



Wokingham Borough Council

COPPID BEECH PARK AND RIDE

Full Business Case





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Full Business Case

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CONTENTS

1	INTRODUCTION	1
1.1	PURPOSE OF THE DOCUMENT	1
1.2	ABOUT THE SCHEME	1
1.3	REPORT STRUCTURE	5
2	STRATEGIC CASE	6
2.1	INTRODUCTION	6
2.2	BACKGROUND	6
2.3	POLICY CONTEXT	11
2.4	PROBLEM IDENTIFICATION	15
2.5	EXISTING BUS SERVICES	23
2.6	IMPACT OF NOT CHANGING	27
2.7	THE NEED FOR THE SCHEME	28
2.8	OBJECTIVES	28
2.9	MEASURE OF SUCCESS	31
2.10	DEMAND FOR THE PARK AND RIDE	32
2.11	COPPID BEECH PARK AND RIDE BUS SERVICE	35
2.12	CONSTRAINTS	40
2.13	INTER-DEPENDENCIES	40
2.14	STAKEHOLDERS	41
2.15	OPTIONS	41
3	ECONOMIC CASE	42
3.1	INTRODUCTION	42
3.2	OUTLINE APPROACH TO ASSESSING VALUE FOR MONEY	42
3.3	MODELLING APPROACH	42
3.4	CALCULATING LEVEL OF DEMAND	42
3.5	SCENARIOS APPRAISED	47

3.6	ASSESSMENT OF ECONOMIC IMPACTS	48
3.7	HIGHWAY USER IMPACTS - TRANSPORT USER BENEFIT APPRAISAL (TUBA)	48
3.8	COST AND BENEFIT TO ACCIDENTS – LIGHT TOUCH (COBALT)	49
3.9	SCHEME COSTS	51
3.10	TUBA BENEFITS	52
3.11	ENVIRONMENTAL IMPACTS	56
3.12	SOCIAL AND ECONOMIC IMPACTS	58
3.13	VALUE FOR MONEY STATEMENT	60
4	FINANCIAL CASE	62
4.1	INTRODUCTION	62
4.2	COST ESTIMATES AND SPEND PROFILE	62
4.3	BUDGET/FUNDING SOURCES	63
4.4	WHOLE LIFE COSTS	64
5	COMMERCIAL CASE	65
5.1	INTRODUCTION	65
5.2	PROCUREMENT STRATEGY AND SOURCING OPTIONS	65
5.3	PRICING FRAMEWORK AND CHARGING MECHANISMS	66
5.4	RISK ALLOCATION AND TRANSFER	66
5.5	CONTRACT LENGTH	66
5.6	HUMAN RESOURCING	66
5.7	CONTRACT MANAGEMENT	67
5.8	CONTRACTING TERMS FOR BUS OPERATION	67
6	MANAGEMENT CASE	68
6.1	INTRODUCTION	68
6.2	EVIDENCE OF SIMILAR PROJECTS	68
6.3	PROJECT DEPENDENCIES	68
6.4	GOVERNANCE, ORGANISATIONAL STRUCTURE & ROLES	69
6.5	COMMUNICATIONS AND STAKEHOLDER MANAGEMENT PLAN	70

6.6	PROJECT PROGRAMME	70
6.7	ASSURANCE AND APPROVALS PLAN	71
6.8	PROJECT REPORTING	71
6.9	CONTRACT MANAGEMENT	72
6.10	RISK MANAGEMENT STRATEGY	72
6.11	BENEFITS REALISATION AND MONITORING PLAN	73

TABLES

Table 1-1: DfT Five Case Model for Business Cases	1
Table 2-1: Journey to Place of Work 2011 Census Data	10
Table 2-2: Summary of key problems	15
Table 2-3: Additional problems identified in Wokingham LTP3 and Bracknell LTP3	23
Table 2-4: 4/X4 frequency (weekday Bracknell and Wokingham Trips)	25
Table 2-5: Key destinations served by the current 4/X4 bus service	26
Table 2-6: Change in vehicle hours between DM and DS	28
Table 2-7: Scheme objectives and desired outcomes	29
Table 2-8: Wider scheme objectives and desired outcomes	31
Table 2-9: Measures for success	32
Table 2-10: Average bus occupancy per bus for Route 4/X4	36
Table 2-11: X4/4 capacity	38
Table 3-1: Percentage of trips travelling to Wokingham using 'car' and 'Park and Ride'	44
Table 3-2: Percentage of trips travelling to Bracknell using 'car' and 'Park and Ride'	44
Table 3-3: Volume of Wokingham trips switching to Park & Ride for AM (08:00-09:00) & PM (17:00-18:00) peak hours	45
Table 3-4: Volume of Bracknell trips switching to Park & Ride for AM (08:00-09:00) & PM (17:00-18:00) peak hours	46
Table 3-5: Percentage of trips arriving hourly during AM peak period (07:00-10:00)	46
Table 3-6: Percentage of trips departing hourly during PM peak period (16:00-19:00)	46

Table 3-7: Number of Wokingham trips switching to Coppid Beech Park & Ride for AM (07:00-10:00) & PM (16:00-19:00) peak periods	46
Table 3-8: Number of Bracknell trips switching to Coppid Beech Park & Ride for AM (0700-1000) & PM (16:00-19:00) peak periods	47
Table 3-9: Number of Wokingham & Bracknell trips switching to Coppid Beech Park & Ride for AM (07:00-10:00) & PM (16:00-19:00) peak periods	47
Table 3-10: Options Appraised	47
Table 3-11: Inputs and Assumptions	48
Table 3-12: Annualisation Factors	49
Table 3-13: TUBA User Classes	49
Table 3-14: AADT Factors	51
Table 3-15: COBAL Output	51
Table 3-16: Scheme costs including risks and inflation (2019 Prices)	52
Table 3-17: Scheme costs including optimism bias (2019 Prices)	52
Table 3-18: Scheme costs in 2010 Market Prices	52
Table 3-19: TEE benefits	53
Table 3-20: Public accounts	53
Table 3-21: Analysis of Monetised Costs and Benefits (AMCB)	54
Table 3-22 – Monetised time benefits by size of time saving	54
Table 3-23 – Assumptions and Inputs used to calculate existing passenger delay	55
Table 3-24: Collision and Casualty Saving Over 60-Years for the scheme	59
Table 3-25: VfM Summary	61
Table 4-1: Scheme cost estimates excluding risks and inflation	62
Table 4-2: Scheme cost spend profile excluding risks and inflation (£'000) 2019 prices	63
Table 4-3: Scheme costs including risks (2019 prices)	63
Table 4-4: Scheme costs including risks and inflation (2019 prices)	63
Table 4-5: Funding sources and spend profile	63
Table 6-1: Coppid Beech Park and Ride scheme monitoring and evaluation	74

FIGURES

Figure 1-1: Aerial view of the scheme	2
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Figure 1-2: Wokingham Borough	3
Figure 1-3: The scheme	4
Figure 2-1: A329 and Other Key Corridors and existing and proposed Coppid Beech Park and Ride	7
Figure 2-2: Key employment areas in Bracknell and Wokingham	9
Figure 2-3: Travel to Work Flows within Berkshire 2011	10
Figure 2-4: BLIS Priorities	12
Figure 2-5: 2021 Do Minimum AM Average Speed	17
Figure 2-6: 2036 Do Minimum AM Average Speed	17
Figure 2-7: 2021 AM delay difference between Do Minimum and Do Something	18
Figure 2-8: 2021 PM delay difference between Do Minimum and Do Something	18
Figure 2-9: 2036 AM delay difference between Do Minimum and Do Something	19
Figure 2-10: 2036 PM delay difference between Do Minimum and Do Something	19
Figure 2-11: 2021 AM flow difference between Do Minimum and Do Something	20
Figure 2-12 - 2021 PM flow difference between Do Minimum and Do Something	20
Figure 2-13 - 2036 AM flow difference between Do Minimum and Do Something	21
Figure 2-14 - 2036 PM flow difference between Do Minimum and Do Something	21
Figure 2-15: Current Bus Services	24
Figure 2-16: Strategic Outcomes	30
Figure 2-17: Bracknell car park locations and bus station	33
Figure 2-18: Wokingham car park locations and bus station	33
Figure 2-19: 2021 Trip distribution for Park and Ride	34
Figure 2-20: 2036 Trip distribution for Park and Ride	34
Figure 2-21: The scheme	37
Figure 3-1: Highways links used for Flow Bundle Analysis	45
Figure 3-2: Coppid Beech Study Area	50
Figure 6-1: Organisational Structure and Roles	69
Figure 6-2: Risk management process	72

APPENDICES

APPENDIX A



LOGIT MODEL PARAMETERS

APPENDIX B

STRATEGIC SITES

APPENDIX B.1

BRACKNELL DEFINED SETTLEMENTS AND MAJOR LOCATION FOR GROWTH

APPENDIX B.2

WOKINGHAM STRATEGIC PROJECTS INCLUDING SDLS, HIGHWAY SCHEMES
AND P&R SITES

APPENDIX C

BUS JOURNEY TIMES

APPENDIX D

DELAY PLOTS

APPENDIX E

APPRAISAL SUMMARY TABLES

APPENDIX F

SECTION 151 LETTER

APPENDIX G

PROJECT PLAN

APPENDIX H

RISK REGISTER

APPENDIX I

SITE PLAN

APPENDIX J

SCHEME COSTS

1 INTRODUCTION

1.1 PURPOSE OF THE DOCUMENT

- 1.1.1. WSP has been commissioned by Wokingham Borough Council (the Council) to produce a full transport business case (FBC) in support of the Coppid Beech Park and Ride located on land west of the A329(M)/A329 London Road Coppid Beech roundabout.
- 1.1.2. The structure and content of this FBC is based on the best practice in “The Transport Business Cases” (DfT, January 2013) – the five-case model and on supplementary guidance based on the Transport Investment Strategy (DfT December 2017) – the five-case model is outlined in Table 1-1.

Table 1-1: DfT Five Case Model for Business Cases

DfT Case	Summary
Strategic Case	Shows that there is a robust ‘case for change’, closely aligned to wider strategic and public policy objectives.
Economic Case	Shows that the scheme provides very high value for money, based on a formal appraisal undertaken in line with DfT guidance.
Financial Case	Explains how much the scheme will cost and how it will be paid for, showing that it is affordable.
Commercial Case	The proposed approach to finance and procurement is robust, showing that the scheme is commercially viable.
Management Case	Shows that the scheme is achievable in practical terms, explains how the project will be managed to ensure it achieves its objectives.

- 1.1.3. This FBC therefore demonstrates the need for the scheme and that the proposed scheme offers, the best value for money and the Council has the experience and a well-structured procurement and management process for managing and successful delivery of the scheme within time and budget.

1.2 ABOUT THE SCHEME

- 1.2.1. Coppid Beech a Park and Ride site is approximately 1 hectare in size, and it is located 2km east of Wokingham Town Centre and situated south west of Coppid Beech Roundabout (Figure 1-1). Figure 1-2 shows the location in the geographical context. The site boundary and its relationship to Coppid Beech Roundabout is shown in Figure 1-3.

The scheme comprises:

- 250 parking spaces (including 6 disabled spaces)
- 2 Park and Ride bus stops
- Bus shelter facilities
- Spaces for motorcycle and cycle parking

- 1.2.2. The scheme lies on a development site named Keephatch Beech, which will provide 300 new homes on previously undeveloped land, south of the A329(M). The allocation of land within Keephatch Gardens, for a Park and Ride is included in the planning permission. The proposed Park and Ride provision would be predominately used by employment trips during weekdays, and leisure trips during weekends, into Wokingham and Bracknell Town Centre.

- 1.2.3. The scheme is part of a local commitment to relieve congestion along key road corridors and is supported by Wokingham Council and Bracknell Forest Council in their work to deliver cross-boundary solutions to transport issues.



Figure 1-1: Aerial view of the scheme

Google Earth © 2018 Google. Image © 2019 TerraMetrics

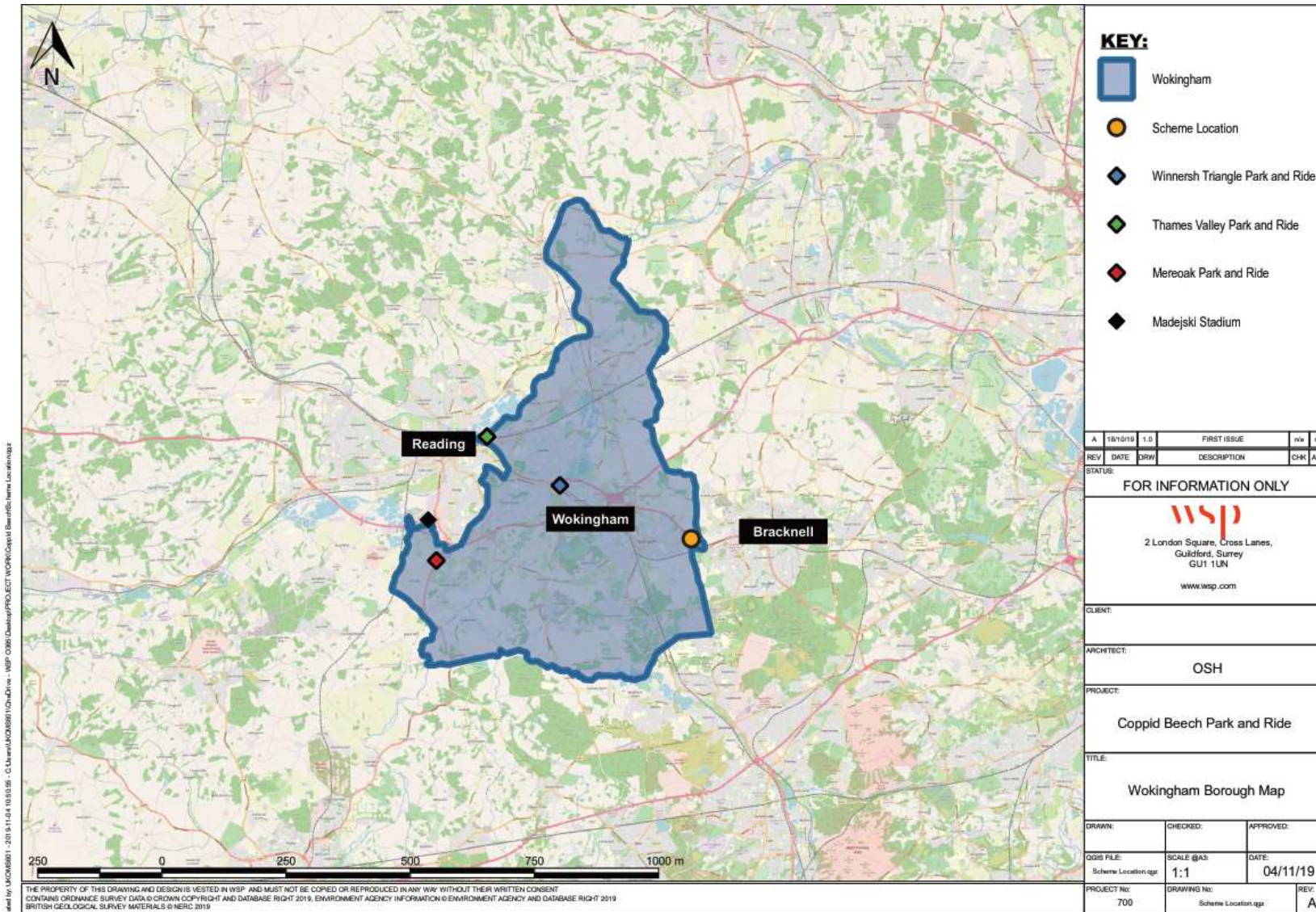


Figure 1-2: Wokingham Borough

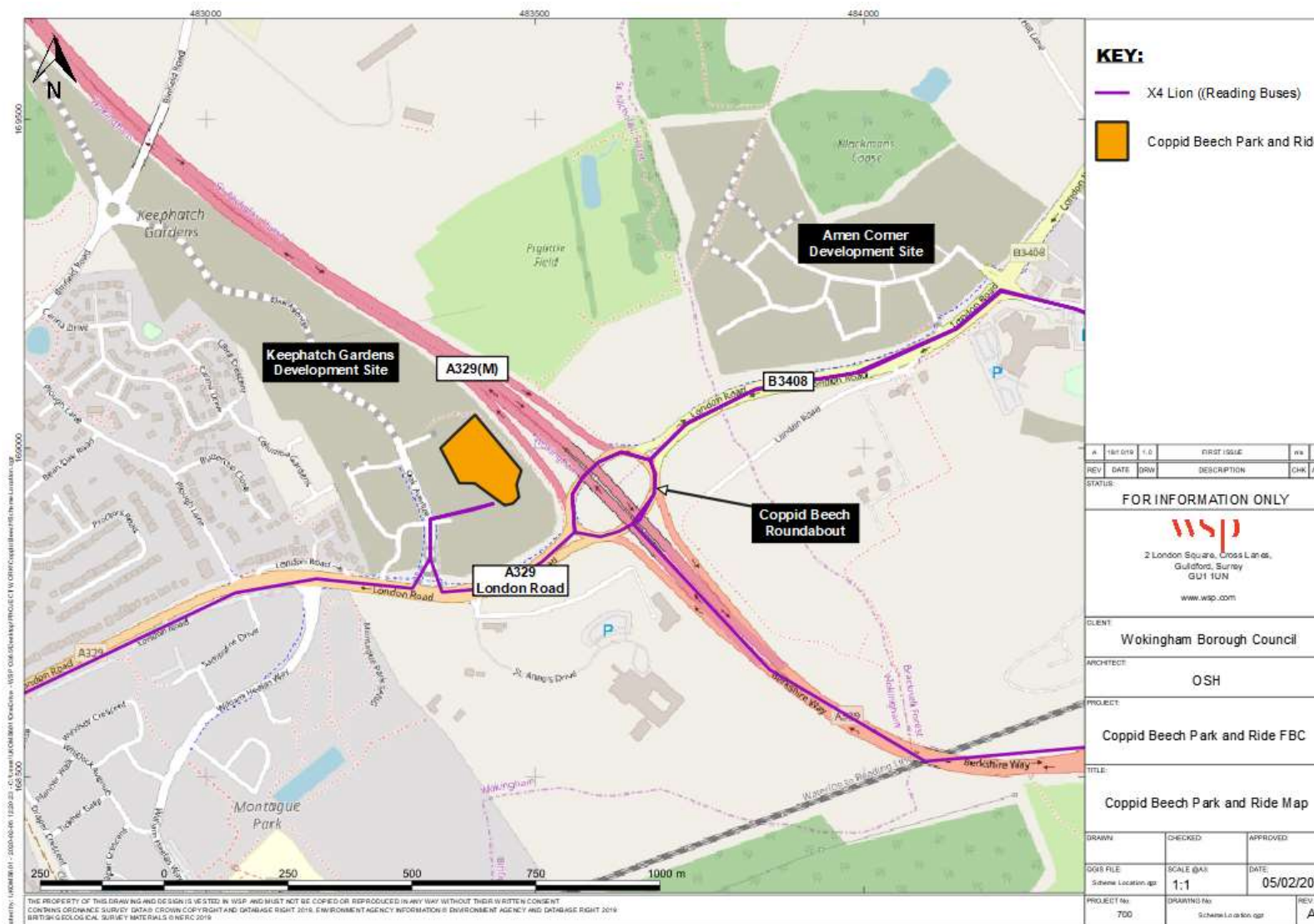


Figure 1-3: The scheme

1.3 REPORT STRUCTURE

1.3.1. This document follows the guidance provided in DfT's Business Case Guidance and is set out as follows:

- Chapter 1 – Introduction
- Chapter 2 – Strategic case
- Chapter 3 – Economic case
- Chapter 4 – Financial case
- Chapter 5 – Commercial case
- Chapter 6 – Management case

2 STRATEGIC CASE

2.1 INTRODUCTION

2.1.1. This section of the FBC sets out the strategic case for the scheme. The structure of the strategic case is as follows:

- Background
- Strategic importance of the A329 corridor
- Socio economic background
- Policy context – National and Local Policy
- Problem identification
- Impact of not changing and current and future traffic conditions
- The need for and benefit of the scheme and measure of success
- Constraints
- Inter-dependencies
- Stakeholders
- Alternative site assessment

2.2 BACKGROUND

2.2.1. The scheme constitutes a part of the national and local commitment to improve the transport network, reduce congestion and mitigate the negative environmental impacts of private car use. Wokingham, Reading and Bracknell Borough Councils have already implemented a range of schemes that enable the use of more than one mode of transport to reduce congestion on particularly congested links along the A329(M) corridor. These schemes include:

- MereOak Park and Ride on the A33
- Coppid Beech Junction Improvement
- Regeneration of Reading Railway Station
- Ready Bike Hire Scheme
- Winnersh Triangle Park and Ride
- Thames Valley Park and Ride

STRATEGIC IMPORTANCE OF THE A329 CORRIDOR

2.2.2. The A329 (M) and the A329 Berkshire Way runs through the heart of Bracknell and connects the M4 (J10) to the north west and provide connection to Wokingham via the A329 London Road. To the south it connects M3(J3) via the A322. Figure 2-1 shows the major corridors and existing and proposed park and ride sites. The proposed scheme is located in an ideal location to serve both Wokingham and Bracknell.

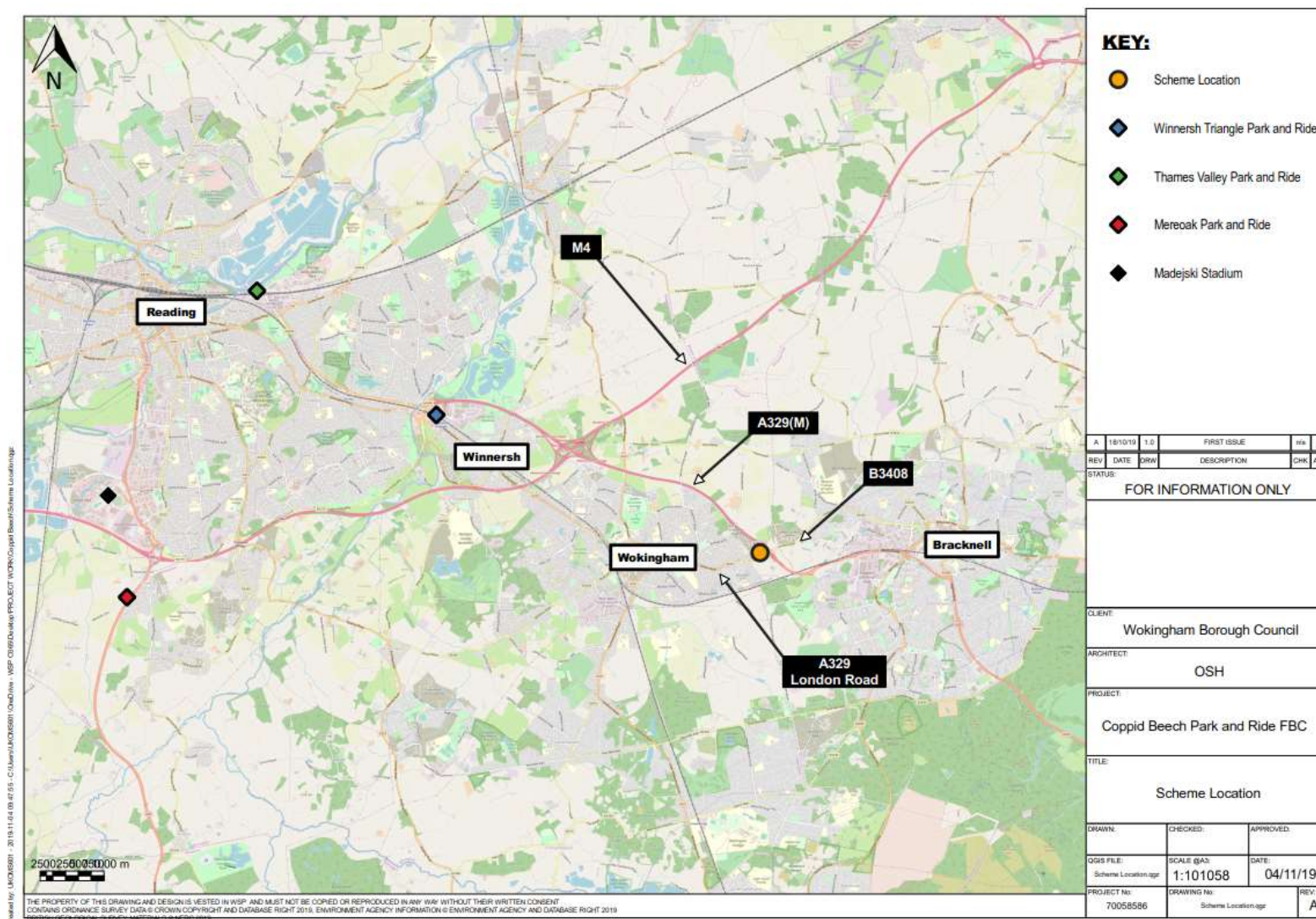


Figure 2-1: A329 and Other Key Corridors and existing and proposed Coppid Beech Park and Ride

SOCIO-ECONOMIC BACKGROUND

Wokingham

2.2.3. At the time of the 2011 Census, Wokingham had a population of 154,380. Key statistics for Wokingham Borough, based upon the 2011 Census data, include:

- The borough has the highest level of average car ownership out of all Unitary Authorities in England, with 1.64 cars per household. Certain Middle Super Output Areas (MSOA) in the borough have car ownership levels of 1.98
- Approximately 70% of the borough's population is economically active
- Across the borough, 73% of people travel to work by car, however it is as high as 82% in some MSOAs
- Over 8% of people living in Wokingham travel to work in central Reading, 43% of which drive to work

2.2.4. According to the Office for National Statistics, in 2016, it took the average person in Wokingham 33 minutes to travel to work. This is longer than the UK average at 27 minutes.

Bracknell

2.2.5. At the time of the 2011 census, Bracknell Forest Borough had a population of 113,205. Key statistics for Bracknell Forest Borough, based upon the 2011 Census data, include:

- 86% of households own one or more cars or vans compared to the national average (England) of 74%
- The average number of cars owned per household across Bracknell Forest area is 1.49 which is higher than the national average (England) of 1.16
- 78.3% of the population between 16 and 74 years old is considered to be economically active.

EMPLOYMENT ACTIVITY

2.2.6. Wokingham is a major employment centre within the south east, comprising the two major business parks, Thames Valley Business Park and the Winnersh Triangle Business park, which are home to large international companies, including Microsoft, Oracle, Jacobs and BG Group. Bracknell is located to the East, outside of the Borough of Wokingham, and would also be serviced by the new park and ride service. Arlington Square Business Park is located in Bracknell, and this is home to large companies such as Novell and Fujitsu. Central Reading is also a key employment destination and has a growing number of large companies including HSBC, Barclays, Thames Water and Yell.

2.2.7. Figure 2-2 shows designated employment sites for Wokingham and Bracknell. Table 2-1 and Figure 2-3 show that travel to work flows from Bracknell to are in excess of 4000 a day; and 6000 for Wokingham to Bracknell. See Appendix B.1 and Appendix B.2 for strategic development locations, major growth area and park and ride scheme in Wokingham.

2.2.8. The corridor has a major supporting role to play in improving access to Reading, Wokingham and Bracknell and facilitating a many Strategic Development Locations comprising around 10,000 houses and 51,000 sq. m. of employment area. The SDL's include; South of M4, Arborfield Garrison, North Wokingham and South Wokingham.

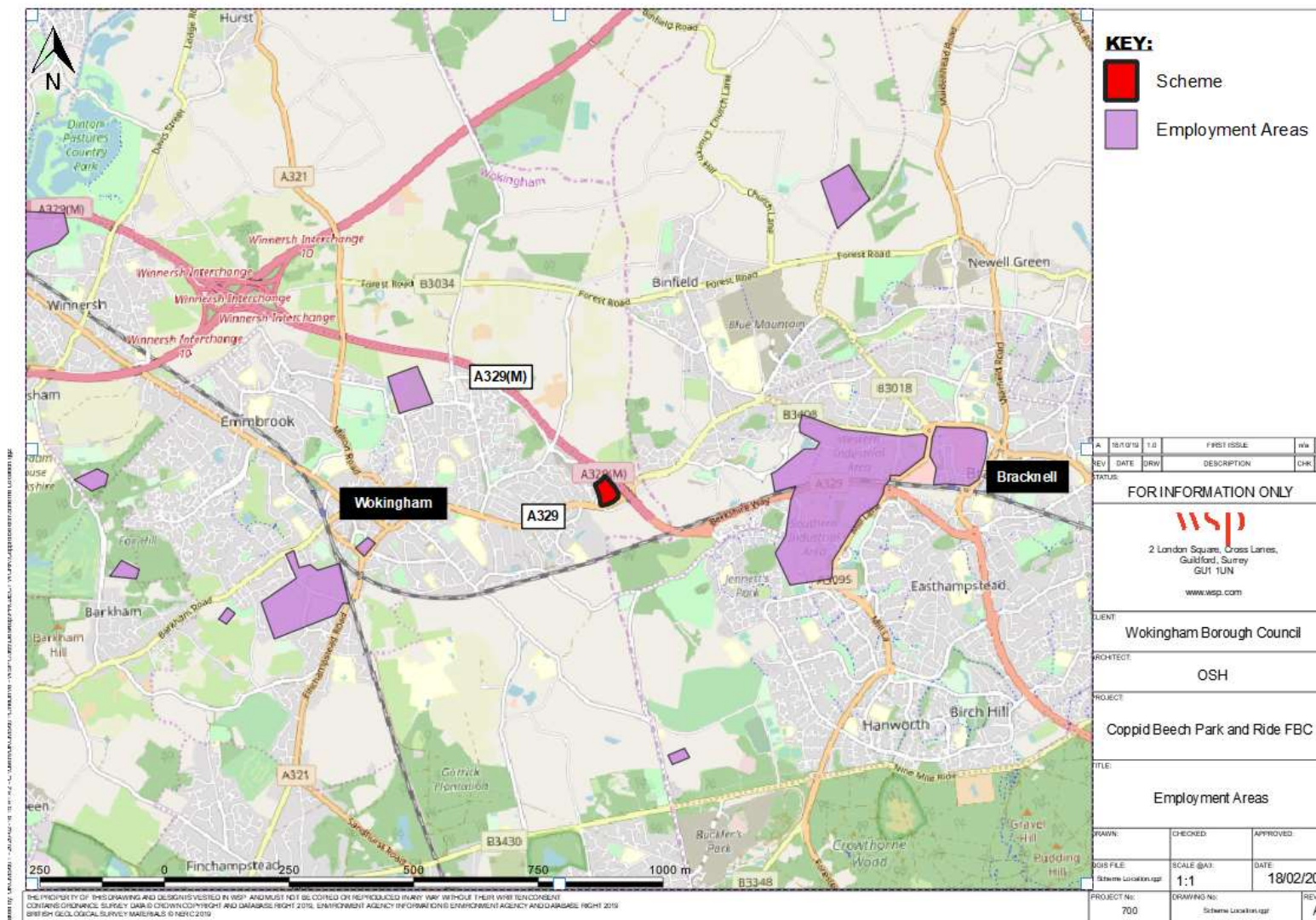


Figure 2-2: Key employment areas in Bracknell and Wokingham

Table 2-1: Journey to Place of Work 2011 Census Data

Source: ONS Census 2011

Usual residence	Place of work					
		Bracknell Forest	Reading	West Berkshire	Wokingham	Other
	Bracknell Forest	31,025	1,936	833	4,620	23,770
	Reading	2,247	47,239	6,255	7,778	16,680
	West Berkshire	1,027	9,199	53,917	2,498	15,508
	Wokingham	6,371	12,616	2,659	38,708	21,432
	Other	18,915	18,558	23,867	15,959	-
	Total	59,585	89,548	87,531	69,563	77,390

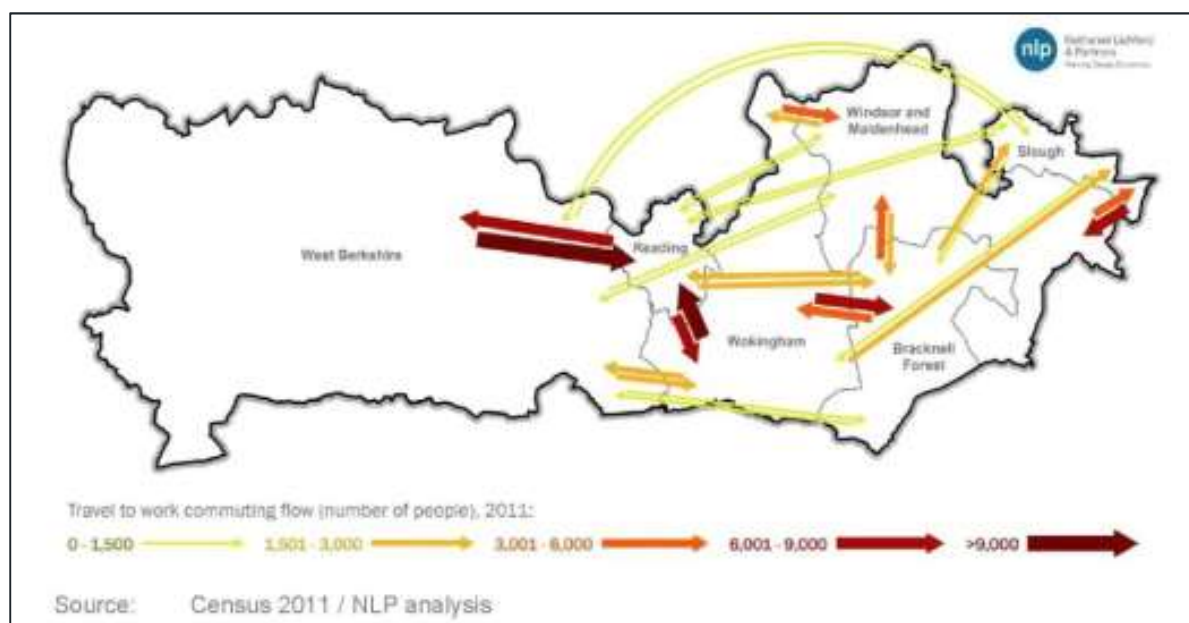


Figure 2-3: Travel to Work Flows within Berkshire 2011

Source: Nathaniel Linfield Partners Census 2011 data

2.3 POLICY CONTEXT

2.3.1. This section outlines how the scheme fits into the national, regional and local policies.

- National Planning Policy Framework (NPPF)
- Thames Valley Berkshire (TVB) Local Enterprise Partnership (LEP) Strategic Economic Plan (SEP)
- Local Planning Policy

NATIONAL POLICY

National Planning Policy Framework (NPPF)

2.3.2. Paragraph 14 of the NPPF outlines the importance of sustainable development.

“...a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision taking”

2.3.3. The proposed Park and Ride fulfils the criteria of sustainable development through the following measures;

- Economic – providing infrastructure to facilitate economic growth,
 - The Park and Ride will encourage trips between the housing development at Keephatch Beech and other residential areas within Wokingham and Bracknell Town Centre, as well as providing links to Reading Town Centre, promoting economic growth in the region,
- Social – a high-quality, built environment being created,
 - A new high-quality, built environment is being provided at Keephatch Bay, which will be connected to other economic hubs via the Park and Ride provision,
- Environmental – environmental impact of development is being mitigated,
 - Introduction of Park and Ride introduces alternate modes of transport to private car, reducing private car use and mitigating environmental impact of emissions.

2.3.4. Paragraph 17 of the NPPF sets out 12 core land use planning principles, of which the Park and Ride supports the following:

- Principle 6 – to transition to low carbon future; and
- Principle 10 – to manage patterns of growth to make fullest possible use of public transport.

2.3.5. The proposed Park and Ride also supports the following paragraphs of sub-section 4 “Delivering Sustainable Development” of the NPPF.

- Paragraph 29 – to give people a “real choice” about how they travel, giving preference to sustainable transport modes,
- Paragraph 30 – encouragement should be given to transport solutions which support reductions in greenhouse gas emissions and reduced congestion,
- Paragraph 69 – planning decisions should aim to create safe and accessible developments, which encourage the use of public areas.

