

transport assessment

Land South of Townhouse Road,
Costessey, Norfolk

Ref: CCE/T331/TA-01

November 2017

For Taylor Wimpey

Document Review Sheet

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1.0 INTRODUCTION

1.1 Background

1.1.1 Cannon Consulting Engineers (CCE) have been appointed by Taylor Wimpey to provide highways and transportation advice in relation to proposals for a residential development on land at land south of Townhouse Road, Costessey. The location of the site is presented in **Figure 1**.

1.1.2 This Transport Assessment (TA) and accompanying Residential Travel Plan (TP) form part of the supporting documentation for an outline planning application for up to 100 residential dwellings. An indicative site layout is contained in **Appendix A**.

1.1.3 The site extends to approximately 4.5 hectares in total and is bound to the north by Townhouse Road, by residential development at Lime Tree Avenue to the east and undeveloped, agricultural land to the south and west. The location of the site is shown on **Figure 1**.

1.1.4 This Transport Assessment examines the sites' accessibility, sustainability and transport impacts in context of national planning policy.

1.2 Development Proposals

1.2.1 The site is located on the southern side of Townhouse Road, Costessey. The proposals consist of up to 100 dwellings with access proposed from Townhouse Road.

1.3 Background

1.3.1 Scoping discussions have been carried out with Norfolk County Council (NCC) as Highway Authority. The following points were highlighted as part of the scoping discussions:-

- Visibility splays at any new junction onto Townhouse Road should relate to the speed survey
- The existing footway on Townhouse Road is typically 1m wide to the west of the site, therefore the applicant would need to assess what improvements could be made to either widen and / or reduce vehicle speeds to create a safer pedestrian environment.
- Assessment of walking routes to local schools.
- The footway across the site frontage should extend to the existing footway/bus stop to the east.

1.4 Report Structure

- 1.4.1 Following the above summary, the purpose of this TA is to identify the transport impacts and related improvements resulting from the proposed residential development at land south of Townhouse Road, Costessey. Section 2 of this report describes the application site and existing transport conditions in the vicinity of the proposed development. This includes a review of the existing access and linkages to the site.
- 1.4.2 Section 3 presents a summary of the relevant transport policies at national and local levels which apply to the application site and the redevelopment proposal. Section 4 describes the development proposals and access into the site.
- 1.4.3 Section 5 outlines the estimated trip generation and traffic distribution as a result of the proposed development. Consideration is also given to the the multi-modal aspects of the development transport impacts by providing details on the expected number of person trips generated by the development and the methodology used to distribute these onto the local highway transport network.
- 1.4.4 The resulting development transport impacts are assessed in Section 6; including capacity assessments of the site access junction to demonstrate that it is fit for purpose.
- 1.4.5 Section 7 introduces a sustainable access and movement strategy for the residential proposal. This examines connectivity by other modes of transport and the means to improve this in the future which will be embodied in a site specific Travel Plan. A standalone Framework Residential Travel Plan has been produced to support this application and should be read in conjunction with this report.
- 1.4.6 Section 8 presents and summary and conclusion to this TA.

2.0 EXISTING CONDITIONS

2.1 Introduction

2.1.1 This section outlines the local walking and cycling conditions, public transport and the local highway network in the vicinity of the site.

2.2 Site Location

2.2.1 **Figure 1** shows the location of the site within the eastern area of Costessey, to the northwest of Norwich. The site is currently used as pasture. The site is located within the planning jurisdiction of South Norfolk District Council, with Norfolk County Council as the Local Highway Authority.

2.2.2 The site extends to approximately 4.5 hectares in total and is bound to the north by Townhouse Road, by residential development at Lime Tree Avenue to the east and undeveloped, agricultural land to the south and west.

2.2.3 The transport accessibility of the development site has been reviewed in the following section, taking account of the available transport infrastructure, relative to the site location.

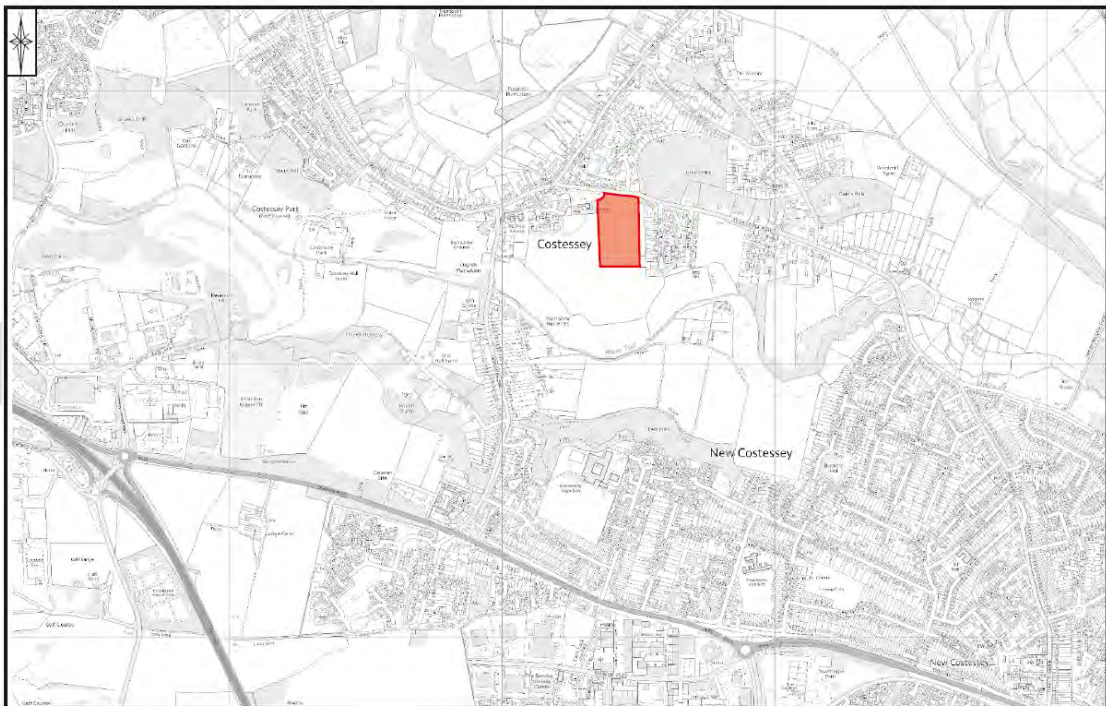


Figure 1: Site Location

2.3 Local Highway Network

2.3.1 **Figure 1** shows the key links and junctions on the local highway network within the vicinity of the site.

2.3.2 Existing access to the site is provided via a gated unpaved track from Townhouse Road.

- 2.3.3 To the west of the site Townhouse Road forms a mini-roundabout junction with The Street and West End Road. The Street and West End provides access to Drayton and Taverham to the north of the site, via Costessey Lane and Taverham Lane. West End is traffic calmed as it passes through the centre of Costessey. West End meets Longwater Lane at T junction. Longwater Lane is a single carriageway road that runs north-south between West End and the A1074 Dereham Road, where it forms a signalised junction.
- 2.3.4 To the east of the site Townhouse Road becomes Norwich Road at the bridge over the River Tud. Norwich Road is subject to a 30mph speed limit and leads south to its signalised junction with the A1074 Dereham Road.
- 2.3.5 The A1074 Dereham Road provides a direct link into Norwich City Centre to the east and to the A47(T) to the west. At its dumbbell roundabout junction with the A47(T) is also provides access to the Longwater Retail Park via William Frost Way, and towards employment areas to the south of the A47(T).

2.4 Pedestrian and Cycle Facilities

- 2.4.1 A footway is located along the northern side of Townhouse Road, providing a link between Costessey and New Costessey to the south-east. The existing footway on the northern side of Townhouse Road is typically 1m wide between the site and the mini-roundabout junction with West End and The Street. To the west of the site, beyond the mini-roundabout junction footway provision is provided along both sides of the carriageway.
- 2.4.2 To the east of the site the footway is currently being widened. A new footbridge over the River Tud is under construction. This will provide a continuous footway link to New Costesey.
- 2.4.2 There are no designated cycle facilities on Townhouse Road within the vicinity of the site. Townhouse Road and Norwich Road are designated as local cycle routes in the Norwich Area Cycling Map, connecting to the Marriott's Way segregated cycle route which lies to the east, adjacent to the River Wensum and is classified as part of the National Cycle Network Route number 1. **Figure 2** shows these routes.

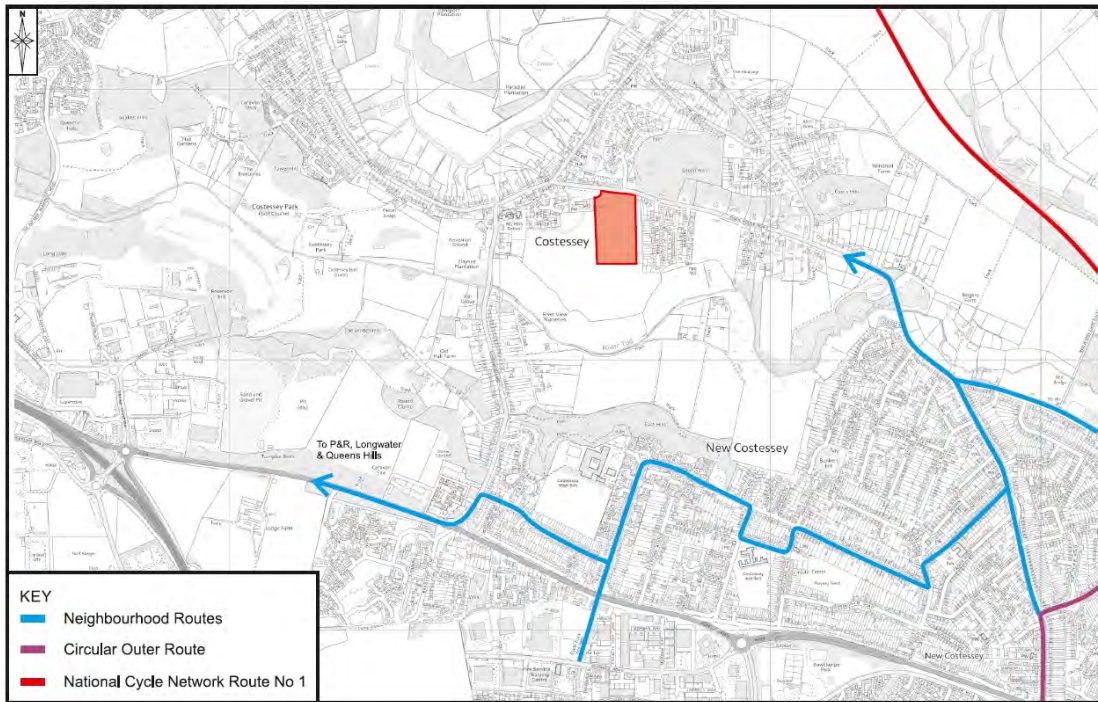


Figure 2: Local Cycle Routes

2.4.3 **Figure 3** shows the cordons for walking and cycle journeys from the site. This demonstrates that the site is within a 20 minute walking and 6 minute cycle ride to employment and retail destinations.

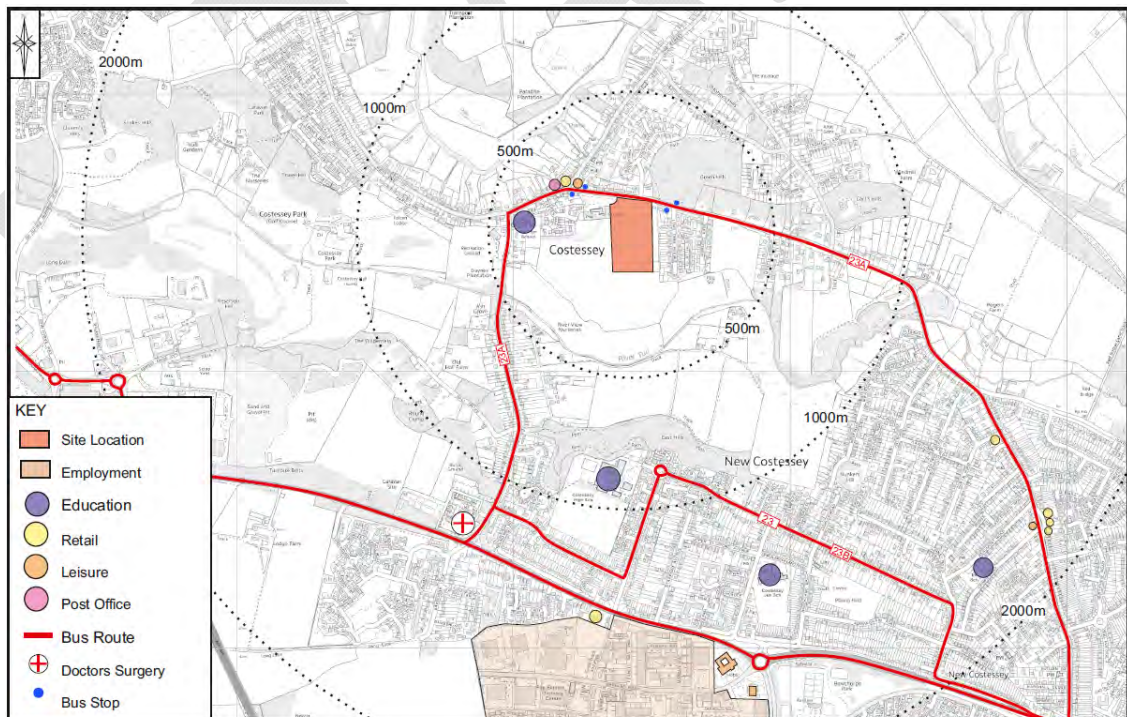


Figure 3: Local Facilities & Amenities

2.4.4 Guidance given by the Institution of Highways and Transportation (IHT) in their publication 'Guidelines for Providing for Journeys on Foot' (2000) suggests that in terms of commuting,

walking to school and recreational journeys, walking distances of up to 2,000 metres can be considered. The desirable and acceptable walking distances are 500 metres and 1,000 metres respectively.

2.4.5 For non-commuter journeys the guidance suggests that walking distances of up to 1,200 metres can be considered, with the desirable and acceptable distances being 400 metres and 800 metres respectively.

2.4.6 **Table 2.1** summarises the walk journey times that can be considered; are acceptable; and those that are desirable.

IHT Guidelines	Distance		Walk Time	
	Commuting, Walking to School and Recreational	Other Non-Commuter Journeys	Commuting, Walking to School and Recreational	Other Non-Commuter Journeys
Desirable	500m	400m	6.25 mins	5 mins
Acceptable	1,000m	800m	12.5 mins	10 mins
Considered	2,000m	1,200m	25 mins	15 mins

Table 2.1: Walk Journey Times

Source: IHT 'Guidelines for Providing for Journeys on Foot' (2000)

2.4.7 **Tables 2.2** provide a summary catchment and walk times to employment, education, retail, leisure and public transport facilities within the vicinity of the site.

Key Destinations & Services	CIHT 'Preferred Maximum' Distance km	Distance from site entrance	Typical Walk Time
St Augustine's Catholic Primary	2.0	400m	5 mins
Ormiston Victory Academy	2.0	1.6km	19 mins
Costessey Junior School	2.0	2.4km	29 mins
Costessey Infant School	2.0	2.3km	29 mins
Roundwell Medical Centre	1.2	1.6km	21 mins
Harte of Costessey	1.2	210m	2 mins
Old Costessey Post Office	1.2	250m	3 mins
Hairdressers	1.2	250m	3 mins
Fish and Chip Shop	1.2	250m	3 mins
Parade of shops including emall Co-op supermarket, Estatea Agents, Takeaway & Chemist	1.2	2km	26 mins
The Crown Inn	1.2	2.1km	26 mins
New Costessey Post Office	1.2	1.9km	24 mins

Table 2.2: Land south of Townhouse Road - Summary distances and typical walking journey times (80m/min) to key local destinations & services.

2.4.6 **Tables 2.2** demonstrates that the site is well located in relation to a wide variety of uses all of which are within suitable walking distance of facilities and will benefit residents. Costessey has a small local store, post office, hairdressers as well as a take away and public house. The local facilities would meet many of the day to day needs of the new residents of the development.

The site lends itself to sustainable travel for local journeys and will assist in reducing the reliance on car use for local journeys.

2.4.7 Cycling is an important mode of travel at the local level, particularly in replacing short car trips under 5km. The site is located within 5km of Costessey and New Costessey and the circular cycle routes of Norwich.

2.5 Bus Services

2.5.1 The site is served by a local bus service with the closest stops located either side of the site along Townhouse Road. Three of the four bus stops comprise a flag and pole facility. A bus shelter is located along the northern side of Townhouse Road east of the site. The shelter provides timetable information and seating. All bus stops in the local vicinity have a variety of ways to access timetable information via your mobile phone. The picture below is of the information provision at the bus stop on Townhouse Road adjacent to Lime Tree Avenue. The QR Code provides information on the scheduled bus departure time and the expected departure time.

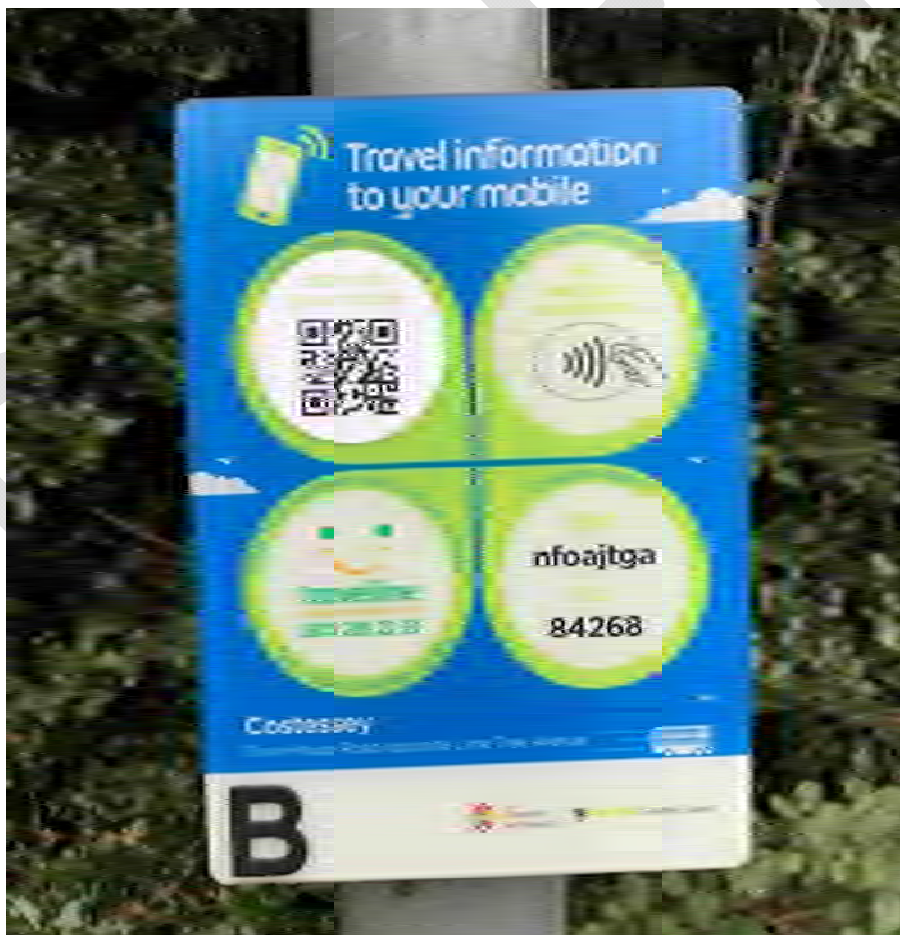


Photo 1: Bus stop information provision.

2.5.2 The stops are served bus route number 23A which operates between Costessey and Norwich City Centre, providing a good link to a range of employment, leisure and retail services.

2.5.3 The Institution of Highways and Transportation document ‘Guidelines for Planning for Public Transport in Development’ states that “the maximum walking distance to a bus stop should not exceed 400m and preferably be no more than 300m” (IHT 1999). The whole of the site is accessible within a 300m walk of the stops along Townhouse Road and is therefore within accordance with this guidance. The bus services operating along Townhouse Road are summarised in **Table 2.3**.

