
Annex B – AST Worksheets

Appraisal
Specification
Summary Table

Impacts	Sub-impacts	Estimated Impact in OAR	Level of uncertainty in OAR	Proposed proportionate appraisal methodology	Reference to evidence and rationale in support of proposed methodology	Type of Assessment Output (Quantitative/ Qualitative/ Monetary/ Distributional)
Economy	Business users & transport providers	High	Low	Bracknell Forest Multi-Modal Model (BFMMM) used as a basis for economic assessment. TUBA also used	Using BFC's model to create the most precise, local outcomes	Monetary/Quantitative
	Reliability impact on Business users	High	Low		Using BFC's model to create the most precise, local outcomes	Qualitative
	Regeneration	High	Low		Using BFC's model to create the most precise, local outcomes	Qualitative
	Wider Impacts	Medium	Low		Using BFC's model to create the most precise, local outcomes	Qualitative
Environmental	Noise	Slight	Medium	GIS Assessment and Environmental Statement input	Environmental Statements used for planning application which was successful. GIS assessment deemed appropriate due to providing a distributional picture.	Qualitative/Distributional
	Air Quality	Slight	Medium	GIS Assessment and Environmental Statement input	Environmental Statements used for planning application which was successful. GIS assessment deemed appropriate due to providing a distributional picture.	Qualitative/Distributional
	Greenhouse gases	Slight	Low	BFMMM & TUBA	Using BFC's model to create the most precise, local outcomes	Monetary/Quantitative
	Landscape	Medium	Low	Visual Desktop Assessment using Environmental Statements and Mapping	Environmental Statements used for planning application which was successful	Qualitative
	Townscape	Medium	Low	Visual Desktop Assessment using Environmental Statements and Mapping	Environmental Statements used for planning application which was successful	Qualitative
	Heritage of Historic resources	Slight	Low	Visual Desktop Assessment using Environmental Statements and Mapping	Environmental Statements used for planning application which was successful	Qualitative
	Biodiversity	Medium	Medium	Survey Data Collation and Desktop Assessment using Environmental Statements	Environmental Statements used for planning application which was successful	Qualitative

	Water Environment	Medium	Medium	Survey Data Collation and Desktop Assessment using Environmental Statements	Environmental Statements used for planning application which was successful	Qualitative
Social	Commuting and Other users	High	Low	BFMMM & TUBA	Using BFC's model to create the most precise, local outcomes	Monetary/Quantitative
	Reliability impact on Commuting and Other users	High	Low	BFMMM & TUBA	Using BFC's model to create the most precise, local outcomes	Qualitative
	Physical activity	Medium	Low	Qualitative and Quantitative Assessment using Census Data	Census Data used to calculate current usage by pedestrians and cyclists	Qualitative/Quantitative
	Journey quality	High	Medium	Qualitative and Quantitative Assessment using data from Environmental Statements	Environmental Statements used for planning application which was successful	Qualitative
	Accidents	Low	Low	Qualitative and Quantitative Assessment using data from Environmental Statements	Environmental Statements used for planning application which was successful	Qualitative/Distributional
	Security	High	Medium	Qualitative and Quantitative Assessment using data from Environmental Statements and Census Data	Improved environment for road users and pedestrians/cyclists through better provision and better landscaping/lighting because of new development	Qualitative/Distributional
	Access to services	Assumed Slight Positive	Low	Qualitative Assessment	No decisions made yet by BFC on public transport services but will be provided due to new housing.	Qualitative
	Affordability	Assumed Neutral	Assumed Neutral	Assumed Neutral	Assumed Neutral due to lack of current information regarding the affordability	Assumed Neutral
	Severance	Medium	Medium	Qualitative and Quantitative Assessment using data from Environmental Statements and Census Data	Environmental Statements used for Planning Application which was successful. Census Data and GIS to strengthen case.	Qualitative/Distributional
	Option values	Assumed Neutral	Assumed Neutral	Assumed Neutral	Assumed Neutral due to lack of current information	Assumed Neutral
Public Accounts	Cost to Broad Transport Budget	High	Low	Cost methodology of total spend.	This has been decided by BFC.	Monetary/Quantitative
	Indirect Tax Revenues	High	Low	BFMMM & TUBA	Using BFC's model to create the most precise, local outcomes	Monetary/Quantitative

**Distributional
Impact Appraisal**

Scheme description: A new link road to be constructed in the village of Warfield to provide access to B3034 Forest Road, A3095 Warfield Street and Harvest Ride. In addition it will provide useful connections to a proposed new development.

