

INFRASTRUCTURE OVERVIEW & SCRUTINY PANEL

THURSDAY, 12TH MARCH, 2020

At 6.30 pm

in the

DESBOROUGH 4 - TOWN HALL, MAIDENHEAD

SUPPLEMENTARY AGENDA

PART I

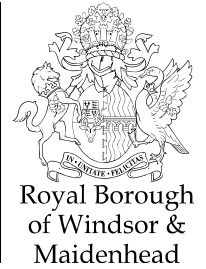
<u>ITEM</u>	<u>SUBJECT</u>	<u>PAGE NO</u>
5.	<u>DEDWORTH ROAD/HATCH LANE ROUNDABOUTS TRIAL</u> To review the Dedworth Road/Hatch Lane Roundabouts trial.	1 - 30

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Agenda Item 5

Subject:	Hatch Lane / Parsonage Lane, Windsor – Roundabout Trial
Reason for briefing note:	To inform discussion pertaining to agenda item (5) on the Hatch Lane / Parsonage Lane roundabout trial
Responsible officer(s):	Ben Smith – Head of Commissioning: Infrastructure
Date:	Infrastructure Overview & Scrutiny Panel – 12 th March 2020

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SUMMARY

1. Requests to deliver improvement at the Hatch Lane / Parsonage Lane junction were requested by residents and Ward Members. In addition, the existing traffic signal equipment is life-expired creating operational issues. Options were, therefore, commissioned to deliver improvements.
2. Desktop analysis was completed, and a 'live' trial scheme introduced seeking to understand the impact of converting the junction to a roundabout operation and enabling an informed public consultation.
3. Consultation feedback demonstrated 60% support to convert the 'trial' roundabout scheme to a permanent solution which was completed in September 2019.

1 BACKGROUND

- 1.1 In 2018 Ward Councillors requested proposals seeking to improve road safety and traffic flows and to respond to the issues of traffic entering and exiting the 'Tesco' causing blocking of traffic into the junction.
- 1.2 The existing traffic signals were 'life-expired' and with increasing maintenance, reliability and resilience it was prudent to consider options.
- 1.3 A combination of technical factors and seeking to positively respond to resident concerns led to the commissioning of a technical review. Options to upgrade the existing traffic signal operation with modern equipment and control systems or convert the junction to a roundabout style operation existed.
- 1.4 It was subsequently advised that councillors had determined that the Cabinet paper should be deferred (In effect shelved) and that a trial scheme for a mini-roundabout arrangement should be implemented and assessed.
- 1.5 Officers, in conjunction with the Lead Member for Highways and Transport agreed to implement a 'trial' roundabout solution and seek views through a public consultation.
- 1.6 Measures of success of the trial scheme were identified to include, queue lengths, recorded injury collisions and subjective feedback from residents and other road users on issues such as journey times through the junctions, incidence of blocking of the junctions and pedestrian accessibility and safety.

2 CONSULTATION AND ENGAGEMENT

- 2.1. Notification of the works and the trial scheme were shared with Members and a consultation letter was delivered to residents in January 2019. This was supported by social media signposting the consultation on the Royal Borough's website.
- 2.2. Officers, in conjunction with the Lead Member for Highways and Transport agreed to extend the trial and consultation to the end of April 2019 to allow for additional time for responses and to ensure that there was no issue with decisions being made during the purdah period in advance of the May 2019 local elections.
- 2.3. A Technical Note reviewing the trial scheme incorporating the results of the consultation feedback was prepared in May 2019 enabling an informed decision to be made on the way forward.

- 2.4. Consideration of the Technical Note and a decision on the way forward was delayed until post-election enabling portfolio holders and Ward Members to be confirmed and engaged.
- 2.5. Following consideration of the Technical Report the trial scheme was recommended as a permanent solution and residents were advised by letter in June 2019 (two months prior to implementation of the permanent scheme).

3 IMPLEMENTATION

- 3.1 The design of a permanent scheme was commissioned in late June 2019, with the work scheduled for implementation in late August 2019.
- 3.2 Whilst construction during the school summer break would have been preferable there were technical constraints in terms of securing roadspace; completion of detailed design and lead-in for materials and resources which precluded this from happening.
- 3.3 Issues arose during construction which were sought to be managed effectively.
- 3.4 The roundabout solution is now in place as a permanent scheme and appears to be operating successfully.

4. APPENDICES

- Appendix 1: Technical Report – Review of Trial (May 2019)
- Appendix 2: Resident Letter – Consultation Outcome

Our Ref: 1000005295/VH 112625

Date: January 2019



To: The Occupier



Dear Sir or Madam,

DEDWORTH ROAD / HATCH LANE / PARSONAGE LANE – TRIAL MINI-ROUNDBABOUTS

Volker Highways on behalf of the Royal Borough of Windsor and Maidenhead, will be carrying out works at junction of Dedworth Road / Clarence Road / Hatch Lane / Parsonage Lane during the week commencing 28th January 2019.

The works will be to convert the existing traffic light-controlled junction to a trial double mini-roundabout layout. **A drawing showing the trial layout for the junction is included on the reverse of this letter.**

Following concerns raised by residents about queuing and blocking at the junction, the Borough has taken the decision to trial alternative junction arrangements. In addition to the double mini-roundabouts, temporary pedestrian crossing signals will be installed on all four arms. Three of these crossings will be installed during the week commencing 28th January, with the crossing in Hatch Lane to be installed on 4th February.

The trial is proposed to remain in place for a period of eight to ten weeks, during which time the situation will be monitored to help inform a decision on how to proceed at the end of trial period.

The Borough would welcome your views on the trial scheme once it is in operation and an online survey has been set up under 'Highway consultations' at <https://www3.rbwm.gov.uk/consultations> Alternatively, you can write to the Highways and Transport team at Town Hall, St Ives Road, Maidenhead, SL6 1RF.

The works to implement the new layout, will require the use of 4-way temporary traffic lights, from 28th January until no later than 1st February, whilst the existing permanent traffic lights are switched off and the trial arrangements are implemented.

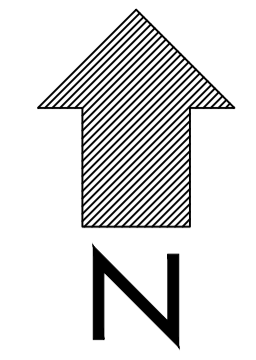
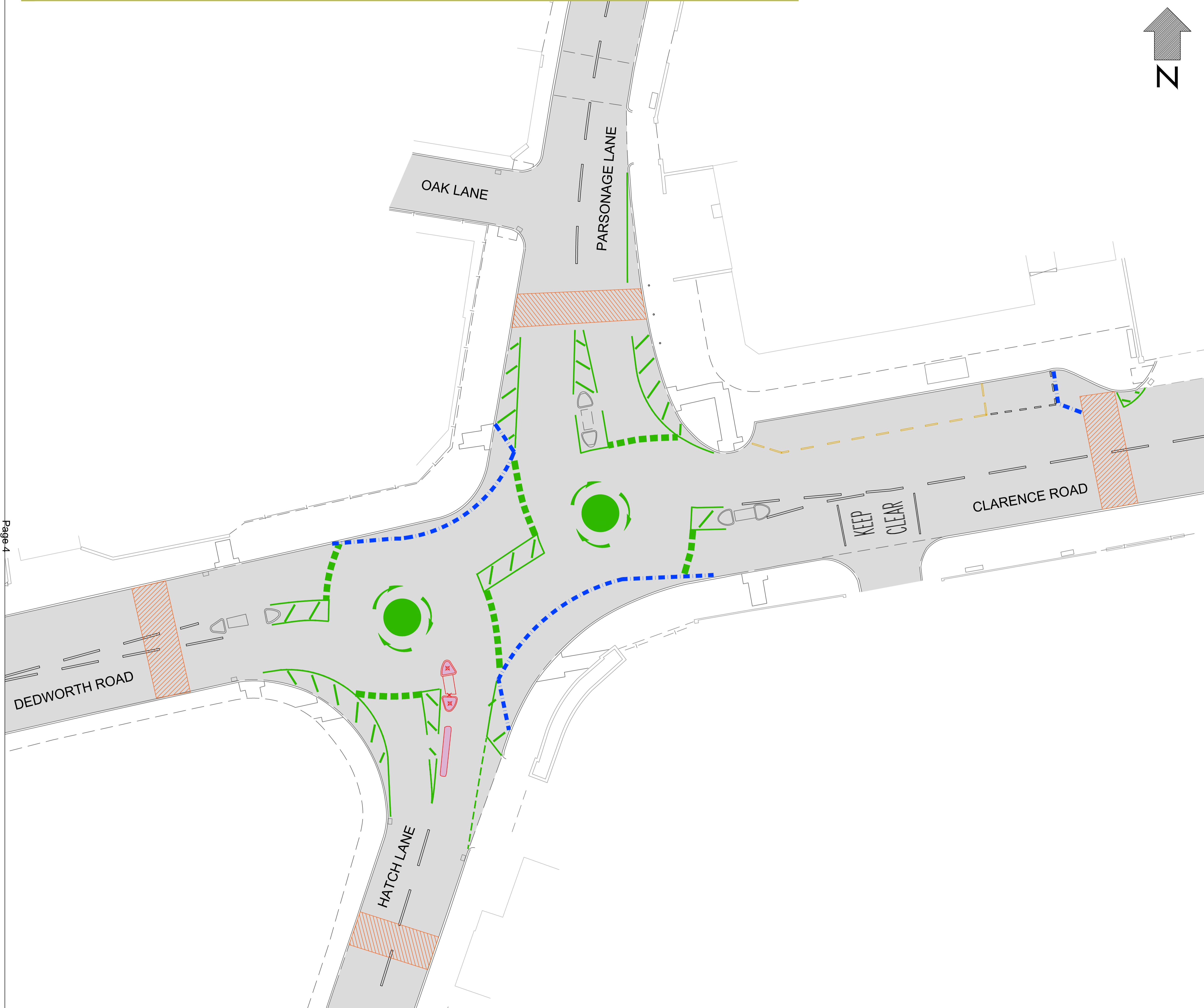
Your patience and co-operation would be appreciated to ensure that the Contractor is able to carry out the works in safety and as quickly as possible.

Any changes to the works dates will be notified on the advance notification signs on site.





Should you have any further queries please contact Highways Customer Services between 9am and 5pm Monday to Friday on 01628 683868.