REGIONAL POLICY

Berkshire Local Industrial Strategy

- 2.3.6. Thames Valley Berkshire Local Enterprise Partnership (LEP) developed a Local Industrial Strategy as set out in the Industrial Strategy White Paper (November 2017). The overarching aims of the White Paper are to:
- Improve the UK's overall productivity performance
 - Ensure that future economic growth is more inclusive
- 2.3.7. The Berkshire LIS contains five priorities which are shown in Figure 2-4. Priority 4: 'Vibrant places and a supportive infrastructure' states that the transport network is congested as an inevitable consequence of the region's economic success, but the network lacks resilience. It is overly dependent on key routes such as the M4 and A329(M). With regard to transport, the imperative is to emphasise the ongoing importance of modal shifts and the development of sustainable transport solutions; as well as the use of big data in redefining transport issues.



Figure 2-4: BLIS Priorities

- 2.3.8. The strategy highlights how Berkshire has benefited from major transport investments, with further ones planned (Crossrail, Western/Southern Rail Access to Heathrow, M4 Smart Motorway and expansion at Heathrow). The investment rationale is fed from national policy, reflecting the importance of the region economically as an international gateway.
- 2.3.9. The document identifies a range of issues with infrastructure plans in the region and inter-urban connectivity - both seeing investment and improvement in recent years, but the strategy highlights that there is more to be done, specifically in addressing high levels of congestion. Local Growth Fund resources have been used to invest in local improvements. Stakeholders have noted that local attitudes to large scale development are becoming more positive, because of the potential for major schemes to unlock infrastructure-related investment and the need for solutions is growing quickly.

- 2.3.10. The strategy identifies Berkshire as ideal for using intelligent mobility, recognising that behavioural changes are needed, such as flexibility from employers and better commitments to sustainable transport modes and the provision of bicycle storage facilities at railway stations. These could make a positive impact on the efficiency and capacity of the transport network overall. The Park and Ride scheme can positively contribute to this strategic plan, by supporting a mode shift from private car use only.

Thames Valley Berkshire (TVB) Local Enterprise Partnership (LEP) Strategic Economic Plan (SEP)

- 2.3.11. The Thames Valley Berkshire Local Enterprise Partnership submitted their Strategic Economic Plan (SEP) in March 2014, which outlines the case for necessary investment to infrastructure, enterprise and employment that is required for the Thames Valley regions economic growth.
- 2.3.12. It states that the Thames Valley Berkshire area is ranked second, behind London in terms of Business birth rate (12.4%) and economic output per head is valued at £32.8k. Hence continuous investment in infrastructure is essential to maintain prosperity of Thames Valley Berkshire area.

LOCAL PLANNING POLICY

Wokingham Core Strategy

- 2.3.13. The Council's Core Strategy Development Plan Document (referred to as 'the Core Strategy') was adopted in 2010 and seeks to provide a broad spatial vision and accompanying policies to guide development in the Borough up to 2026. It provides a material consideration for promoting developments and transport schemes within the Borough.
- 2.3.14. The following policies in the Wokingham Core Strategy are supported by the proposed Park and Ride scheme.
- CP1 – sets out planning permission for developments that support opportunities for reducing the need to travel by car
 - CP6 – supports schemes that provide for sustainable forms of transport to allow choice
 - CP10 – improvements to Strategic Transport Network includes the provision of a Park and Ride near the Coppid Beech roundabout on the A329
- 2.3.15. The proposed Coppid Beech Park and Ride site falls within the Wokingham Borough Council's proposed strategic development location (SDL). The Adopted Core Strategy Development Plan Document stipulates that the planning of the SDL site should acknowledge the need to connect the site to the A329 London Road to the west of the A329(M) Coppid Beech junction to afford access to any future park and ride facilities. Planning obligation requires the developers to enter into a legal agreement to ensure the provision of necessary infrastructure to facilitate a park and ride facility near Coppid Beech.

Wokingham Borough Managing Development Delivery Development Plan Document (MDD DPD)

- 2.3.16. This is a supplementary planning document that supports the Wokingham Core Strategy. It sets out policies to ensure that when new homes are developed in the Borough, the appropriate infrastructure is implemented to ensure high standards of living for the community.

2.3.17. The following policies in the MDD DPD are supported by the proposed Park and Ride at Coppid Beech.

- CC03 - development proposals should enhance the Borough's Green Infrastructure networks and promote accessibility.
- TB20 – commercial proposals will only be approved where they can demonstrate there is no significant impact on fumes, highway safety or environmental impact.

North Wokingham Strategic Development Location (SDL)

2.3.18. Policy CP20 in the SDL identifies the need for improvements to transport capacity, improvements to accessibility by non-car transport along A321 and A329 and improvements in access by non-car modes to Wokingham town centre. These improvements are identified as being required in the SDL, where the Keephatch Beech development site and proposed Park and Ride site are located.

Wokingham Borough Local Transport Plan (3)

2.3.19. Wokingham Borough Council's Local Transport Plan (LTP3) for the period 2011-2026 has a policy specifically related to Park and Ride facilities. Policy PT8 recognises that buses provide a frequent high-quality link between the car park and the town centre and the role of Park and Ride. It further accepts that park and ride facilities can enhance the economic viability of a town centre, reduce congestion and promote more sustainable travel. The Council, over the life of LTP3 and development of the adopted core strategy will work with Reading Borough and Bracknell Forest Councils to deliver and retain park and ride sites at the following sites:

- Near to Coppid Beech roundabout on the A329 in Wokingham
- In the vicinity of the M4 junction 11 (Mere oak)
- Relocation or retention of the park and ride facility at Winnersh
- Thames Valley Park near A4 and A3290/A329 corridors

2.3.20. Policy SP1 supports Park and Ride proposals, stating Wokingham Borough Council will '*actively support development of suitable major transport projects that are necessary to support the future growth and success of the borough.*' It also states that future transport growth needs to be managed effectively to support the build out of the SDLs, which without any transport network mitigation would result in an increase in overall journey times of 22%.

Bracknell Borough Core Strategy

2.3.21. Bracknell Borough Council's Core Strategy adopted in February 2008 is supportive of Park and Ride Schemes. Policy CS23 makes a commitment to promote alternative modes of travel and enhance connectivity to and from the borough.

Bracknell Borough Local Transport Plan 3

2.3.22. Bracknell Borough Council's vision for transport in the borough, as outlined in Policy LTP3, is to improve access to bus services which link local communities, including new developments, with Bracknell Town Centre.

Housing and Mixed-Use Development Growth

2.3.23. Between the period 2011 and 2026 the Council faces the challenges of accommodating an additional 13,230¹ new dwellings and associated mixed use development. As the Borough

¹ Local Transport Plan 2011-2026

expands, accommodating the demand for travel will become increasingly important to ensure that people have a high level of access to different destinations whilst minimising adverse effects of congestion. Bracknell Forest Borough Council is also set to deliver 10,780 new homes by 2026 and Reading Borough Council approximately 7,000 by 2026². The Park and Ride will support this growth by providing additional public transport capacity between Wokingham, and Bracknell and will contribute to improve the convenience of travel that involves using more than one mode of transport.

2.4 PROBLEM IDENTIFICATION

- 2.4.1. This section describes the problems identified, the evidence base which underpins them and the justification for intervention. Table 2-2 outlines the transport problems and how the scheme will resolve issues by meeting the objectives.

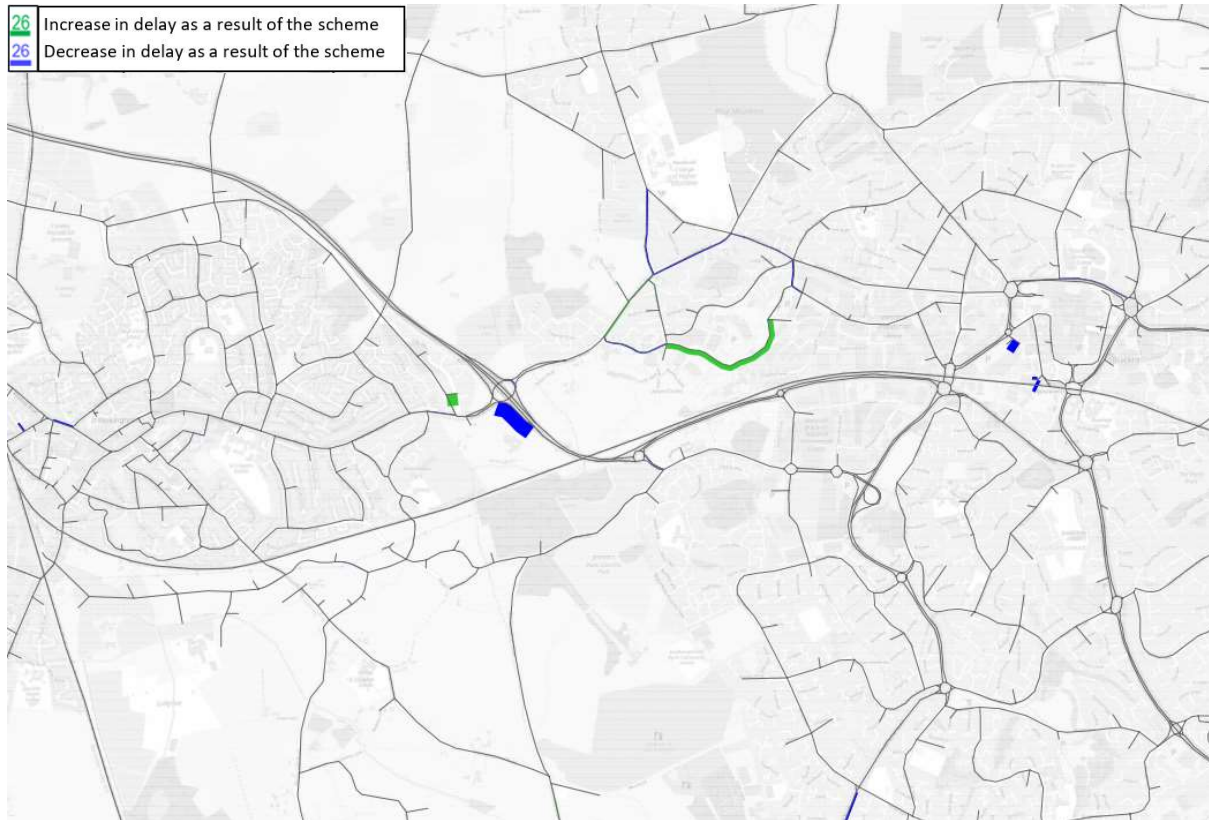
Table 2-2: Summary of key problems

Key problems	Scheme Contribution
Congestion	The scheme will provide improved access to Wokingham and Bracknell town centres, reducing congestion on key road corridors and improving journey times for all users at peak times
Housing Growth	The scheme will provide access to current and future housing and will reduce car trips on this corridor and thereby contributing to the delivery of housing
Current Bus Service	Provide a new bus stop and car park on current 4/X4 route
Tackling climate change	Improved public transport will encourage the switch from car to bus. This will reduce congestion and emissions
Additional problems	See Table 2-5

CONGESTION

- 2.4.2. Currently, in the peak periods, the A329 and A329(M) experience a degree of traffic congestion. It will continue to escalate if no mitigation is provided to cater for the increase in traffic volumes arising due to the proposed new developments in the area.
- 2.4.3. The following paragraphs summaries these results to support the strategic case for the scheme, by illustrating the problem that congestion and low speeds have on the network.
- 2.4.4. Figure 2-5 and Figure 2-6 compare average speeds on the network for 2021 and 2036 respectively, showing that in a Do Minimum scenario, average speeds will decrease across the network.

² Annual average forecast being 521 new homes (stated in core strategy)



- 2.4.5. Figure 2-7 through Figure 2-10 show difference in delay between the Do Minimum and the Do Something scenarios, for the AM and PM peak periods. The decreases are shown in blue, which is especially visible in the 2036 PM comparison in Figure 2-10.
- 2.4.6. Appendix D shows the average delay in seconds between the Do Minimum scenario in 2021 and 2036 for AM and PM peak periods. The link entering the junction from Bracknell shows a large increase in delay, as do other links in the network.
- 2.4.7. Figure 2-11 through Figure 2-14 shows flow difference between Do Minimum and Do Something for 2021 and 2036 for the AM and PM peak periods. The difference is shown with blue as a decrease in flow and green as an increase. The majority of the links along the A329 see reductions in flow due to the implementation of the scheme.

