



Land at Albion Road and Copper Lane, Marden

Transport Assessment

Client: Rydon Homes Limited

i-Transport Ref: MG/AI/ITB15098-101B R

Date: 07 August 2023

Land at Albion Road and Copper Lane, Marden

Transport Assessment

Client: Rydon Homes Limited

i-Transport Ref: MG/AI/ITB15098-101B R

Date: 07 August 2023

i-Transport LLP

The Square
Basing View
Basingstoke
Hampshire
RG21 4EB

Tel: 01256 898 366

www.i-transport.co.uk

COPYRIGHT

The contents of this document must not be copied or reproduced in whole or in part without the written consent of i-Transport LLP

If this report is to be placed on any approved website for planning purposes, this should comply with data protection principles, please seek our permission and you must ensure that all the private and personal information and data within this report is redacted.

Quality Management

Report No.	Comments	Date	Author	Authorised
ITB15098-101B R	For Planning	07/08/23	MG/ AI	MG

File Ref: T:\Projects\15000 Series\15098ITB Land East of Albion Road, Marden\Admin\Report and Tech Notes\101 Transport Assessment August 2023\Rev B 070823\ITB15098-101B R Albion Road Marden Transport Assessment 070823.docx

Contents

SECTION 1	Introduction	1
SECTION 2	Policy Context	4
SECTION 3	Development Proposal	9
SECTION 4	Existing Conditions	10
SECTION 5	Multi Modal Trip Generation	19
SECTION 6	Site Access Arrangements	21
SECTION 7	Active Travel Modes	26
SECTION 8	Public Transport	36
SECTION 9	Framework Travel Plan	38
SECTION 10	Traffic Impact	44
SECTION 11	Summary and Conclusions	54

Figures

FIGURE 1.1	Site Location Plan
FIGURE 4.1	Marden – Local Amenities Plan
FIGURE 7.1	Active Travel Routes

Traffic Figures

TF1	2022 – Weekday Morning Peak Hour
TF2	2022 – Weekday Evening Peak Hour
TF3	2028 – Weekday Morning Peak Hour
TF4	2028 – Weekday Evening Peak Hour
TF5	Development Traffic – Weekday Morning Peak Hour
TF6	Development Traffic – Weekday Evening Peak Hour
TF7	2028 plus Development – Weekday Morning Peak Hour
TF8	2028 plus Development – Weekday Evening Peak Hour

Drawings

ITB15098-GA-053	Albion Road – All Purpose Access
ITB15098-GA-026	Copper Lane – Pedestrian / Cycle / Emergency Access

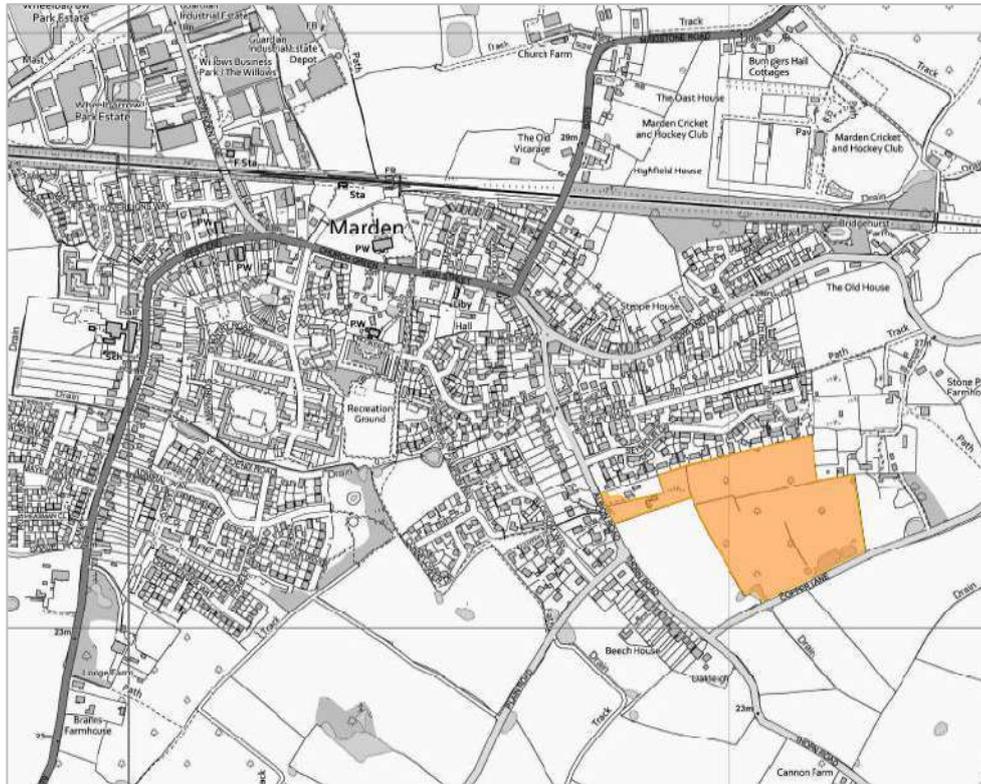
Appendices

APPENDIX A.	Local Policy Extracts
APPENDIX B.	Coloured Site Layout Plan
APPENDIX C.	Albion Road - Parking Beat Surveys
APPENDIX D.	Marden - Public Right of Way Network
APPENDIX E.	TRICS Multi Modal Trip Rates
APPENDIX F.	Vehicle Swept Path Analysis - Refuse Vehicle
APPENDIX G.	Potential Traffic Calming Scheme - Albion Road / Thorn Road
APPENDIX H.	Active Travel Routes - Audit
APPENDIX I.	Agreed Improvements - Public Footpath KM281
APPENDIX J.	Wayfinding / Signing – Village Wide
APPENDIX K.	Pedestrian Improvements -Marden
APPENDIX L.	Potential Cycle Parking – Village Centre
APPENDIX M.	TEMPRO Growth Calculations
APPENDIX N.	Traffic Distribution Model
APPENDIX O.	Operational Assessment Results
APPENDIX P.	Transport / Highway Improvements Summary Plan

SECTION 1 Introduction

1.1 Background

- 1.1.1 Rydon Homes Limited have been promoting the Land at Albion Road and Copper Lane site in Marden for a housing allocation through Maidstone Borough Council's Local Plan Review.
- 1.1.2 Maidstone Borough Council's (MBC) Local Plan Review (Draft Plan for Submission Regulation 19) covers Marden site allocations. Policy LPRSA295 - Land at Copper Lane and Albion Road, Marden is included as a draft allocation for the development of approximately 113 dwellings. The local highway authority, Kent County Council (KCC), have not objected to the draft allocation and through allocating the site for residential development MBC consider that the site is a suitable and sustainable location for development.
- 1.1.3 The review of the Maidstone Local Plan (adopted October 2017) was submitted to the Secretary of State for independent examination on 31st March 2022. The Examination in Public has taken place in two stages with Stage 1 opening on 6th September 2022 and Stage 2 opening on 16th May 2023 and closing on 9th June 2023. The Stage 2 hearing session which covered the site allocation for Marden took place on the 18th May 2023. No substantive highway objections were raised by consultees or third party objectors. No modifications were proposed to the draft allocation policy with respect to highway matters. The Inspectors' letter to the Council (dated 5th July 2023) followed the Stage 2 hearing sessions and raised no comment in respect of the Marden proposed draft allocation.
- 1.1.4 i-Transport has been appointed by Rydon Homes to provide highways and transport advice in relation to an outline planning application (with means of access determined at outline stage) for a scheme of up to 117 residential dwellings and public open space on the site. The site location plan is provided on **Figure 1.1** and as an extract in **Image 1.1**.

Image 1.1 Extract from Site Location Plan

1.2 Scoping

- 1.2.1 This Transport Assessment has been prepared to consider the transport impacts that may arise from the development, and to consider the proposal against the relevant transport planning policy considerations. The assessment has been produced in accordance with guidance contained in the National Planning Practice Guidance and, where necessary, other local and national transport planning guidance including the Kent Design Guide and Active Travel England design guidance.
- 1.2.2 Pre application discussions, covering transport and access matters, have taken place with KCC.
- 1.2.3 A separate Framework Travel Plan has been prepared (i-Transport report ref: ITB15098-102 R). The primary purpose of the Travel Plan is to identify opportunities for the effective promotion and delivery of sustainable transport initiatives (e.g., walking, cycling, and public transport to reduce the demand for travel by less sustainable modes) as well as setting targets and a strategy for monitoring and any remedial measures, if required.

1.3 Public Consultation

1.3.1 A public consultation was conducted in July 2022 to engage with local residents and stakeholders and the views expressed have been considered in preparing this Transport Assessment. In summary, the matters raised include:

- Impact on the safe operation of the local highway network, particularly on Albion Road as there is a local perception that vehicle speeds are high; and
- Traffic impact from the proposed development at junctions within Marden;

1.3.2 These matters have been addressed within this Transport Assessment.

1.4 Structure

1.4.1 The remainder of this Transport Assessment is structured as follows:

- Section 2 – Policy Context;
- Section 3 – Development Proposal;
- Section 4 – Existing Conditions;
- Section 5 – Multi Modal Trip Generation;
- Section 6 – Site Access Arrangements and Site Layout;
- Section 7 – Active Travel Modes;
- Section 8 – Public Transport;
- Section 9 – Framework Travel Plan;
- Section 10 – Traffic Impact; and
- Section 11 – Summary and Conclusions

SECTION 2 Policy Context

2.1 Introduction

2.1.1 To provide the context for the Transport Assessment, this section provides an overview of the relevant local and national transport planning policy considerations.

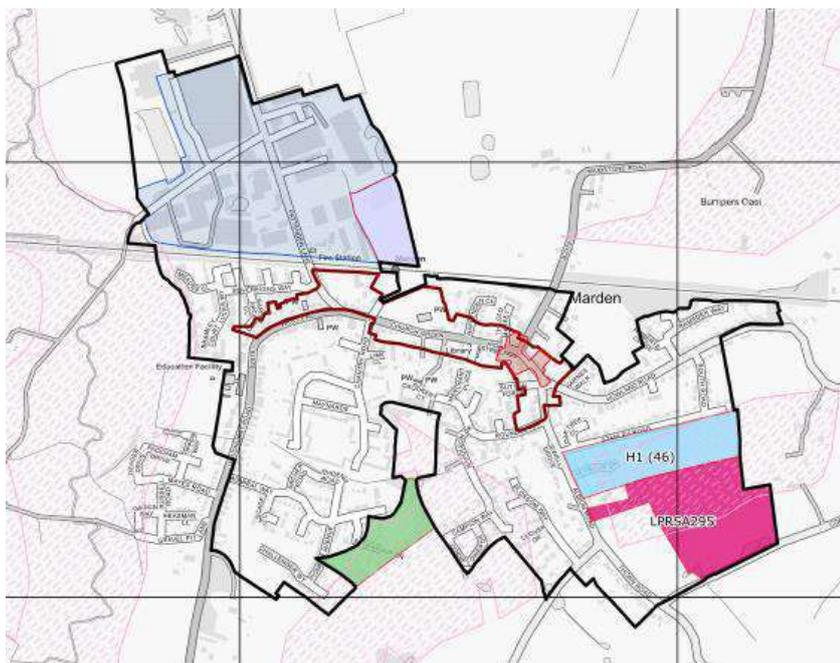
2.2 Local

Emerging Maidstone Borough Local Plan Review

2.2.1 Maidstone Borough Council's Local Plan Review (Draft Plan for Submission Regulation 19) covers Marden site allocations. Policy LPRSA295 - Land at Copper Lane and Albion Road, Marden is included as a draft allocation for the development of approximately 113 dwellings – an extract from the Local Plan Review policies map showing the site location is provided as **Image 2.1**. The policy states that a number of conditions are considered appropriate to be met before development is permitted. The access, highways and transportation conditions are as follows:

- Provision of suitable vehicular access to Albion Road that meet adequate capacity standards and safety provisions; and
- Development will be subject to the creation of safe pedestrian connections to the wider pedestrian network.

Image 2.1 Extract from the Local Plan Review - Location of the Policy LPRSA295 / Site



2.2.2 Policy LPRTRA2: Assessing the Transport Impacts of Development sets out that Transport Assessments and Travel Plans developed in accordance with KCC guidance will be expected to accompany all planning applications for new developments that reach the required threshold. The policy states that development proposals must:

- ***Demonstrate that the impacts of trips generated to and from the development are accommodated, remedied or mitigated to prevent severe residual highway safety or capacity impacts;***
- ***Demonstrate that any measures necessary to mitigate the transport impacts (in terms of highway safety and capacity as well as air quality) of development are viable and will be delivered at the appropriate point in the proposed development's buildout. This will be ahead of first occupation for some measures and at an agreed trigger point for others;***
- ***Provide a satisfactory Transport Assessment for proposals that reach the required threshold and a satisfactory Travel Plan in accordance with the threshold levels set by Kent County Council's Guidance on Transport Assessments and Travel Plans and in Highways England guidance; and***
- ***Demonstrate that development complies with the requirements of policy TRA1 for air quality and the guidance included in the Kent County Council Kent Design Guide.***

2.2.3 The policy goes on to state that proposals for development will be permitted if adequate provision is made, where necessary and appropriate, within the overall design and site layout for the following facilities for public transport and active travel secured through legal agreements:

- ***Priority or exclusive provision for public transport vehicle access to or through the proposed development area;***
- ***Safe and convenient passenger waiting facilities, information systems and signed pedestrian access routes to public transport services;***
- ***Suitable provision for disabled access to public transport waiting facilities from all parts of the development area;***
- ***Suitable provision for disabled access onto buses from the waiting facilities;***
- ***Priority for pedestrians and vulnerable road users through design throughout the development;***
- ***Suitable provision for safe active travel connectivity connecting the site to the local area.***

Development proposals will be considered in the context of both their impacts in terms of motor vehicle movements and overall sustainability. The impacts of development on the functionality of the highways network will be considered in the context of any sustainable transport gains that are proposed to accompany them.

2.2.4 Local parking policies are summarised at **Appendix A**.

[Maidstone Borough Local Plan 2011 – 2031 \(Adopted 2017\)](#)

2.2.5 Relevant policies of the Maidstone Borough Local Plan 2011 – 2031 are summarised at **Appendix A**.

[Maidstone Integrated Transport Strategy 2011-2031](#)

2.2.6 The Integrated Transport Strategy (ITS) assesses the principal existing and future challenges affecting the transport network, including taking account of jobs and housing growth, and recognises that the populations of the urban area and dispersed villages bring different challenges and solutions. It sets out a vision and objectives and identifies a detailed programme of interventions to support the measures and interventions set out in the Maidstone Borough Local Plan for all modes of transport consistent with national and local planning policies including the Kent County Council Local Transport Plan 3 (LTP3) 2011-2016.

2.2.7 The ITS identifies that Maidstone's transport network has come under increasing strain in recent years, principally on account of the configuration of its road and rail networks and the growing demand for travel generally. In order for the Borough to have an emphasis on sustainable transport access in line with national priorities and to accommodate the level of housing and employment growth envisaged by the Local Plan, a comprehensive and deliverable transport strategy must be in place to address these challenges.

2.2.8 The following improvements within Marden are identified within the ITS:

- Public Transport:
 - Marden Station - Provision of a new shelter, additional seats, CCTV, lighting and cycle parking; and
 - Marden Station does not have step-free access to each platform. The Council will work with Network Rail and the Train Operating Company to secure such access to enable all passengers to be able to 'turn-up and-go' without the need for prior appointment.
- Cycle Improvements to encourage cycling for short, localised trips:
 - Additional cycle parking provision at the railway station;
 - Enhancement of leisure cycle facilities and routes, to further encourage cycling as a leisure pursuit:

- Longer term improvements include the provision of a signposted cycle route from Lenham to Headcorn, Staplehurst, Marden, Laddingford and Yalding across the southern part of the borough.

Marden Parish Council

2.2.9 The Marden Neighbourhood Plan was adopted in July 2020 and aims to ensure that all future development carried out in Marden parish is sustainable and will not result in unacceptable harm to the form and function of the village and the wider parish. Relevant policies of the Marden Neighbourhood Plan are summarised at **Appendix A**.

2.2.10 Marden Parish Council also has a Highways Improvement Plan (last updated 07/02/2023) which is provided at the end of **Appendix A**. The plan is set out in four parts, namely:

- Part A – Marden Parish Council Action Plan (Priorities);
- Part B – Outstanding Planning Obligations;
- Part C – Completed Schemes; and
- Part D - Completed Planning Obligations.

2.2.11 The Highways Improvement Plan is referred to later in this Transport Assessment.

2.3 National

National Planning Policy Framework (NPPF)

2.3.1 The National Planning Policy Framework (NPPF) sets out the Government's planning policies for England and how these are expected to be applied.

2.3.2 Promoting sustainable transport is covered in Section 9 of the new NPPF (paragraphs 104 – 113). Paragraphs 110 – 113 consider development proposals.

2.3.3 Paragraph 110 states that:

In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;

b) safe and suitable access to the site can be achieved for all users;

c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and

d) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

2.3.4 Paragraph 111 states that:

Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.

2.3.5 Paragraph 112 states that:

Within this context, applications for development should:

a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;

b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport;

c) create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;

d) allow for the efficient delivery of goods, and access by service and emergency vehicles; and

e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible, and convenient locations.

2.3.6 Paragraph 113 states that:

All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.

SECTION 3 Development Proposal

- 3.1.1 An outline planning application (with means of access determined) is being submitted.
- 3.1.2 The proposals are for up to 117 residential dwellings along with public open space.
- 3.1.3 The coloured site layout plan is provided at **Appendix B** and an extract is provided at **Image 3.1**.

Image 3.1 Extract from Coloured Site Layout Plan



- 3.1.4 Access to the site is proposed via an all-purpose access from Albion Road to the west. An additional pedestrian / cycle / emergency access to the site is also proposed from Copper Lane to the south. Further details on the site access arrangements are provided in Section 6 of this Transport Assessment.

SECTION 4 Existing Conditions

4.1 Introduction

4.1.1 This section of the Transport Assessment provides a summary of the existing transport conditions in the vicinity of the site, including:

- Marden and its amenities;
- Public transport;
- The local highway network including Albion Roads and Public Footpath KM281; and
- Personal Injury Accident Data.

4.2 Marden

4.2.1 The policies referred to in this sub section are from Maidstone Borough Council's Local Plan Review Regulation 19 Draft.

4.2.2 Policy LPRSP6: Rural Service Centres notes that outside of Maidstone town centre and urban area, rural service centres are considered to be highly sustainable settlements in Maidstone's settlement hierarchy. They act as a focal point for trade and services by providing a concentration of public transport networks, employment opportunities and community facilities that minimise car journeys. Marden is identified as one of six Rural Service Centre settlements.

4.2.3 Policy LPRSP6(E) (Marden) states that Marden is a successful service centre, particularly in terms of employment opportunities, and also has strong key community facilities such as a medical centre, library and village hall. Marden has frequent rail connections to London and other retail and employment centres.

4.2.4 Marden has a good range of key local amenities catering for many everyday needs of local residents - see **Table 4.1** and **Figure 4.1**.