For Emergencies during out of hours and weekends please call the Operations Unit on 01753 853517. Please note this number is not to be used for general enquiries.

Thank you.



LEGEND

-  Barriers to adjust carriageway alignment for trial.
-  Location for temporary traffic light controlled pedestrian crossing for the duration of the trial.
-  New road markings for trial layout.
-  Traffic islands to be removed for trial

Details of signage and bagging of existing traffic light infrastructure are omitted from the drawing for clarity of the general layout.

NOTE: Existing signal controlled crossing points to be taken out of use and closed off for duration of trial.


Rev	Date	Description	Drn	Chk	App
A	JAN 2019	TEXT CHANGES, CROSSING ADDED	PT	RB	RB
-	JAN 2019	ORIGINAL ISSUE	PT	RB	RB

This drawing has been specifically prepared to meet the requirements of the named client and may contain design and innovative features which differ from conventional design standards.



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Client 

Project
DEDWORTH ROAD / CLARENCE ROAD /
HATCH LANE / PARSONAGE LANE,
WINDSOR

Drawing Title
TRIAL DOUBLE MINI-ROUNDBOUT SCHEME
NOTIFICATION DRAWING

Drawing Status
FOR INFORMATION

Drawn PT	Designed RB	Date JAN 2019	Scale NTS	Size A1
Drawing No. 1000005292-4-CON-01				Rev A

Page 4

Dedworth Road / Clarence Road / Hatch Lane / Parsonage Lane, Windsor
Review of Trial mini-roundabout scheme

Date: May 2019

Created by
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1.0 Introduction

At the end of January 2019 in response to concerns about congestion and road safety at the junction of Dedworth Road, Clarence Road, Hatch Lane and Parsonage Lane, the Royal Borough of Windsor and Maidenhead introduced a trial double mini-roundabout arrangement with temporary signalised pedestrian crossings.

A Technical Note was issued in May 2018, which reviewed alternative methods of junction control which included mini-roundabouts, priority junctions and an upgrade to the existing traffic signals. The Borough took the decision to trial the option of a double mini-roundabout arrangement and to assess the impacts prior to a decision being made on longer term arrangements at the junctions.

The agreed period of the trial was from the end of January until the end of May 2019, with a consultation on options for the junction running from the start of the trial period until the end of April 2019 and traffic and pedestrian survey data

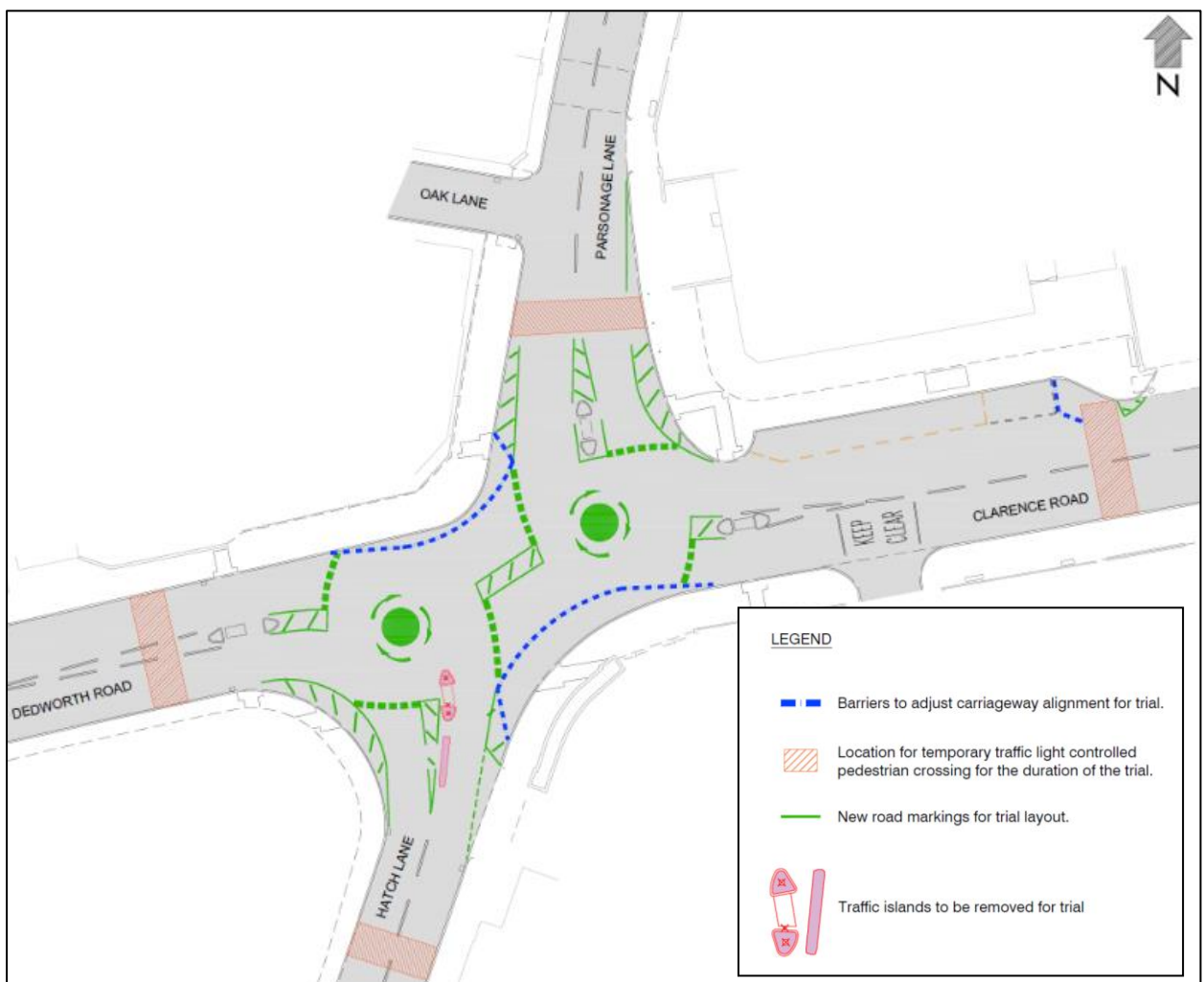
gathered during the trial period to supplement survey data captured prior to the trial.

This note provides an overview of the consultation responses received and reviews the survey data captured. Options for changes at the junction are summarised and the benefits and disbenefits of each option set out, along with concluding comments on the trial and the possible next steps.

2.0 Overview of the Trial Scheme design

A general overview of the trial scheme layout is shown in Figure 1.

Figure 1: Extract from drawing '1000005292-4-CON-01-rev.A' showing the trial scheme layout.



2.1 Pedestrian crossing facilities

To enable implementation of the trial scheme it was necessary to remove the traffic islands in the mouth of the Hatch Lane junction. All other traffic islands have been retained in place during the trial. Prior to the trial the traffic islands were

controlled pedestrian crossing points under traffic signal control, conveniently located on the main pedestrian desire lines.

The temporary signal-controlled crossings for the trial scheme have been located further from the junctions to mitigate the risks associated with crossings located close to roundabouts.

To encourage pedestrians to utilise the temporary signal-controlled crossings rather than crossing at the remaining traffic islands where there may be a heightened risk of conflict with manoeuvring vehicles, temporary barriers were deployed at the existing traffic islands and dropped crossing points on the footways.

2.2 Revised carriageway alignment

A key element of the design for the trial scheme was to ensure there was suitable horizontal deflection on entry to the roundabouts from each approach. Different levels of deflection were achievable on each arm with constraints such as carriageway width, traffic signal infrastructure, traffic islands and the need to accommodate various turning movements impacting on the road layout.

For the purposes of the trial, the general layout shown in Figure 1 involved adjusting the carriageway alignment through the use of temporary barriers. If the decision is taken to implement a permanent double mini-roundabout scheme the barriers would be removed, and a similar road layout achieved by building out the footways.

2.3 Traffic signal infrastructure

With the exception of the signal pole on the traffic island at Hatch Lane all other signal poles have been retained during the trial, with the signals switched off and the equipment bagged. Although these arrangements do contribute to a cluttered street scene, given the temporary nature of the trial scheme the decision was taken not to incur the costs of removal of this equipment whilst there remains the possibility of the traffic signal control being reinstated following the conclusion of the trial.

2.4 Road markings

Implementation of the trial scheme required the removal of stop lines and cycle markings on approach to the traffic signals, with new road markings introduced for

the mini-roundabout arrangements. Stop lines and crossing stud markings have been introduced at the temporary pedestrian crossings.

2.5 Carriageway surfacing

In Hatch Lane, Parsonage Lane and Dedworth Road, the green carriageway surfacing within the 'advance stop lines' for cyclists was removed. This change was intended to provide greater clarity of the junction arrangements by reducing visual clutter at the junctions and was achieved through carriageway patching works.

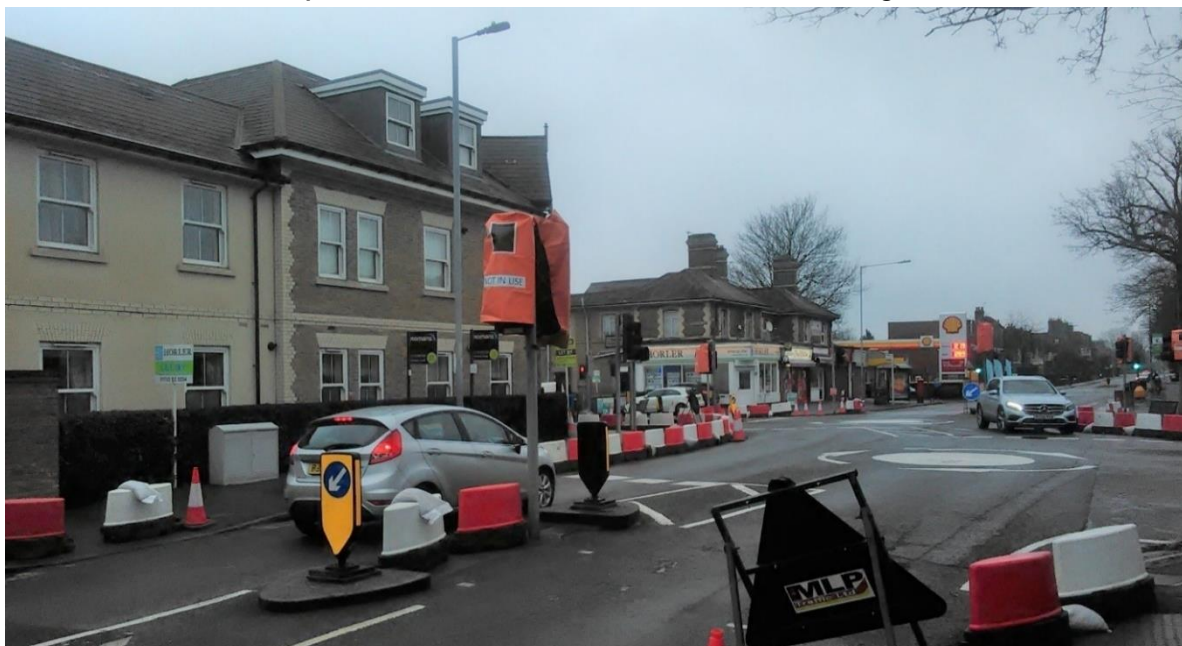
2.6 Traffic signs

The trial scheme includes traffic signs on frames and posts to highlight the junction arrangements and reduce any risk of drivers being unaware the road layout. In order to reduce any risk of excessive signage reducing driver awareness of the layout, signs have only been provided where required by design standards or where they are considered to contribute towards enhancing road safety.

