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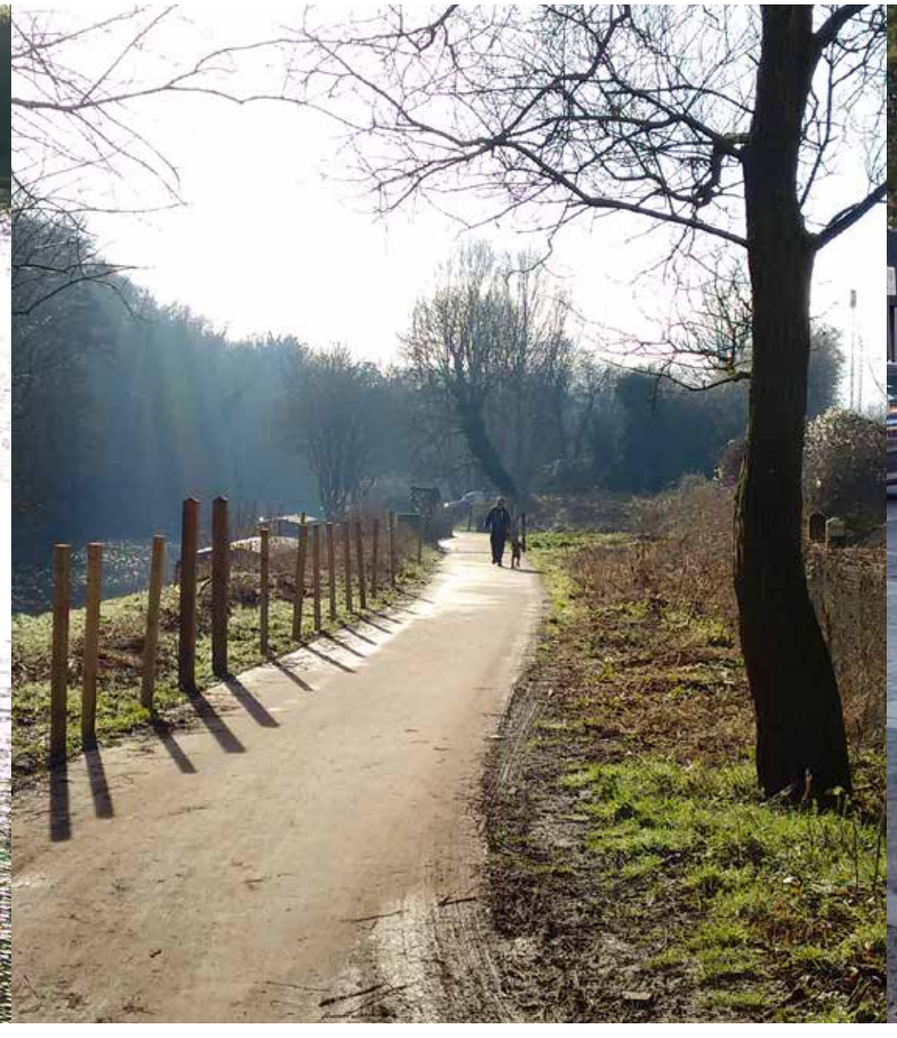
Walking and Cycling Assessment

Maidstone

April 2018


About Sustrans

Sustrans is the charity making it easier for people to walk and cycle.

We are engineers and educators, experts and advocates. We connect people and places, create liveable neighbourhoods, transform the school run and deliver a happier, healthier commute.

Sustrans works in partnership, bringing people together to find the right solutions. We make the case for walking and cycling by using robust evidence and showing what can be done.

We are grounded in communities and believe that grassroots support combined with political leadership drives real change, fast.

Join us on our journey. www.sustrans.org.uk

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Revision	Description	Author	Check	Date
-	Draft	DL	SP	09/02/2018
A	Draft Amendments	DL	NA	14/03/2018
B	Final Version	DL	JF	10/05/2018

Contents

Introduction

Sustrans is very pleased to be invited to support Kent County Council and Maidstone Borough Council in assessing the current provision for walking and cycling in the town centre and along the main corridors identified by Maidstone Walking and Cycling Strategy 2011-2031. A strategic long term aim highlighted in this strategy is:

“Filling in of the gaps” to create a fully integrated urban cycle network, with radial routes joined across the town centre. Key destinations (e.g. schools, colleges, hospitals, shopping centres, visitor attractions) and new housing and employment sites will be integrated into the cycle network.

Detailed interventions have been highlighted in the Walking and Cycling Action Plan, and we have been guided by these proposals in our audit work. We have assessed and audited the town centre and a number of key corridors, as well as relevant parts of the existing network, to provide a set of feasible routes ready for funding.

Sustrans completed an assessment of the corridor between Loose and Cripple Street in September 2016, which corresponds with Action SEM2 in the Walking and Cycling Strategy and there has been recent investment in the Medway riverside path (action MTC9).

Our Approach

Sustrans has built on Maidstone’s Walking and Cycling Strategy 2011-2031 to assess and audit the town centre and a number of key corridors as well as relevant parts of the existing network, in terms of adequacy and connectivity with destinations such as employment sites, schools, stations and new developments.

The audit and assessment stage included survey work that identified key barriers to walking and cycling. Existing conditions and proposed solutions were tested and assessed using recent cycling and walking tools such as the Pedestrian Comfort Level Guidance referenced in the recent LCWIP guidance. This was applied within the constraints of the project budget to provide an objective measure and check to ensure quality.

The key indicators of our assessment will include:

- Coherence
- Directness
- Safety
- Comfort
- Attractiveness

Barriers to Walking and Cycling

Maidstone has the potential to be a great place to walk and cycle with Mote Park and the river front creating very positive environments for both leisure and utility cycling. Equally, the recent improvements to Jubilee Square have had a transformative impact by reallocating road space, restricting traffic and creating a high quality pedestrian environment.

However, if more people are to walk and cycle more often, the network needs to be incrementally improved, key barriers need to be addressed and routes joined up to allow easy movement in all directions rather than isolated pockets of good quality provision.

Some of the key barriers are:

- A large percentage of the existing cycle network in the study area consists of ‘signs only’ and lacks adequate provision.
- This Quietway style cycle route network strings together residential streets and off-road paths often providing appealing alternatives to the main roads; however, these routes fall down at pivotal points such as junctions and crossings resulting in a poorly joined up network.
- In general, the existing pedestrian and cycle provision is often substandard when compared with current guidance and, in some places, would be considered unsafe and should be improved as a priority.
- Cycling and walking connections both within the new development sites and connecting these sites to the surrounding area are particularly low quality and have significant scope for improvement.
- There is a lack of a dedicated, continuous and joined network of routes for cycling
- There is a lack of easy and safe pedestrian access to key destinations including schools, employment centres and local amenities.

Recommendations

Useful town wide options to improve cycling and walking include:

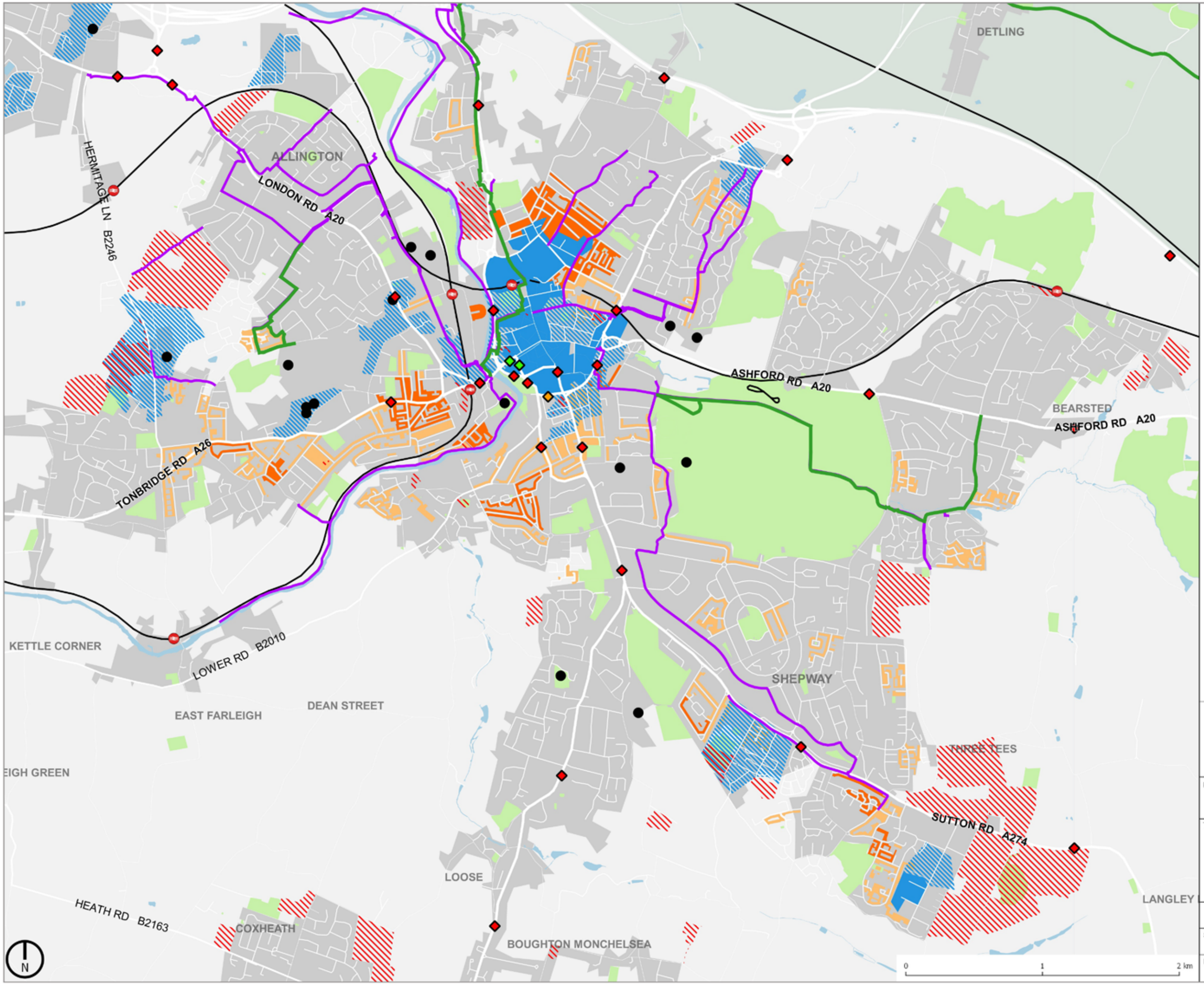
- Speed reduction as it improves safety and opens up many more design options
- Start a program of junction improvements targeting key barriers
- Improve pedestrian access across the town concentrating on the town centre and local destinations such as schools and shopping parades

Scope of Assessment

In line with the proposal, it was agreed that the assessment would focus on the town centre and the North West and South East corridors with the aim of providing both an audit of existing conditions as well as a set of costed recommendations for improvements.

The town centre and South East would be assessed in detail for both walking and cycling improvements, whereas the options assessment for the North West would focus on providing a viable cycle route to the new developments next to the hospital.

A number of locations have been worked up to concept design stage in the form of 1:500 sketches. This shows the progression of the design process through the different stages from feasibility towards detailed design as it’s envisaged that this report should act as a further step along this process.



KEY

EMPLOYMENT

2011 Census Workzones
Density of Employment (Jobs per Hectare)

- 50 - 100
- 100 +

POPULATION

2011 Census Population
Density (People per Hectare)

- 70 - 100
- 100 +

TRIP GENERATORS

- KEY DESTINATION
  Includes Higher Education / Health & Leisure Facilities

TRANSPORT

DfT Traffic Counts 2016
Average Annual Daily Flow AADF

- 0 - 5000
- 5,000 - 10,000
- 10,000+
- Local Cycle Route
- National Cycle Route

DEVELOPMENT SITES

- Housing Allocations 2017

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2 College Green, Cathedral Square, Bristol, BS1 5DD

PROJECT
Maidstone Cycling & Walking Assessment

TITLE
MAIDSTONE
OVERVIEW MAP

Drawn	Checked	Date	Scale at A3
DL	SP	9/3/2018	1:25,000

STATUS
ISSUED

DRAWING NUMBER	REVISION
11079.SD-MAP-00-01	B

Summary of Interventions

Table of recommendations

The table is a summary of the recommended interventions described in more detail in each section of the report. A brief description of each item is provided, along with a very broad assessment of cost.

Costs

The costs have been calculated as a standard rate per metre length or per intervnetion type, based on similar projects in the South of England such as the Quietways and Connect 2.

These figures should be taken as an early estimate and should not be considered as accurate. They do not include any allowance for land costs, which may be appreciable, nor for ancillary costs such as traffic management, statutory undertakers works, contingencies, supervision, detailed design or project management.

More detailed surveys of ground conditions, detailed information on rates from the highway authority and more detailed designs would be required to establish a better forecast of the total costs.

Section	ID	Brief Description	Cost
A	1.1	Traffic management	25 to £35,000
A	1.2	Improve layout	£30 to £50,000
A	2.2	Re-design junction	Feasibility study
A	2.1	Install contraflow cycling	£1 to £5,000
A	3.1 to 3.4	Install bi-directional light segregated cycle track	£3 to £5,000
A	3.1	Re-configure junction	£15 to £25,000
A	3.2	Install Bus stop by-pass	£1 to £3,000
A	3.3	Manage traffic through pinch point	£10 to £20,000 (Feasibility Study)
A	3.4	Re-design junction	£40 to £80,000
A	7.1	Install ramp in car park	£15 to £30,000
A	7.2 & 7.3	Widen existing path to access shared footway	£5 to £10,000 (Feasibility Study)
A	7.4	Improve pedestrian access to the station	£10 to £15,000
A	8.1	Traffic calming, narrowing + new crossing	£200 to £350,000
A	8.2	Convert to a continental style roundabout	£300 to £500,000
B	1.1	Improve on to off-road transition	£2 to £5,000
B	1.2	Continuous footway crossings + protected turning pocket	£30 to £50,000
B	1.3	2x continuous footway, informal crossing + new public space	£30 to £50,000
B	1.4	Widen footway to create shared use cycle route	£30 to £50,000
B	1.5	Provide informal tabled crossing to access park	£10 to £15,000
B	2.1	Shared use footway (500m section)	£40 to £60,000
B	2.2	Re-design junction	£50 to £200,000
B	3	Install crossing, table junction + new public space	£75 to £150,000
B	4.1	Improve transition + speed reduction measures	£2 to £5,000
B	4.2	Re-configure junction	£30 to £50,000
B	6.2	Improve filtered permeability	£20 to £30,000
B	5	Swap junction priority, table junction and tighten geometry	£2 to £4,000
B	6.1	Physical narrowing + remove mini-roundabout	£20 to £40,000
B	7.1	Install parallel crossing	£30 to £40,000
B	7.2	Off-road provision in verge	£30 to £40,000
B	8.1	Reconfigure junction	£1 to £3,000
B	8.2	Install toucan crossing	£30 to £50,000
B	8.3	Traffic management + junction layout change	£30 to £100,000
B	9.1	Improve streetscape	£5 to £30,000
B	9.1 & 9.2	Continuous footway	£25 to 30,000
C	1	Low level lighting through park	Further investigation required
C	2	Single stage controlled crossing	£40 to £100,000
C	3	Off-road route set back from carriageway	£250 to £300,000

The Town Centre – Section A

Introduction

Maidstone Town Centre has a thriving retail environment with a diverse mix of shops and a central pedestrian zone that provides a cohesive and appealing shopping environment. The periphery of the centre includes multiple education facilities, Green space (Whatman Park and Mote Park), new developments and key employers including the Borough and County Council, the prison and other county wide services.

Walking

Restrictions to general traffic, informal crossings and the expansive pedestrian space in Jubilee square, the High Street and Bank Street create a good quality level of service for pedestrians.

Cycling

Although the town centre lacks good quality dedicated cycle facilities, the restrictions to through traffic creates a positive environment.

- As shown in the map on the next page, locations A1,A2,A3 and A8 are particularly challenging for cyclists especially the advisory lanes at A8. Locations A4,A5,A6 and A8 are poor in terms of pedestrian level of service.

Barriers to Walking and Cycling

- Severance caused by the A229, A249 and to a lesser extent, the B2012 as well as the street environment of roads running into the town from the ring road.
- Lack of high quality crossing facilities of these roads.
- Moving away from the central pedestrian area the walking environment deteriorates rapidly with users running into large, complex and formidable high traffic environments, such as the gyratory, that are hard to negotiate.
- Factors including footway crowding, pinch points, vehicle speeds and road geometry become key negative factors causing a low level of service.
- Substandard existing cycle infrastructure that fails to provide a joined up network across the centre.