Table 4.1: Local Amenities - Marden

Type	Name
Education	Marden Pre-School
	Marden Primary School
Health	Marden Pharmacy
	Marden Dentist
	Marden Medical Centre
Retail	Petrol Station and Convenience Store - Stanleys
	Marden Farm Shop
	Crowhurst and Tompsett
	Kent Mart
	Ken Ballard Butchers
	West End Stores
Employment	Pattenden Lane Industrial Area
Leisure	Marden Tandoori
	The Old Post Office Coffee House
	Unicorn Pub and Restaurant
	Marden Library
	Hong Kong Kitchen
	Marden Sports Club
	Taj of Kent
	Kebab Fish Knight
	West End Tavern
	Marden Memorial Hall
Public Transport	Bus stops – Plain Road and B2079 / High Street.
	Marden Rail Station

4.2.5 The closest bus stops to the site are located on Plain Road (near the Albion Road junction), around 300m from the centre of the site. Further bus stops can be accessed around 700m from the site on the B2079 / High Street.

4.2.6 A summary of the main bus services within Marden is provided in **Table 4.2**.

Table 4.2: Summary of Bus Services within Marden

Service	Route	Frequency of Buses		
		Mon-Fri	Sat	Sun
22 / 23 / 27	Goudhurst / Marden / Yalding / Tovil / Maidstone	Approx. every 2hours First Bus: 06:59 Last Bus: 17:31	Approx. every 2hours First Bus: 09:49 Last Bus: 17:31	No Service
	Maidstone – Tovil – Yalding – Marden – Goudhurst	Approx. every 2hours First Bus: 06:10 Last Bus: 17.39	Approx. every 2hours First Bus: 08:49 Last Bus: 16:56	No Service

4.2.7 Collectively, the bus service 22, 23 and 27 provide a service approximately every two hours between Marden and Maidstone Monday to Saturday. The first bus leaves Marden at around 07:00 on a weekday. The last bus to Marden from Maidstone leaves at 17:39, meaning that the bus service could be used by commuters, as well as for other journey purposes such as retail and leisure journeys.

4.2.8 Marden is the closest rail station, located approximately 1km to the northwest of the site, within a reasonable walking distance (12 minutes) and comfortable cycle distance (4 minutes). The station is situated on the South East Main Line and provides services to high order destinations such as London, Tonbridge and Ashford.

4.2.9 **Table 4.3** summarises the rail services available from Marden Rail Station, as well as their frequency and journey time.

Table 4.3: Summary of Rail Services – Marden Station

Destination	Peak Frequency	Off-Peak Frequency	Average Journey Time
Staplehurst	2 services per hour	2 services per hour	3 mins
Paddock Wood	3 services per hour	2 services per hour	5 mins
Headcorn	2 services per hour	2 services per hour	9 mins
Tonbridge	3 services per hour	2 services per hour	14 mins
Ashford	2 services per hour	2 services per hour	25 mins
London (Charring Cross)	2 services per hour	2 services per hour	1 hour

4.2.10 The rail station provides the following additional facilities:

- 117 car parking spaces with 8 accessible spaces; and
- 10 cycle parking spaces.

4.2.11 Financial contributions have already been secured in S106 agreements from other developments in Marden for improvements at Marden Station including additional cycle parking, new bus shelter, additional seating, upgrade to CCTV and lighting and general improvement works. It is understood that at least around £90,000 in contributions has already been secured.

4.3 Local Highway Network in Vicinity of Site

Albion Road

4.3.1 Albion Road has a varying carriageway width of around 5.0m – 5.5m, routes in a north-west south-east alignment, has street lighting and is subject to a 30mph speed limit. There are no footways along Albion Road in the vicinity of the site frontage. To the north, the existing footways along Albion Road begin at the Seymour Drive junction (east side) and southern leg of Jewell Grove (west side) linking towards the B2079 / High Street. South of the Plain Road junction, Albion Road turns into Thorn Road and the 30mph speed limit ends to the south of the built up part of Marden (south of a property called Oakleigh).

Albion Road – Automatic Traffic Counts

4.3.2 Automatic Traffic Counts (ATCs) were undertaken in February 2022 on Albion Road in the vicinity of the proposed site access to record traffic speeds and volumes. The surveys were undertaken outside of any school and/or public holiday periods and the weather during the survey period was predominantly dry. The location of the ATC surveys is shown on **Image 4.1**:

Image 4.1: Location of ATC Traffic Surveys – Albion Road



4.3.3 The traffic data obtained from the ATCs along Albion Road are summarised in **Table 4.4** which demonstrates the 5-day (weekday) average, two-way traffic flows.

Table 4.4: Albion Road - February 2022 Traffic Data (5 Day / Weekday Average)

Road	Direction	08:00 – 09:00	17:00 – 18:00	Daily (0000-2400)
Albion Road	Northbound	90	87	912
	Southbound	99	80	936
	Two-Way	189	167	1,848

Source: Traffic Surveys

4.3.4 The data shows that the average traditional weekday peak hour (08:00 – 09:00 and 17:00 – 18:00) traffic flow is circa 167-189 two-way movements along Albion Road in the vicinity of the site frontage. This equates to around 3 vehicle movements per minute during the busiest periods of the day.

4.3.5 Analysis of the ATC survey data has also been undertaken to understand the types of vehicles using the Albion Road throughout the day, a summary of the recorded vehicle classifications recorded across a typical weekday (5-day average) is presented in **Table 4.5** below:

Table 4.5: Vehicle Classification on Albion Road (5-day average)

Road	Direction	Total Daily Traffic (0000-2400)	Total HGVs (0000-2400)	Daily % HGVs (0000-2400)
Albion Road	Northbound	912	10	1.1%
	Southbound	936	4	0.4%
	Two-Way	1,848	14	0.8%

Source: Traffic Surveys

4.3.6 It can be seen from **Table 4.5** that only a very small proportion of traffic on Albion Road (<1%) consists of heavy goods vehicles.

4.3.7 The ATC surveys also included speed survey results recorded along Albion Road along the site frontage which are summarised in **Table 4.6**.

Table 4.6: Observed Speeds on Albion Road

Location	Direction	Average Speeds	85 th Percentile
Albion Road Vehicular Access	Northbound (ATC Location 2)	24.8mph	31.8mph
	Southbound (ATC Location 1)	28.1mph	34.1mph

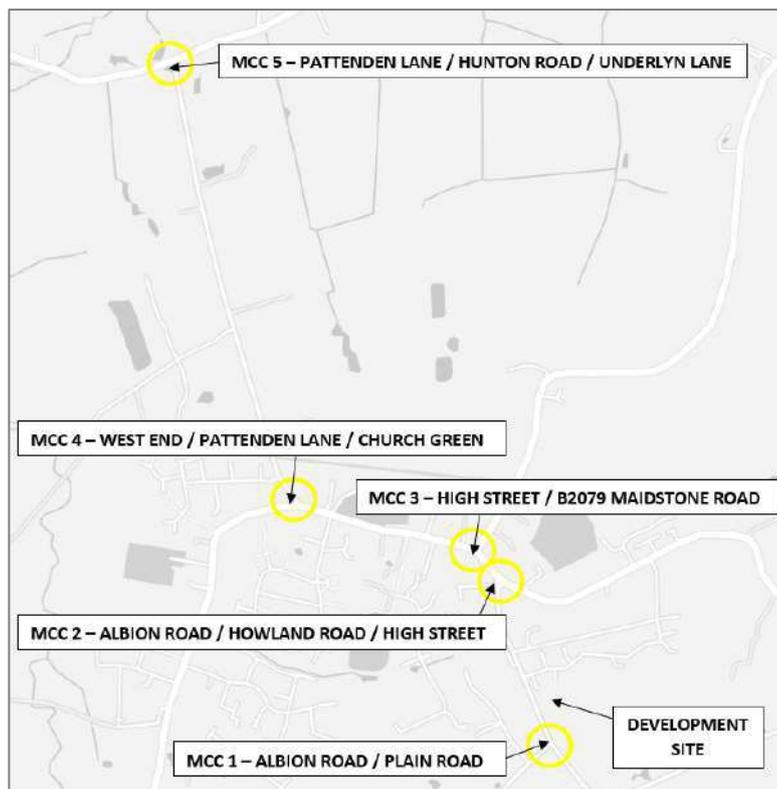
Junction Turning / Manual Classified Counts

4.3.8 In addition, manual classified counts were undertaken on Thursday 16th June 2022 at the following junctions within Marden on the basis of the study agreed with KCC:

- MCC 1 – Albion Road / Plain Road;
- MCC 2 – Albion Road / Howland Road / High Street (triangle of priority junctions);
- MCC 3 – High Street / B2079 Maidstone Road;
- MCC 4 – West End / Pattenden Lane / Church Green; and
- MCC 5 – Pattenden Lane / Hunton Road / Underlyn Lane.

4.3.9 The location of the manual classified counts are shown on **Image 4.2** below:

Image 4.2: Location of MCC Traffic Surveys



4.3.10 The data obtained from the manual classified counts is in 15 minute periods (rather than hour periods in an ATC count). This has enabled the actual Thursday peak hour two way traffic flows along Albion Road in the vicinity of the site frontage (ie traffic flows on Albion Road north of Plain Road) to be established as summarised in **Table 4.7**.

Table 4.7: Albion Road – Thursday 16th June 2022

Road	Direction	AM Peak Hour (07:45 – 08:45)	PM Peak Hour (16:30 – 17:30)
Albion Road	Northbound	83	99
	Southbound	93	103
	Two-Way	176	202

Source: Traffic Surveys

4.3.11 The data shows that the actual Thursday peak hour (07:45 – 08:45 and 16:30 – 17:30) traffic flow is circa 176-202 two-way movements along Albion Road in the vicinity of the site frontage. This equates to around 3 vehicle movements per minute during the busiest periods of the day. The Thursday actual peak hour data is similar to the traditional average weekday peak hour (**Table 4.4**). However, as the combined Thursday actual peak hour traffic flow is slightly higher than then the average weekday flow the Thursday data has been used for the remainder of the transport assessment.

4.3.12 The 2022 weekday morning and evening peak hour traffic flows on the highway network within Marden are shown on **Traffic Figures 1 and 2**.

On-Street Parking

4.3.13 There are parking restrictions in force along the northern section of Albion Road. Single yellow line parking restrictions (which restrict waiting on Monday to Friday between 11:00 and 11:30) are present on the eastern and western side of Albion Road between the B2079 High Street / Howlands Way junction and Roundel Way. Double yellow lines which restrict parking at any time are around the Sutton Forge/Albion Road junction. To the south of Stanleys petrol station, there are no on-street parking restrictions.

4.3.14 Parking beat surveys have been undertaken along Albion Road. The results are summarised at **Appendix C**. In summary, there is some on-street parking along Albion Road north of the site, however Albion Road is relatively lightly trafficked and operates acceptably, safely and well within capacity.

Public Footpath KM281

4.3.15 Public footpath KM281 routes between Albion Road (broadly opposite the proposed access to the site) and public footpath KM283 via Blossom Way – see **Appendix D**. This forms part of an alternative route between the site and the amenities in the High Street / village centre / area and amenities to the west side of the village. This is discussed further in Sections 6 and 7 of this Transport Assessment.

4.4 Personal Injury Accident Data

4.4.1 Personal injury accident (PIA) data has been obtained from Kent County Council for the five-year period (between 01-04-2018 and 31-03-2023) for the area shown on **Image 4.3**. The study area includes all the main routes through the village of Marden. The data has been analysed, which demonstrates that there have only been 11 recorded PIAs within Marden, all of which were classified as being slight in nature. A summary of the individual PIAs is provided in **Table 4.8**. It is of note that no recorded PIAs have occurred in the vicinity of the site frontage or along Albion Road and Thorn Road during the study period.

Image 4.3: Personal Injury Accident Data Study Area



4.4.2 A summary of the individual recorded personal injury accidents is provided in **Table 4.8**:

Table 4.8: Summary of PIA data

Location	Description	Severity
Chantry Road/Church Green	A vehicle turning right out of the station onto Church Green did so into the path of an oncoming vehicle.	Slight

Location	Description	Severity
	An unknown vehicle has struck a mobility scooter, causing it to veer into the path of another vehicle which was turning right into Chantry Road.	Slight
	A vehicle turning out of the station onto Church Green did so into the path of an oncoming vehicle.	Slight
High Street West of Albion Road	A vehicle was parked outside Marden Pharmacy when a large HGV turned right out of Maidstone Road, striking the parked vehicle as it manoeuvred past.	Slight
	A vehicle parked outside Marden Pharmacy was struck by another vehicle which was reversing out of a parking space by the local bakery.	Slight
Pattenden Lane Employment Area	A vehicle travelling along Pattenden Lane drifted into an oncoming vehicle due to the driver falling asleep.	Slight
Pattenden Lane North of West End	A vehicle turned right into Pattenden Lane before colliding with a pedestrian who was crossing the road at night wearing dark clothing.	Slight
B2079	A vehicle travelling along Goudhurst Road left the carriageway on the right bend due to the drivers visibility being obscured by fog.	Slight
	A vehicle pulling out of the West End Tavern car park did so into the path of an oncoming vehicle.	Slight
	A pedestrian walking on the pavement was struck by the wingmirror of a passing vehicle.	Slight
High Street/Maidstone Road	A vehicle travelling around the bend by Maidstone Road was struck by the rear wheel of a trailer being towed by a tractor in the opposite direction.	Slight

4.4.3 Taking contributory factors into account as well as the geographic and temporal spread of accidents within the study area there is no established pattern of personal injury accidents within the dataset. There were no recorded injury accidents involving cyclists and only three involved pedestrians.

SECTION 5 Multi Modal Trip Generation

- 5.1.1 An assessment has been undertaken to understand the likely multi modal trip generation of the proposed development.
- 5.1.2 A multi-modal trip rate has been obtained from TRICS, included as **Appendix E**, and applied to the development of 117 dwellings using the following criteria:
- Houses Privately Owned;
 - Sites between 50-150 dwellings;
 - Sites across England (excluding Greater London);
 - Weekday surveys only; and
 - Sites in Edge of Town locations.
- 5.1.3 A breakdown of the trip rates and likely number of trips by trip mode (identified as the main mode of travel for that trip) is presented in **Table 5.1**.

Table 5.1: Proposed Development Trip Generation – Multi-Modal Trip Rates and Trip Generation (117 Dwellings)

Time Period	AM Peak Hour			PM Peak Hour			Daily (0700-1900)		
	In	Out	Two-way	In	Out	Two-way	In	Out	Two-way
Trip Rates - per dwelling									
Trip Rate (Total Person)	0.214	0.699	0.913	0.564	0.265	0.829	3.759	3.766	7.525
Trip Rate (Total Vehicles)	0.150	0.369	0.519	0.373	0.163	0.536	2.376	2.391	4.767
Trip Rate (Pedestrians)	0.035	0.122	0.157	0.064	0.034	0.098	0.474	0.493	0.967
Trip Rate (Cyclists)	0.000	0.008	0.008	0.005	0.003	0.008	0.051	0.053	0.104
Trip Rate (Public Transport)	0.000	0.019	0.019	0.022	0.000	0.022	0.07	0.071	0.141
Trip Generation – 117 dwellings									
Total Person Trips	25	82	107	66	31	97	440	441	881
Total Vehicle Trips	18	43	61	44	19	63	278	280	558
Walking Trips	4	14	18	7	4	11	55	58	113
Cycle Trips	0	1	1	1	0	1	6	6	12
Total Public Transport Trips	0	2	2	3	0	3	8	8	16

- 5.1.4 The proposed development is anticipated to generate circa 61-63 two-way vehicle movements in the weekday peak hours (around 1 vehicle per minute), and around 558 across the day (12-hour period).
- 5.1.5 There will be some 11-18 pedestrian trips occurring in a weekday peak hour with some 113 daily pedestrian trips. There is also estimated to be around 1 cycle trip occurring each peak hour and around 12 cycling trips each day (12-hours). Public transport as a main journey purpose is expected to account for some 2-3 trips in a weekday peak hour and circa 16 trips across a day. On the basis that these public transport trips involve people walking or cycling in / out of the site (ie people walk / or cycle to the rail station and or bus stops) then within Marden itself, the development would generate an additional 2-3 walk or cycle trips in a weekday peak hour and an additional 16 walk or cycle trips across a day.

SECTION 6 Site Access Arrangements

6.1 Introduction

6.1.1 It is proposed to access the development via an all-purpose access from Albion Road, along with a proposed pedestrian, cycle and emergency access from Copper Lane. The details are discussed in this section.

6.2 Albion Road - All Purpose Access

6.2.1 The proposed access from Albion Road will take the form of an all-purpose simple priority junction. The access road carriageway will measure 6.0m at its western section near Albion Road narrowing to 5.5m within the site and will have 8m junction kerb radius to Albion Road. There will be 2.0m wide footways on both sides of the carriageway from the site access junction into the first part of the site.

6.2.2 As set out in the guidance in Manual for Streets, visibility splay requirements for an access such as that proposed from Albion Road should be determined from the observed vehicle speeds. As described in Section 4, a speed survey was undertaken in February 2022. The 85th percentile speeds recorded are shown in **Table 6.1**, along with visibility requirements calculated in accordance with the formula in Manual for Streets.

Table 6.1: Albion Road - Speed Survey Results and Visibility Requirements

Direction on Albion Road	Recorded Average Speed (mph)	Recorded 85 th %ile Speed (mph)	Visibility requirement based on MFS
Northbound – ATC 2	24.8mph	31.8mph	2.4m x 44m
Southbound – ATC 1	28.1mph	34.1mph	2.4m x 49m

Source: ATC Surveys / Visibility Splay Calculator.

Note 1: it is of note that the visibility splays do not need to be adjusted for bonnet length, as a driver only needs to see the front of another vehicle approaching to know whether it is safe to egress from the access and not the driver of the oncoming vehicle.

6.2.3 **Drawing ITB15098-GA-053** shows the proposed vehicular access arrangements and demonstrates that the required visibility splays can be achieved in either the site or highway boundary in both directions.

- 6.2.4 The vehicle swept path analysis of an 11.347m refuse vehicle at the Albion Road site access junction is provided at **Appendix F**. This demonstrates that a large refuse vehicle can negotiate the junction without encroaching on footways or verges – as an occasional / infrequent vehicle overrunning of the centre line of a carriageway is considered acceptable as acknowledged by Manual for Streets (the kerb radii at 8m are already fairly generous and whilst they could be increased further there is concern that this could lead to vehicles speeding whilst accessing / egressing the site).
- 6.2.5 There will be 2.0m wide footways on both sides of the carriageway from the site access junction into the first part of the site. These footways wrap around the bellmouth onto Albion Road. The southern footway stops opposite Public Footpath KM281 and a dropped kerb crossing will be provided to facilitate pedestrian access to the west side of Albion Road to access this footpath. Improvements are proposed to Public Footpath KM281 which provides a convenient and safe route to the majority of amenities in Marden village centre – see Section 7 of this Transport Assessment.
- 6.2.6 Albion Road is a lightly trafficked road with average speeds of circa 25-28mph and operates as a shared surface / mixed traffic road south of Seymour Drive. Albion Road operates safely as a shared surface / mixed traffic environment and there have not been any recorded personal injury accidents in the latest available 5-year period.
- 6.2.7 Opportunities to provide a footway on Albion Road to the north of the site (to link with the existing footways north of Seymour Drive) have been explored however have not been taken forward due to:
- Albion Road continuing to operate safely as a shared surface/mixed traffic route for pedestrians and cyclists;
 - The alternative route for pedestrians via Public Footpath KM281; and
 - The sensitive rural nature / character of the area / road.
- 6.2.8 Albion Road and Public Footpath KM281 are discussed further in Section 7 of this Transport Assessment.