Photo 1: Trial scheme in place. As viewed from Clarence Road looking westwards.



Photo 2: Trial scheme in place. As viewed from Dedworth Road looking eastwards



3.0 Traffic and Pedestrian Surveys

Prior to the trial scheme being implemented, traffic and pedestrian surveys were arranged to provide baseline data which could be compared with survey data to be gathered once the trial scheme was in place.

The following types of surveys were arranged:

- Vehicle turning counts
- Vehicle queue lengths
- Pedestrian crossing movements

The baseline surveys were carried out on Wednesday 12th December 2018, with information gathered from 7am to 7pm using a combination of video surveys and manual data capture on site. During the trial period a follow up set of surveys were undertaken on Wednesday 20th March 2019.

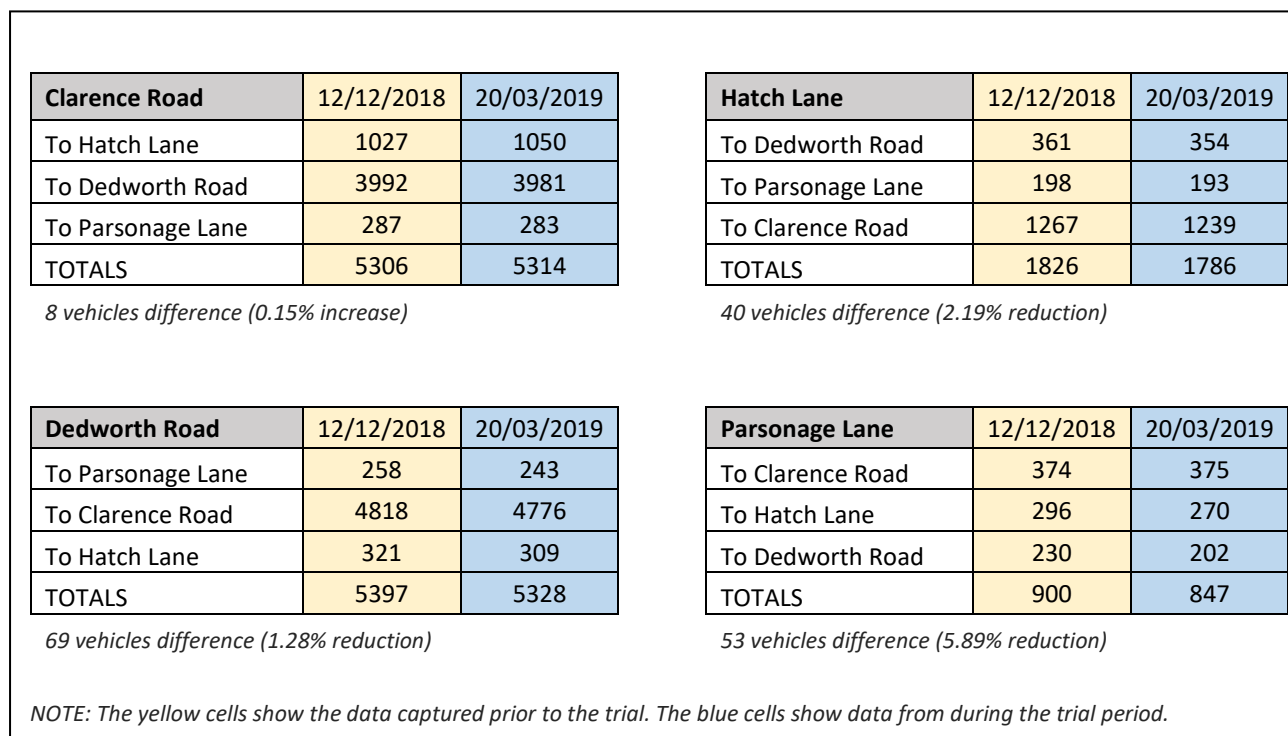
The data captured was intended to provide objective information on how the junctions operate in terms of traffic movements and queuing and how pedestrians use the junctions pre-trial and with the trial scheme in place.

3.1 Turning counts and traffic volume

The turning count information was collated to enable any changes in volume and movements at the junctions to be identified. Figure 2 shows the vehicle numbers for

each turning movement between the hours of 7am and 7pm for the date of the original surveys and the surveys carried out during the trial period.

Figure 2: Vehicle turning movements for each arm between the hours of 7am and 7pm.



The data in Figure 2 reveals no notable changes in vehicle numbers or turning movements on any of the arms since the trial scheme was implemented. Although the surveys only captured data from two days and is therefore not statistically significant information, there is no reason to expect the traffic on those days would differ from the typical levels for the junctions.

3.2 Vehicle queue lengths

Vehicle queue length surveys were carried out, with queues recorded at five-minute intervals during the morning peak and afternoon peak also incorporating the school pick up hours.

A series of charts in Figure 3 show the comparative queue lengths on each arm prior to and during the trial.

Figure 3: Chart showing the queue lengths on each arm prior to and during the trial