Recommendations

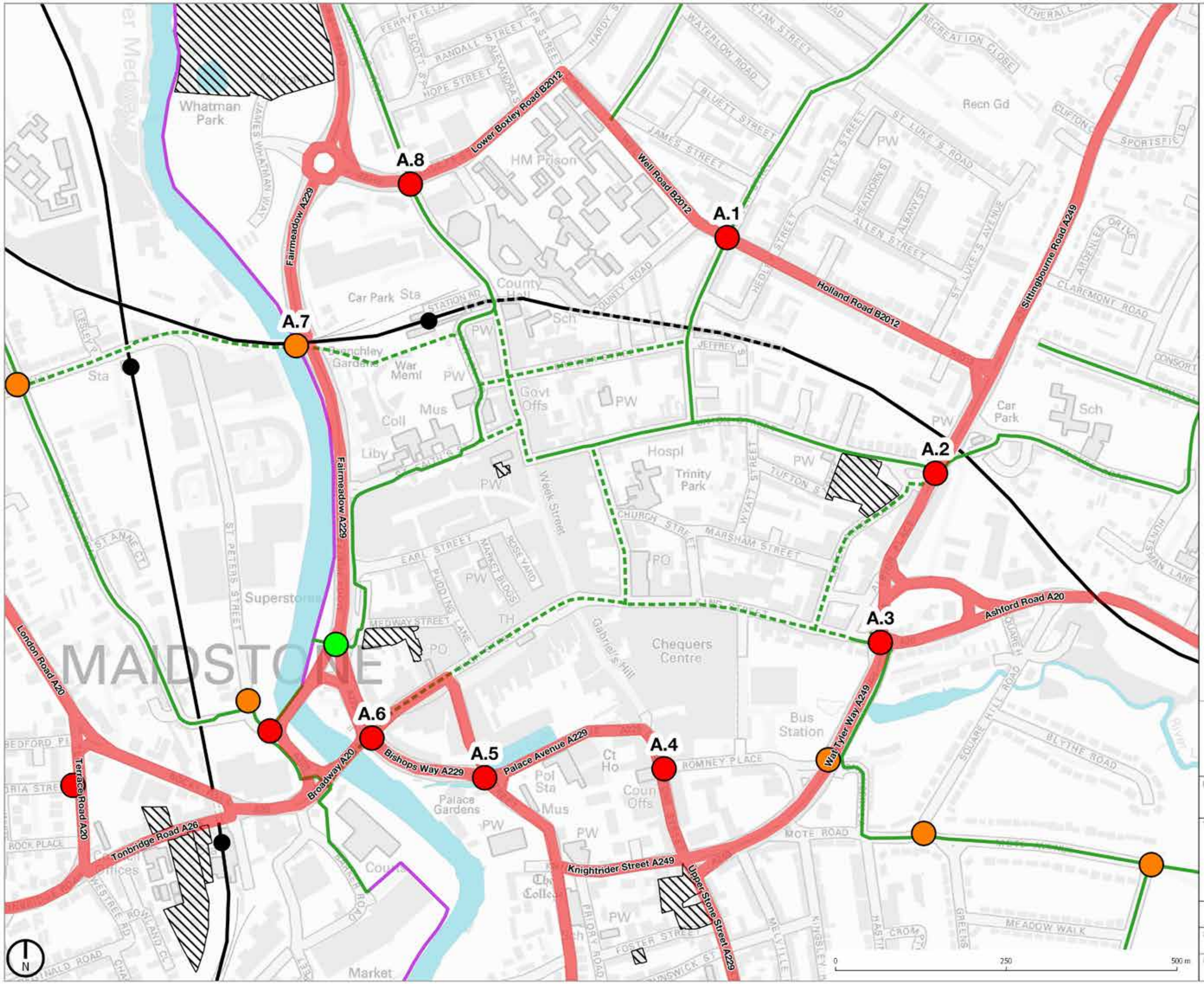
A combination of small and medium scale urban realm improvements are being proposed here as well as an upgrading of crossing facilities at key points.

Implementing these recommendations has significant potential to improve and boost the town centre as a commercial, tourist and retail destination both locally and regionally.

- Reduce car dominance between the centre and the fringe by rationalising parking, speed reduction and reallocating road space.
- Small scale pedestrian enhancements such as guard rail removal
- Centre wide 20mph limit
- Expand the pedestrian zone and local access only streets
- De-clutter and widen footway
- Improve crossings of ring road
- Reduce vehicle permeability whilst increasing cycle access
- Contraflow cycling

Scope of Assessment

The crossing points of the A229, A249, B2012 and the streets linking these to the centre are a major barrier and therefore the focus of this chapter. The Town Centre Assessment map references these locations and can be used to cross-reference each section in this chapter.



KEY

JUNCTION ASSESSMENT

- Green
- Amber
- Red

CYCLE NETWORK

- Existing
- Proposed
- Tow path

HOUSING DEVELOPMENT

- Housing Allocations 2017

BARRIER TO MOVEMENT

- Railway
- High Volume Road
- Water

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PROJECT
Maidstone Cycling & Walking Assessment

TITLE
MAIDSTONE
TOWN CENTRE
ASSESSMENT

Drawn	Checked	Date	Scale at A3
DL	XX	10/4/2018	1:5,000

STATUS
DRAFT

DRAWING NUMBER	REVISION
11079.SD-MAP-00-02	A

Cycle Permeability

As shown by the existing cycle access map currently options for movement through the centre by bike are very limited. The routes that are continuous such as the north/south link through the gyratory, in places have a low level of service meaning they are not suitable for all levels of cyclist.

- The existing Traffic Regulation Order (TRO) for Week Street doesn't allow through access for cycles.
- The TRO for the High Street and Gabriel's Hill allows through access but there's little provision for safe onward travel for cyclists using these links.

To improve permeability the following steps are proposed:

- Change TRO to allow through access to bikes on Week Street north of Union Street.
- Manage conflict between cyclists and pedestrians with time based restrictions and street design measures.

River Crossings

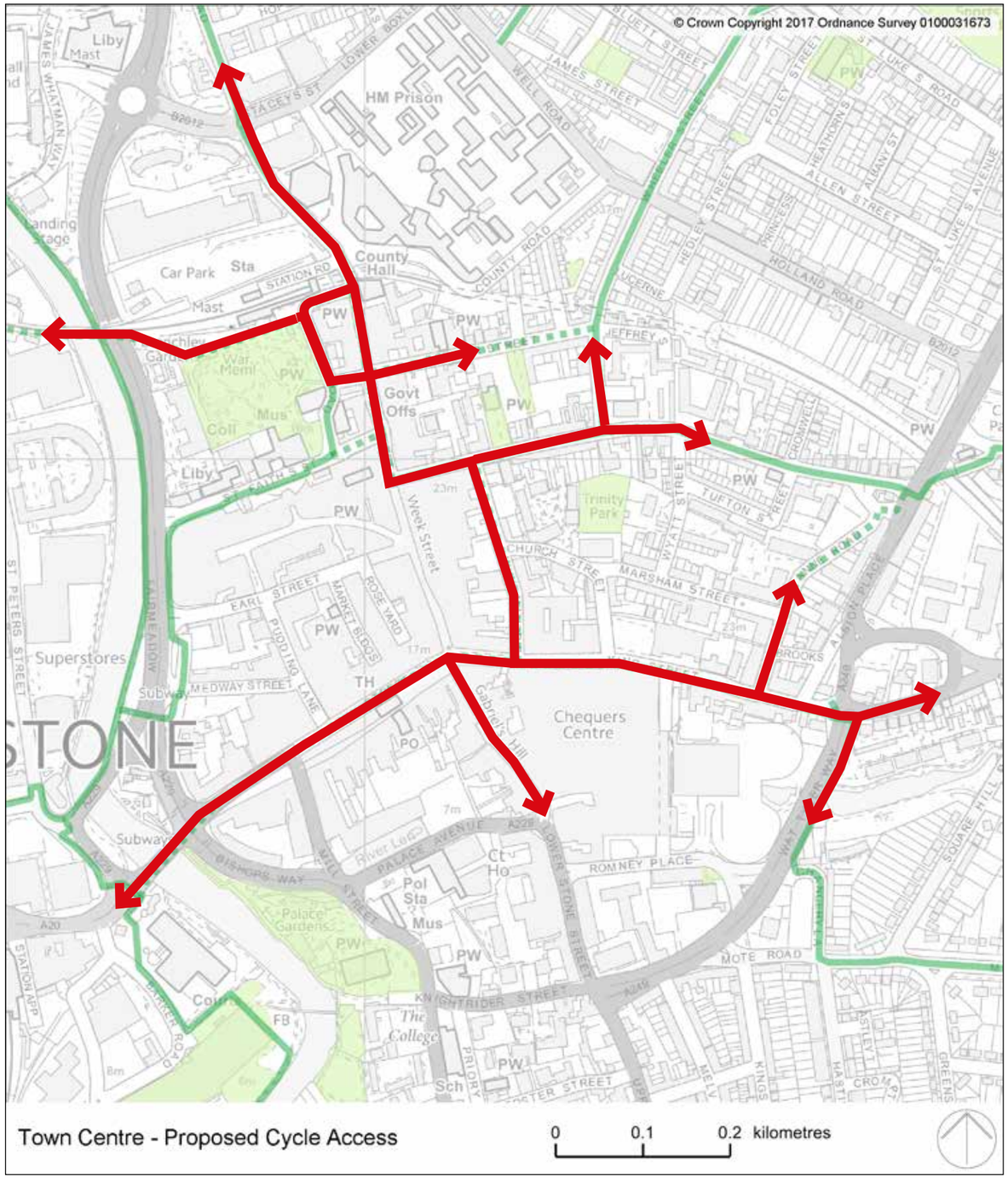
There are currently six crossings of the River Medway, counting the gyratory as two separate bridges.

- The gyratory is the only existing crossing for cyclists.
- For pedestrians the bridge next to Maidstone East and the gyratory are the main desire line crossings, the other two bridges north and south provide far less utility.*
- Moving west the river, rail line and road network are a major problem and source of severance.

* It should also be noted that Millennium Bridge and Trovil Bridge have insufficient widths and parapet heights to be converted to shared use.

To improve links over the river the following steps are proposed:

- Upgrading the link between Maidstone East and the Barracks stations
- Improve the gyratory by providing a better road layout for all users



A.1

Link between Town and North Maidstone via Wheeler Street and the junction with Holland Road (B2012)

Overview

This is a useful link from the town centre to the north east for cyclists; the junction is also a local shopping location for residents.

The controlled crossings on all arms are a welcome feature; however, negative factors including pinch points within the footway, extensive guard railing and crossings set back from the junction reduce the quality of the walking environment. The collision data indicates this junction is performing poorly with 8 slight/severe pedestrian casualties in 5 years.

For cycling, the wide junction crossing is an issue with north and south stop lines set back 20m from the Junction and ASLs that lack suitable feeder lanes. General lane widths south bound on Wheeler Street shrink from 3.4m to 3m which creates potentially dangerous conflict between cyclists and motor vehicles.

The rule-of-thumb is to avoid situations where motorised vehicles and cyclists are expected to move together through a width between 3.2 metres and 4 metres. Where lane widths are between these two dimensions, there is uncertainty about space for overtaking and a high risk that other vehicles will seek to pass cyclists too closely thereby putting the more vulnerable road user at risk.

London Cycle Design Standards, Chapter 4, section 4.4.2

Interventions

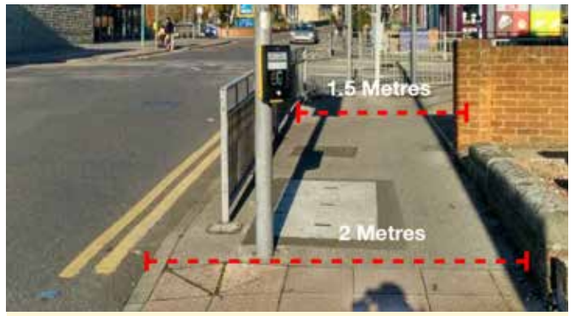
1.1 * The limited highway boundary on Wheeler Street limits design options in this location and means traffic management is the suitable approach. Such an intervention could include measures such as a modal filter or change to one way working. Any intervention here should include greening such as new street trees and widening of footway facilities.

1.2 * Improve pedestrian environment by removing guard rails and reconfigure layout.

Costs

1.1 £25 to £35,000
1.2 £30 to £50,000*

*Both these interventions require further investigation practical options and to work up a realistic cost forecast.

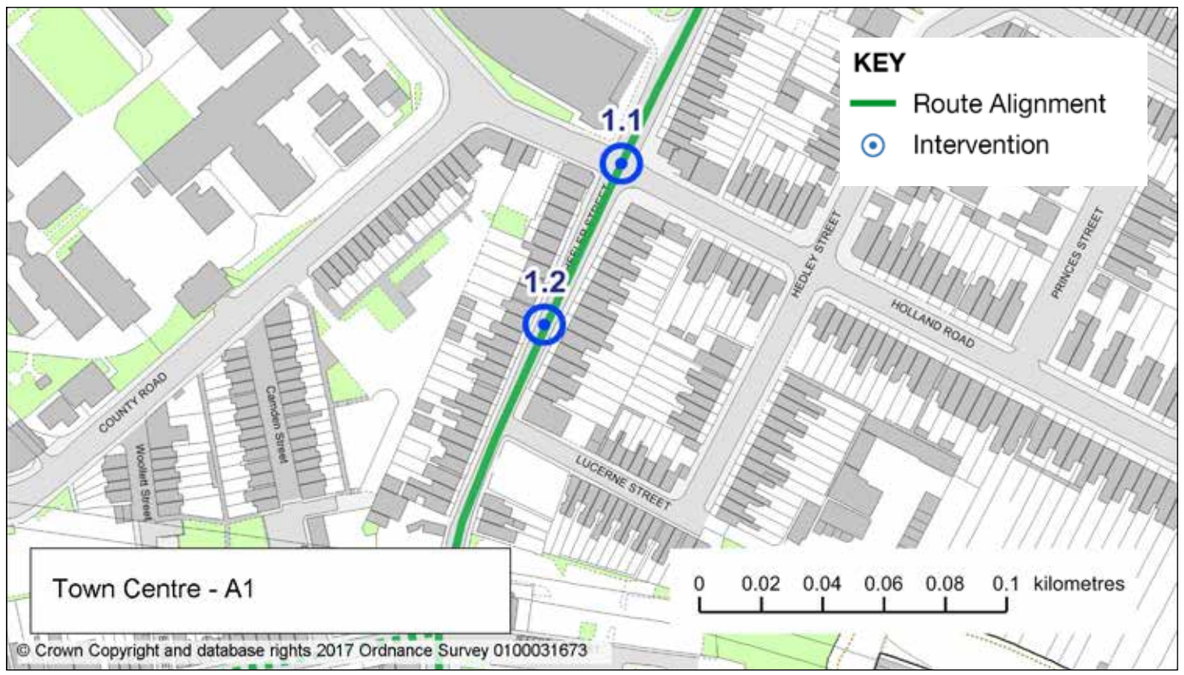


1.1 View north across junction up Wheeler Street

Pedestrian Level of Service
Guard railing and limited footway widths reduce pedestrian comfort levels on south side of junction

1.1 View north from west side of Wheeler Street

Substandard Cycle Provision
ASL lacks a feeder lane and can't be accessed by cyclists when motor vehicles are queuing.



A.2

Link between Town and North West Maidstone between Vinters Road, Union Street and Queen Anne Road

Overview

The junction of the ring road provides accesses to multiple schools and is a key gateway to the north east. The junction has significant potential for improvement for cycling and walking.

The main barrier to cycling is the lack of provision for users to safely and easily negotiate the junction.

The main issues for pedestrians include narrow footways, railings, crossing widths and proximity to high volumes of traffic which combined create a low level of service.

Interventions

2.1 Allow contraflow cycling on Queen Anne Road linking to King Street cycle provision.

2.2 Re-design the junction with a set of measures that should include the provision of a continuous and safe cycle link through the junction, footway widening, junction layout simplification and road space reallocation. The removal of the Union Street mini gyratory system should also be included as part of this redesign.

Costs

2.1 £1 to £5,000

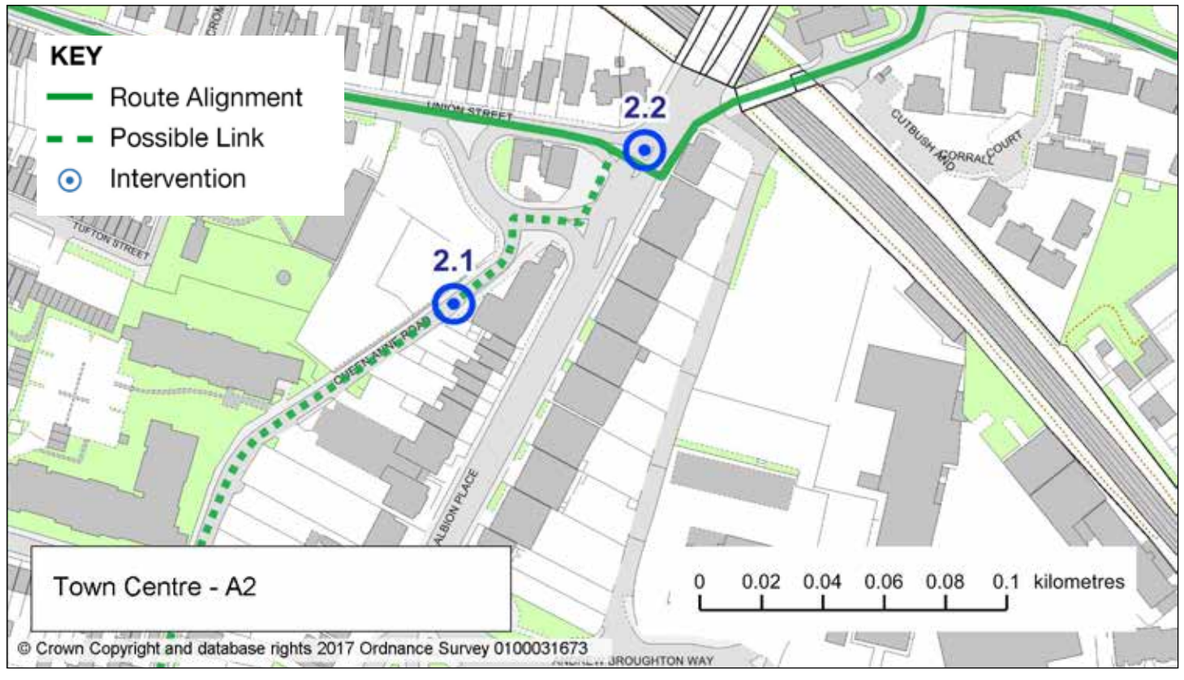
2.2 Feasibility study required

2.2 View north from east side of the A249

Pedestrian Level of Service
Guard railing and limited footway widths reduce pedestrian comfort levels on all sides of junction

2.2 View west across junction towards Union Street

Crossing
No provision for cyclists at junction
Pedestrians seen crossing outside of green phase



A.3

Link between Town and South East Maidstone via King Street and the junction with Wat Tyler Way (A249)

3.1 View east along King Street on the south side of the road

Pinch Point
2.6m pinch point within 3m footway. On north side the footway pinches at 3.4m between the bus stops and shop fronts
(1.7m band of street furniture within 6m footway)

3.2 View in either direction on King Street

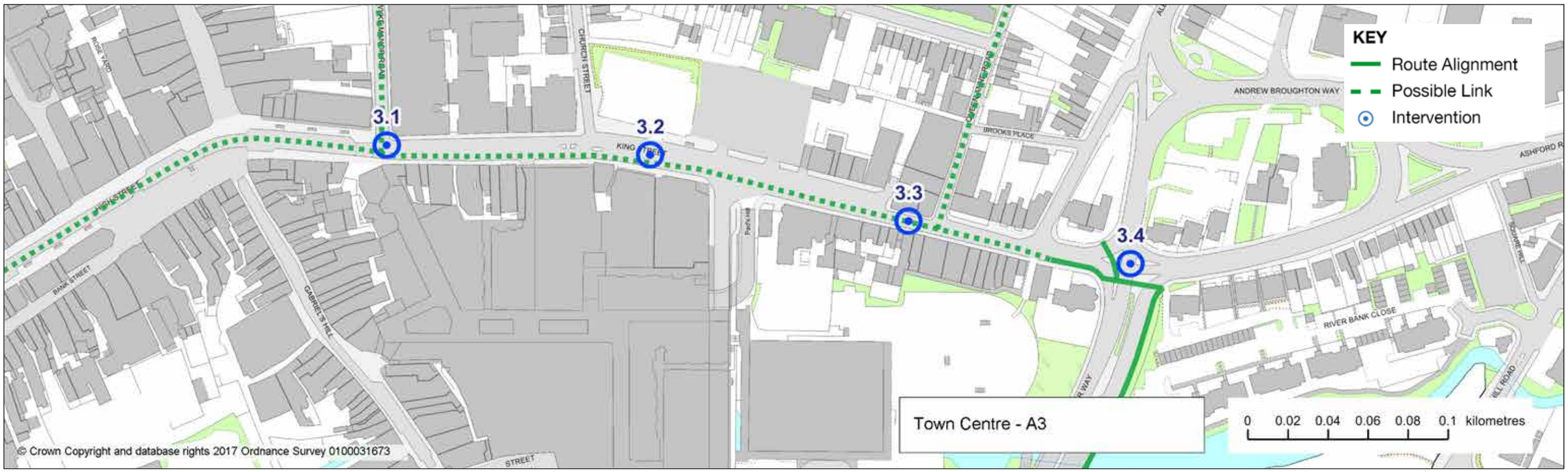
Oportunity
The main function of the street is not being met by the layout which suggest vehicle movement as the main function. Both walking and cycling is under-represented along this section.

