



Wokingham Borough Council

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# WINNERSH RELIEF ROAD PHASE 2

Monitoring and Evaluation One Year After  
Opening Report





Wokingham Borough Council

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## **WINNERSH RELIEF ROAD PHASE 2**

Monitoring and Evaluation One Year After Opening Report

**TYPE OF DOCUMENT (VERSION) PUBLIC**

**PROJECT NO. 70093861**

**DATE: JUNE 2022**

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# QUALITY CONTROL

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Issue/revision	First issue	Revision 1	Revision 2	Revision 3
Remarks				
Date	13/06/22			
Prepared by	Lloyd Cole			
Signature				
Checked by	Ross Pascoe			
Signature				
Authorised by	Lauren Shimadry			
Signature				
Project number				
Report number				
File reference				

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# 1 INTRODUCTION

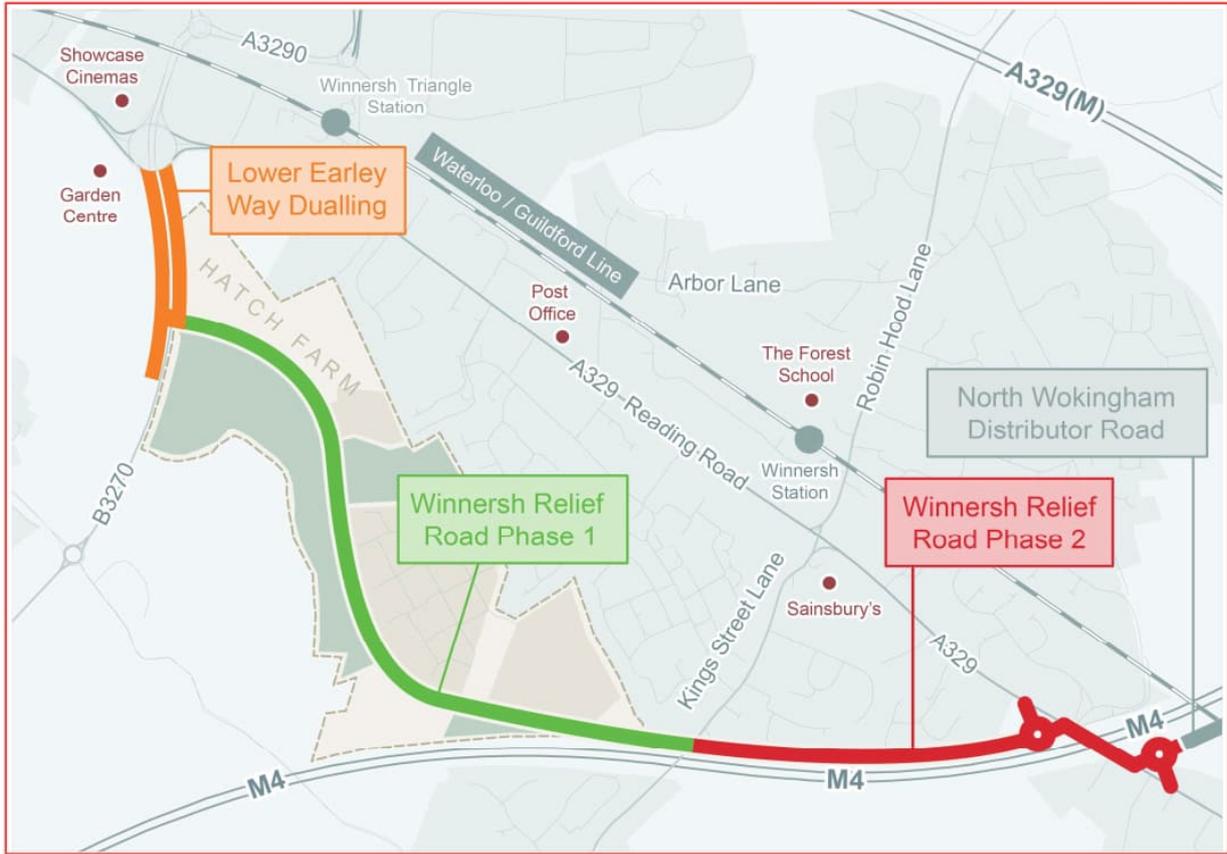
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- 1.1.1. The Winnersh Relief Road is a new road built to improve traffic capacity on key routes in Wokingham Borough and alleviate existing congestion through Winnersh by means of the provision of an alternate route for non-local traffic travelling through the area.
- 1.1.2. If the scheme was not implemented, the performance of the A329 Reading Road was forecast to have deteriorated, resulting in increased congestion and delays, less reliable journey times and further increases in economic inefficiencies.

## 1.2 SCHEME LOCATION

- 1.2.1. Winnersh is a civil parish and a large village in the Borough of Wokingham in the county of Berkshire. Winnersh is bounded by the M4 Motorway to the south, with an existing residential area and development in the north, King Street Lane to the west and the A329 Reading Road to the east.
- 1.2.2. The Winnersh Relief Road connects the B3270 Lower Earley Way to the A329 Reading Road in Winnersh, Wokingham.
- 1.2.3. The Relief Road was delivered in two main phases:
  - Phase 1: Western section, linking the B3270 Lower Earley Way with B3030 King Street Lane
  - Phase 2: Eastern section, linking King Street Lane to the A329 Reading Road at the M4 overbridge.
- 1.2.4. The scheme also includes Lower Earley Way dualling.
- 1.2.5. Winnersh Relief Road Phase 2 and Lower Earley Way dualling was funded by the Berkshire Thames Valley LEP (Business Rates Retention Pilot Fund) and Wokingham Borough Council's Capital Funding. The scheme completes the Winnersh Relief Road, linking Phase 1 of the scheme to the A329 Reading Road at two locations (each end of the scheme).
- 1.2.6. The route of the Winnersh Relief Road is illustrated in Figure 1-1. Phase 2 of the Relief Road was opened for traffic in May 2021, whilst final scheme completion date was September 2021.
- 1.2.7. Phase 1 of the Relief Road was delivered as a separate scheme and was funded by the developer of the nearby Hatch Farm Dairies housing development site (also illustrated in Figure 1-1).

Figure 1-1 - Winnersh Relief Road Scheme



- 1.2.8. As can be seen in Figure 1-1, Phase 2 of the Relief Road runs parallel north of the M4 Motorway (between Junction 10 to 11). The total length of the Relief Road is approximately 1.5 miles.

## 1.3 SCHEME DESCRIPTION

### PHASE 2 WINNERSH RELIEF ROAD

- 1.3.1. The Winnersh Relief Road aims to reduce existing congestion through Winnersh village and on the wider road network. It has been designed to provide additional capacity, which will help the Borough meet its economic growth and job creation objectives.
- 1.3.2. Phase 2 of the Winnersh Relief Road consisted of a 750m long single carriageway with a speed limit of 40mph, linking the new junction on B3030 King Street Lane to a new junction on the A329 Reading Road. It was created by widening a 400m long section of the existing Longdon Road and extending it by 350m to join the A329. The existing priority junctions with Sandstone Close and Laburnum Road were retained, serving the residential area north of Longdon Road. A shared footway/cycle way was provided on the Relief Road, with uncontrolled crossings for pedestrians and cyclists at these junctions.
- 1.3.3. The scheme included:
- A new roundabout junction located on the A329 Reading Road, north of the M4 overbridge
  - A further roundabout located south of the M4 overbridge providing a connection to the proposed West of Old Forest Road scheme
  - A modified set of traffic signals at Kings Street Lane
  - A new set of traffic signals on the Reading Road east bound approach at the southern roundabout
  - One modified toucan crossing on Reading Road between the two roundabouts close to Woodward Close

### LOWER EARLEY WAY DUALLING

- 1.3.4. Included within Phase 2 of the Winnersh Relief Road scheme was Lower Earley Way Dualling.
- 1.3.5. To accommodate traffic volumes associated with the relief road and Hatch Farm Dairies housing development, a 520m length of the B3270 Lower Earley Way was improved to a dual carriageway standard. The road was widened to provide two lanes in each direction, and a new footway/cycle way was also provided.
- 1.3.6. The location of this scheme in relation to Phase 2 of the Winnersh Relief Road is illustrated in Figure 1-1.