6.3 Copper Lane - Pedestrian / Cycle / Emergency Access

6.3.1 It is also proposed to provide a pedestrian / cycle / emergency access from Copper Lane in the approximate position of the existing field gate access – see **Drawing ITB15098-GA-026**. This access would have a width of 3.0m to enable emergency vehicle access to the site in the (very unlikely) event that the proposed access is blocked. A removable bollard or similar would be installed to prevent car access.

6.3.2 In summary, the proposed site access arrangements (all purpose access from Albion Road and pedestrian / cycle / emergency access from Copper Lane) provide for safe and appropriate access to the site. This meets with the site specific requirements of Policy LPRSA295.

6.4 On-Site Layout

6.4.1 The main access road carriageway will measure 5.5m within the site. The illustrative masterplan shows that there will be footways on at least one side of the main access roads within the site. For motor vehicles the site will be a cul – de sac accessed from Albion Road so there will be no through traffic. The development will provide a pedestrian / cycle link between Albion Road and Copper Lane (through the site) providing improved site permeability and access to the countryside to the east for future and existing residents in Marden including a more direct route to Public Footpaths KM275 and KM278.

6.4.2 As an outline planning application is being submitted the site layout plan is illustrative and will be set at reserved matters stage. However, the layout would be designed to provide a design speed for vehicles of 20mph (achieved through appropriate speed restraint features). Footways and appropriate provision for pedestrians and cyclists would be provided throughout the development including accommodating a safe pedestrian link between Albion Road and Copper Lane.

6.4.3 Cycle parking would be provided having regard to cycle parking standards at the time.

6.4.4 Parking (including electric vehicle charging) will be provided having regard to local standards at the time and it is envisaged that the majority of parking would take place off carriageway.

6.4.5 Cycling is envisaged as being on carriageway through the site. With vehicle speeds being designed to 20mph and annual average daily traffic flows being around 550 vehicles (cul-de-sac so no through traffic) then on carriageway / mixed traffic cycling would be suitable for most people (Local Transport Note 1/20, Table 4.1) and as such is considered appropriate.

6.5 Potential Traffic Calming Scheme along Albion Road and Thorn Road

6.5.1 While the speed surveys demonstrate that average vehicle speeds are below the 30mph speed limit, two public consultation sessions were undertaken in Marden in July 2022, during which one of the main concerns raised in relation to the proposals was the traffic speeds along Thorn Road and Albion Road. Consequently to help address local concerns a potential traffic calming scheme has been prepared which provides a range of features designed to slow the speed of vehicles on approach to and when leaving the village.

6.5.2 The drawing at **Appendix G** (along with example photos) shows a potential option for a traffic calming scheme along Albion Road and Thorn Road. It includes the following features (working from south to north):

- Enhanced gateway feature at the location of the existing 30mph speed limit change on Thorn Road, consisting of coloured road surface, roundels, and a visual narrowing;
- Build out with priority working arrangement and cycle bypass on Thorn Road to the south of Copper Lane, with northbound traffic giving way to southbound traffic;
- Coloured surface treatment at the junction of Thorn Road / Copper Lane;
- On Thorn Road between the Copper Lane and Plain Road junctions – visual narrowing with flush edge strips – to maintain a circa 4.1m carriageway and circa 0.5m flush edge strips, suitable given very low frequency of HGVs and cycle friendly edge strips. Research described in the TRL report 'Psychological' traffic calming (2005) found that use of edge markings, such as hatching, to narrow the carriageway width had a speed reducing effect on motorists;
- Build out with priority working arrangement and cycle bypass on Thorn Road to the south of Plain Road, with southbound traffic giving way to northbound traffic;
- Proposed simplification / amendment to the Albion Road / Plain Road / Thorn Road junction to provide a simple priority arrangement to improve visibility and coloured surface treatment at the junction. There is the opportunity to provide landscaping, verges, pedestrian refuge and potentially bus waiting facilities;
- On Albion Road, continuation of visual narrowing with flush edge strips;
- Coloured surface treatment at the site access / Albion Road junction;
- On Albion Road, continuation of visual narrowing with flush edge strips as far as the Seymour Drive junction where the feature stops;

- Coloured surface treatment at the Seymour Drive / Albion Road junction;
- Existing areas of on-street parking north of the Seymour Drive junction acting as informal traffic calming; and
- Coloured surface treatment at the Roundel Way / Albion Road junction;

6.5.3 Such improvements would reduce traffic speeds, improve safety and further encourage active travel modes. In terms of Marden Parish Council's Highway Improvements Plan, the improvement would deliver the option 2 improvement (removal of the island to make a conventional junction) at the Plain Road / Thorn Road junction (Page 14 HIP024 – see end of **Appendix A**) and improve the bus waiting area in Plain Road (Page 19 outstanding planning obligations Dev 03A – improve bus waiting area in Plain Road - see end of **Appendix A**).

6.5.4 There are other potential alternative traffic calming designs which could include additional build outs and / or speed cushions (although with such measures there are constraints with the width of the carriageway and frontage access along Thorn Road / Albion Road).

6.5.5 The applicant would welcome the opportunity of discussing the traffic calming scheme with KCC and Marden Parish Council with a view to agreeing a preferred scheme. The works could be secured at planning stage by two options:

- Planning condition or obligation in a Section 106 Agreement for the works to be delivered by the developer under S278 of the Highways Act; or
- The developer making a financial contribution secured in a Section 106 Agreement for KCC to implement such a scheme as local highway authority.

SECTION 7 Active Travel Modes

7.1 Introduction

7.1.1 The site is located in the southeastern part of Marden.

7.1.2 Marden is a successful Rural Service Centre, particularly in terms of employment opportunities, and also has strong key community facilities such as a primary school, shops, medical centre, library and rail station.

7.1.3 Paragraph 4.4.1 of the Manual for Streets states:

“Walkable neighbourhoods are typically characterised by having a range of facilities within 10 minutes’ (up to about 800m) walking distance of residential areas which resident may access comfortably on foot. However, this is not an upper limit and PPG13 states that walking offers the greatest potential to replace short car trips, particularly those under 2km. MfS encourages a reduction in the need to travel by car through the creation of mix-use neighbourhoods with interconnected street patterns, where daily needs are within walking distance for most residents”

7.1.4 The recent Active Travel England toolkit again repeats the 800m walkable neighbourhoods distance.

7.1.5 The DfT’s Cycling and Walking Investment Strategy (2017) states at Paragraph 1.16 that:

“...there is significant potential for change in travel behaviour. Two out of every three personal trips are within five miles – an achievable distance to cycle for most people, with many shorter journeys also suitable for walking. For school children, the opportunities are ever greater. Three quarters of children live within a 15-minute cycle ride of secondary school while more than 90% live within a 5-minute walk or bus journey from a primary school.”

7.1.6 The DfT’s Gear Change A Bold Vision for Cycling and Walking states (page 11) that:

“In particular, there are many shorter journeys that could be shifted from cars, to walking, or cycling. We want to see a future where half of all journeys in towns and cities are cycled or walked. 58% of car journeys in 2018 were under 5 miles. And in urban areas, more than 40% of journeys were under 2 miles in 2017-1817. For many people, these journeys are perfectly suited to cycling and walking.”

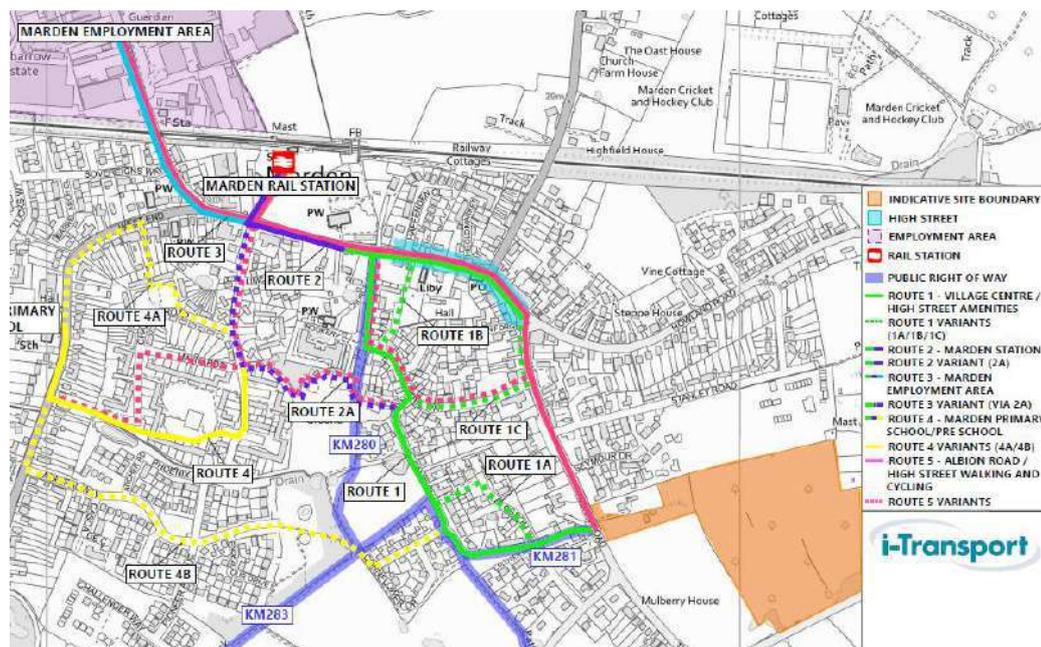
7.1.7 Therefore, although walkable neighbourhoods are typically characterised by having a range of facilities within 800m, a distance of 1.6km (circa 1mile) is a reasonable walking distance for many people and journey purposes and some people may walk further than this (2km is referred to in Manual for Streets). Some 8km (circa 5 miles) is a reasonable cycle distance for most people and many journey purposes.

7.1.8 There is a variety of active travel (walking and cycling) routes which can be used to reach the local amenities within Marden. These routes have been audited and where necessary improvements are suggested.

7.2 Audit of Active Travel Routes

7.2.1 The main active travel routes are shown in **Figure 7.1** and an extract is shown in **Image 7.1**

Image 7.1: Active Travel Routes



7.2.2 The routes are as follows:

- Route 1 – Site to Marden Village Centre / B2079 High Street amenities (via Public Footpath KM281, Campion Way / Napoleon Drive / Roundel Way and Public Footpath KM281 to High Street – plus variants / alternatives to the route) - around 900m northwest of the nearest proposed dwelling and 1,270m from the furthest property via Public Footpath KM281 – a reasonable walking distance;
- Route 2 – Site to Marden Station (as Route 1 and then Church Green to the Station – plus variants / alternatives to the route) – circa 990m northwest of the nearest proposed dwelling and 1,360m from the furthest property – a reasonable walking distance;
- Route 3 – Site to Marden Employment Area – (as Route 1 and 2 and then Pattendon Lane to the employment area - plus variants / alternatives to the route) – circa 1,290m from the nearest proposed dwelling and 1,660m from the furthest property – a reasonable walking distance;

- Route 4 – Site to Marden Primary Academy and Pre School – (as Route 1a and 2a and then Maynards, path and Goudhurst Road – plus variants / alternatives to the route) – circa 1,190m from the nearest proposed dwelling and 1,560m from the furthest property – a reasonable walking distance; and
- Route 5 – Albion Road – High Street B2079 to High Street Amenities, Employment Area, Station and Primary School - plus variants / alternatives to the route) – Little Marden Farm Shop and Country Store at the B2079 / High Street / Albion Road junction is approximately 350m from the nearest proposed dwelling and around 720m from the furthest property – a reasonable walking distance.

7.2.3 The audit considers the Active Travel routes to:

- The High Street / village centre/local shops;
- Marden Rail Station;
- North Marden Employment Area; and
- Marden Primary Academy.

7.2.4 A full audit of these routes has been undertaken during a site visit carried out on 4 July 2023 and is included at **Appendix H**.

7.2.5 The audit has been undertaken with reference to five core principles, common to both pedestrians and cyclists, identified within the various guidance documents - convenience, accessibility, safety, comfort and attractiveness.

7.2.6 The Active Design guidance has been produced by a combination of Active Travel England, Sport England and the Office of Health Improvement and Disparities (OHID). Active Design sets out how the design of environments can help people to lead more physically active and healthy lives. There are ten principles of Active Design identified in the document, which are: activity for all, walkable communities, providing connected active travel routes, mixing uses and co-locating facilities, network of multi-functional open spaces, high-quality streets and spaces, providing activity infrastructure, active buildings, inside and out, maintaining high-quality flexible spaces and activating spaces. Regard has been had to these Active Design principles when assessing the routes.

7.2.7 Notwithstanding the above, Marden is a rural village. There are requirements to be sensitive and retain the local character of the village. Marden does not have wide highway corridors or verges and thus there is more limited scope for major interventions for active travel modes. This needs to be borne in mind.

7.2.8 The Active Design guidance helpfully looks at an illustrative “Rural Village” stating that villages and rural areas benefit from access to the countryside and open spaces for leisure and physical activity. With additional intervention, they can make this more accessible and useful for more groups, and create spaces for different types of physical activity. The guidance suggests that design interventions may include:

- Traffic calming measures in the village centre to create a more attractive place and an active travel friendly environment;
- Accessible community facilities for classes and local events;
- Linked bridleway network away from vehicle traffic;
- Long-distance cycleway links to nearby towns and destinations provided in field margins;
- Quietway’ network of active travel priority routes on country lanes, retaining local vehicle access;
- Traffic calming measures at entrance to village;
- Clear wayfinding on footpaths and around village; and
- Walking loops with clear wayfinding and trails of different lengths marked.

7.3 **Summary of Recommended Improvements**

7.3.1 The audit identifies that the routes generally meet the key design principles for active travel, namely being convenient, accessible, safe, comfortable and attractive.

7.3.2 The following are recommended improvements:

Public Footpath KM281 (covers routes 1 – 4)

7.3.3 An improvement scheme to public footpath KM281 between Albion Road and Blossom Way to enable all weather / year-round use by pedestrians has been discussed / agreed with KCC Public Rights of Way officers. A drawing showing the improvements is included at **Appendix I** and includes:

- The public footpath route will be tarmacked to the Blossom Way east side footway (except the short gravel section immediately west of Albion Road); and
- Widening within the highway to provide a 1.2m – 1.5m footpath link between Albion Road and Blossom Way (according with KCCs Design Guide – Designing for Movement - where Minor Access Roads (within villages) are identified as having a minimum footway width of 1.2m and Manual for Streets page 68 clearly shows that 1.2m is wide enough for an adult and young child to walk by side by side and is wide enough for a wheelchair).

7.3.4 KCC PRoW have advised that short section of gravel adjacent to the Albion Roads carriageway would need to remain and that it is unlikely that KCC would support lighting of Footpath KM281 (only a very short length of the overall routes).

7.3.5 The improvements to public footpath KM281 are deliverable in the highway boundary and can be secured by condition or planning obligation and delivered by the developer under Section 278 of the Highways Act or as a financial contribution for KCC to deliver

Wayfinding / Signing / Tactile Paving

7.3.6 The following additional improvements for all routes are suggested:

- Wayfinding / Signing – Village Wide – see **Appendix J**; and
- Tactile paving across all of the minor arms along the route (where missing) which would aid safe pedestrian movements for the visually impaired - see **Appendix K**.

7.3.7 These improvements can be secured by condition or planning obligation and delivered by the developer under Section 278 of the Highways Act or as a financial contribution for KCC to deliver.

Route 5 – Albion Road to B2079 / High Street / Village Centre

7.3.8 Albion Road does provide a route for pedestrians and cyclists to the B2079 High Street / village centre (shops etc), amenities in Marden, Marden Station, Employment Area and Primary School.

7.3.9 For example, Little Marden Farm Shop and Country Store is approximately 350m from the nearest proposed dwelling and around 720m from the furthest property. This is a reasonable walking distance.

7.3.10 All of Marden’s amenities are within a reasonable cycling distance of the site.

7.3.11 Albion Road routes in a north-west south-east alignment, has a varying carriageway width of around 5.0m – 5.5m and is subject to a 30mph speed limit with street lighting.

- 7.3.12 There are no footways along Albion Road in the vicinity of the site frontage. To the north, the footways along Albion Road begin at the Seymour Drive junction (east side) circa 80m to the north of the site frontage and southern leg of Jewell Grove (west side). South of the Plain Road junction, Albion Road turns into Thorn Road and the 30mph speed limit ends to the south of the built up part of Marden (south of a property called Oakleigh).
- 7.3.13 Albion Road therefore currently operates as a shared surface / mixed traffic road south of Seymour Drive and at the site frontage.
- 7.3.14 The traffic surveys show that during the weekday peak traffic hours, the traffic flow is circa 176-202 two-way movements along Albion Road in the vicinity of the site. This equates to around 3 vehicle movements per minute during the busiest periods of the day. Daily traffic volumes are around 1,850 vehicles. Heavy goods vehicle flows are very low at <1% of all traffic on Albion Road.
- 7.3.15 Speed surveys show that along Albion Road near the site frontage the actual average speeds are 25-28mph. The 85th%ile speeds are 32 – 34mph.
- 7.3.16 Local Transport Note 1/20 Cycle Infrastructure, Table 4.1 (appropriate protection from motor traffic) would suggest that having mixed traffic / on-carriageway cycling with these traffic flows / speeds would mean the provision is suitable for few people and would exclude most potential users.
- 7.3.17 Yet for Albion Road:
- Site visits have revealed people regularly walking along this section of Albion Road;
 - In terms of cycling, the traffic surveys have revealed that along the Albion Road site frontage during the morning peak period (07:00 – 10:00) there were some 8 cyclists (two way) and during the evening peak period (16:00 – 19:00) there were some 18 cyclists (two way) – so on average around 4 cyclists per hour; and
 - There have not been any recorded personal injury accidents in the latest available 5-year period along Albion Road.
- 7.3.18 The evidence therefore is that Albion Road in the vicinity of the site frontage does currently operate safely as a shared surface and mixed traffic environment for both pedestrians and cyclists.
- 7.3.19 Indeed, the Seymour Drive scheme to the north has recently provided a pedestrian link to the Albion Road carriageway

- 7.3.20 The development is not anticipated to significantly increase the number of vehicular movements along Albion Road between the site and the High Street (around 50 vehicular movements in a peak hour – less than 1 vehicle every minute).
- 7.3.21 The future traffic flows (2028 with development) along Albion Road (between the site access and Seymour Drive) is around 232 – 261 vehicles in a weekday peak hour. This traffic volume is not high in absolute terms – an average of around 4 vehicles per minute.
- 7.3.22 Many of the pedestrian trips generated by the site will use Routes 1 – 4 via Public Footpath KM281 and not go along Albion Road. With the improvements to KM281 and wayfinding / signage, existing users of Albion Road may also use the Public Footpath KM281 route. In reality, the development is not anticipated to significantly increase the number of pedestrian movements along Albion Road.
- 7.3.23 There is likely to be around 12 - 46 cycle trips per day generated by the development (the higher figure being with significant modal shift). Some of these can route onto Blossom Way via Albion Road (south) and Plain Road and access the village in that direction. In real terms, the increase in cycling along Albion Road to the north will be low.
- 7.3.24 We are aware that Manual for Streets discusses shared surface streets, suggesting that they are likely to work well where parking is controlled or takes place in designated areas, in short lengths (or cul de sacs), and where the volume of motor traffic is below 100 vehicles per hour.
- 7.3.25 There is some on-street parking along Albion Road north of the site and north of the shared surface stretch where there are existing footways. The on-street parking contributes to slowing vehicles and acts as a traffic calming measure.
- 7.3.26 Between the site access and Seymour Drive to the north there is only a circa 80m length of Albion Road that does not benefit from footway provision – Albion Road is lit, straight and there is generally good intervisibility for traffic and pedestrians. Albion Road will most likely be used by residents / drivers who are familiar with the prevailing conditions. This will reduce any safety risk for pedestrians and cyclists as drivers will adjust their behaviour accordingly – that is the more pedestrians / cyclists there are then the slower vehicle speeds are likely to be.