Indicator	(a) Appraisal output criteria	(b) Potential impact (yes / no, positive/negative if known)	(c) Qualitative Comments	(d) Proceed to Step 2
User benefits	The TUBA user benefit analysis software or an equivalent process has been used in the appraisal; and/or the value of user benefits Transport Economic Efficiency (TEE) table is non-zero.	Yes (Positive) It will provide user benefits economically which TUBA should pick up such as improved commuting times.	Potential benefits on journey time which will attract new businesses and new homeowners.	Further analysis through TUBA
Noise	Any change in alignment of transport corridor or any links with significant changes (>25% or <-20%) in vehicle flow, speed or %HDV content. Also note comment in TAG Unit A3.	Yes (Negative) Will probably have a negative impact due to constructing a new link road and the operation of the link road will bring noise to the surrounding area.	Construction will always create a negative impact but there is also the potential for further increases to traffic flow around the area due to further development	Further analysis through GIS
Air quality	Any change in alignment of transport corridor or any links with significant changes in vehicle flow, speed or %HDV content: • Change in 24 hour AADT of 1000 vehicles or more • Change in 24 hour AADT of HDV of 200 HDV vehicles or more • Change in daily average speed of 10kph or more • Change in peak hour speed of 20kph or more • Change in road alignment of 5m or more	Yes (Negative) New road being built therefore it will change the speed and road alignment. In addition, it will have over 9,000 more vehicles per day more along Harvest Ride, Forest Road and Warfield Street by 2026 and that's not including the new link road. Therefore the air quality will decrease.		Further analysis through GIS
Accidents	Any change in alignment of transport corridor (or road layout) that may have positive or negative safety impacts, or any links with significant changes in vehicle flow, speed, %HGV content or any significant change (>10%) in the number of pedestrians, cyclists or motorcyclists using road network.	Yes (Negative) Removing traffic away from Warfield Street (A3095) will allow little change in accidents. However it is predicted that along Harvest Ride will see a big increase in accidents from 1 to 1.6 in typical accident rate by 2026.		Yes- Further work is required to access the accident data in accordance with demographic data. In particular with children, older people, young adults and disabled.
Security	Any change in public transport waiting/interchange facilities including pedestrian access expected to affect user perceptions of personal security.	Yes (Positive) Improvements to lighting and landscaping along the new link road and onto Forest Road. In addition, it is hoped in the longer term to have new public transport services and access points.		Yes- Further work to assess the security in relation to vulnerable users of young people, women older people and disabled.
Severance	Introduction or removal of barriers to pedestrian movement, either through changes to road crossing provision, or through introduction of new public transport or road corridors. Any areas with significant changes (>10%) in vehicle flow, speed, %HGV content.	Yes (Positive) Introduction of the new road will bring wide shared use paths, a toucan crossing and help provide improved human interaction along Warfield Street due to minimising traffic flow.		Yes- Further work to assess the severance in relation to vulnerable users of children, older people and disabled.
Accessibility	Changes in routings or timings of current public transport services, any changes to public transport provision, including routing, frequencies, waiting facilities (bus stops / rail stations) and rolling stock, or any indirect impacts on accessibility to services (e.g. demolition & re-location of a school).	Yes (Positive) There will only be changes to public transport in the longer term. It is expected to improve for the area and to provide services to the new development.		There will be minimal changes in route times for current public transport and no changes to any public transport infrastructure in the short term therefore analysis of current services will be needed. Longer term there will be improvements.
Affordability	In cases where the following changes would occur; Parking charges (including where changes in the allocation of free or reduced fee spaces may occur); Car fuel and non-fuel operating costs (where, for example, rerouting or changes in journey speeds and congestion occur resulting in changes in costs); Road user charges (including discounts and exemptions for different groups of travellers); Public transport fare changes (where, for example premium fares are set on new or existing modes or where multi-modal discounted travel tickets become available due to new ticketing technologies); or Public transport concession availability (where, for example concession arrangements vary as a result of a move in service provision from bus to light rail or heavy rail, where such concession entitlement is not maintained by the local authority[1]).	N/A		Not necessary for AST

Distributional Impacts : Output Summary

Warfield Link Road without Development

		User Benefits	Noise	Air quality	Accidents	Security	Severance	Accessibility	Affordability	Local Authority	England
Social group and amenities indicators											
Resident population in the impact area	Income distribution quintiles	0-20%	0%	0%					N/A		20%
		20-40%	0%	0%					N/A		20%
		40-60%	0%	0%					N/A		20%
		60-80%	0%	0%					N/A		20%
		80-100%	100%	100%	100%				N/A		20%
	Children (<16)		21%	21%	21%	21%	21%	21%		20%	19%
	Young people (<25)		9%	9%	9%			9%		11%	12%
	Older people (>65)				16%	16%	16%	16%		13%	16%
	People with a disability				12%	12%	12%	12%		12%	8%
	Black Minority Ethnic							2%		2%	12%
	No car households						6%	6%		14%	26%
	Households with dependent children							49%		33%	57%
	Indicator population in the impact area		1825	241	241	11427	11427	2760	1,825	N/A	113,205
Amenities present within the impact area	Schools / nurseries		-	-	-	-	-	-	-	-	-
	Playgrounds		-	-	-	-	-	-	-	-	-
	Parks and open spaces		-	-	-	-	-	-	-	-	-
	Hospitals		-	-	-	-	-	-	-	-	-
	Care homes / day centres		-	-	-	-	-	-	-	-	-
	Community centre		-	-	-	-	-	-	-	-	-

Distributional Impacts : Output Summary

Warfield Link Road with Development

Social group and amenities indicators		User Benefits	Noise	Air quality	Accidents	Security	Severance	Accessibility	Affordability	Local Authority	England	
Resident population in the impact area	Income distribution quintiles	0-20%	0%	0%					N/A		20%	
		20-40%	0%	0%					N/A		20%	
		40-60%	0%	0%					N/A		20%	
		60-80%	0%	0%					N/A		20%	
		80-100%	100%	100%	100%				N/A		20%	
		Children (<16)		21%	21%	21%	21%	21%	21%		20%	19%
		Young people (<25)		9%	9%	9%			9%		11%	12%
		Older people (>65)				16%	16%	16%	16%		13%	16%
		People with a disability				12%	12%	12%	12%		12%	8%
		Black Minority Ethnic							2%		2%	12%
		No car households						6%	6%		14%	26%
		Households with dependent children							49%		33%	57%
		Indicator population in the impact area	3880	520	520	11427	11427	3642	3,880	N/A	113,205	53,012,000
Amenities present within the impact area	Schools / nurseries		✓	✓	-	✓	✓	✓	✓	-	-	
	Playgrounds		✓	✓	-	✓	✓	✓	✓	-	-	
	Parks and open spaces		✓	✓	-	✓	✓	✓	✓	-	-	
	Hospitals		-	-	-	-	-	-	-	-	-	
	Care homes / day centres		✓	✓	-	✓	✓	✓	✓	-	-	
	Community centre		✓	✓	-	✓	✓	✓	✓	-	-	

