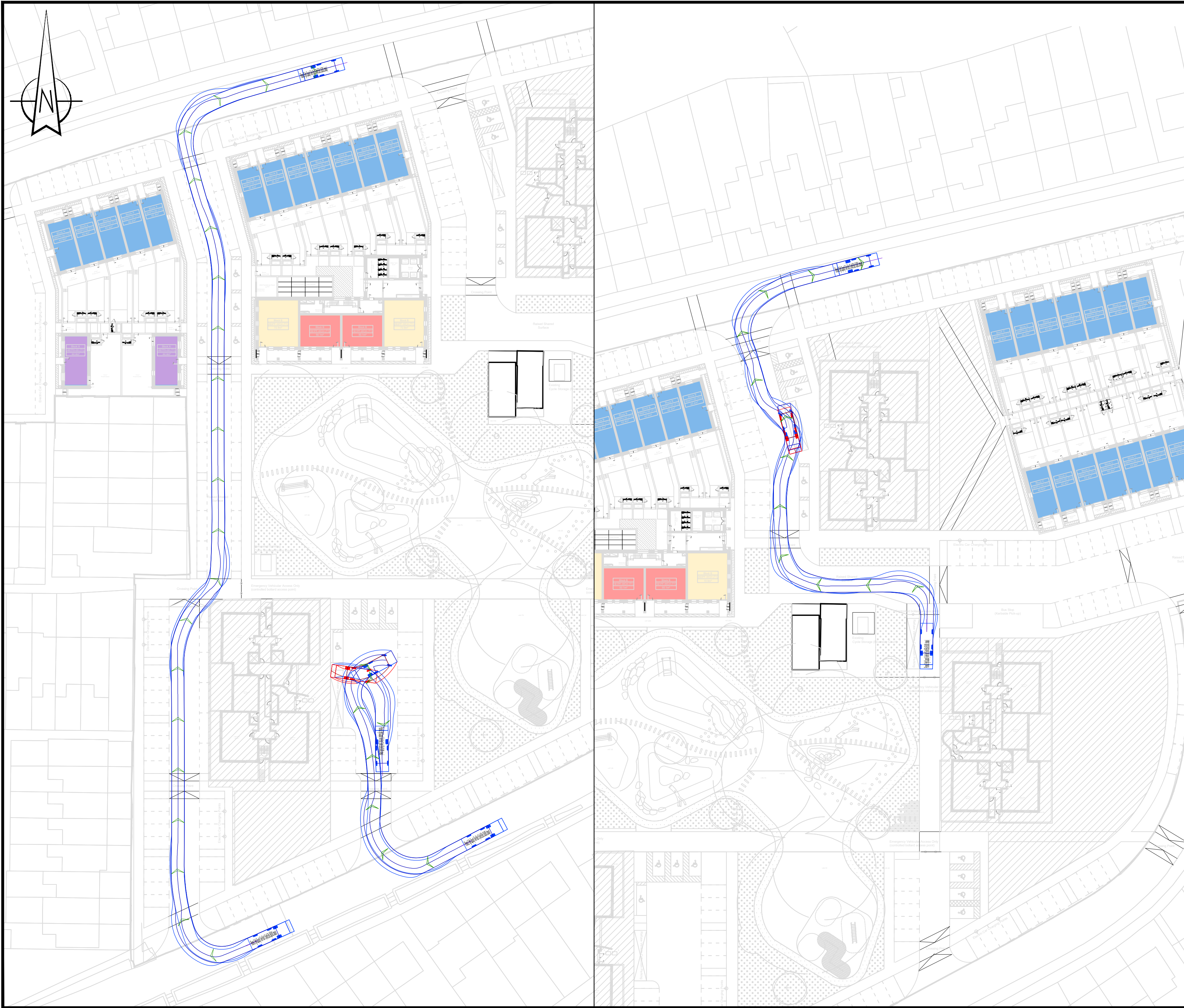
Note: vehicle used as proxy for high-rise fire appliance used by Royal Berkshire Fire and Rescue Service

REV	DETAILS	DRAWN BY	CHECKED BY	DATE
CLIENT:				
Reading Borough Council				
PROJECT:				
Wensley Road, Reading				
DRAWING TITLE:				
Swept Path Analysis - Fire Platform				
SCALES:		SHEET SIZE:		
1:500		A2		
DRAWN:	GS	CHECKED:	MA	DATE: 02.12.19
WYG Transport				
part of WYG group				
The Pavilion, 1st Floor, Botleigh Grange Office				
Campus, Hedge End, Southampton, SO30 2AF				
t: 02382 022 800 e: transport@wyg.com				
DRAWING NUMBER:				REVISION:
A115865-SPA04				B



REV		DETAILS	DRAWN	CHECKED	DATE	PROJECT: Wensley Road, Reading				CLIENT: Reading Borough Council									
A		Updated site layout	GS	MA	08.01.2020	DRAWING TITLE: Swept Path Analysis				WYG Transport part of WYG group The Pavilion, 1st Floor, Botleigh Grange Office Campus, Hedge End, Southampton, SO30 2AF t: 02382 022 800 e: transport@wyg.com wyg A TETRA TECH COMPANY									
B		Amended vehicle type	GS	MA	15.01.2020														
'Standard' Rigid Bus Overall Length 12.000m Overall Width 2.550m Overall Body Height 3.069m Min Body Ground Clearance 0.309m Track Width 2.350m Lock to lock time 4.00s Wall to Wall Turning Radius 10.771m						DRAWN: GS		CHECKED: MA		DATE: 19.11.19		SCALES: 1:500		SHEET SIZE: A3		DRAWING NUMBER: A115865-SPA06		REVISION: B	

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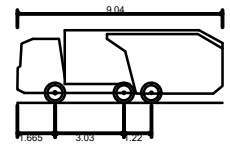
Notes:

General

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2. All dimensions are in metres, unless stated otherwise.
3. This drawing is to be read & printed in colour.
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Phoenix 2 High Capacity Twin Pack 15 (with Elite 2 6x2ML chassis)

Overall Length	9.040m
Overall Width	2.500m
Overall Body Height	3.205m
Min Body Ground Clearance	0.410m
Track Width	2.500m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	7.800m

REV	DETAILS	DRAWN BY	CHECKED BY	DATE
CLIENT:				
Reading Borough Council				
PROJECT:				
Wensley Road, Reading				
DRAWING TITLE:				
Swept Path Analysis Refuse Vehicle				
SCALES:		SHEET SIZE:		
1:500		A2		
DRAWN:	GS	CHECKED:	MA	DATE: 08.01.20
WYG Transport part of WYG group				
The Pavilion, 1st Floor, Botleigh Grange Office Campus, Hedge End, Southampton, SO30 2AF t: 02382 022 800 e: transport@wyg.com				
DRAWING NUMBER:				REVISION:
A115865-SPA07				A



Appendix E

TRICS OUTPUTS

Calculation Reference: AUDIT-705103-191202-1239

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : L - MIXED AFFORD HOUS (FLATS AND HOUSES)
 VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	ES EAST SUSSEX	1 days
	WG WOKINGHAM	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	SY SOUTH YORKSHIRE	1 days
	WY WEST YORKSHIRE	1 days
08	NORTH WEST	
	GM GREATER MANCHESTER	1 days
09	NORTH	
	TW TYNE & WEAR	1 days

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

Secondary Filtering selection:

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

Parameter: Number of dwellings
 Actual Range: 18 to 78 (units:)
 Range Selected by User: 5 to 100 (units:)

Parking Spaces Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/11 to 26/06/18

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

Selected survey days:

Tuesday	4 days
Wednesday	1 days
Thursday	1 days
Friday	1 days

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

Selected survey types:

Manual count	7 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	2
Edge of Town	2
Neighbourhood Centre (PPS6 Local Centre)	2

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	6
Village	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.

WYG Victoria Street Bristol

Licence No: 705103

Secondary Filtering selection:

Use Class:

C3	7 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 1 mile:

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

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

Population within 5 miles:

100,001 to 125,000	1 days
125,001 to 250,000	1 days
250,001 to 500,000	5 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	6 days
1.1 to 1.5	1 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	1 days
No	6 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	7 days
-----------------	--------

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

LIST OF SITES relevant to selection parameters

1	ES-03-L-03	HOUSES & FLATS	EAST SUSSEX
	HUGHENDEN ROAD		
	HASTINGS		
	ORE VALLEY		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	51	
	Survey date: TUESDAY	26/06/18	Survey Type: MANUAL
2	GM-03-L-01	TERRACED AND FLATS	GREATER MANCHESTER
	CASTLE AVENUE		
	ROCHDALE		
	Edge of Town Centre		
	Residential Zone		
	Total Number of dwellings:	46	
	Survey date: TUESDAY	20/10/15	Survey Type: MANUAL
3	SY-03-L-01	HOUSES & FLATS	SOUTH YORKSHIRE
	DELVES CLOSE		
	SHEFFIELD		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	21	
	Survey date: TUESDAY	18/12/12	Survey Type: MANUAL
4	TW-03-L-01	SEMI-DET / TERRACED / FLATS	TYNE & WEAR
	JOHNSON STREET		
	GATESHEAD		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	19	
	Survey date: THURSDAY	03/10/13	Survey Type: MANUAL
5	WG-03-L-01	HOUSES & FLATS	WOKINGHAM
	BASLOW ROAD		
	WOKINGHAM		
	WINNERSH		
	Neighbourhood Centre (PPS6 Local Centre)		
	Village		
	Total Number of dwellings:	44	
	Survey date: FRIDAY	20/11/15	Survey Type: MANUAL
6	WM-03-L-02	TERRACED HOUSES / FLATS	WEST MIDLANDS
	LUMLEY GROVE		
	BIRMINGHAM		
	CHELMSLEY WOOD		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Number of dwellings:	18	
	Survey date: TUESDAY	18/10/11	Survey Type: MANUAL
7	WY-03-L-01	FLATS & HOUSES	WEST YORKSHIRE
	STATION ROAD		
	LEEDS		
	HORSFORTH		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	78	
	Survey date: WEDNESDAY	21/09/16	Survey Type: MANUAL

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

TRIP RATE for Land Use 03 - RESIDENTIAL/L - MIXED AFFORD HOUS (FLATS AND HOUSES)

VEHICLES

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	7	40	0.058	7	40	0.162	7	40	0.220
08:00 - 09:00	7	40	0.130	7	40	0.256	7	40	0.386
09:00 - 10:00	7	40	0.155	7	40	0.166	7	40	0.321
10:00 - 11:00	7	40	0.116	7	40	0.123	7	40	0.239
11:00 - 12:00	7	40	0.148	7	40	0.144	7	40	0.292
12:00 - 13:00	7	40	0.134	7	40	0.105	7	40	0.239
13:00 - 14:00	7	40	0.141	7	40	0.162	7	40	0.303
14:00 - 15:00	7	40	0.137	7	40	0.134	7	40	0.271
15:00 - 16:00	7	40	0.264	7	40	0.195	7	40	0.459
16:00 - 17:00	7	40	0.209	7	40	0.152	7	40	0.361
17:00 - 18:00	7	40	0.242	7	40	0.231	7	40	0.473
18:00 - 19:00	7	40	0.253	7	40	0.134	7	40	0.387
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.987			1.964			3.951

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:	18 - 78 (units:)
Survey date range:	01/01/11 - 26/06/18
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

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