- 7.3.27 There is no suggestion in Manual for Streets, or elsewhere for that matter, that once the vehicle flow exceeds 100 vehicles per hour that a road will become “dangerous” for pedestrians or cyclists. The guidance in MfS actually originated from a study of public transport in London Borough Pedestrian Priority Areas undertaken by TRL for the bus priority team at Transport for London. The study concluded that above 100 vehicles per hour, pedestrians “treat the general path by motor vehicles as a ‘road’ to be crossed rather than as a space to occupy”. That is, pedestrians will walk closer to the carriageway edge and are more likely to seek to face oncoming traffic when flows are greater than 100 vehicles per hour. This is what happens along Albion Road.
- 7.3.28 The residential nature of road will continue to mean that Albion Road will operate without an undue risk to pedestrian or cycle safety as a shared surface.
- 7.3.29 Pedestrians, if they wanted to, would be able to walk along or take refuge in the highway verge along the side of the Albion Road carriageway.
- 7.3.30 Overall, when taking into account the anticipated increases in vehicle and pedestrian and cycle movements, the practice of pedestrians and cyclists using the carriageway along Albion Road will not be inherently unsafe. The absence of a footway along a short section of Albion Road will not therefore significantly impact on the propensity for individuals to walk to the amenities in the Marden village whether along Albion Road or along Routes 1 – 4 via Public Footpath KM281.

Traffic Calming– Albion Road and Thorn Road

- 7.3.31 Section 6 of this Transport Assessment puts forward an option for a potential traffic calming scheme along Albion Road and Thorn Road (including visual narrowing with flush edge strips along Albion Road and Thorn Road), which could be secured via planning condition and / or financial contribution in a Section 106 agreement.
- 7.3.32 Such a scheme would encourage active travel along Albion Road / Thorn Road and into the B2079 / village centre / High Street and other village amenities. With future (2028 plus development) annual average daily traffic volumes being just over 2,000 vehicles per day and traffic speeds along Albion Road being reduced to potentially around 20mph, then having regard to (Local Transport Note 1/20, Table 4.1 on carriageway / mixed traffic cycling would be suitable for most people.

Cycle Parking in the Village Centre

7.3.33 There is an opportunity for the proposed development to provide additional cycle parking in proximity to the amenities within the village centre. There is existing cycle parking located in the vicinity of the junction between Albion Road and the High Street (just north of Sutton Forge) which is attached to planters.

7.3.34 There are opportunities to provide similar sensitive cycle parking in the same location and other locations within the village centre (see **Appendix L**) including:

- Adjacent to the planter cycle parking junction between Albion Road and the High Street (just north of Sutton Forge);
- Adjacent to the cycle stands on the north side of the B2079 High Street just to the east of the Maidstone Road junction; and
- On the north side of the B2079 High Street just to the west of the Maidstone Road junction.

7.3.35 The applicant would welcome the opportunity of working up the details of additional cycle parking with KCC and the Parish Council. These works could be secured at planning stage by two options:

- Planning condition or obligation in a Section 106 Agreement for the works to be delivered by the developer under S278 of the Highways Act; or
- The developer making a financial contribution secured in a Section 106 Agreement for KCC to implement such a scheme as local highway authority.

7.3.36 There may also be an opportunity to provide a financial contribution to cycle parking at the library (village centre cycle parking).

Link to Plain Road / Bus Stop

7.3.37 There is a short walk between the site along Albion Road to the south and then Plain Road to the bus stop and Blossom Way. Traffic volumes will be lighter along Albion Road to the south of the access.

7.3.38 The potential traffic calming scheme along Albion Road and Thorn Road (including visual narrowing with flush edge strips along Albion Road and Thorn Road) would assist in improving access in this location. The potential traffic calming scheme offers the opportunity to amend the Albion Road / Plain Road / Thorn Road junction to provide a simple priority arrangement whilst also providing the opportunity to provide landscaping, verges, pedestrian refuge and potentially bus waiting facilities.

Marden Highway Improvements Plan

7.3.39 The proposed transport improvements would assist in delivering some of the improvements set out in the Marden Highway Improvements Plan such as at the Plain Road / Thorn Road junction.

7.3.40 It is acknowledged that the Plan includes additional part A action plan priorities. Subject to KCC liaison, our application may be able to offer up a contribution (fixed/lump sum) towards the feasibility work for some of those potential improvements.

7.4 Summary

7.4.1 All of Marden's amenities / facilities are accessible by walking and cycling from the site and the development provides appropriately for active travel modes thus meeting the requirements of Policy LPRSA295 to create safe pedestrian connections to the wider pedestrian network.

SECTION 8 Public Transport

8.1 Introduction

8.1.1 This section of the Transport Assessment looks at public transport opportunities for residents of the proposed development.

8.2 Bus

8.2.1 The analysis in Section 7 demonstrates that there is appropriate pedestrian (and cycle) access to the bus stops on Plain Road and the B2079 / High Street.

8.2.2 The closest bus stops to the site are located on Plain Road (near the Albion Road junction), around 300m from the centre of the site. Further bus stops can be accessed around 700m from the site on the B2079 / High Street. The B2079 / High Street are a longer walk but still accessible for many people.

8.2.3 Marden is served by bus services 22, 23 and 27 which provide a service approximately every two hours between Marden and Maidstone Monday to Saturday. The bus service could be used by commuters, as well as for other journey purposes such as retail and leisure journeys.

8.2.4 Policy LPRSA295 - Land at Copper Lane and Albion Road, Marden does not require a new or re-routed bus service. This is because a new / re routed bus service would not be viable in the longer term for a scheme of some 117 dwellings.

8.3 Rail

8.3.1 Marden has a rail station, located approximately 1km to the northwest of the site. The station is situated on the South East Main Line and provides services to high order destinations such as London (2 services per hour), Tonbridge (2 / 3 services per hour) and Ashford (2 services per hour) – further details are provided in Section 4 of this Transport Assessment.

8.3.2 Marden Station is within a reasonable walking distance (12 minutes) and comfortable cycle distance (4 minutes). The analysis in Section 7 demonstrates that there is appropriate pedestrian and cycle access to the station.

- 8.3.3 As set out in Section 4, financial contributions (it is understood around £90,000) have already been secured in S106 agreements from other developments in Marden for improvements at Marden Station including additional cycle parking, new bus shelter, additional seating, upgrade to CCTV and lighting and general improvement works. If there is any shortfall in funding for improvement to active travel infrastructure at the station, then a further financial contribution from this development could be secured in a Section 106 agreement (see **Appendix L**).
- 8.3.4 In summary, appropriate opportunities to promote public transport (bus and rail) have been taken up for the development and its residents.

SECTION 9 Framework Travel Plan

9.1 Introduction

9.1.1 A separate Framework Travel Plan has been prepared (i-Transport report ref: ITB15098-102 R). The primary purpose of the Framework Travel Plan is to identify opportunities for the effective promotion and delivery of sustainable transport initiatives (e.g., walking, cycling, and public transport to reduce the demand for travel by less sustainable modes) as well as setting targets and a strategy for monitoring and any remedial measures if required.

9.1.2 This section of the Transport Assessment provides a summary of the Framework Travel Plan.

9.2 Interim Targets

9.2.1 Targets are the measurable goals against which the progress of the Travel Plan can be assessed. Best Practice guidance places emphasis on targets being 'SMART', that is: Specific, Measurable, Achievable, Realistic and Time Bound. The targets for the Travel Plan are primarily modal split targets for all trips generated by the site.

9.2.2 At this stage (i.e., prior to occupation of the site), it is accepted practice to provide initial interim or indicative targets based on the estimated baseline trip generation and mode split. These indicative targets can be updated and refined following baseline travel surveys which will be undertaken within three months following occupation of 50 dwellings (see below).

9.2.3 The initial baseline mode split data has been established from Travel to Work data contained within the 2011 Census (from the Maidstone 018 mid-layer super output area (MSOA) as it is directly comparable to the development in terms of location) – see **Table 9.1** below.

Table 9.1: Baseline Journey to Work Data (Main Mode of Travel) – 2011 Census

Mode	Mode Split
Driving a car or van	68%
Train	17%
On Foot	8%
Passenger in a Car or Van	3%
Bus, Mini Bus or Coach	1%
Motorcycle, scooter or moped	1%
Bicycle	1%
Other method of travel to work	1%
Total	100%

9.2.4 This only covers journeys to work and excludes all other journey purposes hence why its important to update the targets following the baseline travel surveys at the site.

9.2.5 The overall interim modal split targets for this FTP are as follows:

- Car driver trips to be at 61% at two years following final occupation of the site (based on a ten percent reduction of the baseline car driver modal split of 68% (ie 7% reduction));
- Pedestrian trips to be at 10% at two years following final occupation of the site (based on a 2 percentage points increase from the baseline walking modal split);
- Cycling – the baseline cycle trips at 1% is low. The Propensity to Cycle tool has been utilised looking at the lower output area covering the majority of Marden - for commuting trips the Government target is 4%. As such, there is an interim target of cycle trips to be 4% at two years following final occupation of the site (based on a 3 percentage points increase from the baseline cycling modal split); and
- Public Transport – the baseline public transport trips are relatively high at 18% (the majority of which are train trips at 17%). The high train trips for commuting are as expected given Marden has a station. As such, there is an interim target of public transport trips to be 20% at two years following final occupation of the site (based on a 2 percentage points increase from the baseline public transport modal split) . It is worth pointing out that when looking at all trip purposes then the public transport / train trips modal split is unlikely to be this high as many of those trip will be contained within Marden – this will be picked up in the base travel survey to be undertaken within 3 months of the 50th occupation at the site.

9.2.6 The public transport trips (as main mode of travel) will result in walking and cycling trips within Marden (ie from the site to Marden Station and the bus stops).

9.2.7 Once the first baseline travel survey has been undertaken, these interim targets will be reviewed and finalised.

9.3 Measures

9.3.1 The infrastructure and travel plan promotion measures are summarised in **Table 9.2** below.

Table 9.2 – Summary of Framework Travel Plan Measures

Measures	Summary of Measures	Responsibility	Timescale
Management	Appointment of Travel Plan Co-ordinator	Developer	Within three months prior to first occupation
Infrastructure Measures	Albion Road access	Developer	Prior to first occupation
	Copper Lane pedestrian / cycle / emergency access	Developer	Trigger to be agreed with MBC / KCC
	Site layout infrastructure, including footways, pedestrian/cycle links, signage and car parking spaces	Developer	As plots/units are built out
	Install cycle parking and associated facilities	Developer	As plots/units are built out
	Provision of Electric Car Charging Points	Developer	Prior to occupation
	Provision of broadband in homes	Developer	Prior to occupation
	Subject to discussions provide car club bay and vehicle on site	TPC/Developer	TPC to negotiate with car club providers
	Off-site highway improvements – Public Footpath KM281 and footway improvements	Developer	Prior to first occupation
	Potential Traffic Calming along Albion Road / Thorn Road	Developer / KCC	To be discussed with MBC / KCC including trigger for delivery or S106 contribution
	Village Wayfinding / Signing	Developer / KCC	To be discussed with MBC / KCC including trigger for delivery or S106 contribution
	Pedestrian Improvements – tactile paving	Developer / KCC	To be discussed with MBC / KCC including trigger for delivery or S106 contribution
	Cycle parking in village centre	Developer / KCC / Parish Council	To be discussed with MBC / KCC including trigger for S106 contribution

Measures	Summary of Measures	Responsibility	Timescale
	Contribution to active travel infrastructure at Marden Station (if required)	Developer / KCC / Train Operator	To be discussed with MBC / KCC
Establish Baseline	Baseline survey of site	Developer / TPC	Within 3 months following occupation of 50th dwelling
	Update Travel Plan following baseline surveys and seek agreement with KCC	Developer / TPC	Within 3 months of receipt of survey results
Travel Plan Promotion Measures	Prepare Residents Travel Information Pack	Developer / TPC	Prior to occupation and update as appropriate
	Provide sustainable travel vouchers - £150 for first occupant of each dwelling	Developer / TPC	Redeemable upon application
	Walking and Cycling maps	Developer / TPC	Prior to baseline survey and update as appropriate
	Prepare dedicated webpage /Facebook page that references Travel Plan and includes relevant travel information	Developer / TPC	Within 3 months of first occupation and update as required
	Personalised Travel Planning sessions	Developer / TPC	Ongoing, as requested
	Promote car sharing scheme Kent Connected Car sharing	Developer / TPC	Ongoing

9.4 Monitoring and Review

Monitoring

- 9.4.1 The Travel Plan will be monitored and reviewed from initial occupation to last. This will be in the form of monitoring surveys that are TRICS Standard Assessment Methodology (SAM) compliant.
- 9.4.2 The first TRICS SAM baseline monitoring survey will take place within three months following the occupation of 50 units. Further monitoring surveys will be undertaken every two years until a survey within 3 months of final occupation and two years following final occupation of the site.

9.4.3 Questionnaire surveys will also be used to determine the effectiveness of the Travel Plan measures and enable residents to remain involved in the Travel Plan process. The first questionnaire survey will be carried out within three months following the occupation of the 50th dwelling, at a similar time to the traffic surveys, and then repeated every two years until a survey within 3 months of final occupation and two years following final occupation of the site.

9.4.4 The residential surveys will determine a number of important statistics such as work destination, number of cars and bicycles per household, modal split of work, educational and leisure journeys and preferences towards the availability and use of more sustainable modes of transport.

9.4.5 The first survey will be used to determine travel patterns to and from the site and to assist with refining objectives and targets of the Travel Plan.

Reporting and Review

9.4.6 On receipt of the survey results the Travel Plan Coordinator will prepare a monitoring report. This will compare travel survey data with targets and, if necessary, will identify new targets and measures to ensure on-going success of the Travel Plan. The monitoring reports will be provided to KCC.

9.4.7 To note, a key period of review shall be following the baseline travel survey as this will indicate the likely travel patterns of the development and reviewing the modal split targets.

9.4.8 Residents will also be informed of the survey results via newsletters and on the dedicated social media Travel Plan page.

Remedial Measures

9.4.9 Should the Travel Plan targets not be met by the end of the monitoring period outlined above, remedial measures will be agreed with KCC by the TPC. These measures may include:

- The TPC will seek to negotiate further discounts or promotions for residents at local cycle stores and with public transport operators; and
- A further round of information provision will be undertaken which will include bus and rail timetables, car sharing information and information on journey planning tools.

9.5 Securing, Enforcement and Funding

9.5.1 The Travel Plan will be secured via a S106 obligation.

9.5.2 The S106 obligation will require the Travel Plan to be implemented, in accordance with the framework set out in this document.

- 9.5.3 The delivery of the Travel Plan will be enforced through the S106 agreement for the development.
- 9.5.4 The developer will fund the preparation, implementation, and initial operation of the FTP process, including the day-to-day site TPC role, the implementation and management of physical measures, the promotion of sustainable travel, and the coordination of the monitoring and review process.

SECTION 10 Traffic Impact

10.1 Introduction

10.1.1 This section of the Transport Assessment outlines the assessment methodology for assessing the impact of development traffic on the operation of the local highway network. It is set out in the following sub sections:

- Existing Conditions;
- Future Year, Committed Development and Background Traffic Growth;
- Development Traffic Generation, Distribution and Assignment; and
- Operational Analysis.

10.2 Existing Conditions

10.2.1 As set out in Section 4, the 2022 weekday morning and evening peak hour traffic flows on the highway network within Marden are shown on **Traffic Figures 1 and 2**.

10.3 Future Year, Committed Development and Background Traffic Growth

10.3.1 The future year for traffic impact analysis is 2028 (5 years after submission of the planning application and when the development should be completed or nearly completed).

10.3.2 A review of the local planning authority application register has been undertaken to identify if there are any permitted developments that need to be considered within the Transport Assessment as committed development, however, at the time this report was being prepared, no major permitted developments have been identified.

10.3.3 As there are no local committed developments, unadjusted TEMPRO growth rates have been obtained to factor traffic from the 2022 base year to the 2028 future year. Using this methodology, Table 10.1 summarises the growth factors which have been applied to the 2022 observed traffic flows to derive the 2028 peak hour traffic flows. The TEMPRO calculations are included as **Appendix M**.

Table 10.1: Traffic Growth Factors

Growth Period	Time Period	Growth Rate
2022 – 2028	Morning Peak Hour	1.0442
	Evening Peak Hour	1.0473

Source: TEMPRO Growth rates for Maidstone 018 MSOA - Minor Road Types

10.3.4 The 2028 weekday morning and evening peak hour traffic flows on the highway network within Marden are shown on **Traffic Figures 3 and 4**.

10.4 Development Traffic Generation, Distribution and Assignment

Traffic Generation

10.4.1 Having regard to **Table 5.1**, the traffic generation of the site (117 dwellings) is summarised in **Table 10.2** below.

Table 10.2: Development Traffic Generation – 117 Dwellings

	AM Peak Hour			PM Peak (Hour		
	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
Trip Generation (117 Dwellings)	18	43	61	44	19	63

10.4.2 A development of up to 117 dwellings would generate around 61-63 two-way vehicle movements during the weekday peak hours. This equates to around one vehicle movement every minute during the busiest periods of the day.

Traffic Trip Distribution and Assignment

10.4.3 The likely journey purpose for the generated car driver peak hour trips can be identified using TEMPRO. The proportion of peak hour trips by journey purpose by car for the Maidstone 018 MSOA is presented in **Table 10.3**.

Table 10.3: Proportion of Peak Hour Trips by Journey Purpose (Car Driver Only)

Trip Purpose	Maidstone 018 MSOA		
	AM Peak (8:00-09:00)	PM Peak (17:00-18:00)	Assumed Average
Commuting / Business	70.6%	53.8%	62.2%
All Other Journey Purpose	29.4%	46.2%	37.8%
Total	100.0%	100.0%	100.0%

Source: TEMPRO V7.2c

10.4.4 Some 70.6% of the total vehicular trips generated by the residential development will be for employment journeys in the morning peak hour period and 53.8% of journeys in the evening peak hour. For the purposes of the TA, it has been assumed that 62.2% of peak hour vehicle trips are employment trips, with the remaining 37.8% for other journey purposes.