## 1.4 INTRODUCTION

- 1.4.1. As part of the Winnersh Relief Road Full Business Case (FBC), a Monitoring and Evaluation Plan (MEP) has been produced for Phase 2 of the scheme, in accordance with the Department of Transport (DfT) guidelines as set out in the Monitoring and Evaluation Framework for Local Authority Major Schemes (September 2012) and the Monitoring and Evaluation Strategy (March 2013).
- 1.4.2. The DfT guidance identifies three tiers of monitoring and evaluation, namely:
- Standard Monitoring, where schemes monitor and report on a standard set of measures.

- Enhanced Monitoring, for schemes costing more than £50m or which are anticipated to have a significant impact on particular indicators; and
- Fuller Evaluation, for a DfT-specified selection of schemes.

1.4.3. The Winnersh Relief Road Phase 2 is a project with an overall cost less than £50m and has therefore not been specified for fuller evaluation. As such it falls into the Standard Monitoring tier.

1.4.4. This report aims to demonstrate that the funding obtained for Phase 2 of the scheme has provided value for money and that any lessons learnt are captured as evidence to inform future decision making. The report aims to evaluate the success of the scheme so far, by comparing the expectations and assumptions made in the original Business Case against the scheme's current outcomes.

1.4.5. The following measures have been identified to assess the scheme in accordance with the DfT Standard monitoring measures:

- Scheme build
- Scheme delivery
- Scheme costs
- Scheme objectives
- Travel demand
- Travel times and reliability of travel times
- Impacts on the economy; and
- Carbon Impacts

## 1.5 SCHEME OBJECTIVES

1.5.1. The objectives of the Winnersh Relief Road were to:

- Reduce existing and future peak hour congestion in Winnersh by providing an alternative route for through traffic
- Reduce journey times on the A329 Reading Road through Winnersh
- Facilitate the Hatch Farm Dairies housing development (433 dwelling units)
- Cater for traffic generated by other new housing developments in the Borough of Wokingham as set out in the Core Strategy
- Encourage active transport through provision of cycle lanes and footpaths.

## 1.6 MEASURES OF SUCCESS

1.6.1. This report will analyse whether the above scheme objectives have been met using several different measures of success. The scheme objectives and criteria for assessment, as outlined in the Business Case, have been summarised in Table 1-1:

**Table 1-1 – Measure of Success**

Project Objective	Benefit	Measure	Timescale
Reduce existing and future peak hour congestion in Winnersh	Improved and reliable East-West connection would improve overall network performance	Journey time and reliability monitoring	Immediately after completion
Reduce journey times on the A329 Reading Road through Winnersh	Removal of some strategic traffic on the A329 Reading Road due to the bypass	Journey time and reliability monitoring	Immediately after completion
Facilitate the Hatch Farm Dairies housing development	Deliver the identified housing development. Full connectivity with the wider network	Delivery of housing target and jobs	Immediately after completion
Cater for traffic generated by other new housing developments in the Borough of Wokingham	Improved connectivity and network capacity for accommodating Council's growth aspiration	Network performance against increase in demand due to new developments	Long-term
Encourage active transport in the area through provision of better cycle lanes and footpaths	Support growth of sustainable transport (non-motorised users)	Monitoring NMU mode share against target	Medium-term

1.6.2. These project objectives and measurements of success will be scrutinised throughout this report to evaluate the overall success of Phase 2 of the Winnersh Relief Road scheme.

## 2 SCHEME BUILD, DELIVERY AND COSTS

### 2.1 INTRODUCTION

2.1.1. This section of the report focusses on whether the scheme build, delivery and costs of Phase 2 of the Winnersh Relief Road scheme were delivered as outlined in the original Business Case. It also assesses the constructed scheme in terms of cost, programme and risk.

### 2.2 SCHEME BUILD

2.2.1. To understand if the scheme was built and delivered on time in line with key project milestones (as outlined in the project plan), expected delivery timescales throughout the project lifecycle have been reviewed against the actual delivery dates, summarised in Table 2-1. If key milestones have not been met, an explanation of the reason/s for the delay has also been provided.

**Table 2-1 – Review of Project Delivery Timescales**

Task	Expected Delivery Timescale	Actual Delivery Timescale
Start enabling works	Summer 2018	Spring 2019
Site preparation	Summer 2019	Autumn 2019
Construction begins on King Street Lane	Late Autumn 2019	Late Autumn 2019
Start utility diversion work	Spring 2019	Early 2020
Road open to traffic	Autumn 2020	May 2021
South roundabout completion	-	Autumn 2021
Landscaping and remedial works	-	Summer 2022

2.2.2. A summary of key issues encountered and reasons for delays to the project timeline have also been provided to identify potential lessons learnt if the project was to be repeated:

- Working within close proximity to and interface with National Highways required close management and regular communication to ensure both parties could deliver their contracted work on time
- Deep excavation for drainage system was affected by significant periods of wet weather during Autumn and Winter 2020 – these created issues with surface water drainage
- A329 Reading Road utility diversion was required early in the programme
- The continued operation of the road for public use meant tight phasing of works

2.2.3. Further lessons learnt based on experiences during scheme construction have been summarised below:

- Ensure kerb islands are sized correctly to ensure minimal cutting
- Avoid the usage of Ovoid pipes if possible. NMRE Lorclon used a new pipe laying system with two excavators as opposed to a standard circular pipe. This worked very well and mitigated the air testing issue that was experienced with the Ovoid pipes, which meant that workers had to manually build a square concrete manhole around each junction. This took a significant amount of time.
- A new top to a footpath was required, however the standard of the previous work completed by another contractor was sub-standard. This increased workload and associated time pressures.
- The pedestrian crossing used a sprayed-on herring bone imprint. This is a lot faster than block paving to lay and easier and quicker to install and maintain.
- Account for the cost of vacuum excavation when working on a very old road. The cost of this was underestimated.

## 2.3 SCHEME DELIVERY

- 2.3.1. As outlined in the FBC, Phase 2 of the Winnersh Relief Road consisted of a 750m long single carriageway, linking the new junction on B3030 King Street Lane to a new junction on the A329 Reading Road. The final section of the Relief Road was opened for traffic in May 2021.
- 2.3.2. According to the FBC, the key features of scheme included:
1. A new roundabout junction located on the A329 Reading Road, north of the M4 overbridge
  2. A further roundabout located south of the M4 overbridge providing a connection to the proposed West of Old Forest Road scheme
  3. A modified set of traffic signals at Kings Street Lane
  4. A new set of traffic signals on the Reading Road east bound approach at the southern roundabout
  5. One modified toucan crossing on Reading Road between the two roundabouts close to Woodward Close
- 2.3.3. Of the above key features, all except one have been successfully delivered one year post scheme opening. The proposed traffic signals on the Reading Road east bound approach at the southern roundabout was not implemented (number 4). This change was made during the preliminary design before submission to Planning. It was recognised that the traffic signals should be provided later based on the Transport Assessment work done.
- 2.3.4. Scheme delivery for Phase 2 of the Winnersh Relief Road scheme is evidenced using satellite imagery from Google Maps (Figure 2-1). The construction and completion of some of the key features of the scheme (summarised above) are also highlighted in Figure 2-2 to Figure 2-5. The annotated numbers on the imagery in these figures directly correlate with the key feature listed above.
- 2.3.5. With reference to Lower Earley Way Dualling, the FBC stated that:
- A 520m length of the B3270 Lower Earley Way was to be improved to a dual carriageway standard. The road was widened to provide two lanes in each direction, and a new footway/cycle way was also provided.
- 2.3.6. The completion of the Lower Earley Way Dualling is evidenced in Figure 2-6 and Figure 2-7.