3.4 View of signal junction looking north from Wat Tyler Way

Substandard Provision
This junction has significant scope for improvment to provide safe walking and cycle access to the town.

3.4 View south along east side of Wat Tyler Way showing existing shared use footway

Substandard Provision
The shared footway pinches at 1.3m in a 2m overall width which is well below current standards for this type of provision.



A.3

Link between Town and South East Maidstone via King Street and the junction with Wat Tyler Way (A249)

Existing conditions

A four arm signal junction with significant volumes of north bound traffic.

King Street links to the core shopping area, the bus station, car parking and has a large proportion of shop fronts. The street is important for both its movement and place function.

There is significant road space available across a large sections, of the street providing great potential to deliver a better walking and cycling environment.

Barriers to walking and cycling

At the junction negative issues for pedestrians include multi-stage crossings with long wait times and narrow footways on all sides.

Vehicles can negotiate the junction at speed, creating issues for both cyclists and pedestrians. Drop kerbs aren't flush, with 40mm up-stands negatively impacting all non-motorised users. Cycle facilities through the junction are substandard, with 0.9m wide on-road advisory cycle lanes running west from the junction and the shared use footway on the east side.

Both sides of King Street have high footfall especially in proximity to the intersection with the High Street. There are pinch points along the length and low levels of pedestrian comfort where there are mixed functions on the footway such as waiting, moving and shopping.

Traffic Flow

Wat Tyler Way (DFT AADF data 2016)

Flow 19,000 Average Daily Flow 2.7% HGVs

Interventions

3.1 to 3.4 Bi-directional light segregated cycle track along south side of King Street. This side was selected as it has parking restrictions along most of it's length and fewer side road entrances.

3.1 Re-configure junction to facilitate safe cycle access and link to cycle contraflow on Wyke Manor Road.

3.2 Bus stop by-pass on south side.

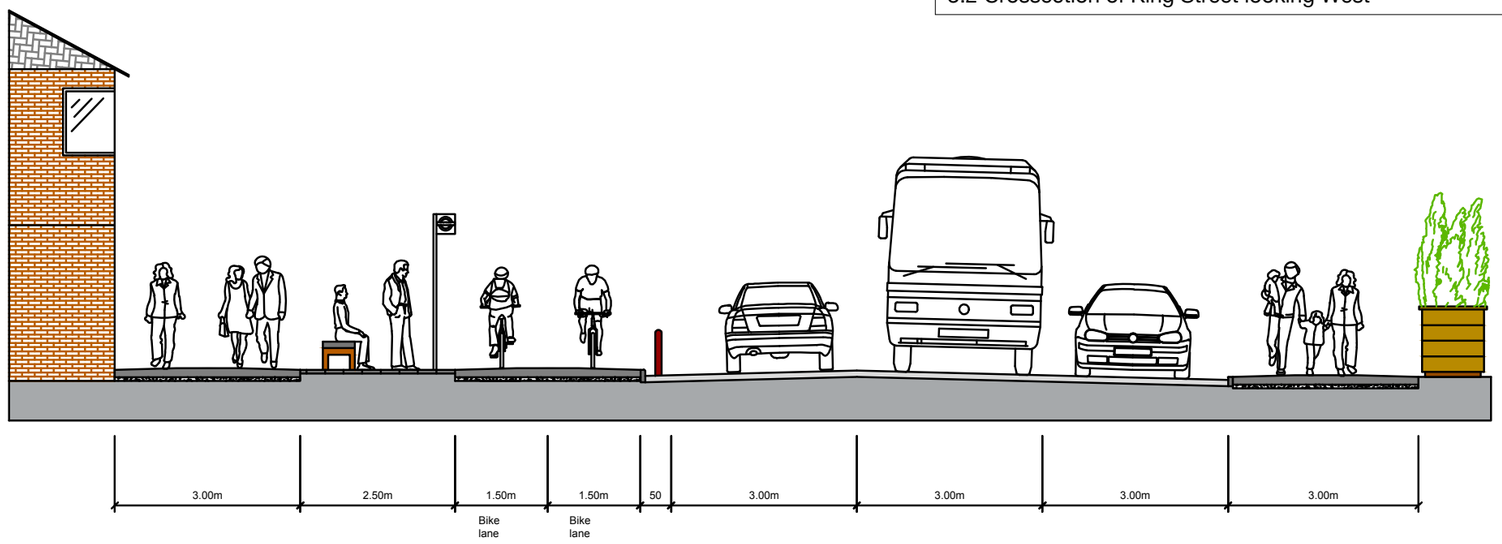
3.3 Detailed design and modelling required to find optimum method to fit in cycle track and manage traffic through pinch point.

3.4 See sketch design for junction redesign.

Costs

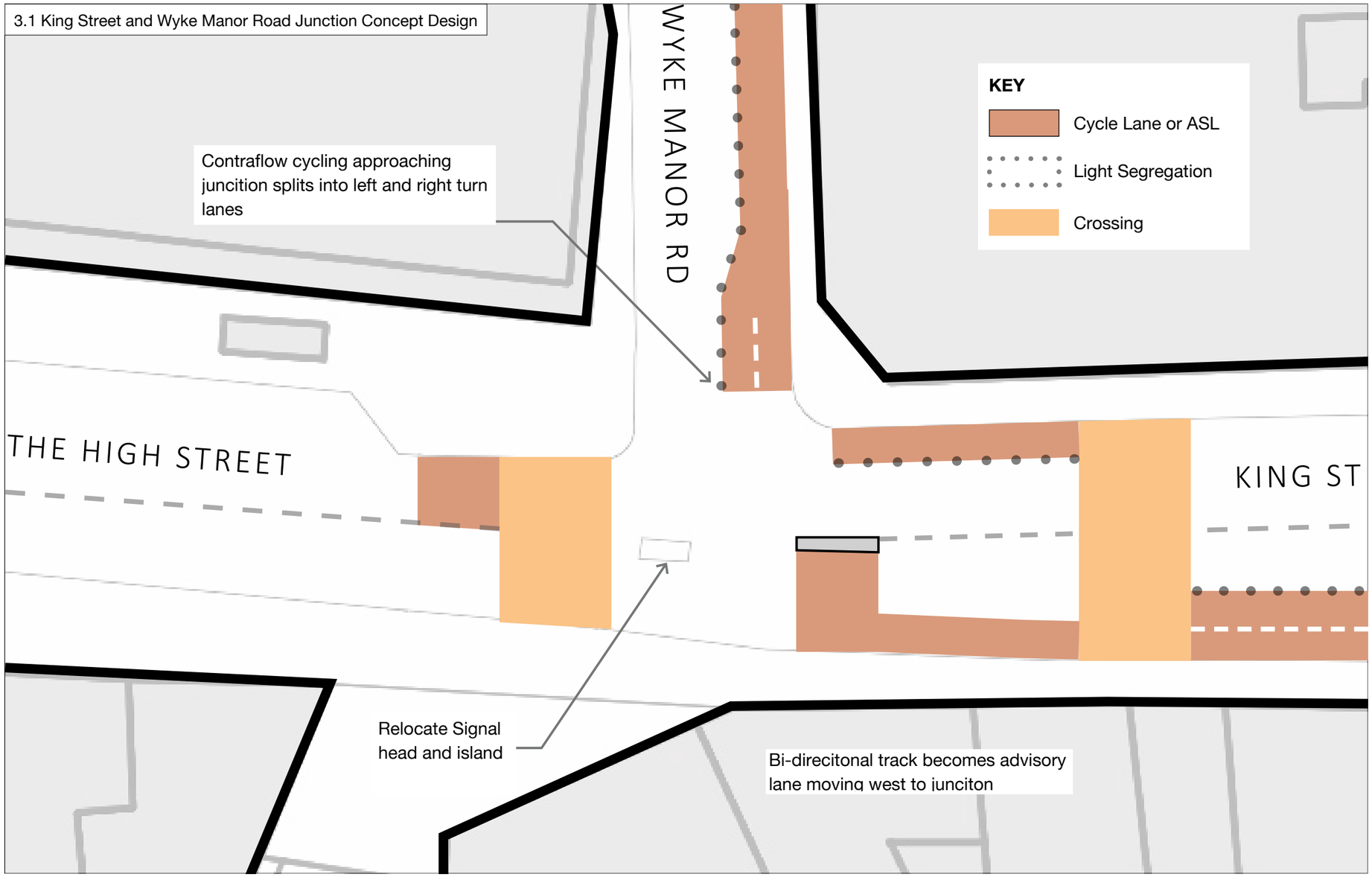
31 to 3.4	£3 to £5,000
3.1	£15 to £25,000
3.2	£1 to £3,000
3.3	£10 to £20,000 (Feasibility Study)
3.4	£40 to £80,000

3.2 Crossection of King Street looking West



A.3

Link between Town and South East Maidstone via King Street and the junction with Wat Tyler Way (A249)



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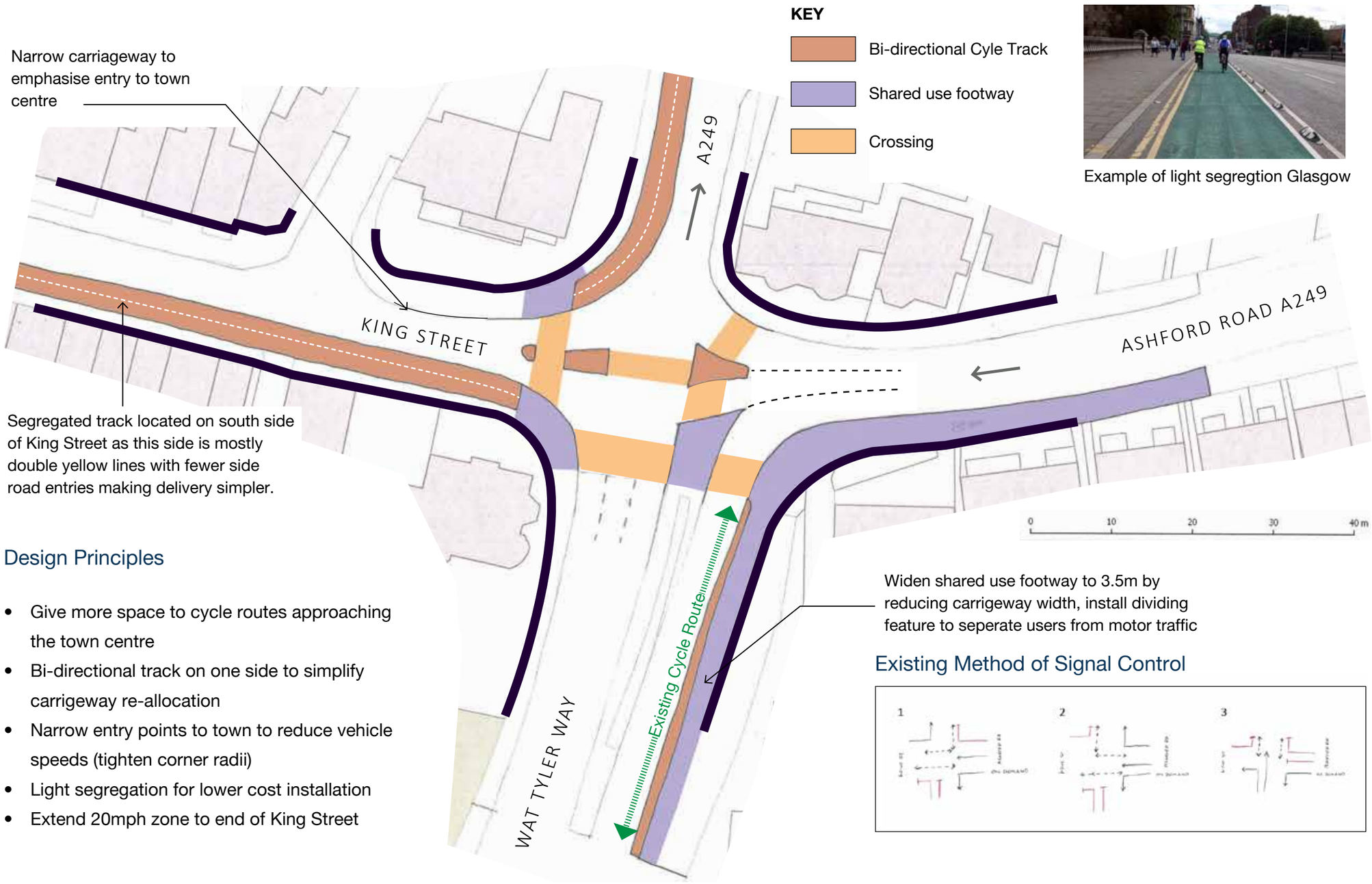
Link between Town and South East Maidstone via King Street and the junction with Wat Tyler Way (A249)



Example of light segregtion Glasgow

Design Principles

- Give more space to cycle routes approaching the town centre
- Bi-directional track on one side to simplify carrigeway re-allocation
- Narrow entry points to town to reduce vehicle speeds (tighten corner radii)
- Light segregation for lower cost installation
- Extend 20mph zone to end of King Street

Existing Method of Signal Control

A.4 & A5

Link between Town and South Maidstone via Lower Stone Street/Gabriel's Hill and across the A229 and via Mill Street

Overview

There are few options for safe travel south of the town centre and, although Gabriel's Hill and Mill Street provide reasonable links into town, the A229 is a significant barrier creating severance for both pedestrians and cyclists. The proximity to and volume of, traffic makes this environment particularly hostile to cyclists and pedestrians. This high movement function doesn't fit well with the number of active frontages in this area.

Users seen crossing away from signals and cyclists observed riding the pavement in the opposite direction to the gyratory demonstrating desire lines are not catered for.

Limited width on Lower Stone Street, North of the junction with Romney Place makes installing any provision through this area very difficult.

Options

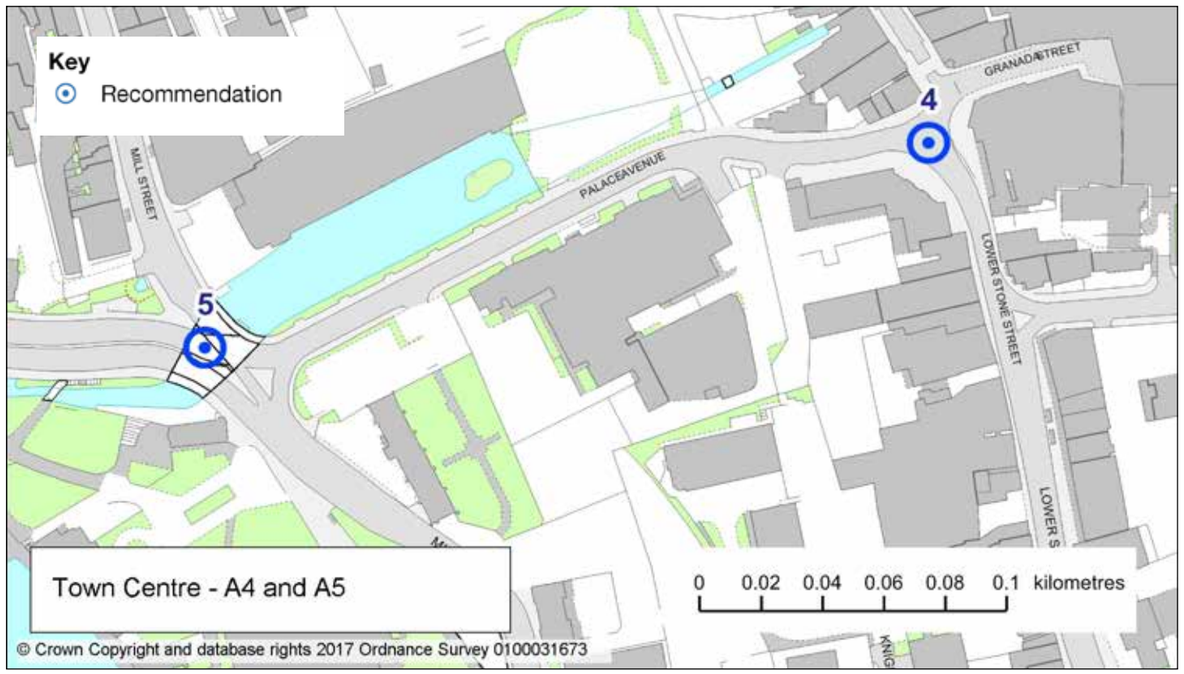
Creating a good quality north/south link through this part of town would significantly improve connectivity. An ambitious option to create such a link would involve changing the gyratory back to two way working or reducing Palace Avenue to a single lane.