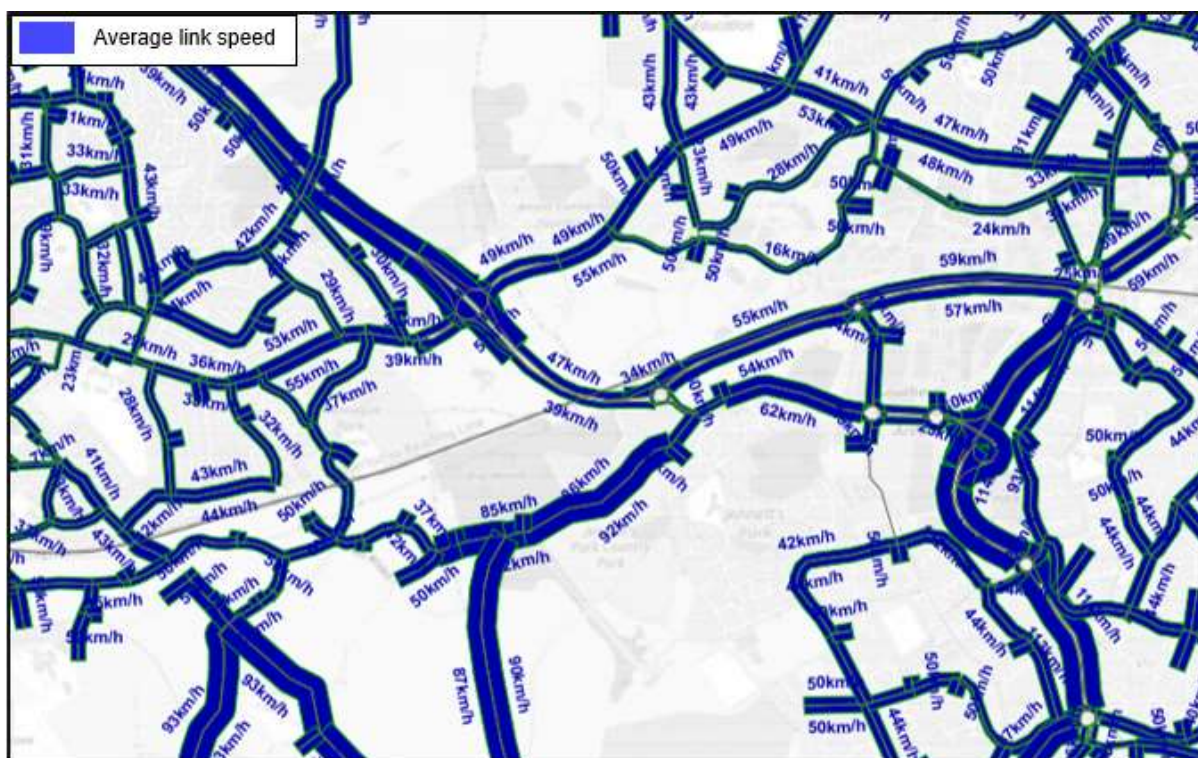


Figure 2-5: 2021 Do Minimum AM Average Speed

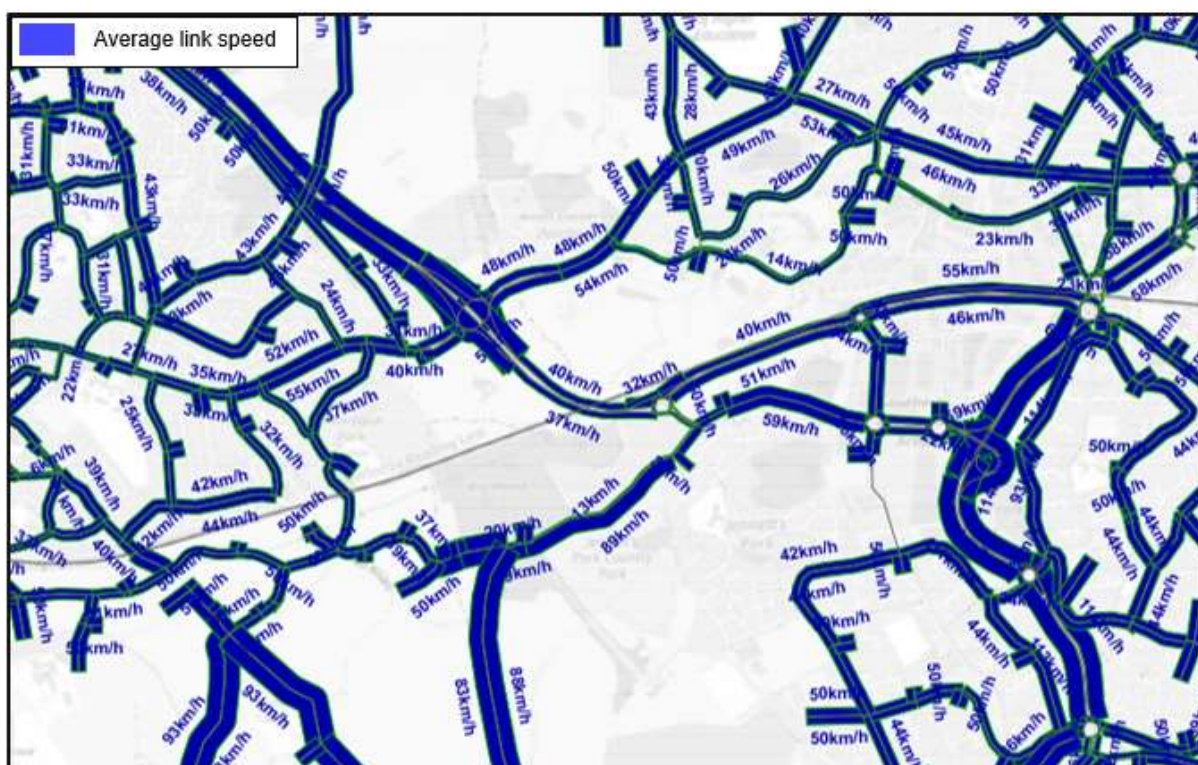


Figure 2-6: 2036 Do Minimum AM Average Speed

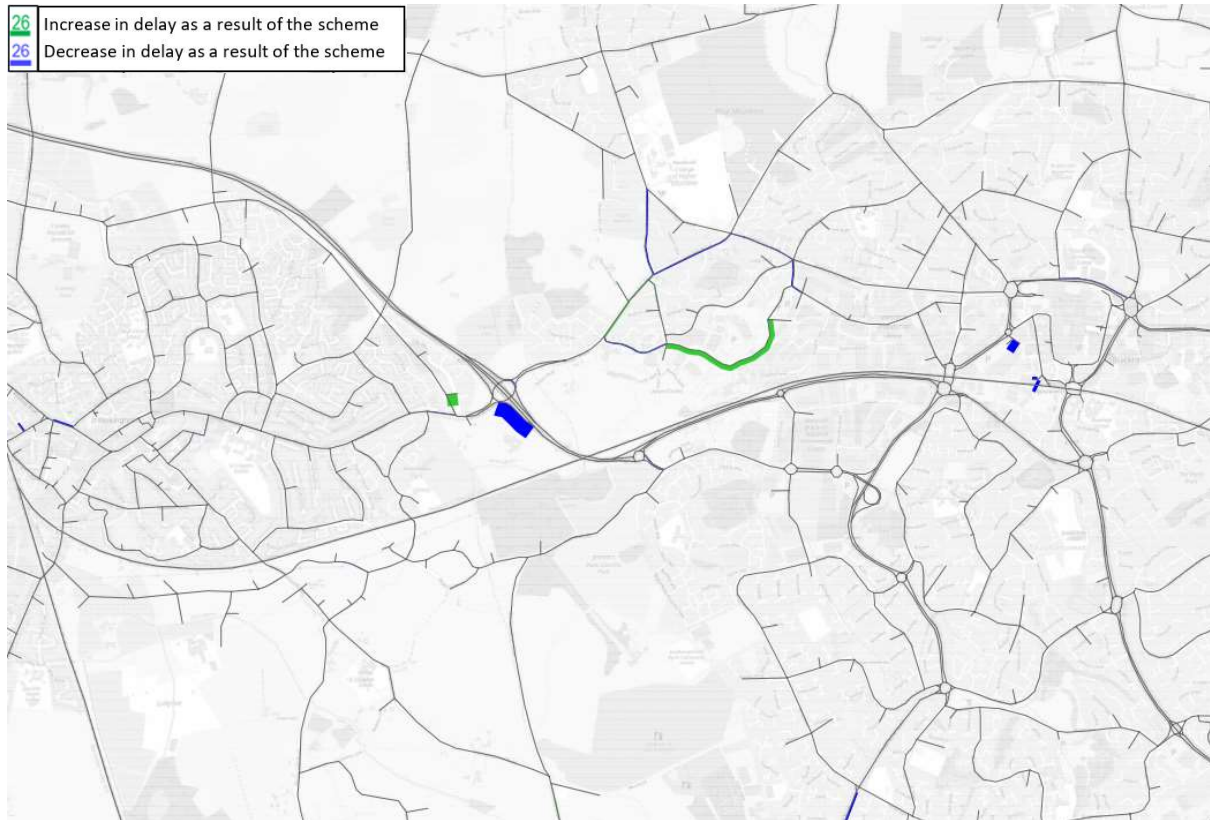


Figure 2-7: 2021 AM delay difference between Do Minimum and Do Something

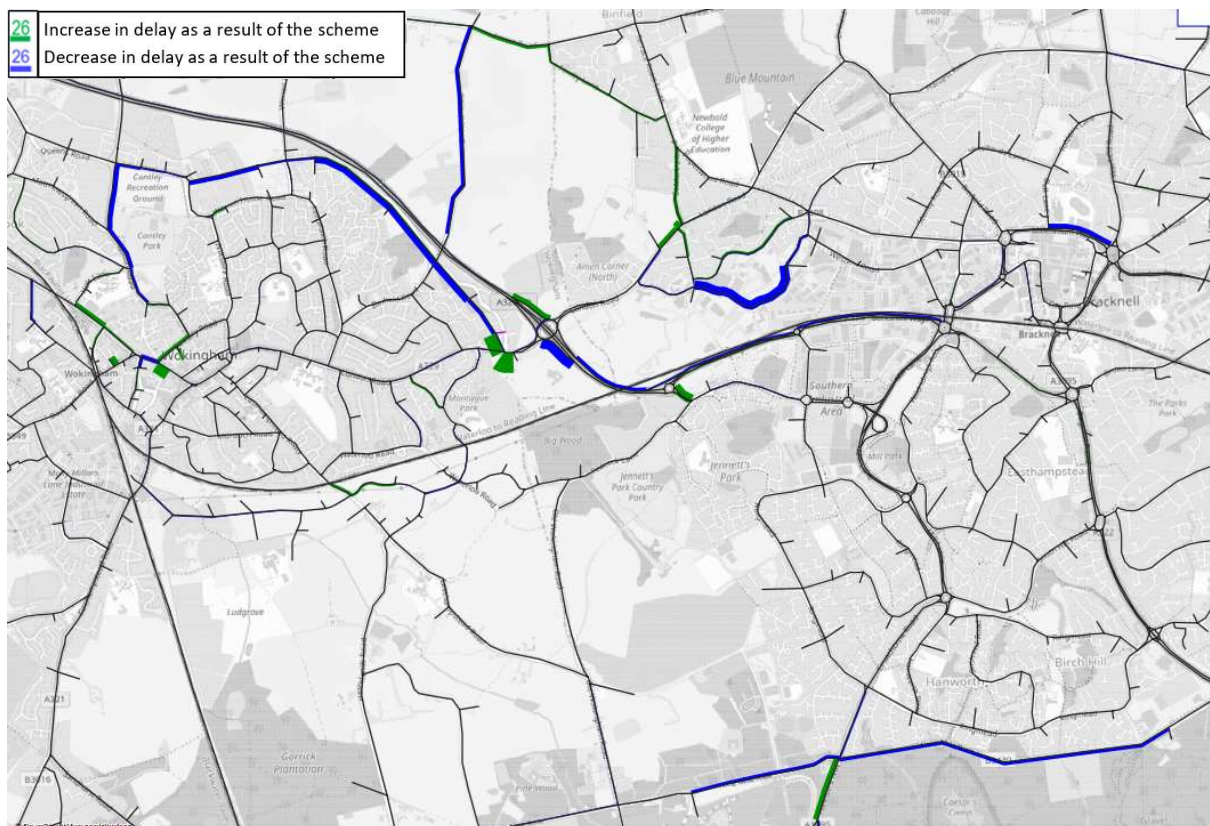


Figure 2-8: 2021 PM delay difference between Do Minimum and Do Something

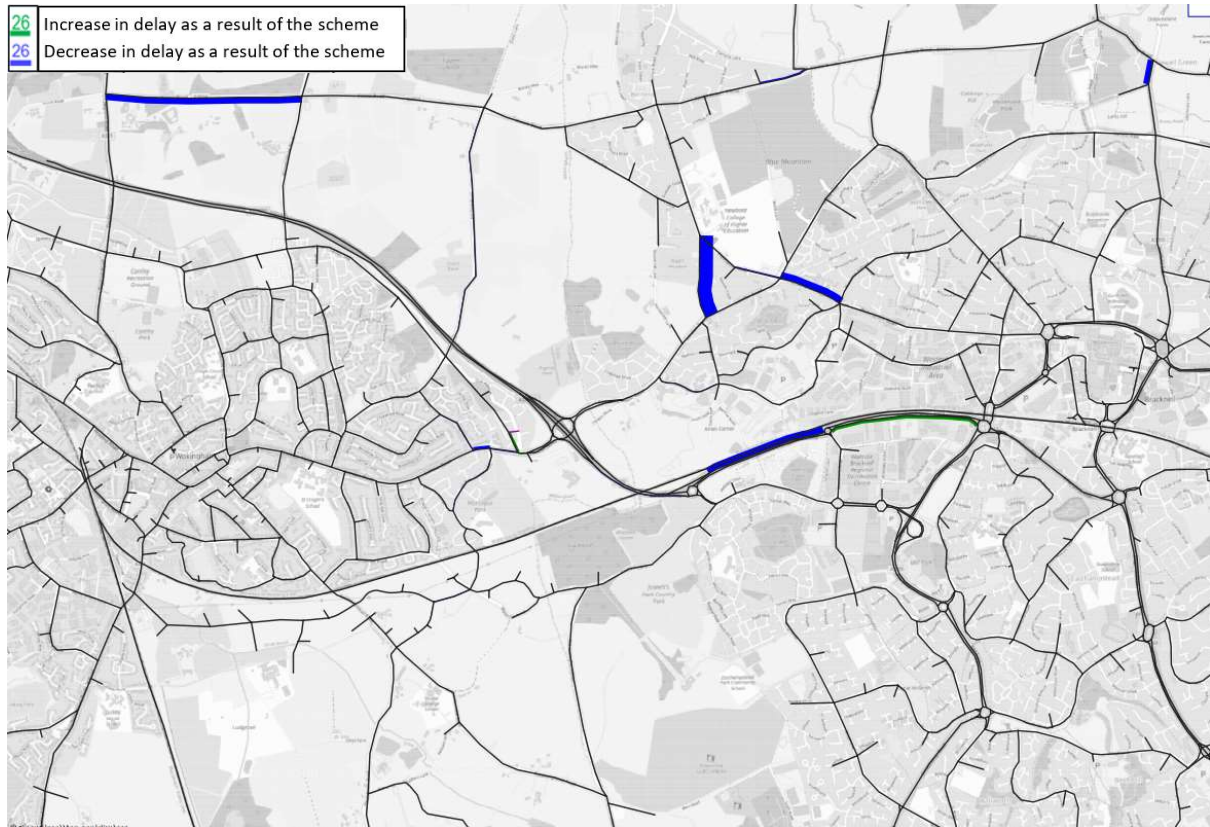


Figure 2-9: 2036 AM delay difference between Do Minimum and Do Something

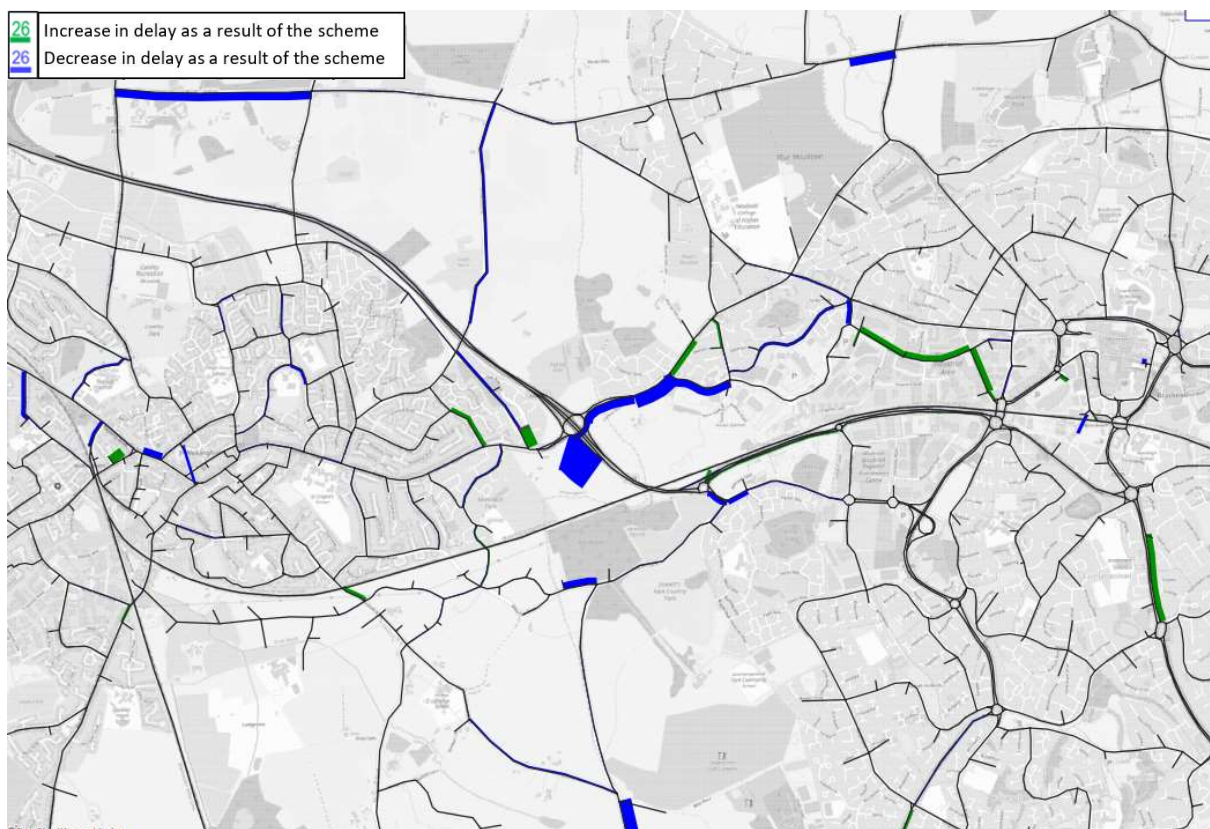


Figure 2-10: 2036 PM delay difference between Do Minimum and Do Something

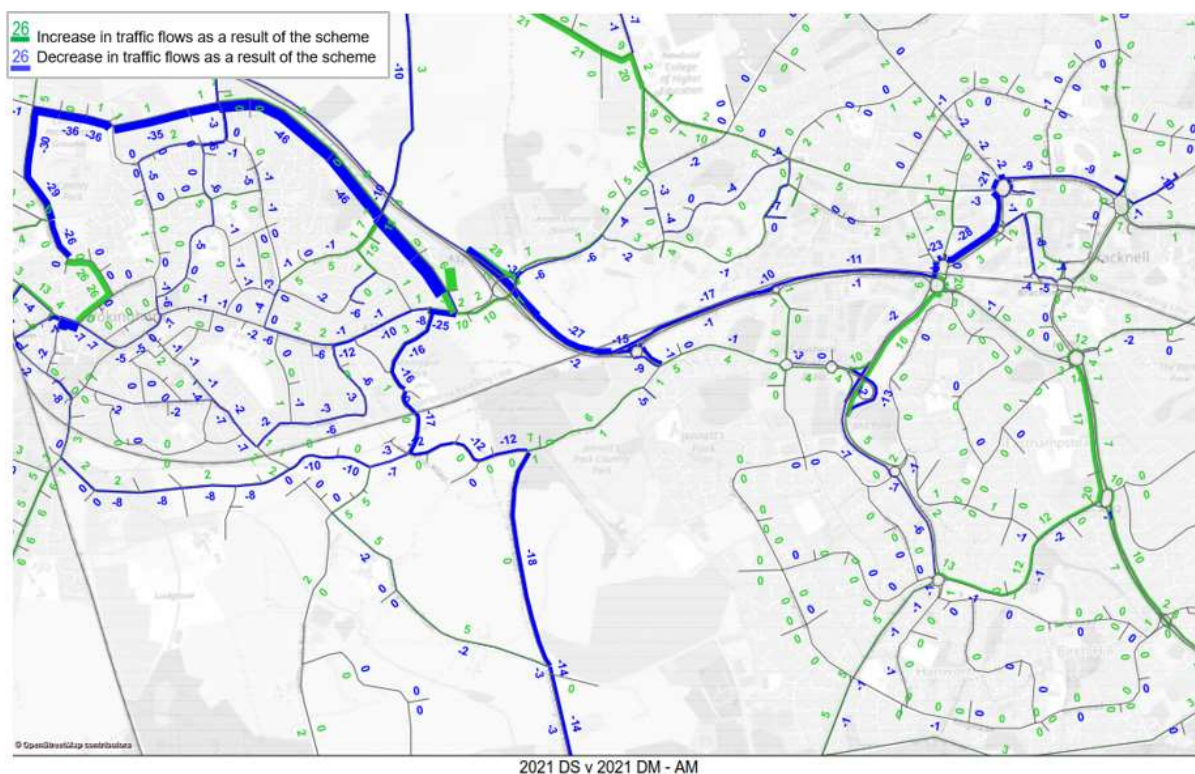


Figure 2-11: 2021 AM flow difference between Do Minimum and Do Something

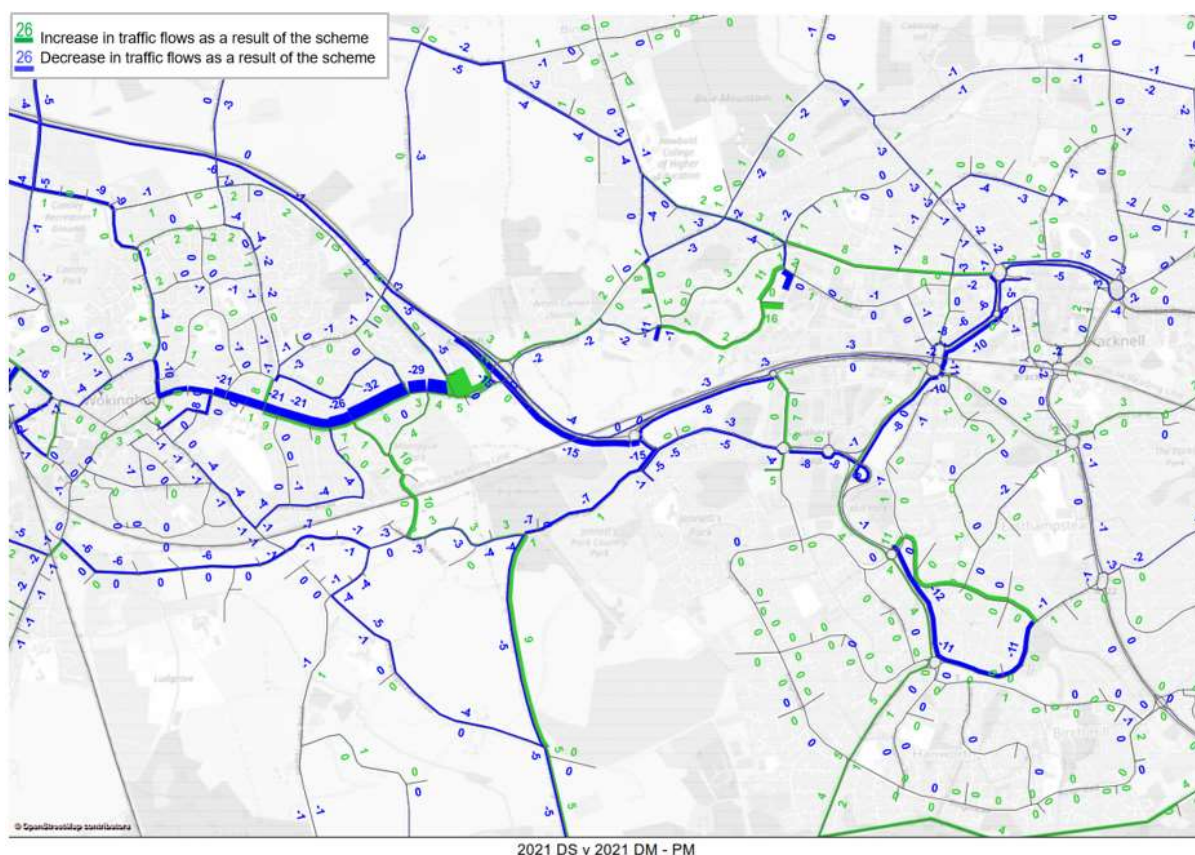


Figure 2-12 - 2021 PM flow difference between Do Minimum and Do Something

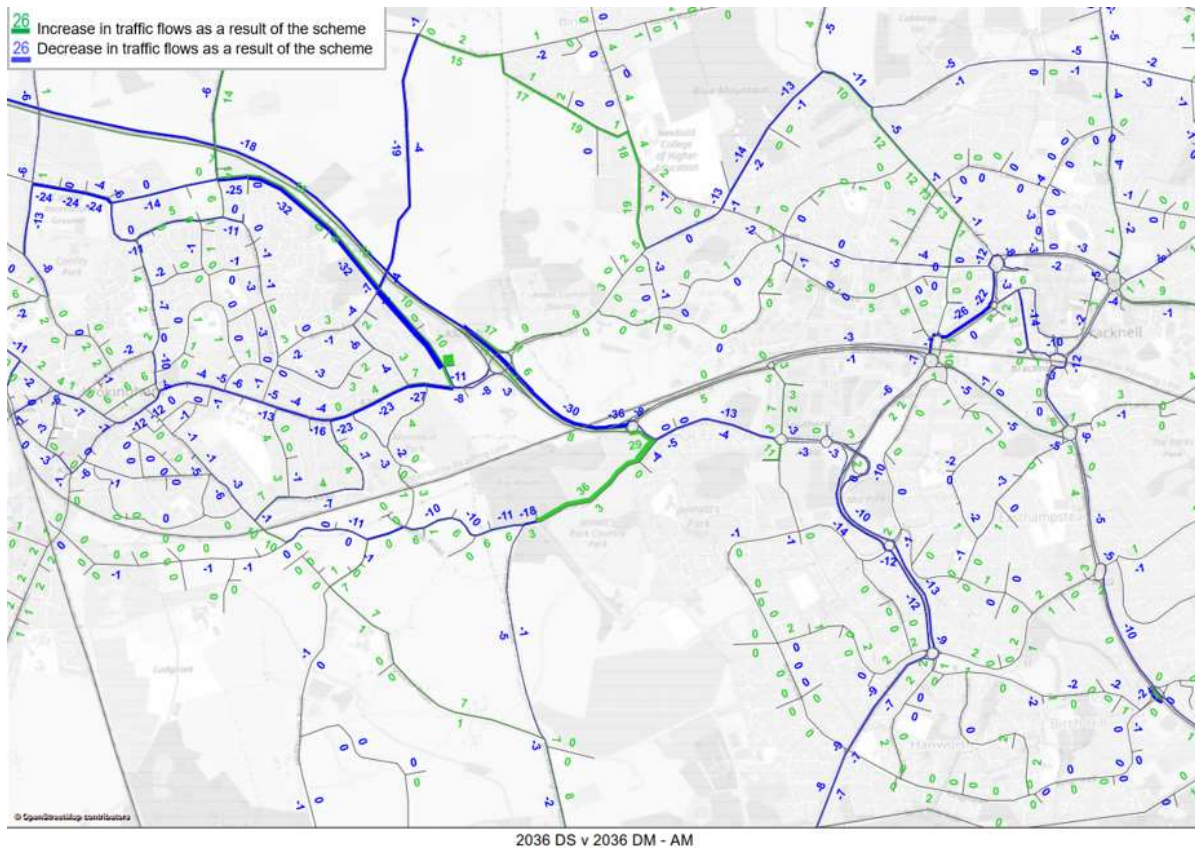


Figure 2-13 - 2036 AM flow difference between Do Minimum and Do Something

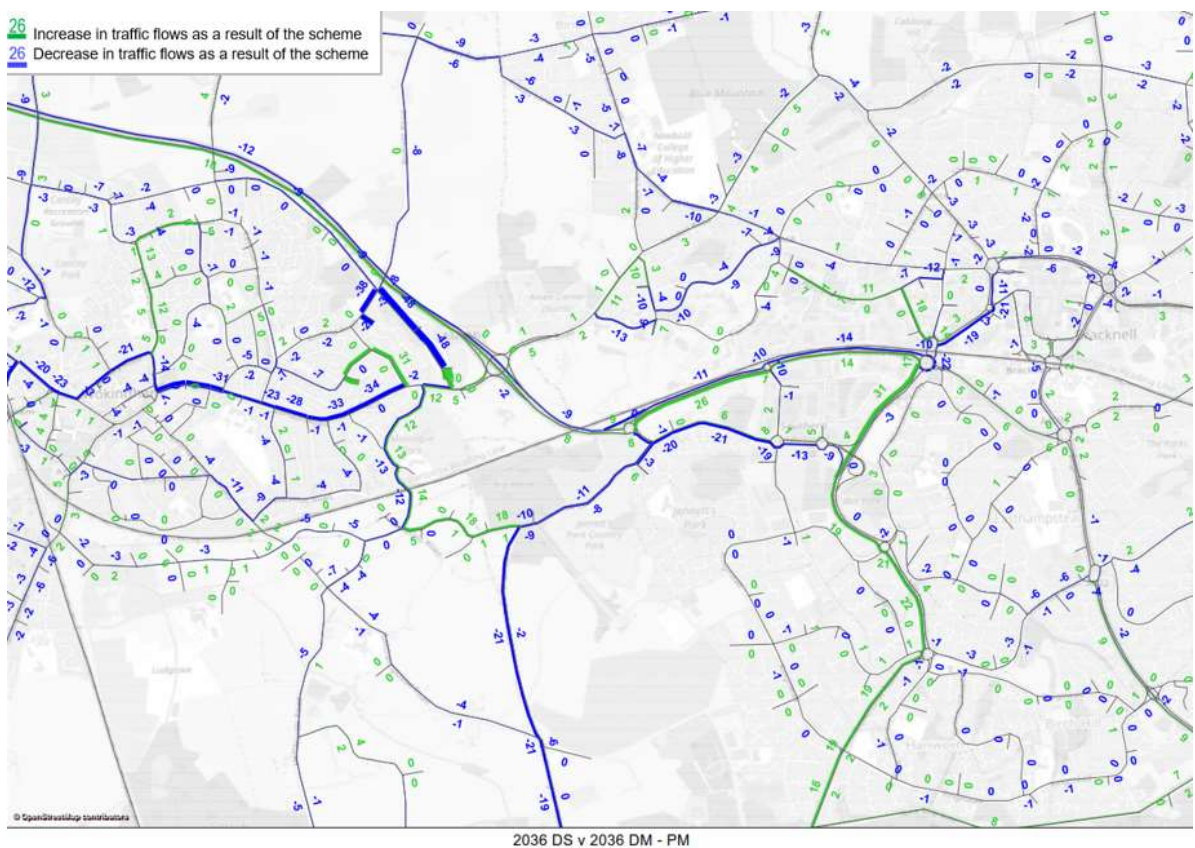


Figure 2-14 - 2036 PM flow difference between Do Minimum and Do Something

HOUSING AND EMPLOYMENT GROWTH

- 2.4.8. Figure 2-15 shows the scheme location and the A329 and other key corridors. To ensure that the development of the LTP3 supports policies within the local development framework Core Strategy, and accommodate travel demand both current and increase in demand due to planned developments, it (LTP3) considered impact of the SDL sites at the following locations:
- South of M4, 2500 dwellings
 - Arborfield Garrison, 3500 dwellings
 - North Wokingham, 1500 dwellings
 - South Wokingham, 2500 dwellings
 - New employment area of 51,000 sq m
- 2.4.9. The development of LTP3 used Wokingham Transport Model to assess the impact of the development sites on the transport network. The results for 2026 AM peak hour indicated that without any transport mitigation measures, a 22% increase in overall journey times is expected³. LTP3 further recognises that without substantial improvements to transport infrastructure, travel conditions will worsen and in support of the core policies CP1 (sustainable development), CP6 Managing Travel Demand, and CP18-21 (delivering sustainable development at Arborfield Garrison, South of M4, North Wokingham and South Wokingham SDLs), the relevant park and ride projects identified include:
- A site west of Coppid Beech roundabout on the A329
 - A site in the vicinity of M4 Junction 11
- 2.4.10. Coppid Beech Park and Ride will provide improved access to Wokingham, and Bracknell town centres, supporting the employment and commercial land uses in these areas. Supporting economic growth is identified within Wokingham's LTP3

TACKLING CLIMATE CHANGE

- 2.4.11. Improved accessibility by public transport will encourage more people to switch from making private car trips into Wokingham, and Bracknell and to use the bus instead, reducing congestion and emissions. Tackling climate change is identified within Wokingham's LTP3.

³ Local Transport Plan 2011-2026, page 120

ADDITIONAL PROBLEMS

Table 2-3: Additional problems identified in Wokingham LTP3 and Bracknell LTP3

	Problem	How will Coppid Beech Park and Ride help?
Wokingham LTP3	Equality of opportunity	The accessibility and affordability of public transport to access key services and destinations. The Park and Ride will improve transport access to Wokingham, and Bracknell town centres which are key employment centres as well as the location of a number of key services.
	Safety, security and health	A reduction in the number of vehicles will reduce the chance of accidents, and improve the local air quality
	Quality of life and a healthy natural environment	Reduced congestion will lead to reduced driver stress and improved air / noise quality
Bracknell LTP3	Delays associated with traffic congestion and improving reliability of journey times	Coppid Beech Park and Ride will provide improved access to Wokingham and Bracknell town centres, reducing congestion on key road corridors and improving journey times for all users, especially at peak times
	Securing necessary transport infrastructure and services to support development	The Park and Ride will provide an alternative method of transport into Wokingham and Bracknell town centres, supporting the increased demand arising from future developments across all three Boroughs and other surrounding local authorities
	Accessibility by sustainable modes of transport	The scheme will enhance the existing frequent bus service into Wokingham and Bracknell town centres, improving public transport accessibility for residents along the corridor
	Casualties and safety on the local transport network	A reduction in the number of vehicles will reduce the chance of accidents, and improve the local air quality

2.5 EXISTING BUS SERVICES

2.5.1. Current bus services potentially pertinent to the proposed scheme are shown in Figure 2-15 which also illustrates the proposed park and ride scheme. The following bus services are shown:

- Reading Buses Route 4 and X4
- Reading buses Route 3
- Courtney Buses route 151

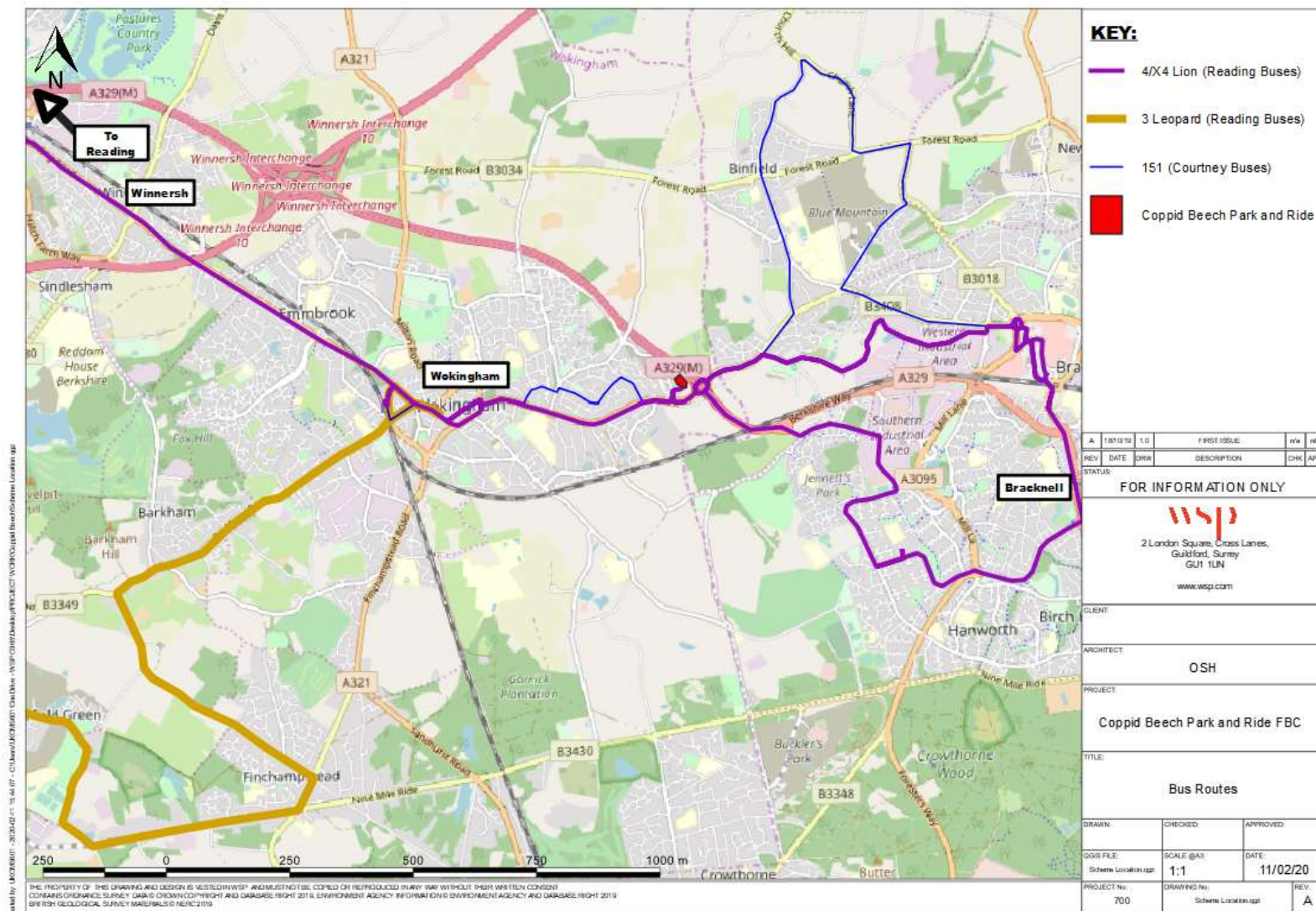


Figure 2-15: Current Bus Services

The 4 / X4 Lion Route

- 2.5.2. The 4 and X4 Lion routes operate up to four services an hour⁴ between Wokingham, Reading and Bracknell Town Centres.
- 2.5.3. Table 2-4 shows the frequency of the 4/X4 bus service for weekdays across the time periods.

Table 2-4: 4/X4 frequency (weekday Bracknell and Wokingham Trips)

Period	Hour	No services per hour
AM Peak	07:00-08:00	3
	08:00-09:00	4
	09:00-10:00	3
PM Peak	16:00-17:00	4
	17:00-18:00	4
	18:00-19:00	2

- 2.5.4. Table 2-5 shows the key destinations served on weekdays at peak times and the route is shown in Figure 2-15. The bus also runs Saturdays, Sundays and public holidays at alternative times. The row highlighted in blue 'Hilton St. Annes Hotel' is located adjacent to the Park and Ride site. Journey times for the key destinations are shown in Appendix C.

⁴ <https://www.reading-buses.co.uk/services/RB/4>

Table 2-5: Key destinations served by the current 4/X4 bus service

AM Peak (07:00-10:00)													
Towards Bracknell	St Mary's Butts(Reading)	06:30	06:50	7:10	07:25	07:45	08:00	08:20	08:40	08:55	09:15	09:35	9.50
	Broad Street (Wokingham TC)	07:00	7:25	7:57	08:14	08:42	08:56	09:14	09:29	09:41	09:57	10:13	10:28
	Hilton St Annes Hotel	07:05	7:31	08:07	08:24	08:52	09:03	09:21	09:36	09:47	10:02	10:18	10:33
	Bracknell Bus Station	07:30	-	08:34	-	09:17	-	09:43	-	10:08	-	10:39	-
	Bracknell Bus Station	-	7:48	-	08:42	-	09:19	-	09:51	-	10:17	-	10:46
Towards Wokingham	Bracknell Bus Station	-	06:54	-	07:16	-	07:44	-	08:44	-	09:23	-	09:54
	Bracknell Bus Station	06:37	-	06:52	-	07:13	-	07:55	-	08:55	-	09:32	-
	Hilton St Annes Hotel	06:57	07:07	07:15	07:30	07:39	08:00	08:22	09:00	09:16	09:36	09:52	10:07
	Broad Street (Wokingham TC)	07:05	07:15	07:24	07:39	07:52	08:13	08:35	09:10	09:26	09:46	10:01	10:16
	St Mary's Butts (Reading)	07:40	07:52	08:14	08:29	08:45	09:05	09:22	09:51	10:04	10:24	10:38	10:53
PM Peak (16.00-19.00)													
Towards Bracknell	St Mary's Butts(Reading)	16:00	16:15	16:30	16:50	17:05	17:20	17:35	17:50	18:10	16:00	16:15	16:30
	Broad Street (Wokingham TC)	16:47	17:02	17:17	17:37	17:52	18:07	18:22	18:37	18:55	16:47	17:02	17:17
	Hilton St Annes Hotel												
	Bracknell Bus Station	-	17:30	-	18:06	-	18:36	-	19:03	-	-	17:30	-
	Bracknell Bus Station	17:07	-	17:37	-	18:12	-	18:42	-	19:13	17:07	-	17:37
Towards Wokingham	Bracknell Bus Station	-	15:58	-	16:28	-	17:07	-	17:42	-	-	15:58	-
	Bracknell Bus Station	15:30	-	16:05	-	16:35	-	17:15	-	17:50	15:30	-	16:05
	Hilton St Annes Hotel												
	Broad Street (Wokingham TC)	-	15:58	-	16:28	-	17:07	-	17:42	-	-	15:58	-
	St Mary's Butts (Reading)	15:30	-	16:05	-	16:35	-	17:15	-	17:50	15:30	-	16:05

3 Leopard Route

- 2.5.5. The Leopard 3 service runs between Reading and Wokingham Town Centre, but does not go further east past the proposed park and ride site.

151 Courtney Bus Route

- 2.5.6. This bus route serves Wokingham and Bracknell, via Binfield to the north, but does not provide a direct route into Bracknell Town Centre.

2.6 IMPACT OF NOT CHANGING

- 2.6.1. The proposed park and ride scheme would complement other highway improvement measures both proposed and implemented on the A329 corridor and adjoining local roads and would contribute its share towards facilitating growth in local economy and delivery of houses. The proposal is estimated to remove around 240 trips bound to Wokingham and Bracknell town centres in the peak period. It is also important to recognise that the concept of introducing a park and ride site is not necessarily it is expected to solve congestion only but also to promote modal shift from cars to buses, in particular, for the final leg of the journey to town centres. The scheme will increase public transport mode share and reduce congestion and accidents on the network, contributing to sustained economic growth not only for the immediate area but also contributing to cumulative benefits of other park and ride schemes across Thames Valley Berkshire. The scheme will help to overcome issues around town centre parking and improved access to town would result in an increase in footfall and a corresponding uplift in trading. These in turn will contribute to alleviate congestion, improve air quality, noise and greenhouse gas thereby delivering one of WBC's Core Strategy and Local Transport Priorities – the promotion of sustainable transport and reducing congestion, enabling development to be facilitated without detriment to the highway network.
- 2.6.2. In terms of investment justification, traffic models have been developed to quantify some of the key performance metrics discussed above which include; congestion (improved journey speeds, reduction in accidents, greenhouse gas). Assessment was undertaken at network level and the impacts of the proposed scheme against without the scheme shows the following improvements:
- 2.6.3. Specific outcomes of a 'Do Nothing' scenario include:
- Without the introduction of the scheme, congestion along the A329 / A329(M) will remain and become intensified by future traffic growth from planned residential developments, as well as employment areas
 - The economic future of Wokingham and Bracknell will not be as competitive for private sector businesses as other boroughs
 - Increased congestion and noise along the A329 will affect commuting, educational and leisure trips as well as local residents' quality of life
 - May result in Planning Authority refusing planning permission for some major developments which could have an adverse impact on the local economy
- 2.6.4. Table 2-6 shows reduction in vehicle hours for the AM and PM peak due to the shift in car demand on to the bus as a result of the proposed park and ride scheme. The table shows that due to increase in congestion in 2036, highest reduction in vehicle hours is achievable in 2036.

Table 2-6: Change in vehicle hours between DM and DS

2021						
	AM			PM		
	DM	DS	Change	DM	DS	Change
Veh hrs/hr	5384.60	5360.40	-24.20	5182.50	5176.60	-5.90
2036						
	AM			PM		
	DM	DS	Change	DM	DS	Change
Veh hrs/hr	6794.70	6755.70	-39.00	6536.20	6514.10	-22.10

2.6.5. Figure 2-7 through to Figure 2-10 show average delays and speeds on the network.

2.7 THE NEED FOR THE SCHEME

2.7.1. The proposed Coppid Beech Park and Ride scheme on the A329(M)/A329 corridor would complement other A329 strategic corridor improvement schemes promoted by both Wokingham and Bracknell Forest councils in contributing to mitigate the impact arising from new developments. The scheme will provide 250 car parking spaces and in line with one of the local transport objectives, it will provide an alternative travel choice along the A329 corridor. The scheme aligns with the Council's Core Strategy and adopted North Wokingham Strategic Development Location Master Plan 2011.

2.7.2. The impact of the proposed Coppid Beech Park and Ride scheme has been modelled and the change in flows due to the proposed scheme is shown in Figure 2-11.

2.8 OBJECTIVES

2.8.1. This section establishes specific, measurable, achievable, realistic and timebound objectives that will solve the problems identified. The objectives align with both WBC and wider strategic aims as set out in Section 2.3.

2.8.2. The development of local transport plan objectives for Wokingham has evolved over many years. LTP2, the previous local transport plan for Wokingham identified several key problems facing the transport network and developed a number of objectives to address them. LTP2 was a success in tackling important transport issues but were less successful in improving transport accessibility for all residents and in improving air quality in some areas of the Borough. There are high levels of congestion in some areas of the Borough and the Council will be working towards tackling climate change. In developing LTP3, the Council recognises relevance of challenges and problems identified in LTP2 and builds upon and integrates experiences of LPT2. The LTP3 also promotes greater emphasis on partnership working throughout LTP3 to ensure that the delivery of services take an efficient and integrated approach. As a result, the following objectives have been developed.

- To improve road infrastructure, maintenance, and targeted improvements to the road network to improve traffic flow
- To improve the integration of land use planning and transport to create a more efficient transport system

- To improve road safety for all road users, through cost effective solutions, education training and publicity
- To develop cost effective transport solutions that are sensitive to the varying nature of the Borough and improve accessibility to key facilities
- To improve the convenience of travel that involves using more than one mode of transport
- To promote sustainable travel choices through various travel plan initiatives

2.8.3. Therefore, the objectives in relation to the proposed scheme and their respective desired outcomes are shown in Table 2-7, show scheme objectives and desired outcome.

Table 2-7: Scheme objectives and desired outcomes

Scheme objective	Desired outcome
1) To support the forecast housing growth	<ul style="list-style-type: none"> ■ Improved accessibility by public transport would encourage more people to switch from using the private car thereby providing a degree of mitigation
2) To reduce congestion on the A329 corridor	<ul style="list-style-type: none"> ■ Improved access to Wokingham, and Bracknell town centres ■ Improved journey times to key destinations for all users, especially at peak times ■ Reduced driver stress and improved air / noise quality ■ Air quality improvements and noise reduction
3) To encourage car drivers to access Wokingham, and Bracknell town centres using public transport.	<ul style="list-style-type: none"> ■ Provision of an alternative method of transport into Wokingham, and Bracknell town centres ■ Reduce congestion ■ Ensuring public transport is inclusive of everyone
4) To improve the convenience of travel which involves using more than one mode of transport.	<ul style="list-style-type: none"> ■ Good quality bus services which service the Park and Ride and visit key destinations in the area.

2.8.4. Figure 2-16 shows a logic map, demonstrating how the scheme outputs flow through to the objectives to achieve the desired strategic outcomes.

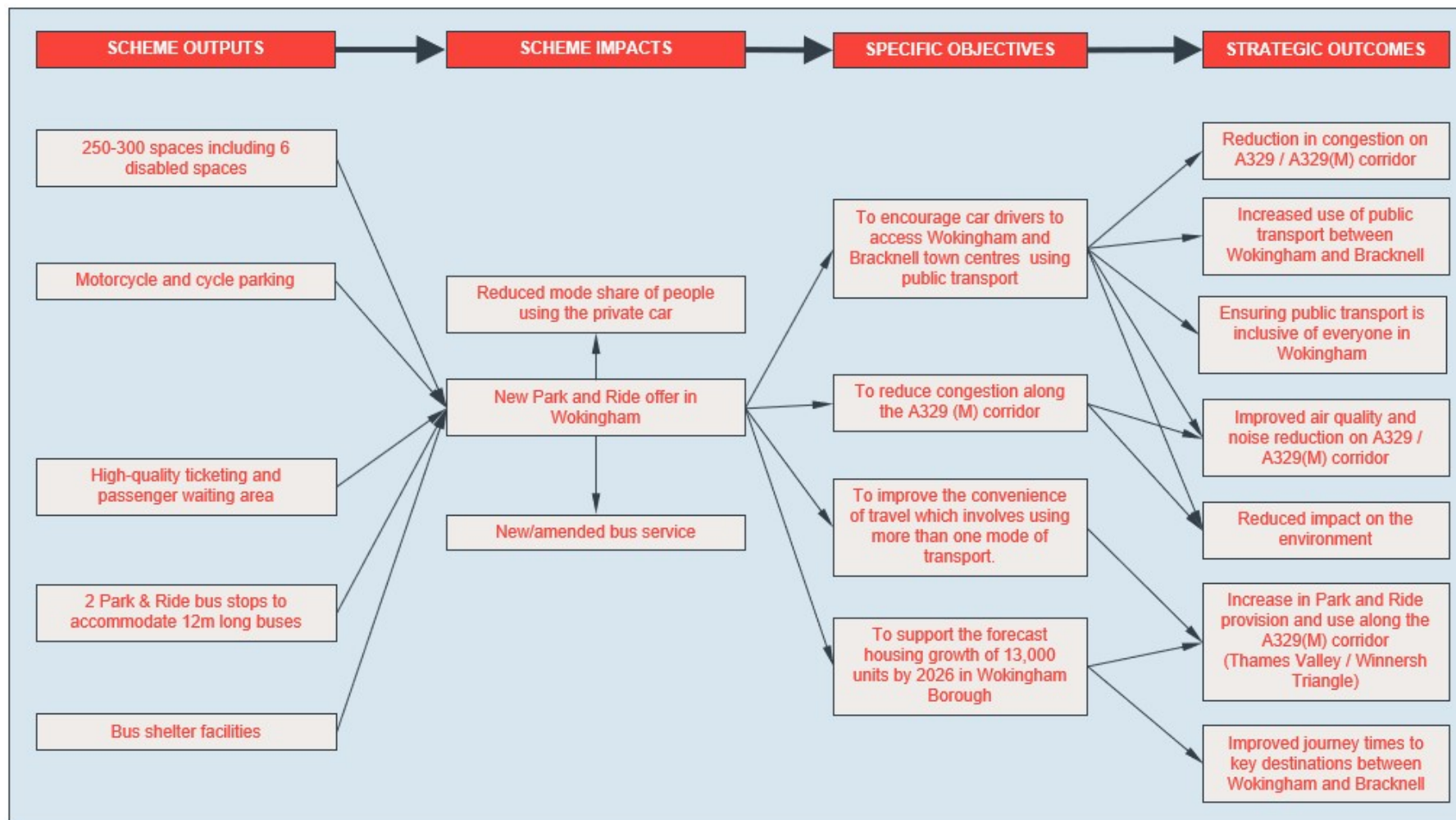


Figure 2-16: Strategic Outcomes

INDIRECT IMPACTS OF THE SCHEME

- 2.8.5. The scheme will also help contribute towards a number of wider objectives, set out in Table 2-8.

Table 2-8: Wider scheme objectives and desired outcomes

Wider scheme objective	Desired outcome
Climate change	Improved public transport offering, will aim to encourage people to switch from just using the private car for trips and to use the park and ride option instead, reducing congestion and therefore emissions
Health	Reduced congestion will lead to reduced driver stress and improved air and noise quality
Accessibility	The scheme will improve transport access and provide an affordable option for travel for everyone to key services and destinations
Safety	A reduction in the number of vehicles will reduce the chance of accidents

2.9 MEASURE OF SUCCESS

- 2.9.1. Successful delivery against the scheme objectives will be monitored as part of the post-construction scheme evaluation, details of which are discussed in the Management Case.
- 2.9.2. Prior to scheme construction, a programme of monitoring will be put in place, which will also include monitoring one and five years following the completion of the scheme. This will include before and after monitoring of:
- Traffic counts surveys on the A329 London Road and A329 Berkshire Way.
 - Bus passenger boarding surveys at the P&R
 - An initial impact of the scheme on transfer of car users on to the bus will be undertaken
- 2.9.3. The parts of the objectives relating to economic growth and investment in business and housing, will be difficult to quantify, especially in the short-term, so cannot be directly attributable to this. A longer- term evaluation could seek to monitor economic, employment and housing growth. Table 2-9 demonstrates how the scheme objectives flow through to the benefits of each, and how they will be measured.

Table 2-9: Measures for success

Objectives	Benefits	Measures	Timescales
1) To support the forecast housing growth of 13,000 units by 2026 in Wokingham	<ul style="list-style-type: none"> Supports/complements mitigation to delivering housing opportunities 	<ul style="list-style-type: none"> Number of houses delivered Number of planning applications taking advantage of the scheme 	Long-term
2) To reduce congestion on the A329 corridor	<ul style="list-style-type: none"> Removal of around 250 town centre bound car trips in the peak period Reduced driver stress and improved air / noise quality 	<ul style="list-style-type: none"> Reduction in vehicle flows during the peak period Journey reliability monitoring 	Short-term
3) To encourage car drivers to access Wokingham, and Bracknell town centres using public transport	<ul style="list-style-type: none"> Air quality improvements and noise reduction 	<ul style="list-style-type: none"> Car parking occupancy at the Park and Ride during Peak times specifically 	Long-term
4) To support other Park and Rides	<ul style="list-style-type: none"> Good use of bus services which complement existing Park and Rides 	<ul style="list-style-type: none"> Bus patronage on route 4/X4 	Short-term

2.10 DEMAND FOR THE PARK AND RIDE

- 2.10.1. Potential users of the proposed park and ride site are mainly commuters who currently park at car parks at the centre of Wokingham and Bracknell and go on foot to complete their final destinations - places of work. With the park and ride facility in place, the Park and Ride users will be dropped off at the bus stops shown in Figure 2-17 and Figure 2-18. These show that the location of the bus stop is within the proximity of the car parks hence the last leg of the journey for the commuters would not be too dissimilar to that of making the same trip from the car parks. This also demonstrates that the proposed park and ride site could continue to promote commuter trips without detrimental to the highway network operation.

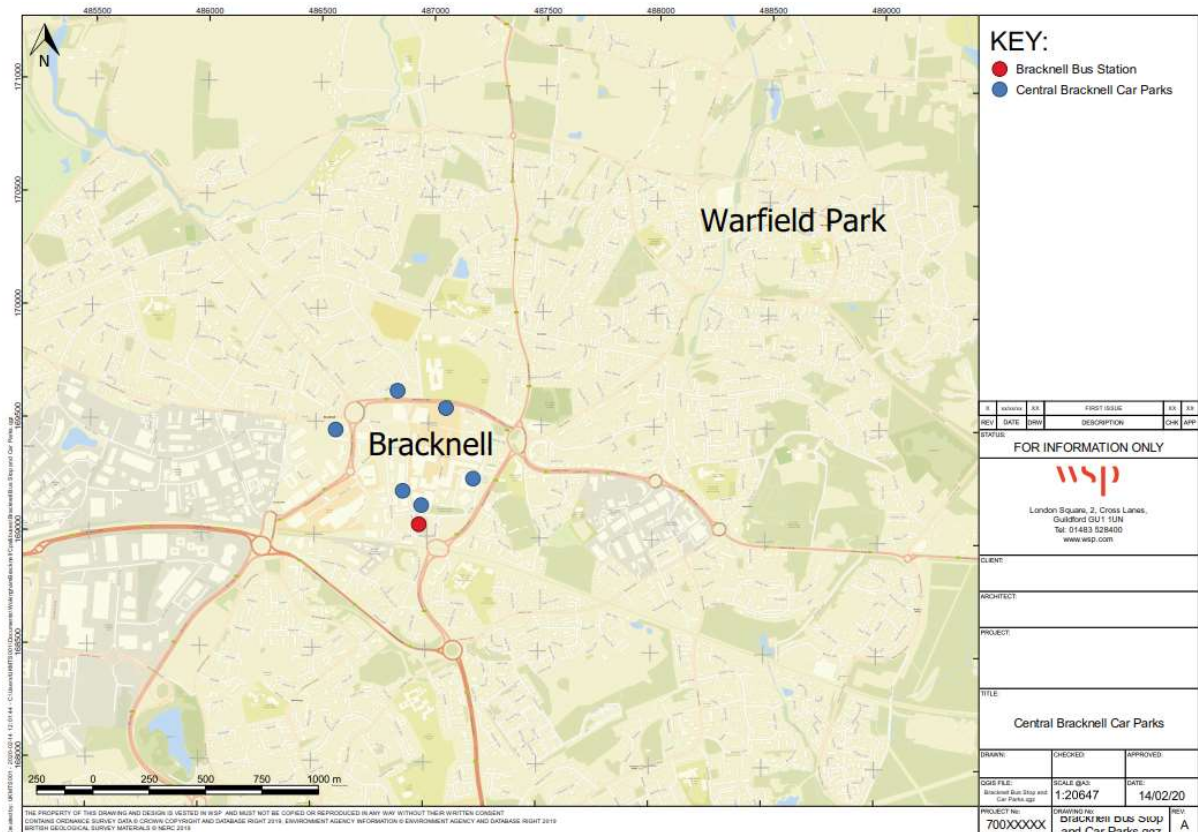


Figure 2-17: Bracknell car park locations and bus station

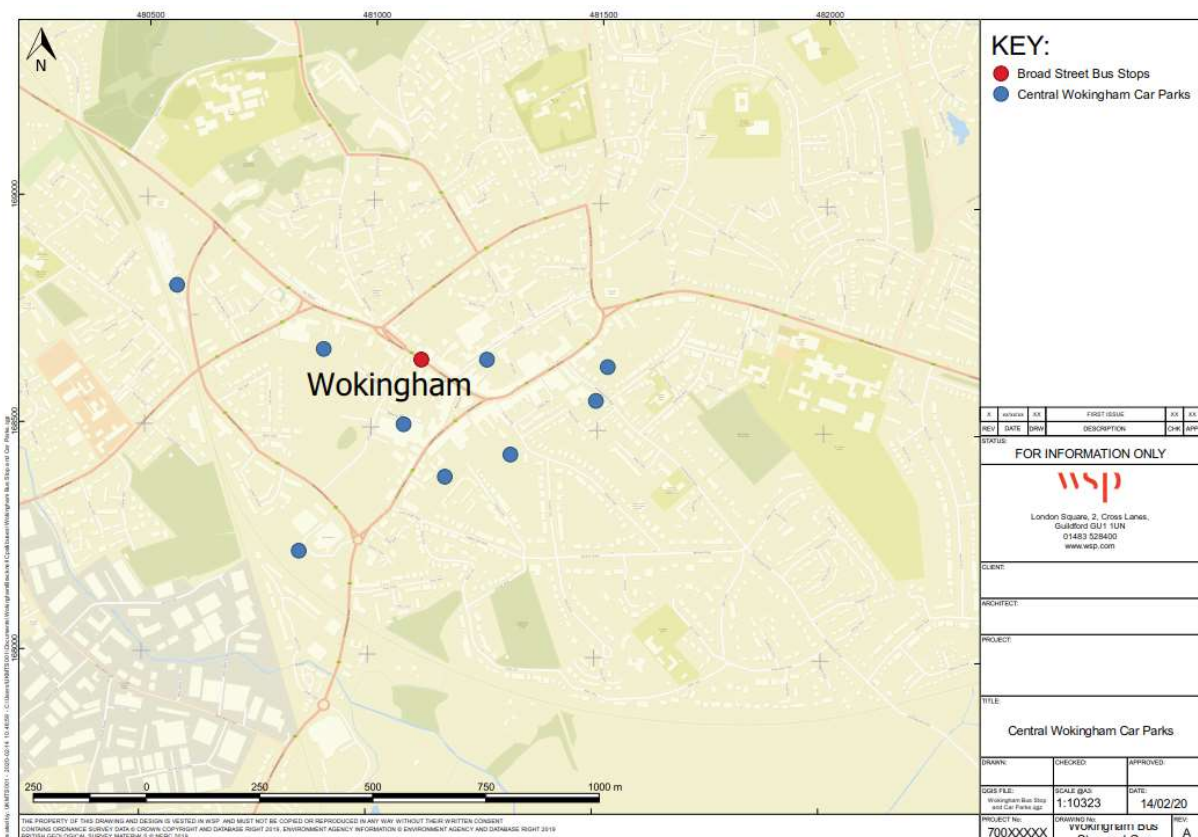


Figure 2-18: Wokingham car park locations and bus station

2.10.2. Figure 2-19 and Figure 2-20 show where users of the Park and Ride will come from in 2021 and then 2036 respectively. The yellow bar shows the Park and Ride as the destination and the blue bars show the origin. The spread of use across the wider areas of Wokingham and Bracknell can be seen from the figures, demonstrating the use which residents of the boroughs will gain and then reduction of vehicles the A329 corridor will experience.