Number	Route	Operator	Frequency
23A	New Costessey - Costessey – Norwich – Heartsease –Dussindale Park	First	Mon – Fri 2 per Hour Sat 2 per Hour Sun 1 per Hour

Table 2.3: Existing Bus Services

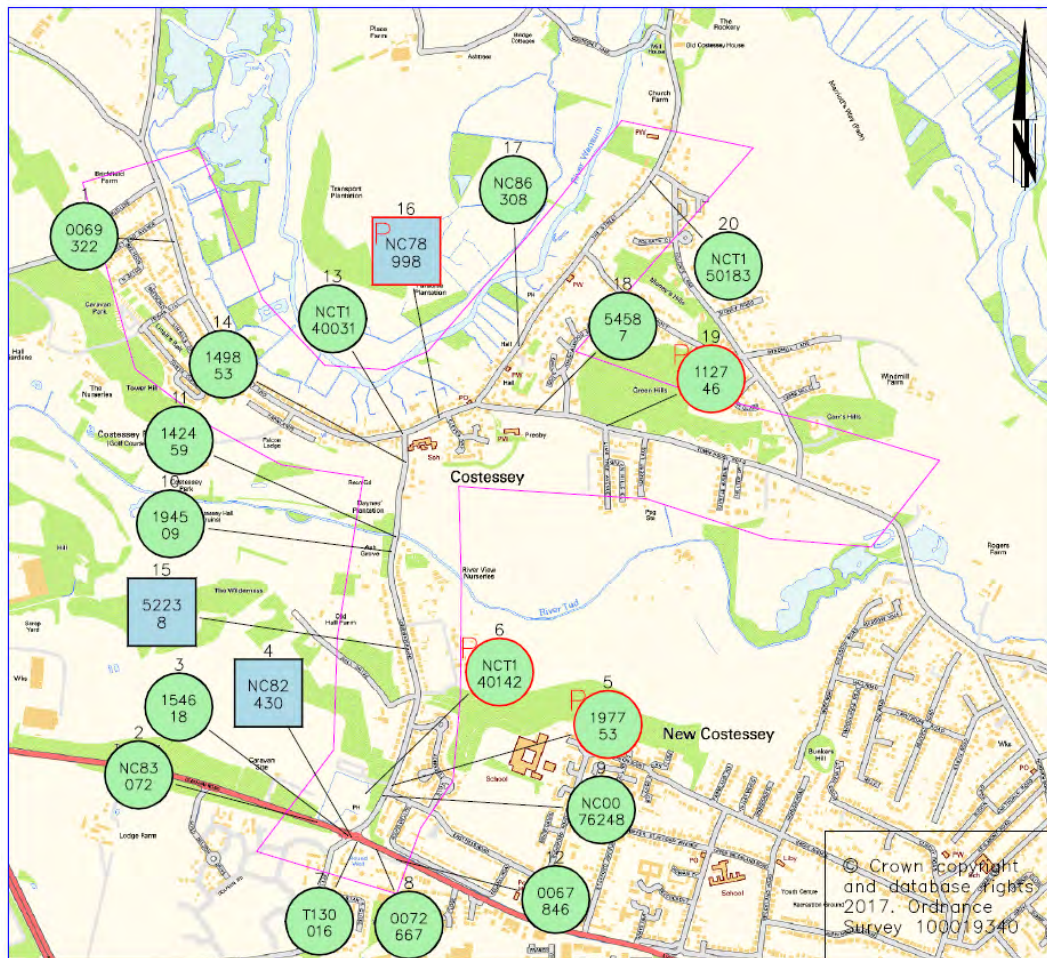
2.5.3 Service 23A provides a half hourly service with passenger journey times of approximately 20 minutes between Costessey and Norwich City Centre. **Figure 3** shows the route of the local bus services. **Appendix B** contains detailed timetable information and route map.

2.6 Personal Injury Accident Data

2.6.1 An analysis has been undertaken of Personal Injury Accident (PIA) data for the 5-year period up to the end of August 2017. Accident details have been obtained from Norfolk County Council (NCC). The study area is shown in Insert 2.1. The full PIA details are included in **Appendix C**.

2.6.2 Over the 5-year period twenty PIAs were recorded in the study area. Three of the PIAs were serious in severity, the remainder resulted in slight injury. There were no fatal accidents recorded.

2.6.3 Two PIAs were recorded on Townhouse Road. This is shown in below. The first of these involved a collision between a bus (wing mirror) and a pedestrian in the vicinity of the bus stop on Townhouse Road opposite Lime Tree Avenue. A second PIA occurred when a vehicle pulled out from the layby on the northern side of Townhouse Road into the path of another vehicle.



Insert 2.1: Summary of PIA Data Covering the 5 year period the end of August 2017

- 2.6.4 Two PIAs were recorded on The Street. The first was the result of a car leaving the carriageway and colliding with a bollard. The cause is unknown but no other vehicles were involved. The second PIA was the result of a driver being dazzled by the sunlight which resulted in them leaving the carriageway and also colliding with a bollard. Both PIAs occurred in the winter at similar times of the day and were travelling in the same direction. In both instances the drivers were elderly. It could be that sun dazzle was also a contributing factor to the first PIA.
- 2.6.5 There were no PIAs recorded at the roundabout junction of Townhouse Road/West End/The Street.
- 2.6.6 Of the remaining PIAs, six were rear end shunts where drivers were traveling too close and failed to stop in time for the vehicle in front. The remaining vehicle PIAs were the result of poor manoeuvring and one was the result of driving whilst intoxicated. There were three PIAs which involved pedestrians. In all three cases the pedestrian stepped out into oncoming traffic. Two of these were in the vicinity of the junction of Longwater Road and Dereham Road. The third pedestrian PIA occurred on Longwater Road outside the primary school when a child ran out into the carriageway into the path of traffic.

2.6.7 Whilst all accidents are regrettable it is not considered that these represent an accident pattern that is indicative of an issue with the highway.

2.7 Existing traffic Conditions

2.7.1 To examine existing peak period and local traffic conditions, 12-hour (07:00-19:00) classified counts were carried out on Tuesday 6th June 2017 at the following junctions:

- Junction 1 – Townhouse Road/The Street
- Junction 2 – West End / Longwater
- Junction 3 - Dereham Road/Longwater Lane/Bawburgh Lane
- Junction 4 - Dereham Rd / Norwich Rd

2.7.2 Automatic Traffic Count (ATC) surveys recording traffic flow, traffic composition and vehicle speeds were also undertaken over 9 days between 06 - 14 June 2017 at the following locations:

- Townhouse Road East of the proposed site access
- Townhouse Road West of the proposed site access

2.7.3 The 2017 Observed AM and PM peak hour traffic flows are presented on **Diagrams T1 and T2**. For information, the manual classified counts observed AM and PM peak hours as being 08:00-09:00 and 17:00-18:00 respectively.

2.7.4 A summary of the vehicle speeds recorded on Townhouse Road are detailed in Table 2.3 below.

Road	ATC Recorded Speed Data	
	Townhouse Road West for Site Access	Townhouse Road East for Site Access
Average Mph	28.9 (Eastbound)	33.3 (Westbound)
85%ile Mph	34.3 (Eastbound)	38.9 (Westbound)
Speed Limit	30mph	

Table 2.3: Summary of Vehicle Speeds on the Approach to the Site on Townhouse Road

2.7.5 The speed survey identifies that the local speed limits are generally adhered to with average speeds below or in the region of the prescribed speed limits, however the 85%ile speed are in excess of the speed limit, particularly on the westbound approach the site frontage.

2.7.6 The majority of the surrounding roads in Costessey are subject to traffic calming measures in the form of speed cushions and buildouts. In light of the speed survey data a traffic calming scheme will be investigated as part of the development proposals.

2.8 Summary

- 2.8.1 The site is well located in relation to the existing amenities and facilities in Costessey and New Costessey. Townhouse Road is well served by public transport with a half hourly service to Norwich. There are pedestrian footways on the surrounding highway network which are currently being upgraded to the east of the site.

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3.0 POLICY REVIEW

3.1 Policy Overview

3.1.1 This section of the report considers the transport policy background against which the planning application will be assessed. This includes National and Local Policy. The main policy documents setting the context within which the assessment will be undertaken are:

- National Planning Policy Framework (Published March 2012);
- Greater Norwich Development Partnership Joint Core Strategy (JSC) (Adopted January 2014);
- South Norfolk Development Management Document (adopted October 2015)

National Planning Policy Framework (March 2012)

3.1.2 The National Planning Policy Framework (NPPF) was published on the 27th March 2012. The document aims to simplify the planning system whilst promoting sustainable development and the protection of the environment.

3.1.3 NPPF (Para 17) – notes that the planning system should “*actively manage patterns of growth to make fullest possible use of public transport, walking, and cycling and focus significant development in locations which are or can be made sustainable*”.

3.1.4 Section 4 of the document refers to the promotion of sustainable transport.

3.1.5 NPPF (Para 29) – states that “*The transport system needs to be balanced in favor of sustainable transport modes, giving people a real choice about how they travel.*”

3.1.6 NPPF (Para 32) – states that “*All development that generate significant amount so movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of weather:*

- *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 limits 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.”*

3.1.7 NPPF (Para 35) – states that “*developments should be located and designed where practical to:*

- *accommodate the efficient delivery of goods and supplies;*

- *give priority to cycle and pedestrian movements and have access to high quality public transport facilities;*
- *create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones;*
- *incorporate facilities for charging plug-in and other ultra-low emission vehicles; and*
- *consider the needs of people with disabilities by all modes of transport."*

3.1.8 NPPF (Para 36) – identifies that Travel Plans are a key tool to facilitate the above and “*All development that generate significant amounts of movement should be required to provide a Travel Plan*”.

Joint Core Strategy (JCS) (Adopted January 2014)

3.1.9 The JCS was adopted in January 2014 and considers the greater Norwich area which comprises of Broadland, Norwich and South Norfolk. The JCS forms the key policy document and sets out the vision for growth for the period 2008 – 2026.

3.1.10 Policy 6 for Access and Transportation sets out how access and transport will be enhanced through the implementation of the Norwich Area Transportation Strategy (NATS), which will be achieved by:

- *Significant improvements to the bus, cycling and walking network, including Bus Rapid Transit on key routes in the Norwich Area;*
- *Concentration of development close to essential services and facilities to encourage walking and cycling as the primary means of travel with public transport for wider access;*
- *Enhancing the Norwich Park and Ride system;*
- *Protection of the function of strategic transport routes (corridors of movement); and*
- *Promoting local service delivery*

3.1.11 The documents states that large-scale growth will take place at expanded communities including Costessey amongst others.

South Norfolk Development Management Document (adopted October 2015)

3.1.12 The Development Management Document (DMD) forms part of the local plan for development within South Norfolk. This sits alongside the JCS and contains 44 policies designed to help deliver the planning strategy and objectives for growth within the region as set out in the Joint Core Strategy.

3.1.13 Policy DM 3.10 relates to the promotion of sustainable development and states:

- *All development should support sustainable transport and development objectives, utilise all opportunities to integrate with local transport networks, be designed to reduce the need to travel and to maximise the use of sustainable forms of transport appropriate to the location;*
- *Inside the Norwich Policy Area development should support the proposals of the Norwich Area Transportation Strategy [NATS]; and*
- *Land required for the improvement of the transport network will be protected from prejudicial development.*

3.1.14 In summary, the proposed development site is located in an existing residential area within close walking and cycling distance of local dwellings, services and facilities. The public transport network is easily accessible by foot and provides a good level of service. The site is therefore considered to accord with national and local policy.

4 DEVELOPMENT PROPOSALS

4.1 Introduction

4.1.1 This TA has examined the transport aspects of the proposed residential development for circa 100 dwellings. The application is outline therefore a detailed schedule of accommodation is not available at this stage.

4.1.2 An illustrative site layout is provided in **Appendix A**.

4.2 Proposed Access Arrangement

4.2.1 A review of the current design guidance concludes that it would be possible to serve a development of 100 units from a single point of access to the existing highway network, achievable from Townhouse Road.

4.2.2 **Drawing T331_201** presents the proposed site access arrangements. Access from Townhouse Road is considered in the form of T junction with footway provision. Visibility splays from the proposed access can be provided in accordance with the 85th percentile recorded speeds within maintainable land under the control of the Local Highway Authority and that under the control of the land owner. The visibility splays requirements are summarised below. This compares with a 43m splay that would normally be required in a 30mph zone

Direction of visibility splay	85 th percentile recorded speed	MfS	Visibility Requirement	Splay
To the west	34.3mph		52m	
To the east	38.9mph		63m	

Table 4.1: Visibility splay requirements from Townhouse Road site access.

4.2.3 A footway will be provided along the site frontage. The proposed footway will extend east to provide a connection to the existing footway and bus stop.. To the west, the footway will extend to a proposed pedestrian crossing point to provide a connection to the existing footway on the northern site of Townhouse Road.

4.2.4 The existing footway on the northern side of Townhouse Road to the west of the site narrows to approximately 1m on the approach to the mini roundabout junction with The Street. There is no scope to widen the footway within the existing land constraints without detriment to the carriageway width. Townhouse Road is a bus route therefore the existing carriageway width needs to be maintained. Therefore in order to improve the pedestrian environment speed cushions are proposed on Townhouse Road to slow traffic on the approach to the narrow footway section. The proposed traffic calming is shown on **CCE Drawing T331_201**. This is in keeping with the existing traffic calming on Longwater Lane and West End.

4.2.5 A pedestrian, cycle and emergency access is also proposed onto Townhouse Road. This is proposed at 3.7m wide and will provide direct access for pedestrians and cyclists but also be

available as an emergency vehicle entrance/exit in the unlikely event that there is an emergency within the site and the main access is blocked. It is suggested that a lockable bollard operated by the emergency services is used to prevent unauthorised vehicle access.

4.3 Internal Site Layout

4.4.1 Within the development pedestrian access would be provided along both sides of the internal estate road/

4.4.2 The internal road network will form loops to provide two route options should one become blocked. This also negates the need for unnecessary turning heads.

4.4 Parking Provision

4.4.1 Norfolk County Council (NCC) have developed a parking standards document (dated 2007) to provide a consistent set of parking standards, which should be included in the policy of the Local Development Frameworks set by the Local Planning Authorities.

4.4.2 The parking standards sets the minimum standards for cycle parking and the maximum standards for vehicular parking for different land uses.

4.4.3 The parking standards explain that in residential developments garages will count towards the overall provision where they provide an internal spaces measuring 7.0m x 3.0m. This is considered to be large enough to function as a car parking spaces and domestic storage.

4.4.4 The following parking standards will apply to the proposals.

Type	Car Parking Spaces	Cycle Parking Spaces
1 Bedroom	1 space per unit	None for individual houses with garages or rear gardens for a garden shed.
2 Bedrooms	2 spaces per unit	
3 Bedrooms		3 spaces per unit
4 Bedrooms		
5+ Bedrooms		

Table 4.2: Norfolk County Council – Class C3 Dwelling House Parking Standards

4.4.5 Parking within the site will be provided in accordance with the NCC parking standards.

4.5 Servicing

- 4.5.1 Paragraph 6.8.5 of MfS notes that Policy for local and regional waste planning bodies (in this case SCC), is set out in Planning Policy Statement 10: Planning for Sustainable Waste Management and its companion guide. PPS10 refers to the design and layout of developments being able to help secure opportunities for sustainable waste management. Planning Authorities should ensure that for new developments, there is sufficient provision for the appropriate collection of waste without an adverse impact on the street scene.
- 4.5.2 Further consideration of MfS identifies at paragraph 6.8.9 that the maximum distance that a resident should have to carry their waste is no more than 30m and waste vehicles should be able to get within 25m of a refuse storage point, equating to a maximum distance of approximately 55m from a residential property to an appropriate location that a refuse vehicle can stop within. It should also be noted that whilst the maximum reversing distance of a refuse vehicle is approximately 12m (paragraph 6.8.8), if the road is straight and clear of obstacles or visual obstructions, this distance can be extended.
- 4.5.3 As this is an outline application the internal configuration will be examined in detail as part of a detailed application, however it is considered that the design and layout will adhere to the guidance set in MfS.
- 4.5.4 The access points have been designed to accommodate a refuse vehicle. Swept path analysis for an 11.2m refuse vehicle has been undertaken and is included on **CCE Drawing T331_210**.

4.6 Summary

- 4.6.1 The proposed access arrangement has been designed to enable a logical connection with the existing network. Direct access onto Townhouse Road provides easy and direct connectivity into Costessey as well as links to the local bus service.

5 DEVELOPMENT TRIP GENERATION AND ASSIGNMENT

5.1 Introduction

5.1.1 In order to assess the impact of trips associated with the development proposals the quantum of peak hour person and vehicular trips has been calculated. TRICS data has been used to establish likely trip rates and the potential number of trips that could be generated by up to 100 dwellings on the site.

5.2 Development Trip Rates

5.2.1 To derive a realistic trip rate for the proposed development TRICS 2017 v7.4.3 database has been interrogated. Private housing sites in England have been considered. The relevant TRICS outputs are provided in **Appendix D** and the trip rates summarised in **Tables 4.1 and 4.2**.

Use	AM (0800-0900)		PM (1700-1800)	
	Arr	Dep	Arr	Dep
C3 Private Housing	0.212	0.694	0.500	0.252
Total 2-way	0.906		0.752	

Table 4.1: Total Person Trip Rates

Use	AM (0800-0900)		PM (1700-1800)	
	Arr	Dep	Arr	Dep
C3 Private Housing	0.144	0.36	0.325	0.162
Total 2-way	0.504		0.487	

Table 4.2: Vehicular Trip Rates

5.3 Development Trip Generation

5.3.1 Based on the trip rates in **Tables 4.1 and 4.2** the development trip generation has been calculated for the morning and afternoon peak hours and summarised in **Tables 4.3 and 4.4**.

Use	AM (0800-0900)		PM (1700-1800)	
	Arr	Dep	Arr	Dep
100 dwellings	21	69	50	25
Total two-way	90		75	

Table 4.3: Total People Trip Generation (all modes)

Use	AM (0800-0900)		PM (1700-1800)	
	Arr	Dep	Arr	Dep
100 dwellings	14	36	33	16
Total two-way	50		49	

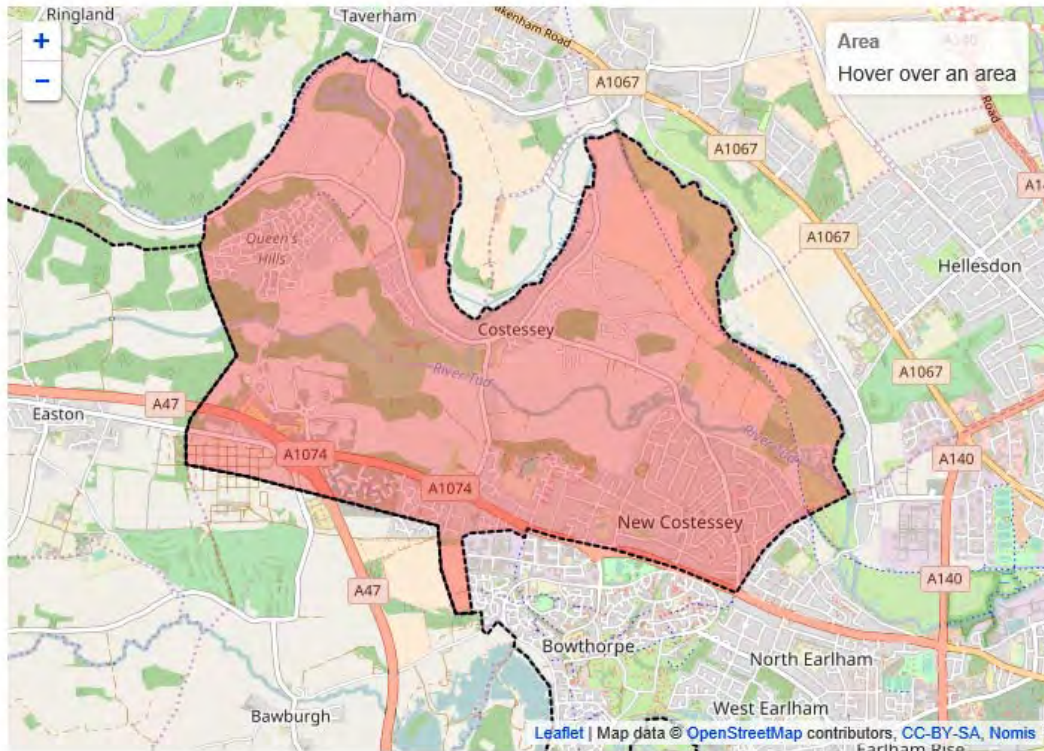
Table 4.4: Vehicular Trip Generation

5.3.2 During the AM peak 14 and 36 vehicles are expected to arrive and depart the site respectively. A total of 33 arriving vehicles and 16 departing are expected during the PM peak hour.

5.4 Travel Characteristics

Workplace population

5.4.1 The 2011 Census Data for travel to work was interrogated to determine travel and transport patterns for current residents in Costessey. The 2011 Census data is disaggregated into statistical regions for which the Super Output Area (SOA) South Norfolk 001 encompasses Costessey. The area also encompasses New Costessey and some rural areas surrounding Costessey. For the purpose of this study it is considered this data is appropriate to use to determine likely distributions of traffic to and from the proposed site. The area comprising SOA South Norfolk 001 is shown on the insert overleaf from the Nomis Website.



Insert 4.1: Super Output Area South Norfolk 001

Resident Population

5.4.2 The South Norfolk 001 MSOA data shows a containment of 11% of workers living and working within the area. Of the remaining residents living in the area, 17% work within the remainder of South Norfolk, 45% work in Norwich and 15% work in within the Broadland District. The remaining 12% of residents work in other locations generally further afield.

Destination Location	Total Number of People
Norwich	45%
South Norfolk	17%
South Norfolk 001	11%
Broadland	15%
Remaining	12%

Table 4.5: Main locations of employment for residents living within SOA South Norfolk 001

5.5 Transport Modal Share, Assignment and Journey Purpose

Commuting and Business

5.5.1 The main destinations for employment of residents living in Costessey are Norwich (45%), South Norfolk (17%), Broadland (15%) and South Norfolk 001 itself (11%). The mode share

assumptions for Business and Commuting trips to each of these areas have been based upon the 2011 Census Journey to Work (JTW) data. The mode share for the remaining 12% of journeys to work destinations other than the five identified above have been grouped together and their trip mode share applied accordingly. 'Working from home' has not been included in the analysis and therefore the remaining mode share percentages have been weighted to exclude this.

Destination	Bus	Car	Car Passenger	M/cycle	Cycle	Walk	Other
Norwich	15%	65%	7%	3%	6%	4%	0%
South Norfolk 001	2%	61%	5%	2%	9%	21%	0%
Remainder of South Norfolk	9%	76%	8%	1%	4%	2%	0%
Broadland	3%	84%	5%	3%	4%	1%	0%
Remaining	2%	88%	3%	1%	1%	2%	1%

Table 4.6: 2011 Census Journey to Work Mode Share for SOA South Norfolk 001

- 5.5.2 The proportion of residents who work locally and walk or cycle to work is high at 30%. 15% of residents who travel into Norwich commute by bus. The car mode share is higher amongst destinations further afield which is to be expected. The "other" category includes Taxi and Train as a mode of transport and it is expected that any train journeys begin with a car journey to the station in the first instance.