4 View along Lower Stone Street towards town and Gabriel's Hill

Structural Limitation
A 6m wide road and very narrow footways on either side make providing cycle provision in this location challenging.

4 View west along Lower Stone Street away from Gabriel's Hill

Desire Line
Cyclists seen using pavement as desire line is not catered for by current provision.



A.6

Link between Town and West Maidstone via Gyratory

6.5 View of uncontrolled crossing of St Peter's Street

Cycle and Pedestrian Level of Service
The existing track around the north arm links to uncontrolled crossings that lack priority and make crossing St Peter's Street difficult.

6.3 Access ramp to subway under the gyratory

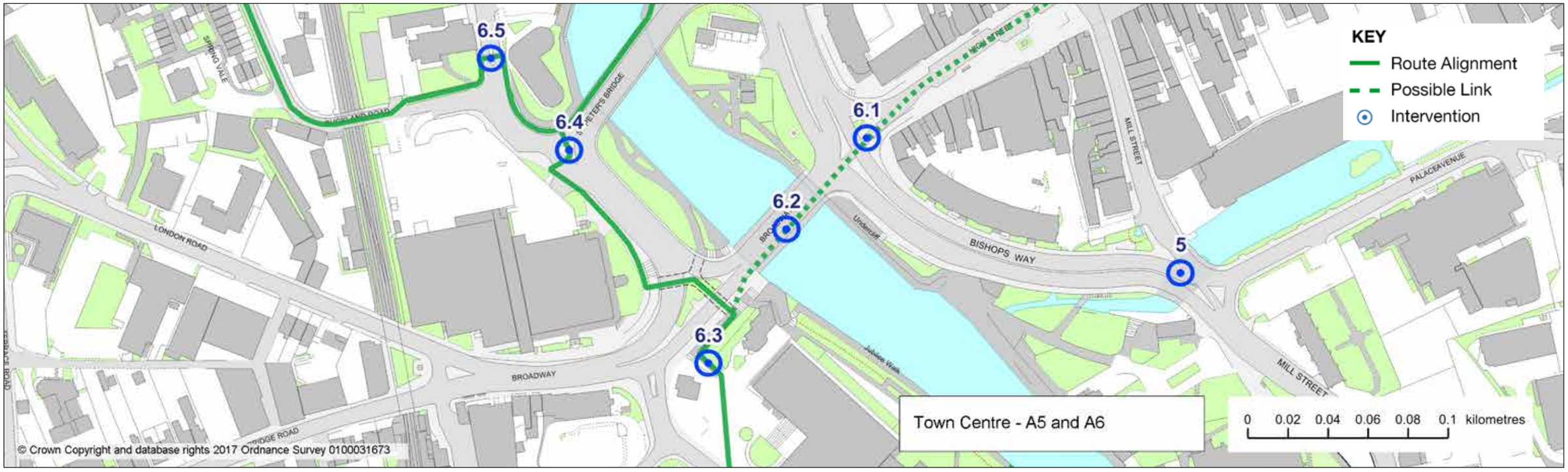
Pedestrian Level of Service
Lack of lighting. It is unclear if cyclists can legitimately use the subway.

6.2 Cyclist using footway on south side of gyratory

Barrier and Desire Line
The lack of a safe two way cyclable link through the south arm of the gyratory represents a missing link as shown by existing patterns of use

6.1 View onto the gyratory from the west end of the High Street

Cycle and Pedestrian Level of Service
A key pedestrian connection that sees significant footfall and a missing link for cyclists that could be improved. Overcrowding of crossing was observed at peak times.



A.6

Link between Town and West Maidstone via Gyratory

Existing conditions

This major road crossing of the river consists of a four lane gyratory that sees a significant amount of traffic. It links to a one way system moving west made up of London Road, Terrace Road and Tonbridge Road.

For pedestrians and cyclists there's a subway crossing to the north that links to a line segregated cycle track skirting the gyratory and linking to uncontrolled crossings. On the south side there's a two stage signal crossing for pedestrians only. The subway under the south west arm provides access to and from Maidstone West station, a number of retail outlets and the crown court.

This area sees significant footfall and the link between the station and the town centre is a key pedestrian and cycle desire line that has significant potential for improvement.

Barriers to walking and cycling

This type of gyratory layout is a dated configuration that has come to be viewed as a major source of problems for the transport network and a low level of service for all users including cars. This configuration and the linked one way system creates a particularly hostile environment for cyclists and pedestrians due to the close proximity to large volumes of fast moving traffic.

The single direction promotes speed while the multiple lanes create complexity that's difficult to negotiate for all users. The volume and speed of traffic are a significant source of severance for cyclists and pedestrians with a lack of safe and direct crossings making the gyratory a barrier.

Traffic Flow

Fairmeadow (DFT AADF data 2016)

Flow 44,000 Average Daily Flow

Broadway (DFT AADF data 2016)

Flow 32,000 Average Daily Flow

Options

Gyratory removal has become very common especially with this type of complex hostile layout. Examples include Elephant and Castle, Aldgate and Old Street. Such schemes have been justified by the huge benefits they unlock. In the case of Maidstone this could include:

- Reduced air pollution
- New public space creation
- Improved access to the river front and historic quarter
- Improved access for pedestrians and cyclists
- Improved legibility and safety for all road users
- Improved bus access and priority

In some cases movement levels have been maintained, such as the Dublin College Green Plaza scheme and, as such, it is useful to assess any scheme on the impact it has on the movement of people rather than motor vehicles.

Sustrans would recommend either removing or downgrading one arm of the gyratory as well as removing or reconfiguring the one-way system. This would be the most transformative and ambitious option for Maidstone. It would both significantly improve the transport network and provide positive long term benefits.

It is acknowledged that this option will involve significant reconfiguration of the transport network and require strong political will and funding. It will also involve a full traffic assessment and appropriate modelling.

In light of this a practical interim measure might involve removing the nearside lane on the south arm of the gyratory and reconfiguring the signals on the east side to allow bi-directional cycle movement across the junction to and from the High Street.

Interventions and Costs

Investigating the gyratory and exploring what options are available for improvement is a significant piece of work and beyond the scope of this report. Sustrans recommends carrying out a feasibility study to explore the potential design options as this location as well as engagement to assess the appetite for change.

6.1 View over London Road

Cycle desire line
Cyclist seen avoiding the difficult on road conditions and travelling against the flow of the gyratory showing a desire line that's uncatered for.

6.1 View across London Road

Pedestrian Desire Line
Users seen crossing at grade and not using the underpass.

Aldgate Gyratory

City of London
EC3N & E1

COMPLETION DATE
Expected spring 2017

COST
£21.4m

FUNDING SOURCES
£8m TfL
£8.3-9.1 Section 106 contributions

HEALTH BENEFITS PER YEAR
£2.167m

Before

After

Source:
Better Streets Delivered 2
Urban Design London

A.7

Walking route over the River between Maidstone East and Maidstone Barracks Stations

7.4 View east along Buckland Hill towards the river

Pedestrian Level of Service
Guard railing and limited footway widths reduce pedestrian comfort levels and ease of access to the station.

7.3 View east towards footpath over river

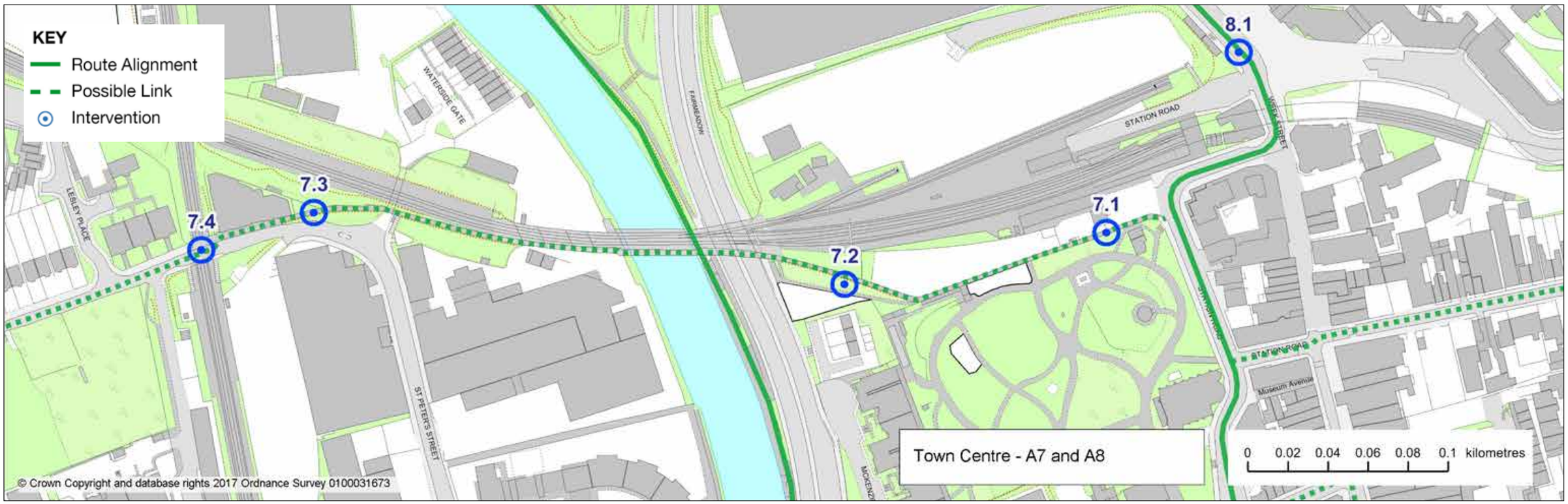
Opportunity
Currently, cycling is prohibited although there's space to explore potential widening to improve link.

7.1 View east along footpath next to Maidstone East station car park

Structural limitations
Space is too narrow for cyclists and pedestrians although used by both, an important link north of the town centre.

8.1 The west side of Sandling Road next to Maidston East Station

Pedestrian Level of Service
Limited width footway with high footfall and multiple functions happening in a small space.



A.7

Walking route over the River between Maidstone East and Maidstone Barracks Stations

Existing

An off-road path next to the railway that crosses the river and links Maidstone East and Maidstone Barracks stations. This is the only pedestrian crossing of the river north of the town centre.

Barriers to walking and cycling

The link is not currently cyclable due to limited widths along the 100m section next to Maidstone East station. This section pinches at 1.1m in a number of places with the wall on either side further reducing the effective width and comfort levels for all users. Widths widen out moving west to 3m across the bridge.

Traffic Volume

Buckland Hill (7 day count)

Flow	6,000 Average Daily Flow
Speed	85th% 26mph

Interventions

7.1	Install ramp in car park to access shared use path where suitable width available (approx. a 30m ramp required) More investigation required. Reconfigure car park to provide safe route for cyclists, this may require some parking space adjustment.
7.2 & 3	Widen section where feasible and look for opportunities to improve natural surveillance and lighting. This requires further investigation for a more accurate forecast of cost and feasibility.
7.4	Improve pedestrian access to the station by narrowing road to a single lane with a raised informal crossing and shuttle working. Create a new public space in front of station.

Costs

7.1	£15 to £30,000
7.2 & 3	£5 to £10,000 (Feasibility Study)
7.4	£10 to £15,000

A.8

Link between North Maidstone and town across the junction with Staceys Street (B2012) via Sandling Road

Existing conditions

A four arm, two lane roundabout with a staggered pedestrian signal crossing set back 50m along the west arm and uncontrolled drop kerb crossings of the other three arms. Advisory cycle lanes skirt the edge of the roundabout running north/south on Sandling Road.

Barriers to walking and cycling

The roundabout would score badly against the junction assessment tool in the London Cycle Design Standards and would be a challenge even by Bikeability level three standards. This represents a significant barrier at present - and would need to be re-designed to make it safer for all types of cyclists and pedestrian to use. These issues are reflected in the accident record for the this junction.

key issues:

- The geometry of the roundabout allows high circulatory speeds to be maintained; this, combined with multi-lane entry and exits with large corner radii, allows vehicles to sustain high speeds throughout the roundabout when traffic is free flowing.
- The multiple lanes increase the complexity of movement, making it harder for drivers to be aware of cyclists and pedestrians as well as giving rise to hazardous weaving movements. This feature also makes crossing for pedestrians and cyclists more difficult.
- A large number of vehicles make continuous left turns at speed.
- The existing advisory cycle lanes promote users to adopt a dangerous secondary cycling position through the junction, this positioning has been shown to expose users to greater risk of two of the most common conflict types for cycle/vehicle interactions as shown by TfLs Cycle Safety Action Plan.
- The east arm of the junction is a key pedestrian desire line currently only served by an uncontrolled drop kerb crossing that lacks priority for pedestrians and results in conflict with vehicles exiting and entering the roundabout.

Interventions

8.1 * See sketch design for details

8.2 * Convert to a continental style roundabout with segregated parallel crossing set back on all arms. Aim to actively reduce motor traffic capacity whilst retaining overall movement capacity. Traffic should be pushed to the A road junction to the west.

* Both these interventions need significant further investigation and design work to establish options and a better forecast of costs

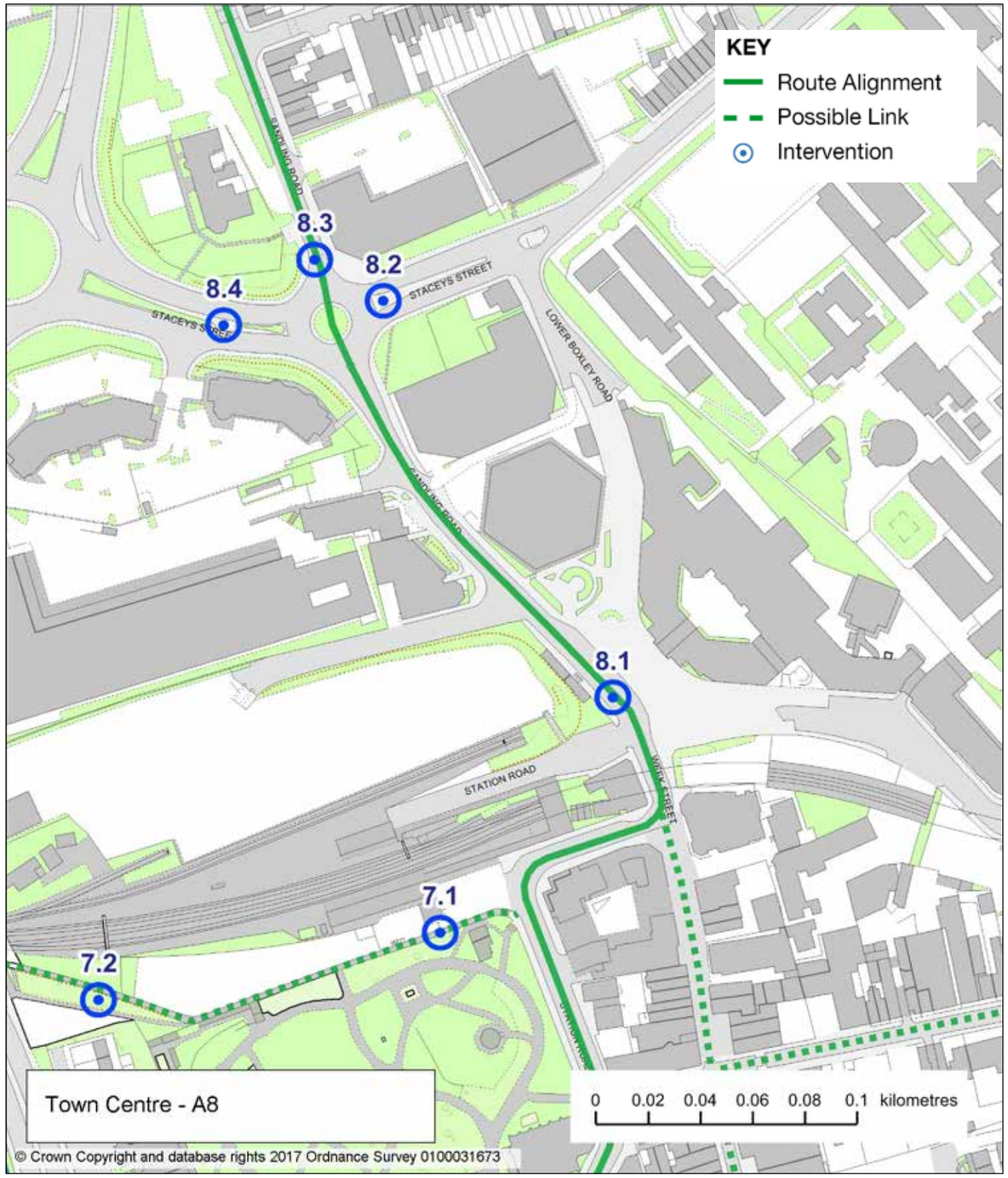
Costs

8.1 £200 to £350,000

8.2 £300 to £500,000

8.2 View north showing pedestrian desire line

8.3 View south showing vehicle overunning cycle lane

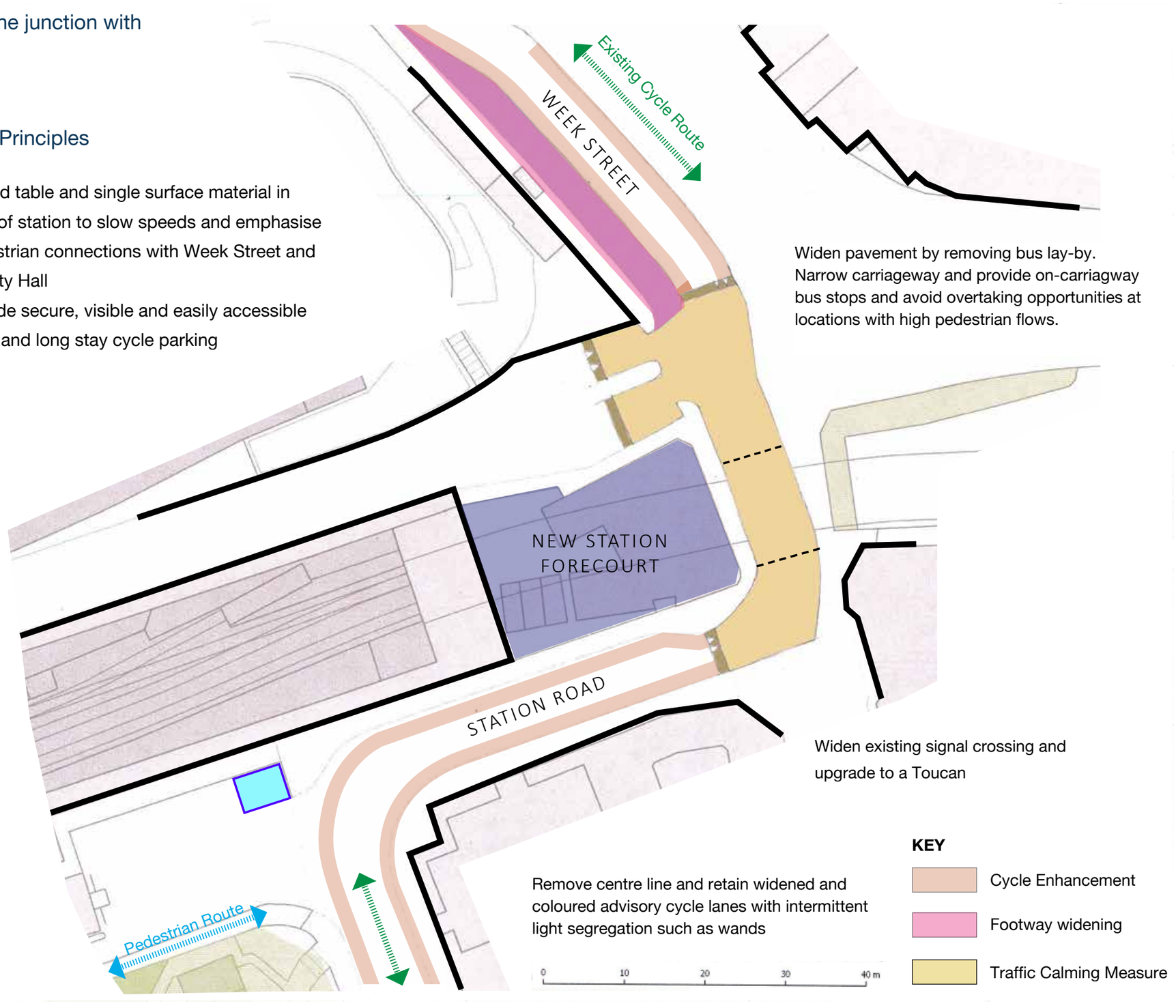


A.8.1

Link between North Maidstone and town across the junction with Staceys Street (B2012) via Sandling Road