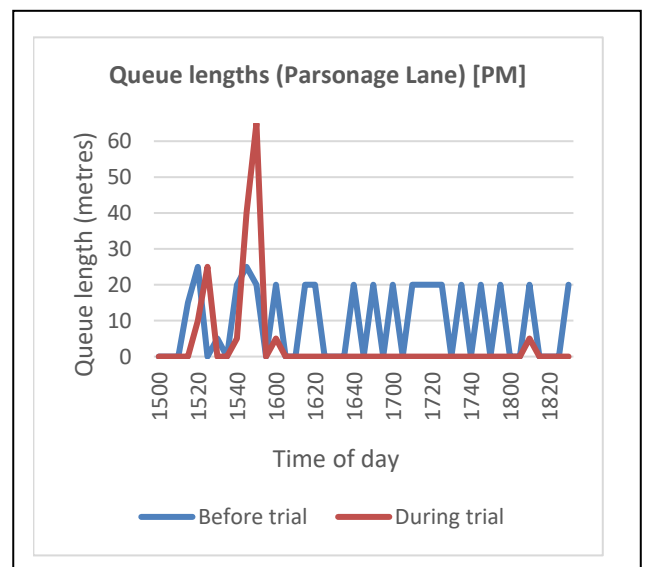
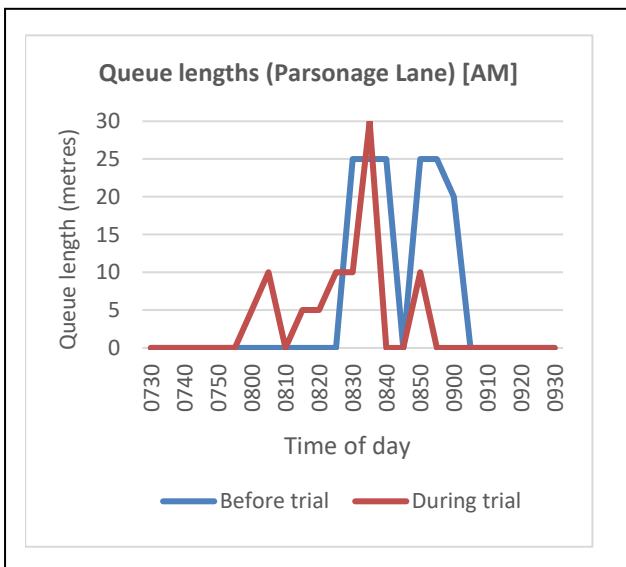
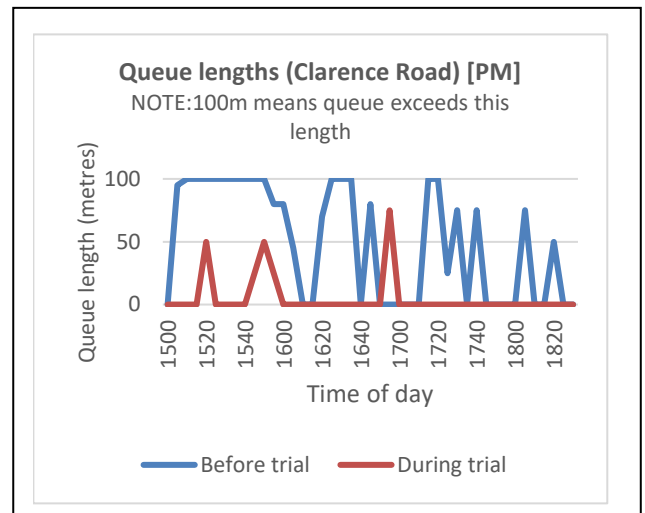
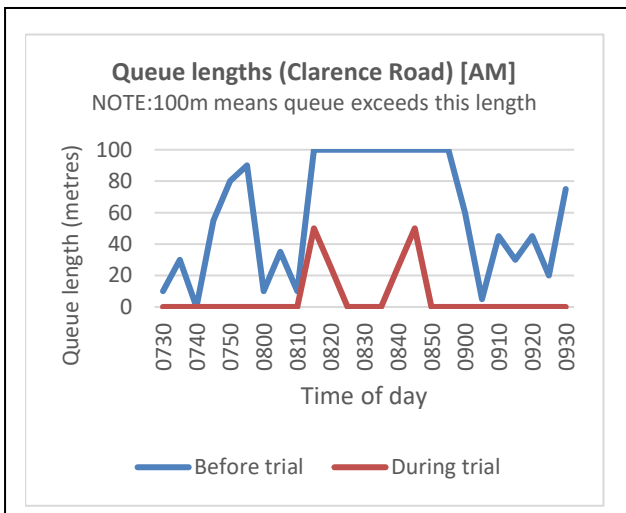
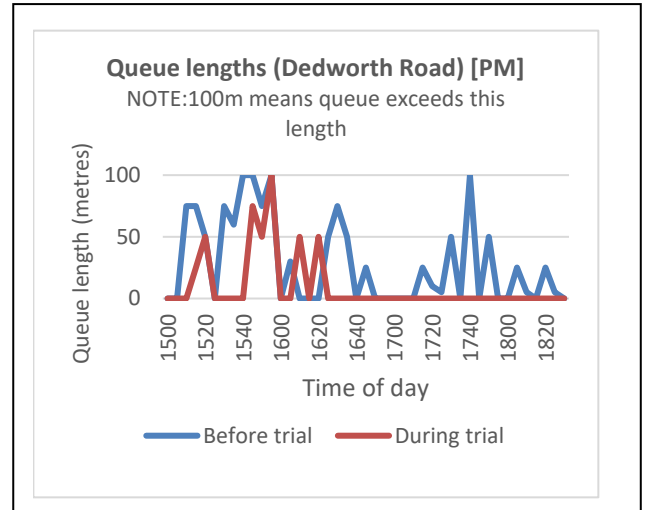
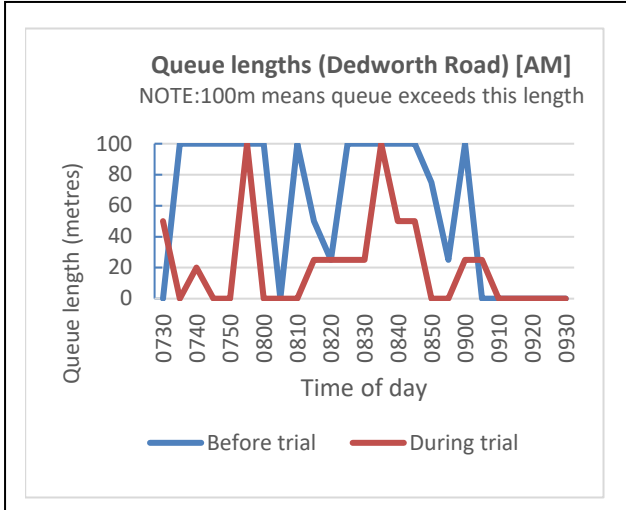
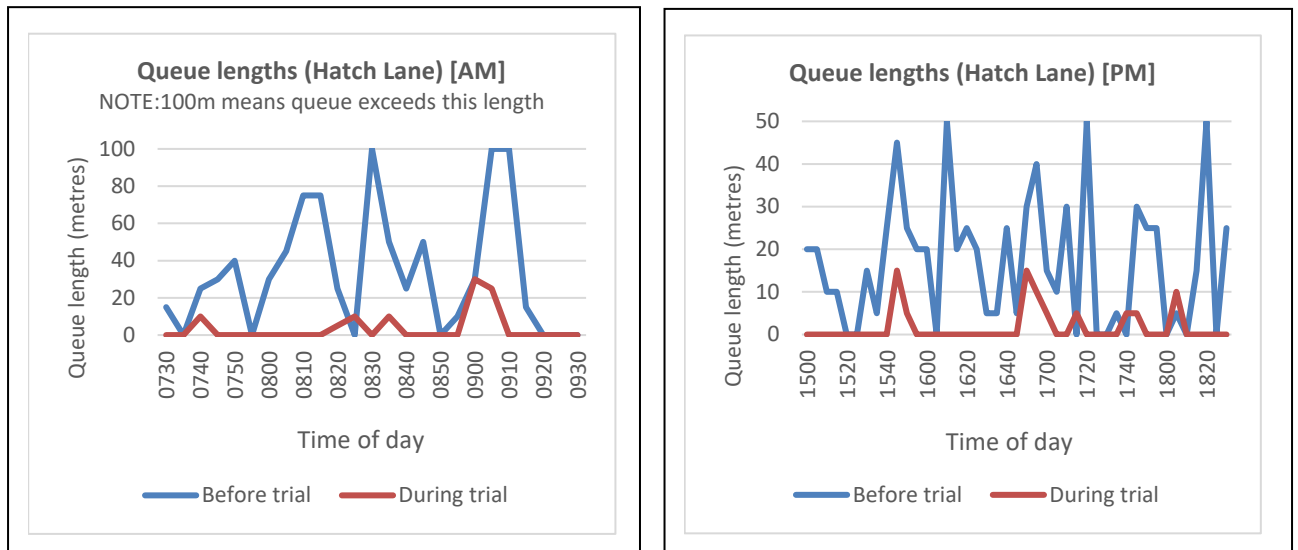


Figure 3 (continued): Chart showing the queue lengths on each arm prior to and during the trial



The queue length surveys show reduced queuing to have been observed on all arms of the junction with the trial scheme in place.

3.3 Pedestrian crossing movements

Pedestrian crossing surveys were carried out on all four arms of the junction both before and during the trial period. The pre-trial surveys showed that almost all pedestrian crossing movements were at the signal-controlled crossing points on all four arms of the junction. As expected, with the trial scheme there was a split between those pedestrians using the temporary signal-controlled crossings located further from the junctions and those pedestrians who continued to cross close to the mouths of the junctions where the previous signal-controlled crossing points are located.

Figure 4: Pedestrian crossing movements prior to the trial. 12th December 2018 (7am-7pm)

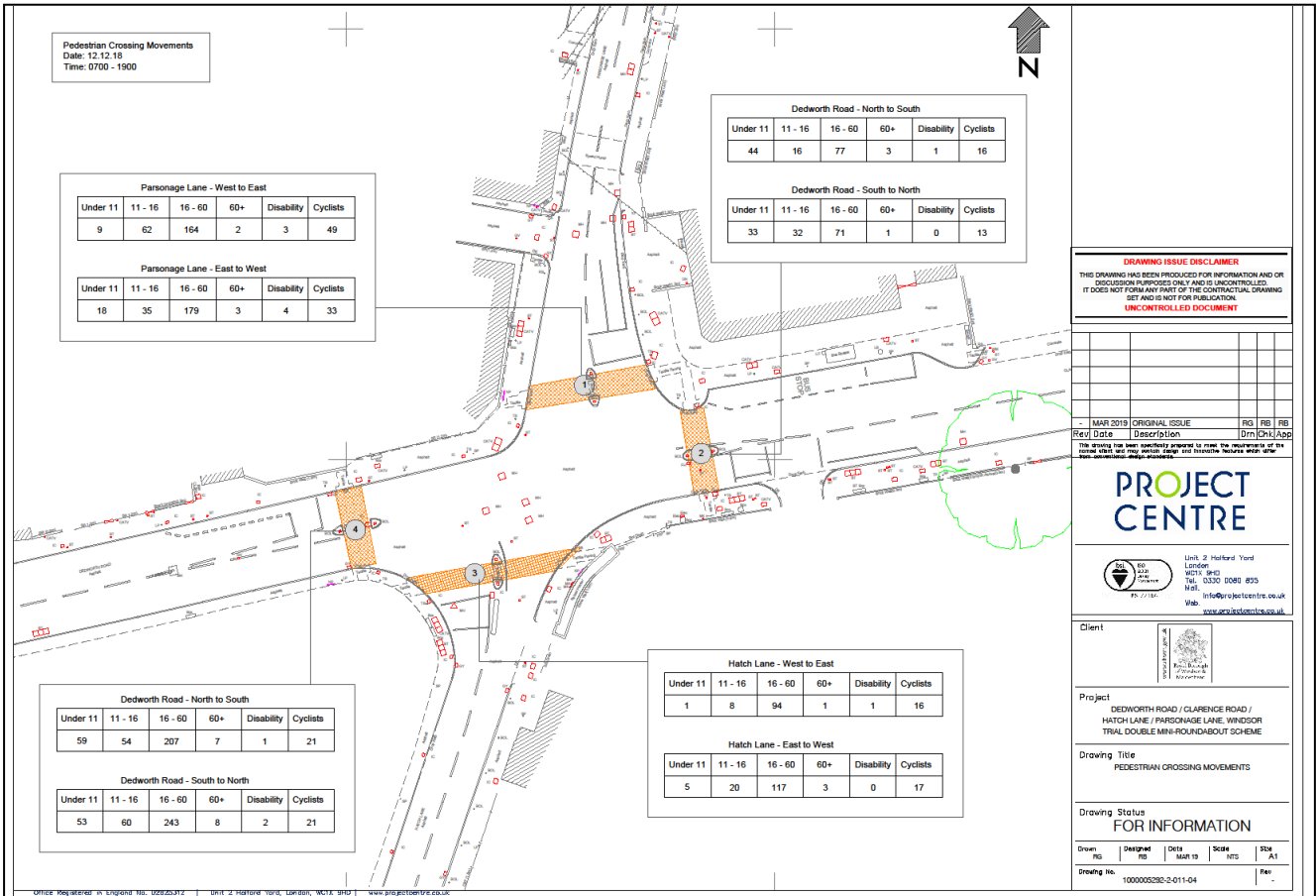
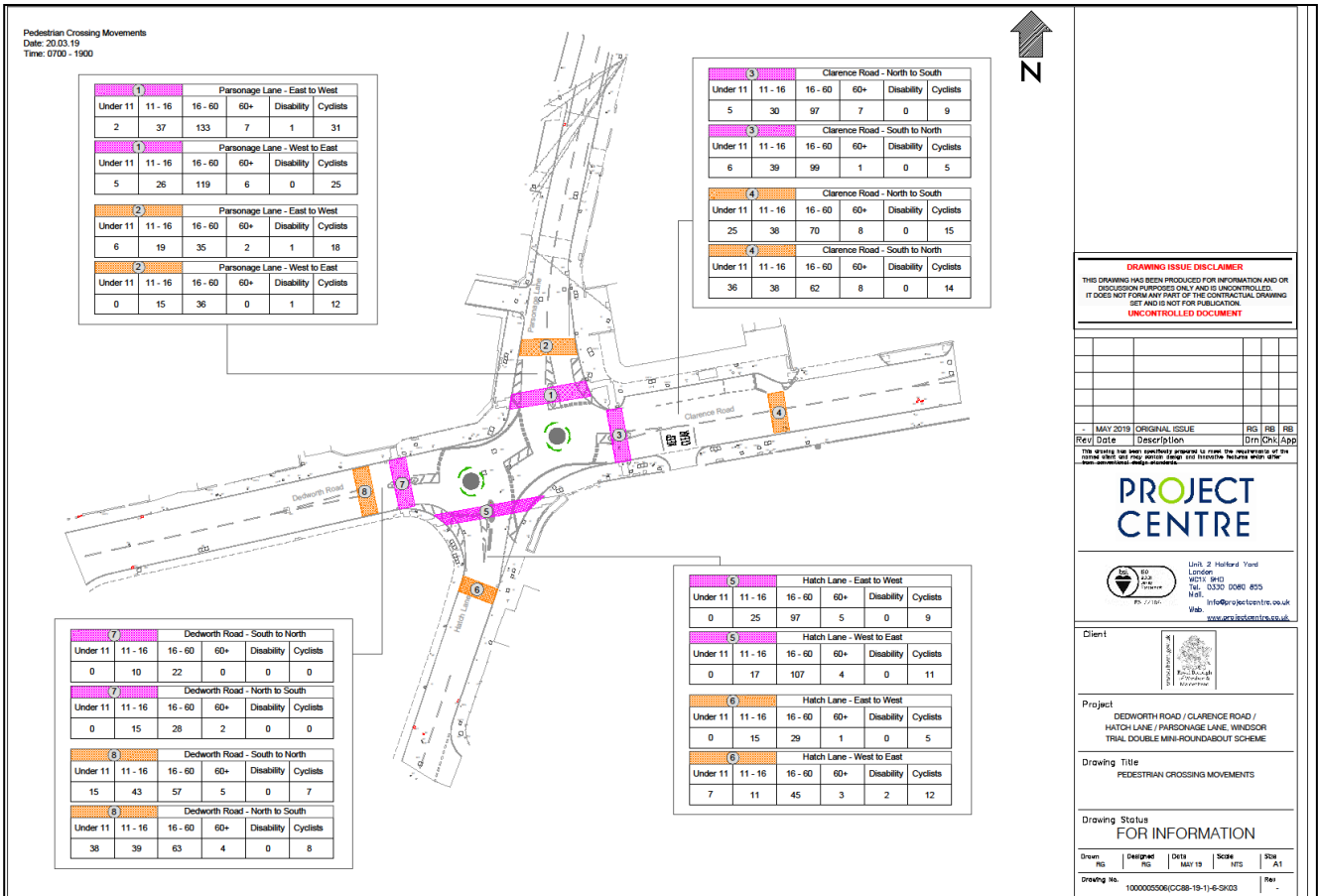