Education

- 5.5.3 Using information from the Census on primary and school age groups in South Norfolk 001 it has been estimated that 47% of Education related journeys in the AM peak would be travelling to primary schools and 53% of trips would be travelling to secondary.
- 5.5.4 It has assumed that only secondary trips will be on the network in the PM peak as the majority of primary school trips would be complete by the PM peak. Education Escort journeys are assumed to be related to journeys to primary school as pupils of secondary education age are more likely to travel without an escort. The distribution by mode share was derived on review of the National Travel Survey (NTS) travel to school mode share. The NTS contains mode share to schools based on distance. The nearest primary and secondary school are located within 2 miles of the site. These modes shares have therefore been used for educational related trips.

Main Mode	Primary School	Secondary School
	1 to under 2 miles distance	1 to under 2 miles distance
Walk	26%	57%
Bicycle	1%	5%
Car/van	65%	26%
Bu	6%	11%
Other	1%	1%

Table 4.7: Education Mode Share based on NTS data

Other

5.5.5 Personal Business, Retail and Visiting have been allocated to the 'Other' category. NTS data was used to establish the modal share for these trips.

5.5.6 **Table 4.8** summarises the trips by journey purpose and mode share generated by the proposed development of up to 100 dwellings.

Mode	Commuting & Business		Education		Other		Total	
	AM	PM	AM	PM	AM	PM	AM	PM
Walk	1	1	18	2	4	8	23	11
Car Driver	18	20	10	0	9	20	37	40
Car passenger	2	2	10	0	6	12	17	14
Bus	2	3	4	0	1	3	7	6
Cycle	1	1	1	0	0	0	3	2
Motorcycle	1	1	0	0	0	0	1	1
Other	0	0	0	0	1	2	1	2
Total	25	28	42	3	21	45	88	76

Table 4.8: Trips by Journey Purpose and Mode Share

5.5.7 **Table 4.8** shows that the total trip rates estimated by the reviewing the Census and NTS data are comparable to the trip rates and resultant trips estimated from the TRICS database which are 50 two way vehicles trips in the AM and 49 two way trips in the PM peak.

5.5.8 The vehicle trips estimated for the proposed development of 100 dwellings in the TRICS database represents a robust assessment in assessing any likely highway impacts. The multi-modal trip generation assessment allows us to consider the mode shift targets required by policy and the likely impact on trips for monitoring purposes once the development is implemented.

5.6 Development Trip Assignment

- 5.6.1 The proposed traffic distribution has been based on 2011 Census Data for 'Journeys to Work' for SOA South Norfolk 001 and is summarised in Table 4.9 below for all work journeys made by car.

Workplace Destination	Percentage of residents travelling by car
Norwich	41%
South Norfolk (Excluding SN001)	18%
South Norfolk 001	9%
Broadland	18%
Breckland	5%
Norht Norfolk	3%
King's Lynn & West Norfolk	2%
Great Yarmouth	1%
Waveney	1%
Others	3%

Table 4.8: Development traffic Distribution

- 5.6.2 The 2011 Census data has been used alongside a review of journey times and likely route choices to establish a bespoke distribution profile the site. The development traffic distribution is presented on **Diagram T3 and T4**.

6 JUNCTION IMPACT APPRAISAL

6.1 Introduction

6.1.1 To examine the impacts of the proposals on the local highway network, a review of the following junctions has been undertaken:

- Junction 1 – Townhouse Road/The Street
- Junction 2 – West End / Longwater
- Junction 3 - Dereham Road/Longwater Lane/Bawburgh Lane
- Junction 4 - Dereham Rd / Norwich Rd

6.2 Threshold Impact Assessment

6.2.1 A threshold assessment has been used to examine traffic impact on the local network. This has been undertaken for the 2017 Base scenario. The results are summarised in the table below.

Junction	AM			PM		
	2017 Inflows	Devel Inflows	Percentage Impact	2017 Inflows	Devel Inflows	Percentage Impact
J1: Townhouse Road/The Street	578	25	4%	595	24	4%
J2: West End / Longwater	1221	19	2%	1205	19	2%
J3: Dereham Road/Longwater Lane/Bawburgh Lane	2684	13	0%	2689	13	0%
J4: Dereham Rd / Norwich Rd	2011	26	1%	2266	25	1%

Table 6.1: Junction Threshold Assessment

6.2.2 Typically, capacity assessments are required when the impact at a junction associated with the introduction of a new development exceeds 10% for uncongested networks and 5% for congested networks. The threshold assessment indicates that the proposed development impact at all junctions is below 5%. The proposed development is therefore considered to have negligible impact on the local highway network and the residual cumulative impact of the development will not be severe.

6.3 Site Access Junction

6.3.1 In order to demonstrate that the proposed site access is fit for purpose a junction capacity analysis has been undertaken using Junctions 8 (PICADY), the industry standard software.

Junction performance is measured as ratio of flow to capacity (RFC). An RFC value greater than 1 means that a turning movement has a higher level of traffic flow than its theoretical capacity. As a result, flow breakdown and extensive queues can be expected. An RFC below 0.85 is considered acceptable as there is still scope to accommodate future growth.

- 6.3.2 TEMPRO growth factors have been applied to the background traffic flows for a future year of 2022 (5 years post application). The table below summarises the TEMPRO growth factors for South Norfolk 001.

Time Period	AM	PM
2017 - 2022	1.0885	1.0864

Table 6.2: TEMPRO Growth Factors for South Norfolk 001 for a future year of 2022.

- 6.3.3 The 2022 background traffic is presented on **Diagrams T5 & T6**. The 2022 abse flows plus development traffic flows are presented on **Diagrams T7 & T8**. The PICADY output files are included in **Appendix E** and summarised in the table below.

Movement	AM			PM		
	Queue	RFC	LOS	Queue	RFC	LOS
Left Turn In	0.03	0.03	A	0.02	0.02	A
Right Turn Out	0.05	0.05	A	0.02	0.02	A
Right Turn In / Ahead	0.02	0.01	A	0.05	0.04	A

Table 6.3: Summary of PICADY Results – Site Access/Townhouse Road for 2022 + Development

- 6.3.3 The modelling demonstrates that the proposed access junction is more than sufficient in terms of capacity to accommodate the proposed development.

7 ACCESS AND MOVEMENT STRATEGY

7.1 Introduction

7.1.1 The existing transport networks and the opportunities for sustainable travel by non-car modes are described in Section 2. This section of the TA details the proposed transport access strategy for non-car modes at the development which is consistent with local and national transport policy aims and objectives. An audit of such local facilities has been undertaken and an accessibility plan produced. This is shown on **Figure 2**. **Figure 3** shows the walking routes to the schools from the site.

7.2 Walking Strategy

7.2.1 As discussed in Section 2 the site benefits from being located in an area with a good provision for pedestrian facilities to key local destinations and public transport facilities. This is being improved by extending the footway across the site frontage to the east to provide a connection to the existing footway and bus stops.

7.2.2 The proposals include traffic calming on Townhouse Road to reduce vehicle speeds and improve the pedestrian environment to the east of the site where the existing footway is narrow.

7.2.3 The site is located to a wide variety of uses all of which are within suitable walking distance to the benefit of residents. This highlights that the sites' proximity to these local facilities lends itself to sustainable travel and reduces the reliance on car use.

7.2.4 A summary of the sites' catchment and walk times to employment, education, retail, leisure and public transport facilities within the vicinity of the Development is detailed in Table 7.1.

Key Destinations & Services	CIHT 'Preferred Maximum' Distance km	Distance from site entrance	Typical Walk Time
St Augustine's Catholic Primary	2.0	400m	5 mins
Ormiston Victory Academy	2.0	1.6km	19 mins
Costessey Junior School	2.0	2.4km	29 mins
Costessey Infant School	2.0	2.3km	29 mins
Roundwell Medical Centre	1.2	1.6km	21 mins
Harte of Costessey	1.2	210m	2 mins
Old Costessey Post Office	1.2	250m	3 mins
Hairdressers	1.2	250m	3 mins
Fish and Chip Shop	1.2	250m	3 mins
Parade of shops including emall Co-op supermarket, Estatea Agents, Takeaway & Chemist	1.2	2km	26 mins
The Crown Inn	1.2	2.1km	26 mins
New Costessey Post Office	1.2	1.9km	24 mins

Table 7.1: Land south of Townhouse Road - Summary distances and typical walking journey times (80m/min) to key local destinations & services.

7.2.5 **Figure 4** presents the walking routes from the site to the local primary and secondary schools.

7.3 Cycling Strategy

7.3.1 The local residential roads are conducive to cycling. The proposed development will be designed to ensure the internal arrangement is also conducive to cycle access. Provision for cycle parking will be made within the curtilage of each property in accordance with NCC cycle parking standard.

7.4 Public Transport

7.4.1 As discussed in Section 2 the nearest bus stops are located on Townhouse Road within 400m of the development. A footway connection will be provided from the site access to the bus stops to the east of the site.

8 SUMMARY AND CONCLUSION

8.1 Summary

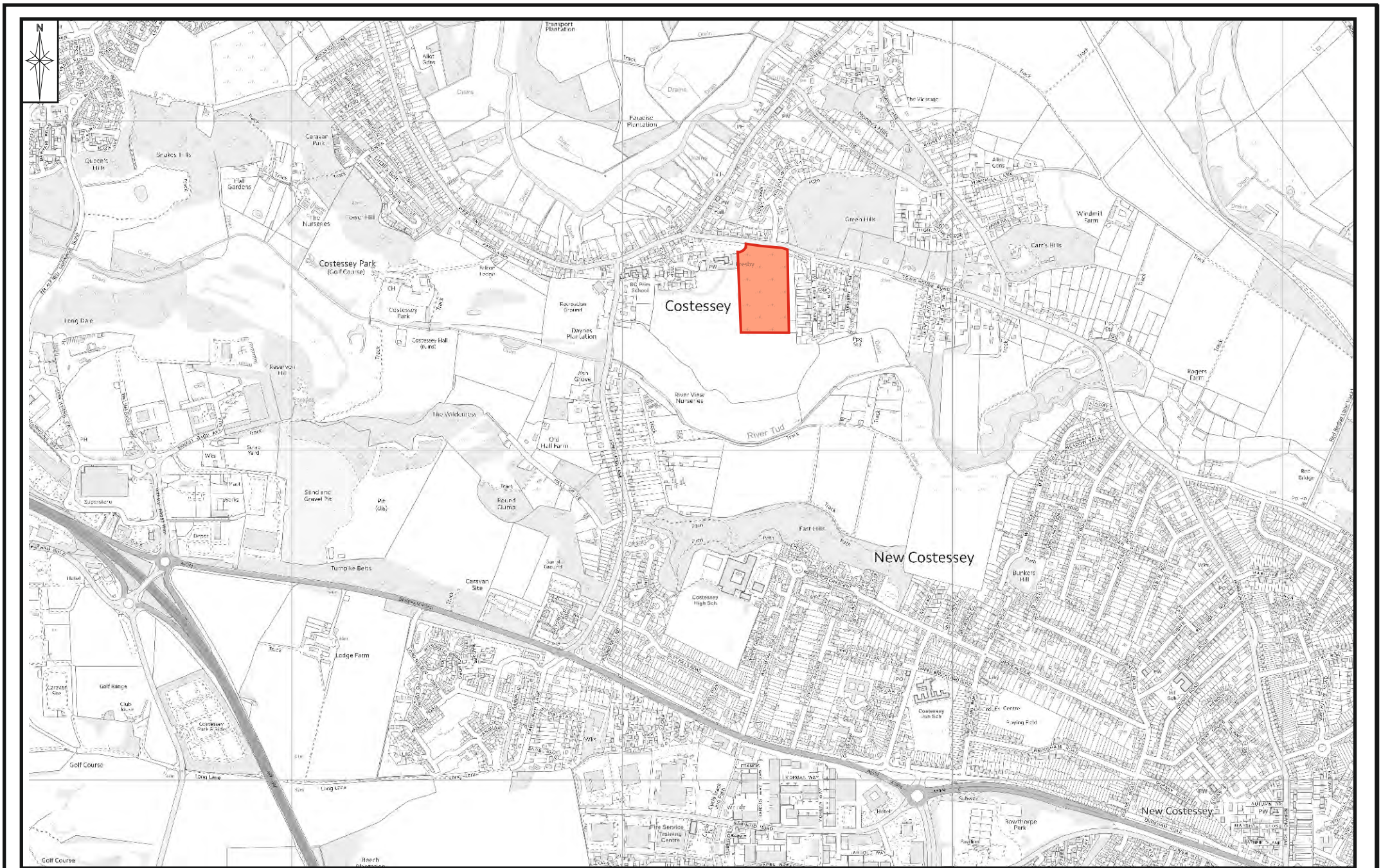
- 8.1.1 Cannon Consulting Engineers has been appointed by Taylor Wimpey to prepare a Transport Assessment and in relation to the proposals for residential development on land south of Townhouse Road, Costessey, South Norfolk.
- 8.1.2 The site is located on an existing public transport corridor providing regular services between Costessey and Norwich City Centre. There are existing bus stops and a shelter located within easy walking distance of the site.
- 8.1.3 The 2011 Census data shows that 11% of residents live and work in the area. The walk and cycle mode share already exhibited amongst residents to destinations within South Norfolk 001 is high (32%). 45% of residents commute to Norwich, of which 15% travel by bus.
- 8.1.4 The proposals consist of up to 100 residential dwellings. This level of development could be expected to generate around 50 vehicle movements during both the AM and PM peak hours.
- 8.1.5 A review of the current design guidance concludes that it would be possible to serve a development of 100 units from a single point of access to the existing highway network, off Townhouse Road.
- 8.1.6 The proposed point of access located on Townhouse Road meets the layout and visibility standards as laid out in current design guidelines.
- 8.1.7 New footpath links are achievable along the southern side of Townhouse Road connecting the site with the existing footway networks in Costessey.
- 8.1.8 A traffic calming scheme is proposed to reduce speeds in the vicinity of the site access and improve the pedestrian environment to the west of the site where the existing footway is narrow.
- 8.1.9 The proposals will have negligible impact on the local highway network and the proposed site access has been shown to be fit for purpose with ample capacity.

8.2 Conclusion

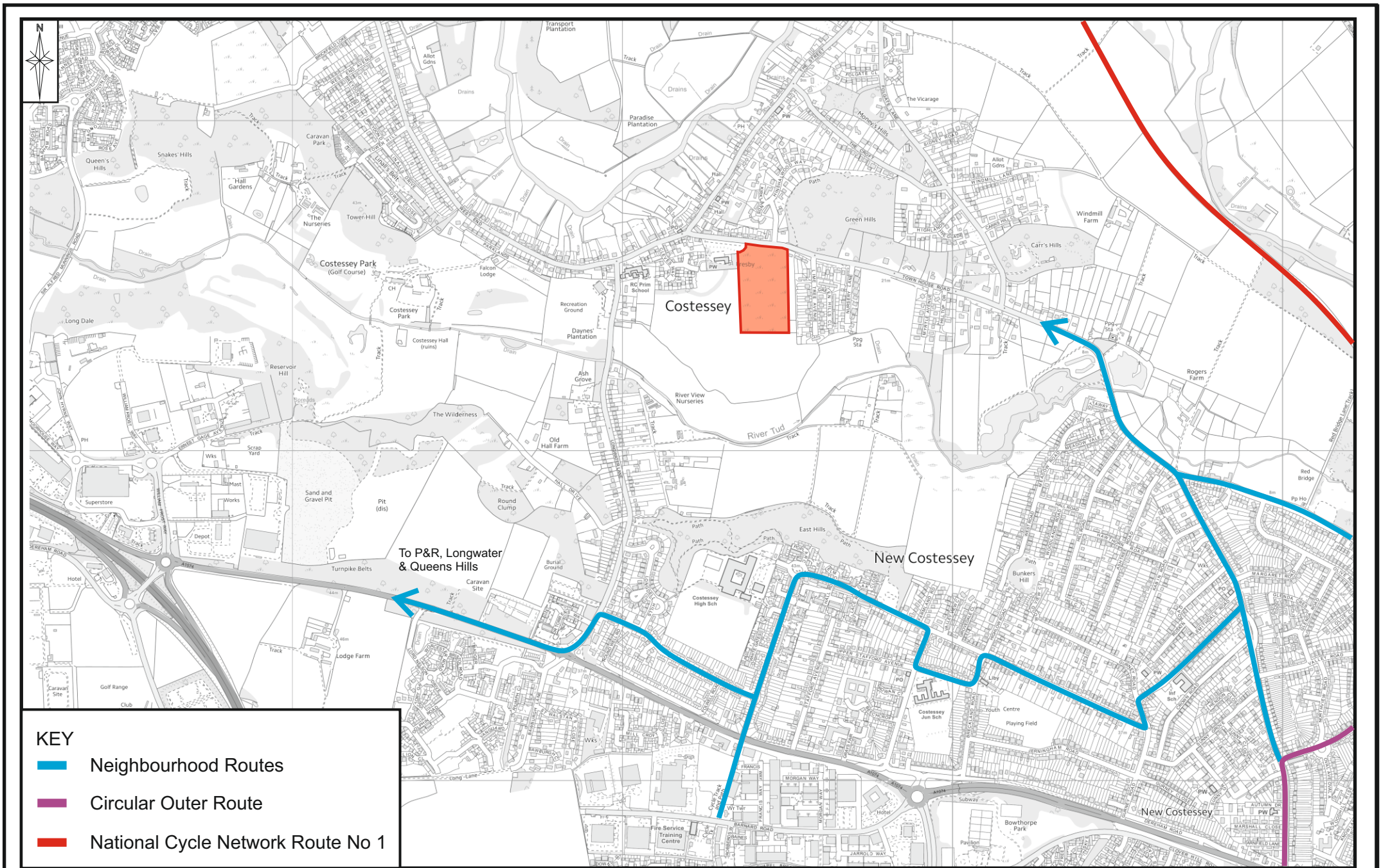
- 8.2.1 It is therefore concluded that there is potential to serve the identified site from Townhouse Road, by providing a safe, vehicular access and egress in accordance with current highway design standards.
- 8.2.2 It is considered that the development will have an acceptable impact on, and relationship to, existing transport infrastructure. The residual cumulative impacts on development would not be severe

Figures & Drawings

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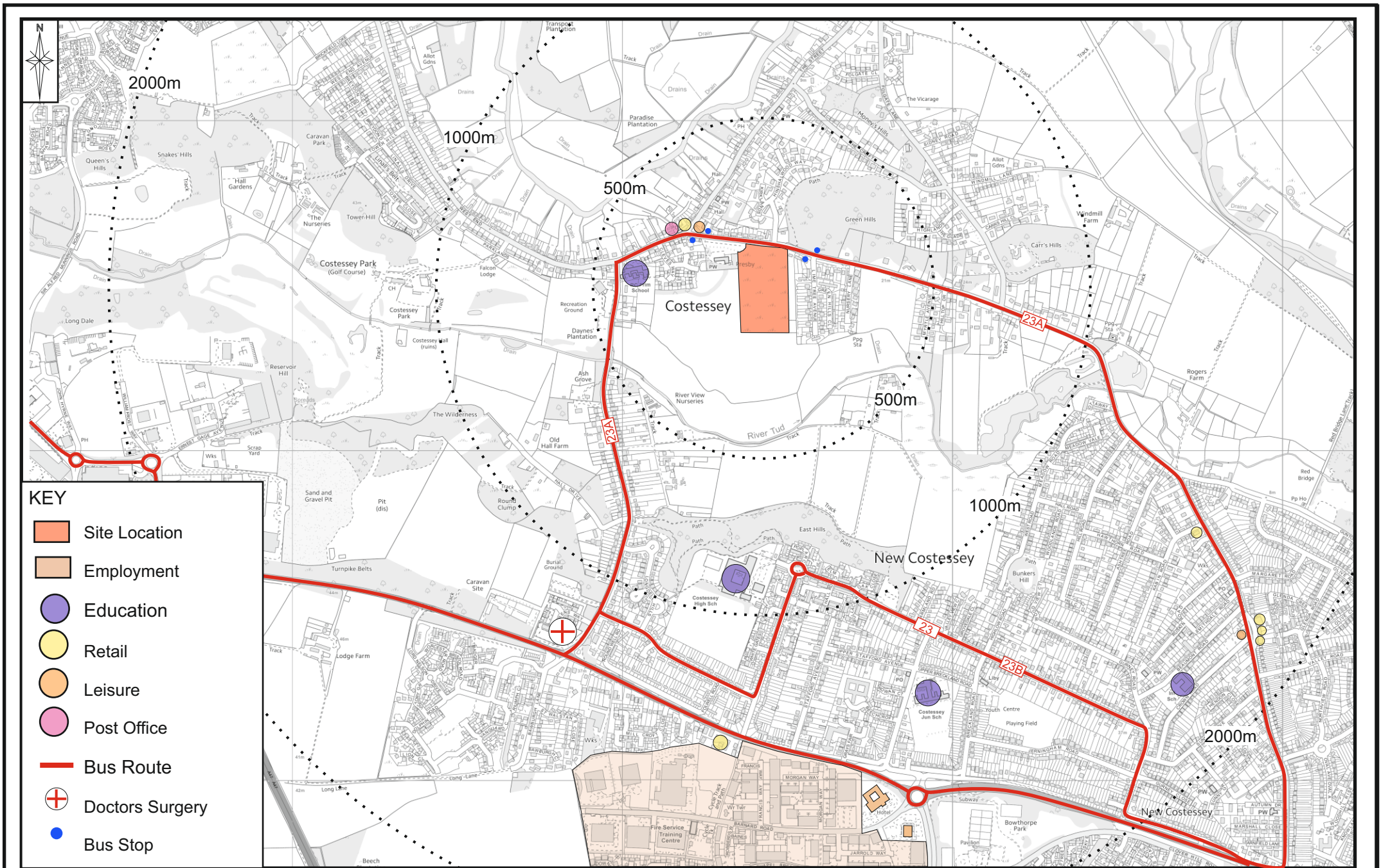
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Date: 24/06/2016	Client: TAYLOR WIMPEY	Reproduced from Promap by permission of Ordnance Survey® on behalf of The Controller of Her Majesty's Stationery Office. ©Crown copyright 2012. All rights reserved. Licence number 100020449.	Figure No: FIGURE 1
Drawn By: AS		Cambridge House, Lanwades Business Park, Kentford, Newmarket, CB8 7PN Tel: 01638 555107 Email: info@cannonce.co.uk Web www.cannonce.co.uk	CANNON CONSULTING ENGINEERS Highways, Transport & Infrastructure Planning