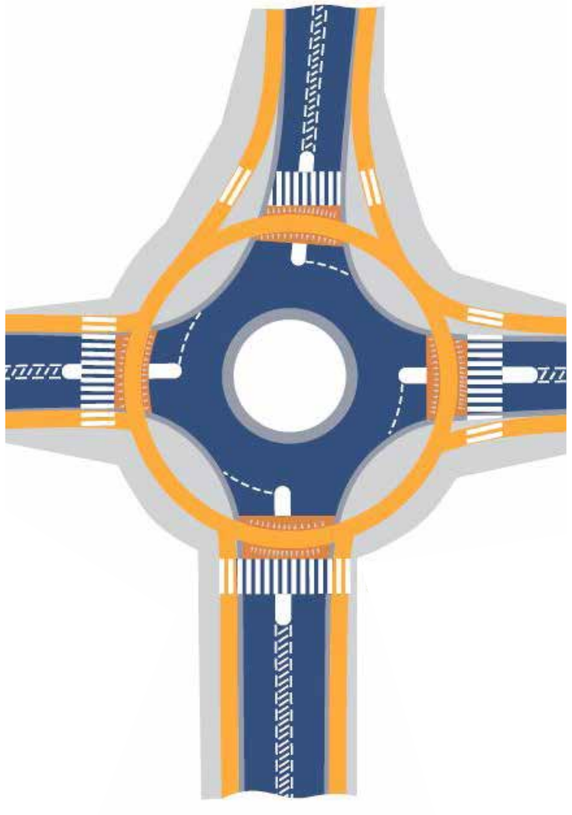
Design Principles

- Raised table and single surface material in front of station to slow speeds and emphasise pedestrian connections with Week Street and County Hall
- Provide secure, visible and easily accessible short and long stay cycle parking



A.8.2

Example of continental roundabout taken from the Sustrans design guidance



The South East Corridor – Section B & C

Scope of Assessment

This section looks mainly at improvements to the existing cycle route that forms a key radial link from Maidstone to the south East. Sustrans were asked to look at this mainly in terms of cycle provision although the walking environment has also been considered.

Improving provision on A274/A229 was considered as this forms the main traffic route from the south east into town and therefore is likely to be the key desire line. On road conditions and traffic volumes make conditions on this alignment poor for cycling and would require full segregation to provide a route along this alignment. There is space for this option, although it would require reducing the A229 to a single lane in either direction from the junction with Sutton Road to all the way into town. Street width fluctuates around 17m.

Orbital links are also important but are beyond the scope of this study. With improvements to the route out to the south east improving links towards Loose and Bearsted/Weavering would support short local trips.

Barriers to Walking and Cycling

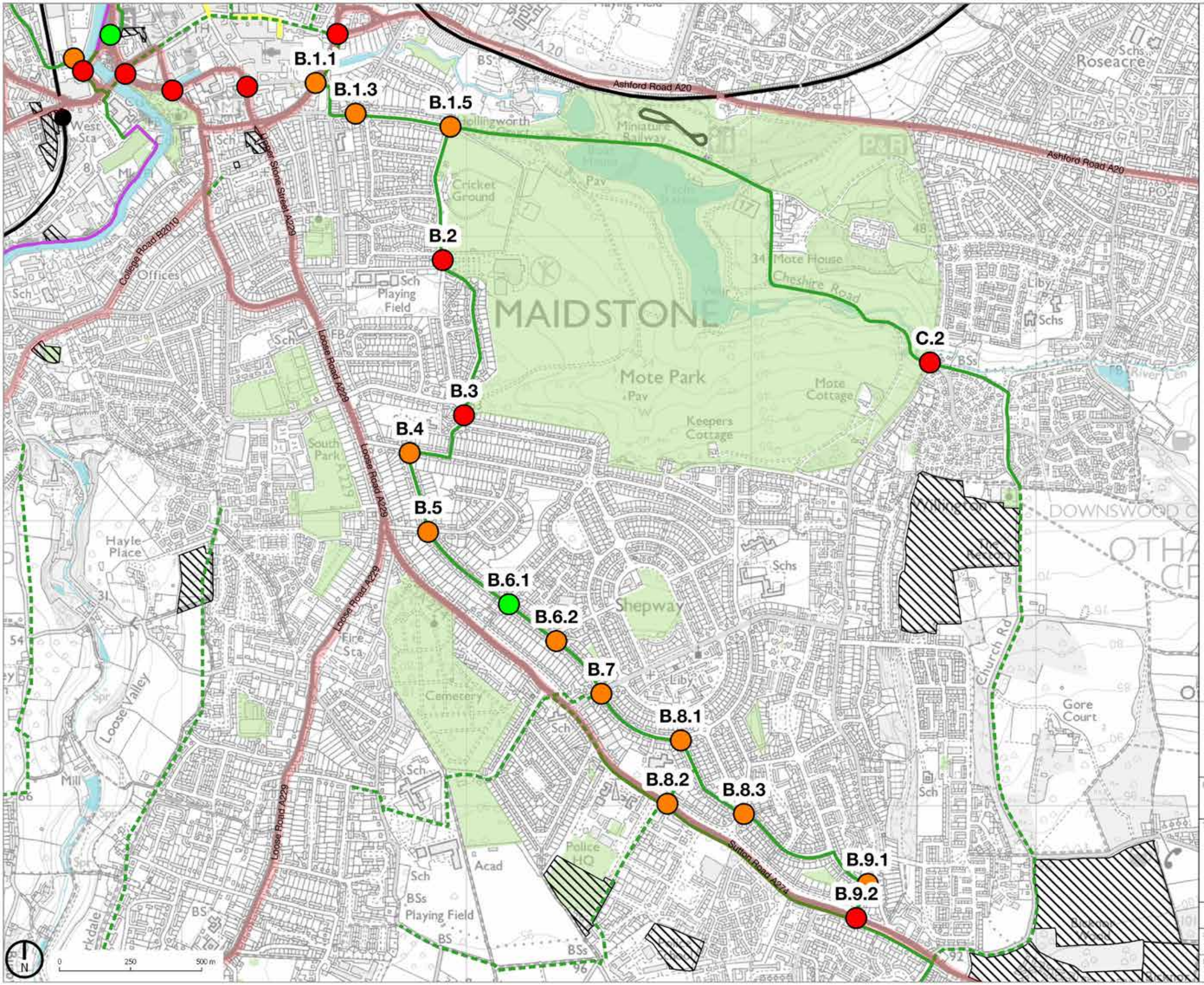
- Lack of provision at junctions impacts quality this is especially acute accessing the existing route to and from the town centre
- The collection of residential streets through Shepway to Sutton Road have poor streetscape environments. Minor road crossings and junctions could be improved
- Local rat running traffic is an issue in this area
- Acute lack of safe cycle and pedestrian access to new developments, cycle facilities end abruptly at the petrol station on Sutton Road, nothing but uncontrolled crossings for pedestrians, people already moving into development
- Lack of good quality cycling and walking facilities within new developments
- Connection via Mote Park to development sites H1 areas 6,7,9 currently a country lane, urban fringe road that poses a significant barrier
- Access either side of Mote Park is substandard including the uncontrolled crossing of Willington Street and the connection to the town centre via mote road

Design Choices

- Route based approach that seeks to improve a single link
- Alternative would be an area based approach. Reducing through traffic in residential areas. Something similar to the mini Holland approach used in London could be a very effective addition to improving this link.

Design Principles:

- Slow streets treatment, narrowing, greening and junction treatments
- Tackle key junctions including crossing of South Park Road
- On links, use slow streets improvements that reduce traffic speeds, break up the long straight sections and improve the street scape
- Signal crossing on Willington Street, improve road layout, propose traffic calming measures to reduce speed
- Investigate feasibility of off road cycle route running parallel to Church Road



KEY

JUNCTION ASSESSMENT

- Green
- Amber
- Red

CYCLE NETWORK

- Existing
- Proposed
- Tow path
- Urban Realm

HOUSING DEVELOPMENT

- Housing Allocations 2017

BARRIER TO MOVEMENT

- Railway
- High Volume Road
- Water

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PROJECT
Maidstone Cycling & Walking Assessment

TITLE
MAIDSTONE
SOUTH EAST CORRIDOR
ASSESSMENT

Drawn	Checked	Date	Scale at A3
DL	XX	27/2/2018	1:12,000

STATUS
DRAFT

DRAWING NUMBER
11079.SD-MAP-00-02

REVISION
A

B.1

Wat Tyler Way to Willow Way via Mote Avenue and the west entrance to Mote Park

1.1 View south from shared use footway on Wat Tyler Way joining on road section

Transition
Lack of signal to motor traffic of presence of cyclists

1.3 View of mini-roundabout looking west along Mote Road

Barrier
Wide layout allows vehicels to negotiate the junction at speed

1.4 View east on Mote Avenue

Opportunity
Wide verges on either side running up to the park provide a dignificant opportunity

1.5 Mote Park entrance looking west along Mote Avenue

Opportunity
Improve access for cyclists and pedestrian

B.1

Wat Tyler Way to Willow Way via Mote Avenue and the west entrance to Mote Park

Existing conditions

The shared use footway link on the east side of Wat Tyler Way moving south re-joins the road and from here to the leisure centre has no existing provision other than signs.

Barriers to walking and cycling

The mini-roundabout at the junction with Square Hill Road is a significant barrier and would score badly if assessed using the junction assessment tool in LCDS. Mote Road up to the park entrance is busy especially at peak times, with limited road width that doesn't allow cyclists to safely mix with motor traffic. Heading north, the right turn is made easier by the large ghost island although this would not be a comfortable manoeuvre for all levels of cyclists. For improvements to this section see the sketch design on the proceeding page.

Interventions

1.1 Improve transition by marking entrance with materials and urban realm improvements to highlight presence of cyclists for vehicles accessing car park.

1.2 Treat side road entrances with continuous footway crossings. Install protected turning pocket with central island and planting.

1.3 Two continuous footway treatments, an informal crossing and a new public space

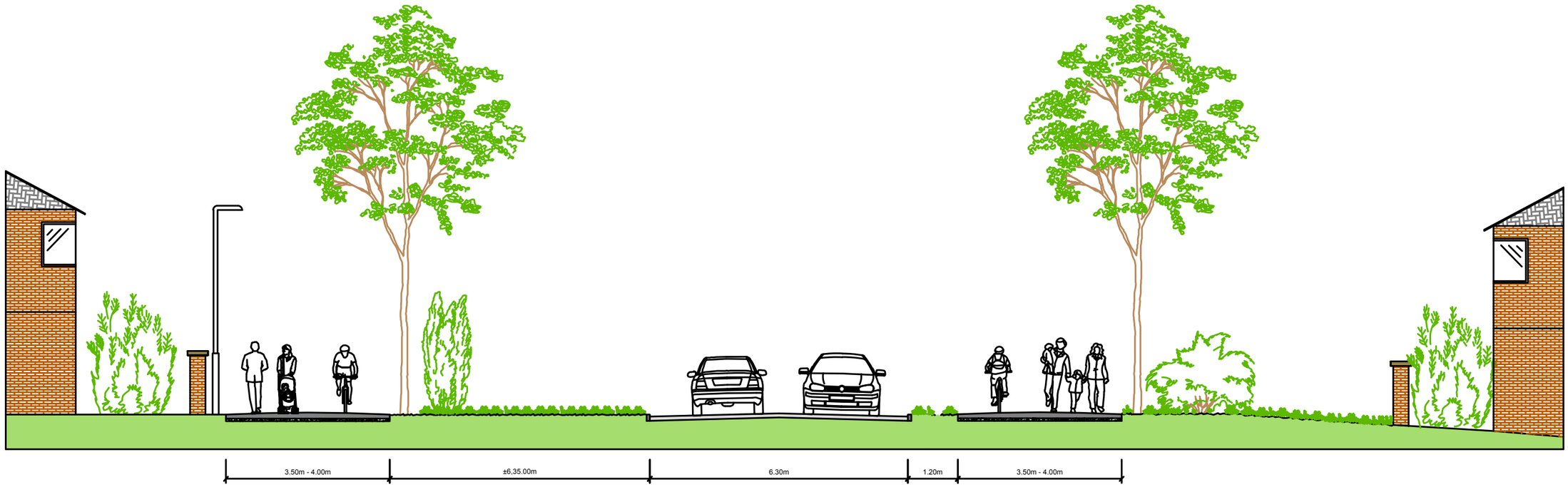
1.4 Widen footway to create shared use cycle route (350m section)

1.5 Provide informal tabled crossing to access park

Costs

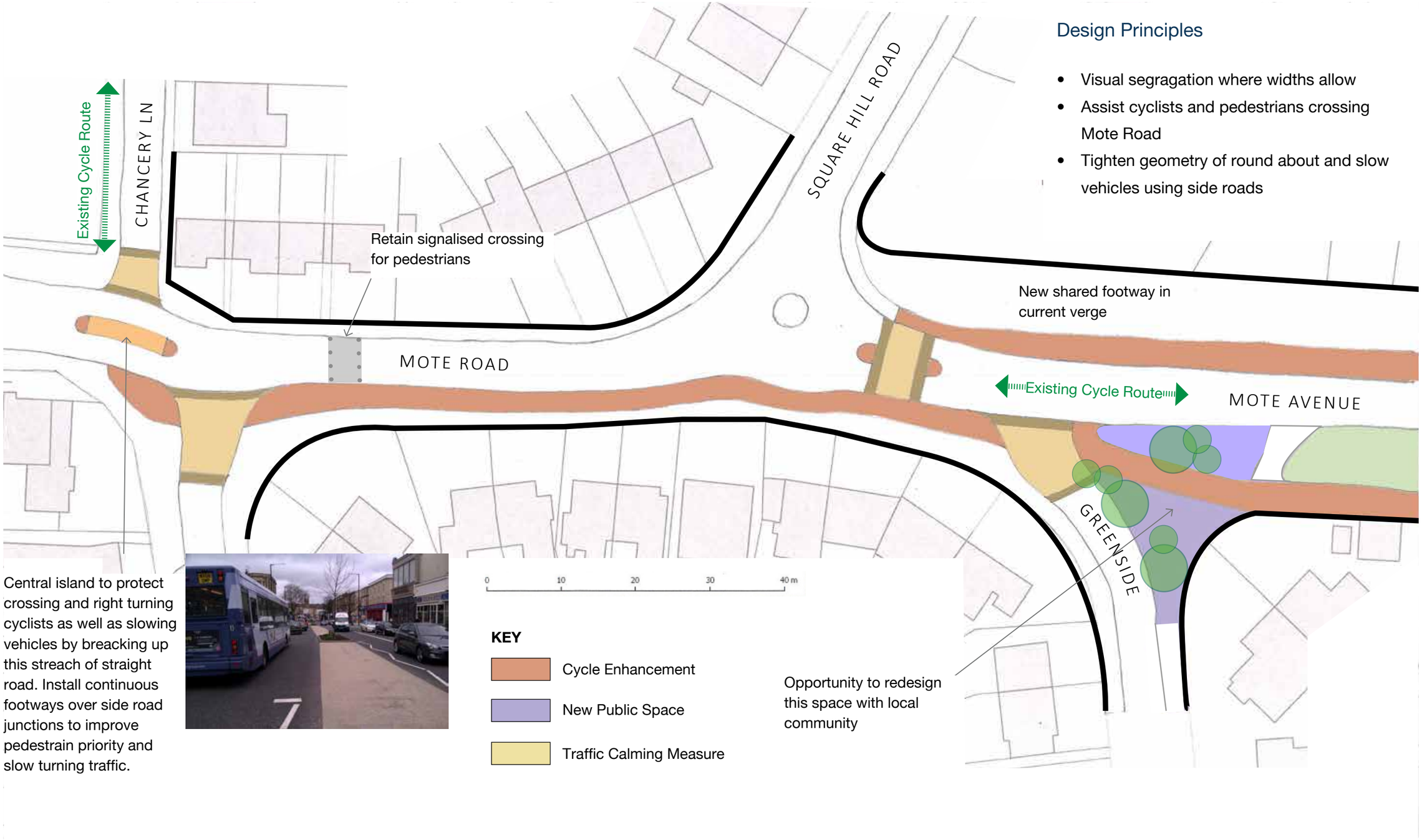
1.1 £2 to £5,000
1.2 £30 to £50,000
1.3 £30 to £50,000
1.4 £30 to £50,000
1.5 £10 to £15,000