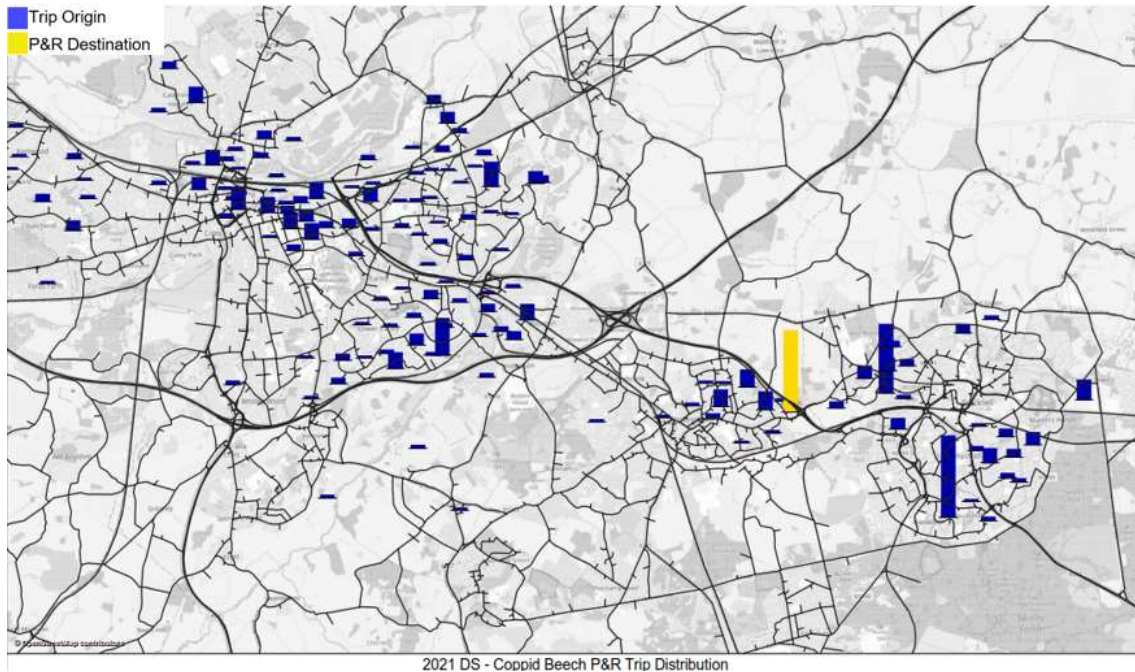


Figure 2-19: 2021 Trip distribution for Park and Ride

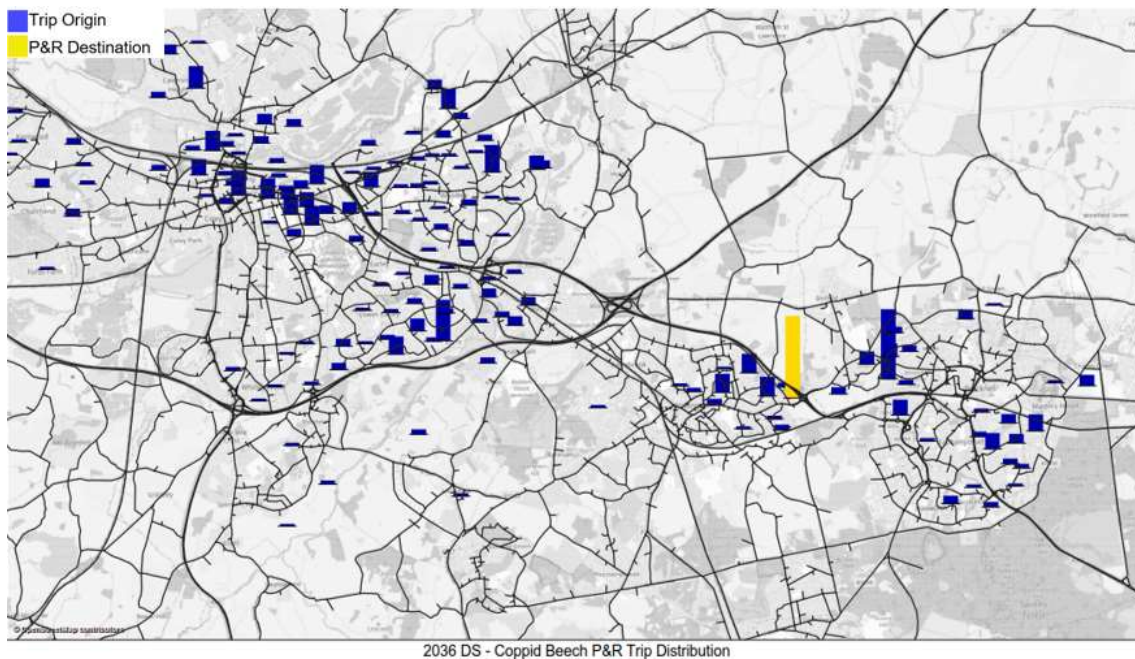


Figure 2-20: 2036 Trip distribution for Park and Ride

2.11 COPPID BEECH PARK AND RIDE BUS SERVICE

- 2.11.1. Existing bus services have been described in Section 2.5. The X4 and 4 bus services (shown in Figure 2-15), currently run along the A329 corridor and offer a more direct route into Wokingham and Bracknell town centres. There are two bus stops (both directions) on the A329 close to the entrance to the park and ride site, known as 'Hilton St. Annes'. Figure 2-21 shows the close proximity of the park and ride site to the existing route served by the services X4 and 4.
- 2.11.2. The Council has been in discussions with Reading Buses and its preferred choice is to use the X4 and 4 services. For further details on the proposed bus service provision see the Commercial Case section of this report.
- 2.11.3. The buses used for the 4/X4 route have 77 seats, with room for 9 standing making each bus have a capacity of 86. There are four buses an hour during the peak hours and there is sufficient spare seating capacity exist on these services. Table 2-10 shows existing bus occupancies for the X4/4 route for Wokingham and Bracknell based trips. Table 2-11 shows car park arrivals for each hour, bus maximum capacity, bus occupancies and available capacity when leaving the park and ride site. Table 2-11 demonstrates that not only there is sufficient seating capacity to meet the Park and Ride demand, but also that there is an opportunity for the operator to maximise their revenue by selling unused capacity.
- 2.11.4. Column A shows estimated car park arrivals, column B shows the current average occupancy of an 4/X4 bus for the hour shown and column C shows the total of columns A and B (total bus occupancy once the scheme is in place and utilising the 4/X4 bus service). Column D & E reflect peak hour aggregates as opposed to averages and Column F presents the spare capacity of the bus services over the peak hour.
- 2.11.5. The services are run by Reading Buses and the bus route currently exists and passes the entrance of the proposed park and ride facility. As demonstrated above, there is sufficient spare seating capacity to meet the demand at the site. The buses currently stop at Hilton St. Annes bus stops by the entrance to the site. With the park and ride in operation, the buses instead, will enter the site and passengers will board/alight at the new bus stop within the park and ride site. However, because of the diversion to the park and ride site some additional journey time to the overall journey time is expected to be incurred. An estimate of 4 minutes additional journey time due to making the detour to the park and ride site has been considered within the economics case as existing bus passengers will incur this delay. The additional delay in diverging to the site builds in movement through the signalised junction of London Road/Oak Avenue, manoeuvring to the P&R and negotiating the gyratory back to the signalised junction. Delay/light cycle times are taken from the LINSIG assessment which is being undertaken in support of the transport statement for the planning application. As the buses have unused capacity now, the bus operator will receive additional revenue due to the new passengers with no significant additional cost to serve the park and ride site.

Table 2-10: Average bus occupancy per bus for Route 4/X4

Time	Wokingham trips	Bracknell trips
07:00-08:00	32	26
08:00-09:00	16	15
09:00-10:00	11	11 ⁵
16:00-17:00	15 ⁶	9
17:00-18:00	18	12
18:00-19:00	8	10

⁵ Due to missing data for this time period it has been estimated using factor of 1.2

⁶ Due to missing data for this time period it has been estimated using factor of 1.6

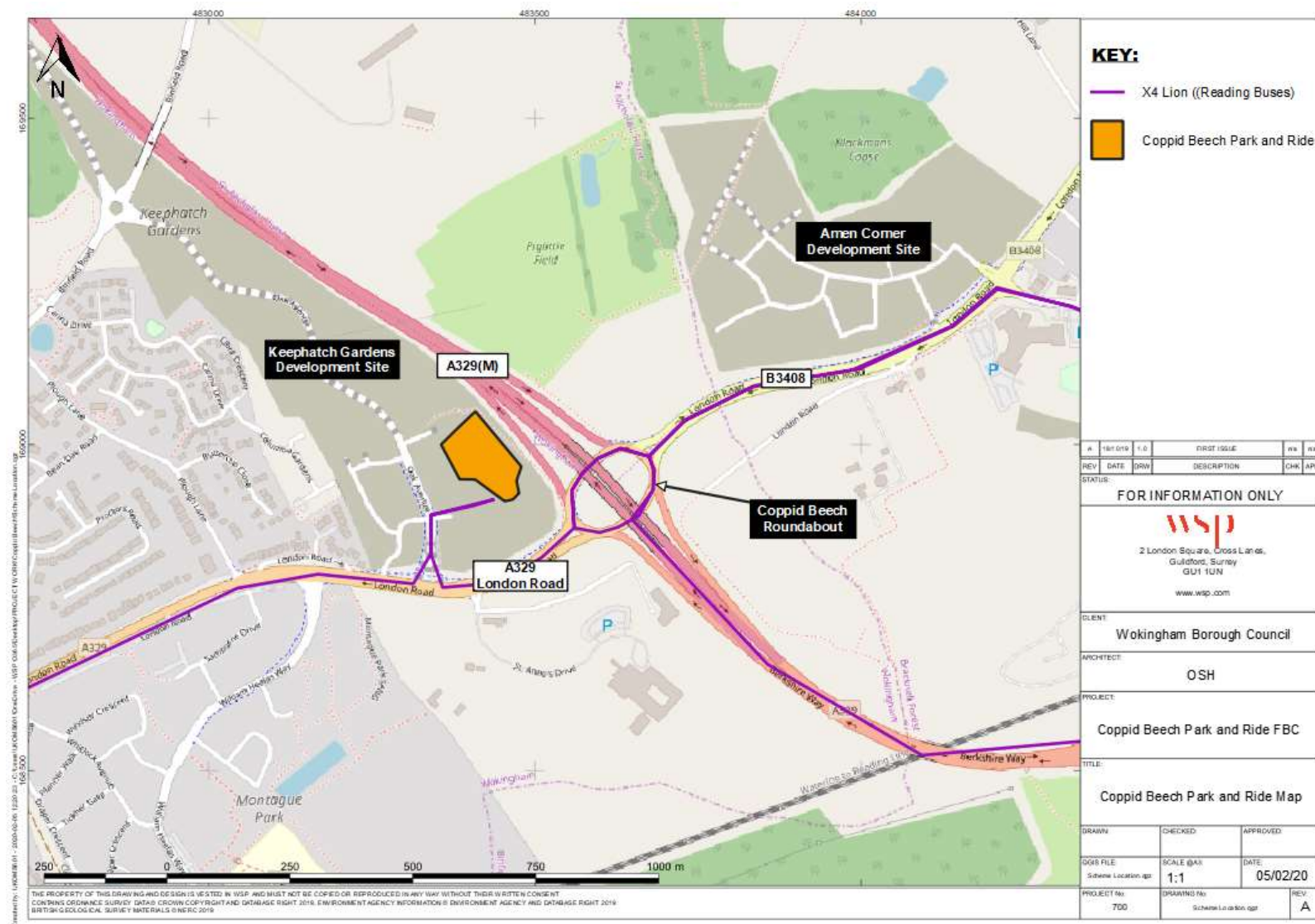


Figure 2-21: The scheme

Table 2-11: X4/4 capacity

AM Peak Wokingham trips

	A	B	C	D	E	F
Time	Estimated car park arrivals	Current average per bus occupancy	Total average per bus Occupancy	Total average per hour occupancy	Total bus capacity per hour	Spare capacity remaining per hour
07:00-08:00	50	32	82	247	258	11
08:00-09:00	48	16	64	254	344	90
09:00-10:00	23	11	34	101	258	157
07:00-10:00	121	59	180	603	860	257

AM Peak Bracknell trips

	A	B	C	D	E	F
Time	Estimated car park arrivals	Current average per bus occupancy	Total average per bus Occupancy	Total average per hour occupancy	Total bus capacity per hour	Spare capacity remaining per hour
07:00-08:00	48	26	74	222	258	36
08:00-09:00	46	15	61	242	344	102
09:00-10:00	22	11 ⁷	33	99	258	159
07:00-10:00	117	51	168	563	860	297

⁷ Due to missing data for this time period it has been estimated using factor of 1.2

PM Peak Wokingham trips

	A	B	C	D	E	F
Time	Estimated car park arrivals	Current average per bus occupancy	Total average per bus Occupancy	Total average per hour occupancy	Total bus capacity per hour	Spare capacity remaining per hour
16:00-17:00	30	18	48	194	344	150
17:00-18:00	37	8	45	180	344	164
18:00-19:00	29	10 ⁸	39	78	172	94
16:00-19:00	96	36	132	452	860	408

PM Peak Bracknell trips

	A	B	C	D	E	F
Time	Estimated car park arrivals	Current average per bus occupancy	Total average per bus Occupancy	Total average per hour occupancy	Total bus capacity per hour	Spare capacity remaining per hour
16:00-17:00	28	9	37	149	344	195
17:00-18:00	33	12	45	181	344	163
18:00-19:00	26	10	36	72	172	100
16:00-19:00	87	32	119	403	860	457

⁸ Due to missing data for this time period it has been estimated using factor of 1.6

2.12 CONSTRAINTS

- 2.12.1. The proposed site has been allocated to Park and Ride provision in the North Wokingham Keephatch Beech development masterplan. The potential constraints of the land to be used for a park and ride site would have been accounted for in the Keephatch Beech planning application. The main constraint associated with delivery of the scheme is securing the necessary funding approval from TVBLEP.

2.13 INTER-DEPENDENCIES

- 2.13.1. The land required for the scheme is to be gifted to WBC under Section 106 Agreement and at no cost to the council, thereby eliminating any risk associated with land acquisition. The scheme can be designed, costed and constructed regardless of whether other schemes are progressed, and no other schemes have been identified which may have a direct bearing on the successful delivery of this scheme.
- 2.13.2. Minor inter-dependences are as follows:
- Planning permission approval
 - Allocation of funding from TVB LEP
 - Bus Service Provision
 - Potential off-site highway mitigation measures
- 2.13.3. Details are provided within the Economic case, with risk costs captured through a Quantified Risk Assessment (QRA).

THE PLANNING APPLICATION

- 2.13.4. The delivery of the scheme is contingent on securing the necessary planning approvals. However, no significant risks are envisaged that could affect a favourable planning application outcome and pre-application consultation has been undertaken with the planning officer and highway officer, including an environmental screening process which identified the development is not to be considered as a full EIA.
- 2.13.5. The site has no known environmental sensitivities, beyond an area of ancient woodland which is being assessed as part of an agricultural assessment to be supplied in support of the planning application.

POTENTIAL OFF-SITE HIGHWAY MITIGATION MEASURES

- 2.13.6. The need for any potential off-site highway mitigation measures has been explored as part of the modelling process by examining the change in levels of service at the junctions in the vicinity of the park and ride.

BUS SERVICE PROVISION

- 2.13.7. The successful operation of the site very much depends on establishing a firm agreement with a bus operator, to serve the site that is commercially viable to the operator and financially affordable to WBC. It is considered that Reading Buses are the most suitable to serve the site, on the basis that they run the existing 4/X4 service and they have already expressed an interest in serving the site.

2.14 STAKEHOLDERS

- 2.14.1. The stakeholders comprise the local authorities which will benefit from the Park and Ride scheme and/or those contributing towards funding for the scheme include:
- Bracknell Forest Council
 - Wokingham Borough Council
 - Reading Buses
 - Bellway Homes
 - Thames Valley Berkshire Local Enterprise Partnership.
- 2.14.2. Other stakeholders include local businesses in Wokingham and Bracknell and local resident groups.

2.15 OPTIONS

ALTERNATIVE SITE ASSESSMENT

- 2.15.1. Two candidate sites were considered. A Park and Ride site at Jennetts Park in south-west Bracknell and Coppid Beech Park and Ride on Keephatch development site. Bracknell Forest Council (BFC) undertook a viability assessment of a Park and Ride service at Jennetts Park and found that the scheme was found to be not cost effective. In addition, regeneration plans within Bracknell town centre were considerably scaled back, which further impacted the viability of the park and ride at Jennetts Park. Recent discussions with BFC have confirmed that there are no current plans to take forward this option.
- 2.15.2. The location considered for the development of the new Park and Ride at land to the west of Coppid Beech Roundabout on the A329 in Wokingham aligns with the Core Strategy 2010 and adopted North West Strategic Development Location Master Plan 2011. This has been identified as a preferred option in the Council's LTP3. The outline strategic business case also demonstrated that this is a good investment and offers a good value for money.
- 2.15.3. The Coppid Beech Park and Ride site is the preferred site not only for the reasons cited above but the location offers more direct route into both Wokingham and Bracknell town centres and has the advantage of the potential to make use of the existing bus services X4 and 4 that currently run along the A329. These services are operated by Reading Buses and these services have sufficient spare seating capacity to cater for the forecast passenger demand from the site.
- 2.15.4. Reading Buses current position for utilising the 4/X4 route as the most appropriate service for the Park and Ride, is that diverting onto the site from London Road adds too much journey time (4 minutes) and the additional patronage from would lead to the requirement for an additional bus to run on the 4/X4 service line. Therefore, Reading Buses have identified an annual subsidy which was higher than WBC could agree to (over the £50k threshold before a tender is required) and therefore the service will go out to tender.
- 2.15.5. Reading Buses are willing to serve the site if they win the tender. At this time no other bus operators have registered their interest. Subsequently there are no specifics on the service details, however the service shall be peak hour only on the basis that the car park shall fill up during the morning peak period and empty during the evening peak. Should anyone wish to use the site during off-peak, they can use the 4/X4 Reading Buses service on London Road.

3 ECONOMIC CASE

3.1 INTRODUCTION

- 3.1.1. The Economic Case identifies and assesses the impacts of the scheme to determine its overall value for money. It takes account of the costs of developing and building the scheme, and a full range of its impacts, including those which can be monetised. The economic case considers the extent to which the scheme's benefits will outweigh its costs.
- 3.1.2. The structure of the economics case is as follows:
- Introduction
 - Outline approach to assessing value for money
 - Modelling approach
 - Scenarios appraised
 - Assessment of economic impacts
 - Transport economic efficiency (TEE), public accounts (PA) and Analysis of Monetised Costs and Benefits (AMCB)
 - Sensitivity and risk profile
 - Value for money statement
 - Appraisal summary table (AST)

3.2 OUTLINE APPROACH TO ASSESSING VALUE FOR MONEY

- 3.2.1. The methodology adopted for the economic assessment follows the process set out in the Appraisal Specification Report (ASR) which was agreed with the Thames Valley Berkshire LEP independent technical evaluator, Hatch.

3.3 MODELLING APPROACH

- 3.3.1. The WSTM4 consists of the following sub-models:
- Highway model built using VISUM software suite
 - Public Transport model developed using VISUM software
 - Variable demand model set up using DIADEM
- 3.3.2. The WSTM4 covers the following time periods:
- AM peak hour (08:00-09:00)
 - PM peak hour (17:00-18:00)
- 3.3.3. The WSTM4 was developed to represent 2015 transport conditions. The results of the base year model validation are detailed in 'Wokingham Strategic Transport Model 4 (WSTM 4) – Local Model Validation Report' (May 2018).
- 3.3.4. To assess the impact of the Park and Ride site, forecast models have been developed for 2021 and 2036. The 2021 and 2036 Do Minimum forecast models were updated to include the latest development proposals and transport infrastructure schemes.

3.4 CALCULATING LEVEL OF DEMAND

- 3.4.1. Wokingham Town Centre is to the west of the site and Bracknell Town Centre is to the east. The first step was to estimate existing car trips travelling to Wokingham & Bracknell Town

Centres, past the proposed Park and Ride site. The potential car trips that could transfer to the park and ride bus services were then estimated. To estimate mode split, a spreadsheet-based logit model has been developed which estimates the relative attractiveness of the car demand to the Park and Ride facility.

- 3.4.2. Generalised time parameters were inputted into the logit model for both 'Car' and 'Park & Ride' users travelling to / from Wokingham and Bracknell town centres. Based upon these parameters, the logit model calculated the proportions of users travelling by Park & Ride and by car. This analysis was undertaken for the following user classes:
- Commuters
 - Employer's Business
 - Other
- 3.4.3. The user classes representing Light Goods Vehicle (LGV) and Heavy Goods Vehicle (HGV) were excluded from the analysis as they will not use the parking facilities.
- 3.4.4. The parameters used to calculate Car Generalised Time included:
- Car journey time
 - Vehicle operating cost
 - Car parking cost
 - Egress time
- 3.4.5. The parameters used to calculate Park and Ride Generalised Time included:
- Car travel time from A329 to the Park and Ride site
 - Car parking cost
 - Bus fare
 - Walk time from the car park to the bus stop (within the site)
 - Bus travel time
 - Bus wait time
 - Egress time
 - model calibration parameter, lambda
- 3.4.6. The lambda value used in the logit model calculations for this assessment is consistent with that used in the economic assessment for both the Thames Valley Park and Ride Full Business Case and the Winnersh Triangle Park and Ride Full Business Case.
- 3.4.7. Full details of the parameters used in the logit model are included in Appendix A. For trips that include use of the scheme, certain components of generalised cost have been weighted to reflect the perceived time spent at each stage of the journey consistent with guidance given in Tag Unit M3.2 – Public Transport Assignment Modelling. The following components were weighted for the public transport journey:
- Walk time and;
 - Wait time
- 3.4.8. The economic assessment assumes that customers parked at the site will use the bus stop.
- 3.4.9. Table 3-1 and Table 3-2 detail the mode split, calculated from the logit model, between Park and Ride and car travel by user class for trips travelling to Wokingham and Bracknell respectively.

Table 3-1: Percentage of trips travelling to Wokingham using 'car' and 'Park and Ride'

Forecast Year	User Class	Mode Share	
		Car	Park & Ride
2021	Commute	75%	25%
	Employer's Business	78%	22%
	Other	80%	20%
2036	Commute	75%	25%
	Employer's Business	78%	22%
	Other	79%	21%

Table 3-2: Percentage of trips travelling to Bracknell using 'car' and 'Park and Ride'

Forecast Year	User Class	Mode Share	
		Car	Park & Ride
2021	Commute	75%	25%
	Employer's Business	75%	25%
	Other	69%	31%
2036	Commute	75%	25%
	Employer's Business	75%	25%
	Other	68%	32%

- 3.4.10. Based on the above modal split, the next step in the process is to estimate the volume of trips, that would transfer to the park and ride facility for travelling to and from Wokingham / Bracknell centre. The impact assessment was undertaken for 2021 and 2036.
- 3.4.11. Flow bundle analysis has been undertaken for links on the key corridors within close proximity to the Park and Ride site, where trips could potentially divert from in the AM (08:00-09:00) and PM (17:00-18:00) peak hours. The location of the links used for flow bundle analysis are identified in Figure 3-1.



Figure 3-1: Highways links used for Flow Bundle Analysis

- 3.4.12. Table 3-3 sets out the volume of Wokingham trips that will switch to Park & Ride for each scenario after the corresponding proportions (detailed in Table 3-1 and Table 3-2) have been applied to the selected trips identified in the flow bundle analysis.

Table 3-3: Volume of Wokingham trips switching to Park & Ride for AM (08:00-09:00) & PM (17:00-18:00) peak hours

Year	Time period	Car commute trips	Car Employers Business trips	Car other trips	Total trips
2021	AM	42	3	3	48
	PM	23	3	11	37
2036	AM	40	3	4	47
	PM	21	3	13	37

- 3.4.13. Table 3-4 sets out the volume of Bracknell trips that will switch to Park & Ride for each scenario after the corresponding proportions (detailed in Table 3-1 and Table 3-2) have been applied to the selected trips identified in the flow bundle analysis.

Table 3-4: Volume of Bracknell trips switching to Park & Ride for AM (08:00-09:00) & PM (17:00-18:00) peak hours

Year	Time period	Car commute trips	Car Employers Business trips	Car other trips	Total trips
2021	AM	34	4	9	47
	PM	20	2	11	33
2036	AM	37	3	10	50
	PM	21	3	12	36

- 3.4.14. The next stage of the process was to estimate the volume of trips switching to the use of Park and Ride for the two adjacent hours of the peak hour.
- 3.4.15. Analysis was undertaken on the arrival profile of trips at the existing Winnersh Park and Ride car park for the AM (07:00 to 10:00) and PM (16:00 to 19:00) peak periods. Table 3-5 and Table 3-6 show the percentage of trips that arrive / depart the car park for each hour during the AM and PM peak periods respectively.

Table 3-5: Percentage of trips arriving hourly during AM peak period (07:00-10:00)

Time segment	%
07:00-08:00	41
08:00-09:00	40
09:00-10:00	19

Table 3-6: Percentage of trips departing hourly during PM peak period (16:00-19:00)

Time segment	%
16:00-17:00	31
17:00-18:00	38
18:00-19:00	31

- 3.4.16. Table 3-7 below details the total amount of Wokingham car park trips that will divert to use the Park and Ride by applying the arrival and departure factors shown in Table 3-5 and Table 3-6 to the AM (08:00 to 09:00) and PM (17:00-18:00) peak hour flows detailed in Table 3-3.

Table 3-7: Number of Wokingham trips switching to Coppid Beech Park & Ride for AM (07:00-10:00) & PM (16:00-19:00) peak periods

Year	Time period	Car commute trips	Car Employers Business trips	Car other trips	Total trips
2021	AM	105	7	9	121
	PM	60	8	28	96
2036	AM	101	7	9	117
	PM	55	9	33	97

- 3.4.17. Table 3-8 below details the total amount of Bracknell car park trips that will divert to use the Park and Ride by applying the arrival and departure factors shown in Table 3-5 and Table 3-6 to the AM (08:00 to 09:00) and PM (17:00-18:00) peak flows detailed in Table 3-3.

Table 3-8: Number of Bracknell trips switching to Coppid Beech Park & Ride for AM (0700-1000) & PM (16:00-19:00) peak periods

Year	Time period	Car commute trips	Car Employers Business trips	Car other trips	Total trips
2021	AM	86	9	22	117
	PM	52	6	29	87
2036	AM	93	8	25	126
	PM	54	8	30	92

- 3.4.18. Table 3-9 below details the total amount of Wokingham and Bracknell car park trips that will divert to use the Park and Ride for the AM (07:00 to 10:00) and PM (16:00 to 19:00) peak periods.

Table 3-9: Number of Wokingham & Bracknell trips switching to Coppid Beech Park & Ride for AM (07:00-10:00) & PM (16:00-19:00) peak periods

Year	Time period	Car commute trips	Car Employers Business trips	Car other trips	Total trips
2021	AM	191	16	31	238
	PM	112	14	57	183
2036	AM	194	15	34	243
	PM	109	17	63	189

- 3.4.19. Table 3-9 shows that the total volume of trips diverting to the Park and Ride for the AM peak period (07:00-10:00) is within the car park capacity for both 2021 and 2036 forecast years.

3.5 SCENARIOS APPRAISED

- 3.5.1. To assess the transport impacts of the scheme, two transport scenarios have been modelled to inform the scheme appraisal. These are detailed in Table 3-10.

Table 3-10: Options Appraised

Scenarios	Description
Do Minimum	Forecast demand in 2021 and 2036
Do Something	Forecast car demand adjusted for Coppid Beech Park and Ride facility

3.6 ASSESSMENT OF ECONOMIC IMPACTS

APPRAISAL ASSUMPTIONS

- 3.6.1. The economic case has been compiled in agreement with the assumptions and methodology recommended by the Department of Transport's WebTAG appraisal guidance for Transport Schemes and the Treasury's Green Book. Inputs and assumptions are set out in Table 3-11.

Table 3-11: Inputs and Assumptions

Inputs	Assumption
Opening year	2021 is the proposed opening year of the scheme and a 2021 WSTM4 forecast model has been developed for assessing scheme opening year.
Forecast year	2036
Appraisal period	60 years

3.7 HIGHWAY USER IMPACTS - TRANSPORT USER BENEFIT APPRAISAL (TUBA)

GENERAL ASSUMPTIONS AND METHODOLOGY

- 3.7.1. The impacts of the scheme on journey times and vehicle operating costs for road users have been assessed using DfT's TUBA software. The version of the TUBA used for assessment is 1.9.12. The software carries out the appraisal of the following economic elements associated with the scheme (excluding those accrued during construction and maintenance):
- Time savings
 - Vehicle operating costs
 - Carbon savings
 - Scheme costs
 - Indirect tax revenues
- 3.7.2. The WSTM4 2021 and 2036 Do Minimum and Do Something forecast models were used in the economic assessment.
- 3.7.3. The park and ride facility operational hours are from 0700-1900 hours, Monday to Saturday. The outputs produced by the WSTM4 represent an average weekday AM peak hour (08:00 – 09:00) and PM peak hour (17:00 – 18:00). As the facility will be active during the peak period, benefits during the whole peak period need to be captured. The benefits to be derived either side of the peak hour will be lower than the benefits to be incurred in the peak hour because the traffic volume in shoulder peaks would normally be lower than in peak hour. To address this disparity, a common multiplicative factor takes account of variation in traffic volume in each hour of the period have been derived from ATC (automatic traffic data). Annualisation factors were derived using ATC data available for the wider network including for the A329 corridor. In line with WebTAG guidance this factor has been used to represent the peak period benefits. Peak hour annualisation factors are provided in Table 3-12.

Table 3-12: Annualisation Factors

	Factor	Days in Year	Annualisation Factor
AM peak hour (08:00-09:00) to AM peak period (07:00-10:00)	2.62	253	662
PM peak hour (17:00-18:00) to PM peak period	2.75	253	696

- 3.7.4. It is worth noting that using only the A329 ATC data, the resulting factors are 2.82 and 2.79 for AM and PM peak hour respectively. Some level of benefits are expected from Saturday operation, however, these benefits have not been assessed and not included in the economic appraisal. The VISUM user classes have been aggregated to match the TUBA user classes set out in Table 3-13. TUBA benefits are detailed in section 3.10.

Table 3-13: TUBA User Classes

UC	VISUM UC	TUBA UC	Vehicle Type	Purpose	Person
UC1	HBW	Commuting	Car	Commuting	All
UC2	HBEd	Commuting	Car	Commuting	All
UC3	HBO	Business	Car	Business	All
UC4	LGV	Other	LGV	Other	All
UC5	OGV	Other	HGV	Other	All

3.8 COST AND BENEFIT TO ACCIDENTS – LIGHT TOUCH (COBALT)

- 3.8.1. COBALT is a computer program developed by DfT to undertake the analysis of the impact on accidents as part of economic appraisal for a road scheme. It uses detailed inputs of separate road links and road junctions impacted by the scheme.
- 3.8.2. The assessment is based on a comparison of accidents by severity and associated costs across an identified network in 'Do Minimum' and 'Do Something' forecasts, using details of link and junction characteristics, relevant accident rates and costs and forecast traffic volumes by link and junction.
- 3.8.3. The scheme data from the model input into COBALT included:
- Link Classification:
 - COBALT link type (matched with the VISUM model link types)
 - Link length
 - Speed limit
 - Link Flow:
 - Base Year Annual Average Daily Traffic (AADT) flows
 - Without and with scheme AADT flows (Core scenario)
- 3.8.4. The COBALT assessment has been undertaken for the area of scheme impact using links and junctions combined. The area of scheme impact for which the COBALT assessment was undertaken is shown in Figure 3-2.