Figure 2-1 - Google Maps Satellite Imagery of Built Scheme

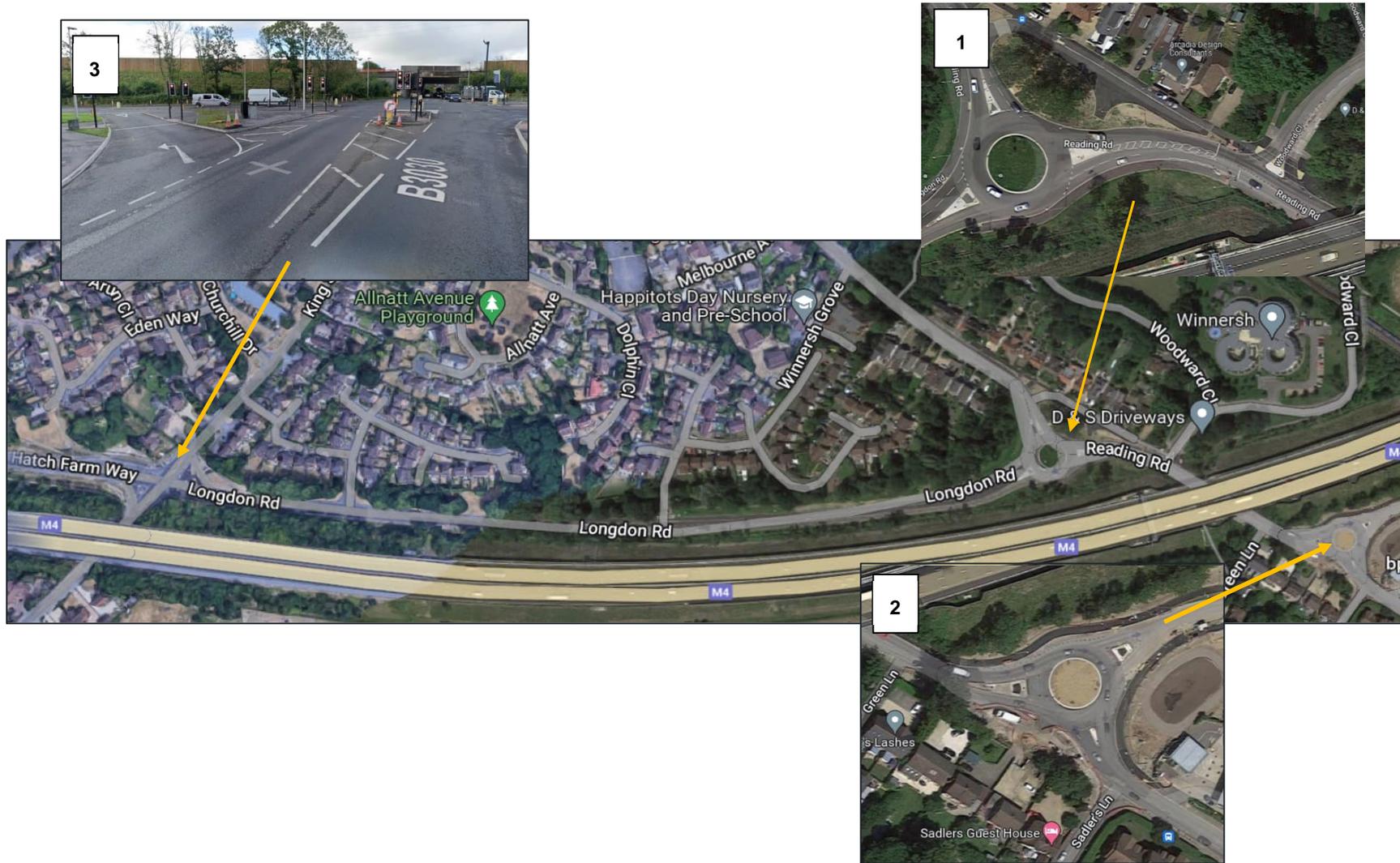


Figure 2-2 - Aerial view of construction of new northern roundabout



Figure 2-3 - Aerial view of construction of new southern roundabout



Figure 2-4 - Aerial view of new northern roundabout – now open to traffic



Figure 2-5 - Aerial view of new southern roundabout – now open to traffic



Figure 2-6 - Aerial view of Lower Earley Way Dualling (before)



Figure 2-7 - Aerial view of Lower Earley Way Dualling (after)



## 2.4 SCHEME COSTS

- 2.4.1. The purpose of this subchapter is to compare scheme costs that were initially forecast in the Business Case with actual scheme costs to establish whether the scheme was delivered within budget.
- 2.4.2. However, post scheme costs are not currently available for Phase 2 of the Winnersh Relief Road due to the combining of construction of this scheme with the West of Forest Road scheme. As a result, individual costs for each scheme will not be available until the cost of the two schemes have been disaggregated (approximately Autumn 2022). This information will have to be re-evaluated in the 5-year post scheme report.
- 2.4.3. Despite this, the estimated scheme costs discussed in the FBC are detailed below.
- 2.4.4. The overall cost estimate for Phase 2 of the Winnersh Relief Road scheme was **£8,037,121.82**. These costs were based on 2016 Quarter 3 prices and are broken by project task and year in Table 2-2:

**Table 2-2 – Estimated Scheme Costs, as detailed in the FBC**

Project Task	2017/18	2018/19	2019/20	2020/21	Total
Lands	£0	£45,000.00	£0	£0	<b>£45,000.00</b>
Pt1 Claims	£0	£0	£0	£500,000.00	<b>£500,000.00</b>
Core Team	£127,404.37	£509,617.49	£212,340.62	£0	<b>£849,362.49</b>
Surveys	£0	£0	£209,344.99	£0	<b>£209,344.99</b>
Enabling Works	£0	£0	£186,938.00	£0	<b>£186,938.00</b>
Construction	£0	£0	£5,033,987.88	£719,141.13	<b>£5,753,129.00</b>
Risk & BIM (Design)	£0	£0	£120,932.38	£0	<b>£120,932.38</b>
Risk & BIM (Construction)	£0	£0	£372,414.95	£0	<b>£372,414.95</b>
<b>Total</b>	<b>£127,404.37</b>	<b>£554,617.49</b>	<b>£6,135,958.82</b>	<b>£1,219,141.13</b>	<b>£8,037,121.82</b>

### COST SAVINGS

- 2.4.5. Cost elements where savings have been identified cannot be accurately calculated until full scheme costs have been analysed.

## COST OVERRUNS

2.4.6. Scheme compensation events (CE) have been summarised for Phase 2 Winnersh Relief Road and Lower Earley Way Dualling in Table 2-3 and Table 2-4 to identify where scheme cost elements incurred overruns:

**Table 2-3 – Scheme Compensation Events (Phase 2 Relief Road)**

<b>CE Reference</b>	<b>Title</b>
CE-85	South roundabout geometric re-design
CE-84	WRR2 - re-design of layout outside BP station access (refer to RSA 3 problem)
CE-72	Gritting of Longdon Road, Winnersh
CE-71	Damaged Lamp Column Following RTA on North Roundabout
CE-63	Planings Bound with Coal Tar
CE-60	Saddlers Lane Existing Pavement
CE-58	Substation Design - Additional Costs
CE-54	Footpath outside 328 Reading Road
CE-48	South Roundabout Thames Water Diversion Delay
CE-47	Unforeseen Ground Conditions - Pond 2
CE-45	Concrete Utilities Capping on Reading Road
CE-43	Obstructions Encountered During Vacuum Excavation Works
CE-42	Coal Tar Found on Reading Road
CE-41	SSE LV Pole Relocation (North Roundabout)
CE-40	M4 Boundary CCTV Cable
CE-39	Temporary
CE-38	SGN Subcontractor Stopped Due to Unsafe Working Practices
CE-37	Changes to Landscape Design
CE-36	Link Road opening
CE-30	ADS Signage - Physical works
CE-28	M4 V Ditch Groundwater Percolation

CE-27	Accommodating HE bridge works
CE-21	Vodafone - North Roundabout Diversion
CE-19	Unforeseen Ground Conditions - Ovoid Pipe and Swale
CE-17	Unchartered Services - Water Pipe & LV Cable
CE-15	Thames Water Diversions Delay Contractor's Planned Works
CE-12	Gas spurs
CE-11	Additional filter drain - Preliminary design
CE-10	Change to proposed Woodward Close resurfacing extents
CE-5	Insufficient Cover to Communications Ducting
CE-4	Damaged Light Column - Longdon Road
CE-2	Vacuum Excavation

**Table 2-4 - Scheme Compensation Events (Lower Earley Way Dualling)**

CE Reference	Title
<b>Phase 1</b>	
CE-6	Topographical & Utilities Survey on LEWD
CE-13	Ecological Survey at ACRR & LEWD
CE-14	Surveys and Investigations (GI/Cores for LEWD, ACRR, BB, EG)
CE-23	Japanese Knotweed - LEWD
CE-58	Enabling Works
CE-75	WAC Testing
CE-107	Alteration to LEWD pond design following Ecological Walkabout
CE-347	Additional Preconstruction Staff Resource
<b>Phase 2</b>	
CE-1	Northbound lane 1 roundabout approach hatching
CE-2	Extension to Traffic Light ducts on the Northern Footpath
CE-3	Temp access and pond footpath material change

CE-4	Install two additional traffic signal ducts on the showcase roundabout
CE-5	New Showcase Cinema egress route
CE-6	ADS Foundation Installation
CE-7	RSA3 audit - site update construction instruction
CE-8	Wokingham white lining removed from left hand lane

## 2.5 RISK

- 2.5.1. The FBC states that project risk was to be managed as an on-going process as part of the scheme governance structure. The Winnersh Relief Road scheme has benefitted from Early Contractor Involvement and a detailed review of risk was undertaken by the whole (Client, Consultant and Contractor) team.
- 2.5.2. The following tasks were undertaken throughout the project lifestyle to mitigate the impacts of potential risks:
- Early warning notices process from both Contractor and Client
  - Weekly risk reduction meeting and as required during construction of the scheme
  - Weekly collaborative programme board meeting with Contractor and Client throughout the project lifestyle to manage risks based on RAG (red, amber, green) system and weekly review of actions.