Distributional Impacts: Accidents

	Existing Casualty Rate for Vulnerable Users		
	Defined Vulnerable Casualty Group:		Motorcyclists, Cyclists and Pedestrians
	Low (more than 30% of average rate for class of road)	Medium (<30% lower to <30% higher than average rate for class of road)	High (more than 30% higher than average rate for class of road)
1. Change in physical layout that could impact on defined vulnerable group			
Significant improvement	Moderate Beneficial	Moderate Beneficial	Large Beneficial
Slight improvement	Slight Beneficial	Slight Beneficial	Moderate Beneficial
Neutral	Neutral	Neutral	Neutral
Slight worsening	Slight Adverse	Slight Adverse	Moderate Adverse
Significant worsening	Moderate Adverse	Moderate Adverse	Large Adverse
2. Change in traffic flow OR speed			
Significant reduction (>15% decrease)	Moderate Beneficial	Moderate Beneficial	Large Beneficial
Slight reduction (>5%, <15% decrease)	Slight Beneficial	Slight Beneficial	Moderate Beneficial
Neutral (<5% increase or decrease)	Neutral	Neutral	Neutral
Slight increase (>5%, <10% increase)	Slight Adverse	Slight Adverse	Moderate Adverse
Significant increase (>10% increase)	Moderate Adverse	Moderate Adverse	Large Adverse

3. Change in numbers of pedestrians, cyclists and motorcyclists

Should increase due to link road being close to new development as well as shared use path being constructed along the new link road

Overall assessment for link, based on criteria 1, 2 and 3 above

Slight Adverse-This is calculated as slightly adverse due to increases in accident rates by 2026 along the roads surrounding the link road. The link road could however reduce the accident rates along these routes but with the extra number of people moving to the area it is expected to have a slightly adverse affect.

Qualitative Commentary

It should be noted that the typical accident rates were calculated using the 'link and junction combined' methodology and generally include accidents at all junctions along the link. Large change in traffic flow around the area (overall 10%). However traffic will alter with new link road the speed will remain the same.

	Typical Accident Rate	Actual Accident Rate (average over 5 years)	2026 Typical Accident Rate
B3034 Warfield Street	0.7	1.6	0.9
Harvest Ride (West of Newell Green)	1	0.2	1.6
B3034 Forest Road (east of proposed Link Road)	0.2	0.2	0.3

01/07/2008 to 30/06/2013	Slight	Serious	Fatal
B3034 Warfield Street/ Newell Green	6	2	0
Harvest Ride/Binfield Road/Forest Road	9	0	0
Binfield Road/Forest Road/Newell Green	5	2	0

Distributional Impacts: Air Quality and Noise
Warfield Link Road- During construction

Properties within 200m zone of link road

	IoD Income Domain					Total
	Most deprived ←————→ Least deprived					
	0-20%	20-40%	40-60%	60-80%	80-100%	
Number of properties with improved air quality [A]	0	0	0	0	0	6
Number of properties with no change in air quality [B]	0	0	0	0	0	0
Number of properties with worse air quality [C]	0	0	0	0	94	94
Number of net winners / losers [D] = [A] – [C]	0	0	0	0	-94	-94
Total number of winners / losers across all groups [E] = $\sum[D]$	0	0	0	0	0	94
Net winners/losers in each area as percentage of total [F] = [D] / [E]	0%	0%	0%	0%	100%	100%
Share of total population of study area	0%	0%	0%	0%	100%	100%
Assessment	-	-	-	-	X	



Distributional Impacts: Air Quality and Noise

Warfield Link Road- When Operational

Properties within 200m zone of link road which includes some of the development

	IoD Income Domain					Total
	Most deprived ←————→ Least deprived					
	0-20%	20-40%	40-60%	60-80%	80-100%	
Number of properties with improved air quality [A]	0	0	0	0	6	6
Number of properties with no change in air quality [B]	0	0	0	0	0	0
Number of properties with worse air quality [C]	0	0	0	0	223	223
Number of net winners / losers [D] = [A] – [C]	0	0	0	0	-217	-217
Total number of winners / losers across all groups [E] = $\sum[D]$	0	0	0	0	0	217
Net winners/losers in each area as percentage of total [F] = $[D] / [E]$	0%	0%	0%	0%	100%	100%
Share of total population of study area	0%	0%	0%	0%	100%	100%
Assessment	-	-	-	-	X	