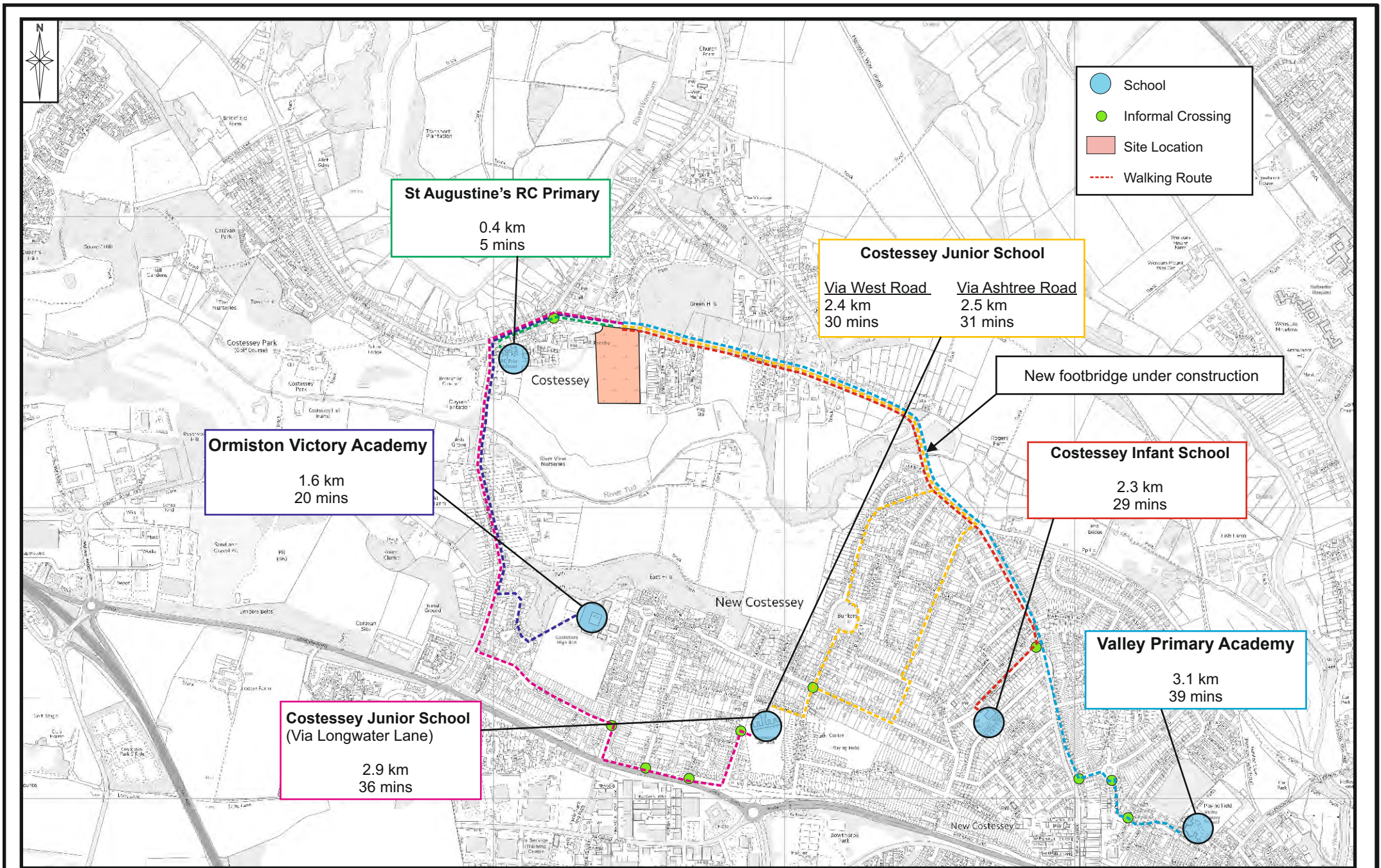
KEY

- Neighbourhood Routes
- Circular Outer Route
- National Cycle Network Route No 1

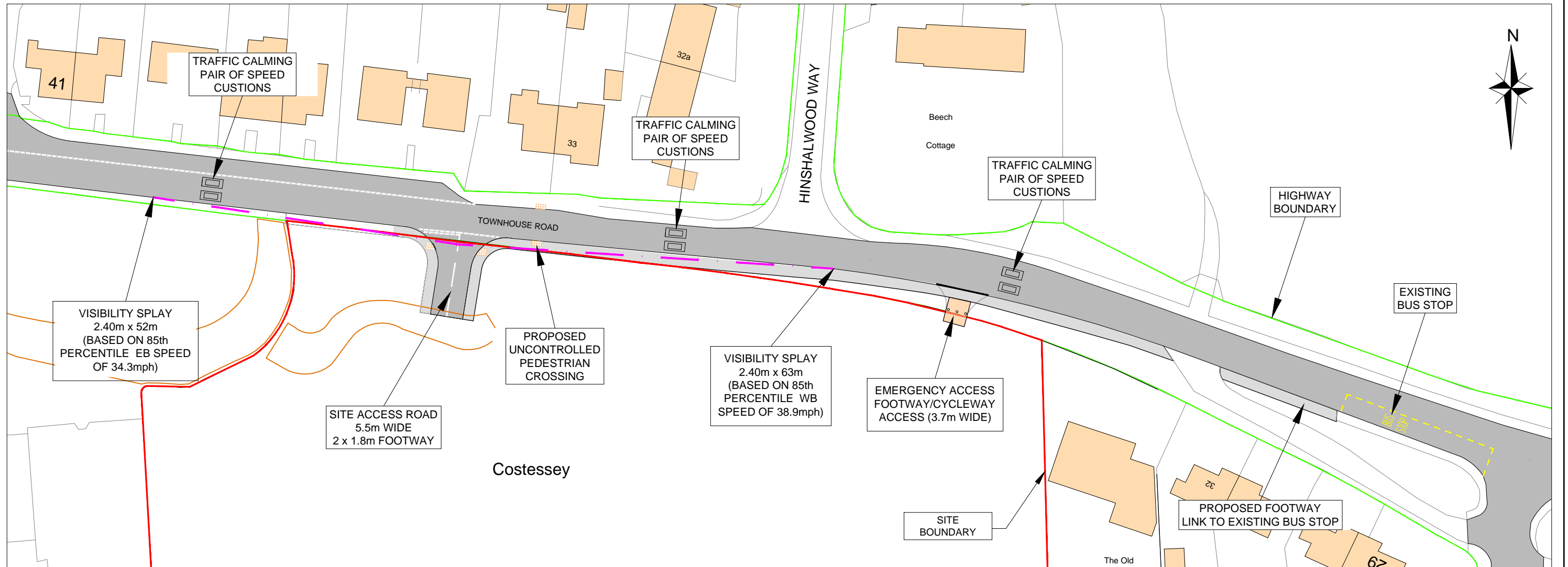
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Date: 24/06/2016	Client: TAYLOR WIMPEY	Reproduced from Promap by permission of Ordnance Survey® on behalf of The Controller of Her Majesty's Stationery Office. ©Crown copyright 2012. All rights reserved. Licence number 100020449.	CANNON CONSULTING ENGINEERS Highways, Transport & Infrastructure Planning	Figure No: FIGURE 2
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- KEY**
- Site Location
 - Employment
 - Education
 - Retail
 - Leisure
 - Post Office
 - Bus Route
 - + Doctors Surgery
 - Bus Stop



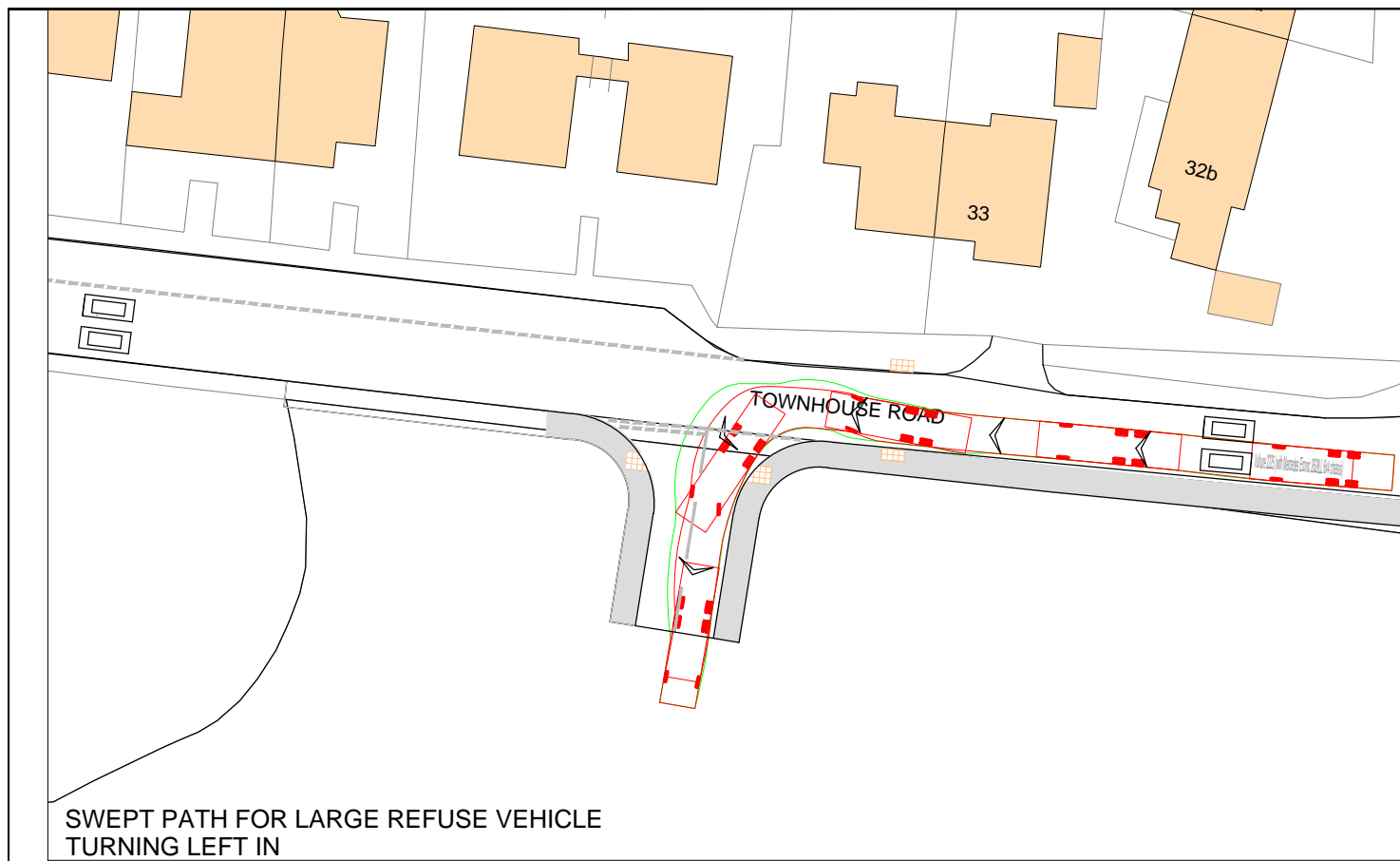
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Date: 27/07/2017	Client: TAYLOR WIMPEY	Reproduced from Promap by permission of Ordnance Survey® on behalf of The Controller of Her Majesty's Stationery Office. ©Crown copyright 2012. All rights reserved. Licence number 100020449.	CANNON CONSULTING ENGINEERS Highways, Transport & Infrastructure Planning	Figure No: FIGURE 4
Drawn By: DJ				



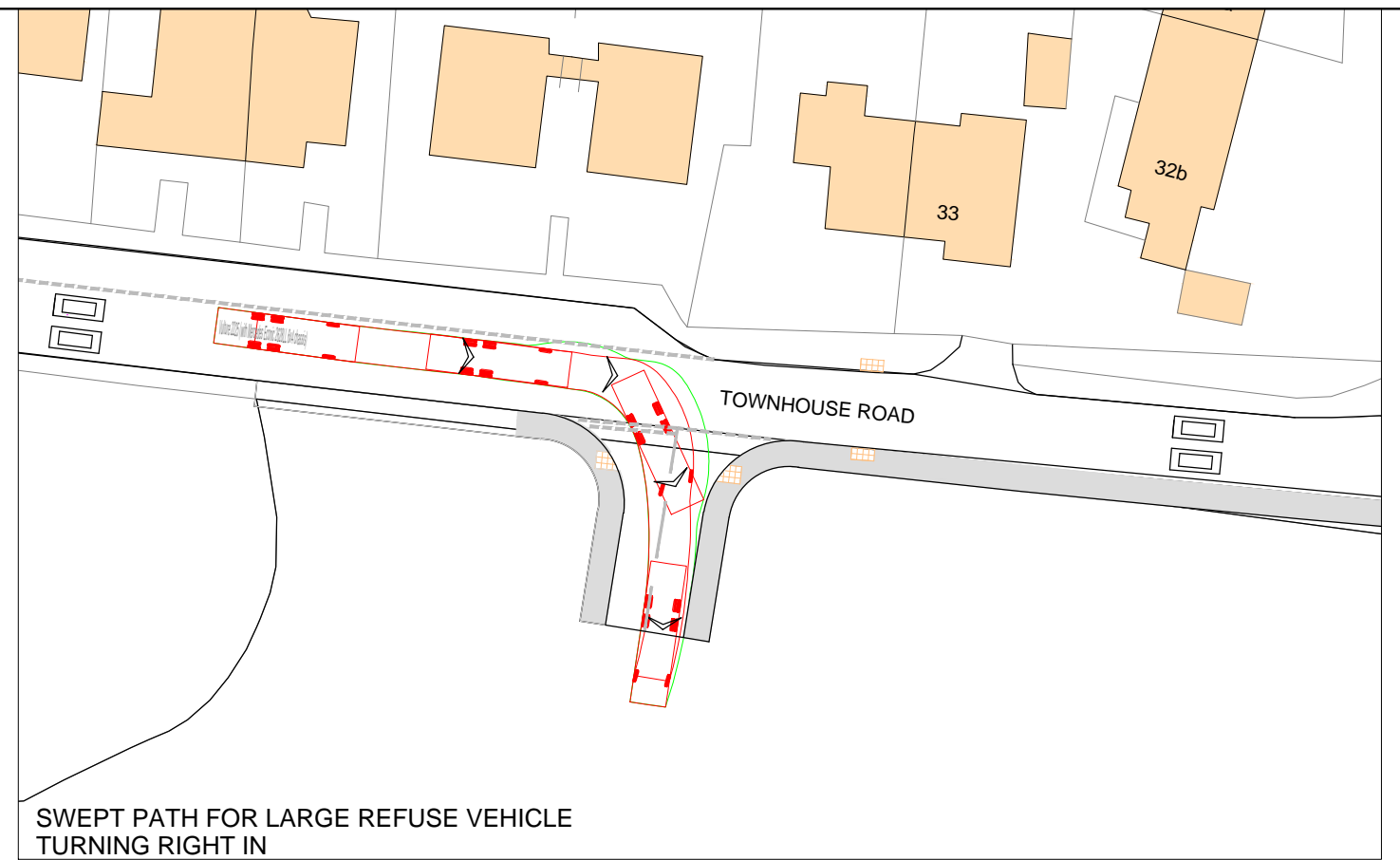
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					LAND SOUTH OF TOWNHOUSE ROAD COSTESSEY					TAYLOR WIMPEY				
A	DRAWING UPDATED TO INCLUDE SPEED SURVEY DATA				DRAWING TITLE		DESIGNED	DRAWN	CHECKED	PASSED	SCALE @ A3	ISSUE STATUS	DRAWING NUMBER	REV
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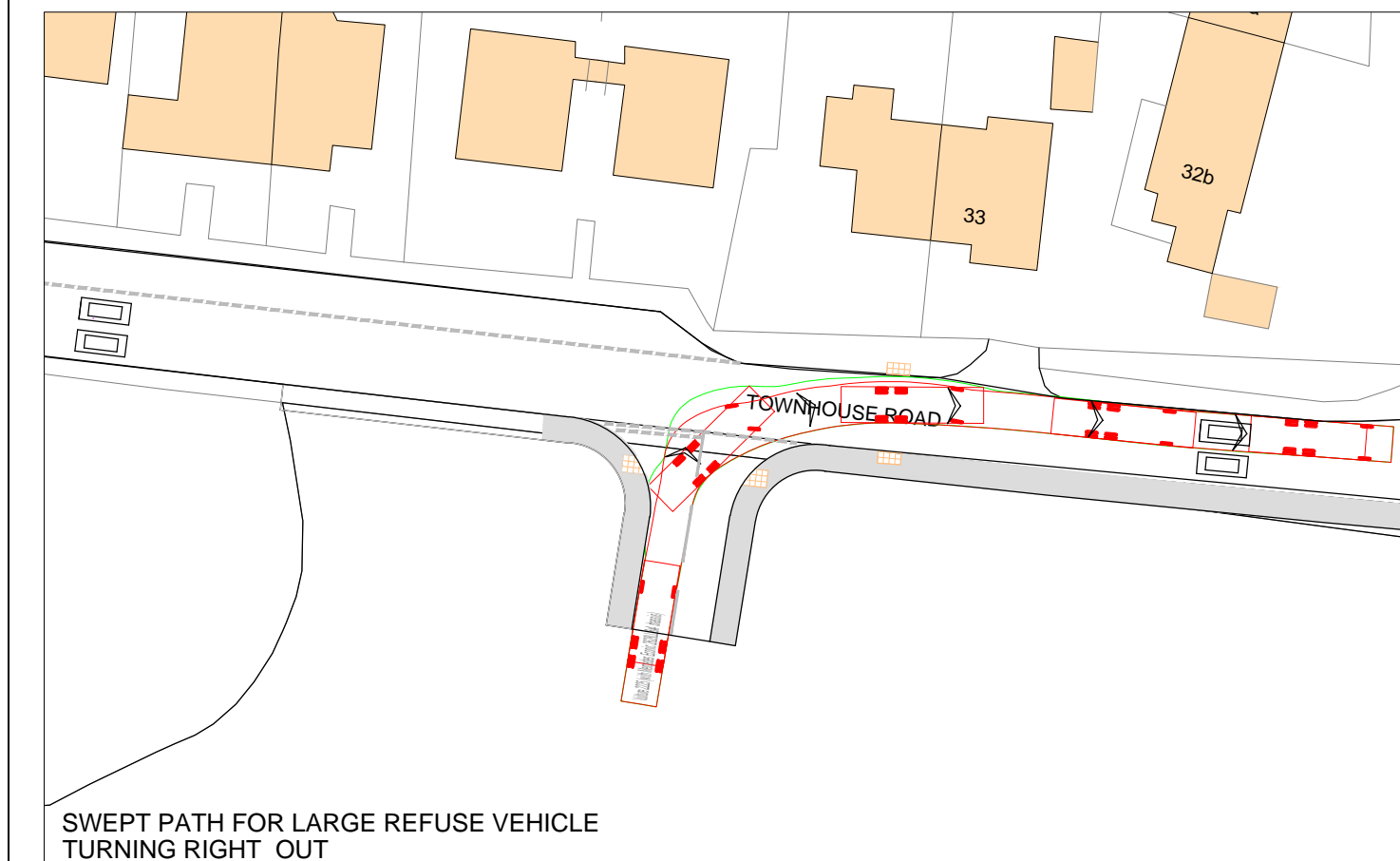
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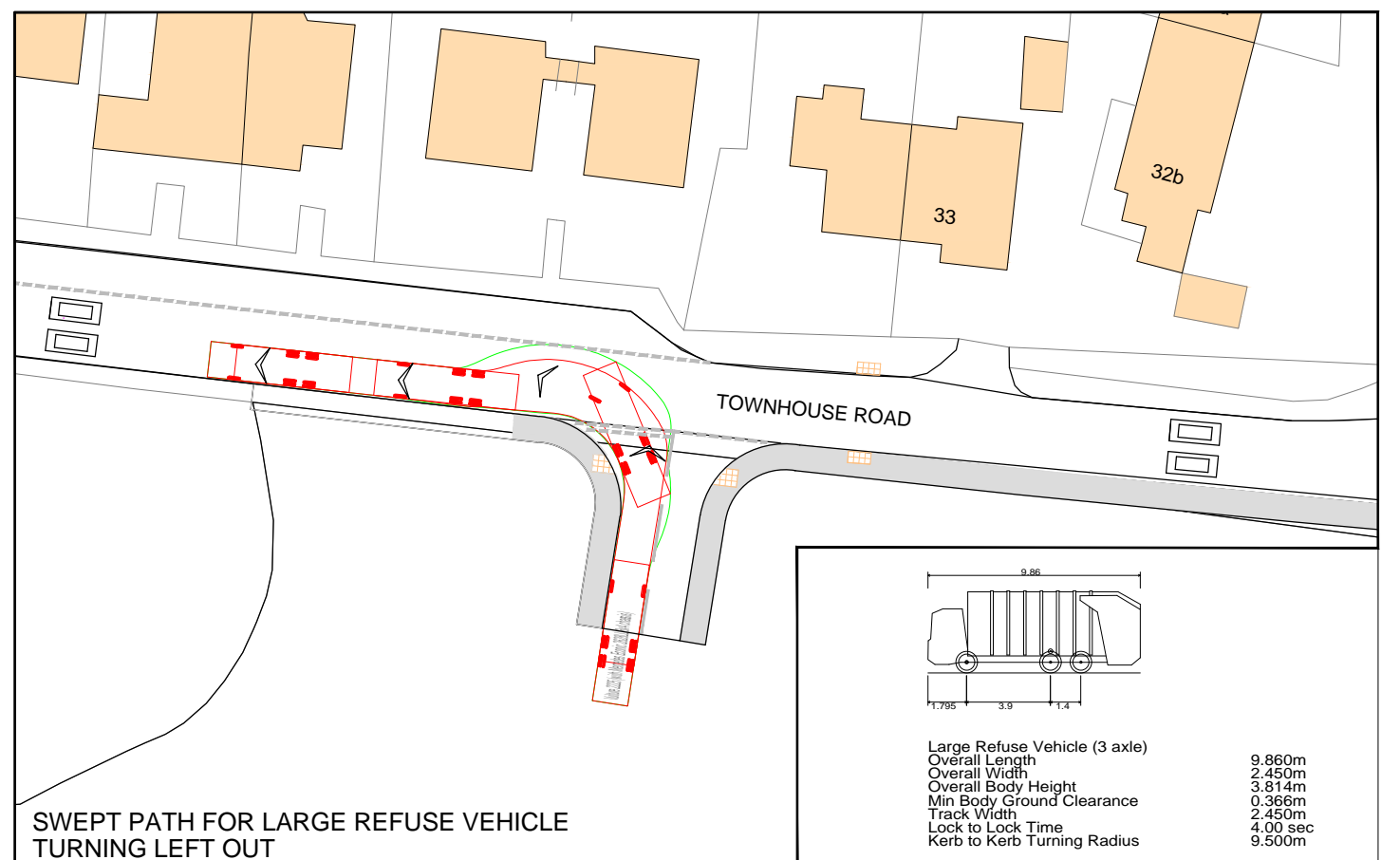
SWEPT PATH FOR LARGE REFUSE VEHICLE
TURNING LEFT IN