10.4.5 To provide a realistic assessment of the likely distribution of traffic from the site, separate methodologies have been applied to consider the destinations of commuting and business trips to other trip purposes from the Maidstone 018 MSOA:

- For commuting and business trips, the National Census Journey to Work statistics (for car drivers) is to be used. These identify the location of existing resident's employment locations and so identify existing commuting patterns. This assumes pre-covid travel patterns; and
- For other journey purpose trips, a P/T² gravity model has been undertaken using the population of key urban areas (from the 2011 census) within a 30-minute drive from the site (estimated from Google Maps Direction facility).

10.4.6 An assessment of the 2011 Census Journey to Work data for the Maidstone Super Output Area 018, which comprises Marden has been reviewed to identify the likely destinations that development traffic is likely to travel to for work. This demonstrates that the highest proportion of local trips are to Maidstone, Marden and Tunbridge Wells.

10.4.7 The distribution of non-working trips based on the gravity model assessment demonstrates that the highest proportion of trips are to Maidstone, Marden, Staplehurst and Paddock Wood.

10.4.8 A summary of the traffic distribution to the main local destinations is provided in **Table 10.4** whilst the distribution model is included in **Appendix N**.

Table 10.4: Traffic Distribution Summary (selected)

Destination	Work Trips (62.2%)	Non-Work Trips (37.8%)	Total
Maidstone	14.0%	21.8%	35.8%
Marden	6.7%	13.1%	19.8%
Tunbridge Wells	4.1%	-	4.1%
London	3.3%	-	3.3%
Paddock Wood	3.0%	0.7%	3.7%
Sevenoaks	2.5%	-	2.5%
Medway	2.4%	-	2.4%
Goudhurst	2.3%	0.2%	2.4%
Ditton / Leybourne	2.0%	-	2.0%
Other - South East	1.9%	-	1.9%
Kings Hill	1.9%	-	1.9%
Staplehurst	1.9%	1.6%	3.4%

Destination	Work Trips (62.2%)	Non-Work Trips (37.8%)	Total
Tonbridge	1.6%	-	1.6%
Hadlow / East Peckham	1.4%	-	1.4%
Headcorn / Sutton Valence	1.3%	0.1%	1.4%
Other - North	1.2%	-	1.2%
Coxheath	1.2%	0.2%	1.4%
Yalding	1.1%	0.1%	1.2%
Cranbrook	0.9%	0.2%	1.1%
Other (<1%) *	7.4%	0.0%	7.4%
Total	62.2%	37.8%	100.0%

Source: Consultant Calculations

Note: * 'Other' consists of a range of destinations each with a total of $\leq 1\%$ which have been distributed in the traffic distribution model individually, but combined for presentation purposes within this table

- 10.4.9 The traffic expected to be generated by the site (see **Table 10.2**) has been assigned to the local highway network using the distribution identified in **Table 10.4**.
- 10.4.10 To determine the routing of trips to these destinations, reference has been made to the Google Maps 'Directions' Facility. Within the Directions facility, a morning peak hour start time for journeys was utilised to ensure that peak period traffic conditions are reflected.
- 10.4.11 The development generated weekday morning and evening peak hour traffic flows assigned to the highway network within Marden are shown on **Traffic Figures 5 and 6**.
- 10.4.12 **Table 10.5** provides a summary of development generated trips on the local highway network.

Table 10.5: Traffic Assignment Summary

Route Out	% Traffic	Morning Peak			Evening Peak		
		In	Out	Two-way	In	Out	Two-way
Site Access – Route 1							
Albion Road North	78%	14	34	48	34	15	49
Albion Road South	22%	4	9	13	10	4	14
Route 2							
High Street West	77%	14	33	47	33	15	48
Howland Road East	1%	0	1	1	1	0	1
Plain Road	16%	3	6	9	7	3	10
Thorn Road	6%	1	3	4	3	1	4

Source: Consultants Estimates

10.4.13 The development would generate around 48 – 49 two traffic movements along Albion Road to the north of the site during each weekday peak hour. This equates to less than one vehicle movement every minute during the busiest periods of the day. This is a low level of impact and will not materially impact on the local network.

Future Year Plus Development Traffic Flows

10.4.14 The 2028 plus development weekday morning and evening peak hour traffic flows on the highway network within Marden are shown on **Traffic Figures 7 and 8**.

10.5 Operational Analysis

10.5.1 Junction capacity assessments have been carried out using TRL Software Junctions 10 at the following junctions:

- Site Access / Albion Road;
- Albion Road / Plain Road;
- Albion Road / High Street / Howland Road;
- B2079 High Street / B207 Maidstone Road; and
- West End / Pattenden Lane / Church Green.

10.5.2 The assessments that have been undertaken include the following scenarios:

- 2022 Baseline;
- 2028 'without development'; and
- 2028 'with development' i.e., allowing for background traffic growth and the development proposal.

10.5.3 The modelling outputs are provided at **Appendix O** and the results are summarised below.

Site Access/Albion Road

10.5.4 The capacity assessment results for the proposed site access are summarised in **Table 10.6** for the 2028 with Development scenario.

Table 10.6: Capacity Assessment Results – Site Access

Arm	Morning Peak Hour			Evening Peak Hour		
	RFC	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)
2028 + Development						
Site Access	0.09	<1	8	0.04	<1	7
Albion Road S	0.01	<1	5	0.02	<1	5

Source: Junctions 10

10.5.5 As shown, the proposed site access is expected to operate well within capacity with a maximum vehicle delay of 8 seconds on the site access arm in the morning peak hour.

Albion Road/Plain Road

10.5.6 The capacity assessment results for the Albion Road/Plain Road junction are summarised in **Table 10.7**.

Table 10.7: Albion Road/Plain Road

Arm	Morning Peak Hour			Evening Peak Hour		
	RFC	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)
2022 Observed						
Plain Road - Left Turn	0.05	<1	6	0.06	<1	7
Albion Road - Right Turn	0.08	<1	6	0.05	<1	6
Plain Road - Right Turn	0.05	<1	8	0.10	<1	9
Albion Road - Left Turn	0.00	<1	0	0.00	<1	0
Plain Road - Left Turn (Internal)	0.07	<1	7	0.04	<1	6
Plain Road - Right Turn (Internal)	0.04	<1	6	0.08	<1	7
2028 Baseline						
Plain Road - Left Turn	0.05	<1	6	0.07	<1	7

Arm	Morning Peak Hour			Evening Peak Hour		
	RFC	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)
Albion Road - Right Turn	0.08	<1	6	0.06	<1	6
Plain Road - Right Turn	0.06	<1	9	0.10	<1	9
Albion Road - Left Turn	0.00	<1	0	0.00	<1	0
Plain Road - Left Turn (Internal)	0.08	<1	7	0.04	<1	6
Plain Road - Right Turn (Internal)	0.05	<1	6	0.08	<1	7
2028 + Development						
Plain Road - Left Turn	0.06	<1	6	0.08	<1	7
Albion Road - Right Turn	0.09	<1	6	0.06	<1	6
Plain Road - Right Turn	0.06	<1	9	0.10	<1	9
Albion Road - Left Turn	0.00	<1	0	0.00	<1	0
Plain Road - Left Turn (Internal)	0.08	<1	7	0.04	<1	6
Plain Road - Right Turn (Internal)	0.05	<1	6	0.08	<1	6

Source: Junctions 10

10.5.7 The Albion Road/Plain Road junction is expected to operate well within capacity in all of the scenarios tested. A maximum vehicle delay of 9 seconds and a queue of less than one vehicle is forecast for the right turn movement from Plain Road in the morning and evening peak hours.

Albion Road/High Street/Howland Road

10.5.8 The capacity assessment results for the Albion Road/High Street/Howland Road junction are summarised in **Table 10.8**.

Table 10.8: Albion Road/High Street/Howland Road

Arm	Morning Peak Hour			Evening Peak Hour		
	RFC	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)
2022 Observed						
Albion Road - Left Turn	0.21	<1	7	0.19	<1	6
High Street - Right Turn	0.24	<1	8	0.34	1	8
Howland Road Link - Right Turn	0.01	<1	8	0.01	<1	8
2028 Baseline						
Albion Road - Left Turn	0.22	<1	7	0.20	<1	6
High Street - Right Turn	0.25	<1	8	0.35	1	8
Howland Road Link - Right Turn	0.01	<1	8	0.01	<1	8
2028 + Development						
Albion Road - Left Turn	0.27	<1	7	0.23	<1	6
High Street - Right Turn	0.27	<1	8	0.43	1	9
Howland Road Link - Right Turn	0.01	<1	8	0.01	<1	8

Source: Junctions 10

10.5.9 The Albion Road/High Street/Howland Road junction is expected to operate well within capacity in all of the scenarios tested. A maximum vehicle delay of 9 seconds and a queue of one vehicle is forecast for the right turn movement from the High Street in the evening peak hour.

High Street/Maidstone Road

10.5.10 The capacity assessment results for the High Street/Maidstone Road junction are summarised in **Table 10.9**.

Table 10.9: High Street/Maidstone Road

Arm	Morning Peak Hour			Evening Peak Hour		
	RFC	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)
2022 Observed						
Maidstone Road	0.36	1	13	0.33	1	12
High Street	0.08	<1	5	0.10	<1	6
2028 Baseline						
Maidstone Road	0.38	1	14	0.35	1	13
High Street	0.08	<1	5	0.10	<1	6
2028 + Development						
Maidstone Road	0.40	1	14	0.38	1	13
High Street	0.11	<1	5	0.11	<1	6

Source: Junctions 10

10.5.11 The High Street/Maidstone Road junction is expected to operate well within capacity in all of the scenarios tested. A maximum vehicle delay of 14 seconds and a queue of one vehicle is forecast on the Maidstone Road arm during the morning peak hour.

West End/Pattenden Lane/Church Green

10.5.12 The capacity assessment results for the West End/Pattenden Lane/Church Green junction are summarised in **Table 10.10**.

Table 10.10: West End/Pattenden Lane/Church Green

Arm	Morning Peak Hour			Evening Peak Hour		
	RFC	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)
2022 Observed						
Pattenden Lane	0.38	1	12	0.58	1	16
Church Green	0.40	1	8	0.29	1	8
2028 Baseline						
Pattenden Lane	0.40	1	12	0.62	2	17
Church Green	0.42	1	9	0.31	1	8
2028 + Development						
Pattenden Lane	0.41	1	13	0.64	2	18
Church Green	0.45	1	9	0.32	1	8

Source: Junctions 10

10.5.13 The West End/Pattenden Lane/Church Green junction is expected to operate well within capacity in all of the scenarios tested. A maximum vehicle delay of 18 seconds and a queue of two vehicles is forecast on the Pattenden Lane arm during the PM peak.

10.6 Operational Analysis Summary

10.6.1 All of the junctions included within the study area are expected to operate well within capacity. The addition of the proposed development traffic is not forecast to have a significant impact on the operation of the local highway network (in terms of capacity / congestion or safety) and there is no need to provide capacity improvements.

SECTION 11 Summary and Conclusions

11.1 Summary

Background

11.1.1 Rydon Homes Limited have been promoting the Land at Albion Road and Copper Lane site in Marden for a housing allocation through Maidstone Borough Council's Local Plan Review.

11.1.2 Maidstone Borough Council's (MBC) Local Plan Review (Draft Plan for Submission Regulation 19) covers Marden site allocations. Policy LPRSA295 - Land at Copper Lane and Albion Road, Marden is included as a draft allocation for the development of approximately 113 dwellings. The policy states that a number of conditions are considered appropriate to be met before development is permitted. The access, highways and transportation conditions are as follows:

- Provision of suitable vehicular access to Albion Road that meet adequate capacity standards and safety provisions; and
- Development will be subject to the creation of safe pedestrian connections to the wider pedestrian network.

11.1.3 The local highway authority, Kent County Council (KCC), have not objected to the draft allocation and through allocating the site for residential development MBC consider that the site is a suitable and sustainable location for development.

11.1.4 i-Transport has been appointed by Rydon Homes to provide highways and transport advice in relation to an outline planning application (with means of access determined at outline stage) for a scheme of up to 117 residential dwellings and public open space on the site.

Multi Modal Trip Generation

11.1.5 The proposed development is anticipated to generate circa 61-63 two-way vehicle movements in the weekday peak hours (around 1 vehicle per minute), and around 558 across the day (12-hour period).

11.1.6 There will be some 11-18 pedestrian trips occurring in a weekday peak hour with some 113 daily pedestrian trips. There is also estimated to be around 1 cycle trip occurring each peak hour and around 12 cycling trips each day (12-hours). Public transport as a main journey purpose is expected to account for some 2-3 trips in a weekday peak hour and circa 16 trips across a day. On the basis that these public transport trips involve people walking or cycling in / out of the site (ie people walk / or cycle to the rail station and or bus stops) then within Marden itself, the development would generate an additional 2-3 walk or cycle trips in a weekday peak hour and an additional 16 walk or cycle trips across a day.

Site Access Arrangements

11.1.7 The proposed access from Albion Road will take the form of an all purpose simple priority junction. There will be 2.0m wide footways on both sides of the carriageway. These footways wrap around the bellmouth onto Albion Road. The southern footway stops opposite Public Footpath KM281 and a dropped kerb crossing will be provided to facilitate pedestrian access to the west side of Albion Road to access this footpath.

11.1.8 Opportunities to provide a footway on Albion Road to the north of the site (to link with the existing footways north of Seymour Drive) have been explored however have not been taken forward due to:

- Albion Road continuing to operate safely as a shared surface/mixed traffic route for pedestrians and cyclists;
- The alternative route for pedestrians via Public Footpath KM281; and
- The sensitive rural nature / character of the area / road.

11.1.9 It is also proposed to provide a pedestrian / cycle / emergency access from Copper Lane in the approximate position of the existing field gate access.

11.1.10 In summary, the proposed site access arrangements (all purpose access from Albion Road and pedestrian / cycle / emergency access from Copper Lane) provide for safe and appropriate access to the site. This meets with the site specific requirements of Policy LPRSA295.

Site Layout

- 11.1.11 The access road carriageway will measure 5.5m within the site. There will be 2.0m wide footways on both sides of the carriageway within the site. For motor vehicles the site will be a cul – de sac accessed from Albion Road so there will be no through traffic. The development will provide a pedestrian / cycle link between Albion Road and Copper Lane (through the site) providing improved site permeability and access to the countryside to the east for future and existing residents in Marden including a more direct route to Public Footpaths KM275 and KM278.
- 11.1.12 As an outline planning application is being submitted the site layout plan is illustrative and will be set at reserved matters stage. However the layout would be designed to provide a design speed for vehicles of 20mph (achieved through appropriate speed restraint features). Footways and appropriate provision for pedestrians and cyclists would be provided throughout the development including accommodating a safe pedestrian link between Albion Road and Copper Lane.
- 11.1.13 Cycle parking would be provided having regard to cycle parking standards at the time. Parking (including electric vehicle charging) will be provided having regard to local standards at the time and it is envisaged that the majority of parking would take place off carriageway.
- 11.1.14 Cycling is envisaged as being on carriageway through the site. With vehicle speeds being designed to 20mph and annual average daily traffic flows being around 600 vehicles (cul-de-sac so no through traffic) then on carriageway / mixed traffic cycling would be suitable for most people (Local Transport Note 1/20, Table 4.1) and as such is considered appropriate.

Traffic Calming– Albion Road and Thorn Road

- 11.1.15 There is the potential for a traffic calming scheme along Albion Road and Thorn Road. The works could be secured at planning stage by two options:
- Planning condition or obligation in a Section 106 Agreement for the works to be delivered by the developer under S278 of the Highways Act; or
 - The developer making a financial contribution secured in a Section 106 Agreement for KCC to implement such a scheme as local highway authority.

Active Travel Modes

- 11.1.16 The site is located in the southeastern part of Marden.
- 11.1.17 Marden is a successful Rural Service Centre, particularly in terms of employment opportunities, and also has strong key community facilities such as a primary school, shops, medical centre, library and rail station.
- 11.1.18 Although walkable neighbourhoods are typically characterised by having a range of facilities within 800m, a distance of 1.6km (circa 1mile) is a reasonable walking distance for many people and journey purposes and some people may walk further than this (2km is referred to in Manual for Streets). Some 8km (circa 5 miles) is a reasonable cycle distance for most people and many journey purposes.
- 11.1.19 There is a variety of active travel (walking and cycling) routes which can be used to reach the local amenities within Marden. These routes have been audited and where necessary improvements are suggested.
- 11.1.20 The routes are as follows:
- Route 1 – Site to Marden Village Centre / B2079 High Street amenities (via Public Footpath KM281, Campion Way / Napoleon Drive / Roundel Way and Public Footpath KM281 to High Street – plus variants / alternatives to the route) - around 900m northwest of the nearest proposed dwelling and 1,270m from the furthest property via Public Footpath KM281 – a reasonable walking distance;
 - Route 2 – Site to Marden Station (as Route 1 and then Church Green to the Station – plus variants / alternatives to the route) – circa 990m northwest of the nearest proposed dwelling and 1,360m from the furthest property – a reasonable walking distance;
 - Route 3– Site to Marden Employment Area – (as Route 1 and 2 and then Pattendon Lane to the employment area - plus variants / alternatives to the route) – circa 1,290m from the nearest proposed dwelling and 1,660m from the furthest property – a reasonable walking distance;
 - Route 4 – Site to Marden Primary Academy and Pre School – (as Route 1a and 2a and then Maynards, path and Goudhurst Road – plus variants / alternatives to the route) – circa 1,190m from the nearest proposed dwelling and 1,560m from the furthest property – a reasonable walking distance; and

- Route 5– Albion Road – High Street B2079 to High Street Amenities, Employment Area, Station and Primary School - plus variants / alternatives to the route) – Little Marden Farm Shop and Country Store at the B2079 / High Street / Albion Road junction is approximately 350m from the nearest proposed dwelling and around 720m from the furthest property – a reasonable walking distance.

11.1.21 The audit identifies that the routes generally meet the key design principles for active travel namely being convenient, accessible, safe, comfortable and attractive.

11.1.22 The following are recommended improvements:

Public Footpath KM281 (covers routes 1 – 4)

11.1.23 An improvement scheme to public footpath KM281 between Albion Road and Blossom Way to enable all weather / year-round use by pedestrians has been discussed / agreed with KCC Public Rights of Way officers.

11.1.24 The improvements to public footpath KM281 are deliverable in the highway boundary and can be secured by condition or planning obligation and delivered by the developer under Section 278 of the Highways Act or as a financial contribution for KCC to deliver.

Wayfinding / Signing / Tactile Paving

11.1.25 The following additional improvements for all routes are suggested:

- Wayfinding / Signing – Village Wide; and
- Tactile paving across all of the minor arms along the route (where missing) which would aid safe pedestrian movements for the visually impaired.

11.1.26 These improvements can be secured by condition or planning obligation and delivered by the developer under Section 278 of the Highways Act or as a financial contribution for KCC to deliver.

Albion Road

11.1.27 Albion Road does provide a pedestrian and cycle route to the B2079 High Street / village centre (shops etc), amenities in Marden, Marden Station, Employment Area and Primary School.

11.1.28 Little Marden Farm Shop and Country Store is approximately 350m from the nearest proposed dwelling and around 720m from the furthest property. This is a reasonable walking distance.