Distributional Impacts: Personal Security

Warfield Link Road

Security Indicator and element of entire journey	Performance for each security indicator			Relative importance of each indicator [B] (High /Medium /Low) (=3/2/1)				Weighted score for each indicator [C] = [A] * [B]			
	Without scheme	With scheme	Change (0/+1/+2) [A]	All users	Older people	Women	Young People	All users	Older people	Women	Young People
Access on foot from origin to the public transport stop	Poor	Moderate	1	2	3	1	1	2	3	1	1
Site perimeters, entrances and exits	Poor	High	2	2	2	1	1	4	4	2	2
Formal surveillance	Poor	Poor	0	1	2	2	1	0	0	0	0
Informal surveillance	Poor	Moderate	1	2	2	2	2	2	2	2	2
Landscaping	Poor	Moderate	1	2	3	3	2	2	3	3	2
Lighting and visibility	Poor	High	2	3	3	3	3	6	6	6	6
Emergency call	Poor	Poor	0	2	3	2	1	0	0	0	0
Staffing of facility	Poor	Moderate	1	1	3	2	1	2	3	2	1
Public transport journey between the boarding and alighting stops	Poor	Moderate	1	1	3	1	1	2	3	1	1
Access on foot from the alighting stop to destination	Poor	High	2	2	3	1	1	4	6	2	2
Total security improvement score [D] = $\sum[C]_n$								24	30	19	17
No of users affected (<500 users / day is low, >10,000 is high) [E]								11427 + 129 peds/cyclists	621	1,901	776
Overall assessment of security impacts (all users and vulnerable groups)								Highly Beneficial	Moderately Beneficial	Moderately Beneficial	Moderately Beneficial

Distributional Impacts: Severance

Warfield Link Road

	All social groups			No-car households			Young people			Older people			People with disabilities		
	Change in severance [A]	No of people affected [B]	Overall effect [A]*[B]	[A]	[B]	[A]*[B]	[A]	[B]	[A]*[B]	[A]	[B]	[A]*[B]	[A]	[B]	[A]*[B]
North of Link Road	-1	15	-15	-1	1	-1	-1	3	-3	-2	2	-4	-2	2	-2
East of Link Road	1	300	300	1	17	17	1	60	60	0	48	0	0	36	0
South of Link Road	0	2505	0	0	140	0	0	501	0	0	401	0	0	301	0
West of Link Road	3	822	2466	2	46	92	2	164	328	3	132	396	3	99	297

16-25	20%
65	16%
Disabled	12%
No Car Households	5.60%

TAG Landscape Impacts Worksheet

	Step 2	Step 3				Step 4
Features	Description	Scale it matters	Rarity	Importance	Substitutability	Impact
Pattern	<p>The area where the proposed Warfield link road will be produced is on arable farmland for produce and livestock/farm animals and grassland. There is an informal byway leisure route called Avery Lane going through the centre of the farmland where there are farm buildings (these will be unaffected by the link road). There are residential properties to the east and north east along A3095 Newhall Green and Warfield street including pubs and a community hall.</p> <p>To the North of B3034 Warfield Hall estate is located and to the south are the suburban residential areas of Bracknell. To the West of the proposal there is West end Farm development and Park Farm. Most of the developments around these areas are rural in character and have a heavy agricultural influence.</p> <p>The link road will go right through the centre of these fields from the B3034 to Watersplash Lane and onto Quelms Park Roundabout. A river will have to be slightly diverted for this link road to go in.</p> <p>There is a informal byway which the link road uses halfway through the section between B3034 to Watersplash Lane.</p>					



Tranquillity	<p>Areas to the west can be considered extremely tranquil and rural. West End Lane is a quiet lane where a dozen or so houses are located and the West End Farm.</p> <p>To the north it is also fairly tranquil with Warfield Hall estate owning the majority of the land. Forest Road however can be considered busier than West End Lane.</p> <p>To the east of the link road it can be considered a commuter style village area where the roads provide useful links to places like Maidenhead. This results in a large amount of traffic for the size of the road therefore is not considered very tranquil.</p> <p>To the south are the suburban residential areas of Bracknell. These can be considered tranquil being away from the urban core as it was created as a modern suburban residential area as Bracknell expanded.</p> <p>Where the link road would be located is currently tranquil due to it being completely farmland with a river called The Cut flowing through the site. However with a development being proposed with the link road the general area will become suburban Bracknell.</p>					
Cultural	<p>Typical farmland and rural buildings around with lots of agricultural fields surrounding them. Village lifestyle to east of the site and hamlet style living to east of the site. Historical 16th century connections with farm buildings and 19th century connections with housing to east and Warfield Hall estate.</p>					

Landcover	<p>Where site would be located is farmland. It is predominantly agricultural where they grow produce and keep animals and this occurs particularly close to where the farms are located. Other areas are grassland. All the field sizes are considered quite small (approximately 120m x 50m) and this could be because of the use of livestock/farm animals.</p> <p>There is a watercourse labelled The Cut which is a primary water course defining the valley floor crossing from the south west underneath the proposed link road. Individual and groups of mature trees are key features of the valley landscape. There are larger one in the South and South East of the site close to the link road. In addition there are hedgerows dividing fields and boundaries.</p> <p>The land cover will change however with the introduction of new residential housing around where the link road will be located.</p>					
Summary of character	<p>Overall the area where the proposed link road will be constructed can be considered rural, tranquil agricultural land and grassland and a footpath being an area the road will link to shows how rural the area is. The fields themselves illustrate they are only helping locally as they are very small scale. The surrounding area comprises of a small village with a major route to Maidenhead, Warfield Hall estate, farms and a hamlet of properties to the west. The south also has large residential development in suburban Bracknell.</p> <p>There is a watercourse named The Cut and vegetation including mature trees and hedgerows.</p> <p>The new development will cover the landscape mentioned therefore there is the</p>	Local scale due to the agricultural field sizes being very small therefore the agricultural work can be considered beneficial only at the farmers level.	Commonplace due to many areas surrounding have fields for agricultural purposes	Local level importance due to having no land based statutory designations	Can be replaced. Will remove predominantly grassland and divert a river	The link road will affect the tranquillity of the farmland where it is currently proposed, however it will also remove traffic from the roads where Warfield village is located. With the link road being located in the middle of farmland it would make it less intrusive for any of the current residents. The new development will however make the link road fit into the landscape. The views of the site will be just limited to those immediately bounding the northern and southern boundaries (Harvest Ride and Forest Road) therefore only a small number of users