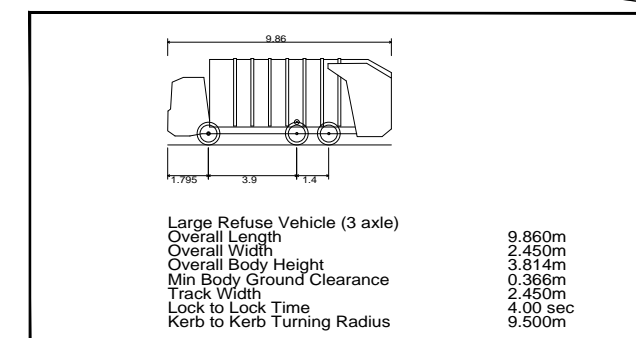
SWEPT PATH FOR LARGE REFUSE VEHICLE
TURNING RIGHT IN




SWEPT PATH FOR LARGE REFUSE VEHICLE
TURNING RIGHT OUT



SWEPT PATH FOR LARGE REFUSE VEHICLE
TURNING LEFT OUT



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REV	DESCRIPTION	CH	PA	DATE	PROJECT TITLE	CLIENT	DATE		Cannon Consulting Engineers Cambridge House, Kentford, Newmarket, Cambs, CB8 7PN Tel: +44 (0)1638 555 107 info@cannonce.co.uk www.cannonce.co.uk	DRAWING NUMBER	REV	
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					DRAWING TITLE	DESIGNED	DRAWN	CHECKED	PASSED	SCALE @ A3	ISSUE STATUS	
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Appendix A

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Appendix B

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Full Details Report Summary -

Accidents Found Date Range: 05/11/2012 - 11/06/2017

Grid Coordinate Range: 616300,310310 - 617709,312318

Accident Date BETWEEN '01-Sep-2012' AND '31-Aug-2017'

Accident Severity

	2012	2013	2014	2015	2016	2017	Total
Serious	0	0	2	0	1	0	3
Slight	1	4	4	1	3	4	17
Total	1	4	6	1	4	4	20

Casualty Severity

	2012	2013	2014	2015	2016	2017	Total
Serious	0	0	2	0	1	0	3
Slight	3	6	6	1	3	4	23
Total	3	6	8	1	4	4	26

Casualty KSI

	2012	2013	2014	2015	2016	2017	Total
Adult KSI	0	0	1	0	1	0	2
Child KSI	0	0	1	0	0	0	1
Slight	3	6	6	1	3	4	23
Total	3	6	8	1	4	4	26

Accident Date BETWEEN '01-Sep-2012' AND '31-Aug-2017'

1.3 Accident Reference:0069322 Slight First Road: C171 Accident 1 of 20

1.7 Date & 1.9 Time.....Tuesday 15/01/2013 12:50	1.15 Speed limit.....20 Mph
1.11 Grid co-ordinates.....616300/312140	1.14 Road type.....Single c'way
1.10 Local Authority.....South Norfolk	1.16 Junction detail.....Not at or within 20m of junction
1.12/1.13 1st road identity..C171	1.17 Junction control.....
1.18/1.19 2nd road identity..	1.24 Special conditions...None
1.22 Weather.....Snow	1.25 Carriageway hazards..None
1.21 Light conditions.....Daylight	1.5 Number of vehicles...2
1.20a Crossing(human).....No Human control within 50m	1.6 Number of casualties.1
1.20b Crossing(physical).....No crossing facility within 50m	1.23 Surface.....Snow

Did a police officer attend?
Yes

Accident Description

Veh 1 (Car), Going ahead Other from North to South; Veh 2 (Car), Going ahead Other from North to South.

2 Vehicles

2.4 Veh ref no.....1	2.16 First impact.....Front
2.17 Other vehicle.....2	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Male
2.8 Movement from/to....North South	2.22 Driver age.....41
2.7 Manoeuvres.....Going ahead other	
2.11 Skidding.....Yes	2.24 Hit and Run.....No
2.13 Left c'way.....Did not leave c'way	2.23 Breath test.....Negative
2.6 Towing.....No	2.29 Journey purpose.....Other
2.28 Foreign vehicle.....Not foreign	

2.4 Veh ref no.....2	2.16 First impact.....Back
2.17 Other vehicle.....1	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Male
2.8 Movement from/to....North South	2.22 Driver age.....21
2.7 Manoeuvres.....Going ahead other	
2.11 Skidding.....No	2.24 Hit and Run.....No
2.13 Left c'way.....Did not leave c'way	2.23 Breath test.....Not provided
2.6 Towing.....No	2.29 Journey purpose.....Other
2.28 Foreign vehicle.....Not foreign	

1 Casualty

3.5 Cas ref no.....1	3.15 Car passenger.....No
3.6 Casualty class.....Driver or Rider	3.16 PSV passenger.....No
3.7 Gender.....Male	3.14 Seat belt usage.....Unknown
3.8 Age.....21	3.13 School pupil.....Other (3.19 School
3.9 Severity.....Slight	3.10 Pedestrian location..Not a pedestrian
3.4 Vehicle no.....2	3.11 Pedestrian movement..Not a pedestrian
3.12 Ped Direction.....Not a pedestrian	3.19 Roadworker injured...No

Accident Date BETWEEN '01-Sep-2012' AND '31-Aug-2017'

1.3 Accident Reference: NC83072 Slight COSTESSEY A1074 DEREHAM ROAD APPROX 100MTRS WEST OF LORD NELSON DRIVE Accident 2 of 20

1.7 Date & 1.9 Time.....Friday 11/07/2014 16:10 1.15 Speed limit.....30 Mph
 1.11 Grid co-ordinates.....616723/310422 1.14 Road type.....Single c'way
 1.10 Local Authority.....South Norfolk 1.16 Junction detail.....Not at or within 20m of junction
 1.12/1.13 1st road identity..A1074 1.17 Junction control.....
 1.18/1.19 2nd road identity.. 1.24 Special conditions...None
 1.22 Weather.....Fine 1.25 Carriageway hazards..None
 1.21 Light conditions.....Daylight 1.5 Number of vehicles...2
 1.20a Crossing(human).....No Human control within 50m 1.6 Number of casualties.3
 1.20b Crossing(physical).....No crossing facility within 50m 1.23 Surface.....Dry

Did a police officer attend?
Yes

Accident Description

V1 ON DEREHAM ROAD HEADING OUT OF NORWICH CROSSES C/WAY AND COLLIDES HEAD ON WITH V2 ON DEREHAM ROAD TOWARDS CITY

2 Vehicles

2.4 Veh ref no.....1 2.16 First impact.....Front
 2.17 Other vehicle.....0 2.12 Hit object in c'way..None
 2.5 Vehicle class.....Car 2.14 Hit object off c'way.None
 2.10 Junction location...Not at junction 2.18 Parts damaged..... / /
 2.9 Restricted location.On main carriageway 2.21 Driver gender.....Female
 2.8 Movement from/to....East West 2.22 Driver age.....19
 2.7 Manoeuvres.....Going ahead other
 2.11 Skidding.....No
 2.13 Left c'way.....Did not leave c'way 2.24 Hit and Run.....No
 2.6 Towing.....No 2.23 Breath test.....Negative
 2.28 Foreign vehicle.....Not foreign 2.29 Journey purpose.....Other

2.4 Veh ref no.....2 2.16 First impact.....Offside
 2.17 Other vehicle.....0 2.12 Hit object in c'way..None
 2.5 Vehicle class.....Car 2.14 Hit object off c'way.None
 2.10 Junction location...Not at junction 2.18 Parts damaged..... / /
 2.9 Restricted location.On main carriageway 2.21 Driver gender.....Male
 2.8 Movement from/to....West East 2.22 Driver age.....59
 2.7 Manoeuvres.....Going ahead other
 2.11 Skidding.....No
 2.13 Left c'way.....Did not leave c'way 2.24 Hit and Run.....No
 2.6 Towing.....No 2.23 Breath test.....Negative
 2.28 Foreign vehicle.....Not foreign 2.29 Journey purpose.....Other

3 Casualties

3.5 Cas ref no.....1 3.15 Car passenger.....No
 3.6 Casualty class.....Driver or Rider 3.16 PSV passenger.....No
 3.7 Gender.....Female 3.14 Seat belt usage.....Worn but not independently
 3.8 Age.....19 3.13 Roadol pupil.....Other
 (3.19 School)
 3.9 Severity.....Slight 3.10 Pedestrian location..Not a pedestrian
 3.4 Vehicle no.....1 3.11 Pedestrian movement..Not a pedestrian
 3.12 Ped Direction.....Not a pedestrian 3.19 Roadworker injured...No

3.5 Cas ref no.....2 3.15 Car passenger.....No
 3.6 Casualty class.....Driver or Rider 3.16 PSV passenger.....No
 3.7 Gender.....Male 3.14 Seat belt usage.....Worn but not independently
 3.8 Age.....59 3.13 Roadol pupil.....Other
 (3.19 School)
 3.9 Severity.....Slight 3.10 Pedestrian location..Not a pedestrian
 3.4 Vehicle no.....2 3.11 Pedestrian movement..Not a pedestrian
 3.12 Ped Direction.....Not a pedestrian 3.19 Roadworker injured...No

3.5 Cas ref no.....3 3.15 Car passenger.....Front
 3.6 Casualty class.....Passenger 3.16 PSV passenger.....No
 3.7 Gender.....Female 3.14 Seat belt usage.....Worn but not independently
 3.8 Age.....55 3.13 Roadol pupil.....Other
 (3.19 School)
 3.9 Severity.....Slight 3.10 Pedestrian location..Not a pedestrian
 3.4 Vehicle no.....2 3.11 Pedestrian movement..Not a pedestrian
 3.12 Ped Direction.....Not a pedestrian 3.19 Roadworker injured...No

Accident Date BETWEEN '01-Sep-2012' AND '31-Aug-2017'

1.3 Accident Reference:154618 Slight DEREHAM ROAD A1074 BAWBURGH LANE Accident 3 of 20

1.7 Date & 1.9 Time.....Friday 27/01/2017 21:55	1.15 Speed limit.....40 Mph
1.11 Grid co-ordinates.....616815/310382	1.14 Road type.....Single c'way
1.10 Local Authority.....South Norfolk	1.16 Junction detail.....Crossroads
1.12/1.13 1st road identity..A1074	1.17 Junction control....Automatic traffic signal
1.18/1.19 2nd road identity..U	1.24 Special conditions...None
1.22 Weather.....Fine	1.25 Carriageway hazards..None
1.21 Light conditions.....Dark/lights lit	1.5 Number of vehicles...1
1.20a Crossing(human).....No Human control within 50m	1.6 Number of casualties.1
1.20b Crossing(physical)....No crossing facility within 50m	1.23 Surface.....Wet

Did a police officer attend?
Yes

Accident Description

VEHICLE 1 APPEARS TO HAVE BEEN COMING FROM LONGWATER LANE ACROSS THE JUNCTION WITH DEREHAM ROAD, A1074 AND ATTEMPTED TO TURN RIGHT ONTO A1074 COUNTY BOUND. THE VEHICLE 1 HAS COLLIDED WITH THE PEDESTRIAN SAFETY BARRIER OF JUNCTION OF BAWBURGH LANE AND DEREHAM ROAD, VEHICLE DROVE OVER BARRIER AND DAMAGED/RIPPED UP WOODEN POSTS OF THE SIDE OF THE FOOTPATH. R/O FOUND NEARBY AND ARRESTED FOLLOWING THE BREATH TEST, DRIVER ERROR DUT TO INTOXICATION.

1 Vehicle

2.4 Veh ref no.....1	2.16 First impact.....Front
2.17 Other vehicle.....0	2.12 Hit object in c'way..Bollard/refuge
2.5 Vehicle class.....Car	2.14 Hit object off c'way.Other permanent object
2.10 Junction location...Approaching or parked on approach	2.18 Parts damaged..... / /
2.9 Restricted location.Footway	2.21 Driver gender.....Male
2.8 Movement from/to....West North	2.22 Driver age.....43
2.7 Manoeuvres.....Going ahead other	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Positive
2.13 Left c'way.....Left c'way near-side	2.29 Journey purpose.....Unknown
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

1 Casualty

3.5 Cas ref no.....1	3.15 Car passenger.....No
3.6 Casualty class.....Driver or Rider	3.16 PSV passenger.....No
3.7 Gender.....Male	3.14 Seat belt usage.....Unknown
3.8 Age.....43	3.13 School pupil.....Other (3.19 School
3.9 Severity.....Slight	3.10 Pedestrian location..Not a pedestrian
3.4 Vehicle no.....1	3.11 Pedestrian movement..Not a pedestrian
3.12 Ped Direction.....Not a pedestrian	3.19 Roadworker injured...No

Accident Date BETWEEN '01-Sep-2012' AND '31-Aug-2017'

1.3 Accident Reference: NC82430 Serious COSTESSEY DEREHAM ROAD J/W LONGWATER LANE Accident 4 of 20

1.7 Date & 1.9 Time.....Sunday 27/07/2014 10:12	1.15 Speed limit.....40 Mph
1.11 Grid co-ordinates.....616825/310377	1.14 Road type.....Single c'way
1.10 Local Authority.....South Norfolk	1.16 Junction detail.....T or Staggered junction
1.12/1.13 1st road identity..A1074	1.17 Junction control.....Automatic traffic signal
1.18/1.19 2nd road identity..C162	1.24 Special conditions...None
1.22 Weather.....Fine	1.25 Carriageway hazards..None
1.21 Light conditions.....Daylight	1.5 Number of vehicles...2
1.20a Crossing(human).....No Human control within 50m	1.6 Number of casualties.1
1.20b Crossing(physical).....Ped phase at signals	1.23 Surface.....Dry

Did a police officer attend?
Yes

Accident Description

V1 ON LONGWATER LANE AT THE JUNCTION WITH DEREHAM ROAD TURNED RIGHT ONTO MAIN ROAD THROUGH A RED LIGHT INTO PATH OF V2 ON DEREHAM ROAD HEADING OUT OF NORWICH

2 Vehicles

2.4 Veh ref no.....1	2.16 First impact.....Front
2.17 Other vehicle.....0	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Entering main road	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Female
2.8 Movement from/to....North North west	2.22 Driver age.....60
2.7 Manoeuvres.....Turning right	
2.11 Skidding.....No	2.24 Hit and Run.....No
2.13 Left c'way.....Did not leave c'way	2.23 Breath test.....Negative
2.6 Towing.....No	2.29 Journey purpose.....Unknown
2.28 Foreign vehicle.....Not foreign	

2.4 Veh ref no.....2	2.16 First impact.....Offside
2.17 Other vehicle.....0	2.12 Hit object in c'way..None
2.5 Vehicle class.....Pedal Cycle	2.14 Hit object off c'way.None
2.10 Junction location...Mid junction	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Male
2.8 Movement from/to....South east North west	2.22 Driver age.....20
2.7 Manoeuvres.....Going ahead other	
2.11 Skidding.....No	2.24 Hit and Run.....No
2.13 Left c'way.....Did not leave c'way	2.23 Breath test.....Not applicable
2.6 Towing.....No	2.29 Journey purpose.....Unknown
2.28 Foreign vehicle.....Not foreign	

1 Casualty

3.5 Cas ref no.....1	3.15 Car passenger.....No
3.6 Casualty class.....Driver or Rider	3.16 PSV passenger.....No
3.7 Gender.....Male	3.14 Seat belt usage.....Not applicable
3.8 Age.....20	3.13 School pupil.....Other (3.19 School
3.9 Severity.....Serious	3.10 Pedestrian location..Not a pedestrian
3.4 Vehicle no.....2	3.11 Pedestrian movement..Not a pedestrian
3.12 Ped Direction.....Not a pedestrian	3.19 Roadworker injured...No

Accident Date BETWEEN '01-Sep-2012' AND '31-Aug-2017'

1.3 Accident Reference:197753 Slight DEREHAM ROAD A1074 AT JN WITH DR TORRENS WAY Accident 5 of 20

1.7 Date & 1.9 Time.....Sunday 11/06/2017 11:00	1.15 Speed limit.....40 Mph
1.11 Grid co-ordinates.....616945/310531	1.14 Road type.....Dual c'way
1.10 Local Authority.....South Norfolk	1.16 Junction detail.....T or Staggered junction
1.12/1.13 1st road identity..A1074	1.17 Junction control....Give way sign or uncontrolled
1.18/1.19 2nd road identity..U	1.24 Special conditions...None
1.22 Weather.....Fine	1.25 Carriageway hazards..None
1.21 Light conditions.....Daylight	1.5 Number of vehicles...1
1.20a Crossing(human).....No Human control within 50m	1.6 Number of casualties.1
1.20b Crossing(physical)....No crossing facility within 50m	1.23 Surface.....Dry

Did a police officer attend?
No - reported over the counter

Accident Description

V1 HAS ENTERED O/S LANE OUT OF 2 - TRAFFIC HAD STOPPED/SLOWED AHEAD - PEDESTRIAN STEPPED OUT BETWEEN SLOWER N/S TRAFFIC INTO PATH OF V1

1 Vehicle

2.4 Veh ref no.....1	2.16 First impact.....Front
2.17 Other vehicle.....0	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Approaching or parked on approach	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Male
2.8 Movement from/to...West East	2.22 Driver age.....53
2.7 Manoeuvres.....Stopping	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Negative
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Unknown
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

1 Casualty

3.5 Cas ref no.....1	3.15 Car passenger.....No
3.6 Casualty class.....Pedestrian	3.16 PSV passenger.....No
3.7 Gender.....Male	3.14 Seat belt usage.....
3.8 Age.....11	3.13 School pupil.....Other (3.19 School
3.9 Severity.....Slight	3.10 Pedestrian location..In centre of c'way
3.4 Vehicle no.....1	3.11 Pedestrian movement..Crossing from drivers nearside
3.12 Ped Direction.....South	3.19 Roadworker injured...No

Accident Date BETWEEN '01-Sep-2012' AND '31-Aug-2017'

1.3 Accident

Slight COSTESSEY DR TORRENS WAY OUTSIDE NUMBER 20

Accident 6 of 20

Reference: NCT140142

1.7 Date & 1.9 Time.....Thursday 24/07/2014 09:20	1.15 Speed limit.....30 Mph
1.11 Grid co-ordinates.....616839/310508	1.14 Road type.....Single c'way
1.10 Local Authority.....South Norfolk	1.16 Junction detail.....Not at or within 20m of junction
1.12/1.13 1st road identity..U99999	1.17 Junction control.....
1.18/1.19 2nd road identity..	1.24 Special conditions...None
1.22 Weather.....Fine	1.25 Carriageway hazards..None
1.21 Light conditions.....Daylight	1.5 Number of vehicles...1
1.20a Crossing(human).....No Human control within 50m	1.6 Number of casualties..1
1.20b Crossing(physical).....No crossing facility within 50m	1.23 Surface.....Dry

Did a police officer attend?

Yes

Accident Description

V1 PARKED. DRIVER OPENED HIS CAR DOOR SON STANDING IN ROAD. CAR ROLLED BACK AND OPEN DOOR KNOCKED PEDESTRIAN OVER

1 Vehicle

2.4 Veh ref no.....1	2.16 First impact.....Offside
2.17 Other vehicle.....0	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way..None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location..On main carriageway	2.21 Driver gender.....Male
2.8 Movement from/to....Parked Parked	2.22 Driver age.....24
2.7 Manoeuvres.....Parked	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Not requested
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Other
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

1 Casualty

3.5 Cas ref no.....1	3.15 Car passenger.....No
3.6 Casualty class.....Pedestrian	3.16 PSV passenger.....No
3.7 Gender.....Male	3.14 Seat belt usage.....Not applicable
3.8 Age.....2	3.13 School pupil.....Other (3.19 School
3.9 Severity.....Slight	3.10 Pedestrian location..In c'way not crossing
3.4 Vehicle no.....1	3.11 Pedestrian movement..In c'way stat - not crossing
3.12 Ped Direction.....Standing still	3.19 Roadworker injured...No

Accident Date BETWEEN '01-Sep-2012' AND '31-Aug-2017'

1.3 Accident Reference: T130016 Slight First Road: A1074, Second Road: C162 Accident 7 of 20

1.7 Date & 1.9 Time.....Thursday 21/02/2013 07:25	1.15 Speed limit.....40 Mph
1.11 Grid co-ordinates.....616840/310360	1.14 Road type.....Single c'way
1.10 Local Authority.....South Norfolk	1.16 Junction detail.....Crossroads
1.12/1.13 1st road identity..A1074	1.17 Junction control....Automatic traffic signal
1.18/1.19 2nd road identity..C162	1.24 Special conditions...None
1.22 Weather.....Fine	1.25 Carriageway hazards..None
1.21 Light conditions.....Daylight	1.5 Number of vehicles...2
1.20a Crossing(human).....No Human control within 50m	1.6 Number of casualties.1
1.20b Crossing(physical)....Pelican etc crossing	1.23 Surface.....Dry

Did a police officer attend?
Yes

Accident Description

Veh 1 (Car), Going ahead Other from Southeast to Northwest; Veh 2 (Car), Going ahead Other from Southeast to Northwest.