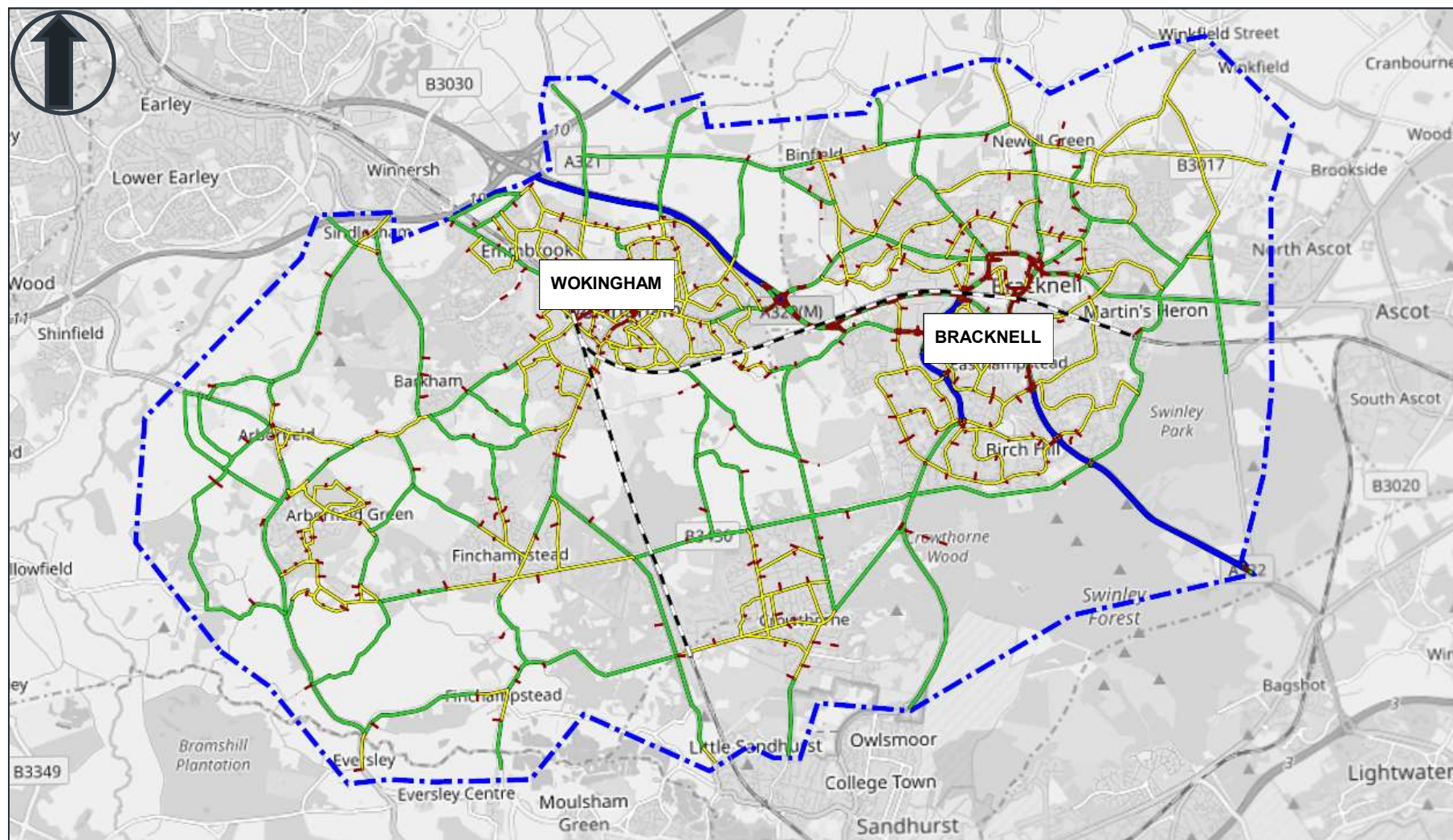


Figure 3-2: Coppid Beech Study Area

- 3.8.5. Automatic Traffic Counts (ATCs) in the study area were used to derive adjustment factors to calculate Annual Average Daily Traffic (AADT) flows. The factors used to calculate AADT are shown in Table 3-14.

Table 3-14: AADT Factors

	Factor	Days in Year	Annualisation Factor
AM peak hour (08:00-09:00) to AM peak period (07:00-10:00)	2.62	253	662
AM (07:00-10:00) & PM (16:00-19:00) peak period to 12-hour (07:00-19:00)	1.73	-	-
PM peak hour (17:00-18:00) to PM peak period	2.75	253	696
E factor	1.15		
M factor	358		

- 3.8.6. 2014 to 2018 accident data for Wokingham has been provided by WBC to identify the current levels of collisions within the broad study area.
- 3.8.7. To estimate the accident savings from the transport scheme the COBALT assessment has been undertaken for the following scenario:
- Scenario 1: Do Something vs Do Minimum
- 3.8.8. The COBALT output for Scenario 1 is shown in Table 3-15. The introduction of the scheme is expected to result in a benefit of £0.61million of accident savings. This includes the equivalent of a decrease in 16 slight casualties and 2 serious casualties although no increase in fatal accidents.

Table 3-15: COBALT Output

	DS vs DM
Total without scheme accident costs	£ 504,722,000
Total with scheme accident costs	£ 504,110,000
Total accident benefits saved by scheme	£ 612,000

- 3.8.9. The results from the COBALT assessments have been included as part of the economic assessment in the following sections.

3.9 SCHEME COSTS

- 3.9.1. The makeup of scheme costs including risks and inflation are set out in the Financial Case. This section sets out the process adopted for economic assessment of the scheme. In addition to the costs shown in the Financial Case, an allowance has been made for optimism bias (OB) and included in the economic assessment. Table 3-16 shows proposed spend profile including inflation and risks.

Table 3-16: Scheme costs including risks and inflation (2019 Prices)

	2019-20	2020-21	2021-22	Total
Preparation	£117,383	£352,150		£469,533
Construction		£1,291,217	£1,291,217	£2,582,433
All	£117,383	£1,643,366	£1,291,217	£3,051,966

- 3.9.2. Sources of funding for the above costs are set out in the Financial Case. In summary, £2.4m will be met by LEP funds and the rest £0.652m (£651,966) will come from S106 contributions.
- 3.9.3. Scheme costs including optimism bias is shown in Table 3-17.

Table 3-17: Scheme costs including optimism bias (2019 Prices)

	2019-20	2020-21	2021-22	Total
Preparation	£120,905	£352,150		£473,055
Construction		£1,340,518	£1,329,953	£2,670,471
All	£120,905	£1,692,667	£1,329,953	£3,143,525

- 3.9.4. The above have been converted to Market Prices and Treasury Base year 2010 and shown in Table 3-18.

Table 3-18: Scheme costs in 2010 Market Prices

	2019-20	2020-21	2021-22	Total
Preparation	£123,223	£358,902		£482,125
Construction		£1,366,220	£1,355,453	£2,721,672
All	£123,223	£1,725,122	£1,355,453	£3,203,797

- 3.9.5. The Present Value of scheme cost (PVC) has been estimated at £2.24m. The PVC of 2.24m includes S106 contributions. As all developer contributions are to be treated as costs to Private sector, the developer contribution has been treated as disbenefits. Of the £2.24m PVC, about £0.41m is developer contribution.

3.10 TUBA BENEFITS

- 3.10.1. The results of the TUBA are shown in Table 3-19, Table 3-20 and Table 3-21 below. All values are in 2010 Present Value.

Table 3-19: TEE benefits

Benefit		DS vs DM
Consumer – commuting user benefits	Travel time	£5,910,000
	Vehicle operating costs	£438,000
	Subtotal	£6,348,000
Consumer – other user benefits	Travel time	£1,766,000
	Vehicle operating costs	£230,000
	Subtotal	£1,996,000
Business benefits	Travel time	£1,943,000
	Vehicle operating costs	£217,000
	Subtotal	£2,160,000
Private sector provider impacts- Developer contribution	Investment costs	-£410,000
	Net Business Impact	£1,750,000
Present value of TEE benefits		£10,094,000

Table 3-20: Public accounts

Cost		DS vs DM
Local government funding	Revenue (car park charge)	-£1,329,606
	Operating Costs (car park maintenance cost)	£458,991
	Investment costs	£2,242,000
	Developer & other contributions	-£410,000
	Grant / Subsidy Payments (Bus service subsidy)	£1,835,965
Central government funding - transport	Investment costs	£0
Central government funding - non-transport	Indirect tax revenues	£610,000
Total broad transport budget		£2,797,350
Total wider public finances		£610,000

Table 3-21: Analysis of Monetised Costs and Benefits (AMCB)

Benefit	DS vs DM
Total accident benefits saved by scheme	£612,000
Greenhouse Gases	£264,000
Economic Efficiency: Consumer Users (Commuting)	£6,348,000
Economic Efficiency: Consumer Users (Other)	£1,996,000
Economic Efficiency: Business Users and Providers	£1,750,000
Wider Public Finances (Indirect Taxation Revenues)	-£610,000
Present Value of Benefits (PVB)	£10,360,000
Broad Transport Budget	£2,797,350
Present Value of Costs (PVC)	£2,797,350
Net Present Value (NPV)	£7,562,650
Benefit to Cost Ratio (BCR)	3.70

- 3.10.2. The Present Value of Benefits (PVB) is £10.4m, with a Present Value of Costs (PVC) of £2.80m and a Benefit to Cost Ratio (BCR) of 3.70.
- 3.10.3. Table 3-21 shows the scheme is expected to generate a net benefit of £7.56m. Table 3-22 shows the total time benefits by the size of time saving, for all users.

Table 3-22 – Monetised time benefits by size of time saving

0 to 2 minutes	2 to 5 minutes	Over 5 minutes	Total
£8,765,000	£576,000	£279,000	£9,620,000

- 3.10.4. The majority of the time saving benefits are within the 0 to 2 minute category which accounts for 91% of time savings. Users experiencing a time saving benefit between 2 to 5 minutes account for 6%, whilst users with time savings over 5 minutes account for 3%.

CAR PARK REVENUE

- 3.10.5. Revenue from the car park has been estimated and it is based on the following information:
- Car park capacity, 250 spaces
 - Open Monday to Saturday
 - Percentage of spaces utilised 96%
 - Car park charges – commuters and others, £1.00
 - Car park Charges including concessionary users, £1.00
- 3.10.6. Estimated revenue per year in 2019 price is £72,420. In 2010 Market price, this represents £73,808. Economic appraisal assumes that the car park will generate the same revenue throughout the appraisal period and no adjustment has been made for inflation. The resulting PV of revenue for the appraisal period is £1.33m (£1,329,606).

MAINTENANCE COSTS

- 3.10.7. Maintenance costs have been assumed as £100/space, per annum, and is based on typical maintenance costs incurred by WBC for the existing P&R at Winnersh Triangle. This has been rebased to 2010 prices and discounted to 2010 for the appraisal. Economic appraisal assumes

that the car park maintenance will remain at the same level throughout the appraisal period and no adjustment has been made for inflation.

BUS SERVICE SUBSIDY

- 3.10.8. Reading Buses current position for utilising the 4/X4 route as the most appropriate service for the Park and Ride, is that diverting onto the site from London Road adds too much journey time (4 minutes) and the additional patronage from would lead to the requirement for an additional bus to run on the 4/X4 service line. Therefore, Reading Buses have identified an annual subsidy requirement of circa £100k per annum. This has been rebased to 2010 prices and discounted to 2010 for the appraisal. Economic appraisal assumes that the bus service subsidy will remain the same throughout the appraisal period and no adjustment has been made for inflation.

ADDITIONAL DELAYS TO EXISTING BUS PASSENGERS

- 3.10.9. Delays to existing bus passengers have been estimated for the AM and PM peak periods. Table 3-23 shows assumptions and inputs used in the estimate.

Table 3-23 – Assumptions and Inputs used to calculate existing passenger delay

	Av. Pass Delay (mins)	Existing Bus Passengers Av. (Wokingham & Bracknell)	Annualisation Factor	Average Car £ Value of Time (TAGBook V1.11)
AM	4	20	663	11.3
PM	4	12	696	10.88

- 3.10.10. Average passenger delay has been measured for buses travelling in both directions. A LINSIG model for the London Road/Oak Avenue signalised junction determined the mean maximum delay for a vehicle travelling through the junction and this with assumptions of time from the signals to the P&R site has been calculated at an average delay of 4.2 minutes for a bus travelling westbound to Wokingham and 3.8 minutes for a bus travelling eastbound towards Bracknell. Only one traffic light cycle is built into the calculation as this analysis is based on the Reading Buses 4/X4 service serving the site and therefore the existing service shall already have to encounter the lights once as part of the existing route.
- 3.10.11. Estimated delay to existing bus passengers for the opening year in 2010 Market Prices is £27,806. For the appraisal period, the estimated PVB for this is -£362,580.
- 3.10.12. It is worth noting that the Present Value of Benefits estimated for the Park ride users is based on the AM and PM peak operations only. Benefits due to be incurred during the inter-peak period operation have not been estimated, hence the estimated PVB is on the lower side of the maximum potential benefits.

FINAL BCR

- 3.10.13. Taking the above calculation for the delay to existing bus passengers into consideration, the final PVB is £9.9m with a final Benefit to Cost Ratio (BCR) of 3.57.

3.11 ENVIRONMENTAL IMPACTS

- 3.11.1. The input for most of the environmental impacts associated with the scheme are based on the information presented in the Screening (EIA) process. The outcomes of the environmental impacts are summarised in the Appraisal Summary Table (AST) which is included in Appendix E.

AIR QUALITY

- 3.11.2. Overall, the scheme is not expected to increase traffic by more than 1,000 AADT or 200 HDVs (the established thresholds above which an air quality impact assessment is necessary). As such, it is expected that there will be insignificant impacts on air quality, resulting from the scheme.
- 3.11.3. It is not envisaged the scheme would significantly affect air quality and emission levels, as the large majority of users will arrive and then remain at the car park all day. For example, car park utilisation data collected for the Winnersh Triangle Park and Ride, showed the average user of the car park stays for approximately 7 hours, with 70% of users stay for 5 hours or more.
- 3.11.4. In addition, vehicles travelling to and from the scheme would divert traffic away from Wokingham and Bracknell Town Centres, leading to shorter car journeys and more efficient use of the road network. The localised impact around the site itself is not likely to be significant and the impact on local air quality will be negligible, but this is to be confirmed in the Air Quality Assessment.
- 3.11.5. The expected impact on air quality at this stage is therefore considered to be neutral.

NOISE

- 3.11.6. During operation, there is potential for a change in noise and vibration levels, in close proximity to the scheme, from the existing baseline given changes in traffic levels in comparison to current use. However, it is noted that the current volume of traffic activity from major roads in close proximity means that the noise at the site is unlikely to be significantly affected. A Noise Impact Assessment is proposed to assess and if applicable set out measures to mitigate any impacts.
- 3.11.7. For the wider area, the scheme is proposed to reduce vehicle numbers travelling into the towns of Wokingham & Bracknell which in turn should lead to beneficial impacts.
- 3.11.8. There may be some noise related to construction traffic, but these effects are considered to be temporary and will be controlled by a CEMP. Planning conditions may need to be imposed to protect local residents from construction and operational noise, including restricted hours and a cap on the level of noise allowed by equipment.
- 3.11.9. Traffic noise impacts on the local road network, as a result of the scheme, are considered neutral.

LANDSCAPE

- 3.11.10. The proposed scheme is located close to residential properties and is surrounded by various land uses including residential properties, roads, intermittent woodland and grassland. The Proposed Scheme is located within the Thames Valley Landscape Character Area (LCA).

There are no landscape designations, Areas of Outstanding Natural Beauty or greenbelt within 500m. The whole site has a Grade 3 Agricultural Land Class which is good to moderate quality agricultural land.

- 3.11.11. During construction, temporary adverse impacts are anticipated in relation to landscape character and visual amenity due to the presence of construction site plant and equipment. During operation, it is noted that consultation with the LPA has already informed the design and further decisions will be taken with the views of the Local Authority & other stakeholders.
- 3.11.12. The expected impact is considered to be neutral given the type, scale and location of this development.

HISTORIC ENVIRONMENT

- 3.11.13. There is potential for archaeological remains given previous finds on Wokingham sites within close proximity to the scheme. However, the potential for surface and below ground archaeological finds is considered low given the proximity to the Keepatch Development.
- 3.11.14. The closest listed building is Beanoak Farmhouse, a Grade II listed building which is located approximately 600m north west the Proposed Development. A further two more Grade II listed buildings were identified within 1km and are adjacent to Beanoak Farmhouse. These sites are not expected to be directly affected by the Proposed Scheme nor is their setting with significant urban development between them and the Proposed Scheme.
- 3.11.15. There are no Scheduled Monuments, Registered Parks and Gardens, Registered Battlefields, Conservation Areas or World Heritage Sites within a 2km Study Area.
- 3.11.16. At present there is anticipated to be negligible impact

BIODIVERSITY

- 3.11.17. There are no statutory international or European designated sites within a 10km Study Area of the Site. A search identified that there are Special Areas of Conservation (SAC) within 30km which may be applicable for sites designated for their bat population.
- 3.11.18. One Site of Special Scientific Interest (SSSI) lies within the 2km Study Area of the Site, this is Wykery Copse located 1.5km south east. The closest Special Protection Area (SPA) is 3.5km south. No NNR are located within 2km of the Site. Two Local Nature Reserves (LNR) are located within a 2km Study Area.
- 3.11.19. The desk study identified Priority Habitat Inventory (HPI) located within/adjacent the footprint of the Proposed Scheme. The habitat is deciduous woodland which overlaps and extends from an area designated as ancient woodland. There are further parcels of HPI within 100m.
- 3.11.20. A number of parcels of Ancient Woodland fall within a 2km Study Area of the Proposed Scheme, and one parcel is located within the boundary of the Proposed Scheme at the southern extent. The Proposed Scheme should avoid negative effects to HPI/ Ancient Woodland either directly or indirectly.
- 3.11.21. No trees are proposed to be felled but as mentioned, the outline GA shows overlap/closeness to parcels of ancient woodland and HPI. For construction work near trees, a Root Protection Assessment may be required.
- 3.11.22. Woodland adjacent to the Proposed Scheme may have potential to provide habitat or provide suitable foraging for species and areas along the perimeter may have some ecological value.

- 3.11.23. Consideration will need to be given to sensitive design to particularly ensure ancient woodland and Habitats of Priority Importance are not negatively affected, and attention should be given for incorporating ecological enhancements into the final designs.
- 3.11.24. No surveys have been undertaken for protected species. A Preliminary Ecological Appraisal (PEA) including Phase 1 mapping will be undertaken to assess the presence which in turn may lead to additional individual species surveys/ reports to support the planning application.
- 3.11.25. The Proposed Development should avoid negative effects to both statutory/ non-statutory sites including both direct/ indirect effects. There is not expected to be any adverse impact directly but there is potential for indirect impact to the designated sites adjacent along the southern boundary. The PEA with an Arboriculture Assessment will further investigate this and propose mitigation such as Tree Root Protection if required.

WATER ENVIRONMENT

- 3.11.26. There are no Environment Agency (EA) Main Rivers within 1km of the Proposed Scheme. There are no unnamed ordinary watercourses and other water features (ponds and ditches) within 500m of the Proposed Scheme from desk based study.
- 3.11.27. The Proposed Scheme is not located in either Flood Zone 2 (medium risk) or Flood Zone 3 (high risk). The Proposed Development is located wholly in Flood Zone 1 (low risk).
- 3.11.28. EA surface water flood mapping shows that the Proposed Scheme is generally at very low risk of surface water flooding with no medium and high-risk flow intersecting the Proposed Scheme footprint. An increase in impermeable area will result in an increase in the surface water flows from the development. A Surface Water Drainage Strategy and updated Flood Risk Assessment (FRA) will be undertaken to show that the increase in runoff can be mitigated through SuDS measures such as attenuation areas. This is to minimise the risk of additional flood risk due to runoff on and offsite.
- 3.11.29. There is limited potential for an adverse effect on water quality from contaminated run off during construction due to the limited pathways for run off to reach watercourses. However, appropriate mitigation will control the risks and means that the residual impact anticipated is negligible.

3.12 SOCIAL AND ECONOMIC IMPACTS

- 3.12.1. DfT guidance requires that each social impact should be assessed as part of the appraisal and an assessment. The outcomes of the social and economic impacts are summarised in the Appraisal Summary Table (AST) which is included in Appendix E.

RELIABILITY (SOCIAL)

- 3.12.2. The purpose of the scheme is to encourage the switch from car to bus for journeys into Wokingham and Bracknell town centres. As such, the impacts of the scheme on car journey times are expected to be positive due to reduced levels of congestion and reduced journey times and as a result, reliability of journey time on the road network should improve for both commuters and other users.
- 3.12.3. Overall, it is expected that the impact of the scheme on reliability (social) will be slightly positive.

PHYSICAL ACTIVITY

- 3.12.4. It is recognised that transport can affect levels of physical activity which has an important role in preventing weight gain, obesity and improving mental health. Physical activity measures include cycling and walking.
- 3.12.5. The site provides cycle parking. However, it is considered unlikely that the scheme will result in a significant impact on the amount of walking and cycling trips undertaken within the vicinity of the scheme extents and as such there would be limited or negligible impact on physical activity.
- 3.12.6. Overall it is expected that the impact of the scheme on physical activity will be neutral.

ACCIDENTS

- 3.12.7. It is acknowledged that transport interventions may alter the risk of individuals being killed or injured as a result of accidents through a variety of means. Accident impacts occur across all modes of transport and affect non-users as well as users.
- 3.12.8. Within this appraisal, COBALT has been used to forecast changes in the numbers of accidents and estimate the monetary values of these impacts. Accident impacts were valued using standard values for fatalities, serious and slight injuries and for other accident-related costs based on guidance provided in TAG Unit A4.1.3.
- 3.12.9. A summary of the forecast collision and casualties associated with the Do Minimum and Do Something for the scheme is presented in Table 3-24. The analysis shows a small accident benefit from the scheme over the 60-year appraisal period. This is due to the reassignment of trips that were travelling to Wokingham and Bracknell town centres that now use the scheme resulting in a decreased likelihood of a collision.

Table 3-24: Collision and Casualty Saving Over 60-Years for the scheme

		Do Minimum	Do Something	Saving
Casualties	Fatal	111	111	0
	Serious	1,518	1,516	2
	Slight	13,395	13,379	16
	Total	15,024	15,006	18

- 3.12.10. Overall it is expected that the impact of the scheme on safety will be beneficial.

SECURITY

- 3.12.11. Security measures for the site include the provision of wooden fencing around the perimeter of the site to discourage unwanted informal entry. A barrier will be provided at the entry & exit to act as a deterrent from unwanted parking on site as well as a gantry to deter large vehicles in the car park.
- 3.12.12. With the proposed security measures included within the design of the Park and Ride site the impact on security is considered to be slightly beneficial.

SEVERANCE

- 3.12.13. The TAG Unit (A4.1) defines community severance as the separation of residents from facilities and services they use within their community caused by substantial changes in transport infrastructure or by changes in traffic flows.
- 3.12.14. The provision of a park and ride site at this location will provide opportunity to change mode of transport to bus, improving access into both Wokingham and Bracknell town centres.
- 3.12.15. Overall it is expected that the impact of the scheme on severance will be neutral.

JOURNEY QUALITY

- 3.12.16. Journey quality is a measure of the real and perceived physical and social environment that is experienced while travelling. This appraisal takes into account traveller care, traveller's views and traveller stress.
- 3.12.17. Currently the London Road & Berkshire Way (A329) corridors between Coppid Beech roundabout and Wokingham and Bracknell Town centre suffer from congestion during peak periods. These delays can be significant and have an adverse impact on travellers' stress and journey quality.
- 3.12.18. The proposed Park and Ride scheme will encourage car users travelling into central Wokingham and Bracknell, at peak times, to park their vehicles at Coppid Beech and switch to the bus for the final part of their journey. This will reduce the number of vehicles travelling into Wokingham and Bracknell Town centres and the associated congestion. The reduction in delay and congestion will therefore reduce traveller stress and frustration that will provide an improved environment for travellers. The scheme is unlikely to have an impact on the cleanliness of the journey, available facilities or information, route uncertainty or the travellers' views.
- 3.12.19. The overall impact of the scheme on journey quality can be considered slightly positive, as it will relieve congestion on the London Road & Berkshire Way (A329) corridors into Wokingham and Bracknell Town centres during peak periods. This will improve the travellers' environment and reduce stress and frustration associated with driving in congestion.

WIDER IMPACTS

- 3.12.20. The scheme will support (but not directly create) local development and have a positive impact on businesses and transport operators.
- 3.12.21. The scheme will not lead directly to the creation of long-term employment. However, by improving sustainable modes of transport, it is considered that it will support the ambitions of the Local Plan in terms of employment.
- 3.12.22. Overall it is expected that the impact of the scheme on wider impacts will be slightly positive.

3.13 VALUE FOR MONEY STATEMENT

- 3.13.1. The economic appraisal of Coppid Beech Park and Ride scheme consists of, transport user benefits, collision benefit, scheme costs and developer contributions. The above economic assessment demonstrates that the proposed scheme, under a core scenario, offers very high value for money made up of:

- Present Value of Benefits (PVB) of £10.4m
- Present Value of Costs of £2.80m
- Net Present Value (NPV) of £7.56m
- Benefit to Cost Ratio (BCR) of 3.70

3.13.2. The final BCR, taking into consideration the additional delays to the existing bus users is 3.57.

3.13.3. The scheme is judged to have neutral impacts on noise and air quality as a result of the redistribution of traffic around the network, and also to have neutral impacts on landscape. It should be noted that although these are neutral impacts, the scheme would bring a number of slight and strong positive benefits to users of the transport systems including improved accessibility, safety and enhanced levels of journey quality (Table 3-25).

Table 3-25: VfM Summary

Item	Effect on VfM
Environmental Impacts	
Air Quality	Neutral
Noise	Neutral
Landscape	Neutral
Historic Environment	Neutral
Water Environment	Neutral
Social and Economic Impacts	
Reliability (Social)	Slightly Positive
Physical Activity	Neutral
Accidents	Beneficial
Security	Slightly Positive
Severance	Neutral
Journey Quality	Slightly Positive
Wider Impacts	Slightly Positive

3.13.4. In terms of value for money, this scheme meets the **very high** value for money category.

4 FINANCIAL CASE

4.1 INTRODUCTION

- 4.1.1. Economic viability and value for money for the schemes are set out in the Economic Case section of this report. This Section, the financial case, concentrates on the affordability of the proposal and its funding arrangements. It presents the financial profile of the scheme and the impact of the proposed deal on WBC's budgets and accounts.
- 4.1.2. The financial case for the scheme is based on significant scheme development and the identification and costing of the preferred option by Wokingham Borough Council and its term consultants WSP. The necessary elements required to achieve compliance in the financial case are:
- Details of the scheme's anticipated costs
 - Details of the budgets and funding cover

4.2 COST ESTIMATES AND SPEND PROFILE

- 4.2.1. The scheme cost estimate has been derived from the general arrangements plan which has been through the preliminary design process and is included in Appendix I. The plan is currently in draft and awaiting technical sign off however it has been based on a topological survey conducted by WBC in December 2019 and has been designed on the recommendations of WBC Highways Department, Parking Management Department and through pre-application consultation with the planning officer to be assigned to assess the planning application. Therefore, it is not considered any major alterations will be made to the plan and therefore no significant variations to the scheme cost.
- 4.2.2. The estimated anticipated cost of the total scheme is £3.052 million and the breakdown of the scheme costs, and the spend profile by financial year, are set out in Table 4-1.

Table 4-1: Scheme cost estimates excluding risks and inflation

Scheme cost element	<u>Cost (£) Q4 2019 prices</u>
Site Clearance and earth works	£180,000
Construction	£671,892
Bus Shelter, car park furniture etc (including electric vehicle charging)	£150,000
Landscaping and ecology	£113,000
Road marking and lighting	£47,958
Drainage	£177,234
Staff cost	£353,782
Preliminaries	£428,827
Stats	£176,891
Total Cost (Excluding Quantified Risk and inflation)	£2,299,583

- 4.2.3. The above costs have been summarised in Table 4-2 with proposed financial period in which the budget will be spent. A full breakdown of scheme costs are provided in Appendix J.

Table 4-2: Scheme cost spend profile excluding risks and inflation (£'000) 2019 prices

	2019-20	2020-21	2021-22	Total
Preparation	£88,446	£265,337		£353,782
Construction		£972,901	£972,901	£1,945,801
All	£88,446	£1,238,237	£972,901	£2,299,583

- 4.2.4. Further allowance has been made to the above costs to reflect construction related risks. Costs including risks are summarised in Table 4-3.

Table 4-3: Scheme costs including risks (2019 prices)

	2019-20	2020-21	2021-22	Total
Preparation	£112,869	£338,606		£451,474
Construction		£1,241,554	£1,241,554	£2,483,109
All	£112,869	£1,580,160	£1,241,554	£2,934,583

- 4.2.5. To the above costs further allowance has been made to take account of price inflation. Table 4-4 shows the scheme costs including 4% inflation.

Table 4-4: Scheme costs including risks and inflation (2019 prices)

	2019-20	2020-21	2021-22	Total
Preparation	£117,383	£352,150		£469,533
Construction		£1,291,217	£1,291,217	£2,582,433
All	£117,383	£1,643,366	£1,291,217	£3,051,966

4.3 BUDGET/FUNDING SOURCES

- 4.3.1. The total cost of the scheme is £3.052m. The funding sources and spend profile is shown in Table 4-5. There will be S106 contribution for this scheme. In line with WebTAG guidance, optimism bias uplifts are only required for the economic case. Hence the scheme cost £3.052m excludes optimism bias, however risk allowance has been built into the scheme cost as the preliminary design is being completed in tandem with the submission of the FBC. This risk allowance is ~28% of the scheme cost at £635,000. The economic appraisal does include an uplift for optimism bias has been factored into the scheme cost.

Table 4-5: Funding sources and spend profile

	2019-20	2020-21	2021-22	Total
LGF Funds	£117,383	£1,291,400	£991,217	£2,400,000
S106 Contributions		£351,966	£300,000	£651,966
All	£117,383	£1,643,366	£1,291,217	£3,051,966
Rounded				£3,052,000

- 4.3.2. S151 Officer confirmation that WBC has both the intention and the means to deliver the related scheme on the basis of its proposed funding contribution is provided in Appendix F of this report.

4.4 WHOLE LIFE COSTS

ONGOING MAINTENANCE COSTS

- 4.4.1. As stated in the Economic Case (3.10.6) an assumption has been made as to the ongoing maintenance cost of the car park; this was supplied to us by WBC, and their knowledge of maintaining car parks, priced at £100/car park space. As the scheme proposal is for 250 spaces, this equates to £25,000 per annum. No adjustment has been made for inflation and the cost is estimated to stay the same over the appraisal period.
- 4.4.2. Future maintenance works associated with the scheme facilities will be added to the maintenance inventory and funded from WBC's annual maintenance budgets.

REVENUES

- 4.4.3. As identified in the Economic Case (3.10.5) the car park receipts from the scheme are estimated to be £72,420 per annum. This is based on an assumed cost of £1.00 fee for parking (both standard and concessionary) and assessed for the number of working days per year. No adjustment has been made for inflation and the revenue is estimated to stay the same over the appraisal period.
- 4.4.4. There are no other revenues assumed in the calculation that directly applies to WBC.

SUBSIDIES

- 4.4.5. As identified in the Economic Case (3.10.8) the provision of the additional bus service shall require a subsidy due to the anticipated revenue falling short of the anticipated cost of serving the site. The option this business is based on is the best option for WBC, which is Reading Buses (following formal tendering) supplying the scheme with a bus service through the existing 4/X4 being redirected into the P&R.
- 4.4.6. Reading Buses has identified the cost for supplying such a service is approximately £250,000 per annum. After taking into consideration bus operator revenues for the additional patronage from the scheme this leaves a subsidy requirement of £100,000 per annum. Economic appraisal assumes that the bus service subsidy will remain the same throughout the appraisal period and no adjustment has been made for inflation

5 COMMERCIAL CASE

5.1 INTRODUCTION

5.1.1. The structure of the commercial case is as follows:

- Procurement strategy
- Sourcing options
- Payment mechanisms
- Risk allocation and transfer
- Contract length
- Human resourcing
- Contract management

5.2 PROCUREMENT STRATEGY AND SOURCING OPTIONS

5.2.1. WBC will be responsible for procurement in relation to the delivery of the proposed Coppid Beech Park and Ride scheme. In terms of procurement of delivery of the scheme, WBC considered many different contract/procurement options including:

- Single contracts
- Multiple scheme contract
- Access to frameworks – Term contractor, Volker Highways/Wokingham Highways Alliance

5.2.2. A key driver was the programme timescale, which was a key factor in determining which contract approach was selected. Having considered the above options, the procurement strategy currently is to use existing contract arrangements WBC has with its term contractor VolkerHighways. The main advantages of this procurement route are:

- Instant access
- Single supplier
- Comprehensive KPIs
- Early Contractor Involvement
- Collaborative and Open Book Approach
- Agreed benchmarked rates in framework contract
- Programme Scale Benefits

5.2.3. The framework allows for an instant access contract, without the need for additional procurement – saving essential time required to meet the tight overall programme deadline.

5.2.4. The selection of a term contract for multiple projects provides cost savings around the bulk purchasing and reuse of materials helping to draw down the overall price. It also provides the flexibility to remove/change projects from the programme without penalty should there be delivery issues (e.g. planning or land ownership etc.).

5.2.5. If a single contractor had instead been appointed for each major scheme, there would have been significantly more time and cost associated with tendering. This would have significantly delayed the project programme. In addition, there would be considerably more WBC resource involved in managing each of the individual frameworks. There would have also been reduced opportunity to remove/change/amend projects contained in the programme. In addition, the

programmatic saving benefits achieved with Wokingham Highways Alliance would not be achieved.

- 5.2.6. Similarly, a multiple scheme contract would have also added time and cost associated with tendering. This would have significantly delayed the project programme. In addition, there would have been considerably more WBC resource involved in managing each of the different frameworks. There would have also been reduced opportunity to remove/change/amend projects contained in the programme.
- 5.2.7. All options were considered in detail and it was concluded that the Wokingham Highways Alliance PE framework was the only contract option that would allow WBC's tight programme to be met.

5.3 PRICING FRAMEWORK AND CHARGING MECHANISMS

- 5.3.1. Payment of the contracts will be administered in accordance with the stipulated process within the NEC form of contract.

5.4 RISK ALLOCATION AND TRANSFER

- 5.4.1. Contracts will be awarded via processes set out in the Management Case ensuring quality and competitive pricing. The contract will be based on a schedule of rates, rather than a fixed price and will include a reasonable contingency to cover unforeseen issues. Experience has shown that this approach is the most cost effective, since a fixed price quotation would result in the contractor submitting a considerably higher price in order to cover their risk. The authority has experience dealing with large procurement and construction contracts and will work towards minimising risk through the contract process.
- 5.4.2. WBC has in-house experience to manage, framework contracts and major construction projects. It has experience in delivering major schemes (Thames Valley P&R scheme, Bell Foundry Lane Wokingham Station Link Road and Coppid Beech Junction Improvements) through framework contract including SCAPE. There is confidence that all aspects of contractual and commercial arrangements can be determined before works are implemented resulting in the scheme delivered to plan.

5.5 CONTRACT LENGTH

- 5.5.1. Duration of the construction is 12 months, commencing November 2020 and completion by October 2021.

5.6 HUMAN RESOURCING

- 5.6.1. Under the formation of the Working Highways Alliance, between Wokingham Borough Council, WSP and VolkerHighways, construction of the scheme will be undertaken by VolkerHighways. The scheme is to be delivered using a collaborative approach among the Highways Alliance. In the Management Case WBC have identified appropriately trained and experienced staff that will be responsible for the management of the scheme. VolkerHighways will offer dedicated resource through the existing contract. WBC staff identified in the Management Case will support the scheme throughout the duration of the project from design through scheme procurement and onto construction and supervision.

5.7 CONTRACT MANAGEMENT

- 5.7.1. The works will be managed through the contractual arrangements WBC will have in place with their term contractor - VolkerHighways.
- 5.7.2. Monitoring during implementation will be undertaken by the WBC SRO and will ensure that mitigation measures identified in the risk register will be undertaken and adhered to. The monitoring of activity during the construction will be embodied in a Construction Management Plan (CMP) to be prepared and operated by the scheme promoter (i.e. the planning authority) and adhered to by the contractor.
- 5.7.3. Local authority environmental health officers' stipulations in respect of air, noise, operating hours and waste would also be incorporated into the contractor's monitoring procedures and plans as part of a construction code of practice.

5.8 CONTRACTING TERMS FOR BUS OPERATION

- 5.8.1. Reading Buses currently run the X4/4 Lion service between Reading, Wokingham and Bracknell which passes by the proposed park & ride site on the A329 London Road. Discussions have been held with Reading Buses about diverting this service into the new park and ride facility and they are supportive of this new facility being developed. However, the bus company have indicated that an extra vehicle would need to be introduced into the X4/4 service in order to allow for the extra journey time in each direction which would result from diverting the service into the P&R site. In order to add this extra vehicle, Reading Buses have indicated that they would require a subsidy from Wokingham Borough Council in order to provide this vehicle and to divert the Lion service into the park and ride. This subsidy is likely to exceed £50,000 per annum and due to WBC's procurement rules, this would require WBC to tender for a bus service to serve the P&R site.
- 5.8.2. Discussions are ongoing with Reading Buses, and it may be possible to reduce the delay to buses elsewhere on the route to enable them to stop at the park and ride without need for an additional bus. However, assuming a worst case, Wokingham Borough Council will tender an express bus service between Wokingham and Bracknell town centres routeing via Coppid Beech Park and Ride. This is therefore included in our programme to ensure a service is operational at the opening of the site. This service would run in weekday peak hours only and at a frequency of at least three buses per hour and using vehicles with a seating capacity of at least 50. The Council are developing a programme for tendering this service along with other services at present as part of the Wokingham town centre bus services contract. It is expected that in a competitive scenario, the cost of the service would be less than £50,000 per annum.