	<p>chance to look at this understanding that the new development will be the new landscape. This therefore changes the perception and meaning of the link road allowing it to have a slightly beneficial impact on landscape.</p>					<p>will be affected. In addition, it will provide useful road space for the new development proposed in Warfield area. There is obvious initial impact on the scheme in terms of changing the landscape will be the removal of open green space including hedgerows and trees. However the quickly changing landscape will be taken over by a more urbanised, suburban setting anyway therefore it can be considered in its context that the link road is slightly beneficial.</p>
<p>Reference Sources Google Maps, Bing Maps, Magic Maps, Environmental Statement, Chapter 9, Nature Conservation and Ecology</p>						
<p>Step 5 - Summary Assessment Score Slightly Beneficial due to when development it built it will complement the development, not affect the natural environment hugely</p>						

TAG Townscape Impacts Worksheet							
	Step 2	Step 3					Step 4
Features	Description	Scale it matters	Rarity	Importance	Substitutability	Changes in Without-scheme case	Impact
Layout	The layout of the area is mainly agricultural with the proposed link road going through approximately 7 fields. However with a development being completed to the west collaboratively with the link road, then the surrounding area would mainly be a series of residential housing with a school, playing fields and quiet residential roads.						

Density and mix	<p>Initially the density is sparse with mainly agricultural fields and just several houses to the west and to the east. The buildings will not be close to the proposed link road due to new residential housing closing the gap. To the east the nearest current properties are 75m away and to the west the nearest are 250m away and SW 175m away.</p> <p>The link road will cover over 880m in length and be surrounded by a potential 750 dwellings to the west which is part of a Bracknell Forest scheme to create 2,200 dwellings within the Warfield area.</p>						
Scale	<p>In the east there are mainly semi-detached, two storey housing along one road (West End Lane). Here the main visual impact will mainly be the new residential housing rather than the link road due to the distance away from the houses.</p> <p>To the west of the proposed link road the housing is semi-detached red brick housing and some larger detached housing. All the properties are rural, agricultural looking houses. In the SW at The Splash they are predominantly bungalows.</p>						
Appearance	<p>Nearly all the properties are red brick 19th to early 20th century with farm like characteristics in terms of design. The new link road will not necessarily fit in with the rustic look of the buildings however to the west, Warfield Street is particularly busy by the housing therefore this link road will relieve the pressure here.</p>						

Human interaction	To the west there are fairly heavy vehicle flows for a small village therefore the human interaction is limited to going to amenities along the footpaths of Warfield Street to the pub or to the community centre. The reduction in vehicle flows on this route when the link road is built will improve human interaction in the village.						
Cultural	All the housing is cherished in its local setting. Warfield and Newell Green are small villages therefore there isn't much housing anyway. The housing in the Newell Green area is quite affluent and based upon rural design therefore this may have to be taken into consideration.						
Land use	Currently the land use is agricultural with small congregations of residential housing to the east and west and the suburban housing developments of Bracknell to the south.						
Summary of character	<p>The area of the proposed link road is considered rural, therefore there is little in the way of urban, built environment except through the southern part of development area which is the periphery of Bracknell and comprises of large amount of modern residential housing. The properties to the east and west of the proposed link road are typically agricultural in their build with 19th to early 20th century red brick, two storey buildings being the norm.</p> <p>It has been noted that "The Bracknell Settled Farmlands is almost entirely settled and the remaining undeveloped land is strongly affected by the influences of the urban area" as highlighted in Berkshire County Council</p>	Local based	Commonplace due to typical farm houses around and general modern developments on outskirts of Bracknell formed due to expansion of the town.	Medium importance at local level. Grade II listed structures on West End Farm Lane and Warfield Hall which will need to be taken into account.	Buildings can be replaced, landscape will have a longer lasting effect in comparison	Bracknell is growing massively as a town so needs more housing. Housing development has been agreed for up to 750 homes in Warfield as part of a 2,200 dwelling programme. To cater for this	Slightly Beneficial- It will fit into the design of the new development going ahead and the residential homes to the south of the proposed link road. It will also help improve the ambience of the townscape along Warfield Street to the west by traffic shifting from there to the new link road. However, initially it will



	Unitary Authority landscape character assessment (2008).					increase in housing a link road would be an important asset.	change the townscape and affect the current townscapes visual appearance.
Reference Sources							
Google maps							
Step 5 - Summary Assessment Score							
Slight Beneficial							