11.1.29 All of Marden’s amenities are within a reasonable cycling distance of the site.

- 11.1.30 Albion Road is street lit, although there are no footways along Albion Road in the vicinity of the site frontage. To the north, the footways along Albion Road begin at the Seymour Drive junction (east side) circa 80m to the north of the site frontage and southern leg of Jewell Grove (west side). South of the Plain Road junction, Albion Road turns into Thorn Road and the 30mph speed limit ends to the south of the built up part of Marden (south of a property called Oakleigh).
- 11.1.31 Albion Road therefore currently operates as a shared surface / mixed traffic road south of Seymour Drive and at the site frontage.
- 11.1.32 Site visits have revealed people regularly walking along this section of Albion Road. In terms of cycling, the traffic surveys have revealed that along the Albion Road site frontage during the morning peak period (07:00 – 10:00) there were some 8 cyclists (two way) and during the evening peak period (16:00 – 19:00) there were some 18 cyclists (two way) – so on average around 4 cyclists per hour. There have not been any recorded personal injury accidents in the latest available 5-year period along Albion Road. The evidence therefore is that Albion Road in the vicinity of the site frontage does currently operate safely as a shared surface and mixed traffic environment for both pedestrians and cyclists.
- 11.1.33 The development is not anticipated to significantly increase the number of vehicular movements along Albion Road between the site and the High Street (around 50 vehicular movements in a peak hour – less than 1 vehicle every minute).
- 11.1.34 The future traffic flows (2028 with development) along Albion Road (between the site access and Seymour Drive) is around 232 – 261 vehicles in a weekday peak hour. This traffic volume is not high in absolute terms – an average of around 4 vehicles per minute.
- 11.1.35 Many of the pedestrian trips generated by the site will use Routes 1 – 4 via Public Footpath KM281 and not go along Albion Road. With the improvements to KM281 and wayfinding / signage, existing users of Albion Road may also use the Public Footpath KM281 route. In reality, the development is not anticipated to significantly increase the number of pedestrian movements along Albion Road.
- 11.1.36 There is likely to be around 12 - 46 cycle trips per day generated by the development (the higher figure being with significant modal shift). Some of these can route onto Blossom Way via Albion Road (south) and Plain Road and access the village in that direction. In real terms, the increase in cycling along Albion Road to the north will be low.

11.1.37 Overall, when taking into account the anticipated increases in vehicle and pedestrian and cycle movements, the practice of pedestrians and cyclists using the carriageway along Albion Road will not be inherently unsafe. The absence of a footway along a short section of Albion Road will not therefore significantly impact on the propensity for individuals to walk to the amenities in Marden village whether along Albion Road or along Routes 1 – 4 via Public Footpath KM281.

11.1.38 Such a scheme would encourage active travel along Albion Road / Thorn Road and into the B2079 / village centre / High Street and other village amenities. With future (2028 plus development) annual average daily traffic volumes being just over 2,000 vehicles per day and traffic speeds along Albion Road being reduced to potentially around 20mph, then having regard to (Local Transport Note 1/20, Table 4.1 on carriageway / mixed traffic cycling would be suitable for most people.

Cycle Parking in the Village Centre

11.1.39 There is an opportunity for the proposed development to provide additional cycle parking in proximity to the amenities within the village centre. There is existing cycle parking located in the vicinity of the junction between Albion Road and the High Street (just north of Sutton Forge) which is attached to planters.

11.1.40 There are opportunities to provide similar sensitive cycle parking in the same location and other locations within the village centre including:

- Adjacent to the planter cycle parking junction between Albion Road and the High Street (just north of Sutton Forge);
- Adjacent to the cycle stands on the north side of the B2079 High Street just to the east of the Maidstone Road junction; and
- On the north side of the B2079 High Street just to the west of the Maidstone Road junction.

11.1.41 The applicant would welcome the opportunity of working up the details of additional cycle parking with KCC and the Parish Council. These works could be secured at planning stage by two options:

- Planning condition or obligation in a Section 106 Agreement for the works to be delivered by the developer under S278 of the Highways Act; or
- The developer making a financial contribution secured in a Section 106 Agreement for KCC to implement such a scheme as local highway authority.

- 11.1.42 There may also be an opportunity to provide a financial contribution to cycle parking at the library (village centre parking).
- 11.1.43 The proposed transport improvements would assist in delivering some of the improvements set out in the Marden Highway Improvements Plan such as at the Plain Road / Thorn Road junction. It is acknowledged that the Plan includes additional part A action plan priorities. Subject to KCC liaison, our application may be able to offer up a contribution (fixed/lump sum) towards the feasibility work for some of those potential improvements.
- 11.1.44 In summary, all of Marden's amenities / facilities are accessible by walking and cycling from the site and the development provides appropriately for active travel modes thus meeting the requirements of Policy LPRSA295 to create safe pedestrian connections to the wider pedestrian network are therefore met.

Public Transport

- 11.1.45 There is appropriate pedestrian (and cycle) access to the bus stops on Plain Road and the B2079 / High Street.
- 11.1.46 The closest bus stops to the site are located on Plain Road (near the Albion Road junction), around 300m from the centre of the site. Further bus stops can be accessed around 700m from the site on the B2079 / High Street. The B2079 / High Street are a longer walk but still accessible for many people.
- 11.1.47 Marden is served by bus services 22, 23 and 27 which provide a service approximately every two hours between Marden and Maidstone Monday to Saturday. The bus service could be used by commuters, as well as for other journey purposes such as retail and leisure journeys.
- 11.1.48 Marden has a rail station, located approximately 1km to the northwest of the site. The station is situated on the South East Main Line and provides services to high order destinations such as London (2 services per hour), Tonbridge (2 / 3 services per hour) and Ashford (2 services per hour).
- 11.1.49 Marden Station is within a reasonable walking distance (12 minutes) and comfortable cycle distance (4 minutes). There is appropriate pedestrian and cycle access to the station.

11.1.50 Financial contributions (it is understood around £90,000) have already been secured in S106 agreements from other developments in Marden for improvements at Marden Station including additional cycle parking, new bus shelter, additional seating, upgrade to CCTV and lighting and general improvement works. If there is any shortfall in funding for improvement to active travel infrastructure at the station, then a further financial contribution from this development could be secured in a Section 106 agreement.

11.1.51 In summary, appropriate opportunities to promote public transport (bus and rail) have been taken up for the development and its residents.

Framework Travel Plan

11.1.52 A separate Framework Travel Plan has been prepared (i-Transport report ref: ITB15098-102 R). The primary purpose of the Framework Travel Plan is to identify opportunities for the effective promotion and delivery of sustainable transport initiatives (e.g., walking, cycling, and public transport to reduce the demand for travel by less sustainable modes) as well as setting targets and a strategy for monitoring and any remedial measures if required.

11.2 Traffic Impact

11.2.1 Junction capacity assessments have been carried out using TRL Software Junctions 10 at the following junctions:

- Site Access / Albion Road;
- Albion Road / Plain Road;
- Albion Road / High Street / Howland Road;
- B2079 High Street / B207 Maidstone Road; and
- West End / Pattenden Lane / Church Green.

11.2.2 In summary, all of the junctions included within the study area are expected to operate well within capacity. The addition of the proposed development traffic is not forecast to have a significant impact on the operation of the local highway network (in terms of capacity / congestion or safety) and there is no need to provide capacity improvements.

11.3 Conclusions

11.3.1 The development is offering to deliver and / or fund the following transport / highway improvements in Marden (the locations of which are shown at **Appendix P**):

No	Proposed Transport / Highway Improvements
1	Albion Road – All Purpose Access
2	Copper Lane – Pedestrian / Cycle / Emergency Access
3	New Pedestrian / Cycle Route between Albion Road and Copper Lane (through site)
4	Proposed Improvements to Footpath KM281
5a	Proposed Traffic Calming Scheme Albion Road / Thorn Road
5b	Proposed simplification of Albion Road / Plain Road / Thorn Road Junction (opportunity for environments enhancements and improved bus waiting area)
6	Active Travel Routes – Wayfinding Signing and Dropped Kerb / Tactile Paving where missing
7	Additional Cycle Parking in Village Centre
8	Financial contribution to cycle parking at library (Village Centre cycle parking)
9	Potential financial contribution to cycle parking at Marden Station

11.3.2 The proposed transport improvements would assist in delivering some of the improvements set out in the Marden Highway Improvements Plan such as at the Plain Road / Thorn Road junction. It is acknowledged that the Plan includes additional part A action plan priorities. Subject to KCC liaison, our application may be able to offer up a contribution (fixed/lump sum) towards the feasibility work for some of those potential improvements.

11.3.3 In addition, a Framework Travel Plan is provided to encourage non car travel for future residents.

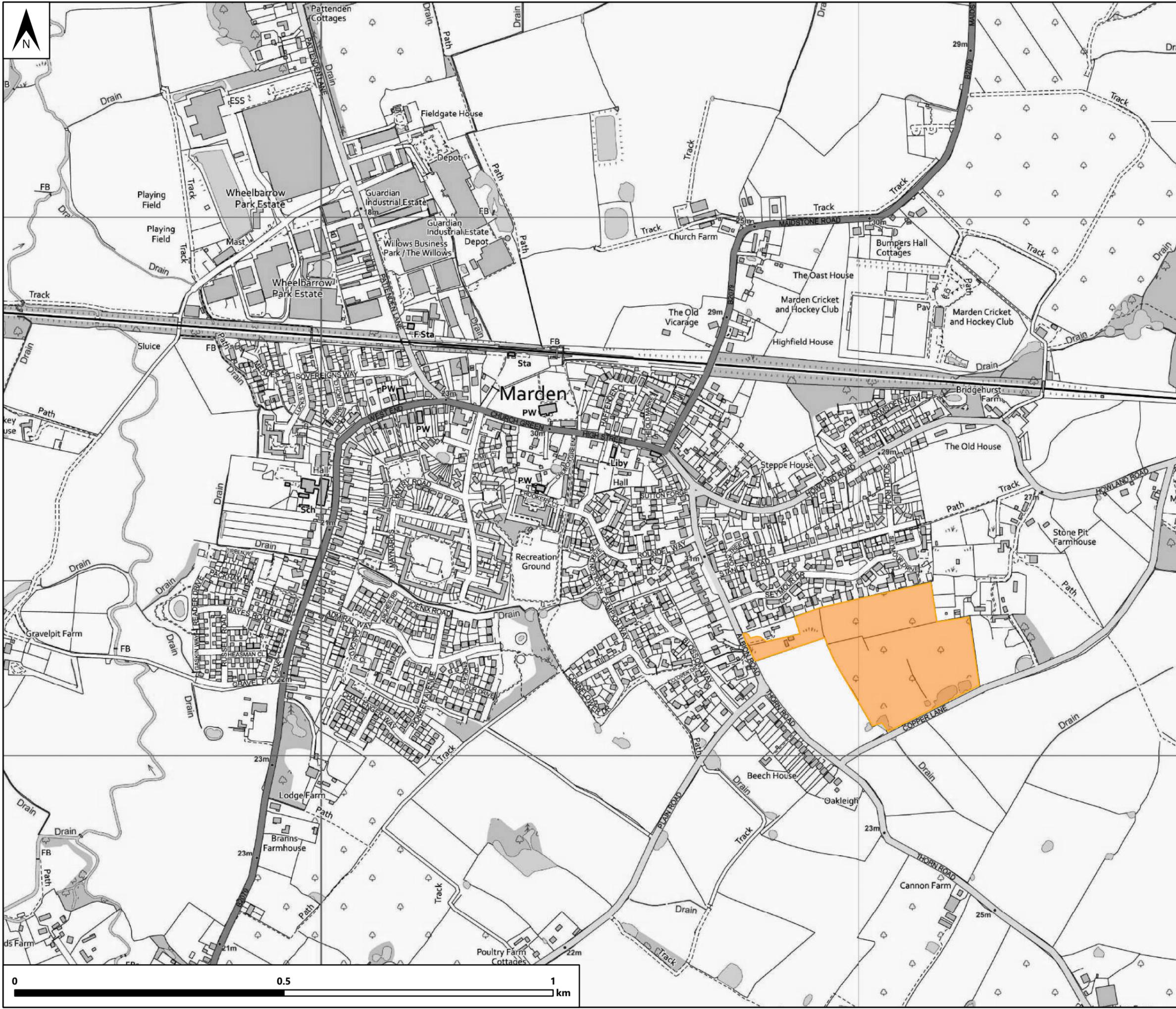
11.3.4 In conclusion:

- Safe and suitable access to the site is proposed from Albion Road and Copper Lane;
- All of Marden’s amenities / facilities are accessible by walking and cycling from the site and the development provides appropriately for active travel modes including providing safe pedestrian connections to the wider pedestrian network;
- Appropriate opportunities to promote public transport (bus and rail) have been taken up for the development and its residents;
- A Framework Travel Plan is provided to encourage non car travel for future residents; and

- The impact of development generated traffic on the operation of the highway network is not significant (safety or capacity) and there is no need to provide capacity improvements.

11.3.5 Therefore this application meets the site specific transport requirements of Policy LPRSA295 - Land at Copper Lane and Albion Road, Marden as well as local and national transport planning policy requirements.

FIGURES



Key

Land East of Albion Road and North of Copper Lane: Indicative Site Boundary

Additional Sources: KCC Open Data

Contains OS data © Crown copyright and database right 2022
 Contains public sector information licensed under the
 Open Government Licence v3.0
 © Crown copyright 2022 OS 100044286.



The Square, Basing View,
 Basingstoke, Hampshire, RG21 4EB

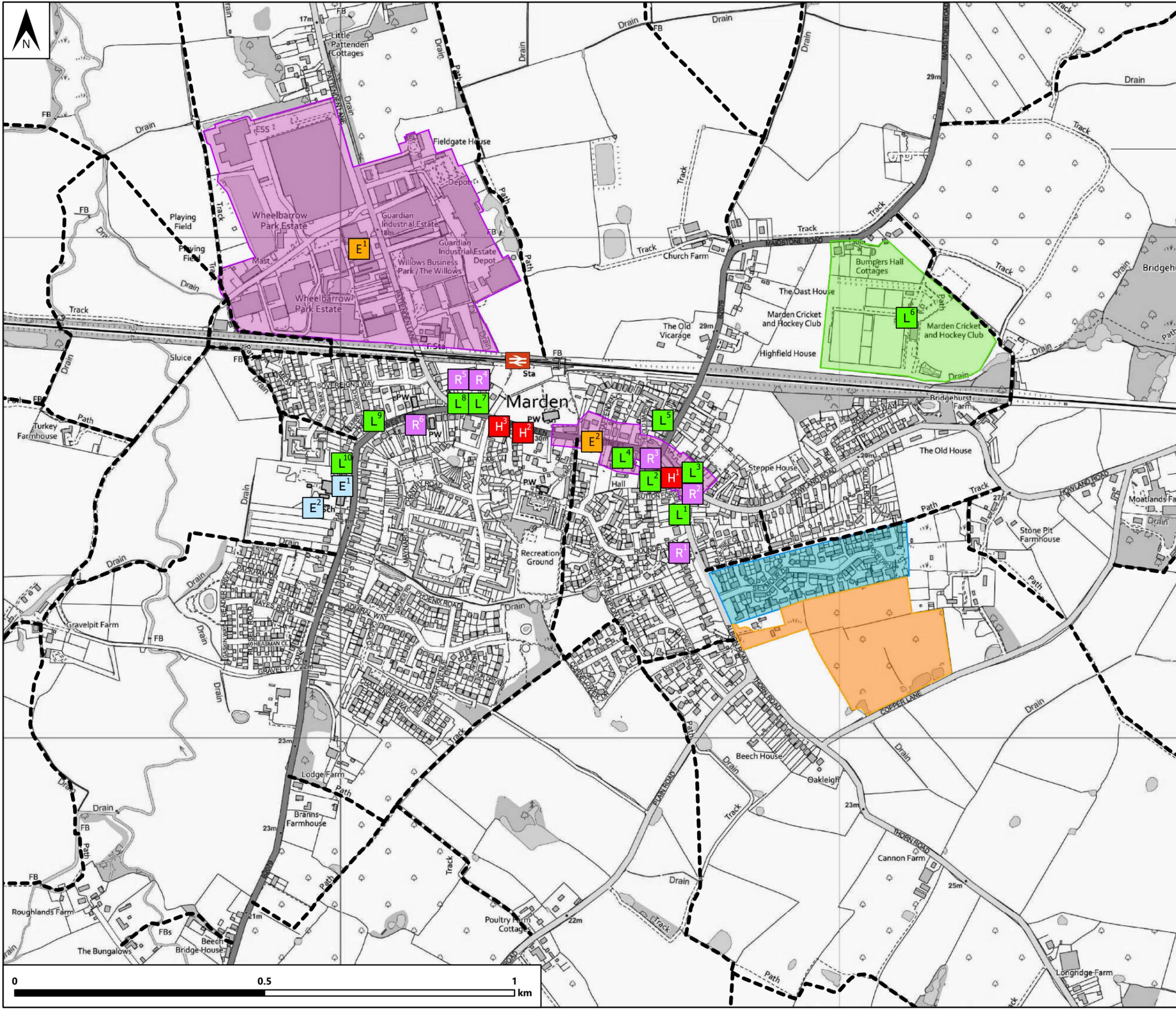
Tel: 01256 898 366

www.i-transport.co.uk

Title: **Site Location Plan**

Project: **Land East of Albion Road and North of Copper Lane, Marden**

Project Number: ITB15098	Figure Number: Figure 1.1	Revision: -
------------------------------------	-------------------------------------	----------------



- Key**
- Land East of Albion Road and North of Copper Lane: Indicative Site Boundary
 - Seymour Drive Residential Development
 - Employment Area
 - Leisure Area
 - Marden Railway Station
 - Public Footpath
 - E¹ Marden Pre-School
 - E² Marden Primary School
 - L¹ Marden Tandoori
 - L² The Old Post Office Coffee House
 - L³ Unicorn Pub and Restaurant
 - L⁴ Marden Library
 - L⁵ The Cherry Tree Chinese Takeaway
 - L⁶ Marden Sports Club
 - L⁷ Taj of Kent
 - L⁸ Kebab Fish Knight
 - L⁹ West End Tavern
 - L¹⁰ Marden Memorial Hall
 - E¹ Pattenden Lane Industrial Area
 - E² Marden High Street
 - R¹ Stanley's Petrol Station
 - R² Marden Farm Shop
 - R³ Crowhurst and Tompsett
 - R⁴ Ken Ballard Butchers
 - R⁵ Nisa Local Marden Stores
 - R⁶ West End Stores
 - H¹ Marden Pharmacy
 - H² Marden Dentist
 - H³ Marden Medical Centre (GP)

Additional Sources: KCC Open Data

Contains OS data © Crown copyright and database right 2022
 Contains public sector information licensed under the
 Open Government Licence v3.0
 © Crown copyright 2022 OS 100044286.