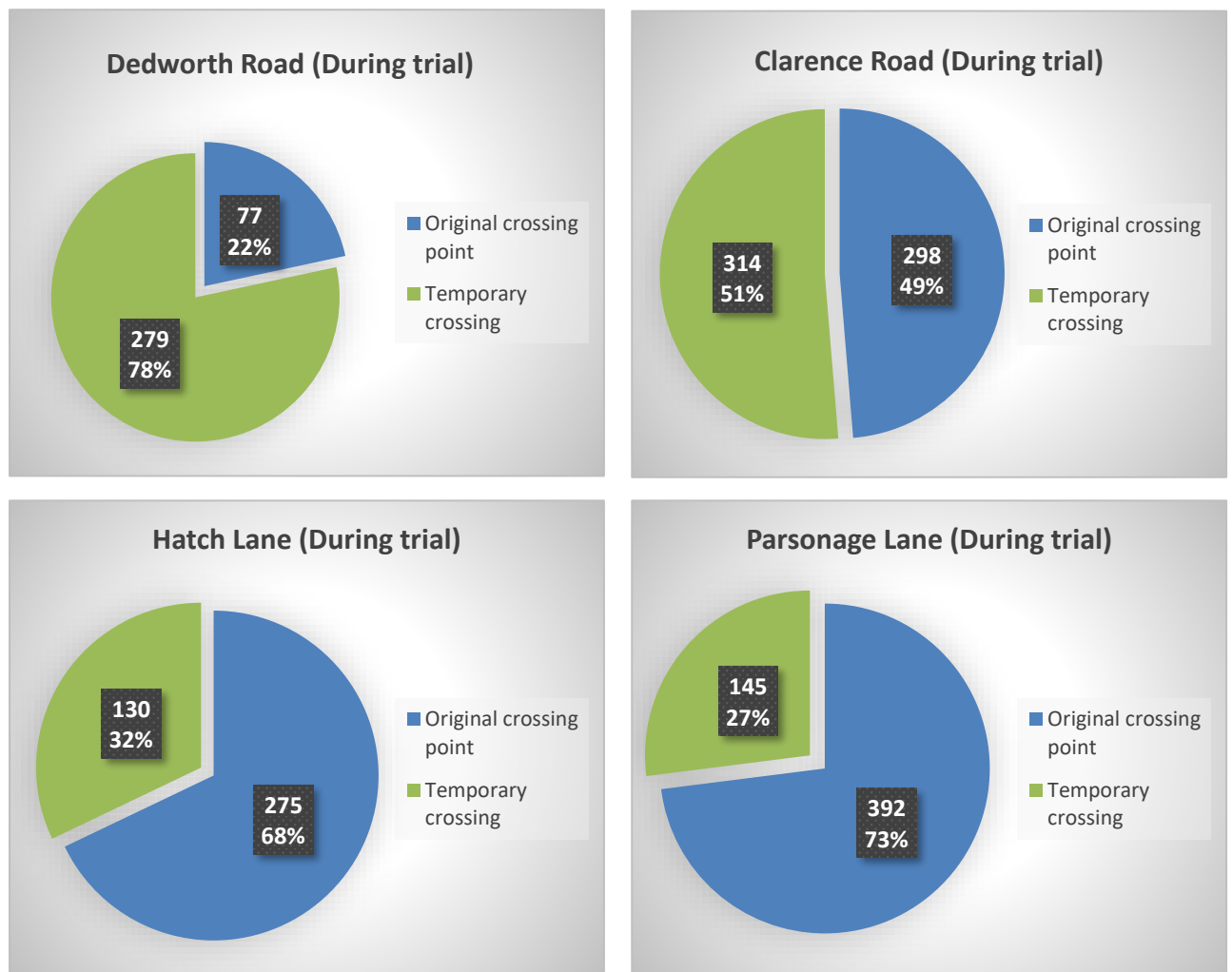
Figure 5: Pedestrian crossing movements during the trial. 20th March 2019 (7am-7pm)



Figures 4 and 5 provide a breakdown of pedestrian crossing movements at the junction. On all four arms many pedestrians and cyclists have chosen to continue to cross at the locations of the previous signal-controlled crossings (These locations are shown in purple in Figure 5).

A breakdown for each arm of the junction is provided in Figure 6, showing the percentage split between those crossing at the temporary signal-controlled crossings and those using the locations of the previous crossings at the mouths of the junction.

Figure 6: Breakdown of where pedestrians crossed the road on each arm during the trial (20 March 2019, 7am-7pm)



Despite the provision of temporary signal-controlled crossing facilities on each arm, many pedestrians are choosing to cross on the main desire lines without the use of the controlled crossing facilities.

Dedworth Road is the arm where the highest percentage of all those crossing (78%) are choosing to do so by using the temporary signal-controlled facility. Clarence Road has the next highest percentage, with 51% of people using the temporary signal-controlled facility in preference to crossing at the mouth of the junction.

The data shows that in Hatch Lane and Parsonage Lane the percentage of people using the temporary signal-controlled facilities is lower at 32% and 27% respectively.

The reasons for the decisions to cross close to the junctions and not use the signal-controlled facilities are likely to be varied; it is considered the main factors are likely to be a preference to cross on the main desire lines close to the junctions, pedestrians being comfortable in crossing in gaps in the traffic and a desire to not have to wait for the pedestrian green stage at the signal-controlled crossings.

The percentage of pedestrians crossing close to the junction, rather than at the controlled crossing facilities are higher on the minor arms of the junction, which would support the above reasoning, as traffic flows into and from these arms are significantly lower and speeds will likewise be lower than on the Dedworth Road and Clarence Road arms of the junction.

4.0 Road Safety

A Road Safety Audit has been carried out on the trial scheme and following minor adjustments to the scheme there are no remaining safety issues to be addressed from the Audit. Enhancements to the clarity of the arrangements and more general improvements that may have a long term positive effect on road safety could be considered as part of a permanent scheme design for a mini-roundabout scheme.

5.0 Consultation

A public consultation ran from 29th January to 30th April 2019. The consultation involved delivery of letters locally, information on the Borough website and social media to notify of the trial scheme and to direct interested parties to an online survey. Respondents were also able to complete the survey by responding in writing to the survey questions. A copy of the letter sent to residents is included in Appendix A.

The consultation survey asked respondents the following questions:

Q1 What do you consider to be the most suitable option for the junction?

- Traffic lights
- Mini-roundabout

Q2 What is your preferred option for the junction following the trial period?