## 2.6 SUMMARY

- 2.6.1. This chapter has summarised the scheme build, delivery and costs of Phase 2 of the Winnersh Relief Road scheme. Firstly, information on the scheme build such as project timescales and potential lessons learnt have been summarised. Within scheme delivery, Google Maps satellite imagery and before and after construction photos have been used to illustrate whether the key features of the scheme, originally outlined in the FBC, have been successfully delivered. Finally, estimated scheme costs and cost overruns have been provided, whilst risk mitigating measures have also been reviewed.

## 3 TRAVEL DEMAND AND JOURNEY TIME RELIABILITY

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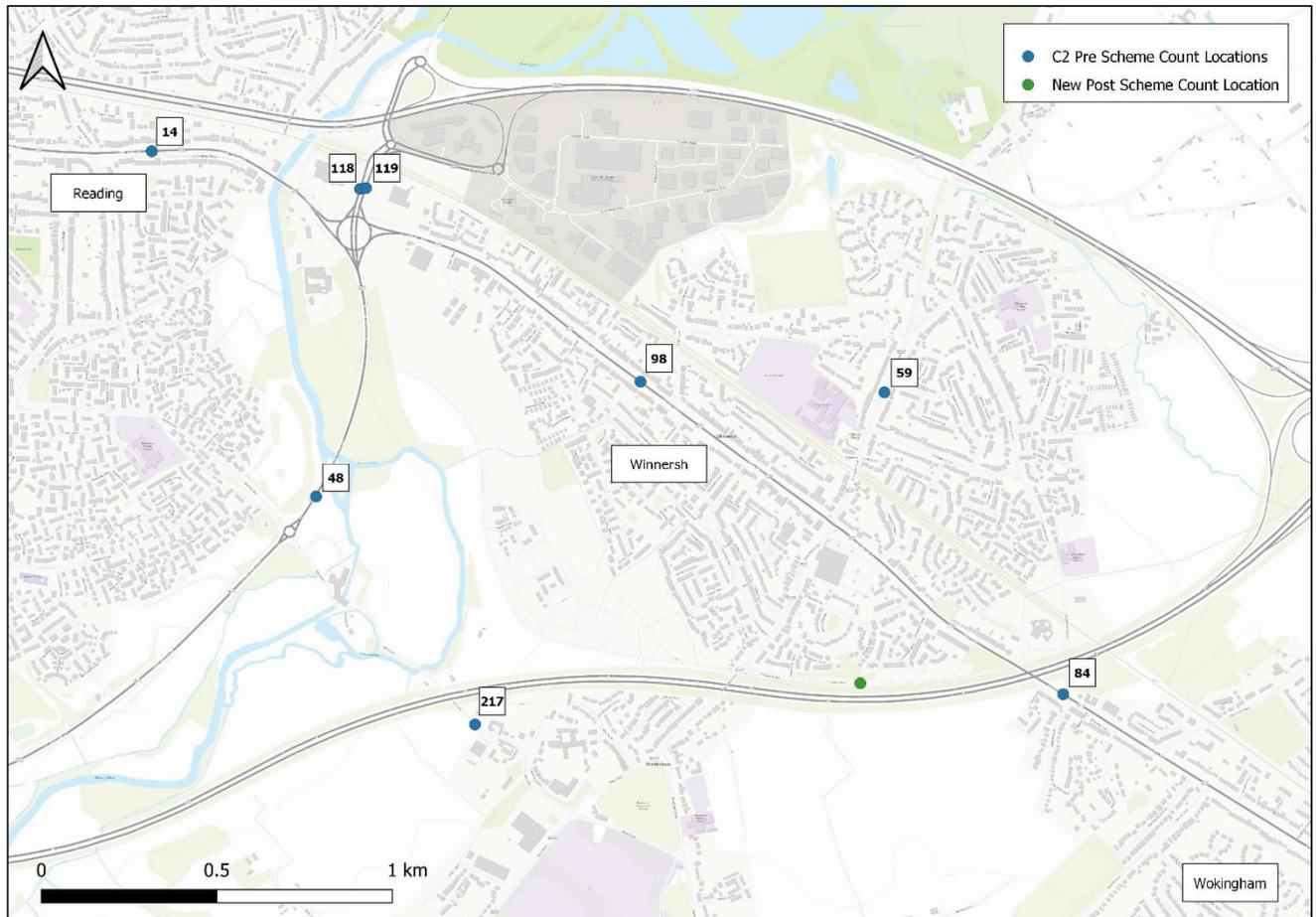
### 3.1 INTRODUCTION

- 3.1.1. The impact of Phase 2 of the Winnersh Relief Road scheme development upon travel demand and journey time reliability in and around Winnersh has been analysed using several datasets, including traffic counts, pedestrian and cycle counts and journey time reliability surveys.
- 3.1.2. The FBC identifies a requirement to reduce travel demand and improve journey time reliability along the A329 Reading Road. Before scheme development, this road, and the crossroads at the junction of Reading Road, King Street Lane and Robin Hood Lane suffered from considerable congestion and subsequent journey time unreliability and economic inefficiencies.
- 3.1.3. Traffic counts and journey time surveys have been proposed to understand what impact the development of Winnersh Relief Road has had upon travel demand and journey time reliability.

### 3.2 TRAFFIC COUNTS

- 3.2.1. Road traffic counts have been analysed on arterial routes at a variety of locations in Winnersh pre and post scheme development to ascertain the scheme's impact upon traffic volumes.
- 3.2.2. Wokingham Borough Council traffic count data for the pre-scheme traffic counts has been extracted from the C2 online platform. However, since the final scheme completion date was during September 2021, reliable post-scheme traffic counts remain unavailable on the C2 platform. There were also some technical issues that were reported for some of the traffic counters which meant they could no longer be used and required repair. As a result, post scheme traffic counts have been commissioned independently.
- 3.2.3. Since post-scheme traffic counts were commissioned and undertaken during week commencing 23<sup>rd</sup> May 2022, pre-scheme traffic count data has been extracted from the C2 online platform during the penultimate week in May to enable accurate comparisons of traffic volume.
- 3.2.4. Preparation for the delivery of Phase 2 of the Relief Road began in early 2019, therefore 2018 was deemed the latest year that the pre-scheme traffic counts could be extracted from the C2 online platform to enable accurate pre and post scheme comparisons. As a result, traffic volume data was extracted during the penultimate week in May 2018 for all site locations except for site number 14, where count data was extracted during May 2017 instead of May 2018 due to the unavailability of the required data during May 2018.
- 3.2.5. One additional traffic count has been undertaken at the Phase 2 Relief Road scheme location (Longdon Road). Counts had not previously been undertaken at this location by Wokingham Borough Council therefore a before and after scheme development traffic volume comparison was not possible at this site.
- 3.2.6. Figure 3-1 illustrates the locations of the pre and post scheme traffic volume counts, whilst Table 3-1 summarises the traffic volumes recorded at each site:

Figure 3-1 – C2 Count Locations





**Table 3-1 – Pre- and post-scheme Traffic Volume Comparisons**

C2 Site ID	Traffic Count Location	Pre-scheme average weekday traffic volume in May 2018				Post-scheme average weekday peak traffic volume in May 2022			
		12-hour (07:00-19:00)	AM Peak (08:00-09:00)	PM Peak (17:00-18:00)	Peak travel as a % of total (average)	12-hour (07:00-19:00)	AM Peak (08:00-09:00)	PM Peak (17:00-18:00)	Peak travel as a % of total (average)
14	A329 Wokingham Road	15,734	1,602	1,643	10%	14,223	1,459	1,514	10%
48	B3270 Lower Earley Way North	22,496	2,104	2,414	10%	21,780	2,420	2,397	11%
59	B3030 Robin Hood Lane	7,392	717	741	10%	6,595	724	667	11%
84	A329 Reading Road (under M4)	15,594	1,322	1,392	9%	20,127	2,253	1,907	10%
98	A329 Reading Road	13,156	1,804	1,797	14%	14,811	1,482	1,415	10%
118	Showcase Cinema (n-bound)	13,865	1,794	1,217	11%	11,899	1,509	1,177	11%
119	Showcase Cinema (s-bound)	13,044	1,063	1,628	10%	11,346	1,044	1,498	11%
217	Mill Lane, Sindlesham	10,620	1,040	1,160	10%	6,525	965	767	13%
N/A	Longdon Road	N/A				9,480	1,185	946	11%