The Square, Basing View,
 Basingstoke, Hampshire, RG21 4EB

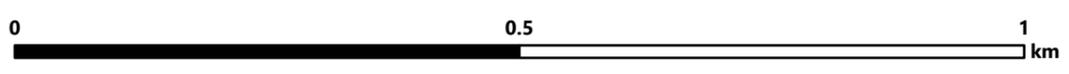
Tel: 01256 898 366

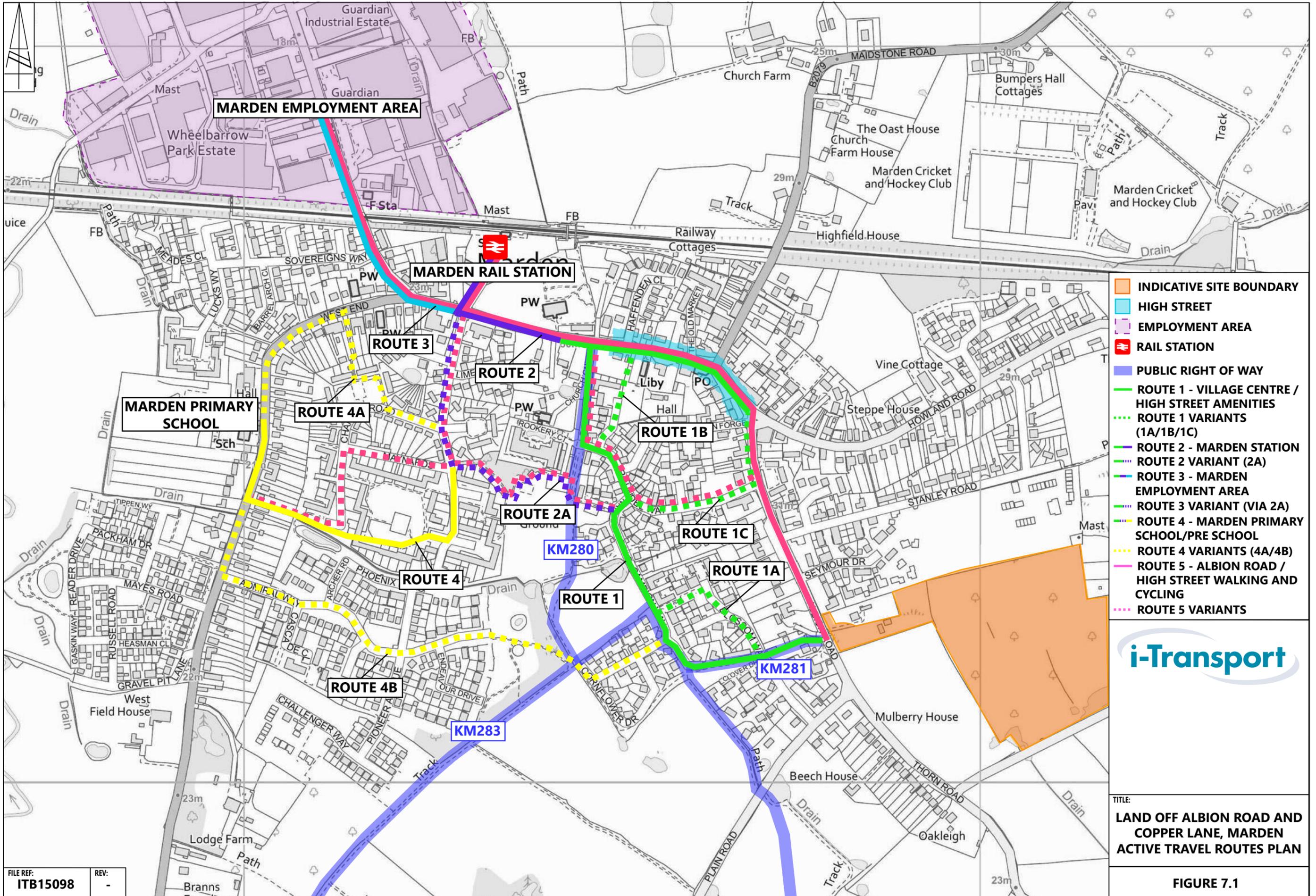
www.i-transport.co.uk

Title:
Local Amenities - Marden

Project:
Land East of Albion Road and North of Copper Lane, Marden

Project Number: ITB15098	Figure Number: Figure 4.1	Revision: -
------------------------------------	-------------------------------------	----------------





- INDICATIVE SITE BOUNDARY
- HIGH STREET
- EMPLOYMENT AREA
- RAIL STATION
- PUBLIC RIGHT OF WAY
- ROUTE 1 - VILLAGE CENTRE / HIGH STREET AMENITIES
- ROUTE 1 VARIANTS (1A/1B/1C)
- ROUTE 2 - MARDEN STATION
- ROUTE 2 VARIANT (2A)
- ROUTE 3 - MARDEN EMPLOYMENT AREA
- ROUTE 3 VARIANT (VIA 2A)
- ROUTE 4 - MARDEN PRIMARY SCHOOL/PRE SCHOOL
- ROUTE 4 VARIANTS (4A/4B)
- ROUTE 5 - ALBION ROAD / HIGH STREET WALKING AND CYCLING
- ROUTE 5 VARIANTS



TITLE:
**LAND OFF ALBION ROAD AND
 COPPER LANE, MARDEN
 ACTIVE TRAVEL ROUTES PLAN**

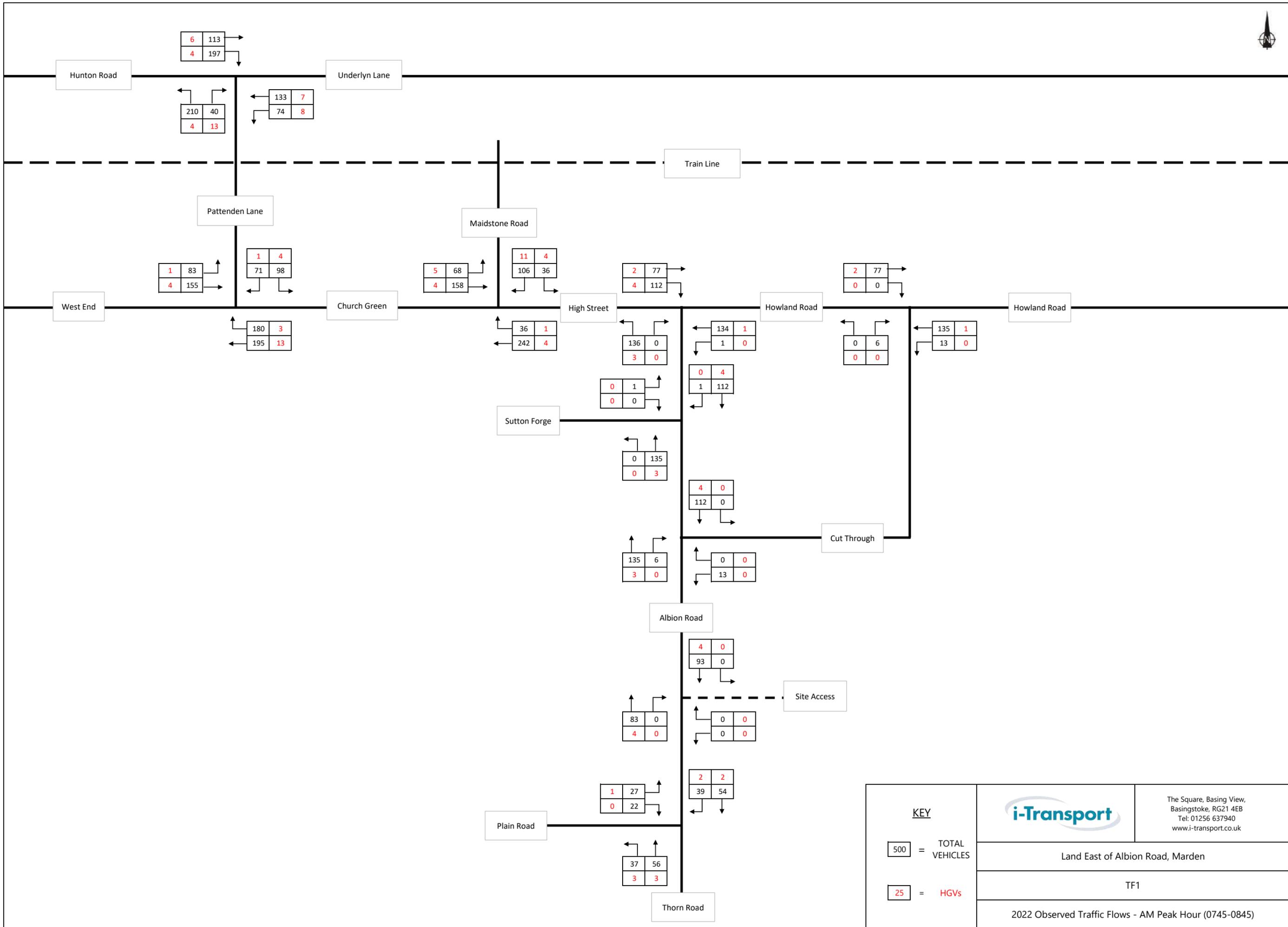
FIGURE 7.1

FILE REF:
ITB15098

REV:
 -

Reproduced from ordnance survey by the permission of the controller of her majestys stationery office. Crown copyright. All rights reserved. Licence number 100022432

TRAFFIC FIGURES

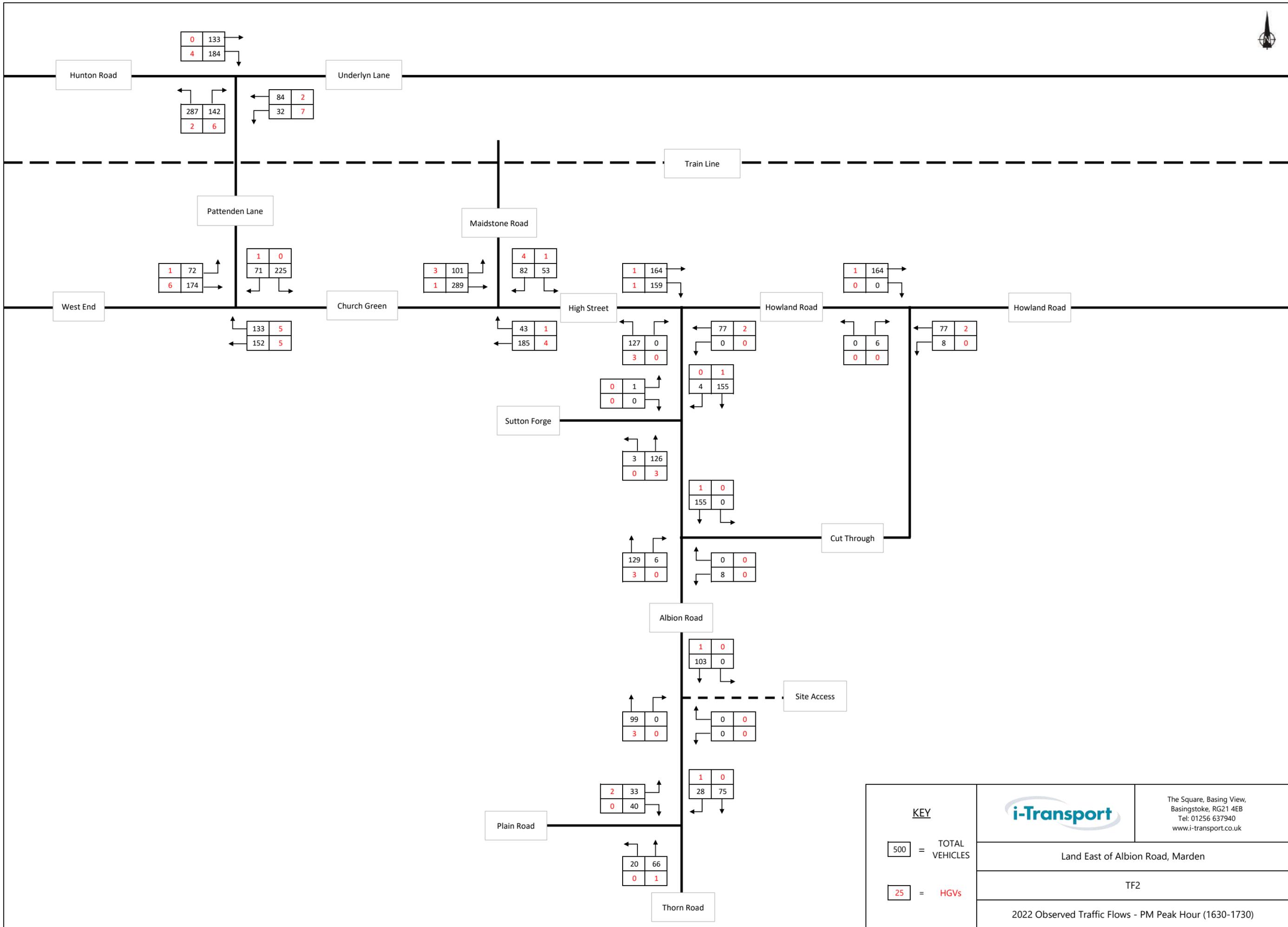


The Square, Basing View,
 Basingstoke, RG21 4EB
 Tel: 01256 637940
 www.i-transport.co.uk

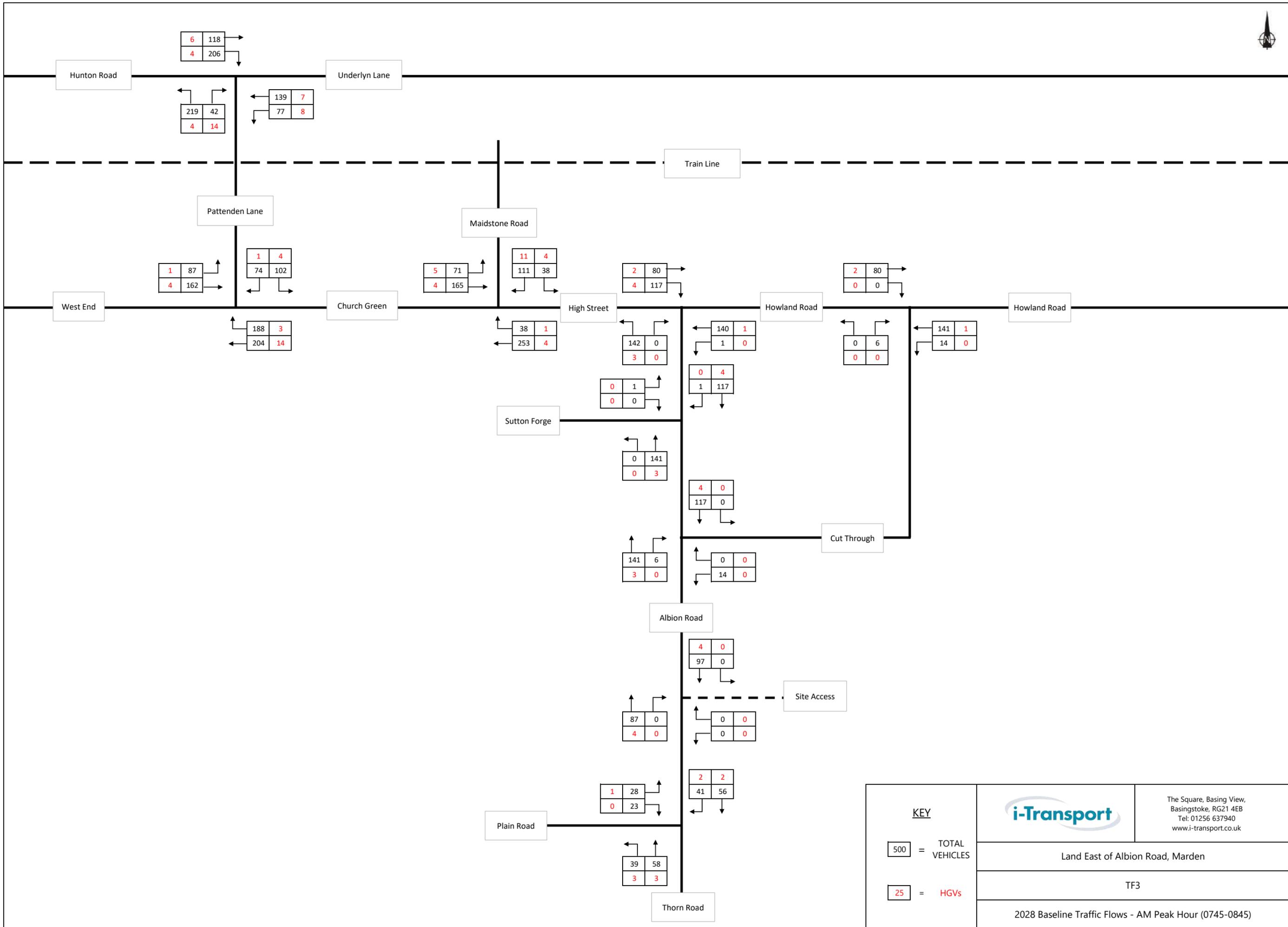
Land East of Albion Road, Marden

TF1

2022 Observed Traffic Flows - AM Peak Hour (0745-0845)



<p>KEY</p> <p>500 = TOTAL VEHICLES</p> <p>25 = HGVs</p>		The Square, Basing View, Basingstoke, RG21 4EB Tel: 01256 637940 www.i-transport.co.uk
	Land East of Albion Road, Marden	
	TF2	
	2022 Observed Traffic Flows - PM Peak Hour (1630-1730)	

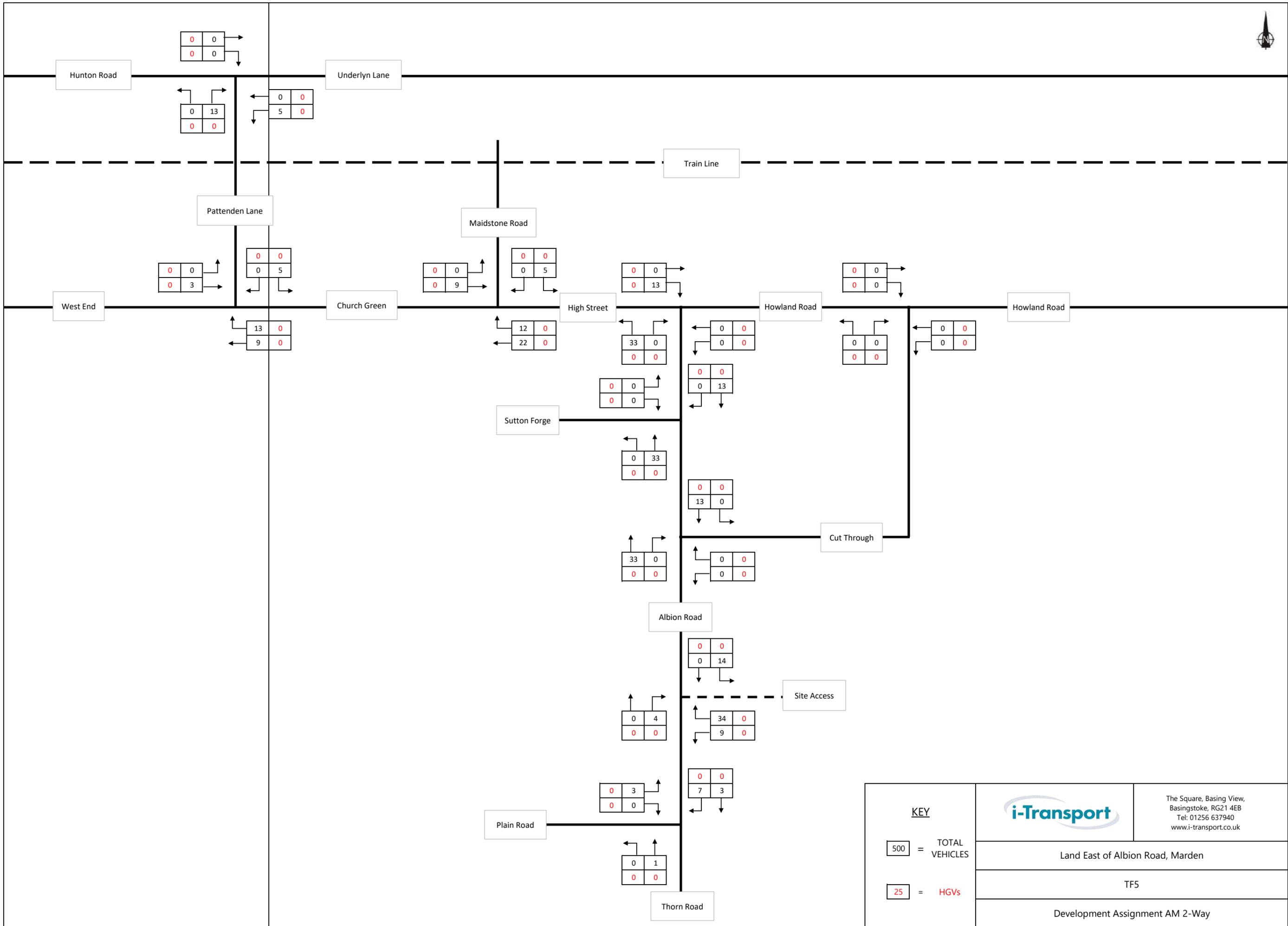


The Square, Basing View,
Basingstoke, RG21 4EB
Tel: 01256 637940
www.i-transport.co.uk