6 MANAGEMENT CASE

6.1 INTRODUCTION

- 6.1.1. This Section sets out the Management Case. To manage and deliver the project within the timescale and budget, it demonstrates that a management structure and resources are in place. It further confirms an appropriate governance structure and assurance framework to oversee the project.
- 6.1.2. The Management Case follows Her Majesty's Treasury guidance on delivering public value from spending proposals. To enable efficient assessment of the proposals and to demonstrate the Council's management capability for successful delivery of the schemes the following elements of project management are in place:
- Evidence of Similar Projects
 - Project Dependencies
 - Project Programme
 - Assurance
 - Reporting
 - Key Issues
 - Contract Management
 - Risk management strategy
 - Benefits Realisation plan
 - Monitoring and evaluation
 - Contingency plan

6.2 EVIDENCE OF SIMILAR PROJECTS

- 6.2.1. In the last 10 to 12 years Wokingham Borough Council has demonstrated its capability to deliver major transport schemes within the timescales and budget and these include:
- the redevelopment of Wokingham Rail Station
 - Station Approach link road.
 - Capacity improvement at Coppid Beech roundabout
 - major town centre regeneration works.
 - Wokingham Borough Council, alongside Reading Borough Council, have successfully delivered the existing park and ride facility at Winnersh Triangle and also the MereOak Park and Ride on the A33.

6.3 PROJECT DEPENDENCIES

- 6.3.1. The programme has suitable allowance built into it to accommodate dependencies such as extended assumptions that the full term for planning determination shall be required and additional time shall be required for pre-construction activities such as WBC design sign off, engaging with Volker Highways (as identified site contractor), etc. Furthermore, the P&R site is designated in the current WBC Local Plan and has outline planning application approval under the wider Keephatch development and pre-application discussions with the local planning authority have been held including the requirements for the planning application, highways advise, and the proposals have been through environmental screening. The planning application submission timescales of 30th April are therefore reasonable, and this is

being monitored through weekly calls and constant liaison with both planning and environmental teams.

6.4 GOVERNANCE, ORGANISATIONAL STRUCTURE & ROLES

- 6.4.1. Wokingham Borough Council has established a clear and robust structure to provide accountability and an effectual decision-making process for managing the construction of the Coppid Beech Park and Ride facility. The organisation structure that would apply to the project is shown in Figure 6-1. This illustrated key roles and reporting hierarchies/lines of accountability.
- 6.4.2. Ultimate responsibility for delivery of the scheme rests with Wokingham Borough Council, who will assume an overall project management role on the project. The Project Manager, Malcolm Pinto will work closely with the contractors and also form a point of contact for stakeholders.
- 6.4.3. The Council has in place governance procedures for managing projects of this scale these will apply to all aspects of the project management, with issues being escalated and dealt with in accordance with Council protocols as necessary.

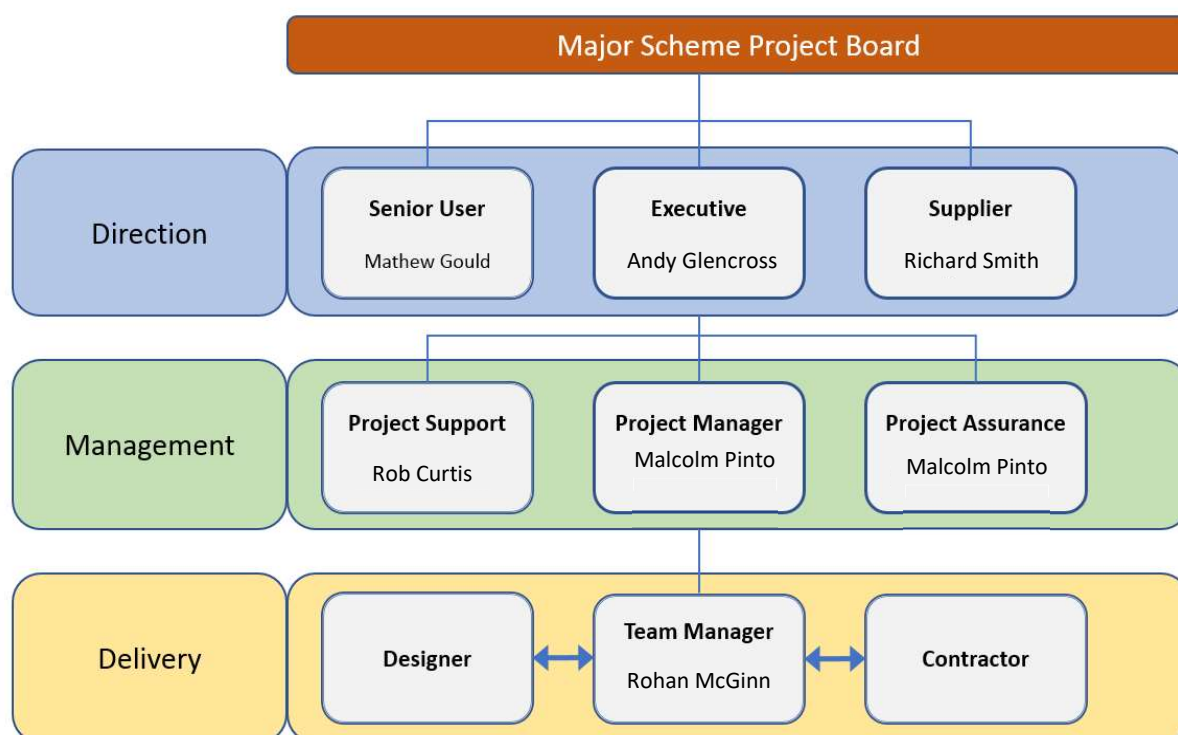


Figure 6-1: Organisational Structure and Roles

- 6.4.4. The Project Board is responsible for the strategic management of the project and has authority to commit resources to the project in accordance with the Council's Constitution. Responsibilities of the Project Board includes:
- appointing the project manager
 - agreeing project controls
 - authorising project start
 - reviewing progress against the agreed programme
 - authorising variations to expenditure
 - managing key risks in the highlighted risk log

- authorising project closure

6.4.5. The project manager will be Malcolm Pinto who will be Responsible for delivering the project on behalf of the Project Board. Key responsibilities of the Project Manager include:

- Leading and managing the delivery team. The project manager will have authority and responsibility to run the project on a day-to-day basis
- Delivering the agreed outputs to the required level of quality and within the specified constraints of time, cost, resources and risk
- Preparing project information including the Project Plan. The Project Manager will also identify and evaluate risks, determines and manages actions, and maintains the risk log.
- Managing and controlling changes to the project scope, requirements, personnel etc. The Project Manager will ensure that the project is properly resourced, with sufficient, properly skilled support
- Monitoring and reporting progress against the agreed programme, budget and other performance metrics, updating the Project Board at the monthly meetings

6.5 COMMUNICATIONS AND STAKEHOLDER MANAGEMENT PLAN

6.5.1. The key objectives of the scheme's stakeholder management are to:

- Keep stakeholders aware of the scheme's development and progress
- The scheme meets statutory requirements
- Increase public and stakeholder awareness of the scheme through local publicity/website
- Provide information and support to those affected by the scheme during construction and operation

6.5.2. The Project Board will ensure a programme of regular meetings take place with the contractors and designers, to ensure that the project is on target.

6.5.3. An overarching communications strategy will be developed and managed by the Project Board. This will ensure a co-ordinated approach to communicating with and managing stakeholders. The strategy will include ongoing regular meetings with relevant internal and external stakeholders.

6.5.4. Stakeholders to consider include:

- Bracknell Forest Council
- Reading Borough Council
- Wokingham Borough Council
- Reading Buses
- Bellway Homes
- Thames Valley Berkshire Local Enterprise Partnership

6.6 PROJECT PROGRAMME

6.6.1. A detailed Project Plan is provided in Appendix G. It covers each key stage of the project and the critical path. The tasks that have a critical end date that affect the delivery timescale are highlighted on the Project Plan.

6.6.2. Robert Curtis shall have overall responsibility of the Full Business Case, Planning Application and Preliminary Design and Malcolm Pinto shall be responsible for the Detailed Design and Construction Phase. Key milestones, timescales and tasks are summarised below:

- Full Business Case ready for submission; February/March 2020
- Approval sought from TVBLEP; April 2020
- Works begin on ground; Winter 2020/Spring 2021
- Completion works; Autumn 2021

6.7 ASSURANCE AND APPROVALS PLAN

6.7.1. In line with the Thames Valley LEP Assurance Framework, Wokingham Borough Council will submit regular scheme progress and spend updates to the Thames Valley LEP ahead of attendance at the Berkshire Local Transport Body (BTLB) meetings. The BTLB is a publicly accountable Joint Committee of the six Berkshire Authorities and has the following objectives regarding the management of all Growth Funds for schemes including the proposed Coppid Beech Park and Ride Scheme.

- To manage an investment programme of LGF for developing and improving the transport infrastructure within the Thames Valley Berkshire area
- To establish and keep under review a prioritised list of local major transport schemes within the available budget
- To assess and evaluate the relative merit of competing schemes, and to subject all proposals to independent scrutiny
- To ensure value for money is achieved from individual schemes and the overall investment programme, and to review the impact of completed schemes
- To monitor the progress of scheme delivery and spend
- To oversee the management of the devolved budget and programme such that it responds to changing circumstances
- To make decisions on individual scheme approvals

6.7.2. Responsibility for the assurance and approval of the Coppid Beech Park and Ride scheme Business Case rests with the BTLB/LEP and their independent technical advisors Hatch, who will assess the technical content of the business case against appropriate transport appraisal guidance and the Thames Valley LEP's Assurance Framework in order to confirm that the scheme represents value for money to the taxpayer. Based on the information submitted to Hatch, it will advise the Thames Valley LEP/BTLB whether to approve or decline the Business Case for the Coppid Beech Park and Ride scheme.

6.7.3. Following scheme approval and subsequent completion, at year 1 and 5-years post-opening, Wokingham Borough will submit a Monitoring and Evaluation document to the Thames Valley LEP and its independent technical advisors for their review and approval. The document will monitor the scheme's progress against a set of standard measures, highlight lessons learned and confirm whether local-level investment has provided value for money.

6.8 PROJECT REPORTING

6.8.1. Progress Reports will be produced and comprise updates on:

- General progress
- Project finances
- Issues
- Risks

- 6.8.2. Responsibility for accurate, timely and appropriate communications within the project team rests with the Project Board. Nominated officials/ Project Managers have a responsibility to provide this information when required.
- 6.8.3. The Project Board is responsible for keeping the Lead Members aware of the development of the scheme towards meeting the project objectives.
- 6.8.4. It is the responsibility of the nominated officials to ensure that the Project Board has sufficient information and is involved in all decisions that affect performance of the project, achievement of the project objectives or deviation from agreed and delegated responsibilities.

6.9 CONTRACT MANAGEMENT

- 6.9.1. Wokingham Borough Council will be responsible for the overall procurement and contract management. Considering the disparate nature of the three scheme elements, the procurement will be different for all three schemes, the details of which are discussed in the Commercial Case.

6.10 RISK MANAGEMENT STRATEGY

- 6.10.1. Project risk will be managed as an on-going process as part of the scheme governance structure. The risk management process is shown in Figure 6-2. A risk register for this scheme has been developed and it will be maintained throughout the project period. The risk register is provided in Appendix H.
- 6.10.2. A quantified risk assessment (QRA) workshop for this scheme was held on the 14 January 2020. WSP project team members from, Highways, Environment, Quantity Surveyor, Risks Assessment specialist, Transport Planning and Modelling team, and WBC staff attended the workshop.

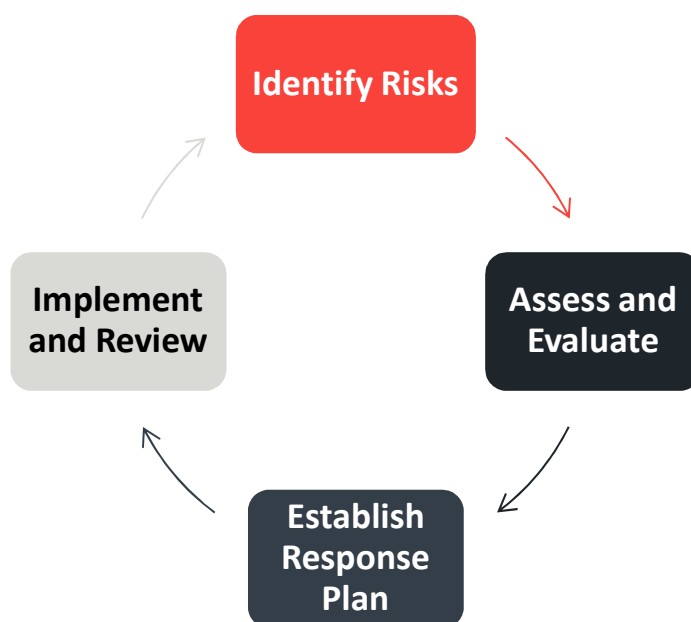


Figure 6-2: Risk management process

- 6.10.3. The risk register is populated with all the risks identified. All risks within the register are assessed and classified across three areas namely, a) the probability of the risk occurring b) the most likely impact on costs and c) the most likely impact on time which would arise if the risk did occur. Through this process, the minimum, most likely and maximum risk values have been estimated. The register is then redefined by a risk model using Monte-Carlo simulation technique, which generates distribution of possible outcomes. Output from this process has been used in the scheme costs estimates. The Financial Case sets out the cost associated with the risks and included within the scheme cost.
- 6.10.4. The Risk Register presented in Appendix H considered following elements of the project and the severity of risks for the identified items for a given element. Some of the project elements include; Funding /Third parties, Programme /Contract, Scope Change, Design, Weather, Products and material, Environmental, Stats, site conditions, traffic model etc. The identified items in each project element were considered to fall under low, medium, and high category with potential mitigation effects. The Risk Register provides quantified results for three categories of risks.

6.11 BENEFITS REALISATION AND MONITORING PLAN

- 6.11.1. The purpose of benefits realisation is to plan for and track the benefits that are expected to be accrued over the lifetime of the scheme. The monitoring and evaluation plan (MEP) will provide details of the activities required to track the progress of the scheme including project milestones and responsibilities.
- 6.11.2. Monitoring and evaluation will be carried out in line with the Monitoring and Evaluation Framework for Local Authority Major Schemes (September 2012) guidance. It guides that post scheme evaluation is required at least one year (but less than two) after opening of the scheme. As part of the Monitoring and evaluation Plan, post scheme opening traffic, car park utilisation and bus patronage surveys will be undertaken.

THREE TIERS MONITORING AND EVALUATION

- 6.11.3. The DfT recommends three levels of monitoring; standard, enhanced and fuller evaluation. Enhanced monitoring is a requirement for schemes costing more than £50m and fuller evaluation is required only if DfT has specified as a requirement. This scheme has not been selected for fuller evaluation, as the scheme cost is below £50m, at around £3m. Instead, standard monitoring will be undertaken for the new scheme.
- 6.11.4. Table 6-1 sets out proposed framework for undertaking monitoring and evaluation of the Coppid Beech Park and Ride scheme.

Table 6-1: Coppid Beech Park and Ride scheme monitoring and evaluation

Measure	Data To Be Used	Rationale for inclusion	Data collection methods	Frequency of data collection	Target/ Output
Delivered Scheme	<ul style="list-style-type: none"> Scheme definition at full funding approval stage Completed, as-built, scheme drawings Logged design iterations 	Design Confirmation	Analysis of key project documents by the scheme's Project Manager with support from WBC transport team and delivery partners	On-going throughout the construction until opening. To include in the 'one year after' report	Identification of significant changes to the scheme since funding approval
Costs	<ul style="list-style-type: none"> Actual outturn costs once scheme is completed Forecasted scheme costs at time of funding approval 	Need to understand actual outturn costs and variations from forecast and to learn lessons that may impact future projects of a similar nature	Compare bid capital with outturn costs, explaining reasons for any variance.	Before, and after construction. To include outturn costs in the 'one year after' report	Percentage outturn cost overruns or savings and identification of the reasons
Travel demand	<ul style="list-style-type: none"> Traffic flows in the corridor, forecast flows versus actual 	To monitor traffic volumes on identified links	Compare actual traffic flows on the network versus the modelled forecast	One year and five years after scheme implementation	Decrease in traffic volume
Bus usage	<ul style="list-style-type: none"> Number of P&R users 	To monitor actual users of P&R	Boarders at P&R site	One year and five years after scheme implementation	Increase in bus passengers

THREE-STAGE APPROACH FOR MONITORING AND EVALUATION

6.11.5. For the Coppid Beech Park and Ride Scheme, our proposed Monitoring and Evaluation Plan consists of the following stages:

- Stage 1 - Pre-Construction Study, Q4 2020
- Stage 2 - One Year Post Opening Process Evaluation, Q4 2022/Q1 2023
- Stage 3 - Five Year Post Opening Impact Evaluation is planned for, Q4 2026/Q1 2027

6.11.6. The key objectives of a monitoring and evaluation plan are:

- to provide lessons learned for the benefit of future projects in terms of selection of contractors and comparison of performance and timescale – actual against the programme
- to record if there have been changes to scheme design since funding approval
- to establish budgeted scheme cost versus actual cost and reasons if the difference is significant
- to establish to what extent the scheme fulfils the scheme objectives in terms of transferring car drivers and occupants on to the bus
- to consider whether scheme performance is as expected and does the performance justify the investment of this scheme

6.11.7. The three-stage monitoring, and evaluation plan will aid to provide a better understanding of the changes since the scheme was implemented. Monitoring and evaluation will take place one year and five years after the scheme opened to general traffic. A short report will be produced at each stage.

Stage 1

6.11.8. Pre-construction tasks will include traffic counts surveys on the A329 London Road and A329 Berkshire Way.

Stage 2

6.11.9. Stage 2 monitoring and evaluation will take place in Q4 2022 or Q1 2023, one-year post opening of the scheme. Traffic surveys undertaken in Stage 1 will be repeated and bus passenger boarding surveys at the P&R site will be carried out. An initial impact of the scheme on transfer of car users on to the bus will be undertaken.

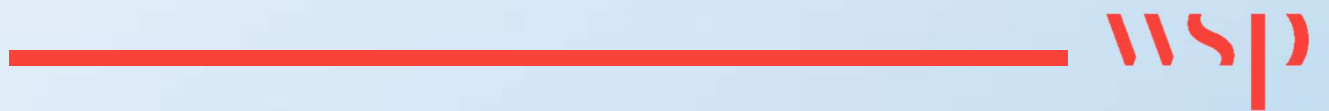
6.11.10. A comparison of actual and budgeted scheme cost will be undertaken to ascertain reasons if the changes are significant. The outcome of the findings will be used to better inform the WBC process used for estimating scheme cost. A comparison of actual construction programme to planned programme dates will also be provided.

Stage 3

6.11.11. Stage 3 monitoring and evaluation is planned for 2026, five years after the opening year. Surveys undertaken in Stage 2 will be repeated. Stage 3 assessment will try to assess the medium-term impact of the scheme on modal transfer. A qualitative post opening value for money (VfM) assessment has been proposed to compare with the pre-construction VfM assessment. The outcome of the findings will be made available for other schemes in preparatory stage.

Appendix A

LOGIT MODEL PARAMETERS



2021 Forecast Year P&R to Wokingham TC

Parameter	Comment	
Car Journey Time (mins)	Based on 2021 WSTM4 journey time from A329/ London Rd roundabout to Easthampstead Road (East) car park (node 1039 to 2021)	7
Journey time to final destination (mins)	N/A	0
Average Speed (km/h)	Calculated from Distance and Journey Time	24
VOC (pence/km)	Calculated from WebTAG Figures	16.55
Distance (km)	Taken from WSTM4 model (google maps 2.6km)	2.8
Distance to final destination (km)	N/A	0
Total VOC (pence)	Calculated from VOC and Distance	46
Parking Cost 'Commuting' (pence)	0.5 x Current Parking Charges - Based on monthly season ticket Easthampstead road (East) for 20 working days @ £82	205
Parking Cost 'Employers Business' (pence)	0.5 x Current Parking Charges - Based on 4 hours of parking @ £2	100
Parking Cost 'Other' (pence)	0.5 x Current Parking Charges - Based on 4 hours of parking @ £2	100
Egress Time	Walk time from Car Park to Destination (Broad St)	8
Car Generalised Time 'Commuting' (mins)		28.43
Car Generalised Time 'Employers Business' (mins)		19.40
Car Generalised Time 'Other' (mins)		32.13
Transfer Time (mins)	Journey time by car from A329(M) to P&R (taken from WSTM4)	2
Bus Fare (pence)	Based on Reading Buses return fare between St Annes Hotel and Broad St @ £2.60	130
Parking Cost (pence)	£1.00	50
Access Time (mins)	Walk time to bus stop within P&R site (Google maps) (weighted x2)	2
Bus Travel Time (mins)	Based on Lion timetable from St Annes Hotel to Broad St at 8am on a weekday	10
Bus Wait Time (mins)	0.5 x Assumed headway (weighted x2)	20
Egress Time (mins)	Walk time from bus stop to final destination - based on walk from central Reading bus stop to Friar Street (Google Maps) (weighted x2)	2
Mode Constant (mins)		10
P&R Generalised Time 'Commuting'		55.62
P&R Generalised Time 'Employers Business'		51.41
P&R Generalised Time 'Other'		67.07
Value of Time 'Commuting' (£/hour)	WebTAG Figure	11.23
Value of Time 'Employers Business' (£/hour)	WebTAG Figure	19.96
Value of Time 'Other' (£/hour)	WebTAG Figure	5.13
Value of Time 'Commuting' (pence/hour)	Calculated	18.72
Value of Time 'Employers Business' (pence/hour)	Calculated	33.27
Value of Time 'Other' (pence/hour)	Calculated	8.54
Logit Model Calculations		
Lambda		0.04

2036 Forecast Year P&R to Wokingham TC

Parameter	Comment	
Car Journey Time (mins)	Based on 2021 WSTM4 journey time from A329/ London Rd roundabout to Easthampstead Road (East) car park (node 1039 to 2021)	8
Journey time to final destination (mins)	N/A	0
Average Speed (km/h)	Calculated from Distance and Journey Time	21
VOC (pence/km)	Calculated from WebTAG Figures	16.55
Distance (km)	Taken from WSTM4 model (google maps 2.6km)	2.8
Distance to final destination (km)	N/A	0
Total VOC (pence)	Calculated from VOC and Distance	46
Parking Cost 'Commuting' (pence)	0.5 x Current Parking Charges - Based on monthly season ticket Easthampstead road (East) for 20 working days @ £82	205
Parking Cost 'Employers Business' (pence)	0.5 x Current Parking Charges - Based on 4 hours of parking @ £2	100
Parking Cost 'Other' (pence)	0.5 x Current Parking Charges - Based on 4 hours of parking @ £2	100
Egress Time	Walk time from Car Park to Destination (Broad St)	8
Car Generalised Time 'Commuting' (mins)		26.78
Car Generalised Time 'Employers Business' (mins)		19.73
Car Generalised Time 'Other' (mins)		29.67
Transfer Time (mins)	Journey time by car from A329(M) to P&R (taken from WSTM4)	2
Bus Fare (pence)	Based on Reading Buses return fare between St Annes Hotel and Broad St @ £2.60	130
Parking Cost (pence)	£1.00	50
Access Time (mins)	Walk time to bus stop within P&R site (Google maps) (weighted x2)	2
Bus Travel Time (mins)	Based on Lion timetable from St Annes Hotel to Broad St at 8am on a weekday	10
Bus Wait Time (mins)	0.5 x Assumed headway (weighted x2)	20
Egress Time (mins)	Walk time from bus stop to final destination - based on walk from central Reading bus stop to Friar Street (Google Maps) (weighted x2)	2
Mode Constant (mins)		10
P&R Generalised Time 'Commuting'		54.51
P&R Generalised Time 'Employers Business'		51.22
P&R Generalised Time 'Other'		62.45
Value of Time 'Commuting' (£/hour)	WebTAG Figure	14.39
Value of Time 'Employers Business' (£/hour)	WebTAG Figure	25.57
Value of Time 'Other' (£/hour)	WebTAG Figure	6.57
Value of Time 'Commuting' (pence/hour)	Calculated	23.98
Value of Time 'Employers Business' (pence/hour)	Calculated	42.61
Value of Time 'Other' (pence/hour)	Calculated	10.94
Logit Model Calculations		
Lambda		0.04

2021 Forecast Year P&R to Bracknell TC

Parameter	Comment	
Car Journey Time (mins)	Based on 2021 WSTM4 journey time from Coppid Beech roundabout to High Street car park (node 1037 to 9153)	9
Journey time to final destination (mins)	N/A	0
Average Speed (km/h)	Calculated from Distance and Journey Time	35
VOC (pence/km)	Calculated from WebTAG Figures	16.55
Distance (km)	Taken from WSTM4 model	5.3
Distance to final destination (km)	N/A	0
Total VOC (pence)	Calculated from VOC and Distance	88
Parking Cost 'Commuting' (pence)	0.5 x Current Parking Charges - Based on monthly season ticket at High Street car park for 20 working days @ £90	225
Parking Cost 'Employers Business' (pence)	0.5 x Current Parking Charges - Based on 4 hours of parking @ £5.20	260
Parking Cost 'Other' (pence)	0.5 x Current Parking Charges - Based on 4 hours of parking @ £5.20	260
Egress Time	Walk time from Car Park to Braccan Walk (Lexicon)	8
Car Generalised Time 'Commuting' (mins)		33.70
Car Generalised Time 'Employers Business' (mins)		27.45
Car Generalised Time 'Other' (mins)		57.69
Transfer Time (mins)	Journey time by car from A329(M) to P&R (taken from WSTM4)	2
Bus Fare (pence)	Based on Reading Buses return fare between St Annes Hotel and Bracknell Bus Station bus stop @ £4.00	200
Parking Cost (pence)	£1.00	50
Access Time (mins)	Walk time to bus stop within P&R site (Google maps) (weighted x2)	2
Bus Travel Time (mins)	Based on Lion timetable from St Annes Hotel to Skimped Hill Bracknell bus stop at 8am on a weekday	12
Bus Wait Time (mins)	0.5 x Assumed headway (weighted x2)	20
Egress Time (mins)	Walk time from bus stop to final destination - based on walk from Bus Station bus stop to Braccan Walk (Lexicon) (Google Maps) (weighted x2)	2
Mode Constant (mins)		10
P&R Generalised Time 'Commuting'		61.35
P&R Generalised Time 'Employers Business'		55.51
P&R Generalised Time 'Other'		77.26
Value of Time 'Commuting' (£/hour)	WebTAG Figure	11.23
Value of Time 'Employers Business' (£/hour)	WebTAG Figure	19.96
Value of Time 'Other' (£/hour)	WebTAG Figure	5.13
Value of Time 'Commuting' (pence/hour)	Calculated	18.72
Value of Time 'Employers Business' (pence/hour)	Calculated	33.27
Value of Time 'Other' (pence/hour)	Calculated	8.54
Logit Model Calculations		
Lambda		0.04

2036 Forecast Year P&R to Bracknell TC

Parameter	Comment	
Car Journey Time (mins)	Based on 2036 WSTM4 journey time from A329/ London Rd roundabout to Easthampstead Road (East) car park (node 1039 to 2021)	10
Journey time to final destination (mins)	N/A	0
Average Speed (km/h)	Calculated from Distance and Journey Time	32
VOC (pence/km)	Calculated from WebTAG Figures	16.55
Distance (km)	Taken from WSTM4 model	5.3
Distance to final destination (km)	N/A	0
Total VOC (pence)	Calculated from VOC and Distance	88
Parking Cost 'Commuting' (pence)	0.5 x Current Parking Charges - Based on monthly season ticket at High Street car park for 20 working days @ £90	225
Parking Cost 'Employers Business' (pence)	0.5 x Current Parking Charges - Based on 4 hours of parking @ £5.20	260
Parking Cost 'Other' (pence)	0.5 x Current Parking Charges - Based on 4 hours of parking @ £5.20	260
Egress Time	Walk time from Car Park to Braccan Walk (Lexicon)	8
Car Generalised Time 'Commuting' (mins)		31.04
Car Generalised Time 'Employers Business' (mins)		26.16
Car Generalised Time 'Other' (mins)		49.77
Transfer Time (mins)	Journey time by car from A329(M) to P&R (taken from WSTM4)	2
Bus Fare (pence)	Based on Reading Buses return fare between St Annes Hotel and Bracknell Bus Station bus stop @ £4.00	200
Parking Cost, pence	£1.00	50
Access Time (mins)	Walk time to bus stop within P&R site (Google maps) (weighted x2)	2
Bus Travel Time (mins)	Based on Lion timetable from St Annes Hotel to Skimped Hill Bracknell bus stop at 8am on a weekday	12
Bus Wait Time (mins)	0.5 x Assumed headway (weighted x2)	20
Egress Time (mins)	Walk time from bus stop to final destination - based on walk from Bus Station bus stop to Braccan Walk (Lexicon) (Google Maps) (weighted x2)	2
Mode Constant (mins)		10
P&R Generalised Time 'Commuting'		58.43
P&R Generalised Time 'Employers Business'		53.87
P&R Generalised Time 'Other'		70.84
Value of Time 'Commuting' (£/hour)	WebTAG Figure	14.39
Value of Time 'Employers Business' (£/hour)	WebTAG Figure	25.57
Value of Time 'Other' (£/hour)	WebTAG Figure	6.57
Value of Time 'Commuting' (pence/hour)	Calculated	23.98
Value of Time 'Employers Business' (pence/hour)	Calculated	42.61
Value of Time 'Other' (pence/hour)	Calculated	10.94
Logit Model Calculations		
Lambda		0.04

Appendix B

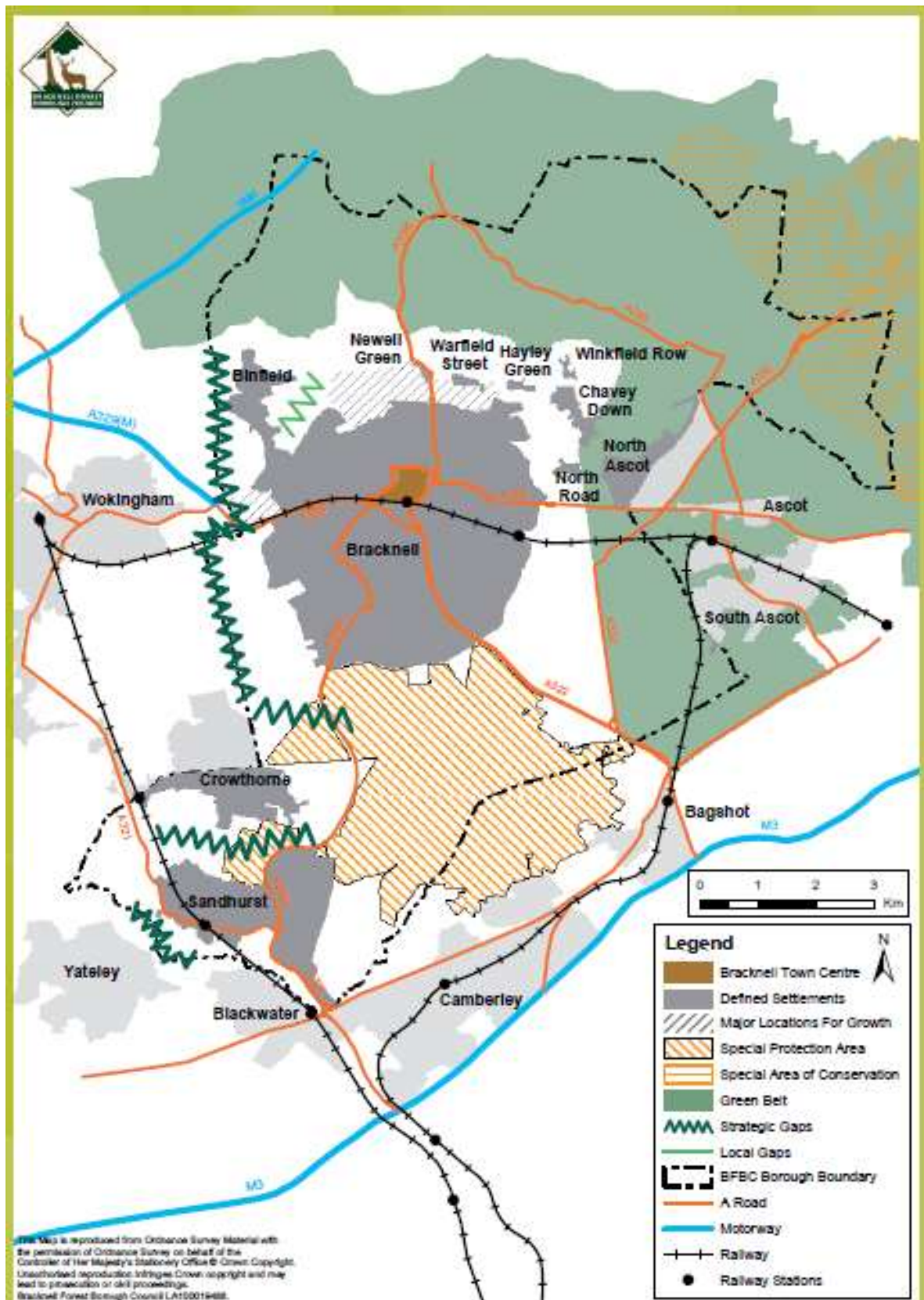
STRATEGIC SITES



Appendix B.1

BRACKNELL DEFINED SETTLEMENTS AND MAJOR LOCATION FOR GROWTH

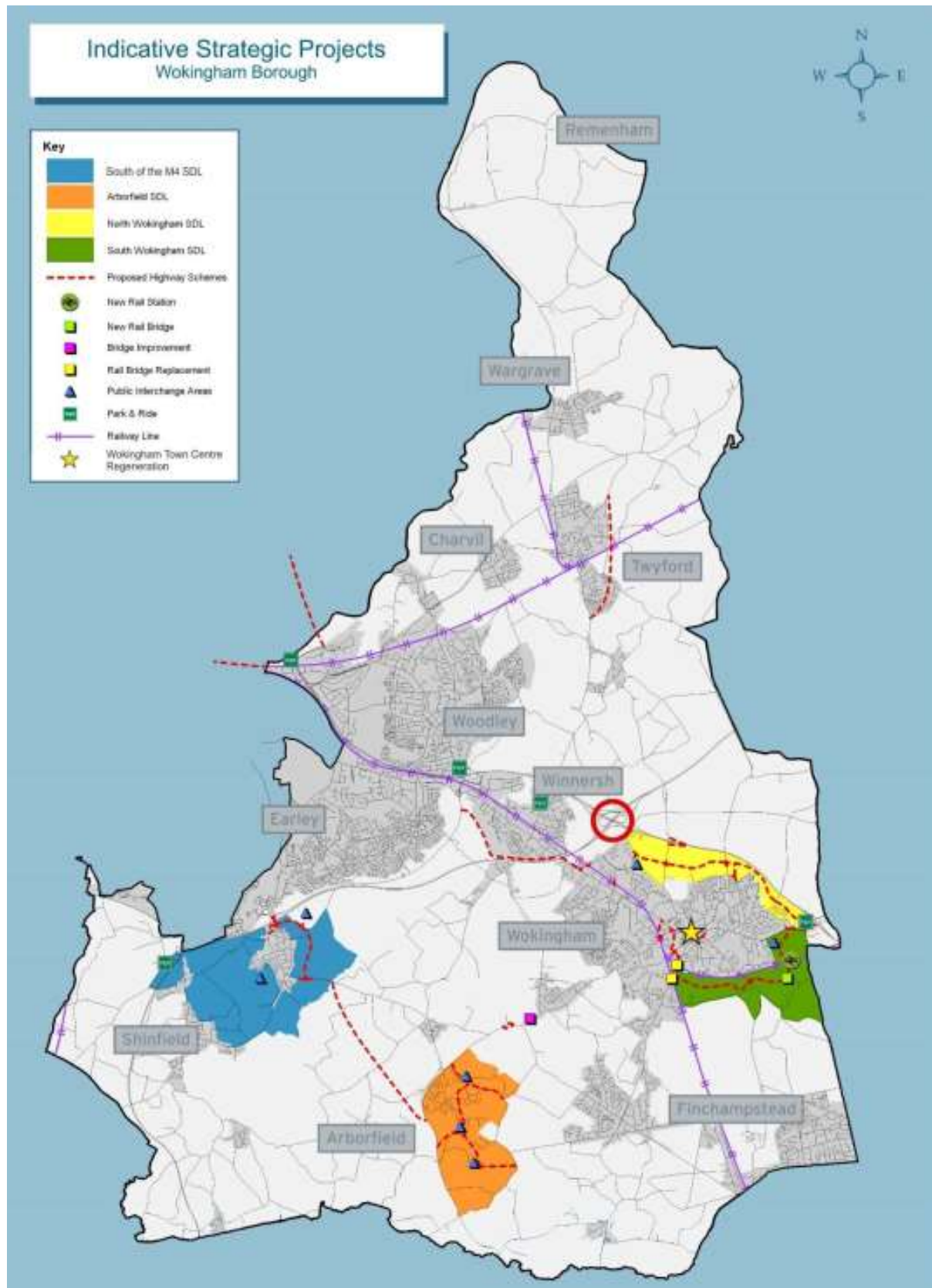




Appendix B.2

WOKINGHAM STRATEGIC PROJECTS INCLUDING SDLS, HIGHWAY SCHEMES AND P&R SITES





Appendix C

BUS JOURNEY TIMES

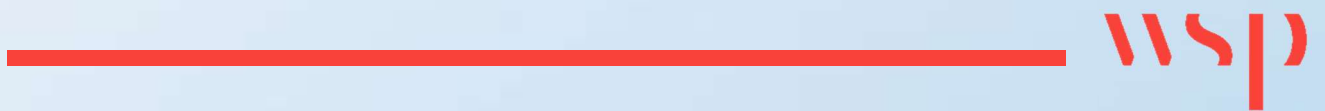
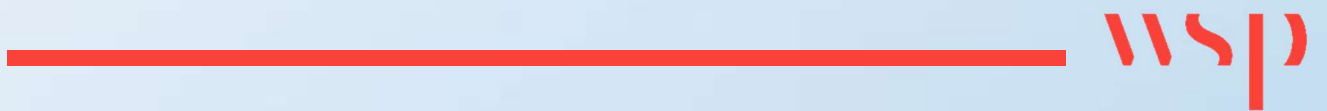