- 3.2.7. Table 3-1 highlights that the average percentage of total traffic recorded travelling during peak periods before scheme construction is consistent. At every site except one, average peak travel ranges from 9-11% of total traffic recorded. The exception is site 98 (A329 Reading Road), where average peak travel sits at 14% of total traffic recorded. This contributes towards the idea that a significant volume of traffic at site 98 travelled during peak periods, resulting in notable congestion levels.
- 3.2.8. Since scheme completion, average peak travel of total traffic recorded ranges from 10-13% across the various surveyed sites. Average peak travel along Longdon Road sits at 11%, whilst the average weekday 12-hour traffic volume is 9,480 vehicles. Notably, average peak travel at site 98 (A329 Reading Road) has significantly decreased since the completion of the Winnersh Relief Road scheme, from, 14% to 10%.
- 3.2.9. The development of the Phase 2 of the Relief Road scheme has also had significant impacts upon traffic flows at sites 84 and 217. At site 84, 12-hour weekday traffic flows have increased 29% since the development of the scheme, whilst at site 217, traffic flows have decreased 39%. It can be seen therefore that the scheme has relieved traffic flows successfully on the parallel Mill Lane (site 217).
- 3.2.10. This data highlights the impact the Relief Road scheme has had upon easing the pressure upon nearby arterial routes around Winnersh such as the A329, resulting in decreased congestion.
- 3.2.11. It should, however, be noted that this scheme was constructed during the Covid-19 pandemic, whereby at times throughout scheme construction the general public were instructed to remain at home unless their journey was essential. The Covid-19 lockdown has had a long-term impact upon travel patterns and overall traffic volumes, with many employees and employers continuing to work flexibly. As a result, the pre and post-scheme traffic volumes recorded in Table 3-1 may not be directly comparable due to an increase in working from home.

### 3.3 PEDESTRIAN AND CYCLE COUNTS

- 3.3.1. Post scheme pedestrian and cycle counts have also been commissioned to understand current levels of active travel usage in Winnersh. Pedestrian counts and off-road cycle counts were undertaken at Longdon Road, whilst on-road cycle counts were undertaken at the same C2 count locations as identified in Figure 3-1 .
- 3.3.2. Post scheme construction pedestrian volumes on Longdon Road are summarised in Table 3-2:

**Table 3-2 - Post scheme pedestrian volumes**

C2 Site ID	Location	Total No. of Pedestrians Recorded						
		23 <sup>rd</sup> May	24 <sup>th</sup> May	25 <sup>th</sup> May	26 <sup>th</sup> May	27 <sup>th</sup> May	Weekly Total	Weekly Average
N/A	Longdon Road	145	152	121	125	136	679	136

- 3.3.3. Table 3-2 highlights the consistent flow of pedestrians on Longdon Road from Monday 23<sup>rd</sup> – Friday 27<sup>th</sup> May.
- 3.3.4. With reference to pre and post scheme cycle volume comparison, preparation for the delivery of Phase 2 of the Relief Road began in early 2019, therefore 2018 was deemed the latest year that the pre-scheme cycle counts could be analysed to enable accurate pre and post scheme comparisons.

- 3.3.5. Post scheme cycle counts could only be compared against pre-scheme cycle volumes for sites 14 and 98 due to issues with the availability of the required data.
- 3.3.6. Post scheme construction cycle volumes are summarised in
- 3.3.7. Table 3-3:

**Table 3-3 – Post scheme cycle volumes**

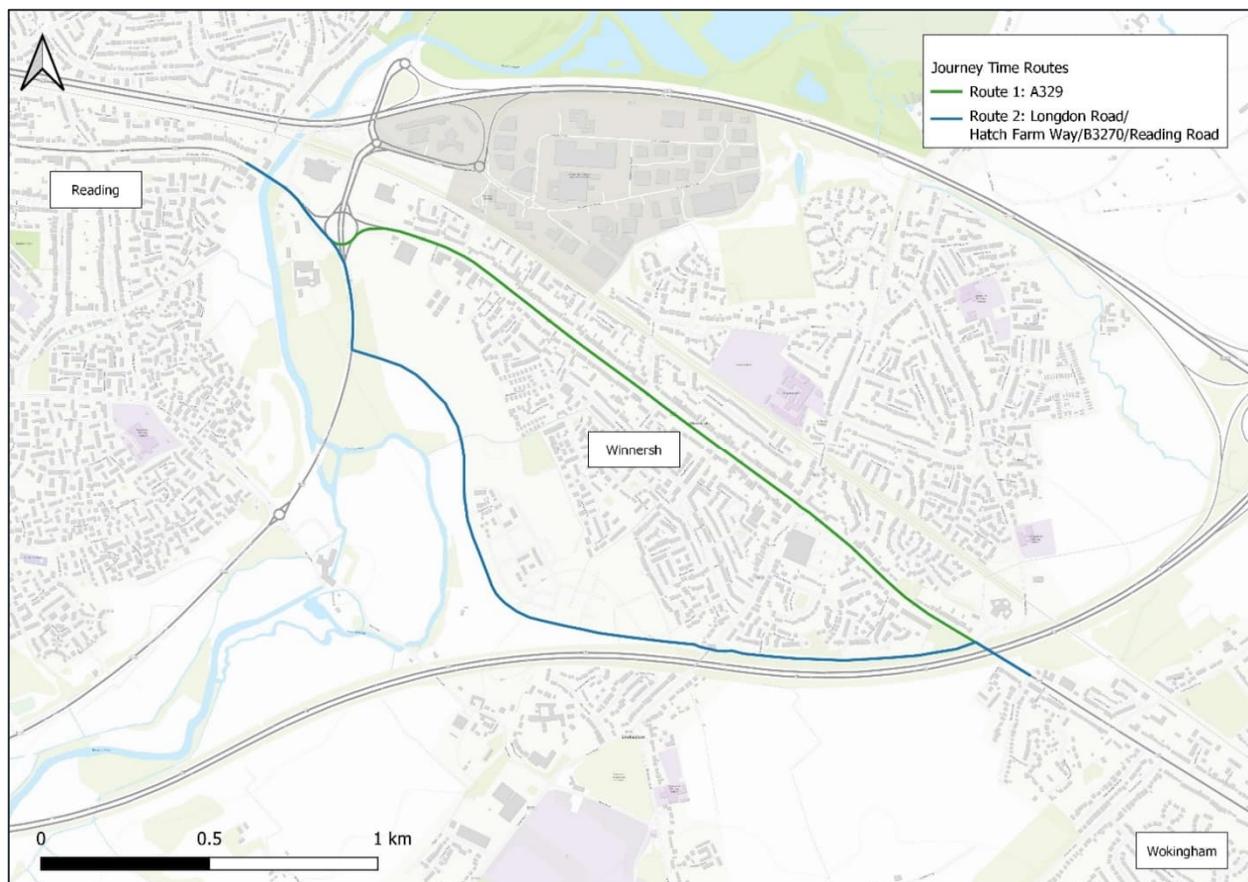
C2 Site ID	Location	Pre scheme Pedal Cycle Volumes	Post scheme Pedal Cycle Volumes						
		Weekly Total	23 <sup>rd</sup> May	24 <sup>th</sup> May	25 <sup>th</sup> May	26 <sup>th</sup> May	27 <sup>th</sup> May	Weekly Total	Weekly Average
14	A329 Wokingham Road	2314	212	175	207	251	216	1061	212
48	B3270 Lower Earley Way North	N/A	8	5	7	8	15	43	9
59	B3030 Robin Hood Lane	N/A	44	37	51	115	63	310	62
84	A329 Reading Road (under M4)	N/A	108	89	106	105	128	536	107
98	A329 Reading Road	2548	172	151	173	169	182	847	169
118	Showcase Cinema (n-bound)	N/A	0	0	2	1	4	7	1
119	Showcase Cinema (s-bound)	N/A	0	3	6	3	3	15	3
217	Mill Lane, Sindlesham	N/A	33	27	24	24	34	142	28
N/A	Longdon Road (on-road)	N/A	34	18	13	20	27	112	22
	Longdon Road (off-road segregated cycle facility)	N/A	85	62	70	71	73	361	72

- 3.3.8. Table 3-3 highlights the significant volume of pedal cycle flows that have been recorded at sites 14, 84 and 98. Volume of pedal cycle flows at site 14 exceeded 1,000 throughout the duration of the week, whilst volumes exceeded 500 pedal cycles at sites 84 and 98 throughout the duration of the week.
- 3.3.9. Table 3-3 also highlights the significant reductions in cycle volumes at sites 14 and 98 since the construction of the scheme. It is, however, important to caveat this information with several reasons why these totals may have decreased. Firstly, the pre scheme cycle volumes included both on-road and off-road cycle volumes, whereas the post scheme totals surveyed on-road cyclists only (except for Longdon Road, where both on-road and off-road cyclists were recorded separately). Secondly, as was the case with the traffic counts, overall cycle volumes may have been impacted by the changes in travel patterns caused by the Covid-19 pandemic. Finally, the opening of Phase 2 of the Relief Road is likely to have had some impact upon cycle route choices.