1.4 Crossection of Mote Avenue looking West



B.1

Wat Tyler Way to Willow Way via Mote Avenue and the west entrance to Mote Park



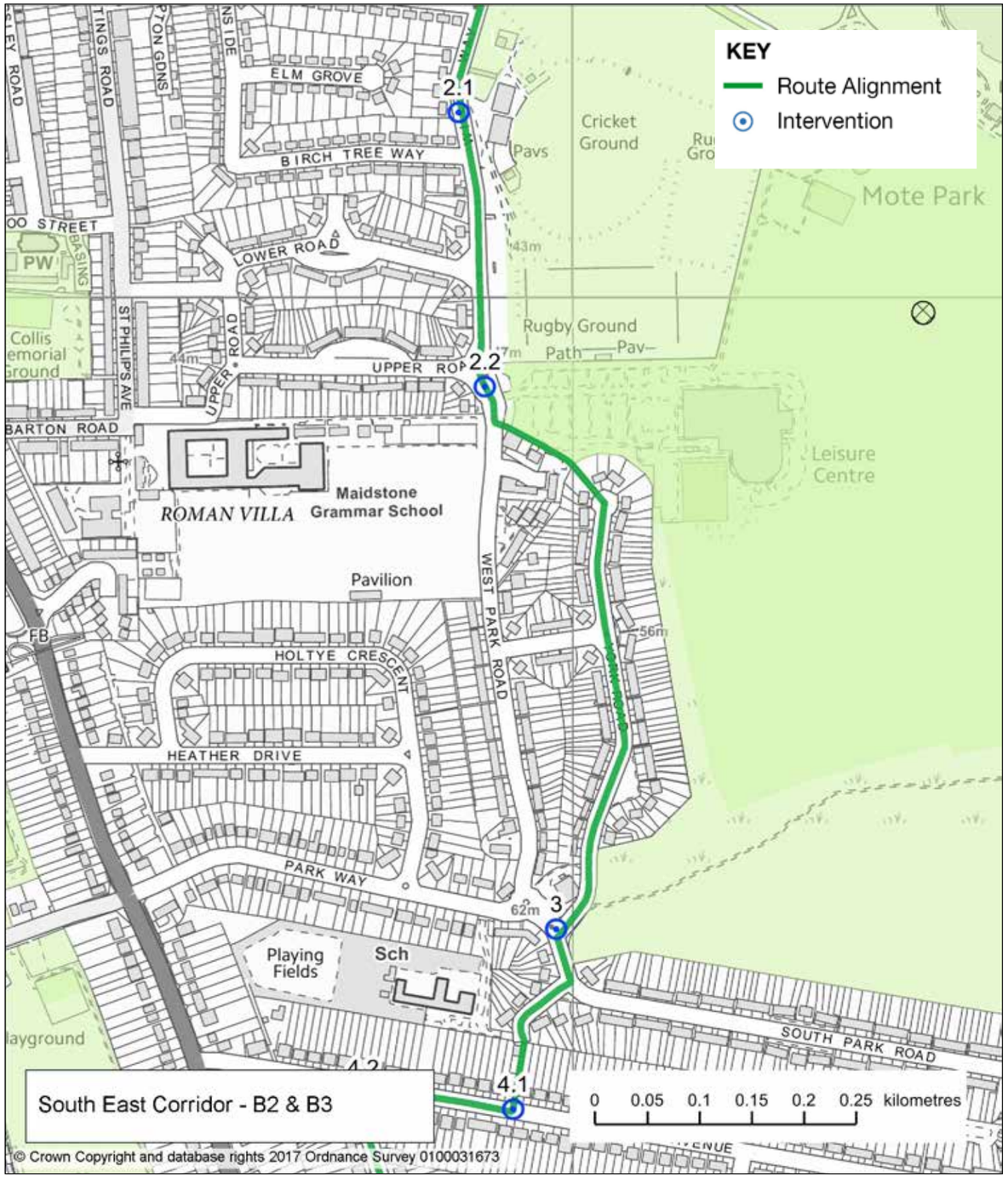
Design Principles

- Visual segragation where widths allow
- Assist cyclists and pedestrians crossing Mote Road
- Tighten geometry of round about and slow vehicles using side roads

Central island to protect crossing and right turning cyclists as well as slowing vehicles by breacking up this streach of straight road. Install continuous footways over side road junctions to improve pedestrain priority and slow turning traffic.

B.2 & B3

Mote Avenue to South Park Road via Willow walk and York Road



Existing conditions

Currently cyclists are required to share the carriageway moving south as far as the shared use path next to the leisure centre. This cuts through to York Road which is a quiet residential street that's local access only.

Barriers to walking and cycling

The double mini-roundabout (one domed the other with a small built centre) at the junction with Upper Road and the entrance to Maidstone Leisure Centre is a significant barrier and would score badly if assessed using the junction assessment tool in London Cycle Design Standards. Traffic volumes are significant at peak times, creating conditions that are difficult for both cyclists and pedestrians. There's a lack of priority crossings on all except the northern arm of the junction that has a zebra crossing. A line segregated off-road path links to York Road.

The turning on and off of South Park Road is an issue due to traffic volumes especially at peak times. This is a residential area, although the road appears to be a rat run and a distributor accessing the Shepway area. Cyclists have to make right turns in traffic in both directions with young cyclists observed taking to the pavement and waiting for breaks in the traffic to cross. This location should be reviewed for both pedestrians and cyclists with a treatment of the mini-roundabout and improved safe access to Park Way Primary School.

Traffic Volume

Park Way (single AM peak count)

Flow 748 Vehicles Per Hour

Interventions

2.1	Install shared use footway along 500m section east side of Willow Way. Investigate setting back existing east side fence line. Some tree removal will be required.
2.2	Merge roundabouts and run shared use footway along east side of junction. Provide crossings on all arms.
3	Install crossing, table junction, create new public space with greening.

Costs

2.1	£40 to £60,000
2.2	£50 to £200,000
3	£75 to £150,000

2.1 View south along the Cricket Ground side of the road.

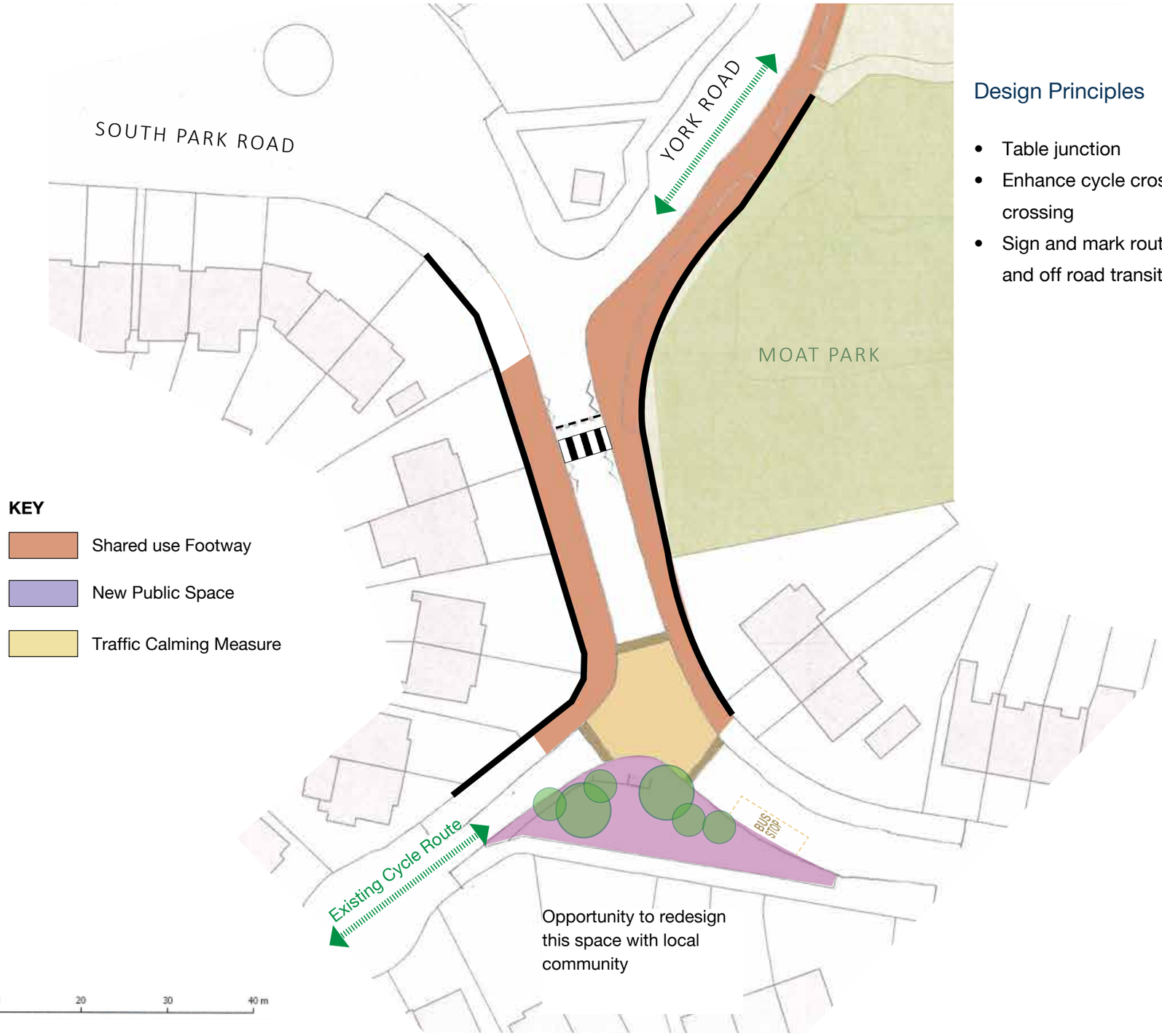
Opportunity
Verge fluctuates around 3.8m with an existing 1m footway.

2.2 View north across double roundabout towards Willow Way

Barrier
Double mini-roundabout has wide geometry allow vehicles to negociate junction at speed

B3

South Park Road



Design Principles

- Table junction
- Enhance cycle crossing with parallel crossing
- Sign and mark route especially on and off road transition

B.4 & B5

Plains Avenue to Hampshire Drive

Existing conditions

Moving south a local access only residential street links to a line segregated alleyway accessing Plains Avenue. The route re-joins the carriageway and stays on-road through Shepway.

Barriers to cycling

The transition at 4.1 doesn't mark the presence of cyclists and a lack of parking restrictions means the transition can be blocked. Plains Avenue is a moderate environment for cycling with some horizontal traffic calming, a 30mph limit and warning signs before the transition point.

Traffic Volume

Plains Avenue, Loose Road end (7 day count)

Flow	1604 Average Daily Flow
Speed	85th% East Bound 21.9mph West Bound 23.5mph

Plains Avenue, east end (7 day count)

Flow	2792 Average Daily Flow
Speed	85th% East Bound 26.8mph West Bound 26.6mph

Interventions

4.1	Improve transition and reduce speeds
4.2	Reconfigure the junction of Plains Avenue and Marion Cresent by removing east side fork and creating new public space with greening and by-pass for south bound cyclists.
5	Swap junction priority, table junction and tighten geometry to slow speeds. Add new street tree planting on corners of junction.

Costs

4.1	£2 to £5,000
4.2	£30 to £50,000
5	£2 to £4,000

4 View east along Plains Avenue from the junction with Marion Cresent

Opportunity
The forking of Marion Cresent could be removed providing an opportunity to reconfigure the space to create better cycle provision, greening and some community space

5 View south along Marion Cresent across the junction with Cranborne Avenue

Barrier
Lack of priority and layout that allows vehicles to turn through junction at speed

B.6 & B.7

Marion Cresent to Northumberland Road via Hampshire Drive

Overview

Marion Cresent is a quiet residential street with low traffic volumes, although recorded speeds suggest this is being used as a rat run. Moving southm Hampshire Drive becomes access only with a cycle filter at the end giving cyclists access to Norfolk Road.

Traffic Volume

Marion Crecent (7 day count)

Flow 855 Average Daily Flow
Speed 85th% North Bound 31.8mph South Bound 30.4mph

Hampshire Drive south of Norfolk Road (7 day count)

Flow 1123 Average Daily Flow
Speed 85th% - North Bound 26.4mph South Bound 29.8mph

Northumberland Road (7 day count)

Flow 5379 Average Daily Flow
Speed 85th%East Bound 26.8mph West Bound 27.1mph

Interventions

6.1 Add visual and physical narrowing to break up street scape and improve urban realm. Remove mini-roundabout at junction with Somerset Road and take opportunity to redesign junction to slow vehicles.

6.2 Improve filtered permeability, add greening and streetscape improvements. Upgrade transition by narrowing road and adding an informal raised cycle and pedestrian crossing visually linking green space to new planted area.

7.1 Install parallel crossing offset from junction with transition for cyclists to leave and re-join road either side of junction. Tighten geometry of the entrance to Hampshire Drive.

7.2 Add off-road provision in verge linking to crossing of Sutton Road. *

* Further investigation required to investigate feasibility of orbital route linking to Loose via Mangravet Avenue and and New Line Academy.

Costs

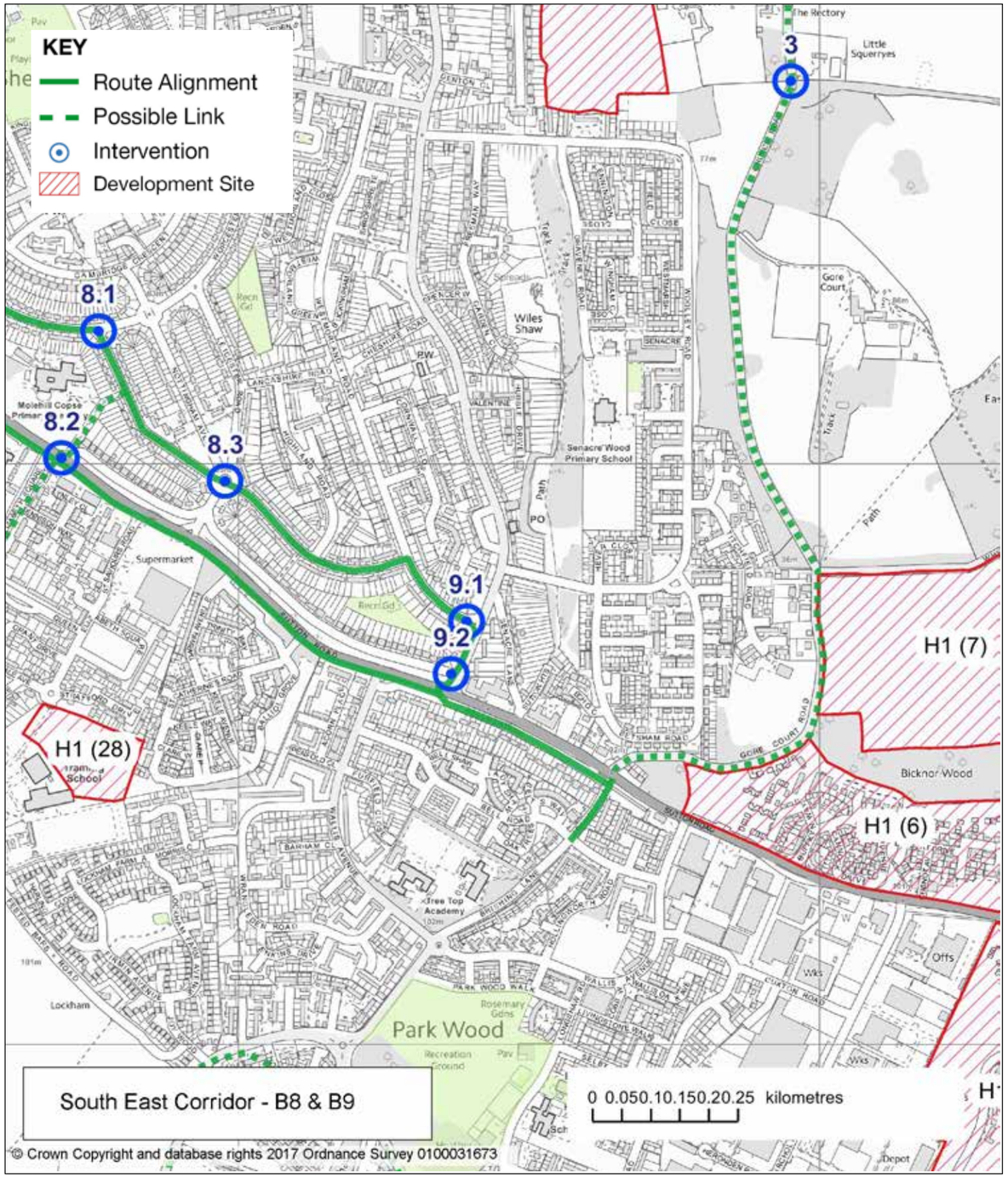
6.1 £20 to £40,000
6.2 £20 to £30,000
7.1 £30 to £40,000
7.2 £30 to £40,000


6.2 View west showing existing cycle filter


7.1 View east of existing cross road junction

B.8 & B.9

Hereford Road to Sutton Road via Westmorland Road and Middlesex Road



Overview

Hereford, Westmorland and Middlesex Roads are all quiet residential streets with relatively low speeds.

Traffic Volume

Hereford Road (7 day count)

Flow	737 Average Daily Flow
Speed	85th% West bound 25.3mph East bound 25.5mph

Willington Street (7 day count)

Flow	13,107 Average Daily Flow
Speed	85th% North Bound 32.2mph South Bound 31.3mph

Interventions

8.1	Reconfigure junction removing west side fork and creating new public space with greening and cycle by-pass for north bound cyclists.
8.2	Install toucan crossing on Sutton Road, create wider shared footway access to Middlesex Road and upgrade transition from off to on-road section using road narrowing and tabling.
8.3	Close off the south end of Nottingham Avenue making it local access only. Remove road between the two green areas and the west side of the roundabout enlarging and joining up the green space. Change roundabouts 7m carriageway into a two way horse shoe shape road retaining the junction but removing the roundabout.
9.1	Improve streetscape with planting
9.1 & 9.2	Install continuous footway
9.2	Widen shared footway and improve crossing of Sutton Road (widen refuge area, widen footway on approaches, remove railings and increase green time) Tighten geometry to slow turning vehicles.