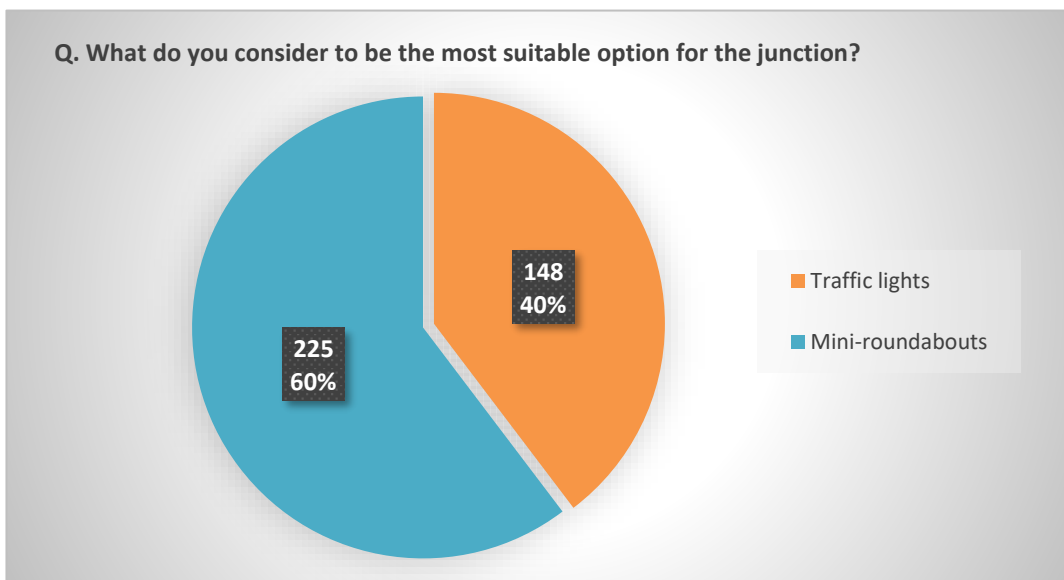
- Introduce a permanent double mini-roundabout scheme.
- Leave the trial mini-roundabout scheme in place until an upgraded traffic light-controlled system can be installed.
- Remove the trial layout and reinstate the traffic lights.
- Remove the trial layout and reinstate the traffic lights until an upgraded traffic light-controlled system can be installed.

Respondents were also provided with the opportunity to include any additional feedback on the trial scheme.

5.1 Consultation results

A total of 373 responses were received and the majority of respondents (60%) considered mini-roundabouts to be the most suitable option for the junction, as shown in Figure 7.

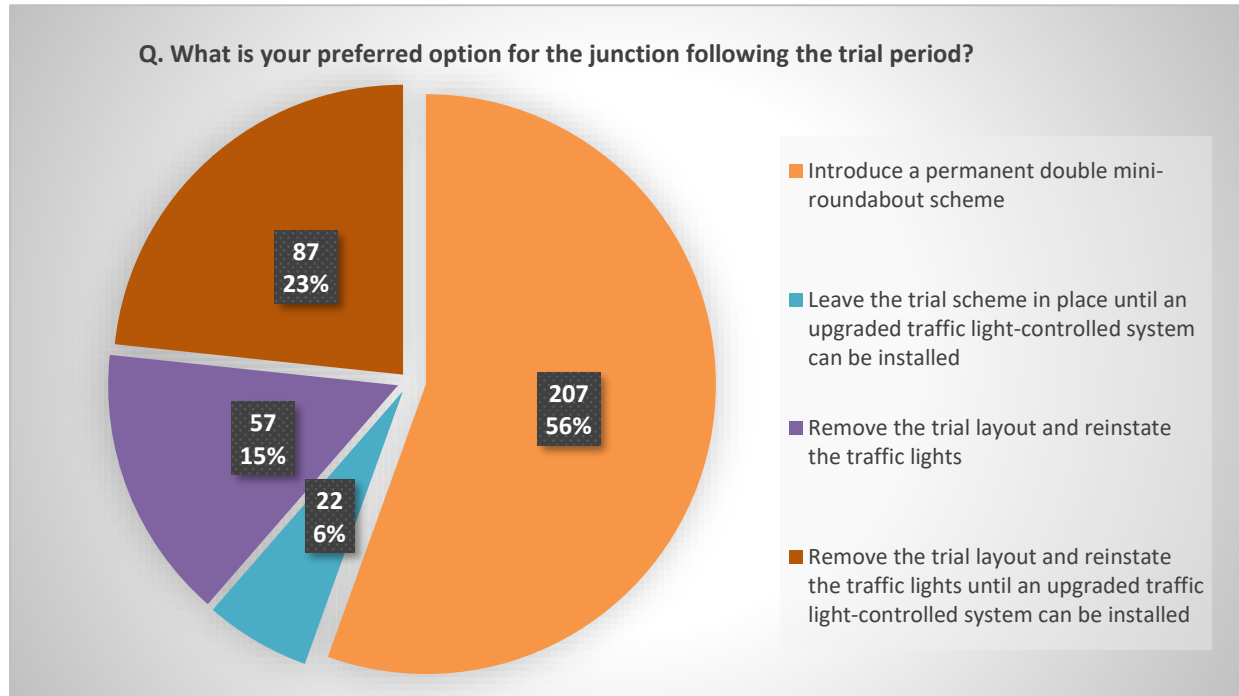
Figure 7: Breakdown of responses to the first question in the consultation survey.



The second question offered respondents the opportunity to express a preference for four alternative options following the trial period. The level of support for the different options was varied, though the option with the most support was to introduce a permanent double mini-roundabout scheme. This response also had overall majority support of 56%, with the responses for the other three options

combined totalling 44% of all responses received. A breakdown of the results is shown in Figure 8.

Figure 8: Breakdown of responses to the first question in the consultation survey.



5.1 Additional comments received as part of the consultation

Respondents were able to provide additional comment within their responses and whilst including a full list of comments received in a redacted format is beyond the scope of this Technical Note, the responses have been reviewed and the most frequently raised perceived issues, general observations and suggestions for changes are summarised in the following sections.

5.2 Concerns and Issues raised

The following provides an overview of the most frequently reported perceived issues or problems at the junction:

5.2.1 Drivers failing to give-way at the mini-roundabouts due to green signals at pedestrian crossings

There is concern amongst respondents with the green signals at the temporary crossings being misconstrued as applying to the junctions, leading to failures to give way.

5.2.2 Excessive traffic speed due to green signals

In addition to the above concerns regarding the green signals and drivers failing to give way, there are also concerns expressed about excessive speed on approach and through the roundabouts resulting from the green signal giving a level of comfort to drivers to proceed.

5.2.3 Drivers failing to give-way at the mini-roundabouts due to visual clutter

Some respondents have referenced the number of signs, barriers and other street furniture causing confusion and a lack of clarity about the arrangements and priorities at the junctions.

5.2.4 Drivers failing to stop at the signalised crossings

It has been commented that some drivers failed to stop at the red traffic lights with respondents suggesting that this may be due to either obstruction of signal heads, failure to notice the signal heads or excessive approach speed.

5.2.5 Pedestrian crossings are located too far from the junctions

Some respondents believe that the crossings being further from the junctions has resulted in many pedestrians choosing not to use the controlled crossing facilities and crossing within gaps in traffic elsewhere. Some respondents also feel pedestrians have been marginalised and vehicles given priority as a result of the trial scheme.

5.2.6 Pedestrian crossings are located too close to the junctions

Contrary to the concerns outlined in paragraph 5.2.5, some respondents feel the pedestrian crossings are too close to the junctions and drivers are not noticing the crossings and are therefore failing to stop.

5.2.7 Cyclists do not feel safe using the junctions

Some respondents who have cycled through the junction have advised that they feel unsafe either due to excessive traffic speed or drivers failing to give way.

5.2.8 The mini-roundabouts are too close together or the layout is confusing

It has been commented by some individuals that they consider the double roundabout arrangement to be confusing or that there is not enough space for two roundabouts.

5.3 General observations

The following provides an overview of other general observations about the trial scheme, in addition to those perceived issues and concerns outlined in section 5.2 and the suggestions for changes outlined in section 5.4.

5.3.1 Tesco is perceived to be the main cause of issues at the junction

A significant number of respondents (In excess of 50%) referenced vehicles exiting or queuing to enter Tesco car park as the reason for changes at the junction being required.

5.3.2 Reduced queuing

Many positive responses have been received about reduced queuing at the junctions under the trial arrangements.

5.3.3 Reduced air pollution

There have been comments about the positive impact of the trial scheme on air quality and reduced pollution, considered to arise from reduced queuing traffic.

5.3.4 Blocking of Hatch Lane due to Tesco traffic is reduced

Many respondents have commented that blocking of the highway in Hatch Lane adjacent to the Tesco car park is reduced as a result of the implementation of the trial scheme.

5.3.5 Improved safety

Some respondents report that they find the junction safer to negotiate than with the junction being under traffic signal control.

5.4 Suggestions for improvements

Within the comments received, aside from those requesting that the trial scheme be removed altogether, respondents have made various suggestions for improvements to the trial scheme or for incorporating into a permanent scheme. The most common suggestions are summarised below.

5.4.1 Replace the traffic signal-controlled crossings with Zebra crossings

Various responses indicated a preference to replace the temporary signal-controlled crossings with Zebra crossings with views differing on whether these should be in the same locations, though for the Clarence Road arm of the junction there was a general consensus amongst those who commented, that this crossing would be better located closer to the Parsonage Lane and Hatch Lane junctions. The main reasons provided for the preference for Zebra crossings was to avoid any confusion caused by traffic signals located relatively close to the roundabout junctions.

5.4.2 Introduce road humps on Dedworth Road and Clarence Road

Amongst the various respondents who were concerned about traffic speed, there was broad support for the installation of road humps to achieve lower speeds on the approaches to the mini-roundabouts.

5.4.3 Locate the pedestrian crossings closer to the junction

As referenced in paragraph 5.4.1 there is broad support for locating the pedestrian crossing in Clarence Road closer to the junctions.

5.4.4 Reduce the amount of signage and barriers at the junction

There are many responses which reference confusion as a result of the amount of signage and barriers on site with recommendations to reduce the number of signs and remove barriers.

5.4.5 Ban traffic from turning right on exit from Tesco car park

There is support amongst many respondents for implementing a banned right turn for vehicles leaving the Tesco car park.

5.4.6 Replace double mini-roundabout with a single roundabout

Some respondents have commented that a double mini-roundabout is confusing some drivers and have suggested replacing with a single roundabout.

5.5 Analysis of issues and suggestions for changes from consultation feedback

This section focuses on responses to the issues raised in the consultation responses as set out in section 5.2 of this report and the suggestions for changes to the trial scheme if a roundabout arrangement is to remain in place as set out in section 5.4. Each item is listed within the table in Figure 9, with a Designer's response against each item.

Figure 9: Key items raised in consultation feedback with accompanying Designer's responses.