## **3.4 JOURNEY TIME RELIABILITY SURVEYS**

- 3.4.1. Journey time unreliability due to congestion along the A329 Reading Road and the crossroads at the junction of Reading Road, King Street Lane and Robin Hood Lane was identified within the Business Case as a key contributing factor towards the development of the Winnersh Relief Road.
- 3.4.2. Journey time reliability surveys have been proposed along the following routes in Winnersh to understand the impact of AM and PM peak congestion upon journey times:
- Route 1: A329 Reading Road
  - Route 2: Longdon Road/Hatch Farm Way/B3270/Reading Road
- 3.4.3. It is proposed that Department for Transport Trafficmaster/TeletracNavman data is used to access journey times.
- 3.4.4. The proposed routes for the journey time reliability surveys are illustrated in Figure 3-2.

**Figure 3-2 - Journey Time Routes**



- 3.4.5. Unfortunately, upon investigating these routes further, it was identified that the journey time data for route 2 was incomplete, with segments of the route missing data. This is most likely due to the fact that the Traffweb data layer used to access journey time routes was created before the Relief Road was built. To combat this, separate journey time surveys can be commissioned in the future to access journey time data for this route.
- 3.4.6. As a result of this issue, journey times for route 1 only will be analysed within this report, and journey times for route 2 will be re-evaluated in the 5-year post scheme report. However, at the time of writing the journey time data for route 1 was unavailable due to IT issues. The journey time data will be submitted separately to the LEP as soon as possible.

### **3.5 SUMMARY**

- 3.5.1. This chapter summarises the impact of Phase 2 of the Winnersh Relief Road scheme development upon travel demand and journey time reliability using a combination of traffic counts, pedestrian and cycle counts and journey time reliability data.
- 3.5.2. The data summarised in Table 3-1 contributes towards the idea that peak hour congestion has been reduced since the development of Phase 2 of the Winnersh Relief Road scheme. At site 98 (A329 Reading Road), average peak travel as a percentage of total traffic recorded reduced from 14% to 10% since the completion of the scheme. It is probable that the development of the relief road has eased the pressure on nearby arterial routes around Winnersh such as the A329, thus reducing overall congestion.

- 3.5.3. The scheme has also relieved traffic flows successfully on the parallel Mill Road (site 217). It should, however, be noted that this scheme was constructed during the Covid-19 pandemic. As a result, the pre and post-scheme traffic volumes recorded in Table 3-1 may not be directly comparable due to an increase in working from home.

**The data summarised in Table 3-2 highlights the consistent flow of pedestrians on Longdon Road, whilst**

- 3.5.4. Table 3-3 highlights the high volumes of pedal cycles recorded at various site locations throughout Winnersh. Both figures highlight the usage of and requirement for continued non-motorised user provision throughout Winnersh.

## 4 ROAD SAFETY

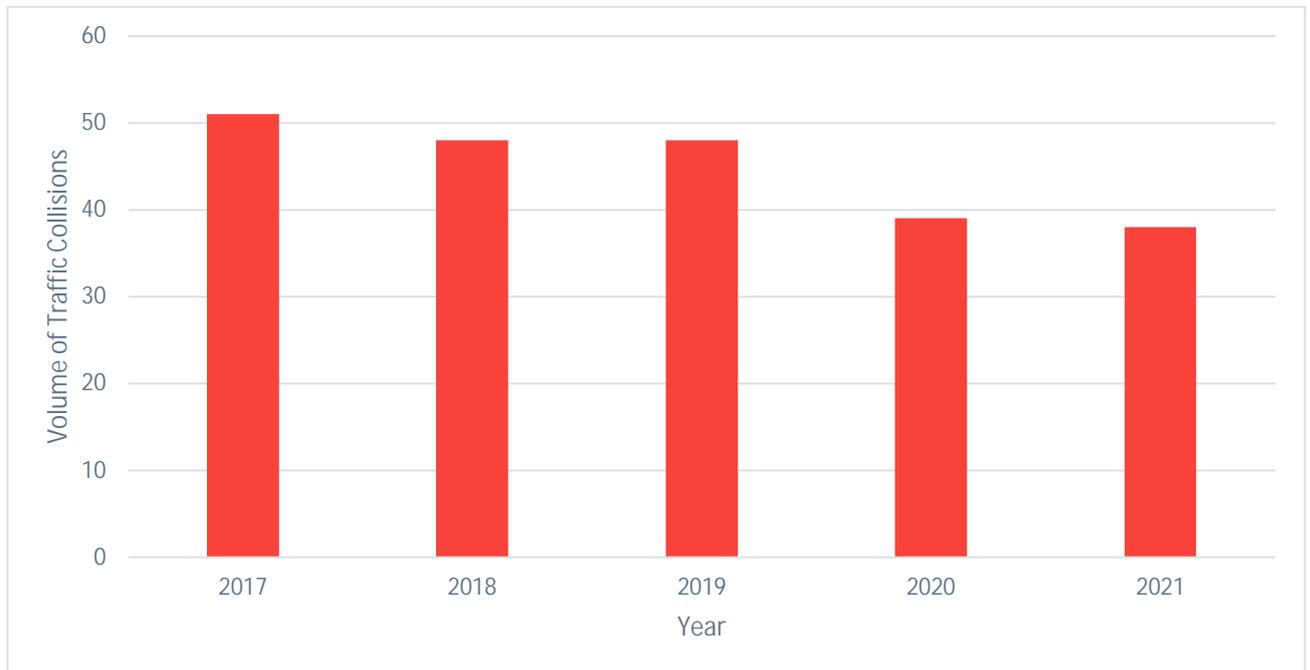
### 4.1 INTRODUCTION

- 4.1.1. Wokingham Borough Council road traffic collision data for Winnersh has been analysed for a 5-year period between 2017-2021. Road traffic collision data has been analysed between these years to assess the effectiveness of the scheme in improving road safety and reducing the number of road collision casualties.
- 4.1.2. Despite the fact that road safety is not directly discussed within the scheme’s objectives, it was deemed a relevant and important factor to review within this monitoring and evaluation report.
- 4.1.3. Locations of road traffic collisions were analysed and illustrated in the FBC as part of the scheme’s economic appraisal in attempt to estimate accident costs that could be saved due to the construction of the Relief Road.

### 4.2 TRAFFIC COLLISION DATA

- 4.2.1. Figure 4-1 highlights the distribution of road traffic collisions in Wokingham Borough Council, by year. During 2020, traffic flows and traffic collision data may not be representative of previous years due to the impact of national and local lockdowns as a result of the Covid-19 pandemic.