2 Vehicles

2.4 Veh ref no.....1	2.16 First impact.....Front
2.17 Other vehicle.....2	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Approaching or parked on approach	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Male
2.8 Movement from/to....South east North west	2.22 Driver age.....22
2.7 Manoeuvres.....Going ahead other	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Negative
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Commuting to/from work
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

2.4 Veh ref no.....2	2.16 First impact.....Back
2.17 Other vehicle.....1	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Approaching or parked on approach	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Female
2.8 Movement from/to....South east North west	2.22 Driver age.....37
2.7 Manoeuvres.....Going ahead other	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Negative
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Commuting to/from work
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

1 Casualty

3.5 Cas ref no.....1	3.15 Car passenger.....No
3.6 Casualty class.....Driver or Rider	3.16 PSV passenger.....No
3.7 Gender.....Female	3.14 Seat belt usage.....Unknown
3.8 Age.....37	3.13 School pupil.....Other (3.19 School
3.9 Severity.....Slight	3.10 Pedestrian location..Not a pedestrian
3.4 Vehicle no.....2	3.11 Pedestrian movement..Not a pedestrian
3.12 Ped Direction.....Not a pedestrian	3.19 Roadworker injured...No

Accident Date BETWEEN '01-Sep-2012' AND '31-Aug-2017'

1.3 Accident Reference:0072667 Slight First Road: A1074 Accident 8 of 20

1.7 Date & 1.9 Time.....Wednesday 10/07/2013 16:40	1.15 Speed limit.....40 Mph
1.11 Grid co-ordinates.....616900/310340	1.14 Road type.....Single c'way
1.10 Local Authority.....South Norfolk	1.16 Junction detail.....Not at or within 20m of junction
1.12/1.13 1st road identity..A1074	1.17 Junction control.....
1.18/1.19 2nd road identity..	1.24 Special conditions...None
1.22 Weather.....Fine	1.25 Carriageway hazards..None
1.21 Light conditions.....Daylight	1.5 Number of vehicles...4
1.20a Crossing(human).....No Human control within 50m	1.6 Number of casualties.3
1.20b Crossing(physical)....No crossing facility within 50m	1.23 Surface.....Dry

Did a police officer attend?
Yes

Accident Description

Veh 1 (Car), Slowing or Stopping from Southeast to Northwest; Veh 2 (Car), Waiting to Go ahead but Held up from Southeast to Northwest; Veh 3 (Car), Waiting to Go ahead but Held up from Southeast to Northwest; Veh 4 (Car), Waiting to Go ahead but Held up from Southeast to Northwest.

4 Vehicles

2.4 Veh ref no.....1	2.16 First impact.....Front
2.17 Other vehicle.....2	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Male
2.8 Movement from/to....South east North west	2.22 Driver age.....37
2.7 Manoeuvres.....Stopping	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Negative
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Other
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

2.4 Veh ref no.....2	2.16 First impact.....Back
2.17 Other vehicle.....1	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Male
2.8 Movement from/to....South east North west	2.22 Driver age.....26
2.7 Manoeuvres.....Waiting to go ahead but held up	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Negative
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Other
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

2.4 Veh ref no.....3	2.16 First impact.....Back
2.17 Other vehicle.....2	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Male
2.8 Movement from/to....South east North west	2.22 Driver age.....30
2.7 Manoeuvres.....Waiting to go ahead but held up	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Negative
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Other
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

2.4 Veh ref no.....4	2.16 First impact.....Back
2.17 Other vehicle.....3	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Female
2.8 Movement from/to....South east North west	2.22 Driver age.....29
2.7 Manoeuvres.....Waiting to go ahead but held up	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Negative
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Commuting to/from work
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

3 Casualties

<p>3.5 Cas ref no.....1 3.6 Casualty class.....Driver or Rider 3.7 Gender.....Male 3.8 Age.....30</p> <hr/> <p>3.9 Severity.....Slight 3.4 Vehicle no.....3 3.12 Ped Direction.....Not a pedestrian</p> <hr/> <p>3.5 Cas ref no.....2 3.6 Casualty class.....Passenger 3.7 Gender.....Male 3.8 Age.....14</p> <hr/> <p>3.9 Severity.....Slight 3.4 Vehicle no.....2 3.12 Ped Direction.....Not a pedestrian</p> <hr/> <p>3.5 Cas ref no.....3 3.6 Casualty class.....Passenger 3.7 Gender.....Female 3.8 Age.....22</p> <hr/> <p>3.9 Severity.....Slight 3.4 Vehicle no.....3 3.12 Ped Direction.....Not a pedestrian</p>	<p>3.15 Car passenger.....No 3.16 PSV passenger.....No 3.14 Seat belt usage.....Unknown 3.13 School pupil.....Other (3.19 School) 3.10 Pedestrian location..Not a pedestrian 3.11 Pedestrian movement..Not a pedestrian 3.19 Roadworker injured...No</p> <hr/> <p>3.15 Car passenger.....Rear 3.16 PSV passenger.....No 3.14 Seat belt usage.....Unknown 3.13 School pupil.....Other (3.19 School) 3.10 Pedestrian location..Not a pedestrian 3.11 Pedestrian movement..Not a pedestrian 3.19 Roadworker injured...No</p> <hr/> <p>3.15 Car passenger.....Front 3.16 PSV passenger.....No 3.14 Seat belt usage.....Unknown 3.13 School pupil.....Other (3.19 School) 3.10 Pedestrian location..Not a pedestrian 3.11 Pedestrian movement..Not a pedestrian 3.19 Roadworker injured...No</p>
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Accident Date BETWEEN '01-Sep-2012' AND '31-Aug-2017'

1.3 Accident Slight Accident 9 of 20
Reference: NC0076248
 1.7 Date & 1.9 Time.....Monday 18/11/2013 08:50 1.15 Speed limit.....30 Mph
 1.11 Grid co-ordinates.....616920/310500 1.14 Road type.....Single c'way
 1.10 Local Authority.....South Norfolk 1.16 Junction detail.....T or Staggered junction
 1.12/1.13 1st road identity..C162 1.17 Junction control.....Give way sign or uncontrolled
 1.18/1.19 2nd road identity..U78244 1.24 Special conditions...None
 1.22 Weather.....Fine 1.25 Carriageway hazards..None
 1.21 Light conditions.....Daylight 1.5 Number of vehicles...2
 1.20a Crossing(human).....No Human control within 50m 1.6 Number of casualties.1
 1.20b Crossing(physical).....No crossing facility within 50m 1.23 Surface.....Wet

Did a police officer attend?
Yes

Accident Description

2 Vehicles

2.4 Veh ref no.....1 2.17 Other vehicle.....2 2.5 Vehicle class.....M/cycle <= 50cc 2.10 Junction location...Mid junction 2.9 Restricted location.On main carriageway 2.8 Movement from/to....North east South west 2.7 Manoeuvres.....O/T stat.vehicle on its O/S 2.11 Skidding.....Overturned 2.13 Left c'way.....Did not leave c'way 2.6 Towing.....No 2.28 Foreign vehicle.....Not foreign	2.16 First impact.....Front 2.12 Hit object in c'way..None 2.14 Hit object off c'way.None 2.18 Parts damaged..... / / 2.21 Driver gender.....Male 2.22 Driver age.....16 2.24 Hit and Run.....No 2.23 Breath test.....Negative 2.29 Journey purpose.....Commuting to/from work
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2.4 Veh ref no.....2 2.17 Other vehicle.....1 2.5 Vehicle class.....Car 2.10 Junction location...Entering main road 2.9 Restricted location.On main carriageway 2.8 Movement from/to....South east North east 2.7 Manoeuvres.....Turning right 2.11 Skidding.....No 2.13 Left c'way.....Did not leave c'way 2.6 Towing.....No 2.28 Foreign vehicle.....Not foreign	2.16 First impact.....Offside 2.12 Hit object in c'way..None 2.14 Hit object off c'way.None 2.18 Parts damaged..... / / 2.21 Driver gender.....Female 2.22 Driver age.....48 2.24 Hit and Run.....No 2.23 Breath test.....Negative 2.29 Journey purpose.....Taking pupil to/from school
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1 Casualty

3.5 Cas ref no.....1 3.6 Casualty class.....Driver or Rider 3.7 Gender.....Male 3.8 Age.....16 3.9 Severity.....Slight 3.4 Vehicle no.....1 3.12 Ped Direction.....Not a pedestrian	3.15 Car passenger.....No 3.16 PSV passenger.....No 3.14 Seat belt usage..... 3.13 School pupil.....Other (3.19 School) 3.10 Pedestrian location..Not a pedestrian 3.11 Pedestrian movement..Not a pedestrian 3.19 Roadworker injured...No
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Accident Date BETWEEN '01-Sep-2012' AND '31-Aug-2017'

1.3 Accident Reference:194509 Slight 42 LONGWATER LANE Accident 10 of 20

1.7 Date & 1.9 Time.....Saturday 03/06/2017 17:21	1.15 Speed limit.....30 Mph
1.11 Grid co-ordinates.....616943/311223	1.14 Road type.....Single c'way
1.10 Local Authority.....South Norfolk	1.16 Junction detail.....Not at or within 20m of junction
1.12/1.13 1st road identity..U	1.17 Junction control.....
1.18/1.19 2nd road identity..	1.24 Special conditions...None
1.22 Weather.....Fine	1.25 Carriageway hazards..None
1.21 Light conditions.....Daylight	1.5 Number of vehicles...2
1.20a Crossing(human).....No Human control within 50m	1.6 Number of casualties.1
1.20b Crossing(physical).....No crossing facility within 50m	1.23 Surface.....Dry

Did a police officer attend?
Yes

Accident Description

V2 HAS SLOWED AND THEN STOPPED TO ALLOW A VEHICLE TO PULL INTO THEIR DRIVEWAY TURNING LEFT - V1 HAS BEEN TRAVELLING TOO CLOSE TO V2 AND WAS UNABLE TO STOP CAUSING THEM TO SHUNT REAR OF V1 - V1 HAS MADE OFF FROM THE SCENE

2 Vehicles

2.4 Veh ref no.....1	2.16 First impact.....Front
2.17 Other vehicle.....0	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Not known
2.8 Movement from/to....South North	2.22 Driver age.....-1
2.7 Manoeuvres.....Going ahead other	2.24 Hit and Run.....Non-stop vehicle, not hit
2.11 Skidding.....No	2.23 Breath test.....Not contacted
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Unknown
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

2.4 Veh ref no.....2	2.16 First impact.....Back
2.17 Other vehicle.....0	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Female
2.8 Movement from/to....South North	2.22 Driver age.....51
2.7 Manoeuvres.....Stopping	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Negative
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Unknown
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

1 Casualty

3.5 Cas ref no.....1	3.15 Car passenger.....No
3.6 Casualty class.....Driver or Rider	3.16 PSV passenger.....No
3.7 Gender.....Female	3.14 Seat belt usage.....Not applicable
3.8 Age.....51	3.13 School pupil.....Other (3.19 School
3.9 Severity.....Slight	3.10 Pedestrian location..Not a pedestrian
3.4 Vehicle no.....2	3.11 Pedestrian movement..Not a pedestrian
3.12 Ped Direction.....Not a pedestrian	3.19 Roadworker injured...No

Accident Date BETWEEN '01-Sep-2012' AND '31-Aug-2017'

1.3 Accident Reference:142459 Slight LONGWATER LANE, COSTESSEY C162 Accident 11 of 20

1.7 Date & 1.9 Time.....Tuesday 13/12/2016 18:20	1.15 Speed limit.....20 Mph
1.11 Grid co-ordinates.....616957/311266	1.14 Road type.....Single c'way
1.10 Local Authority.....South Norfolk	1.16 Junction detail.....Not at or within 20m of junction
1.12/1.13 1st road identity..C162	1.17 Junction control.....
1.18/1.19 2nd road identity..	1.24 Special conditions...None
1.22 Weather.....Unknown	1.25 Carriageway hazards..None
1.21 Light conditions.....Dark/unknown	1.5 Number of vehicles...2
1.20a Crossing(human).....No Human control within 50m	1.6 Number of casualties.1
1.20b Crossing(physical).....No crossing facility within 50m	1.23 Surface.....Dry

Did a police officer attend?
Yes

Accident Description

V1 DRIVING DOWN TOWARDS OLD COSTESSEY ON LONGWATER LANE. V2 DRIVING UP LONGWATER LANE WHERE 20 MPH TURNS INTO 30 MPH. TRAFFIC CALMING CHIHANE PRESENT. V2 HAS RIGHT OF WAY & IT APPEARS V1 HAS EITHER TRIED TO GET THROUGH FIRST, OR HAS NOT OBSERVED THE SIGNAGE FOR THE RIGHT OF WAY, OR NOTICED THE TRAFFIC CALMING MEASURES AT ALL. V1 HAS COLLIDED WITH STREET FURNITURE BEFORE COLLIDING WITH V2.

2 Vehicles

2.4 Veh ref no.....1	2.16 First impact.....Front
2.17 Other vehicle.....0	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Male
2.8 Movement from/to....South North	2.22 Driver age.....19
2.7 Manoeuvres.....Going ahead other	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Negative
2.13 Left c'way.....Left c'way near-side	2.29 Journey purpose.....Unknown
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

2.4 Veh ref no.....2	2.16 First impact.....Front
2.17 Other vehicle.....0	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Male
2.8 Movement from/to....North South	2.22 Driver age.....62
2.7 Manoeuvres.....Going ahead other	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Negative
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Unknown
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

1 Casualty

3.5 Cas ref no.....1	3.15 Car passenger.....No
3.6 Casualty class.....Driver or Rider	3.16 PSV passenger.....No
3.7 Gender.....Male	3.14 Seat belt usage.....Unknown
3.8 Age.....62	3.13 School pupil.....Other (3.19 School
3.9 Severity.....Slight	3.10 Pedestrian location..Not a pedestrian
3.4 Vehicle no.....2	3.11 Pedestrian movement..Not a pedestrian
3.12 Ped Direction.....Not a pedestrian	3.19 Roadworker injured...No

Accident Date BETWEEN '01-Sep-2012' AND '31-Aug-2017'

1.3 Accident Reference:0067846 Slight First Road: A1074 Accident 12 of 20

1.7 Date & 1.9 Time.....Monday 05/11/2012 18:16	1.15 Speed limit.....40 Mph
1.11 Grid co-ordinates.....616960/310310	1.14 Road type.....Single c'way
1.10 Local Authority.....South Norfolk	1.16 Junction detail.....Not at or within 20m of junction
1.12/1.13 1st road identity..A1074	1.17 Junction control.....
1.18/1.19 2nd road identity..	1.24 Special conditions...None
1.22 Weather.....Other	1.25 Carriageway hazards..None
1.21 Light conditions.....Dark/lights lit	1.5 Number of vehicles...3
1.20a Crossing(human).....No Human control within 50m	1.6 Number of casualties.3
1.20b Crossing(physical).....No crossing facility within 50m	1.23 Surface.....Wet

Did a police officer attend?
Yes

Accident Description

Veh 1 (Car), Overtaking Moving Veh on its Offside from Northwest to Southeast; Veh 2 (Car), Going ahead Other from Southeast to Northwest; Veh 3 (Car), Waiting to Go ahead but Held up from Northwest to Southeast.

3 Vehicles

2.4 Veh ref no.....1	2.16 First impact.....Front
2.17 Other vehicle.....2	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Male
2.8 Movement from/to....North west South east	2.22 Driver age.....37
2.7 Manoeuvres.....O/T moving vehicle on its O/S	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Negative
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Other
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

2.4 Veh ref no.....2	2.16 First impact.....Front
2.17 Other vehicle.....1	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Female
2.8 Movement from/to....South east North west	2.22 Driver age.....17
2.7 Manoeuvres.....Going ahead other	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Negative
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Other
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

2.4 Veh ref no.....3	2.16 First impact.....Back
2.17 Other vehicle.....1	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Male
2.8 Movement from/to....North west South east	2.22 Driver age.....20
2.7 Manoeuvres.....Waiting to go ahead but held up	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Negative
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Other
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

3 Casualties

3.5 Cas ref no.....1	3.15 Car passenger.....No
3.6 Casualty class.....Driver or Rider	3.16 PSV passenger.....No
3.7 Gender.....Male	3.14 Seat belt usage.....Unknown
3.8 Age.....20	3.13 School pupil.....Other (3.19 School
3.9 Severity.....Slight	3.10 Pedestrian location..Not a pedestrian
3.4 Vehicle no.....3	3.11 Pedestrian movement..Not a pedestrian
3.12 Ped Direction.....Not a pedestrian	3.19 Roadworker injured...No
<hr/>	
3.5 Cas ref no.....2	3.15 Car passenger.....Rear
3.6 Casualty class.....Passenger	3.16 PSV passenger.....No
3.7 Gender.....Female	3.14 Seat belt usage.....Unknown
3.8 Age.....21	3.13 School pupil.....Other (3.19 School
3.9 Severity.....Slight	3.10 Pedestrian location..Not a pedestrian
3.4 Vehicle no.....3	3.11 Pedestrian movement..Not a pedestrian
3.12 Ped Direction.....Not a pedestrian	3.19 Roadworker injured...No
<hr/>	
3.5 Cas ref no.....3	3.15 Car passenger.....Rear
3.6 Casualty class.....Passenger	3.16 PSV passenger.....No
3.7 Gender.....Female	3.14 Seat belt usage.....Unknown
3.8 Age.....19	3.13 School pupil.....Other (3.19 School
3.9 Severity.....Slight	3.10 Pedestrian location..Not a pedestrian
3.4 Vehicle no.....3	3.11 Pedestrian movement..Not a pedestrian
3.12 Ped Direction.....Not a pedestrian	3.19 Roadworker injured...No

Accident Date BETWEEN '01-Sep-2012' AND '31-Aug-2017'

1.3 Accident Reference:149853 Slight LONGWATER LANE C162 Accident 14 of 20

1.7 Date & 1.9 Time.....Thursday 12/01/2017 15:40	1.15 Speed limit.....30 Mph
1.11 Grid co-ordinates.....616986/311486	1.14 Road type.....Single c'way
1.10 Local Authority.....South Norfolk	1.16 Junction detail.....Not at or within 20m of junction
1.12/1.13 1st road identity..C162	1.17 Junction control.....
1.18/1.19 2nd road identity..	1.24 Special conditions...None
1.22 Weather.....Unknown	1.25 Carriageway hazards..None
1.21 Light conditions.....Daylight	1.5 Number of vehicles...2
1.20a Crossing(human).....No Human control within 50m	1.6 Number of casualties.1
1.20b Crossing(physical).....No crossing facility within 50m	1.23 Surface.....Dry

Did a police officer attend?
No - reported over the counter

Accident Description

V002 was travelling down Longwater Lane when stopped to allow another vehicle to maneuver when V002 was struck from behind by V001. V001 initially stopped before leaving the scene.

2 Vehicles

2.4 Veh ref no.....1	2.16 First impact.....Front
2.17 Other vehicle.....0	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Female
2.8 Movement from/to....South North	2.22 Driver age.....-1
2.7 Manoeuvres.....Going ahead other	2.24 Hit and Run.....Non-stop vehicle, not hit
2.11 Skidding.....Yes	2.23 Breath test.....Not contacted
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Unknown
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

2.4 Veh ref no.....2	2.16 First impact.....Back
2.17 Other vehicle.....0	2.12 Hit object in c'way..None
2.5 Vehicle class.....Pedal Cycle	2.14 Hit object off c'way.None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Male
2.8 Movement from/to....South North	2.22 Driver age.....34
2.7 Manoeuvres.....Stopping	2.24 Hit and Run.....No
2.11 Skidding.....Overturned	2.23 Breath test.....Not applicable
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Commuting to/from work
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

1 Casualty

3.5 Cas ref no.....1	3.15 Car passenger.....No
3.6 Casualty class.....Driver or Rider	3.16 PSV passenger.....No
3.7 Gender.....Male	3.14 Seat belt usage.....Not applicable
3.8 Age.....34	3.13 School pupil.....Other (3.19 School
3.9 Severity.....Slight	3.10 Pedestrian location..Not a pedestrian
3.4 Vehicle no.....2	3.11 Pedestrian movement..Not a pedestrian
3.12 Ped Direction.....Not a pedestrian	3.19 Roadworker injured...No

Accident Date BETWEEN '01-Sep-2012' AND '31-Aug-2017'

1.3 Accident Reference:52238 Serious LONGWATER LANE UNSPECIFIED ROAD OR LOCATION Accident 15 of 20

1.7 Date & 1.9 Time.....Wednesday 16/03/2016 21:25	1.15 Speed limit.....30 Mph
1.11 Grid co-ordinates.....616994/310934	1.14 Road type.....Single c'way
1.10 Local Authority.....South Norfolk	1.16 Junction detail.....Not at or within 20m of junction
1.12/1.13 1st road identity..U	1.17 Junction control.....
1.18/1.19 2nd road identity..	1.24 Special conditions...None
1.22 Weather.....Fine	1.25 Carriageway hazards..None
1.21 Light conditions.....Dark/unknown	1.5 Number of vehicles...3
1.20a Crossing(human).....No Human control within 50m	1.6 Number of casualties.1
1.20b Crossing(physical).....No crossing facility within 50m	1.23 Surface.....Dry

Did a police officer attend?
Yes

Accident Description

V1 TRAVELS DOWN LONGWATER LANE AT EXCESS SPEED. CONDUCTS AN OVERTAKE ON 2ND VEH ON LEFT HAND BEND. IN DOING SO, STARTS TO LOSE CONTROL OF VEH. V3 COMING TOWARDS 1 AND 2 AND STOPS. V1 CONTINUES TO SKID AND SWERVE OVER THE ROAD. V1 SLIDES SIDEWAYS INTO BRICK WALL AND COMES TO REST. NO CONTACT IS MADE WITH V2 AND V3.