Issue raised	Designer's response
Drivers failing to give-way at the mini-roundabouts due to green signals at pedestrian crossings	<p>Signs are in place to advise that these are pedestrian crossing signals. Stop lines and pedestrian stud markings further enhance this message. There is a balance between locating the crossings far enough from the junctions to reduce the chance of drivers misconstruing the signals as applying to the junction, whilst not locating them too far from the desire lines, which would reduce the quality of pedestrian provision and would lead to higher numbers of pedestrians crossing the road away from the crossing facilities.</p> <p>If the decision is taken to implement a permanent mini-roundabout scheme it would be recommended that Zebra crossings be installed to replace the temporary signal-controlled crossings.</p>
Excessive traffic speed due to green signals	<p>As per the above response, there are measures in place which seek to improve driver awareness of the intention of the crossings, whilst high visibility signs have also been installed at the roundabout give-way positions.</p> <p>If the decision is taken to implement a permanent mini-roundabout scheme it would be recommended that Zebra crossings be installed to replace the temporary signal-controlled crossings. Additional measures</p>

	<p>to address any issues of excessive approach speeds to the crossings and junctions would also be considered as part of the design of any permanent scheme.</p>
<p>Drivers failing to give-way at the mini-roundabouts due to visual clutter</p>	<p>The trial scheme has involved the use of temporary barriers which add to the visual clutter, with the temporary appearance of the layout potentially impacting on driver behaviour. The barriers are necessary to achieve the required realignment of the carriageway and deflection. A permanent scheme would involve removal of the barriers and construction of kerb build outs, with rationalisation of signs to create a simplified, less cluttered layout.</p> <p>The existing traffic signal infrastructure has been retained and the heads bagged up whilst the trial has been in place, with the intention that the signals to be brought back into use if required. The compromise is that this adds to the level of visual clutter. If the decision is taken to implement a permanent mini-roundabout scheme the intention would be to remove all the existing signal infrastructure, which would improve the clarity of the arrangements at the junction.</p>
<p>Drivers failing to stop at the signalised crossings</p>	<p>Signs are in place to advise that these are pedestrian crossing signals. Stop lines and pedestrian stud markings further enhance this message.</p> <p>If the decision is taken to implement a permanent mini-roundabout scheme it would be recommended that Zebra crossings be installed to replace the temporary signal-controlled crossings.</p>
<p>Pedestrian crossings are located too far from the junctions</p> <p>Pedestrian crossings are located too close to the junctions</p>	<p>There is a balance between locating the crossings far enough from the junctions to reduce the chance of drivers misconstruing the signals as applying to the junction, whilst not locating them too far from the desire lines, which would reduce the quality of pedestrian provision and would lead to higher numbers of pedestrians crossing the road away from the crossing facilities.</p> <p>If the decision is taken to implement a permanent mini-roundabout scheme it would be recommended that Zebra crossings be installed to replace the temporary signal-controlled crossings. The locations of the crossings would also be reviewed.</p>
<p>Cyclists do not feel safe using the junctions</p>	<p>An improved design for the junction which would benefit all road user groups could be achieved if the decision is taken to implement a permanent mini-roundabout scheme. As noted above, the street furniture and signage would be rationalised and the temporary barriers removed with kerb lines and footways adjusted to suit the required layout for the junctions.</p> <p>The temporary traffic signal-controlled crossings would also be proposed for replacement with Zebra crossings.</p> <p>These changes should contribute towards greater clarity of the junction arrangements for all road users. Additionally, measures would also be considered as part of any permanent design to achieve lower speeds through the junction and improved conditions for cyclists.</p>
<p>The mini-roundabouts are too close together / the layout is confusing</p>	<p>It is not possible to install a single larger roundabout as the distance between the two side roads would require an elongated oval central island, which to be compliant with design standards and prevent drivers from cutting across the island, would need to be raised. The restricted road width would mean larger vehicles would be unable to complete turning movements around a raised island.</p>

	Rationalisation of signage and street furniture as part of a permanent scheme would contribute to increased clarity of the junction arrangements.
Suggestion for changes	Designer's Response
Replace the traffic signal-controlled crossings with Zebra crossings	If the decision is taken to implement a permanent mini-roundabout scheme it would be recommended that Zebra crossings be installed to replace the temporary signal-controlled crossings.
Introduce road humps on Dedworth Road and Clarence Road	Additional measures to address any issues of excessive approach speeds to the crossings and junctions would be considered as part of the design of any permanent scheme.
Locate the pedestrian crossings closer to the junction	<p>There is a balance between locating the crossings far enough from the junctions to reduce the chance of drivers misconstruing the signals as applying to the junction, whilst not locating them too far from the desire lines, which would reduce the quality of pedestrian provision and would lead to higher numbers of pedestrians crossing the road away from the crossing facilities.</p> <p>If the decision is taken to implement a permanent mini-roundabout scheme and Zebra crossings are installed, the locations would be carefully considered. The aim would be to locate the crossings in convenient locations for pedestrians without positioning them too close to junctions where there may be risks with drivers focussing on negotiating the junctions and failing to note the presence of crossings or pedestrians using those crossings.</p>
Reduce the amount of signage and barriers at the junction	Rationalisation of signage and street furniture as part of a permanent scheme would contribute to increased clarity of the junction arrangements.
Ban traffic from turning right on exit from Tesco car park	<p>The trial mini-roundabout scheme has led to reduced issues with queuing and blocking of traffic in Hatch Lane at the car park access to Tesco. The more frequent opportunities for the release of vehicles from Hatch Lane into Dedworth Road and Clarence Road avoids prolonged spells of blocking the carriageway by those waiting to turn right from the car park.</p> <p>Under signal control at the junction, due to the higher traffic volumes on Dedworth Road and Clarence Road, those arms receive greater green time, which can mean Hatch Lane traffic queues for longer before being released in a platoon of traffic. Under such circumstances it is not uncommon for traffic turning right from Tesco to block Hatch Lane or to cause traffic waiting to turn left into Tesco to block Hatch Lane and also block back onto Clarence Road. Whilst signals can incorporate 'hurry call' facilities, where stationary vehicles in a particular section of road can automatically register a priority demand for the green signal on a given arm, such a facility could have significant detrimental impacts on the efficiency of the signals in optimising traffic flows through the junctions.</p> <p>A major factor to be considered with the potential banning of the right turn from Tesco is the potential adverse impacts in other locations caused by all traffic turning left from Tesco. There would be a likelihood of significant numbers of vehicles turning around in the mouths of nearby side roads with the associated safety risks involved and additional traffic volume in Hatch Lane, which is a narrow residential</p>

road, not well suited to accommodating higher traffic volumes including movement of heavy goods vehicles.

6.0 Options for the next steps

Four possible options were set out within the consultation survey with the summaries of the responses received set out in section 5.

Respondents to the consultation could select their preferred option from the following list:

- A. Introduce a permanent double mini-roundabout scheme.**
- B. Leave the trial mini-roundabout scheme in place until an upgraded traffic light-controlled system can be installed.**
- C. Remove the trial layout and reinstate the traffic lights.**
- D. Remove the trial layout and reinstate the traffic lights until an upgraded traffic light-controlled system can be installed.**

The above options can be further reduced to three alternative options once the trial period comes to an end. The advantages and disadvantages for each of the following three alternative options is included in Figure 10:

- Reinstatement of the previous traffic signal control for the junctions
- Revised and upgraded traffic signal control for the junctions
- Permanent double mini-roundabout with Zebra crossings

Figure 10: Assessment of advantages and disadvantages for three alternative options for the junctions against a number of key issues

KEY:

Effective	Moderately effective	Ineffective
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Issue	Options for junctions		
	Reinstate the previous traffic signal control for the junctions	Revised and upgraded traffic signal control for the junctions	Permanent double mini-roundabout with Zebra crossings
Blocking of Hatch Lane at Tesco access	This was a major concern with the previous layout and cannot be addressed without imposing banned turns, which would lead to other problems in the vicinity.	Not possible to reduce blocking unless a 'hurry call' facility is included, though this would have a negative impact on the efficiency of the signals.	The more frequent opportunities for the release of vehicles from Hatch Lane into the main roads with a mini-roundabout avoids prolonged spells of blocking the carriageway by those waiting to turn right from the car park.
Minimising queuing at the junctions	Queuing at the junctions in peak hours was common under the previous signal control. In addition, blocking of Hatch Lane adjacent to the Tesco store had implications for queuing back onto other arms. The previous signals operated under an older method of signal control and did not operate as efficiently as could be achieved with modern signal control.	Modern MOVA signal control would improve efficiency and optimisation; reducing queues and minimising delays when compared with the previous signals. Based on the traffic flows and experiences of the trial scheme, the lost time with stage changes and inter-green periods are likely to mean longer queues than with the mini-roundabout scheme.	Experiences during the trial period, as supported by queue length survey data, have shown that queuing is minimal at the junctions even during the peak periods. The double mini-roundabouts have been successful in achieving efficient movement of vehicular traffic through the junctions.
Air quality	Although not objectively supported by air quality monitoring information, higher levels of queuing and stationary vehicles are associated with reduced air quality.	The expected reduced queuing when compared with the previous signal control should achieve reduced queuing and associated air quality improvements.	Experiences of the trial show that stationary queues and idling vehicles are uncommon with this arrangement. This should contribute towards improved air quality.
Conveniently located pedestrian facilities	Signal control at the junctions enables crossing points to be located on the main pedestrian desire lines.	Signal control at the junctions enables crossing points to be located on the main pedestrian desire lines. A new layout would enable signal poles to be more conveniently positioned to reduce pinch points on footways.	With a permanent scheme, Zebra crossings would be proposed, located further from the junctions than crossings at a signalised junction. Crossings on all arms could be accommodated and would be sited to achieve a balance between the most convenient locations for pedestrians and ensuring safety is not compromised.