Table C-1 - Key journey times for X4 bus service (weekday)

	Journey Start	Journey End	Peak AM Journey Time	Peak PM Journey Time	Interpeak Journey Time
Towards Bracknell	Reading (St. Mary's Butts)	Wokingham (Hilton St. Annes Hotel)	63 minutes	53 minutes	43 minutes
	Reading (St. Mary's Butts)	Bracknell Bus Station	77 minutes	67 minutes	62 minutes
	Wokingham (Hilton St. Annes Hotel)	Bracknell Bus Station	14 minutes	14 minutes	19 minutes
Towards Wokingham	Bracknell Bus Station	Wokingham (Hilton St. Annes Hotel)	16 minutes	14 minutes	12 minutes
	Bracknell Bus Station	Reading (St. Mary's Butts)	63 minutes	55 minutes	42 minutes
	Wokingham (Hilton St. Annes Hotel)	Reading (St. Mary's Butts)	79 minutes	69 minutes	54 minutes

Appendix D

DELAY PLOTS



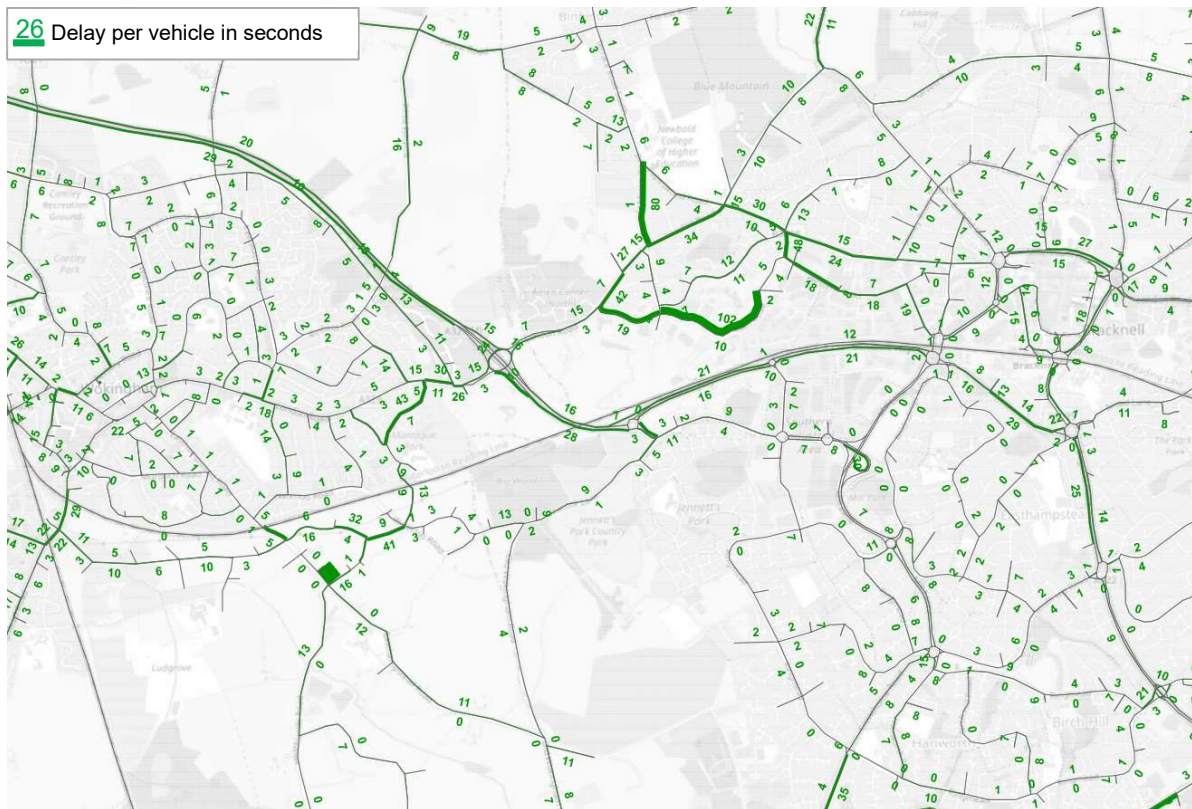


Figure D-1: 2021 Do Minimum AM Delay

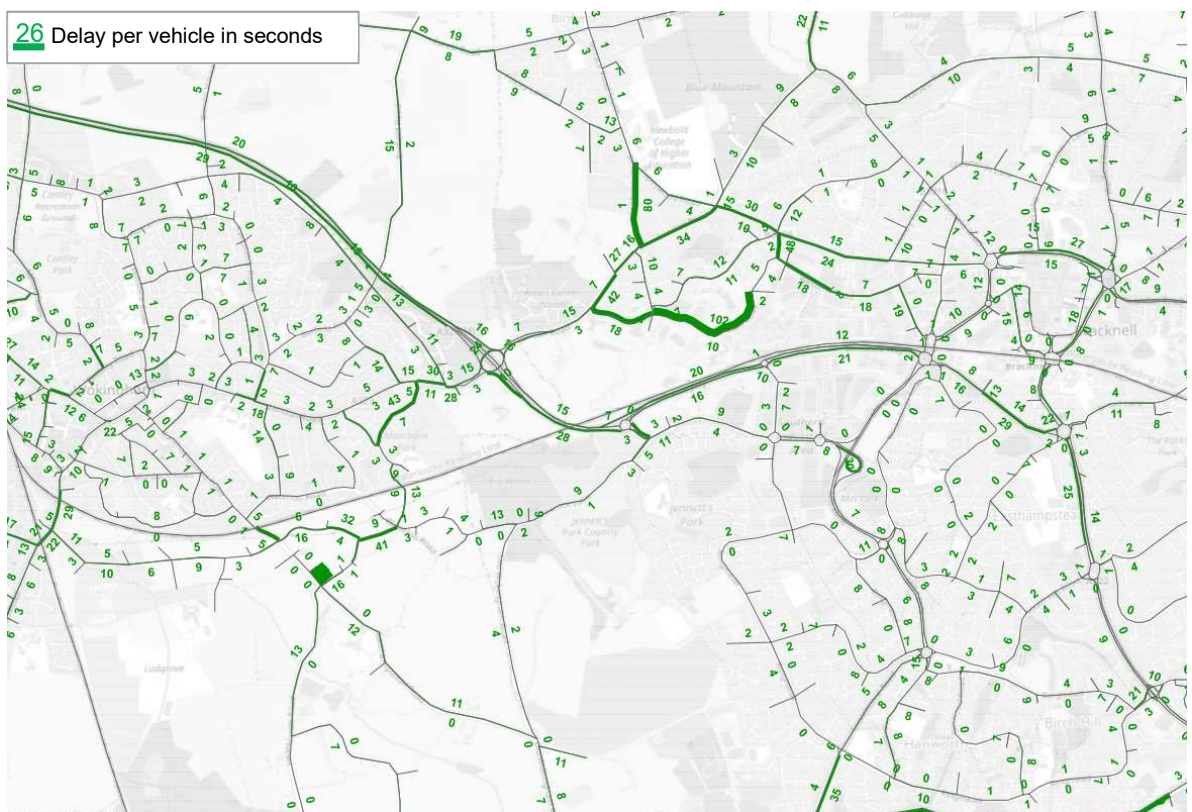


Figure D-2: 2021 Do Something AM Delay



Figure D-3: 2021 Do Minimum PM Delay

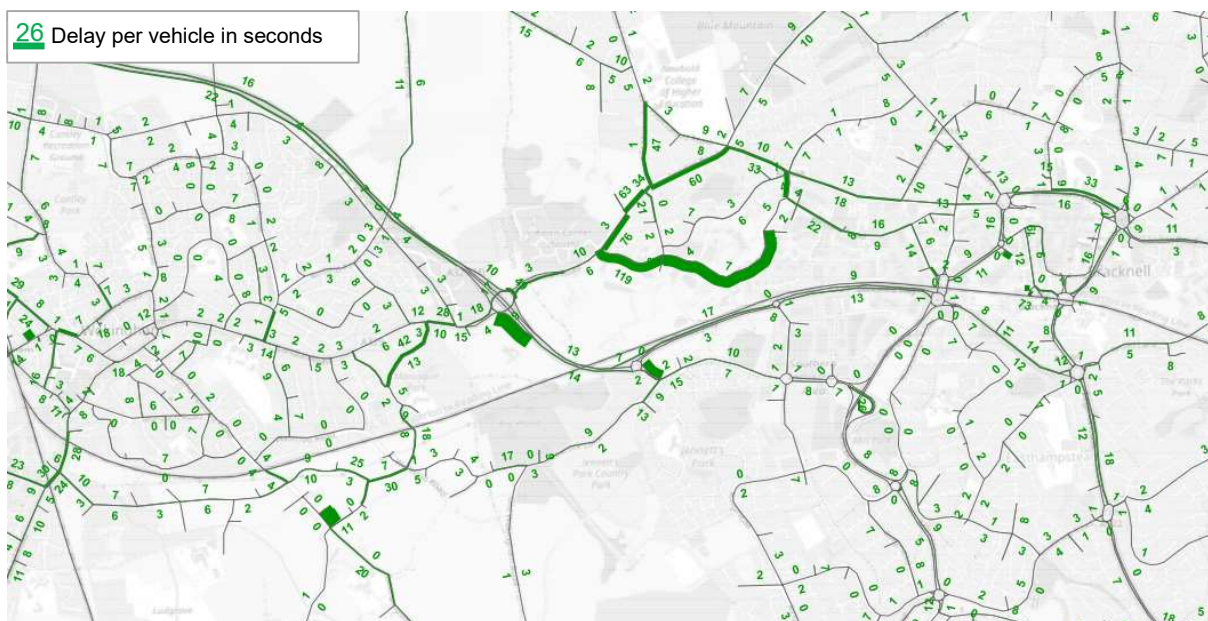


Figure D-4: 2021 Do Something PM Delay

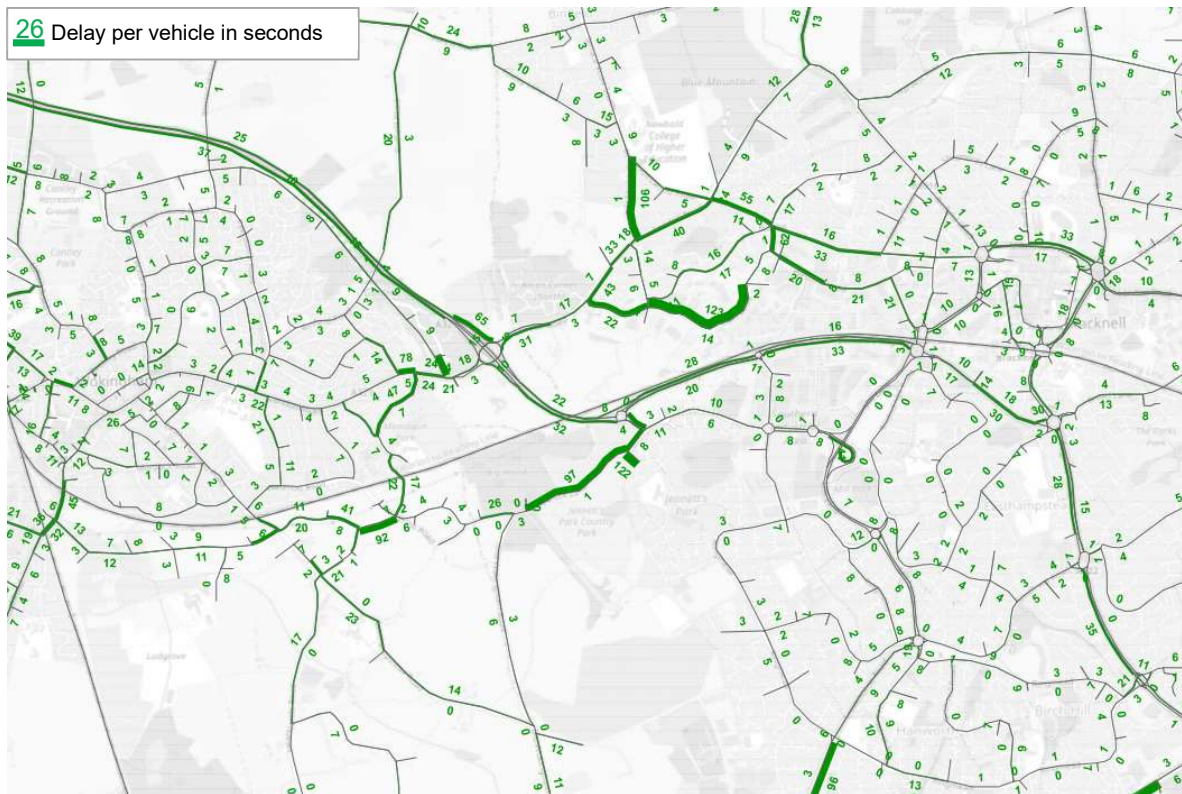


Figure D-5: 2036 Do Minimum AM Delay

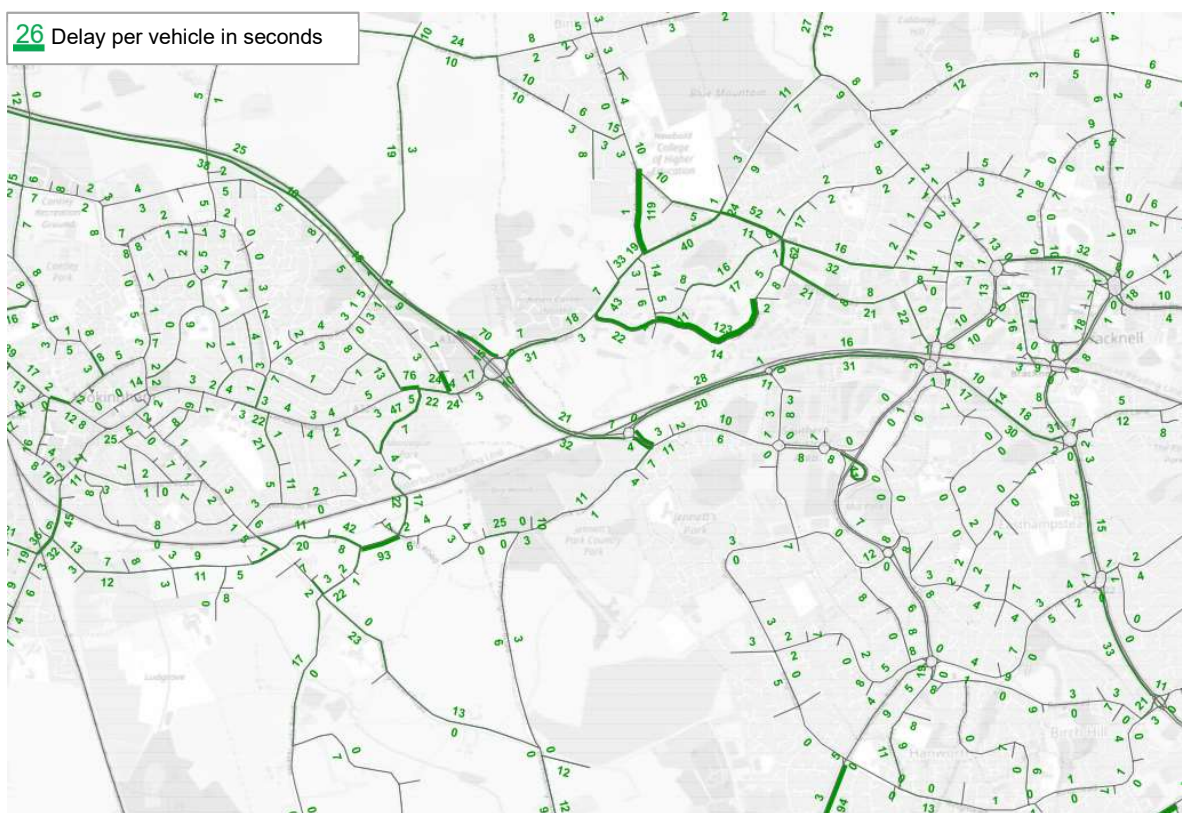


Figure D-6: 2036 Do Something AM Delay

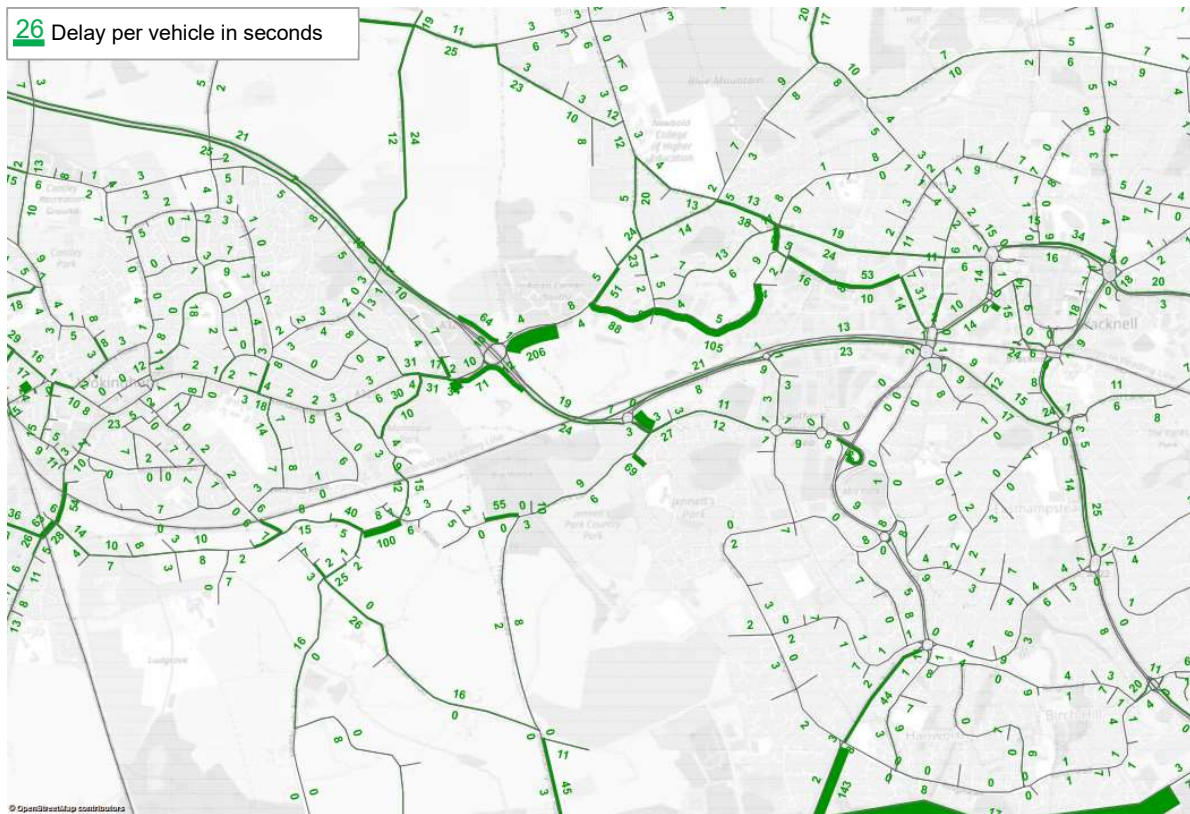


Figure D-7: 2036 Do Minimum PM Delay

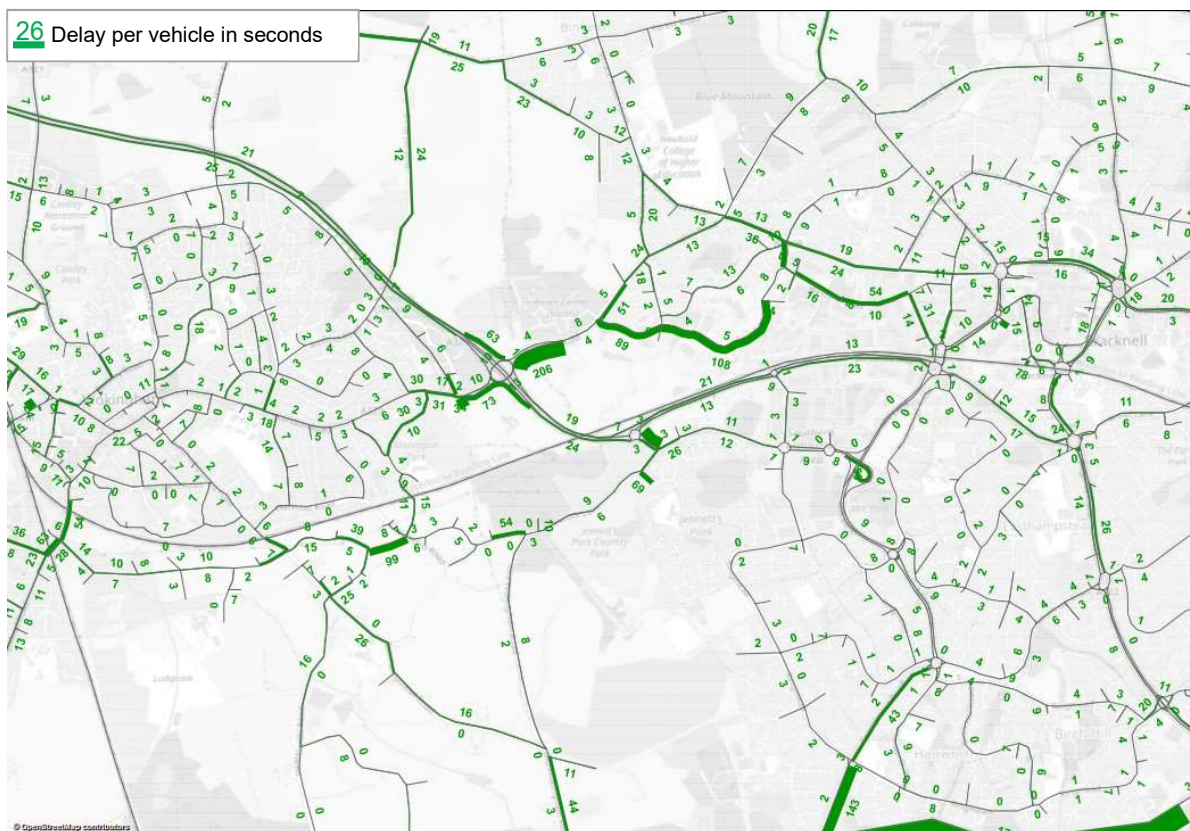
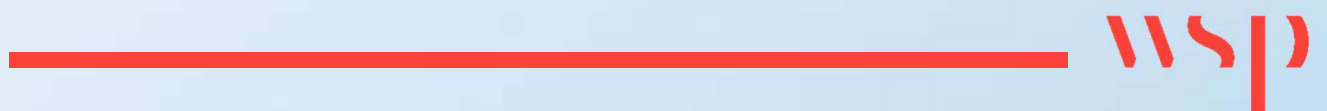


Figure D-8: 2036 Do Something PM Delay

Appendix E

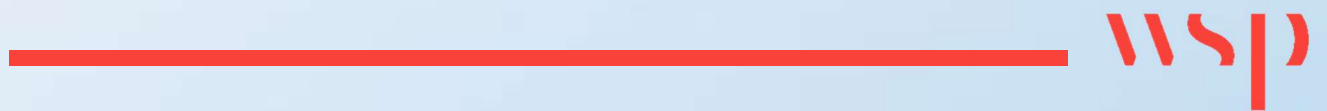
APPRAISAL SUMMARY TABLES



Appraisal Summary Table				Date produced: 18/02/2020		Contact:		
Name of scheme: Coppid Beech Park and Ride		Park and Ride site located on land west of the A329(M)/A329 London Road Coppid Beech roundabout				Name		
Description of scheme:						Organisation	Promoter/Official	
Impacts		Summary of key impacts		Assessment		Monetary £(NPV)	Distributional 7-pt scale/ vulnerable grp	
				Quantitative	Qualitative			
Economy	Business users & transport providers	The scheme aims to transfer trips, travelling into Wokingham & Bracknell, from car to bus, thereby reducing congestion on the road network. The scheme provides journey time savings for business users		Value of journey time changes(£) £1.944m Net journey time changes (£) 0 to 2min 2 to 5min > 5min £1.944m £0m £0m		£2.160m		
	Reliability impact on Business users	While a journey time reliability assessment has not been undertaken, the scheme aims to reduce congestion and as a result the reliability of journey time should increase which would be applicable to business users.		-		slight positive	-	
	Regeneration	Not Assessed		Not Assessed		Not Assessed	Not Assessed	
	Wider Impacts	By improving sustainable modes of transport it is considered that it will support the ambitions of the Local Plan in terms of employment.		-		slight positive	-	
Environmental	Noise	The Proposed Scheme is not located within a Noise Action Planning Important Area (NIA). There are two road designated NIA's approximately 100m south of the Proposed Scheme; one at the junction between London Road and St Annes Road; and the second at the southbound slip road entrances/ exits of Coppid Beech Roundabout. There are further NIA's along London Road to the west, all of which are over 1km from the Proposed Development. There are no hospitals within 2km. The closest being Wokingham Hospital approximately 2.7km away. The closest GP is over 1.5km north west of the Proposed Scheme. The closest primary school (Floreat Montague) is approximately 650m south and has capacity for around 420 children. There are no further primary schools listed within 1km of the Proposed Development. There are no secondary schools within 1km of the Proposed Development. During construction works, sensitive receptors may be more susceptible to the effects of temporary adverse noise impacts.		During operation, there is potential for a change in noise and vibration levels from the existing baseline given changes in traffic levels in comparison to current use. A Noise Impact Assessment is proposed to assess and if applicable set out measures to mitigate these impacts.		-		
	Air Quality	The Proposed Scheme is located close to residential properties and the existing road network including the A329 London Road and A329(M), with the main source of existing air pollution being road traffic emissions from these roads. The Proposed Scheme is not located within an Air Quality Management Area (AQMA). The closest AQMA, listed as 1602, is located approximately 1.5km west of the Proposed Scheme along London Road and is designated by Wokingham Borough Council as the local authority. During the construction phases, the Proposed Scheme may have the potential to result in localised and temporary adverse impact from dust and vehicular emissions to local receptors. A CEMP will be produced and implemented by the contractor with procedures that may include setting up barriers around dust generating activities; avoiding storing stockpiles of loose material on site; installing wheel washes and vehicle cleaning facilities; ensuring not-in-use vehicle engines and plant motors are switched off; and ensuring all plant and vehicles are properly maintained.		During operation, local air quality has the potential to change in comparison to the current baseline. However, it is noted that the current volume of traffic activity from major roads in close proximity means that the air quality at the site is unlikely to be significantly affected. Regarding the wider area, the Scheme is proposed to reduce vehicle numbers travelling into the towns of Wokingham & Bracknell which in turn should lead to beneficial impacts. An air quality assessment will support the planning application and determine the impact.		-		
	Greenhouse gases	The scheme transfers existing trips that are currently travelling on A329 / London Road to Wokingham and Bracknell Town Centres from car to bus. The reduction in trip length for these trips results in a decrease in greenhouse gases		Change in non-traded carbon over 60y (CO2e) -405 Change in traded carbon over 60y (CO2e) -2		£0.264m		
	Landscape	The Proposed Scheme is located close to residential properties and is surrounded by various land uses including residential properties, roads, intermittent woodland and grassland. The Proposed Scheme is located within the Thames Valley Landscape Character Area (LCA). There are no landscape designations, Areas of Outstanding Natural Beauty or greenbelt within 500m. The whole site has a Grade 3 Agricultural Land Class which is good to moderate quality agricultural land. During construction, temporary adverse impacts are anticipated in relation to landscape character and visual amenity due to the presence of construction site plant and equipment. During operation, it is noted that consultation with the LPA has already informed the design and further decisions will be taken with the views of the Local Authority & other stakeholders.		Expected to be a residual negligible operational impact given the type, scale and location of this development and so a landscape assessment is not proposed.		-		
	Townscape	Not Assessed		Not Assessed		-		
	Historic Environment	The closest listed building is Beanoak Farmhouse, a Grade II listed building which is located approximately 600m north west the Proposed Development. A further two more Grade II listed buildings were identified within 1km and are adjacent to Beanoak Farmhouse. These sites are not expected to be directly affected by the Proposed Scheme nor is their setting with significant urban development between them and the Proposed Scheme. There are no Scheduled Monuments, Registered Parks and Gardens, Registered Battlefields, Conservation Areas or World Heritage Sites within a 2km Study Area.		WBC should be consulted to check if there is any special interest in the area for unknown buried assets. At present, there is anticipated to be negligible impact on cultural heritage.		-		
	Biodiversity	There are no statutory international or European designated sites within a 10km Study Area of the Site. A search identified that there are Special Areas of Conservation (SAC) within 30km which may be applicable for sites designated for their bat population. One Site of Special Scientific Interest (SSSI) lies within the 2km Study Area of the Site, this is Wykery Copse located 1.5km south east. The closest Special Protection Area (SPA) is 3.5km south. No NNR are located within 2km of the Site. Two Local Nature Reserves (LNR) are located within a 2km Study Area. The desk study identified Priority Habitat Inventory (HPI) located within/adjacent the footprint of the Proposed Scheme. The habitat is deciduous woodland which overlaps and extends from an area designated as ancient woodland. There are further parcels of HPI within 100m. A number of parcels of Ancient Woodland fall within a 2km Study Area of the Proposed Scheme, and one parcel is located within the boundary of the Proposed Scheme at the southern extent. The Proposed Scheme should avoid negative effects to HPI/ Ancient Woodland either directly or indirectly. No trees are proposed to be felled but as mentioned, the outline GA shows overlap/closeness to parcels of ancient woodland and HPI. For construction work near trees, a Root Protection Assessment may be required. An Arboricultural Assessment will be undertaken. Woodland adjacent to the Proposed Scheme may have potential to provide habitat or provide suitable foraging for species and areas along the perimeter may have some ecological value. Consideration will need to be given to sensitive design to particularly ensure ancient woodland and Habitats of Priority Importance are not negatively affected, and attention should be given for		No surveys have been undertaken for protected species. A Preliminary Ecological Appraisal (PEA) including Phase 1 mapping will be undertaken to assess the presence which in turn may lead to additional individual species surveys/ reports to support the planning application. The Proposed Development should avoid negative effects to both statutory/ non-statutory sites including both direct/ indirect effects. There is not expected to be any adverse impact directly but there is potential for indirect impact to the designated sites adjacent along the southern boundary. The PEA with an Arboriculture Assessment will further investigate this and propose mitigation such as Tree Root Protection if required.		-		
	Water Environment	There are no Environment Agency (EA) Main Rivers within 1km of the Proposed Scheme. There are no unnamed ordinary watercourses and other water features (ponds and ditches) within 500m of the Proposed Scheme from desk based study. The Proposed Scheme is not located in either Flood Zone 2 (medium risk) or Flood Zone 3 (high risk). The Proposed Development is located wholly in Flood Zone 1 (low risk). EA surface water flood mapping shows that the Proposed Scheme is generally at very low risk of surface water flooding with no medium and high-risk flow intersecting the Proposed Scheme footprint. An increase in impermeable area will result in an increase in the surface water flows from the development. A Surface Water Drainage Strategy and updated Flood Risk Assessment (FRA) will be undertaken to show that the increase in runoff can be mitigated through SuDS measures such as attenuation areas. This is to minimise the risk of additional flood risk due to runoff on and offsite. There is limited potential for an adverse effect on water quality from contaminated run off during construction due to the limited pathways for run off to reach watercourses. However, appropriate mitigation will control the risks and means that the residual impact anticipated is negligible.		The Screening Opinion states that: "Any loss of flood storage must be compensated for by the reduction in level of nearby ground, such that the same volume is available at every flood level before and after the works and it can freely fill and drain. It is at a very initial stage so it is difficult to comment on risk from ground water flooding. Site tests need to be conducted to evaluate the position of groundwater table. The effect on the environment depends how much increase in impermeable area is on proposed site and applicant proposal on how will they deal with pluvial or fluvial flooding. It is recommended that SuDS should also be considered at planning stage for the development". In summary, it is probable that sufficient mitigation can be incorporated within the proposed development such that there will be no increase in on and off-site flood risk and the development will be safe from flood risk over its lifetime, including climate change.		-		
	Social	Commuting and Other users	The scheme aims to transfer trips, travelling into Wokingham & Bracknell, from car to bus, thereby reducing congestion on the road network. The scheme provides journey time savings for Commuting and Other users		Value of journey time changes(£) £7.676m Net journey time changes (£) 0 to 2min 2 to 5min > 5min £8.821m £0.576m £0.279m		£8.344m	
		Reliability impact on Commuting and Other users	While a journey time reliability assessment has not been undertaken, the scheme aims to reduce congestion, as a result reliability of journey time should increase, and this would be applicable to Commuting and Other users.		-		slight positive	-
Physical activity		The site provides cycle parking. However, it is considered unlikely that the scheme will result in a significant impact on the amount of walking and cycling trips undertaken within the vicinity of the scheme extents and as such there would be limited or negligible impact on physical activity		-		Neutral	-	
Journey quality		The overall impact of the scheme on journey quality can be considered slightly positive, as it will relieve congestion on the London Road & Berkshire Way (A329) corridors into Wokingham and Bracknell Town centres during peak periods. This will improve the travellers' environment and reduce stress and frustration associated with driving in congestion		-		slight positive	-	
Accidents		Detailed accident assessment using DfT's Cost and Benefits to Accidents – Light Touch (COBALT) programme was undertaken. The outcome of the assessment found that the introduction of the scheme is expected to result in a benefit of £0.61million of accident savings. This includes the equivalent of a decrease in 16 slight casualties and 2 serious casualties although no increase in fatal accidents		-		£0.612m		
Security		With the proposed security measures included within the design of the Park and Ride site the impact on security is considered to be Slightly Beneficial		-		slight positive	-	
Access to services		Not assessed		Not assessed		Not assessed	Not assessed	
Affordability		Not assessed		Not assessed		Not assessed	Not assessed	
Severance		The provision of a park and ride site at this location will provide opportunity to change mode of transport to bus, improving access into both Wokingham and Bracknell town centres		-		Neutral	-	
Option and non-use values		Not assessed		Not assessed		Not assessed	Not assessed	
Public Account	Cost to Broad Transport Budget					PVC £1.832m		
	Indirect Tax Revenues					£0.610m		

Appendix F

SECTION 151 LETTER



Berkshire Thames Valley Local Enterprise Partnership

Bill Hicks

4 February 2020



**WOKINGHAM
BOROUGH COUNCIL**

Place Based Services

P.O. Box153

Shute End, Wokingham

Berkshire RG40 1WL

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Fax: (0118) 974 6770

Minicom No: (0118) 9746991

Coppid Beech Park and Ride – Section 151 Officer Letter

Dear Mr Hicks,

On behalf of, and under delegation from, the Section 151 Officer for Wokingham Borough Council, I am able to declare that the scheme cost estimates quoted in the Coppid Beech Park and Ride business case are accurate to the best of my knowledge and that Wokingham Borough Council has both the intention and the means to deliver the related scheme on the basis of its proposed funding contribution. The Council also undertakes to meet any ongoing revenue requirements on the understanding that no further increase in major transport scheme funding will be considered beyond the maximum contribution requested.