3 Vehicles

2.4 Veh ref no.....1	2.16 First impact.....Front
2.17 Other vehicle.....0	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Male
2.8 Movement from/to....South North	2.22 Driver age.....18
2.7 Manoeuvres.....Going ahead left hand bend	2.24 Hit and Run.....No
2.11 Skidding.....Yes	2.23 Breath test.....Not provided
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Unknown
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

2.4 Veh ref no.....2	2.16 First impact.....Did not impact
2.17 Other vehicle.....0	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Female
2.8 Movement from/to....South North	2.22 Driver age.....38
2.7 Manoeuvres.....Going ahead left hand bend	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Not requested
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Unknown
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

2.4 Veh ref no.....3	2.16 First impact.....Did not impact
2.17 Other vehicle.....0	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Female
2.8 Movement from/to....North South	2.22 Driver age.....45
2.7 Manoeuvres.....Going ahead right hand bend	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Not requested
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Unknown
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

1 Casualty

3.5 Cas ref no.....1	3.15 Car passenger.....No
3.6 Casualty class.....Driver or Rider	3.16 PSV passenger.....No
3.7 Gender.....Male	3.14 Seat belt usage.....Not applicable
3.8 Age.....18	3.13 School pupil.....Other (3.19 School
3.9 Severity.....Serious	3.10 Pedestrian location..Not a pedestrian
3.4 Vehicle no.....1	3.11 Pedestrian movement..Not a pedestrian
3.12 Ped Direction.....Not a pedestrian	3.19 Roadworker injured...No

Accident Date BETWEEN '01-Sep-2012' AND '31-Aug-2017'

1.3 Accident Reference: NC78998 Serious COSTESSEY WEST END 28MTRS SOUTH WEST OF CLEVES WAY Accident 16 of 20
O/S THE CUE CLUB

1.7 Date & 1.9 Time.....Saturday 15/03/2014 17:55	1.15 Speed limit.....20 Mph
1.11 Grid co-ordinates.....617084/311619	1.14 Road type.....Single c'way
1.10 Local Authority.....South Norfolk	1.16 Junction detail.....Not at or within 20m of junction
1.12/1.13 1st road identity..C162	1.17 Junction control.....
1.18/1.19 2nd road identity..	1.24 Special conditions...None
1.22 Weather.....Fine	1.25 Carriageway hazards..None
1.21 Light conditions.....Daylight	1.5 Number of vehicles...1
1.20a Crossing(human).....No Human control within 50m	1.6 Number of casualties..1
1.20b Crossing(physical).....No crossing facility within 50m	1.23 Surface.....Dry

Did a police officer attend?
No - reported over the counter

Accident Description

CHILD PEDESTRIAN RUNS ACROSS ROAD BEHIND A PARKED VEHICLE IN FRONT OF ONCOMING VEHICLE 1

1 Vehicle

2.4 Veh ref no.....1	2.16 First impact.....Nearside
2.17 Other vehicle.....0	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way..None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location..On main carriageway	2.21 Driver gender.....Female
2.8 Movement from/to....South west North east	2.22 Driver age.....52
2.7 Manoeuvres.....O/T stat.vehicle on its O/S	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Not contacted
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Other
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

1 Casualty

3.5 Cas ref no.....1	3.15 Car passenger.....No
3.6 Casualty class.....Pedestrian	3.16 PSV passenger.....No
3.7 Gender.....Female	3.14 Seat belt usage.....Not applicable
3.8 Age.....5	3.13 School pupil.....Other (3.19 School
3.9 Severity.....Serious	3.10 Pedestrian location..In c'way crossing elsewhere
3.4 Vehicle no.....1	3.11 Pedestrian movement..Crossing from drivers nearside
3.12 Ped Direction.....South east	3.12 Roadworker injured...No

Accident Date BETWEEN '01-Sep-2012' AND '31-Aug-2017'

1.3 Accident Reference: NC86308 Slight COSTESSEY THE STREET OUTSIDE NUMBER 28 Accident 17 of 20

1.7 Date & 1.9 Time.....Saturday 13/12/2014 14:08	1.15 Speed limit.....20 Mph
1.11 Grid co-ordinates.....617320/311832	1.14 Road type.....Single c'way
1.10 Local Authority.....South Norfolk	1.16 Junction detail.....Not at or within 20m of junction
1.12/1.13 1st road identity..C162	1.17 Junction control.....
1.18/1.19 2nd road identity..	1.24 Special conditions...None
1.22 Weather.....Fine	1.25 Carriageway hazards..None
1.21 Light conditions.....Daylight	1.5 Number of vehicles...1
1.20a Crossing(human).....No Human control within 50m	1.6 Number of casualties..1
1.20b Crossing(physical).....No crossing facility within 50m	1.23 Surface.....Dry

Did a police officer attend?
Yes

Accident Description

V1 ON THE STREET HEADING SOUTH WHEN LEFT ROAD TO N/SIDE HITTING WOODEN BOLLARD

1 Vehicle

2.4 Veh ref no.....1	2.16 First impact.....Front
2.17 Other vehicle.....0	2.12 Hit object in c'way..Kerb
2.5 Vehicle class.....Car	2.14 Hit object off c'way..Other permanent object
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location..On main carriageway	2.21 Driver gender.....Male
2.8 Movement from/to...North east South west	2.22 Driver age.....76
2.7 Manoeuvres.....Going ahead other	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Negative
2.13 Left c'way.....Left c'way near-side	2.29 Journey purpose.....Other
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

1 Casualty

3.5 Cas ref no.....1	3.15 Car passenger.....Front
3.6 Casualty class.....Passenger	3.16 PSV passenger.....No
3.7 Gender.....Female	3.14 Seat belt usage.....Worn but not independently
3.8 Age.....81	3.19 Roadworker injured...No
3.9 Severity.....Slight	
3.4 Vehicle no.....1	3.10 Pedestrian location..Not a pedestrian
3.12 Ped Direction.....Not a pedestrian	3.11 Pedestrian movement..Not a pedestrian

Accident Date BETWEEN '01-Sep-2012' AND '31-Aug-2017'

1.3 Accident Reference:54587 Slight 37 TOWNHOUSE ROAD C171 Accident 18 of 20

1.7 Date & 1.9 Time.....Friday 18/03/2016 18:00	1.15 Speed limit.....30 Mph
1.11 Grid co-ordinates.....617367/311633	1.14 Road type.....Single c'way
1.10 Local Authority.....South Norfolk	1.16 Junction detail.....Not at or within 20m of junction
1.12/1.13 1st road identity..C171	1.17 Junction control.....
1.18/1.19 2nd road identity..	1.24 Special conditions...None
1.22 Weather.....Fine	1.25 Carriageway hazards..None
1.21 Light conditions.....Dark/lights lit	1.5 Number of vehicles...2
1.20a Crossing(human).....No Human control within 50m	1.6 Number of casualties.1
1.20b Crossing(physical).....No crossing facility within 50m	1.23 Surface.....Wet

Did a police officer attend?
Yes

Accident Description

APPARENTLY V002 WAS TRAVELLING WEST BOUND ON THE MAIN ROAD. V001 WAS IN A LAYBY TO THE OFFSIDE OF V002. V001 PULLED OUT OF THE LAYBY INTO THE ROAD WHERE V002 WAS TRAVELLING WESTBOUND ALSO. AS A RESULT, V002 HIT THE NEAR SIDE OF THE FRONT OF V001 AND BOTH VEHICLES CAME TO A STOP AS PER THE SKETCH PLAN.

2 Vehicles

2.4 Veh ref no.....1	2.16 First impact.....Front
2.17 Other vehicle.....0	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location.Leaving lay-by	2.21 Driver gender.....Male
2.8 Movement from/to....West East	2.22 Driver age.....28
2.7 Manoeuvres.....Starting	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Negative
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Unknown
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

2.4 Veh ref no.....2	2.16 First impact.....Front
2.17 Other vehicle.....0	2.12 Hit object in c'way..None
2.5 Vehicle class.....Car	2.14 Hit object off c'way.None
2.10 Junction location...Not at junction	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Female
2.8 Movement from/to....West East	2.22 Driver age.....76
2.7 Manoeuvres.....Going ahead other	2.24 Hit and Run.....No
2.11 Skidding.....No	2.23 Breath test.....Negative
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Unknown
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

1 Casualty

3.5 Cas ref no.....1	3.15 Car passenger.....No
3.6 Casualty class.....Driver or Rider	3.16 PSV passenger.....No
3.7 Gender.....Female	3.14 Seat belt usage.....Not applicable
3.8 Age.....76	3.13 School pupil.....Other (3.19 School
3.9 Severity.....Slight	3.10 Pedestrian location..Not a pedestrian
3.4 Vehicle no.....2	3.11 Pedestrian movement..Not a pedestrian
3.12 Ped Direction.....Not a pedestrian	3.19 Roadworker injured...No

Accident Date BETWEEN '01-Sep-2012' AND '31-Aug-2017'

1.3 Accident Reference:112746 Slight TOWN HOUSE ROAD C171 LIME TREE AVENUE C7833 Accident 19 of 20

1.7 Date & 1.9 Time.....Saturday 01/10/2016 07:12	1.15 Speed limit.....30 Mph
1.11 Grid co-ordinates.....617583/311596	1.14 Road type.....Dual c'way
1.10 Local Authority.....South Norfolk	1.16 Junction detail.....T or Staggered junction
1.12/1.13 1st road identity..C171	1.17 Junction control.....Give way sign or uncontrolled
1.18/1.19 2nd road identity..C7833	1.24 Special conditions...None
1.22 Weather.....Other	1.25 Carriageway hazards..None
1.21 Light conditions.....Daylight	1.5 Number of vehicles...1
1.20a Crossing(human).....No Human control within 50m	1.6 Number of casualties.1
1.20b Crossing(physical).....No crossing facility within 50m	1.23 Surface.....Wet

Did a police officer attend?
No - reported over the counter

Accident Description

PASSENGER WAITING FOR BUS ON PAVEMENT WAS STRUCK ON SIDE OF HIS HEAD BY THE BUSES WING MIRROR NEARSIDE CAUSING PAIN TO HIS HEAD/NECK. PASSENGER SPOKE WITH DRIVER.

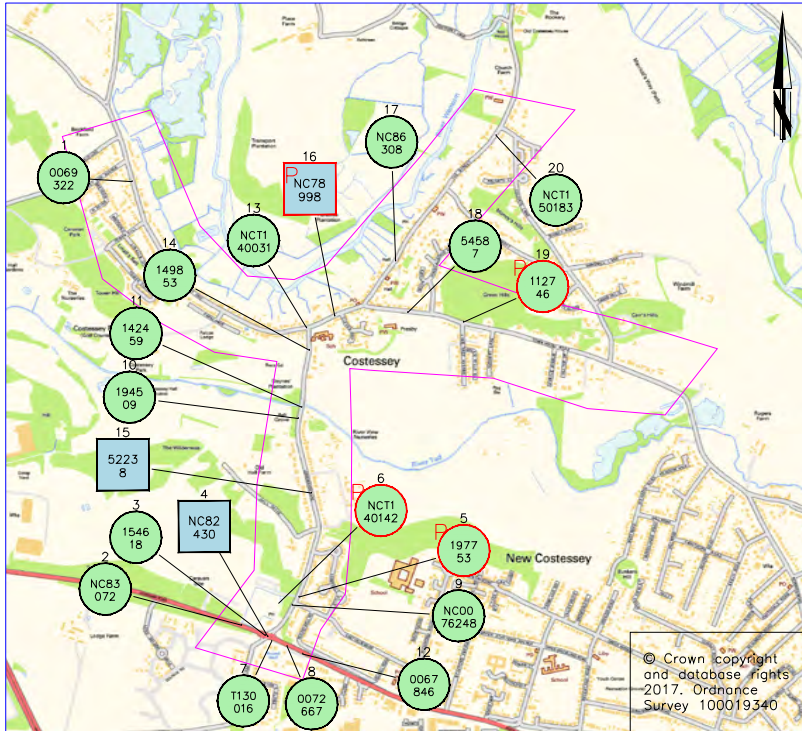
1 Vehicle

2.4 Veh ref no.....1	2.16 First impact.....Nearside
2.17 Other vehicle.....0	2.12 Hit object in c'way..None
2.5 Vehicle class.....Bus or Coach	2.14 Hit object off c'way.None
2.10 Junction location...Approaching or parked on approach	2.18 Parts damaged..... / /
2.9 Restricted location.On main carriageway	2.21 Driver gender.....Male
2.8 Movement from/to....Unknown Unknown	2.22 Driver age.....39
2.7 Manoeuvres.....Starting	2.24 Hit and Run.....Non-stop vehicle, not hit
2.11 Skidding.....No	2.23 Breath test.....Not contacted
2.13 Left c'way.....Did not leave c'way	2.29 Journey purpose.....Unknown
2.6 Towing.....No	
2.28 Foreign vehicle.....Not foreign	

1 Casualty

3.5 Cas ref no.....1	3.15 Car passenger.....No
3.6 Casualty class.....Pedestrian	3.16 PSV passenger.....No
3.7 Gender.....Male	3.14 Seat belt usage.....Not applicable
3.8 Age.....19	3.13 School pupil.....Other (3.19 School)
3.9 Severity.....Slight	3.10 Pedestrian location..On footway or verge
3.4 Vehicle no.....1	3.11 Pedestrian movement..Unknown or other
3.12 Ped Direction.....Standing still	3.19 Roadworker injured...No

Five years to end August 2017



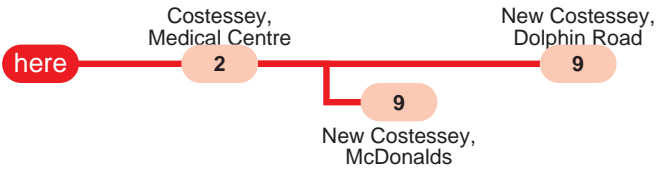
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Reference Number	0069 322	NC83 072	1546 18	NC82 430	1977 53	NCT1 40142	T130 016	0072 667	NC00 76248	1945 09	1424 59	0067 846	NCT1 40031	1498 53	5223 8	NC78 998	NC86 308	5458 7	1127 46	NCT1 50183
Date / Day	Tu 15 Jan 2013	Fr 11 Jul 2014	Fr 27 Jan 2017	Su 27 Jul 2014	Su 11 Jun 2017	Th 24 Jul 2014	Th 21 Feb 2013	We 10 Jul 2013	Mo 18 Nov 2013	Sal 03 Jun 2017	Tu 13 Dec 2016	Mo 05 Nov 2012	We 19 Feb 2014	Th 12 Jan 2017	We 16 Mar 2016	Sal 15 Mar 2014	Sal 13 Dec 2014	Fr 18 Mar 2016	Sa 01 Oct 2016	Fr 13 Nov 2015
Month	Jan	Jul	Jan	Jul	Jun	Jul	Feb	Jul	Nov	Jun	Dec	Nov	Feb	Jan	Mar	Mar	Dec	Mar	Oct	Nov
Year	2013	2014	2017	2014	2017	2014	2013	2013	2013	2017	2016	2012	2014	2017	2016	2014	2014	2016	2016	2015
Time	1250	1610	2155	1012	1100	0920	0725	1640	0850	1721	1820	1816	0645	1540	2125	1755	1408	1800	0712	1417
Severity	SI	SI	SI	So	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	So	So	SI	SI	SI	SI
Dark / Lit																				
Weather Conditions																				
Road Surface																				
Special Conditions																				
Carriageway Hazards																				
Vehicle Manoeuvres																				
Vehicle 1	4.1	19	4.3	6.0	5.3	2.4	2.2	3.7	1.6	7.7	1.9	3.7	2.7	7.7	1.8	5.2	7.6	2.8	3.9	8.3
Vehicle 2	2.1	5.9																		
Vehicle 3																				
Vehicle 4																				
Casualty / age	21	19 59 55	4.3	20	11	2	37	14 30 22	16	51	62	20 21 19	27	34	18	5	81	76	19	74

Appendix C

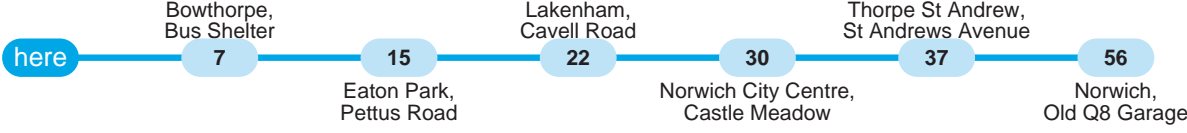
DRAFT

Bus departures from this stop Costessey adj Lime Tree Avenue

23A Heartsease - New Costessey First in Norfolk & Suffolk 



31 Norwich - Lansdowne Road Depot First in Norfolk & Suffolk 



The numbers circled indicate approximate timings in minutes from Costessey, Lime Tree Avenue

Mondays to Fridays Bus times as at 17th October 2017

Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note		
0459	31		0909	23A		1109	23A		1309	23A		1509	23A		1709	23A			
0701	23A		0939	23A		1139	23A		1339	23A		1539	23A		1743	23A	2		
0801	23A		1009	23A		1209	23A		1409	23A		1609	23A		1818	23A	2		
0839	23A		1039	23A		1239	23A		1439	23A		1639	23A		1844	23A	2		
															2224	23A	2		
																	2322	23A	1

Saturdays Bus times as at 21st October 2017

Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note		
0459	31		1009	23A		1209	23A		1409	23A		1609	23A		1809	23A			
0810	23A		1039	23A		1239	23A		1439	23A		1639	23A		1839	23A			
0909	23A		1109	23A		1309	23A		1509	23A		1709	23A	2	1924	23A	2		
0939	23A		1139	23A		1339	23A		1539	23A		1739	23A	2	2024	23A	2		
																	2322	23A	1

Sundays Bus times as at 22nd October 2017

Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note		
0909	23A	2	1126	23A	2	1326	23A	2	1526	23A	2	1726	23A	2	1924	23A	2		
1009	23A	2	1226	23A	2	1426	23A	2	1626	23A	2	1824	23A	2	2024	23A	2		
															2224	23A	2		
																	2322	23A	1

Notes: 1 - terminates at Costessey, Medical Centre 2 - terminates at New Costessey, McDonalds
 Times shown in italics are approximate times



Next bus times on your phone

the code for this stop is **NFOAJTGD**

Mobile internet: Use the QR code (left) if you can, or enter the stop code at www.nextbuses.mobi

By SMS: text the stop code to 84268. Add a space and service number for just that service.

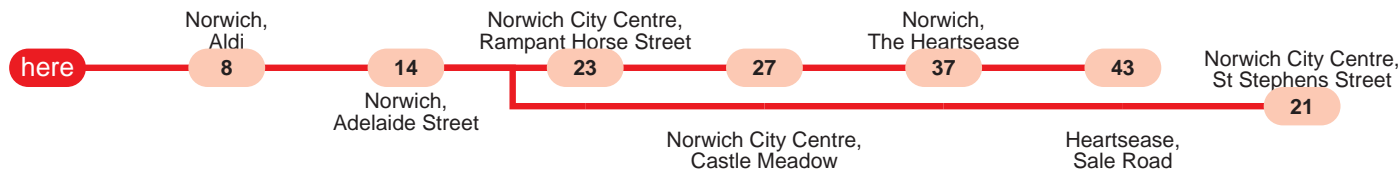
Internet enquiries incur normal mobile internet charges. SMS messages cost 25p plus your normal text message charge.

Live Departure information will be given if available (eg 3 mins) - otherwise scheduled times will be shown as clock times (eg 1007).