TAG Historic Environment Impacts Worksheet

Step 2		Step 3			Step 4
Feature	Description	Scale it matters	Significance	Rarity	Impact
Form	<p>4 Grade II listed buildings are within 400m of the site but not within the boundaries of where the improvements are taking place. Only one is worth further investigation - South Lodge to Warfield Hall.</p> <p>The site was also part of the medieval open field system but many of those field boundaries are no longer or have been changed.</p> <p>There is one designated historic landscape asset within the ZVI: the Grade II listed park of Moor. Close within the grounds of Newbold College.</p> <p>There were no artefacts of archaeological interest when the archaeological survey was conducted in October 2013 by Thames Valley Archaeological Services by The Cut where the link road will be constructed. However it is noted that along most of the site baseline knowledge is incomplete and the significance of effects cannot be predicted. The area is known to have produced archaeological finds from a range of periods (including Mesolithic, Bronze Age, Roman and Medieval).</p>				
Survival	<p>The effect of construction measured against the historic buildings will not be harmed but surrounding areas such as the farmland by South Lodge to Warfield Hall will be damaged through construction and through operational noise. Carriageway improvements by South Lodge to Warfield Hall will also potentially disrupt the residents there but no harm to the structure will occur.</p>				
Condition	<p>All the buildings are in excellent condition and inhabited.</p>				



Complexity	<p>South Lodge to Warfield Hall has a rural and historical context that hasn't been hindered as it sits within an estate with a classically designed entrance. This building will be unaffected by the link road but close to it works might affect its access.</p> <p>The milestone is in a highway setting as it lies adjacent to A3095. This will be unaffected by the link road.</p> <p>West End Farmhouse is in a location with a number of modern and traditional farm buildings. Its rural landscape has become modernised. This will be unaffected by the link road.</p>				
Context	<p>South Lodge to Warfield Hall is part of a wider Warfield House Estate which is an affluent 19th century estate belonging to wealthy individuals throughout time.</p> <p>Milestone is also changed by being located by the side of a highway which has been upgraded over the years.</p> <p>West End Farmhouse has a rural context and has been surrounded by modern and traditional farmhouses. It is considered a tranquil and hamlet style location.</p>				
Period	<p>South Lodge to Warfield Hall- early to mid 19th Century</p> <p>West End Farmhouse- 16th Century</p> <p>Potential Archaeological remains could be Mesolithic, Bronze Age, Roman or Medieval.</p>	<p>South Lodge to Warfield Hall- Regional</p> <p>Potential Archaeological remains- Local</p>	<p>Local based significance for the majority of area. South Lodge to Warfield Hall could be of regional importance.</p>	<p>None seen as rare within the region.</p>	<p>Neutral- The only area even remotely affected by the scheme would be South Lodge to Warfield Hall where junction improvements will occur for Three Legged Cross. This will require lane widening but it should be under highway land and should not affect the survival or character of the building.</p>



Reference Sources

Magic Map Application
Environment Statement, Chapter 12 and Chapter 13, Built Heritage and Historic Landscape: Warfield, Bracknell: Berkeley Homes (Oxford and Chiltern) Ltd

Step 5 - Summary Assessment Score

Neutral

Qualitative Comments

The archaeological study which found to need to be extended. It could be recommended to have couple more sites to excavate for any historical based remains.

TAG Biodiversity Impacts Worksheet

Step 2		Step 3					Step 4	Step 5
Area	Description of feature/ attribute	Scale (at which attribute matters)	Importance (of attribute)	Trend (in relation to target)	Substitution Possibilities	Biodiversity and earth heritage value	Magnitude of impact	Assessment Score
The Cut Stream	Stream is situated west of proposed link road which provides a corridor for wildlife. It forms part of a network of semi natural habitats including a network of hedgerows, woodland corridors, scrub lines and ditches. It will be maintained predominantly free from development to allow the movement of wildlife through the site and the	District	Medium	Has UKBAP status on the woodland therefore there is certain protection based schemes for this	Difficult	Medium	Intermediate Negative	Moderate Adverse
South East of the site (approx 145m away from Quelm Park Roundabout) are hedgerows.	Loss of recently planted hedgerow in far south east of the site and some qualify as "important" under the Landscape and Wildlife criteria of the 1997 Hedgerow Regulations.	Local	High	None	Will take considerable time to replace	Low	Minor Negative	Slight Adverse
South / South East of site	Loss of mature trees	Local	Medium	None	Will take considerable time to replace	Low	Minor Negative	Slight Adverse
The link road site	Bats, Badgers, Birds, Great Crested Newts and invertebrates were concluded to be present within the site area	Local	Medium	None	Difficult	Low	Minor Negative	Slight Adverse

Reference Sources

Environmental Statement, Chapter 9, Nature Conservation and Ecology

Summary Assessment Score

Slightly Adverse

Qualitative Comments

Recommendations: Implementation of the CEMP,
 Construction activities should be conducted in accordance with Environment Agency's Pollution Guidelines,
 Design and implementation of a temporary drainage strategy
 Night time illumination of habitats along the Cut corridor should be avoided
 Measures in place to avoid the likelihood of damage to retained trees
 Wherever possible, loss of hedgerows should be avoided.
 Retained hedgerows should be enhanced through infilling of gaps and implementation of appropriate management.