**Figure 4-1 - Volume of Road Traffic Collisions 2017-2021, by year**

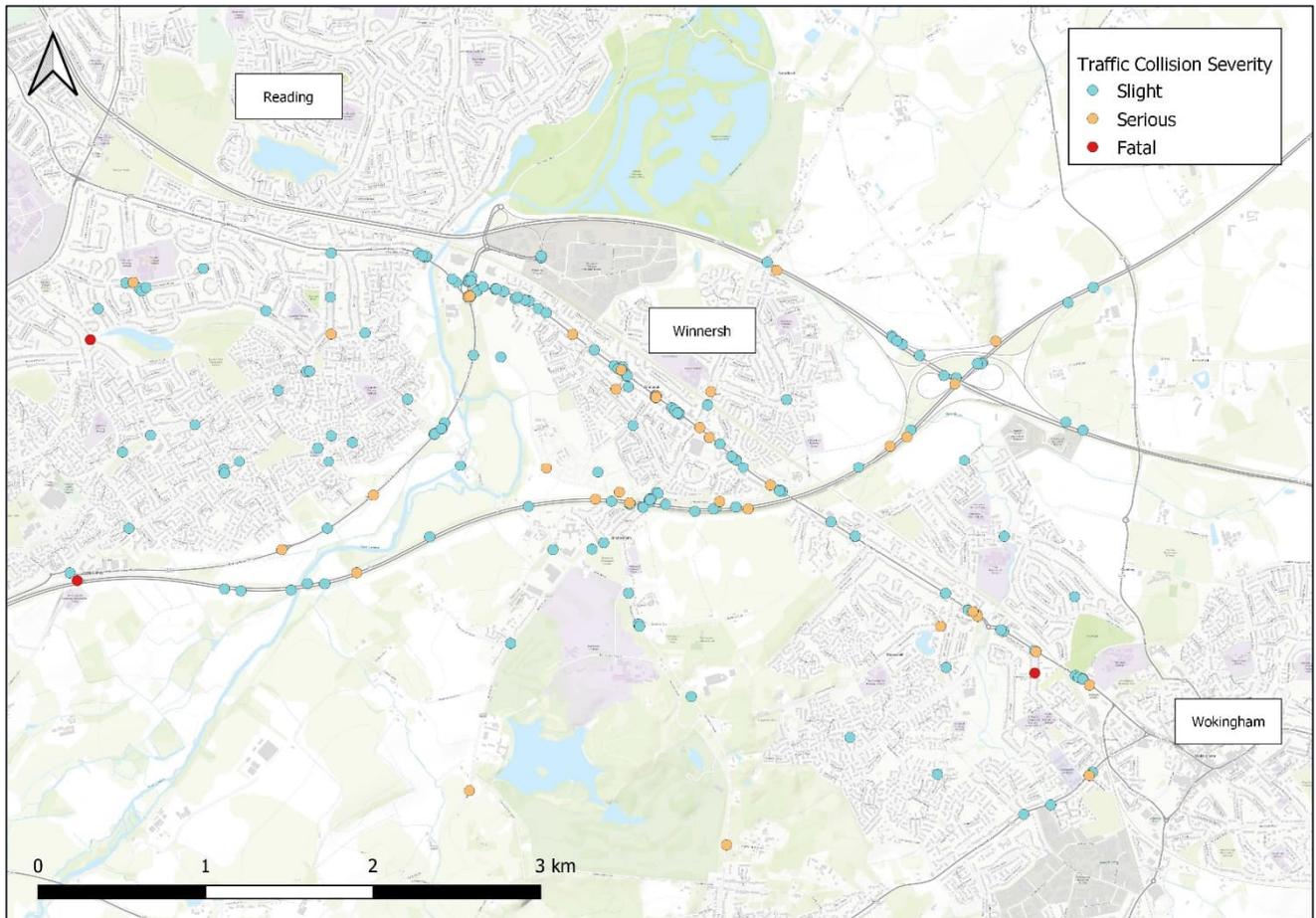


- 4.2.2. In total, 224 road traffic collisions have been recorded in the study area between 2017-2021. Noticeably, the annual volume of traffic collisions has decreased year-on-year between 2017-2021.
- 4.2.3. From the final completion of Phase 2 of the Winnersh Relief Road scheme in September 2021 to December 2021, 18 road traffic collisions were recorded.

### 4.3 TRAFFIC COLLISION SEVERITY

- 4.3.1. Traffic collision severity data in the study area has also been analysed over the 5-year period between 2017-2021. Road traffic collision data is divided into 3 collision severity categories: Slight, Serious and Fatal.
- 4.3.2. Incidents of road traffic collisions between 2017-2021, divided by collision severity, are illustrated in Figure 4-2:

**Figure 4-2 - Road Traffic Collision Severity**



- 4.3.3. Figure 4-2 highlights that most of the road traffic collisions within this section of the Wokingham Borough Council area between 2017-2021 occur on main arterial routes. Traffic collisions are heavily concentrated throughout the A329 Reading Road, particularly at the “Showcase” roundabout where Reading Road meets the A3290 and B3270 (north-west Winnersh).
- 4.3.4. A small minority of the recorded traffic collisions have taken place on Lower Earley Way.
- 4.3.5. Traffic Collision Severity data has also been summarised in Table 4-1:

**Table 4-1 - Traffic Collision Severity 2017-2021 by year**

Year	Slight		Serious		Fatal	
	Volume	% of annual total	Volume	% of annual total	Volume	% of annual total
2017	42	82%	9	18%	0	0%
2018	36	75%	11	23%	1	2%
2019	45	94%	3	6%	0	0%
2020	27	69%	11	28%	1	3%
2021	34	89%	3	8%	1	3%

- 4.3.6. Table 4-1 highlights the breakdown of traffic collisions occurring throughout the study area by year and severity. Most traffic collisions (69-94% of the annual totals) occurring throughout the study area have been defined as 'slight', whilst 3 fatalities have occurred since 2017.
- 4.3.7. All of the road traffic collisions that occurred from final scheme completion of Phase 2 of the Winnersh Relief Road in September 2021 to December 2021 were classified as slight.

## 4.4 SUMMARY

- 4.4.1. As can be seen in Figure 4-1, the annual volume of traffic collisions has decreased year-on-year between 2017-2021. It should be noted that the long-term impacts of scheme development upon road safety are difficult to quantify given how recently the scheme has been opened to motor traffic.
- 4.4.2. It is probable that the construction of the Relief Road has led to traffic transferring away from the arterial A329 Reading Road route onto the Relief Road, resulting in lower traffic volumes on the A329 Reading Road.

## 5 IMPACTS ON THE ECONOMY

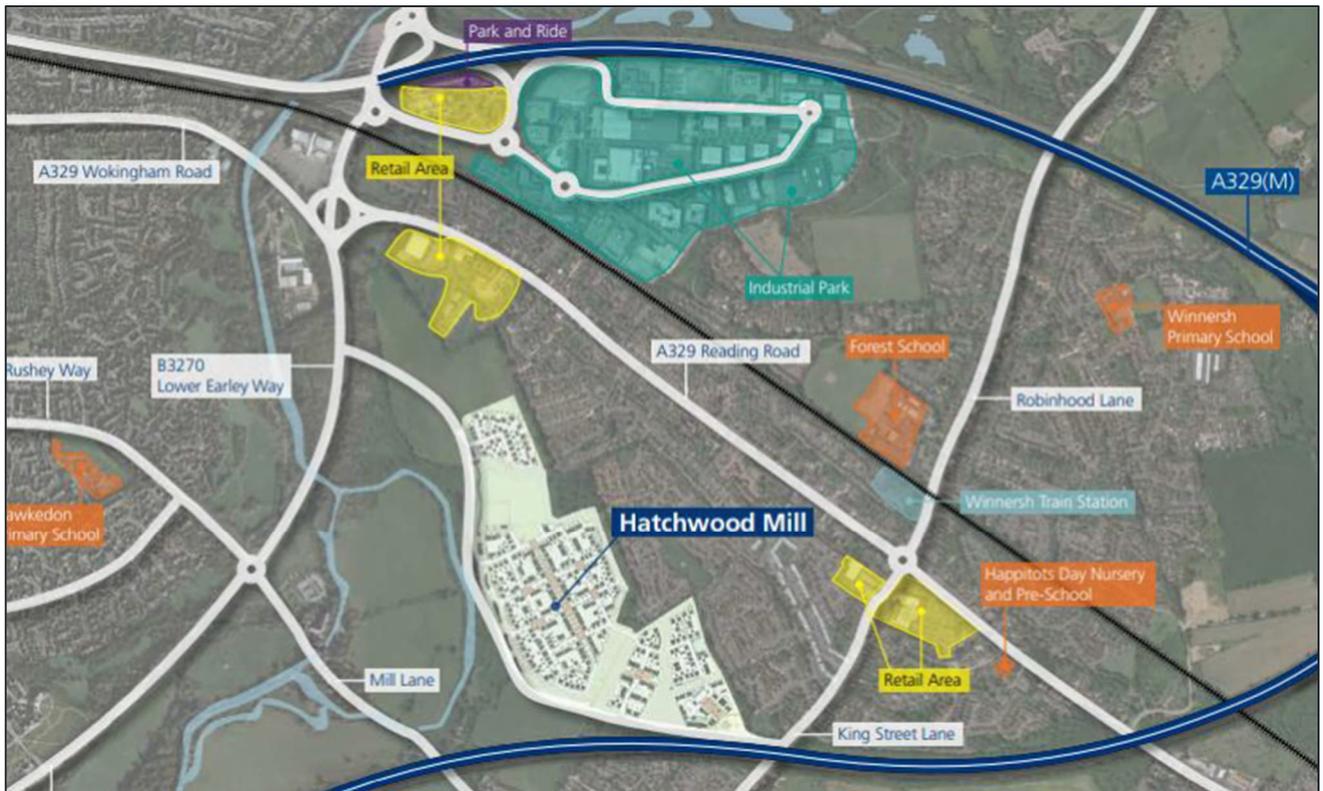
### 5.1 INTRODUCTION

5.1.1. This section of the report reviews the scheme’s economic impact, as outlined in the Economic Case of the FBC. This review is achieved by monitoring the delivery of employment and residential property in the local area. An increase in the number of dwellings and jobs in the study area will have the resultant impact of supporting the local economy.