Costs

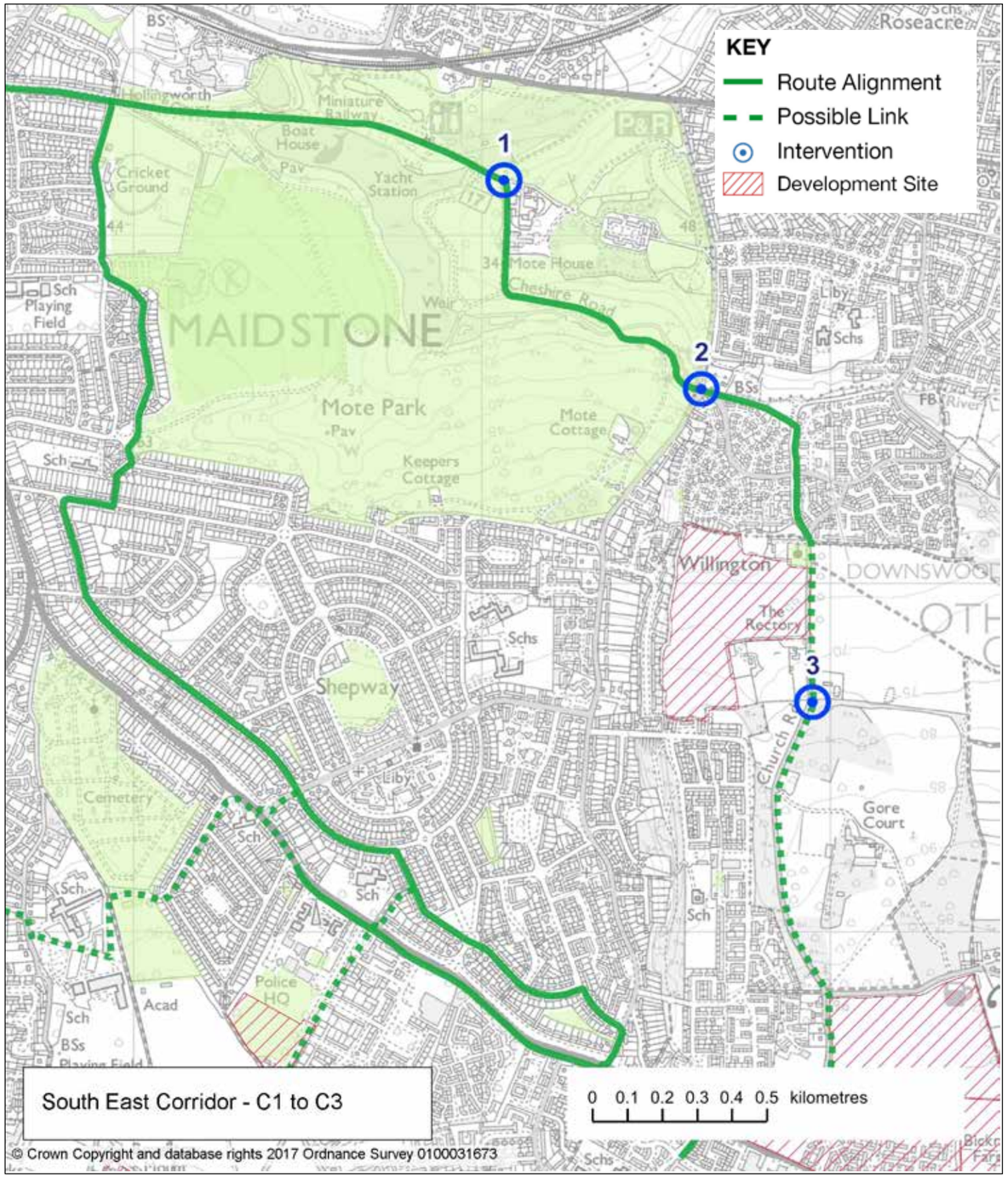
8.1	£1 to £3,000
8.2	£50 to £100,000
8.3	£30 to £100,000
9.1	£5 to £30,000
9.2 & 9.3	£25 to 30,000


8.3 View east of junction from Middlesex Road


9.1 View west of shared footway

C

Route through Mote Park to South East via Church Road



Overview

Mote Park contains a very high quality leisure route for cycling and walking. It operates as a good utility route in the daytime. The route links to new developments at Willington and Bicknor Wood sites H1 (8,7,6,9).

Willington Street is a significant barrier; a key issue on this alignment is the existing uncontrolled refuge crossing provides a very low level of pedestrian and cycle level of service. The crossing would score badly if assessed using either pedestrian comfort levels or the junction assessment tool.

Church Road is a country lane type road with associated issues of high vehicle speeds, limited space and restricted forward visibility making for hostile on road conditions for cyclists.

Traffic Volume

Willington Street (7 day count)

Flow	15,943 Average Daily Flow
Speed	85th% North Bound 35.1mph South Bound 34.9mph

Church Road (7 day count)

Flow	1422 Average Daily Flow
Speed	85th% North Bound 38.5mph South Bound 37.1mph

Interventions

1 Explore options to provide low level lighting through park to extend usable hours.

2 Install single stage controlled crossing. Remove vehicle turning pockets and narrow road and change surface to mark slow speed environment. Tighten geometry and reduce lanes on Deringwood Drive entrance. Remove railings and widen footways.

3 Build Off-road route set back from carriageway along Church Road.

Costs

Further investigation required
£40 to £100,000
£250 to £300,000 *

* An alternative and much cheaper option would be to close Church Road to through traffic whilst retaining local access. Considering the low flows, this may be a very practical option.


2 View south along Willington Street next to park entrance


3 View along Church Road

The North West Corridor – Section D

Introduction

The existing network in this part of Maidstone fails to provide for the major desire line of movement that falls roughly between the hospital and the town centre.

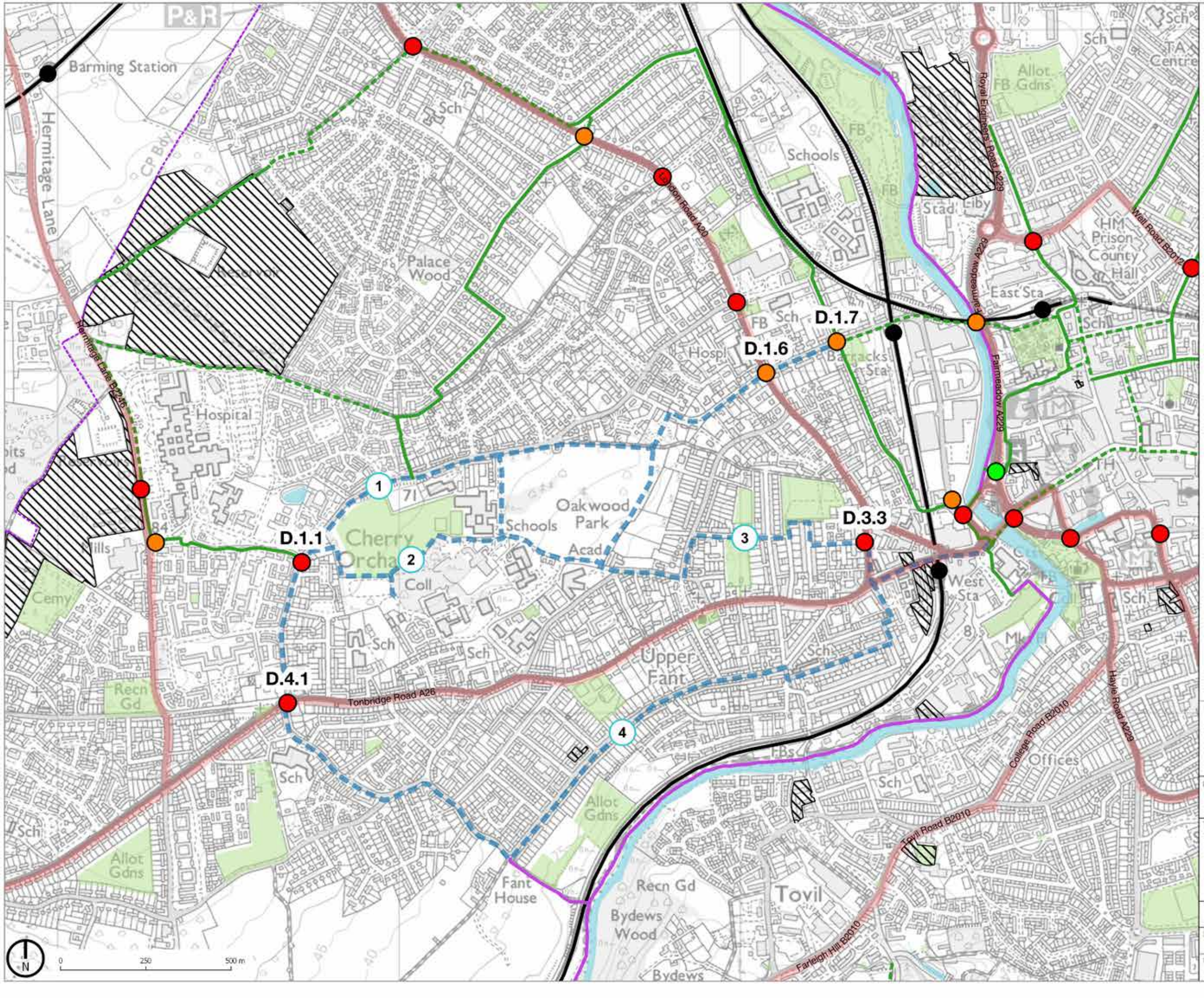
The existing cycle network skirts the north and south edges of the corridor and, despite being good in places, fails to provide suitable all ability cycle access to the majority of the residential homes and major destinations in the area such as the schools at Oakwood Park, Maidstone Hospital and the new development sites.

Barriers to Walking and Cycling

- Severance caused by the A20 and the A26, particularly the one way system to the west of the gyratory.
- The lack of a joined up cycle network, especially the absence of all ability crossings of the major roads.
- The infrastructure directly outside the new development sites failing to safely connect to the surrounding area.
- The train line and the river obstructing east/ west movement with the limited crossing points funnelling movement and creating pinch points and severance.
- Existing cycle provision is substandard in places.
- Generally there's a low level of service for pedestrians both along and crossing the A20 and A26.

Scope of Assessment

Due to the lack of a defined route alignment for improvement it was decided that this section of the report would look at the feasibility of the various options to create a good quality cycle link between the off-road path that connects to Queen's Road and the town centre. Options would be assessed using TfLs route assessment criteria.



KEY

JUNCTION ASSESSMENT

- Green
- Amber
- Red

CYCLE NETWORK

- Existing
- Proposed
- Tow path
- Route Option

HOUSING DEVELOPMENT

- Housing Allocations 2017

BARRIER TO MOVEMENT

- Railway
- High Volume Road
- Water

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PROJECT
Maidstone Cycling & Walking Assessment

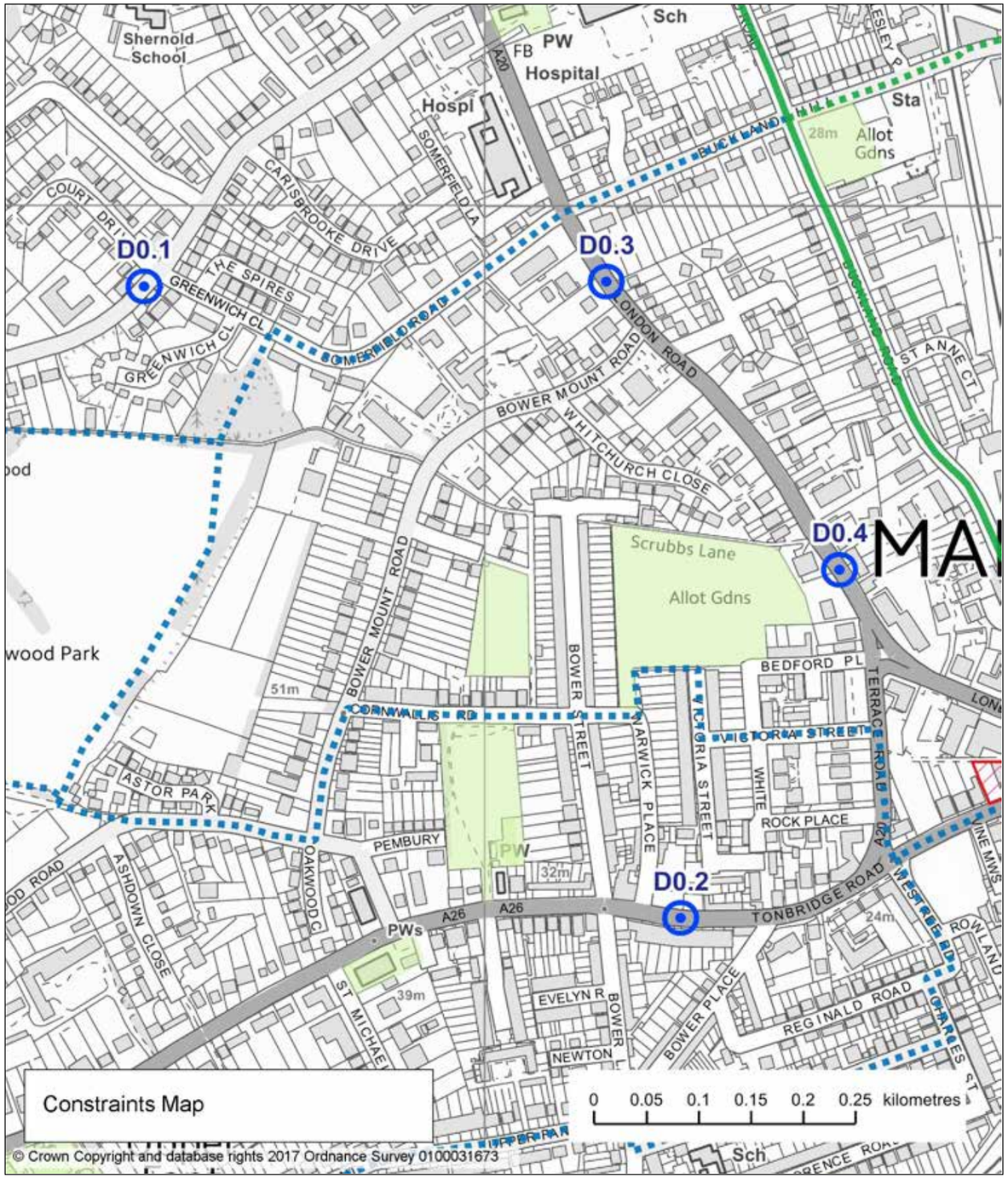
TITLE
MAIDSTONE
NORTH WEST CORRIDOR
ASSESSMENT

Drawn	Checked	Date	Scale at A3
DL	SP	13/3/2018	1:10,000

STATUS
ISSUED

DRAWING NUMBER	REVISION
11079.SD-MAP-00-02	A

Constraints



A number of options for this alignment were considered including:

- Queens Road
- Tonbridge Road from Bower Mount Road to the gyratory
- The London Road between Bower Mount Road and Buckland Hill
- The London Road between the footpath exit and the gyratory

Each of these have physical constraints in terms of available road width, traffic speeds and traffic volumes which make providing for cyclists extremely challenging.

These routes should not be ruled out as desire lines that might be provided for in the future; however, it is recognised here that this will involve significant reconfiguration of the transport network and require strong political will and funding.

Traffic volume on each of the listed links would require segregated cycle provision in line with current DfT guidance. The absolute minimum space required for this would be a 13m Street with 2m Footways (Minimum DfT Manual for Streets), 1.5m Stepped cycle tracks (Minimum DMRB for pinch points) and a 6m Carriageway. As can be seen, the constraints listed prohibit the provision of such minimum standard.