TAG Water Environment Impacts Worksheet

Description of study area/ summary of potential impacts	Key environmental resource	Features	Quality	Scale	Rarity	Substitutability	Importance	Magnitude	Significance
Study area:	The Cut- River which has been classified as "poor quality" by the Environment Agency	Transport and dilution of waste products- Construction	Surface water sewers are in the housing developments to south and south east which flow into River Cut. Potential increases in potable water may create increases in sewer water.	Local	Common-place	Highly Feasible	Low	Major	Low Significance
Potential Impacts:		Transport and dilution of waste products- Operational	Surface water sewers are in the housing developments to south and south east which flow into River Cut. Potential increases in potable water may create increases in sewer water. However drainage improvements will be made due to new development	Local	Common-place	Highly Feasible	Low	Minor	Insignificant



		Contamination of water courses	Through Construction the contamination of surface water may affect the balance of chemical quality in the river. During operation little contamination will be made and water quality is hoped to improve from EA's poor classification.	Local	Common-place	Highly Feasible	Low	Major	Low Significance
		Biodiversity	Conservation of river corridor due to BAP. Enhancement will be created through reed beds and other biodiversity enhancements.	Local	Can be considered slightly rare	Feasible	Medium	Minor	Insignificant
		Aesthetics	Contribution to landscape character and quality. River will be integrated within the development	Local	Common-place	Highly Feasible	Low	Negligible	Insignificant
		Flood Risk-Construction	The Cut is categorised as Flood Zone 3 and 2 by the Environment Agency due to the largely impermeable	Local	Common-place	Highly Feasible	Medium	Major	Significant



			London Clay.						
		Flood Risk-Operational	The Cut is categorised as Flood Zone 3 and 2 by the Environment Agency due to the largely impermeable London Clay. Excess water from drainage could enhance flood risk however the new surface water drainage systems should cater for 1:100 year plus climate change.	Local	Common place	Highly Feasible	Medium	Moderate	Low Significance
Reference Sources									
Environmental Statement, Chapter 15, Flood Drainage Water Quality									
Summary Assessment Score									
Neutral- the water environment will be changed through drainage systems for the highway as well as the enhancements to the biodiversity. In the short term the diversion of the river could be considered to have negative effects, however in the medium and long term there will be slight positive effects.									
Qualitative Comments									
Mitigation measures- Include a Construction Environmental Management Plan (CEMP) and the programming of permanent drainage works to allow drainage of newly constructed impermeable areas. Work with EA on biodiversity measures to improve the river quality.									



TAG Journey Quality Impacts Worksheet

A3095 Forest Road, Warfield and Newell Green

Factor	Sub-factor	Better	Neutral	Worse
Traveller Care	Cleanliness	Currently it is very clean and it is envisaged a new link road will enhance the cleanliness		
	Facilities	There will be facilities along the new proposed link road including bus stops, shared use path and a toucan crossing (for school). It is envisaged the new link road will continue to provide shared use paths on Forest Road and provide safe connections onto A3095.		
	Information	Appropriate signage will be implemented along A3095 and new link road		
	Environment	Adding a new link road will provide enhanced environment for journeys with better surfacing and reduce congestion on A3095.		
Travellers' Views	-	A3095 will be less congested for those needing to use this route as the new link road will provide an alternative road to use. This will mean travellers views will improve.		
Traveller Stress	Frustration		Minor frustration initially. However, A3095 will get reduced traffic and congestion due to	
	Fear of potential accidents		Will improve along A3095 due to reduced traffic and pedestrian access will be implemented on scheme.	
	Route uncertainty			Negligible to minor initially. But a positive change in route uncertainty with the link road being implemented.

Reference Source

Environmental Statement, Chapter 6, Transport

Summary Assessment Score

Highly Beneficial

TAG Journey Quality Impacts Worksheet

Harvest Ride

Factor	Sub-factor	Better	Neutral	Worse
Traveller Care	Cleanliness	Currently it is very clean and it is envisaged a new link road will enhance the cleanliness		
	Facilities	There will be facilities along the new proposed link road including bus stops, shared use path and a toucan crossing (for school). It is envisaged the new link road will provide links to the shared use paths on Harvest Ride.		
	Information	Appropriate signage will be implemented along Harvest Ride and new link road		
	Environment	Adding a new link road will provide enhanced environment for journeys with better surfacing.		
Travellers' Views	-		At Harvest Ride it could suggest an increase in traffic will have a negative effect but the impression of the link road should help journey time, therefore the traveller views are balanced as neutral	
Traveller Stress	Frustration			Due to Link Road coming into Quelm Park roundabout would mean more traffic along Harvest Ride potentially. Considered to be a minor negative impact
	Fear of potential accidents		The level of fear is predicted to be average with the sensitivity and magnitude of change to be low therefore a neutral impact is estimated.	
	Route uncertainty			Minor significance initially but a negative effect will occur in terms of route uncertainty on Harvest Ride. This is due to the Link Road connecting to Quelm Park roundabout/Harvest Ride.

Reference Source

Environmental Statement, Chapter 6, Transport

Summary Assessment Score

Neutral

TAG Journey Quality Impacts Worksheet

Forest Road (B3034)

Factor	Sub-factor	Better	Neutral	Worse
Traveller Care	Cleanliness	Currently it is very clean and it is envisaged a new link road will enhance the cleanliness		
	Facilities	There will be facilities along the new proposed link road including bus stops, shared use path and a toucan crossing (for school). It is envisaged the new link road will provide wider paths on Forest Road up to Warfield Street and potentially up to new development..		
	Information	Appropriate signage will be implemented along Forest Road and new link road		
	Environment	Resurfacing of parts of Forest Road and a new link road will provide enhanced environment for journeys.		
Travellers' Views	-		Forest Road Traveller views will be considered neutral as the new link road should only briefly affect this road. The improvements to Three Legged Cross should help not to create any congestion.	
Traveller Stress	Frustration			Baseline shows low frustration but because of the diversion of traffic to not use Warfield Street, more will come along Forest Road and also the development will also bring more traffic
	Fear of potential accidents		Fear is predicted to be poor. The sensitivity and magnitude of change is considered to be low therefore a neutral impact is estimated.	
	Route uncertainty			Minor significance initially but a negative effect will occur in terms of route uncertainty on Forest Road. This is due to the Link Road connecting to Forest Road.