Issue	Option for junctions		
	Reinstate the previous traffic signal control for the junctions	Revised and upgraded traffic signal control for the junctions	Permanent double mini-roundabout with Zebra crossings
Appropriate traffic speed	There have previously been reports of being skipping red lights at speed at the end of green stage and the potential conflicts with pedestrians that may arise. The recorded injury data does not point to an accident problem and previous assessments have not indicated a problem with excessive traffic speed.	The improved efficiency of modern signals should reduce the risk of impatient drivers becoming frustrated and skipping red lights or travelling at speed to pass through the junction before the end of a vehicle stage.	Whilst there have been some concerns expressed about traffic speed, a permanent scheme would offer opportunities to incorporate changes to achieve lower speeds and increase driver awareness of the junction arrangements.
Suitability for cyclists	The previous signal-controlled junctions included advance cycle stop lines and short feeder lanes to the benefit of cyclists. Despite this, reports have previously been received of cyclists feeling vulnerable when being overtaken close to traffic islands or within the junction.	An upgraded signal-controlled junction could also include advance stop lines and feeder lanes to provide priority to cyclists. There would be unlikely to be any significant difference for cyclists from the previous signal arrangements.	Some cyclists have felt unsafe at the junctions during the trial. A permanent scheme would provide a less cluttered junction and greater clarity over the arrangements to the benefit of all road users. Reports of drivers failing to give-way due to the green signals at the temporary crossings would also be addressed by Zebra crossings. Finally, measures to achieve low speeds through the junction would also form part of any design for a permanent scheme.
Parking provision	There would be no adverse impact on existing parking provision by reinstating the previous signal arrangements.	A revised signal-controlled junction would have no adverse impact on existing parking provision.	A permanent mini-roundabout scheme would be recommended to include relocating the Clarence Road pedestrian crossing within an area where there is currently a bus stop layby and a single on-street parking bay. The bus stop would need to be relocated slightly and the parking bay removed to enable a crossing to be installed in a suitable location.

7.0 Conclusions

Upgrading the traffic signals would offer improvements when compared with the previous signal-controlled junction. In addition, the existing signal equipment is in excess of 25 years old and the need for maintenance is becoming increasingly expensive, frequent and problematic.

An upgrade to the traffic signals would be estimated to cost in the region of £90,000 to £130,000.

It is clear from the analysis of the consultation feedback that the mini-roundabout is the preferred option for the majority of respondents to the consultation, whilst many of the concerns raised and suggestions for possible changes to the trial scheme could be addressed within as part of the design if the mini-roundabout scheme was to be made permanent.

It is difficult to accurately quantify the queuing with upgraded traffic signals as it is not possible to fully replicate the benefits of MOVA signal control within a traffic model. It is considered that upgraded signals would improve upon the conditions under the previous signal arrangements, though queuing and delays would be expected to be greater than with a double mini-roundabout scheme.

As summarised in Figure 10 the location of pedestrian crossing facilities would be less convenient with a permanent mini-roundabout scheme as traffic signals allow for crossings to be located directly on the desire lines with all vehicular traffic held on red whilst pedestrians cross the road. A positive for pedestrians with a mini-roundabout scheme would be that Zebra crossings offer priority to pedestrians upon arrival at a crossing rather than having to wait for a green stage as is the case with signals.

Another positive with the mini-roundabouts, supported by comments in many consultation responses has been that the trial scheme has significantly reduced blocking of Hatch Lane at the Tesco entrance, which was a major cause of complaints under signal control and one of the main reasons for the decision to implement the trial scheme.

Appendices

- Appendix A: Resident notification letter and drawing

Document Control

Project Centre shall not be liable for the use of any information contained herein for any purpose other than the sole and specific use for which it was prepared.

Job Number	Issue	Description	Originator	Approver
1000005292	1.0	Technical Note	Russell Bell 23.05.19	Chris Durban 31.05.19

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25 June 2019

Dear Resident,

Dedworth Road / Hatch Lane – Junction improvements

Following the implementation of a trial double mini-roundabout scheme at the Dedworth Road / Clarence Road / Hatch Lane / Parsonage Lane junction, I am pleased to advise that a decision has been taken to progress with the detailed design and implementation of a **permanent double mini-roundabout scheme**.

The objective of implementing the trial scheme, and subsequent decision to make the changes permanent, aims to reduce congestion and queuing whilst improving accessibility for all road users. This scheme forms part of our commitment to invest over £50 million on highways over the next four years.

The trial scheme was implemented at the end of January 2019, in parallel with a consultation on future options. Traffic and pedestrian surveys were undertaken during the trial period to obtain data which could be used to assess the impact.

Consultation leaflets were delivered to all properties in Hatch Lane, Parsonage Lane and adjoining side roads, as well as properties in Dedworth Road and Clarence Road in the vicinity of the junction. The consultation invited responses on options for the junction, with **60% of the 373 respondents supporting the option of mini-roundabouts**.

Survey data showed reduced queuing on all arms of the junction with the trial arrangements in place, whilst observations and feedback indicate that blocking of the carriageway at the 'Tesco' store access in Hatch Lane was also reduced during the trial.

Concerns were raised during the consultation about the location and suitability of the pedestrian crossing facilities, including comments that some drivers assume the green signals at the crossings apply to the junctions and that they fail to give way at the mini-roundabouts.

Full zebra crossings were not installed as part of the trial due to time and expense, primarily involved with meeting lighting safety standards. Due to the temporary nature of the trial arrangements, portable signal-controlled crossings were used. The intention from the outset was to install zebra crossings, if the decision was taken to implement mini-roundabout arrangements on a permanent basis. I am pleased to confirm that this will be the case.

Other changes to the trial layout as part of the permanent scheme will involve removal of redundant traffic signal heads and poles, rationalisation of signs, removal of temporary barriers, and adjustments to kerb lines aimed at simplifying and improving the clarity of the arrangements, reducing speed and enhancing safety for all road user groups, including cyclists which was a theme which emerged during the consultation..

The detailed design and subsequent implementation of the permanent scheme is being progressed, with an aim of commencing work on site in mid-August for completion by mid-September a plan showing the preliminary design is included on the reverse side of this letter.

Notification letters will be distributed, and signs positioned on site in advance of any works commencing. If you require any further information, please contact us at highways@rbwm.gov.uk.







Cllr Andrew Johnson – Lead Member for Infrastructure, Transport Policy and Housing

Duncan Sharkey - Managing Director

Town Hall, St. Ives Road, Maidenhead, SL6 1RF

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- LEGEND**
-  Proposed new kerb line
 -  Proposed footway surfacing
 -  Proposed footway extension
 -  Removal of existing footway built-out and construction of carriageway
 -  Proposed new traffic islands
 -  Proposed tactile paving at crossings

DRAFT

Rev	Date	Description	RG	HJ	RB	Drn/Chk App
-	JUN 2019	ORIGINAL ISSUE				

This drawing has been specifically prepared to meet the requirements of the normal client, and may contain design and innovative features which differ from conventional design standards.

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Client

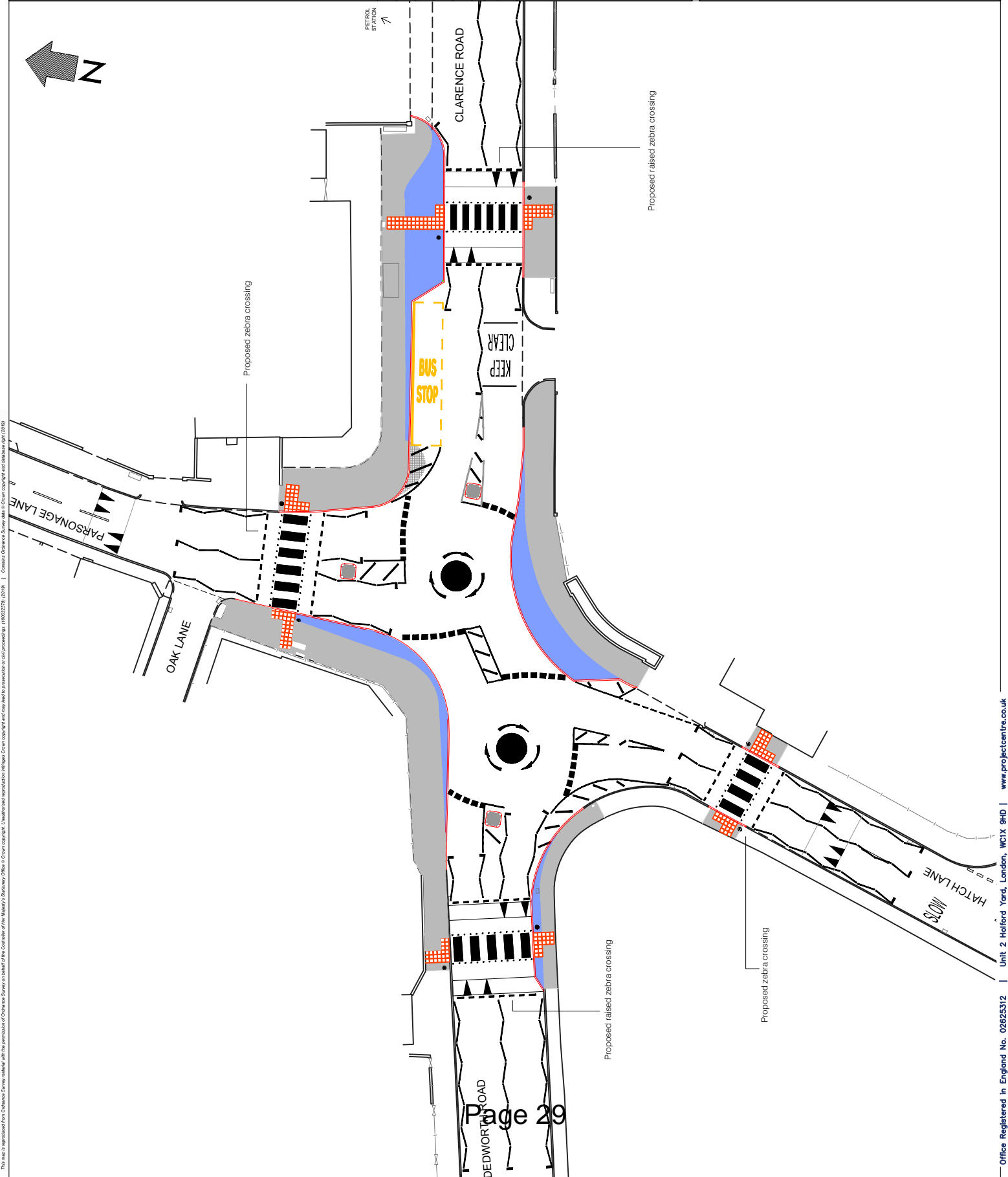
Project
 DEDWORTH ROAD/CLARENCE ROAD/
 HATCH LANE/PARSONAGE LANE,
 WINDSOR

Drawing Title
 DOUBLE MINI-ROUNDBOUT AND
 PEDESTRIAN CROSSINGS
 PRELIMINARY DESIGN

Drawing Status
FOR INFORMATION

Drawn	RG	Designed	RB	Date	JUNE 2019	Scale	NTS	Size	A4
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Drawing No. 1000005506(C088-19)-3-010-01 Rev -



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