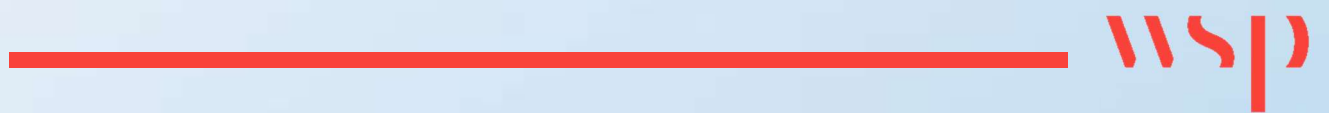
We have a robust budget setting process and have agreed the funding as per the budget. We have an element of central contingency and a process for adding new budget to the programme if approved by Council.

Yours sincerely,

Bob Watson
Head of Finance and deputy s.151 officer
Wokingham Borough Council
Civic Offices, Shute End
Wokingham, RG40 1BN

Appendix G

PROJECT PLAN



	20/01/2010	Target date	Duration	Status / Key Dates	2019				2020												2021												2022				
					SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY
Pre-application discussion and meeting with WBC planning officer		September 2019	1 month	COMPLETED	<div></div>																																
Prepare and submit environmental screening letter		September 2019 to October 2019	1/2 months	COMPLETED	<div></div>	<div></div>																															
Prepare planning application with supporting documents (inc. environmental assessments) for submission to WBC		January 2020 to May 2020	5 months	Finalise by end of May					<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>																							
Prepare Full Business Case for draft submission to LEP		September 2019 to February 2020	5/6 months	COMPLETED	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>																								
Topo Survey		November 2019 to January 2020	2 months	COMPLETED			<div></div>	<div></div>	<div></div>	<div></div>																											
Road Safety Audit Stage 1		March 2020	1 month	ONGOING						<div></div>	<div></div>																										
Preliminary Design Works		January 2020 to March 2020	3 monts	ONGOING					<div></div>	<div></div>	<div></div>	<div></div>																									
Final submission of Full Business Case		End of February 2020	1 month							<div></div>	<div></div>																										
Manage responses to LEP committee on the Full Business Case submission		March 2020	1 month	End of March submission						<div></div>	<div></div>																										
FBC Sign Off		April 2020 to May 2020	2 months								<div></div>	<div></div>	<div></div>																								
Council Members Approval		March 2020 or April 2020		6 week notice period							<div></div>	<div></div>	<div></div>																								
Submit planning application		30th April 2020											<div></div>																								
monitor planning application		May 2020 to July 2020	3 months	13 weeks from date of submission								<div></div>	<div></div>	<div></div>																							
Planning Committee		July 2020 to August 2020	1/2 months	8th July, 12th august									<div></div>	<div></div>	<div></div>																						
Discharge Conditions (majority signed off before const.)		August 2020 to December 2020	5 months													<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	
Ground Investigation (survey funded by A329(M))		February 2020	1 month	w/c 24th February						<div></div>	<div></div>	<div></div>																									
land transfers and other pre-construction activities		June 2020 to August 2020	3 months										<div></div>	<div></div>	<div></div>	<div></div>	<div></div>																				
Final Design Work (remaining prelim and detailed)		February 2020 to June 2020	5 months							<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>																					
Road Safety Audit Stage 2		June 2020 to July 2020	2 months										<div></div>	<div></div>	<div></div>																						
Technical Approval by WBC		August 2020 or September 2020	1 month												<div></div>	<div></div>																					
Pre-construction arrangements with Voulker		October 2020 to November 2020	2 months													<div></div>	<div></div>	<div></div>	<div></div>																		
Construction Phase		November 2020 to October 2021	12 months																<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>		
Complete Construction		31st October 2021		Subject to Voulker agreeing																															<div></div>		

Appendix H

RISK REGISTER



Project Risk, Issue and Opportunity Register																
Project Number		70058586		Date	20/01/2020		<div></div>									
Project Title		Coppid Beech Park and Ride		Version	1											
Client		Wokingham Borough Council		Current Risk Status of Project												
Project Manager		Rohan McGinn		Risk Status of Project if all mitigation successful (net risk)												
Risk	Hazard/Risk Name	Effect/Consequence			Initial Risk Exposure									Spreadsheet Construction Risk Value		
			Open / Closed	Risk Owner	Rank		Probability				Cost Impact		Risk (P x Cl)	Min	£414,310 Most Likely	£587,010 Max
	A Funding / Third parties															
A1	Failure to secure government (LEP) funding due to delay in the programme.	Scheme delayed/unable to be delivered, WBC required to fund or source alternative funding.	Open	Rob Curtis	3	M	36%	3	M				9			
A2	Local funding contributions may be withheld	Scheme delayed/unable to be delivered, WBC required to fund or source alternative funding.	Open	Rob Curtis	1	VL	3%	1	VL				1			
A5	There is a requirement that we have made a significant start on site by 31st March 2021, to secure the LEP funding. There is a risk that the programme is constrained and missing this target	confirm if funding can be drawn down from the LEP before March 2021 deadline,	Open	Malcolm Pinto	4	H	66%	2	L	14,255	21,383	28,510	8	9,337	14,006	18,674
A6	Change of Govt / Change in funding source	Govt freeze on funding. Scheme delayed/unable to be delivered, WBC required to fund or source alternative funding.	Open	Rob Curtis	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
A7	Public Opposition	Objection to planning application,	Open	Rob Curtis	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
A8	Delay in the provision of data	Programme slippage, delay in planning application submission, overall delay to programme resulting in construction slippage, links to reclaiming funds.	Open	Chris Carr	2	L	13%	1	VL	2,851	8,553	14,255	2	371	1,112	1,853
A10	Business case unsuccessful	Funding withheld and scheme undeliverable	Open	Ratnam Rajah	2	L	13%	1	VL	2,851	8,553	14,255	2	371	1,112	1,853
A11	Onerous planning conditions / planning Consent	Delay to work following planning approval, unexpected costs	Open	Akshat Vipin	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
A12	Council elections / change in political support for the scheme.	Council elections – elected councillors may change could effect the council support for the scheme	Open	Rob Curtis	2	L	13%	1	VL	2,851	8,553	14,255	2	371	1,112	1,853
A13	Additional Part 1 Claims for compensation	Amendments to scheme result in potential for increased Part 1 Claims, e.g. moved nearer to properties.	Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
A14	Additional consultation required due to changes in legislation	Time and or cost increase and associated programme delay	Open	Chris Carr	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
A15	Challenge to consultation process	Scheme development delayed	Open	Akshat Vipin	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
A16	Public relations	Failure to present a consistent message leads to adverse public reaction	Open	Rob Curtis	1	VL	3%	1	VL	2,851	8,553	14,255	1	0	214	356
A17	Planning application	Impact on potential improvements options	Open	Akshat Vipin	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
A19	Objections to access changes to third party land as a result of the scheme proposals	Objections, programme delays	Open	Akshat Vipin	2	L	13%	1	VL	2,851	8,553	14,255	2	371	1,112	1,853
A20	Planning application timetable (post submission)		Open	Akshat Vipin	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
A21	Scheme cost uncertainty shall lead to more uncertainty in the BCR. If the BCR is lower than 2.0 then the scheme shall be fall below the pre-condition of minimum 2.0 BCR for LEP funding.		Open	Ratnam Rajah	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
A23	The P&R site currently does not have a service secured, however WBC shall be going out to tender for a bus service with the intentions of having the P&R served within this core strategy period as the s106 agreement demands		Open	Chris Carr	4	H	66%	1	VL	2,851	8,553	14,255	4	1,867	5,602	9,337
A26	Land for the P&R site is currently privately owned by Bellway Homes. The land is to be transferred to WBC as part of s106 agreement. There is a risk if triggers aren't met that land is not secured. The triggers are: time constrained; to be completed within the current core strategy period, i.e. by the year 2026 WBC need to have procured a contract of works within the core period of strategy, i.e. by the year 2026, thereby meaning they need to have secured planning permission, secured LEP funding and secured a	Effort is already being made to liaise with Bellway Homes and the requirements set out in the s106 agreement. Furthermore, LEP requirements identify the scheme construction has to be completed by the end of 2021, therefore the P&R shall be completed and ready to use well ahead of the end of the current core strategy period.	Open	Rob Curtis	4	H	66%	2	L	14,255	21,383	28,510	8	9,337	14,006	18,674
A27	P&R Site shall need go through the approval process with the executive and planning committee		Open	Rob Curtis	4	H	66%	2	L	14,255	21,383	28,510	8	9,337	14,006	18,674
B Programme / Contract																
B2	Planning process results in unexpected planning condition being imposed	Delays Renegotiation Increased cost to meet condition	Open	Akshat Vipin	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
B3	High Court challenge	High court challenge process goes on longer than expected	Open	Rob Curtis	1	VL	3%	3	M	28,510	57,020	85,530	3	713	1,426	2,138
B5	Public inquiry	Public inquiry goes on longer than expected increase cost	Open		1	VL	3%	4	H	250,000	600,000	750,000	4	6,250	15,000	18,750
B6	Inflation above allowance	Increase cost	Open	Arvi Rana	2	L	13%	3	M	28,510	57,020	85,530	6	3,706	7,413	11,119
B8	Programme delay due to need for appropriate surveys to deal with issues such as Ecology, Archaeology, Contaminated Land	The submission of the planning application is delayed or not robust	Open	Alan Heatley	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
B9	Objections from statutory and non-statutory consultees such as the Environment Agency, and relevant sections within the Council such as Environmental Health, Highways, which will delay the processing of the application.	Additional work arising to justify the development, which will delay the processing of the application or potentially lead to a refusal of the application	Open	Akshat Vipin	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
B10	Programme delays, cost escalation and reputational damage	Risk workshop and regular reviews of risk register. Get LCC buy in to manage and report on their risks.	Open	Chris Carr	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
B11	The access is across private land which is to be offered as highway adoption under Sections 38. There is a risk the developer will not offer their access/spine road for adoption. There is equally a risk that the highway authority may not believe the access/spine road is of a sufficient stand to be adopted.	The site to be gifted includes the access road, therefore less risk associated with adoption as it will be in the councils control. Also mitigates risk of connection to the spine road.	Open	Steve Elliott	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
B12	Conflicting Planning Applications	Planning applications for adjacent development affect areas required for interventions.	Open	Akshat Vipin	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
B13	Change to programme as result of tasks being brought forward	Effect delivery	Open	Chris Carr	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
B14	Failure to agree objectives with key stakeholders	Effect delivery	Open	Chris Carr	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
C Scope Change																
C1	ITE may not accept traffic modelling used for assessment and economic appraisal	Inability to support the findings extra modelling work and delay	Open	Alex Georgeson	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
C3	Potential for variations between Topo , GI and assumptions used in design	Increased cost / time / programme slippage / unviable design / needs to be reworked	Open	Steve Elliott	3	M	36%	1	VL	2,851	8,553	14,255	3	1,012	3,036	5,061
C5	Any departures may not be granted	Redesign Increased costs Delays	Open	Steve Elliott	1	VL	3%	2	L	14,255	21,383	28,510	2	356	535	713
C6	May be unable to achieve safe NMU facilities with identified land	May not be resolved until safety audit complete Potential delay Increased cost	Open	Steve Elliott	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356

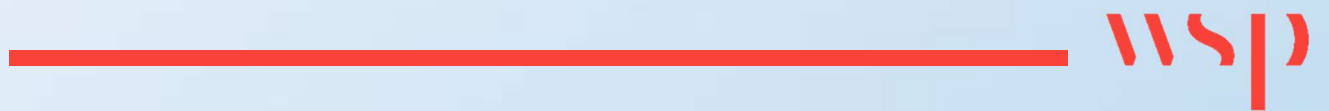
C7	Additional land may be required following a redesign. This may result in increased scheme costs.	Need to buy land	Open	Steve Elliott	1	VL	3%	2	L	14,255	21,383	28,510	2	356	535	713
C8	Need to make late changes to design for planning reasons	Increase in design time / cost	Open	Chris Carr	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
C9	Stage 1 safety audit	Increase in prelim design time	Open	Steve Dellow	2	L	13%	1	VL	2,851	8,553	14,255	2	371	1,112	1,853
C10	Stage 2 safety audit	Increase in detailed design time	Open	Steve Elliott	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
C12	Risk of scheme cost exceeding £4.0m therefore not being able to be delivered under the current funding strategy as it requires a different funding approach	Scheme potentially undeliverable	Open	Chris Carr	4	H	66%	1	VL	2,851	8,553	14,255	4	1,867	5,602	9,337
C14	Risk of delay in environmental assessment programme based on delays with update to Traffic Model	There is therefore a risk that the environmental statement will not be ready in time for the submission of the planning application in February.	Open	Alan Heatley	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
C15	Potential requirement for noise mitigation		Open	Alan Heatley	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
	D Design															
D1	Lack of detailed ground investigation data	Assumptions made at this stage with regards to potential ground conditions could be significantly erroneous, i.e. cuttings need to be made wider due to poor soils, more material import, embankment foundation improvements.	Open	Steve Elliott	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
D2	Groundwater Levels higher than anticipated.	May cause construction problems and delays.	Open	Steve Dellow	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
D3	Potential significant adverse effects on Public Rights of Ways in the area	Constraints could be placed upon the engineering development and/or objections being placed resulting in programme delay.	Open	Akshat Vipin	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
D5	Landscape and Visual Intrusion mitigation not sufficient.	Objections, time/cost increase/delays	Open	Steve Dellow	3	M	36%	3	M	28,510	57,020	85,530	9	10,121	20,242	30,363
D7	Land ownership and survey access outside redline planning boundary		Open	Steve Dellow	3	M	36%	2	L	14,255	21,383	28,510	6	5,061	7,591	10,121
D10	The settlement characteristics of the ground require more onerous mitigation measures than assumed at planning design.		Open		3	M	36%	3	M	28,510	57,020	85,530	9	10,121	20,242	30,363
	E Weather - Greater than a 1:10															
E1	Adverse weather conditions - greater than 1 in 10 year storm	Delays to ground works Complaints Compensation for contractors	Open		3	M	36%	4	H	85,530	114,040	142,550	12	30,363	40,484	50,605
	F Risk Products / Materials															
	G Environmental															
G1	Endangered species may be found to be present in location of project	Make area safe for endangered species Relocate where applicable Schedule relocation at suitable time Delays to project and associated cost for rehoming and delays	Open	Alan Heatley	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
G2	Environmental contamination is discovered on the land	Additional cost for testing and treating and removal	Open	Alan Heatley	2	L	13%	3	M	28,510	57,020	85,530	6	3,706	7,413	11,119
G3	Lack of access to undertake environmental surveys	Land owners restrict access	Open	Alan Heatley	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
G4	Invasive species may be found to be present in location of project	Additional cost for testing and treating and removal	Open	Alan Heatley	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
G5	Seasonal impact of surveys	Delay to the programme through assessment procedure. Key surveys are missed due to constraints - such as land access	Open	Alan Heatley	2	L	13%	2	L	14,255	21,383	28,510	6	1,853	2,780	3,706
G6	Key Environmental Constraint missed	Incorrect Preferred Route selected due to missed constraint	Open	Alan Heatley	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
G7	New or amended legislation introduced during preparation of the ES	The change in legislation resulted in additional assessment work being required	Open	Alan Heatley	1	VL	3%	2	L	14,255	21,383	28,510	2	356	535	713
G11	Traffic data for environmental assessment is delayed	Delay to the completion of the noise and air quality assessments with impacts on submission date for the environmental statement	Open	Alan Heatley	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
G12	Lack of timely response from environmental stakeholders/consultees.	Delay in obtaining statutory consultee agreement to the scope of the environmental assessment and survey methodology	Open	Alan Heatley	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
G13	Flood Risk impact and requirement for attenuation	Associated land take required for flood compensation - cost implications	Open	Alan Heatley	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
G15	There is a Site of Special Scientific Interest	Constraints could be placed upon the engineering development and/or objections being placed resulting in programme delay.	Open	Alan Heatley	1	VL	3%	2	L	14,255	21,383	28,510	2	356	535	713
G16	Outputs from Environmental surveys and assessments gives rise to increased scope and mitigation.	Programme and cost implications for the Environmental Impact Assessment.	Open	Alan Heatley	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
G18	NPPF - net gain with regard to scheme biodiversity		Open	Alan Heatley	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
G20	Great Crested Newt surveys season missed due to timing of commissioning or denied/delayed land access, requiring additional surveys or more onerous mitigation measures within the design and construction.	Delay to the programme through assessment procedure. Key surveys are missed due to constraints - such as land access	Open	Alan Heatley	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
G21	Unable to secure land to provide adequate ecological mitigation measures and net biodiversity gain required by the NPPF	Significant adverse effects reported within the ES cannot be mitigated, which may lead to more onerous planning conditions or refusal of permission	Open	Alan Heatley	1	VL	3%	2	L	14,255	21,383	28,510	2	356	535	713
	H Third Parties / Stats															
H1	Access may become problematic pre construction for stats diversion	Potential delays. Cost increase	Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
H3	Land to provide tie-in is not available	Delays whilst an effective compromise, alternative or solution can be established. Potential increase to cost	Open	Steve Elliott	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
H4	land owners may object to the scheme	Potential delays. Cost increase to agree a more acceptable 'look'. Reputational damage	Open	Chris Carr	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
H5	Increase cost of power supply	Increased costs	Open	Malcolm Pinto	3	M	36%	3	M	28,510	57,020	85,530	9	10,121	20,242	30,363
H6	Utility relocation cost/risk/timescale		Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
H7	Inaccurate / late data from authorities slows the design process or leads to abortive work for the design teams	Cost estimates are incorrect due to wrong assumptions / key dates missed on the programme	Open	Malcolm Pinto	2	L	13%	2	L	5,000	10,000	20,000	4	650	1,300	2,600
H8	Objections from local Water supplier company's	Unknown equipment	Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
H10	Objections from National Grid (gas)	Unknown equipment	Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
H11	Objections from Environment Agency	Unknown equipment	Open	Alan Heatley	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
H12	Objections from Electrical supply company's	Unknown equipment	Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
H13	Objections from Telephone supply company's	Unknown equipment	Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
H14	Objections from Other stats companies	Unknown equipment	Open	Malcolm Pinto	1	VL	3%	2	L	14,255	21,383	28,510	2	356	535	713
H17	The high pressure gas mains runs in the Area	If this gas main needs diverting there is a 2 year lead in period for the manufacture of a pipe	Open	Malcolm Pinto	3	M	36%	3	M	28,510	57,020	85,530	9	10,121	20,242	30,363
H19	Request/Requirement for compensation for landowners as a result of intrusive surveys	Unforeseen costs	Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
	I Flooding															
I1	Flooded routes suggest a significant increase in flood risk from fluvial and surface water.	Increase in cost to develop flood risk mitigation measures.	Open	Alan Heatley	3	M	36%	3	M	28,510	57,020	85,530	9	10,121	20,242	30,363






I2	Poor data quality, or data omission - landowner details, utility services, environmental designations.	Assessment of route is founded on poor assumptions, the optimal route might not be recommended.	Open	Alan Heatley	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
I3	Stakeholder objections to suggested road alignments or proposed flood mitigation measures (including EA, LA, NE, IDB, AW NR).	Increased time and cost to negotiate and develop alternative solutions for reducing flood risk.	Open	Alan Heatley	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
I4	Difficulties identifying suitable surface water mitigation along proposed routes.	Increased in costs to develop flood risk mitigation measures.	Open	Alan Heatley	3	M	36%	2	L	14,255	21,383	28,510	6	5,061	7,591	10,121
I5	Land constraint issues from third parties with regard to flood risk mitigation.	Increased time and cost to negotiate and develop alternative solutions for reducing flood risk.	Open	Alan Heatley	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
I6	Development and LA/LLFA planning policy - area identified as future/potential development.	Suggested route could be excluded, increasing time and cost in developing mitigation measures for another route.	Open	Alan Heatley	3	M	36%	2	L	14,255	21,383	28,510	6	5,061	7,591	10,121
I7	The EA/ LLFA may request that road levels are raised by approx. 2m to ensure that it remains safe and operational during times of flood	would lead to increase fill	Open	Alan Heatley	3	M	36%	3	M	28,510	57,020	85,530	9	10,121	20,242	30,363
	J Existing Structures															
	K Resources															
K1	Change to designer team members	Timescales and quality of work may be affected due to the staff member in question not being available.	Open	Chris Carr	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
K2	Insufficient time to manage project risks and issues (Designer)	Delegate tasks to deputy PM or project assistant bring in more staff if necessary	Open	Chris Carr	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
K3	Actions not closed out by due date and decision delays resulting in programme delay (Designer)	Meeting action tracker regularly reviewed and action owners chased. Identify key decision points on detailed programme.	Open	Chris Carr	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
K4	Cost overrun by designer	effective monitoring of timesheets and earned value.	Open	Chris Carr	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
K6	Change to WBC's project team	Timescales and quality of work may be affected due to the staff member in question not being available.	Open	Malcolm Pinto	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
K7	Insufficient time to manage project risks and issues (WBC)	Delegate tasks tor project assistant bring in more staff if necessary	Open	Malcolm Pinto	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
K8	Actions not closed out by due date and decision delays resulting in programme delay (Employer)	Meeting action tracker regularly reviewed and action owners chased. Identify key decision points on detailed programme.	Open	Malcolm Pinto	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
K9	Scheme not adequately resourced by contractor (supervision and labour)		Open	Chris Carr	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
	L Tender / Contract															
L1	Tender - Challenge to tender process	Delays to schedule	Open	Malcolm Pinto	1	VL	3%	3	M	28,510	57,020	85,530	3	713	1,426	2,138
L2	Tender - Limited interest in construction tender	Higher than expected tenders	Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
L3	Procurement strategy unattractive to the market	Strategy does not generate market interest	Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
L4	Lack of capacity in the market	There may be limited capacity in the market around specialists to work on some of the sensitive environmental aspects of the design/construction.	Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
L5	Inefficient procurement processes	Processes are too resource intensive	Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
L6	Intervention by third party organisations	Stakeholders slow down decision making	Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
L7	Ineffective supplier incentives	Incentives don't deliver the right attitudes	Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
L8	Legal challenges to procurement processes	Legal challenges to selection prevent awards	Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
L9	Risk transfer of design liability to contractor for D&B contract procurement method	The cost estimate has been based on rates for conventional procurement of design followed by construction. For D&B procurement the design liability would transfer to the contractor and the tender prices would reflect the contractor taking on the design risks.	Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
	M Approvals															
M1	Changes in legislation or regulation	Increased costs Delays to schedule	Open	Chris Carr	1	VL	3%	2	L	14,255	21,383	28,510	2	356	535	713
	N Products															
N1	Specialist materials / equipment may not be ready available	Increase cost and time	Open	Steve Elliott	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
	O Modelling															
O4	Errors in base models	Programme slippage as base models are corrected	Open	Alex Georgeson	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
O5	Requirement for variable demand modelling	Additional time required resulting in delay in programme	Open	Alex Georgeson	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
O6	Seasonal flow variation	Inaccurate BCR	Open	Alex Georgeson	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
O7	Unconstraint Forecast Model		Open	Alex Georgeson	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
	P Site Conditions															
P1	Ground conditions are more favourable than expected (Opportunity)	Reduced in ground engineering work and costs	Open	Steve Elliott	1	VL	3%	1	VL	-7,500	-5,000	-2,000	1	-188	-125	-50
P2	Services may be uncovered above the levels assumed in the estimate	Increased cost delays to activities whilst services are addressed	Open	Steve Elliott	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
P3	Services may be uncovered below the levels assumed in the estimate		Open	Steve Elliott	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
P4	Potential high sulphates in ground water:	Potential for additional protection for concrete structures	Open	Steve Elliott	1	VL	3%	3	M	28,510	57,020	85,530	3	713	1,426	2,138
P5	Potential for deep buried channel within site.	Potential for additional measures to deal with soft ground or increased foundation costs	Open	Steve Elliott	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
P6	Hard Rock Excavations	Increased construction costs	Open	Steve Elliott	1	VL	3%	4	H	85,530	114,040	142,550	4	2,138	2,851	3,564
P7	potential sand and gravel mineral resources in the are of construction	Compensation for sterilised mineral reserves; possible requirement to remove mineral potentially sterilised by works; additional earthworks where route crosses former/existing/future mineral workings	Open	Steve Elliott	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
P8	Potential for high ground water levels in sand and gravel deposits	Increased excavation costs; additional drainage or ground water control requirements	Open	Steve Elliott	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
P9	Animal burial sites	Unknown sites require translocation or formal disposal.	Open	Steve Elliott	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
P10	Unforeseen ground conditions	Unforeseen ground conditions results in additional costs	Open	Steve Elliott	2	L	13%	3	M	28,510	57,020	85,530	6	3,706	7,413	11,119
P11	Unknown mining beneath the proposed routes	Potential for unrecorded mining, shafts, pits, etc. Treatment measures may be required.	Open	Alan Heatley	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
P12	Unknown geohazards beneath the proposed routes	Potential for unrecorded geological faults, slip planes, etc. May cause instability in new earthworks and foundations.	Open	Alan Heatley	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
P13	Contaminated materials found on site	Potential for increase cost of disposal	Open	Alan Heatley	2	L	13%	5	VH	142,550	213,825	285,100	10	18,532	27,797	37,063
P14	Additional bore holes required	Potential for increase cost and rework of design	Open	Steve Elliott	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
P15	Service strikes	Disruption to neighbouring towns and villages, delays to programme, increased scheme cost	Open	Contractor	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
P16	Unidentified services	delays to programme, increased scheme cost	Open	Contractor	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
	Q Construction															

Q1	Presence of soft ground throughout the site	1. Type of ground is assumed as stable 2. Weather / floods	Open	Malcolm Pinto	2	L	13%	3	M	28,510	57,020	85,530	6	3,706	7,413	11,119
Q2	Potential for unexploded ordinance	Delay in start of the scheme Analysis and study Removal costs	Open		1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
Q3	Unforeseen archaeological finds	Increased cost to protect and remove (where applicable) Schedule delays	Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
Q4	Complaints to the project and stakeholders due to noise	Change to working hours resulting in delays Damage to reputation as work can not complete to schedule	Open	Contractor	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
Q5	Adverse weather conditions less than 1 in 10 year storm	Delays to ground works Complaints Compensation for contractors	Open	Contractor	1	VL	3%	3	M	28,510	57,020	85,530	3	713	1,426	2,138
Q6	Protestors to the project may physically stop work	Delays to project	Open	Contractor	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
Q7	Vandalism to project or project property may occur	Increased costs to secure area Increased costs for repair and replace	Open	Contractor	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
Q8	Supplier may underperform	Delays Renegotiation Increased cost to meet condition	Open	Contractor	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
Q9	Access may become problematic during construction	Potential delays. Cost increase	Open	Contractor	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
Q10	Suds drainage	increase in drainage requirements	Open	Steve Elliott	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
Q13	Bird nesting season	Delays to construction programme	Open	Malcolm Pinto	1	VL	3%	3	M	28,510	57,020	85,530	3	713	1,426	2,138
Q14	Stage 3 safety audit (multiples)	Additional construction needs to be instructed	Open	Steve Elliott	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
Q15	Outbreak of foot and mouth or similar, e.g. TB.	All work will have to be stopped	Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
Q17	Permanent water table higher than formation / drainage	Amendments required to the design depth of the pavement or structural foundations. Requirement for sub grade drainage and permanent dewatering.	Open	Malcolm Pinto	2	L	13%	1	VL	2,851	8,553	14,255	2	371	1,112	1,853
Q18	Incorrect quantities	Inaccurate quantities calculated during the design phase	Open	Contractor	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
Q19	Landscape and Visual Intrusion mitigation not sufficient.	Additional offsite landscaping may be provided required to improve screening for some receptors.	Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
Q21	Bats found on site during construction	Work would have to stop in areas Bats are found	Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
Q22	Contractor not complying with the waste management plan	Could lead to fines from the EA / HMRC	Open	Contractor	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
Q23	Contamination of groundwater and / or surface water during construction		Open	Contractor	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
Q24	Risk of drainage pipes settling due to settlement of adjacent earthwork structures.	Currently coordinating with Geotechnics team to understand the expected settlement	Open	Contractor	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
Q25	Condition of existing surface water drainage system	Delays and additional cost if existing system requires repair construction.	Open	Steve Elliott	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
Q26	Low CBR results in increase of pavement depth.	delays to programme, increased scheme cost	Open	Steve Elliott	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
Q27	Saturation of sub-base resulting in low CBR values	low CBR values, drying out required and/or stabilisation, increase scheme cost, delays to the programme	Open	Contractor	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
Q28	Road surfacing issues during poor weather	Defective road surface, remove and relay, delays to programme, increased scheme costs	Open	Contractor	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
Q30	Availability of fill material	No local fill material available, imported from further afield, increase scheme cost, delays to the programme	Open	Steve Elliott	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
Q31	Saturation of imported fill	low CBR values, drying out required and/or stabilisation, increase scheme cost, delays to the programme	Open	Contractor	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
Q32	Late appointment of Sub Contractor	Potential delays in overall programme.	Open	Contractor	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
Q33	Detritus carried on to public highway	Decreases skid resistance, pollution of highway, reputational damage	Open	Contractor	1	VL	3%	2	L	14,255	21,383	28,510	2	356	535	713
Q34	Travellers settle on the site	Poor PR, security and delays	Open	Contractor	1	VL	3%	3	M	28,510	57,020	85,530	3	713	1,426	2,138
Q36	Repairs to verges due to traffic diversion, use of shortcuts	Higher scheme costs	Open	Contractor	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
Q37	Soft landscaping	Soft landscaping not taking and dying	Open	Malcolm Pinto	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
Q38	Aggressive weed invasion	Delay to programme, increased scheme costs	Open	Contractor	3	M	36%	2	L	14,255	21,383	28,510	6	5,061	7,591	10,121
Q39	Drought conditions making difficult to install soft landscaping	Delay to programme, increased scheme costs	Open	Steve Elliott	1	VL	3%	1	VL	2,851	8,553	14,255	1	71	214	356
Q40	Pollution incident during the construction phase.	Delay to works, cost of clean up, possible prosecution	Open	Contractor	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706
Q41	Dust Pollution	Delay to works, possible prosecution	Open	Contractor	2	L	13%	2	L	14,255	21,383	28,510	4	1,853	2,780	3,706

Appendix I

SITE PLAN



-  LAMP COLUMN
-  ACTIVE EV CHARGING POINT
-  PASSIVE EV CHARGING POINT
-  TRAFFIC SIGN
-  SITE BOUNDARY



DRAFT

P01	21/01/2020	IM	FIRST ISSUE	CC	SD
REV	DATE	BY	DESCRIPTION	CHK	APP

DRAWING STATUS:

S2 - FOR INFORMATION



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CLIENT: WOKINGHAM BOROUGH COUNCIL

ARCHITECT

PROJECT: COPPID BEECH, WOKINGHAM
PARK & RIDE

TITLE: CONCEPT GENERAL ARRANGEMENT PLAN

SCALE @ A1:	CHECKED:	APPROVED:
1:250	CC	SD
PROJECT No:	DESIGNED:	DRAWN:
70058586	IM	IM
		DATE:
		February 20
DRAWING No:	REV:	
8586-WSP-CBPR-GEN-DR-0101	P01	

Appendix J

SCHEME COSTS





Client Project: Title:		Wokingham Borough Council Coppid Beech, Wokingham Park & Ride Concept Arrangement				
Location details	Notes/assumptions	Quantity	Unit	Approx. all in rate		Amount (£)
Series 200: Site clearance General Site Clearance		1	ha	£10,000.00		£10,000
Series 600: Earthworks Excavation and disposal of acceptable material		5000	m3	£34.00		£170,000
Series 700: Pavements Full depth carriageway construction	Comprising 200mm subbase, 200mm road base, 60mm binder course, 40mm surface course	8119	m2	£70.00		£568,330
Series 1100: Kerbs, Footways and Paved Areas New footway construction	Comprising 100mm subbase, 50mm binder course, 20mm surface course	1490	m2	£36.00		£53,640
Traffic island	Sett Paving on 100mm subbase and sand bedding	100	m2	£42.00		£4,200
Tactile paving		30	m2	£68.00		£2,040
Corduroy Paving		6	m2	£68.00		£392
New kerb	assumed precast concrete kerbing	1140	m	£37.00		£42,180
Drop kerbing		30	m	£37.00		£1,110
Street furniture Bus shelter & seating area	New Shelter with RTP1	1	nr	£15,000.00		£15,000
Cycle parking	50 Cycles	1	sum	£5,000.00		£5,000
Shelter for disabled parking		1	sum	£15,000.00		£15,000
P&R entry system & signage	Price includes entry terminals, exit terminals, barriers, signage	1	sum	£40,000.00		£40,000
Electric vehicle charging points	50% active / 50% passive	30	Nr	£2,500.00		£75,000
Series 3000 Landscaping and Ecology Local Landscaping		1300	m2	£10.00		£13,000
Trees		50	Nr	£2,000.00		£100,000
Allowances Allowance for Foul Drainage Pipe		1	sum	£ 10,000.00		£10,000
Allowance for Drainage		£1,114,892	%	15%		£167,234
Allowance for Lighting		£1,370,226	%	2.5%		£34,256
Allowance for Road Markings		£1,370,226	%	1%		£13,702
Sub Total						1,340,083
Items of construction contingency for items not identified and precise detail/spec				allowed at	10% £	134,008.33
Preliminaries and OH & P (Based on TMC carrying out the works)				allowed at	20%	£294,818.33
Approximate basic construction costs						£1,768,910
ADD Other considerations Work by Statutory undertakers and others				allowed at	10%	£176,891.00
	Survey/Investigate/Design/Procure(Supervision excluded)			allowed at	20%	£353,782.00
						£2,299,583
Risk Allowance Following QSRA process and after @ RISK processing				@ risk 85% percentile		£635,000
Approximate Indicative Total Budget Estimate excl Land and Inflation						£2,934,583
Inflation Assuming construction end Q4'21				allowance currently made	4%	£117,383.32
Approximate Indicative Total Budget Estimate excl Land						£3,051,966

LIST OF EXCLUSIONS AND PRICING NOTES

Exclusions

Site Supervision (carried out by Wokingham)
Optimism Bias
VAT
Legal issues
Land Take/Compensation

Pricing notes

The following assumptions have been made when preparing the estimates:
Estimates are based at 4Q 2019
Based on allowance of 300 spaces
Volker's TMC rates used instead of industry rates as Volker most likely be approached to deliver the construction of the scheme Reduced prelims on that basis.
Estimates have been based upon drawing numbers as scheduled on the attached and viewing on Google maps



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