Reference Source

Environmental Statement, Chapter 6, Transport

Summary Assessment Score

Neutral

TAG Journey Quality Impacts Worksheet

Overall

Factor	Sub-factor	Better	Neutral	Worse
Traveller Care	Cleanliness			
	Facilities			
	Information			
	Environment			
Travellers' Views	-			
Traveller Stress	Frustration			
	Fear of potential accidents			
	Route uncertainty			

Reference Source

Environmental Statement, Chapter 6, Transport

Summary Assessment Score

Overall the scheme journey quality can be considered to be slightly beneficial. In terms of journey quality along Warfield St/A3095 it should improve massively as the new link road will reduce traffic here. However traffic will increase along Harvest Ride and Forest Road which could lead to small increases in traveller stress. These will be incredibly minor due to most travel routes will be going into Bracknell therefore not using Harvest Ride.

TAG Security Impacts Worksheet

Security Indicator	Relative importance	Without scheme	With scheme
	(High/Medium/Low)	(Poor/Moderate/High)	(Poor/Moderate/High)
Site perimeters, entrances and exits	<u>High</u> - Importance to make sure people understand the correct exits and entrances to different pieces of the road network. High importance to keep pedestrians and cyclists safer.	<u>Moderate</u> - The current issue of congestion along A3095/Warfield St shows the potential for crime, although not a major road and there is already appropriate signage for the route.	<u>High</u> - Reducing congestion around A3095/Warfield St in particular will help less crime occur at low speeds. Clearly marked signage and markings will be implemented to make areas safer. In addition a 3m shared use path to be implemented along the link road which will allow pedestrians and cyclists to be safer. A toucan has also been discussed to be installed along the link road.
Formal surveillance	N/A	N/A	N/A
Informal surveillance	<u>Medium</u> - Importance to make sure vehicles as well as vulnerable users are safe along roads and footpaths/shared use paths	<u>Poor</u> - A3095, Forest Road and Harvest Ride all have high landscaping which blocks visibility in terms of security. Only visibility is provided by houses along routes but there isn't many.	<u>Medium</u> - Landscaping will be used as an informal surveillance along link road but only up to 600mm max therefore visibility will still be retained for safety. However other roads like Warfield St, Harvest Ride and Forest Road would not have these type of improvements therefore only the people and traffic altering their journeys will have their informal surveillance improved.
Landscaping	<u>Medium</u> - Landscaping features are importance to give the impression people are looking out and watching intruders. This is particularly importance in this more rural part of the Bracknell borough. Also it helps provide a nicer environment to live in.	<u>Poor</u> - A3095, Forest Road and Harvest Ride all have high landscaping which blocks visibility in terms of security. Only visibility is provided by houses along routes but there isn't many.	<u>High</u> - Landscaping will contribute to visibility and deter intruders. This will be particularly visible along the link road and edges of Forest Road/Harvest Ride where new developments will provide pleasant, intruder deterrent landscaping.
Lighting and visibility	<u>High</u> - Due to a large amount of new housing being developed close by.	<u>Poor</u> - Only Harvest Ride has appropriate lighting with Warfield St and Forest Road having zero lighting columns.	<u>High</u> - Numerous lighting columns along the new link road will be provided (and onto Forest Road) and there are numerous along Harvest Ride. There are a moderate share of lighting columns where there are residential properties along A3095. There will be no improvements along Forest Road for lighting except by the new link road however no homes will be adjoining onto this road at the moment except via the link road.
Emergency call	N/A	N/A	N/A

Approximate Number of Users Affected

Population of 3880 which covers LSOA population (1825) and the potential population of the new development (2055). In terms of impacted social groups there would be 1591 children and young people (0-25), 621 elderly (over 65) of the population.
 The daily flow of traffic predicted with the development by 2026 is:
 A3095 Warfield Street- 6360
 Harvest Ride (West of Newell Green)- 16767
 B3034 Forest Road- 9423
 Average- 9808

Reference Source

Neighbourhood Statistics- Population Density, 2011 (QS102EW)
 Transport Assessment 1- Warfield, Bracknell, Glanville, 2013
 Amended Indicative Lighting Location Plan
 Environmental Statement, Chapter 6, Transport and Access, Berkeley Homes (Oxford and Chiltern) Ltd

Summary Assessment Score

Highly Beneficial

TAG Severance Impacts Worksheet

Warfield Link Road

Change in Severance	Population Affected				
	location 1- North	location 2- East	location 3- South	location 4- West	Total Affected
Large negative					
Moderate negative					
Slight negative	15 (400m) 0 (Walk to Work data)				
Neutral			2505 (400m) 170 (Walk to Work)		
Slight positive		300 (400m) 20 (Walk to Work)			3642 (400m) 248 (Walk to Work)
Moderate positive					
Large positive				822 (400m) 58 (Walk to Work)	

Reference Source

Google Maps
 Census Data- Method of Travel to Work (2011)
 Figures include development of 300 homes which are in the catchment of 400m.

Summary Assessment Score

Slightly Positive

Qualitative Comments

Severance will be improved by providing a new link road with shared use paths, pedestrian islands and reduced traffic on Warfield Street. The severance of Harvest Ride will be similar as it currently has shared use paths and pedestrian islands on roundabout junctions which will remain unchanged. There will potentially be some increases in severance Forest Road for pedestrians due to little provision and heavier traffic.