### 5.2 HOUSING SUPPLY

- 5.2.1. The Winnersh Relief Road Business Case identifies a requirement to improve transport capacity in and around Winnersh to support planned residential growth in the area.
- 5.2.2. Housing Supply Data for the Hatch Farm Dairies housing development site has been accessed from Wokingham Borough Council and provided within this chapter.
- 5.2.3. The Hatch Farm Dairies (now known as Hatchwood Mill) is a permitted housing development site with 433 dwellings. The site is located adjacent to the western boundary of the urban settlement of Winnersh and Winnersh Relief Road Phase 1.
- 5.2.4. The location of this development is illustrated in Figure 5-1.

Figure 5-1 - Location of Hatch Farm Dairies (Hatchwood Mill) site

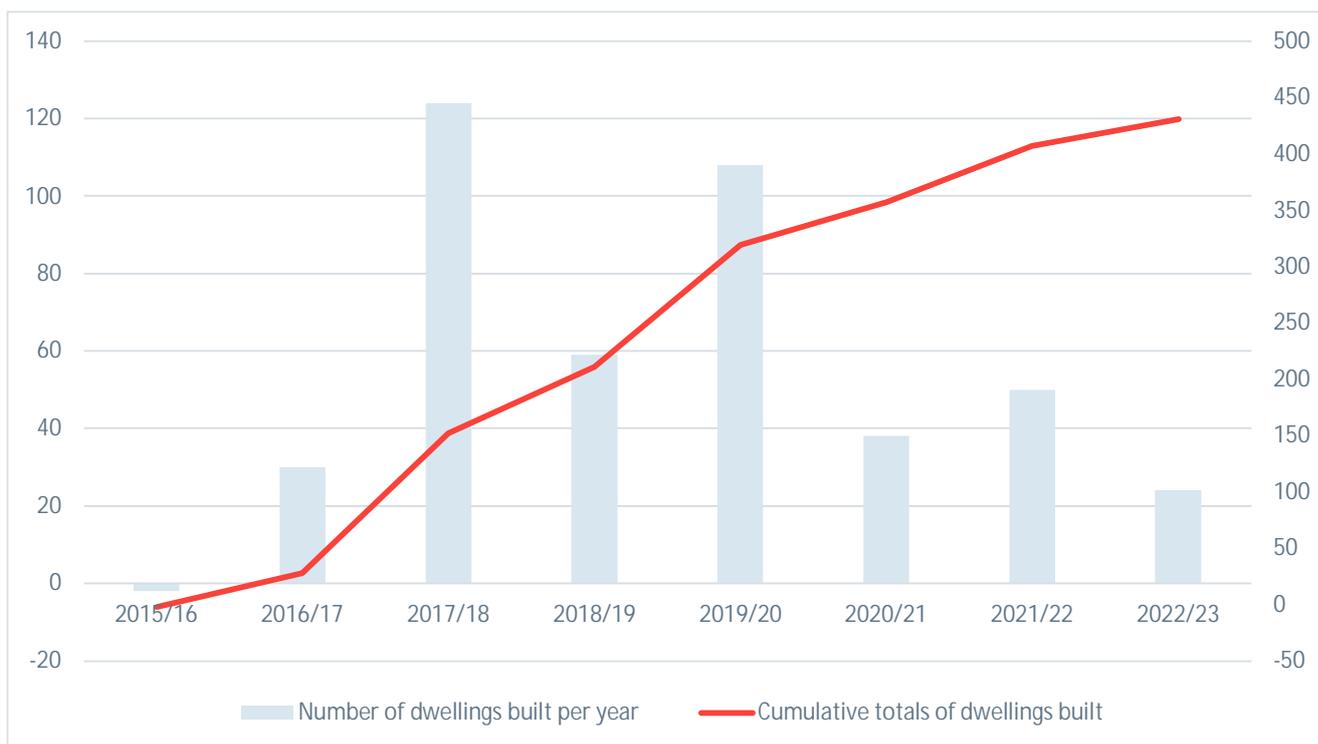


5.2.5. Table 5-1 summarises the number of dwellings that have been developed at the Hatch Farm Dairies (Hatchwood Mill) development site since 2015/16, whilst Figure 5-2 illustrates the cumulative totals of dwellings that have been built or a proposed to be built from 2015/16 to 2022/23:

**Table 5-1 – Housing Development Figures at Hatch Farm Dairies (Hatchwood Mill)**

Total Number of Dwellings Permitted	Total Number of Dwellings Built							
	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
433	-2	30	124	59	108	38	50	24

**Figure 5-2 - Cumulative totals of dwelling built at Harm Farm Dairies (Hatchwood Mill)**



- 5.2.6. As can be seen in Table 5-1 and Figure 5-2, since the demolition of two dwellings in 2015/16, there has been a consistent supply of houses built up to 2021/22.
- 5.2.7. By the end of 2021/22, 409 of the 433 total permitted dwellings have been built. The final 24 dwellings are due to be completed during 2022/23.

### 5.3 SUMMARY

- 5.3.1. This data highlights the continued provision of housing in the local area and contributes towards the successful delivery of the scheme objective to facilitate the Hatch Farm Dairies housing development.

## 6 CARBON IMPACTS

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- 6.1.1. This chapter of the report discusses the impact of the scheme upon air quality and greenhouse gas emissions.
- 6.1.2. It was stated within the FBC that the development of the Winnersh Relief Road would result in a decrease in greenhouse gas emissions due to proposed road and junction improvements which would alleviate congestion issues in Winnersh. Similarly, with reference to air quality, concentrations of NO<sub>x</sub>, NO<sub>2</sub> and PM<sub>10</sub> are predicted to meet statutory objectives. The qualitative assessment stated that impact of the scheme upon both greenhouse gases and air quality would be negligible.
- 6.1.3. DfT's most recent copy of Environmental Impact Appraisal guidance (released May 2022) states that the impacts of transport schemes on greenhouse gas emissions must be appraised consistently and transparently throughout the entire project lifecycle.
- 6.1.4. It is probable that the decrease in peak hour congestion levels, highlighted in Table 3-1, has contributed towards a reduction in greenhouse gases and improved air quality.

## 7 CONCLUSION

- 7.1.1. This report presents the outcomes of the monitoring and evaluation undertaken as part of Phase 2 of the Winnersh Relief Road scheme.
- 7.1.2. This report has aimed to demonstrate that the funding obtained for Phase 2 of the scheme has provided value for money and that any lessons learnt are captured as evidence to inform future decision making. The report has also evaluated the success of the scheme so far, by comparing the expectations and assumptions made in the original Business Case against the scheme's current outcomes.
- 7.1.3. A variety of datasets, such as traffic count and housing supply data has been used to illustrate whether the scheme objectives have been successfully achieved. This information is summarised in Table 7-1:

**Table 7-1 – Outcome of Scheme Objectives**

Scheme Objective	Evidenced by	Outcome of objective
Reduce existing and future peak hour congestion in Winnersh by providing an alternative route for through traffic	A reduction in traffic volumes during AM and PM peak on A329 Reading Road.	Achieved
Reduce journey times on the A329 Reading Road through Winnersh	Journey Times TBC	Journey Times TBC
Facilitate the Hatch Farm Dairies housing development (433 dwelling units)	A consistent supply of houses has been built from 2015/16 to 2021/22 at the Hatch Farm Dairies (Hatchwood Mill) development site.	Achieved
Cater for traffic generated by other new housing developments in the Borough of Wokingham as set out in the Core Strategy	A reduction in traffic volumes during AM and PM peak on A329 Reading Road.	Achieved
Encourage active transport through provision of cycle lanes and footpaths.	A consistent flow of pedestrians and pedal cycles throughout the study area.	Achieved



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