Road Width & Traffic Volume

D0.1

Queens Road (7 day count & width at narrowest point)

Flow 8,500 Average Daily Flow
Speed 85th% 32mph
Width 10m Street 6m Carriageway

D0.2

Tonbridge Road (DfT AADF count & width at narrowest point)

Flow 14,000 Average Annual Daily Flow
Width 10m Street 6.5m Carriageway

D0.3

A20 between Bower Mount Road and Buckland Hill (DfT AADF & width at narrowest point)

Flow 13,000 Average Annual Daily
Width 11.5m Street 7m Carriageway

D0.4

A20 between Scrubbs Lane and the gyratory (DfT AADF & width at narrowest point)

Flow 13,000 Average Annual Daily
Width 10m Street 6.5m Carriageway

Options D1 and D2

1.2 View west, road verge on north side of Queen's Road

Opportunity & Barrier
North side verge is wide in parts although it pinches at 1.4m moving west

1.4 View South

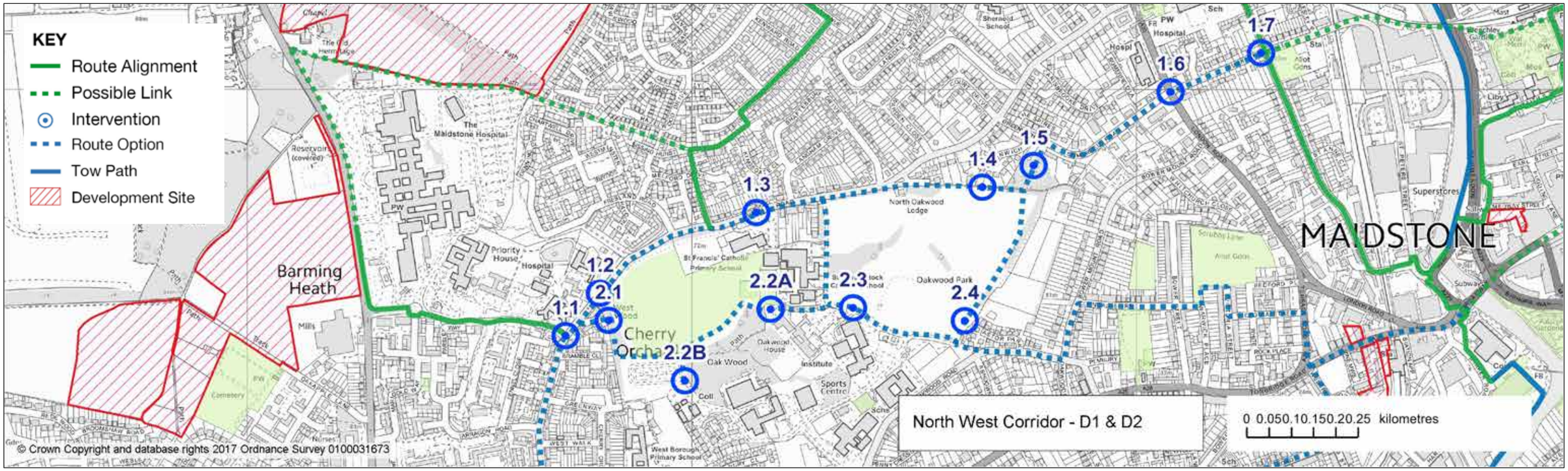
Existing & Opportunity
2.4m existing footpath link between Speldhurst Court and Bower Mount Road

2.1 View east at the end of Victoria Orchard close

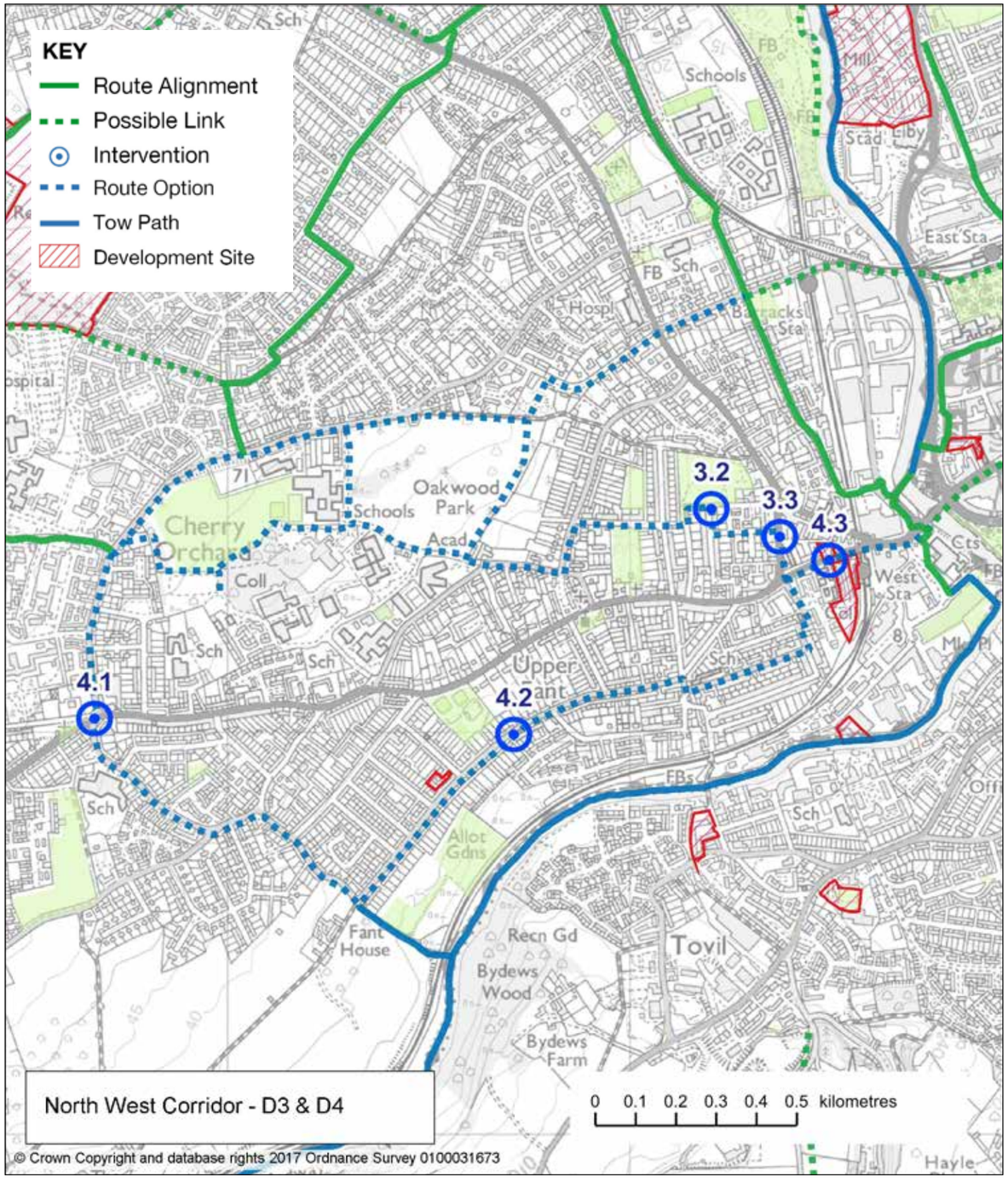
Opportunity
Potential access to Oakwood via Victoria Orchard

2.3 View south east

Opportunity
Existing unmade path in verge could be upgraded to a sealed path



Options D3 and D4



3.2 View of footpath

Opportunity
Improve transition with drop kerb, parking restrictions and investigate widening footpath to meet DfT standards

4.3 View west from the High Street side of the gyratory

Desire Line & Barrier
Safe and easy east/west cycle movement through the southern arm of the gyratory is a significant desire line that isn't catered for

4.2 View west along Hackney Road

Constraint
Upper Fant Road and Hackney Road have moderate traffic levels, parking pinch points and local buses that reduce the level of service for cyclists

4.2 View north over junction crossing of the London Road

Barrier
Wide complex junction that would need significant alterations to make it easy to negotiate for all levels of cyclists

Options Summary

D1

Alignment

Link from the hospital to Maidstone East via the northern perimeter of Oakwood Park, Somerfield Road and Buckland Hill.

Buckland Hill (7 day Survey)

Flow 7000 Average Daily Flow
Speed 85th% 26mph

Queens Road (7 day Survey)

Flow 8,500 Average Daily Flow
Speed 85th% 32mph

Interventions

1.1 Install parallel crossing
1.2 Install bi-directional track on south side creating, space by realigning the carriageway making use of space in the verge on the north side of the road.
1.3 Limited street widths in front of the school are a challenge and will require further investigation to find the best type of provision.
1.4 Widen footpath at the end of Speldhurst Court.
1.5 Install new link through to Greenwich Close making use of the local access only Somerfield Road.
1.6 Upgrade junctions to include ASL, feeder lane and early release for cyclists crossing junction.
1.7 Explore traffic management option to make Buckland Hill and Buckland Road good for cycling. This might include making the whole area local access only with a filtered permeability on the west arm of the junction of Buckland Road and Buckland Hill.

D2

Alignment

Link from the hospital to Maidstone East via Oakwood Park, Somerfield Road and Buckland Hill. Alignment cuts through the Oakwood Park complex running along the internal field edge and via the south section of the internal access road.

Interventions

Alignment will require interventions 1.1, 1.5, 1.6 & 1.7 listed in option D1 for delivery.

2.1 New access connecting to a 500m path between Victoria Orchard and the Oakwood House car park. 5m width path with 3m Cycle track and 2m Footway.
2.2A/B An alternative to 2.1 would be a link via Mid Kent College access road and car park although 2.1 is preferred.
2.3 Table junction and run 5m width path in the verge along east side of Oakwood Park through road.
2.4 * 400m path linking through to Somerfield Road.

* Route may need fencing depending on negotiations with land owner.

D3

Alignment

Link from the hospital to the town centre via Oakwood Park

Bower Mount Road (7 day count)

Flow 1500 Average Daily Flow
Speed 85th% 30mph

Interventions

Alignment will also require interventions 1.1, 2.1, 2.2 (either option) and 2.3 listed in option D1 and D2 for delivery.

3.1 Physical traffic calming to reduce speed on link, narrowing with planting to improve street scape.
3.2 Widen alleyway and install lighting.
3.3 Make Victoria Street exit only, reduce to one lane exit and install Toucan crossing.

D4

Alignment

Link from the hospital moving south crossing Tonbridge Road and along Fant Lane, Hackney Road, Upper Fant Road and into town via the gyratory.

Upper Fant Road (7 day Survey)

Speed 85th% 31.1mph

Interventions

4.1 Segregated provision along Queens Road and cycle proofing of junction.
4.2 Physical traffic calming measures to reduce speeds. Rationalising of parking at narrow points.
4.3 * Options for access through one way system and gyratory require further investigation.

* For discussion of interventions see section A6 covering the gyratory and links to and from the town centre through this corridor.

Recommendations

As shown by the summary table of scores, option D2 performs the strongest against the attributes being assessed. Options D1 and D2 are similar, however the benefits to the level of service of a good width off-road path located away from high volumes of traffic tips the balance.

It should be noted that all of these options have significant constraints that need further investigation. For example, although option D2 is being suggested here it requires land acquisition and access which will need further stakeholder negotiation; the outcome of which heavily impacts deliverability.

Option Scoring Using TfL Assessment Criteria

Attribute	D1	D2	D3	D3
Directness and Cohesion	4	4	4	2
Attractiveness	3	5	3	2
Traffic Composition and Impact on Other Users	4	4	3	3
Buildability	3	3	1	2
Network Prioritisation and Phasing	4	3	3	4
Totals	18	19	14	13

Next Steps

Prioritisation

The logical next step is to prioritise the list of potential improvements and select a number of schemes to be progressed to the detailed design stage. This should include a mix of small and large interventions.

Scheme Development

Improvements to the cycling and walking network can be advanced in a number of ways including route based, area based or site specific.

Route based Scheme

An example would be an end to end route development for the link from the hospital site in the west to the town centre via Buckland Hill.

Area based Scheme

The Shepway area would be a good candidate where route based improvements could be accompanied by a village package of measures that includes area wide traffic management combined with a suite of small scale street improvements.

Point interventions

An example would be a junction improvement plan aimed at making problematic intersections easier to negotiate on foot and by bike. Tackling such key barriers can be a very cost effective way to unlock significant improvements to the network.

Community Engagement

This should fit into all stages of the design process and could be applied to all the examples outlined above.

This process should engage a diverse range of voices such as the Maidstone Cycle Campaign Forum, local shop owners, disability groups etc to better understand the appetite for change.

One example here could include a mini-package of three days involving engaging the general public on the street with targeted discussion of the findings of the town centre assessment. Testing the conclusions of the report will help ensure the solutions being advanced are appropriate as well as ensuring there's appetite for such change.

Embedding

Making Cycling and Walking Business as Usual

Embedding walking and cycling as a core part of business for the local and county authority can be a really positive way to improve the network.

An example would involve ensuring cycling and walking are considered as a common consideration in new schemes, new developments and as a measure of quality in the transport service being provided.

Making the Case

Schemes that involve significant change to the existing street network to improve cycling and walking access can be difficult in a car centric context. The political, economic and policy element is often pivotal; therefore, ensuring any schemes are underpinned by strong and robust arguments that join up with the local political and community context is key.

Glossary of Terms

(taken from London Cycling Design Standards)

Advisory cycle lane

A dashed white line marking an area of the carriageway designated for the use of cyclists. Motor vehicles may need to cross the markings but generally should not enter the lane unless it is unavoidable.

ASL – Advanced stop line

Stop line for cyclists at traffic signals ahead of the stop line for general traffic, with a waiting area marked with a large cycle symbol and extending across some or all of the traffic lanes.

Bus lane

Lane designated for bus use during the signed hours of operation. Signs also advertise whether other vehicles, such as cycles, are permitted in the lane during those times.

Bus stop bypass

A bus stop layout in which through-movement for cycles is away from the carriageway and from the bus stop cage. Can be achieved with shared use or partially separated footway around the bus stop but usually features a dedicated cycle track passing behind the bus shelter.

Carriageway

That part of a road or highway constructed for the use of vehicular traffic (including cycles).

Chicane

A horizontal deflection in the carriageway used as a speed-calming measure.

Continuous footway

Technique used at priority junctions and other vehicular accesses to assert visual priority for pedestrians over turning vehicles by continuing the footway material across the access or the mouth of the junction. A 'continuous cycleway' can be added in a similar way if a cycle lane or track is present.

Contraflow or Cycle contraflow

A facility allowing cyclists to travel in the opposite direction to one-way motor traffic. Requires a Traffic Order and can be implemented using lane markings, which may or may not have some other form of physical protection, or by using signing only.

Courtesy crossing

Location designed to invite pedestrians (or cyclists) to cross and to encourage vehicles on the carriageway to give way – although there is no legal obligation to do so. Often used as part of a design approach aimed at reducing vehicle speeds.

Cycle bypass

Form of physical separation for cycles enabling them to avoid a controlled feature for other road users – e.g. traffic signals or a pinch-point requiring 'give way' to oncoming traffic.

Cycle street

A street where the carriageway is dominated by cyclists and, by virtue of the width and design of the street, all motor traffic moves at the speed of the slowest cyclist.

Cycle track

A cycle facility physically separated by kerbs, verges and/or level changes from areas used by motorists and pedestrians. It may be next to the road or completely away from the carriageway and may either be at footway level, carriageway level or in-between.

Decluttering

Rationalisation of street furniture, signs and signals aimed at minimising the amount of such objects in the street environment, thereby reducing visual and physical clutter.

Dropped kerb

Feature to facilitate access, usually between the footway and the carriageway. Must be flush when provided for pedestrians, wheelchair users or cyclists.

'Dutch-style' roundabout

A type of roundabout where cyclists are physically separated from other road users with orbital cycle tracks. It is one of many types of roundabout seen in the Netherlands.

Entry treatment or Raised entry treatment

Raised carriageway surfacing at a side road junction, taking the form of a hump with ramps on either side and usually provided at footway level. The purpose is principally to slow vehicle movements at the junction.

Filtered permeability

An area-based network planning approach to improving conditions for cycling by removing through motorised traffic in zoned areas. Cyclists can pass freely through motorised traffic restrictions between zones and so are favoured in terms of journey time and convenience.

Footway build-out

Area of footway that extends out further than the previous kerb edge and narrows the carriageway.

Greenways

Various shared use route types largely or entirely off-highway – generally designed for people of all abilities to use on foot, cycle or horseback, for leisure, local connection or commuting.

Homezone

A group of streets and spaces designed primarily to meet the needs of non-motorised users and where the speed and dominance of motorised traffic is reduced. A 10mph limit normally applies.

Horizontal traffic calming

Forms of traffic calming that work by changing the width available for driving. Typically these take the form of static elements such as build- outs or traffic islands, but they may also utilise car parking or temporary features.

Junction table or Raised table

Raised carriageway surface (often to footway level) at a junction, used as a speed control measure and a way of supporting pedestrian movement and pedestrian priority.

Light segregation

The use of intermittently placed objects to separate and protect a cycle facility (usually a marked cycle lane) from motorised traffic.

Mandatory cycle lane

A section of the carriageway marked by a solid white line that is designated for the exclusive use of cyclists during the advertised hours of operation.

Parallel priority crossings or 'parallel crossing'

A cycle crossing next to a zebra crossing where users of the main carriageway have to give way to both pedestrians and cyclists crossing that carriageway.

Pedestrian crossings

One of various crossing types for pedestrians that do not allow cycle access. Includes signal-controlled types (Pelican, Puffin and Ped-X crossings) and priority crossings (Zebra crossings).

Pedestrian Zone

Area closed to vehicles, including cycles – often marked with exceptions for loading. Cycles may also be specifically exempted, or they may be included by designating a 'Pedestrian and Cycle Zone'.

Pinch point

Locations where the carriageway narrows, often as a result of traffic calming measures or addition of refuge islands. Unless well designed, they can add to collision risk and discomfort for cyclists by forcing them into close proximity with motorised traffic.

Point closure

Method of closing a street to through-traffic, ideally in the form of a modal filter (i.e. allowing access for cyclists).

Priority junction

A junction where the priority is shown by 'give-way' road markings – i.e. the minor arm gives way to the major arm.

Quietway

A branded cycle route type established by the London Mayor's Vision for Cycling (2013). Quietways are strategic routes using less heavily trafficked local streets and off-carriageway facilities.

Raised delineator

A raised strip, between 12 and 20mm high, that separates areas used by cycle and pedestrians when they are at the same level. It is defined in TSRGD (diagram 1049.1) and therefore has legal status as a road marking.

Refuge islands

Islands in the carriageway to support either pedestrian crossing or vehicle right turns (which may include cycle-only turning pockets). Their placement and design should avoid creating hazardous pinch-points for cyclists.

Segregated cycle lane/track

Cycle facility separated by a continuous or near-continuous physical upstand along links (usually verges or kerbed segregating islands).

Shared use area, footway or path

A footway, footpath or part of any public space shared between pedestrians and cyclists but where motorised vehicles are not permitted. It is identified by the shared use sign – a blue circle with white pedestrian and cycle symbols. In these spaces, pedestrians have priority.

Shared space

A design approach that seeks to change the way streets operate by reducing the dominance of motor vehicles, primarily through lower speeds and encouraging drivers to behave more accommodatingly towards pedestrians and cyclists.

Shared surface (level surface)

A street or space either with no distinction between footway and carriageway or no kerb upstand between the two.

Speed cushions

Small speed humps installed across the road with gaps at distances that, ideally, allow certain users such as buses and large emergency service vehicles to pass easily, but force most other motorised vehicles to slow down to negotiate the humps.

Speed humps

Raised areas, typically placed horizontally across the carriageway, designed to reduce traffic speeds. The ramps either side of the hump should have a sinusoidal profile so as to minimise discomfort to cyclists.

Tactile paving

Textured paving that helps people with sight impairments to read the street environment around them by feeling the change in surface underfoot and/ or seeing the change in material.

Two-stage turn

A manoeuvre allowing cyclists to make an opposed turn at a junction in two stages, without having to move across lanes of moving traffic. Between two traffic signal stages, the cyclist waits in the junction, away from the traffic flow.

Uncontrolled crossing

A pedestrian and/or cycle crossing where vehicles do not legally have to give way but may do so out of courtesy. They are used where vehicle flows and speeds give safe opportunities for crossing the street without the need for a controlled facility.

Vertical traffic calming

Forms of traffic calming that rely on a change of level in the carriageway for slowing effect – typically speed humps or speed cushions.

Visibility splay

The physical space at an access or junction through which a road user exiting from the minor arm needs good, clear visibility in order to see potential conflicts or dangers in advance of the distance they need in order to brake and come to a stop.

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