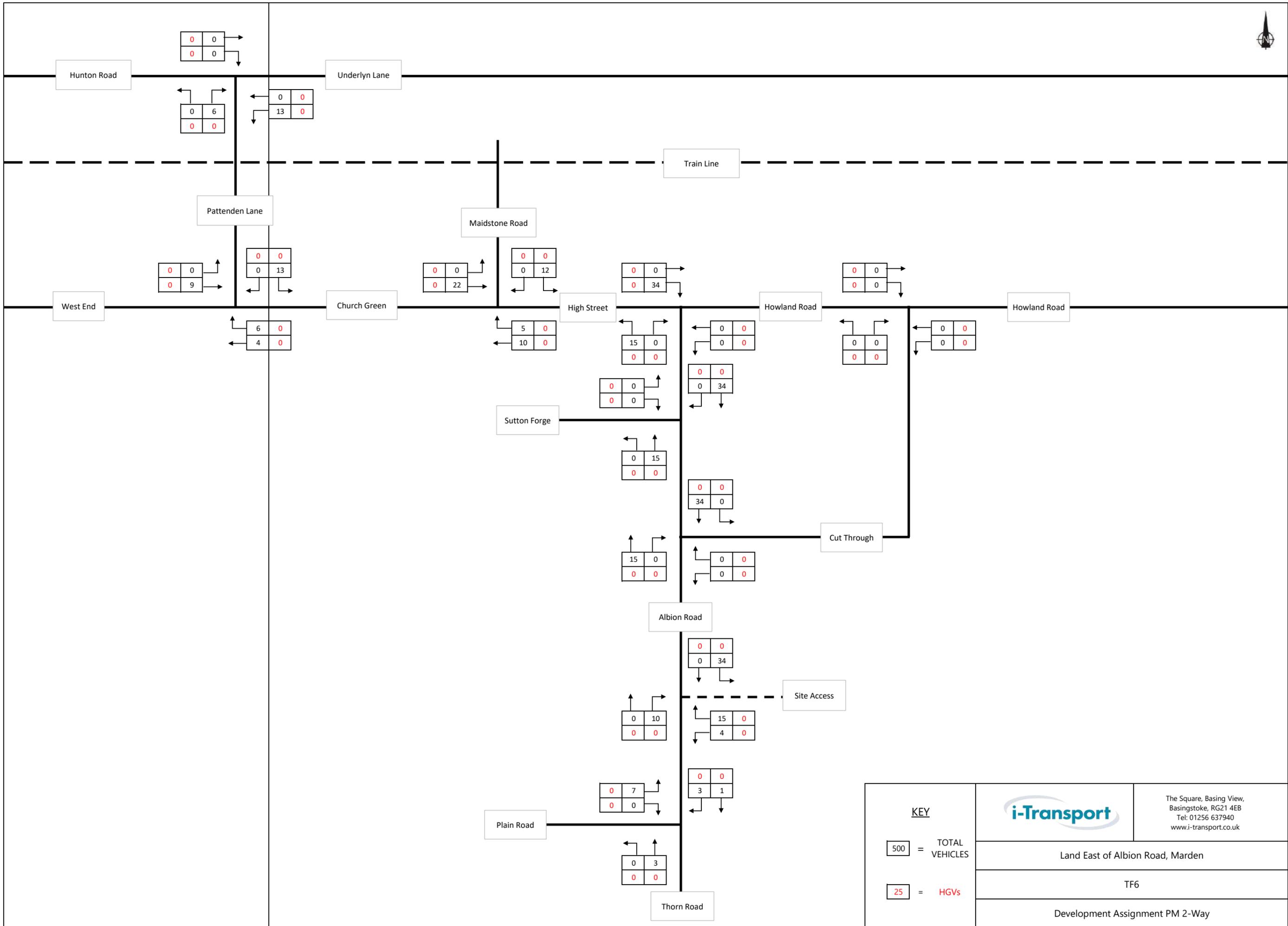
Land East of Albion Road, Marden

TF3

2028 Baseline Traffic Flows - AM Peak Hour (0745-0845)

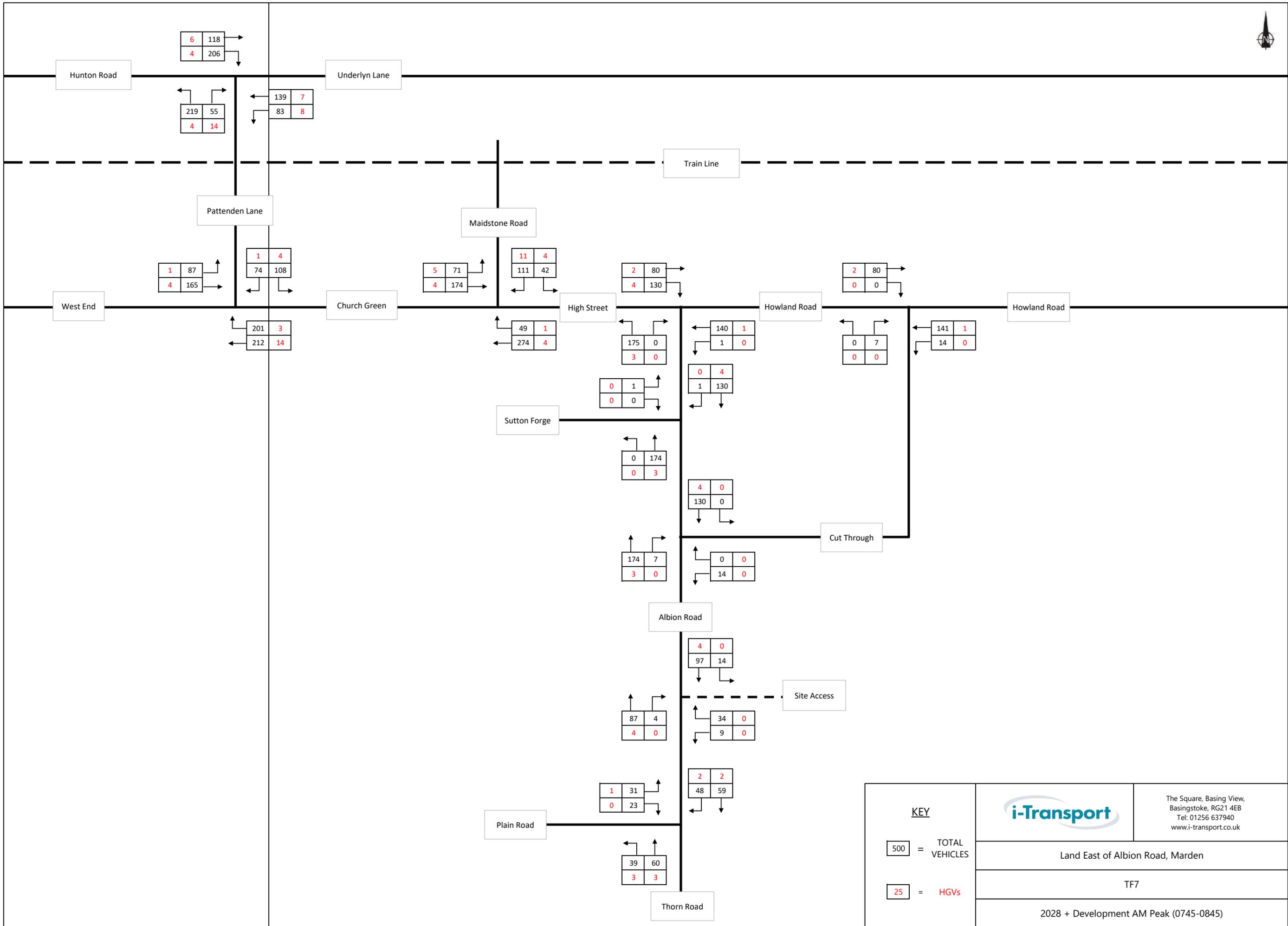


<p>KEY</p> <p>500 = TOTAL VEHICLES</p> <p>25 = HGVs</p>		The Square, Basing View, Basingstoke, RG21 4EB Tel: 01256 637940 www.i-transport.co.uk
	Land East of Albion Road, Marden	
	TF5	
	Development Assignment AM 2-Way	



KEY	
500	= TOTAL VEHICLES
25	= HGVs

	The Square, Basing View, Basingstoke, RG21 4EB Tel: 01256 637940 www.i-transport.co.uk
	Land East of Albion Road, Marden
	TF6
	Development Assignment PM 2-Way

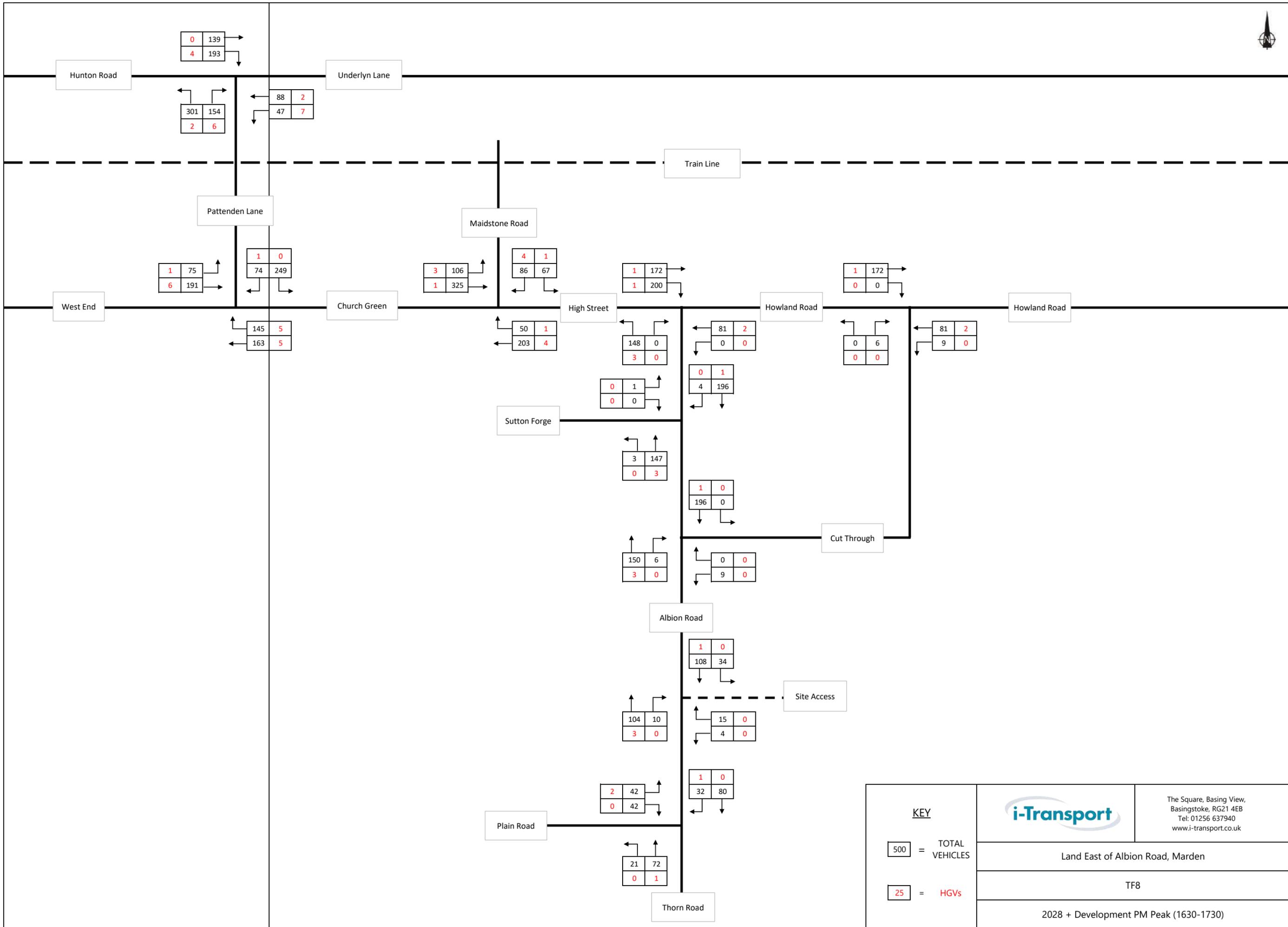


The Square, Basing View,
Basingstoke, RG21 4EB
Tel: 01256 637940
www.i-transport.co.uk

Land East of Albion Road, Marden

TF7

2028 + Development AM Peak (0745-0845)



The Square, Basing View,
Basingstoke, RG21 4EB
Tel: 01256 637940
www.i-transport.co.uk

Land East of Albion Road, Marden

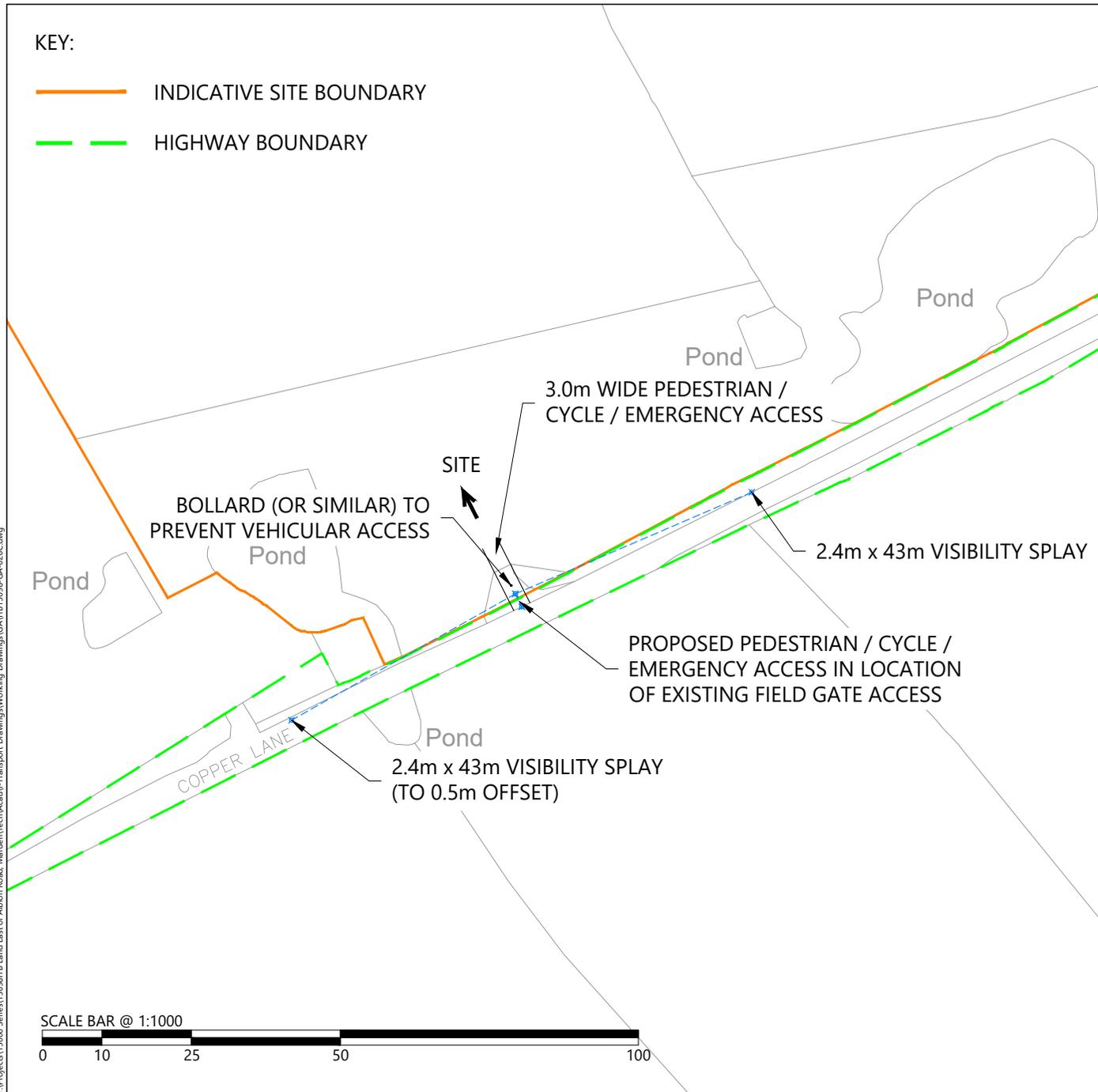
TF8

2028 + Development PM Peak (1630-1730)

DRAWINGS

KEY:

- INDICATIVE SITE BOUNDARY
- - - HIGHWAY BOUNDARY



REV	DATE	BY	DESCRIPTION	CHK	APD
C	31.07.23	JD	SITE BOUNDARY UPDATED	AI	MG
B	19.07.23	JD	VISIBILITY SPLAYS ADDED	MG	MG
A	02.03.21	JD	ANNOTATION AMENDMENTS	IN	MG

STATUS: FOR INFORMATION



The Square, Basing View, Basingstoke, Hampshire, RG21 4EB
 Tel: 01256 637940
 www.i-transport.co.uk

TITLE: PROPOSED PEDESTRIAN / CYCLE / EMERGENCY ACCESS

PROJECT: ALBION ROAD, MARDEN

CLIENT: RYDON HOMES LTD

DRAWN: JD	CHECKED: MG	APPROVED: MG
-----------	-------------	--------------

PROJECT No: ITB15098	SCALE @ A4: 1:1000	DATE: 26.02.21
----------------------	--------------------	----------------

DRAWING No: ITB15098-GA-026	REV: C
-----------------------------	--------

T:\Projects\15000_Series\15098\ITB Land East of Albion Road_Marden\Tech\Aca\IT-Transport Drawings\Working Drawings\GA\ITB15098-GA-026.dwg