Bus departures from this stop Costessey opp Lime Tree Avenue

23A New Costessey - Heartsease

First in Norfolk & Suffolk



The numbers circled indicate approximate timings in minutes from Costessey, Lime Tree Avenue

Mondays to Fridays

Bus times as at 17th October 2017

Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	
0643	23A		0842	23A		1043	23A		1243	23A		1443	23A		1643	23A		1850	23A		2247	23A	1	
0708	23A		0913	23A		1113	23A		1313	23A		1513	23A		1713	23A		1947	23A	1				
0733	23A		0943	23A		1143	23A		1343	23A		1543	23A		1748	23A		2047	23A	1				
0802	23A		1013	23A		1213	23A		1413	23A		1613	23A		1818	23A		2147	23A	1				

Saturdays

Bus times as at 21st October 2017

Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	
0707	23A		0943	23A		1143	23A		1343	23A		1543	23A		1745	23A		2047	23A	1				
0759	23A		1013	23A		1213	23A		1413	23A		1613	23A		1818	23A		2147	23A	1				
0843	23A		1043	23A		1243	23A		1443	23A		1643	23A		1850	23A		2247	23A	1				
0913	23A		1113	23A		1313	23A		1513	23A		1713	23A		1947	23A	1							

Sundays

Bus times as at 22nd October 2017

Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note	Time	Service	Note
0833	23A		1048	23A		1248	23A		1448	23A		1648	23A		1847	23A	1	2047	23A	1	2247	23A	1
0928	23A		1148	23A		1348	23A		1548	23A		1748	23A		1947	23A	1	2147	23A	1			

Notes: 1 - terminates at Norwich City Centre, St Stephens Street
 Times shown in italics are approximate times



Next bus times on your phone

the code for this stop is **NFOAJTGA**

Mobile internet: Use the QR code (left) if you can, or enter the stop code at www.nextbuses.mobi

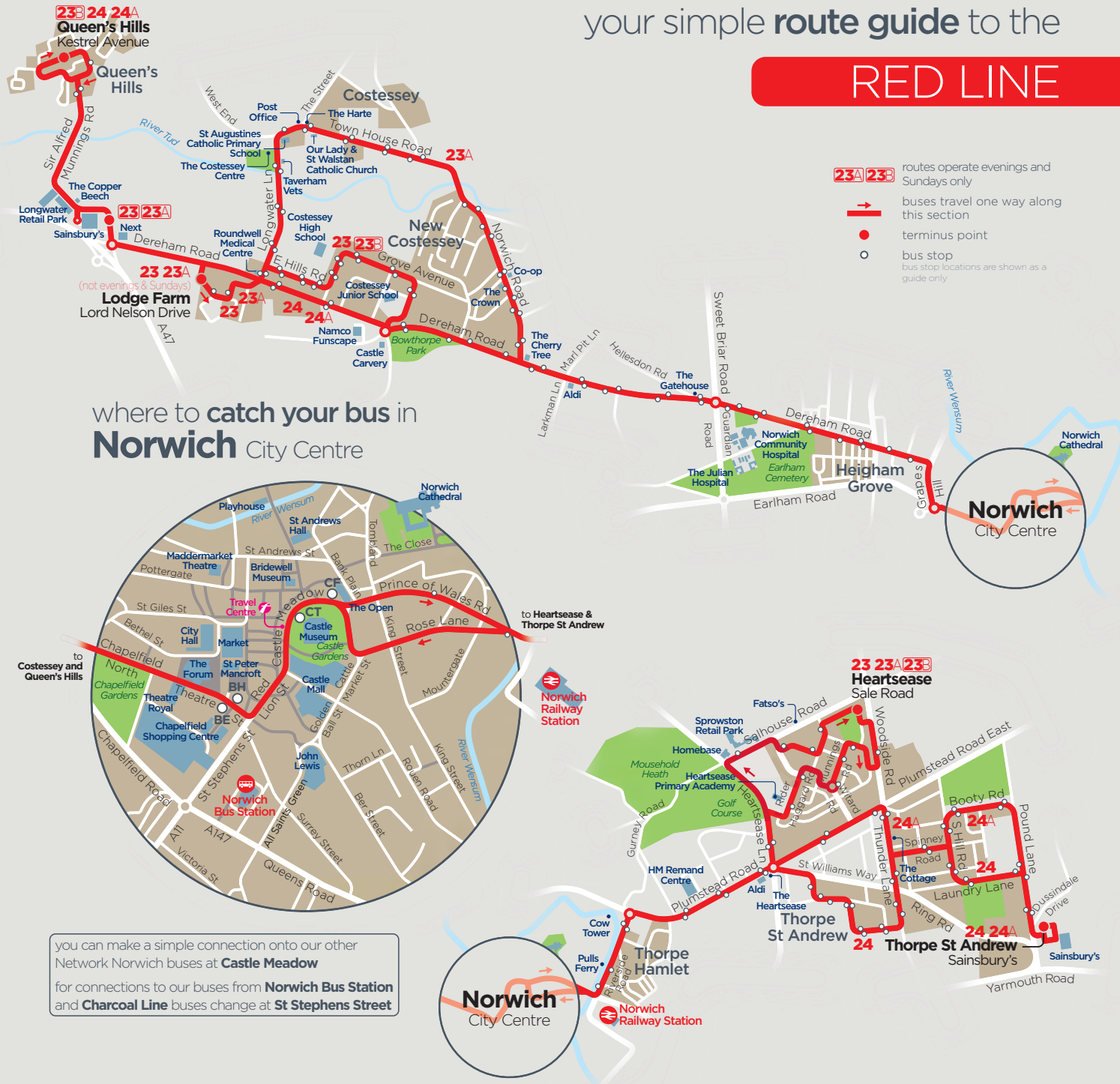
By SMS: text the stop code to 84268. Add a space and service number for just that service.

Internet enquiries incur normal mobile internet charges. SMS messages cost 25p plus your normal text message charge.

Live Departure information will be given if available (eg 3 mins) - otherwise scheduled times will be shown as clock times (eg 1007).

your simple route guide to the

RED LINE



23A 23B routes operate evenings and Sundays only

→ buses travel one way along this section

● terminus point

○ bus stop
bus stop locations are shown as a guide only

where to catch your bus in Norwich City Centre



you can make a simple connection onto our other Network Norwich buses at **Castle Meadow**
for connections to our buses from **Norwich Bus Station** and **Charcoal Line** buses change at **St Stephens Street**

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST		
	ES	EAST SUSSEX	1 days
	HC	HAMPSHIRE	1 days
	SC	SURREY	1 days
	WS	WEST SUSSEX	2 days
03	SOUTH WEST		
	DC	DORSET	1 days
	DV	DEVON	3 days
	SM	SOMERSET	1 days
	WL	WILTSHIRE	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	1 days
	NF	NORFOLK	2 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	3 days
	SY	SOUTH YORKSHIRE	1 days
	WY	WEST YORKSHIRE	1 days
08	NORTH WEST		
	GM	GREATER MANCHESTER	2 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: 27 to 151 (units:)
 Range Selected by User: 25 to 200 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/09 to 29/11/16

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	6 days
Tuesday	3 days
Wednesday	5 days
Thursday	6 days
Friday	3 days

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

Selected survey types:

Manual count	23 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)	13
Edge of Town	8
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	21
No Sub Category	2

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village,

Secondary Filtering selection:

Use Class:

C1	1 days
C3	22 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:

1,001 to 5,000	3 days
5,001 to 10,000	5 days
10,001 to 15,000	4 days
15,001 to 20,000	2 days
20,001 to 25,000	4 days
25,001 to 50,000	4 days
50,001 to 100,000	1 days

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

Population within 5 miles:

5,001 to 25,000	3 days
25,001 to 50,000	2 days
50,001 to 75,000	2 days
75,001 to 100,000	5 days
100,001 to 125,000	1 days
125,001 to 250,000	6 days
250,001 to 500,000	2 days
500,001 or More	2 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	21 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	4 days
No	19 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	23 days
-----------------	---------

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

LIST OF SITES relevant to selection parameters (Cont.)

9	HC-03-A-18 CANADA WAY	HOUSES & FLATS	HAMPSHIRE
	LIPHOOK Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 62 <i>Survey date: TUESDAY 29/11/16</i>		<i>Survey Type: MANUAL</i>
10	NF-03-A-01 YARMOUTH ROAD	SEMI DET. & BUNGALOWS	NORFOLK
	CAISTER-ON-SEA Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 27 <i>Survey date: TUESDAY 16/10/12</i>		<i>Survey Type: MANUAL</i>
11	NF-03-A-02 DEREHAM ROAD	HOUSES & FLATS	NORFOLK
	NORWICH Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 98 <i>Survey date: MONDAY 22/10/12</i>		<i>Survey Type: MANUAL</i>
12	NY-03-A-06 HORSEFAIR	BUNGALOWS & SEMI DET.	NORTH YORKSHIRE
	BOROUGHBRIDGE Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 115 <i>Survey date: FRIDAY 14/10/11</i>		<i>Survey Type: MANUAL</i>
13	NY-03-A-09 GRAMMAR SCHOOL LANE	MIXED HOUSING	NORTH YORKSHIRE
	NORTHALLERTON Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 52 <i>Survey date: MONDAY 16/09/13</i>		<i>Survey Type: MANUAL</i>
14	NY-03-A-10 BOROUGHBRIDGE ROAD	HOUSES AND FLATS	NORTH YORKSHIRE
	RIPON Edge of Town No Sub Category Total Number of dwellings: 71 <i>Survey date: TUESDAY 17/09/13</i>		<i>Survey Type: MANUAL</i>
15	SC-03-A-04 HIGH ROAD	DETACHED & TERRACED	SURREY
	BYFLEET Edge of Town Residential Zone Total Number of dwellings: 71 <i>Survey date: THURSDAY 23/01/14</i>		<i>Survey Type: MANUAL</i>
16	SH-03-A-04 ST MICHAEL'S STREET	TERRACED	SHROPSHIRE
	SHREWSBURY Suburban Area (PPS6 Out of Centre) No Sub Category Total Number of dwellings: 108 <i>Survey date: THURSDAY 11/06/09</i>		<i>Survey Type: MANUAL</i>
17	SH-03-A-05 SANDCROFT SUTTON HILL TELFORD	SEMI -DETACHED/TERRACED	SHROPSHIRE
	Edge of Town Residential Zone Total Number of dwellings: 54 <i>Survey date: THURSDAY 24/10/13</i>		<i>Survey Type: MANUAL</i>

Appendix D

DRAFT

LIST OF SITES relevant to selection parameters (Cont.)

18	SM-03-A-01 WEMBDON ROAD NORTHFIELD BRIDGWATER Edge of Town Residential Zone Total Number of dwellings: 33 <i>Survey date: THURSDAY 24/09/15</i>	DETACHED & SEMI	SOMERSET	<i>Survey Type: MANUAL</i>
19	SY-03-A-01 A19 BENTLEY ROAD BENTLEY RISE DONCASTER Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 54 <i>Survey date: WEDNESDAY 18/09/13</i>	SEMI DETACHED HOUSES	SOUTH YORKSHIRE	<i>Survey Type: MANUAL</i>
20	WL-03-A-02 HEADLANDS GROVE SWINDON Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 27 <i>Survey date: THURSDAY 22/09/16</i>	SEMI DETACHED	WILTSHIRE	<i>Survey Type: MANUAL</i>
21	WS-03-A-04 HILLS FARM LANE BROADBRIDGE HEATH HORSHAM Edge of Town Residential Zone Total Number of dwellings: 151 <i>Survey date: THURSDAY 11/12/14</i>	MIXED HOUSES	WEST SUSSEX	<i>Survey Type: MANUAL</i>
22	WS-03-A-05 UPPER SHOREHAM ROAD SHOREHAM BY SEA Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 48 <i>Survey date: WEDNESDAY 18/04/12</i>	TERRACED & FLATS	WEST SUSSEX	<i>Survey Type: MANUAL</i>
23	WY-03-A-01 SPRING VALLEY CRESCENT BRAMLEY LEEDS Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total Number of dwellings: 46 <i>Survey date: WEDNESDAY 21/09/16</i>	MIXED HOUSING	WEST YORKSHIRE	<i>Survey Type: MANUAL</i>

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/A - HOUSES PRIVATELY OWNED
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	23	61	0.075	23	61	0.279	23	61	0.354
08:00 - 09:00	23	61	0.144	23	61	0.360	23	61	0.504
09:00 - 10:00	23	61	0.153	23	61	0.169	23	61	0.322
10:00 - 11:00	23	61	0.143	23	61	0.163	23	61	0.306
11:00 - 12:00	23	61	0.162	23	61	0.162	23	61	0.324
12:00 - 13:00	23	61	0.155	23	61	0.157	23	61	0.312
13:00 - 14:00	23	61	0.172	23	61	0.160	23	61	0.332
14:00 - 15:00	23	61	0.153	23	61	0.175	23	61	0.328
15:00 - 16:00	23	61	0.237	23	61	0.166	23	61	0.403
16:00 - 17:00	23	61	0.268	23	61	0.174	23	61	0.442
17:00 - 18:00	23	61	0.325	23	61	0.162	23	61	0.487
18:00 - 19:00	23	61	0.199	23	61	0.144	23	61	0.343
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.186			2.271			4.457

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

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

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

Parameter summary

Trip rate parameter range selected:	27 - 151 (units:)
Survey date date range:	01/01/09 - 29/11/16
Number of weekdays (Monday-Friday):	23
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

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

Appendix E

DRAFT

Junctions 8
PICADY 8 - Priority Intersection Module
Version: 8.0.6.541 [19821,26/11/2015] © Copyright TRL Limited, 2017
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk
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Filename: Site Access Jn.arc8

Path: M:\T331 Land off Townhouse Road, Costessey, NORFOLK\TECHNICAL\TRAFFIC\PICADY

Report generation date: 10/11/2017 11:05:57

« (Default Analysis Set) - 2022 Base + Development, AM

- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
A1 - 2022 Base + Development								
Stream B-C	0.03	6.36	0.03	A	0.02	6.71	0.02	A
Stream B-A	0.05	9.04	0.05	A	0.02	9.80	0.02	A
Stream C-AB	0.02	5.32	0.01	A	0.05	5.69	0.04	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

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

"D1 - 2022 Base + Development, AM " model duration: 07:45 - 09:15

"D2 - 2022 Base + Development, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 10/11/2017 11:05:53

File summary

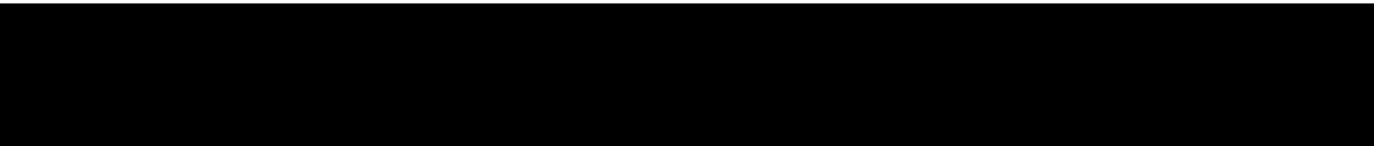
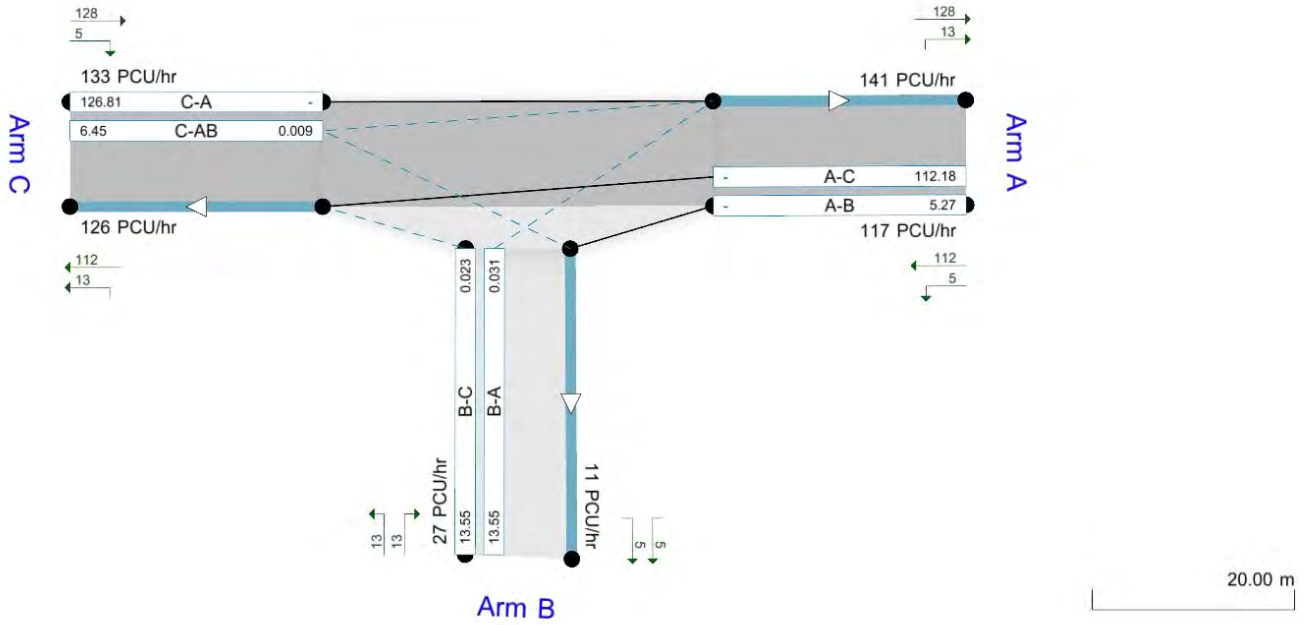
Title	Site Access - Townhouse Road
Location	Costessey
Site Number	
Date	02/11/2017
Version	1
Status	(new file)
Identifier	M:\T331 Land off Townhouse Road, Costessey, NORFOLK\TECHNICAL\TRAFFIC\PICADY
Client	
Jobnumber	T331 Land off Townhouse Road
Enumerator	DMOJ
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	Veh	PCU	perHour	s	-Min	perMin



The junction diagram reflects the last run of ARCADY.

(Default Analysis Set) - 2022 Base + Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
2022 Base + Development, AM	2022 Base + Development	AM		ONE HOUR	07:45	09:15	90	15				✓	

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C		7.22	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Townhouse Road (E)		Major
B	B	Site Access		Minor
C	C	Townhouse Road (W)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	90.00	✓	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)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				6.00	3.00	2.75	2.75	2.75	✓	1.00	16	17

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	483.799	0.088	0.223	0.140	0.318
1	B-C	634.639	0.097	0.246	-	-
1	C-B	626.083	0.243	0.243	-	-

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	156.00	100.000
B	ONE HOUR	✓	36.00	100.000
C	ONE HOUR	✓	177.00	100.000

Turning Proportions

Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	7.000	149.000
	B	18.000	0.000	18.000
	C	170.000	7.000	0.000

Turning Proportions (Veh) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.00	0.04	0.96
	B	0.50	0.00	0.50
	C	0.96	0.04	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
From		A	B	C
	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.03	6.36	0.03	A	16.52	24.78	2.56	6.20	0.03	2.56	6.20
B-A	0.05	9.04	0.05	A	16.52	24.78	3.59	8.69	0.04	3.59	8.69
C-AB	0.01	5.32	0.02	A	8.27	12.41	1.20	5.79	0.01	1.20	5.79
C-A	-	-	-	-	154.15	231.22	-	-	-	-	-
A-B	-	-	-	-	6.42	9.64	-	-	-	-	-
A-C	-	-	-	-	136.73	205.09	-	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	13.55	3.39	13.46	0.00	601.84	0.023	0.00	0.02	6.118	A
B-A	13.55	3.39	13.43	0.00	438.73	0.031	0.00	0.03	8.461	A
C-AB	6.45	1.61	6.41	0.00	682.69	0.009	0.00	0.01	5.323	A
C-A	126.81	31.70	126.81	0.00	-	-	-	-	-	-
A-B	5.27	1.32	5.27	0.00	-	-	-	-	-	-
A-C	112.18	28.04	112.18	0.00	-	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	16.18	4.05	16.16	0.00	595.17	0.027	0.02	0.03	6.217	A
B-A	16.18	4.05	16.15	0.00	430.00	0.038	0.03	0.04	8.699	A
C-AB	8.01	2.00	8.00	0.00	693.95	0.012	0.01	0.01	5.247	A
C-A	151.11	37.78	151.11	0.00	-	-	-	-	-	-
A-B	6.29	1.57	6.29	0.00	-	-	-	-	-	-
A-C	133.95	33.49	133.95	0.00	-	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	19.82	4.95	19.79	0.00	586.20	0.034	0.03	0.03	6.355	A
B-A	19.82	4.95	19.78	0.00	417.89	0.047	0.04	0.05	9.041	A
C-AB	10.34	2.59	10.33	0.00	709.60	0.015	0.01	0.02	5.147	A
C-A	184.54	46.13	184.54	0.00	-	-	-	-	-	-
A-B	7.71	1.93	7.71	0.00	-	-	-	-	-	-
A-C	164.05	41.01	164.05	0.00	-	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	19.82	4.95	19.82	0.00	586.12	0.034	0.03	0.03	6.356	A
B-A	19.82	4.95	19.82	0.00	417.90	0.047	0.05	0.05	9.043	A
C-AB	10.35	2.59	10.35	0.00	709.61	0.015	0.02	0.02	5.147	A
C-A	184.53	46.13	184.53	0.00	-	-	-	-	-	-
A-B	7.71	1.93	7.71	0.00	-	-	-	-	-	-
A-C	164.05	41.01	164.05	0.00	-	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	16.18	4.05	16.21	0.00	595.01	0.027	0.03	0.03	6.219	A
B-A	16.18	4.05	16.22	0.00	430.01	0.038	0.05	0.04	8.700	A
C-AB	8.02	2.00	8.03	0.00	693.96	0.012	0.02	0.01	5.250	A
C-A	151.10	37.78	151.10	0.00	-	-	-	-	-	-
A-B	6.29	1.57	6.29	0.00	-	-	-	-	-	-
A-C	133.95	33.49	133.95	0.00	-	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	13.55	3.39	13.57	0.00	601.49	0.023	0.03	0.02	6.122	A
B-A	13.55	3.39	13.58	0.00	438.76	0.031	0.04	0.03	8.468	A
C-AB	6.46	1.61	6.47	0.00	682.69	0.009	0.01	0.01	5.323	A
C-A	126.80	31.70	126.80	0.00	-	-	-	-	-	-
A-B	5.27	1.32	5.27	0.00	-	-	-	-	-	-
A-C	112.18	28.04	112.18	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment
Queueing Delay results: (07:45-08:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.33	0.02	6.118	A	A
B-A	0.46	0.03	8.461	A	A
C-AB	0.15	0.01	5.323	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:00-08:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.41	0.03	6.217	A	A
B-A	0.57	0.04	8.699	A	A
C-AB	0.19	0.01	5.247	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:15-08:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.51	0.03	6.355	A	A
B-A	0.72	0.05	9.041	A	A
C-AB	0.25	0.02	5.147	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:30-08:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.52	0.03	6.356	A	A
B-A	0.74	0.05	9.043	A	A
C-AB	0.25	0.02	5.147	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (08:45-09:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.43	0.03	6.219	A	A
B-A	0.61	0.04	8.700	A	A
C-AB	0.19	0.01	5.250	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (09:00-09:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.35	0.02	6.122	A	A
B-A	0.49	0.03	8.468	A	A
C-AB	0.16	0.01	5.323	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-