



Developments Affecting Trunk Roads and Special Roads

Highways England Planning Response (HEPR 16-01)

Formal Recommendation to an Application for Planning Permission

From: Regional Director
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To: Lee Burman, Wiltshire Council

CC: transportplanning@dft.gsi.gov.uk
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Council's Reference: 17/03417/OUT

Referring to the outline planning application dated 07 April 2017 for the erection of up to 1,000,000ft² of Class B8 (storage and distribution) on Land south-east of Junction 17 of M4 Motorway, Kington Langley, Chippenham, Wiltshire; notice is hereby given that Highways England's formal recommendation is that we:

- ~~a) offer no objection;~~
- ~~b) recommend that conditions should be attached to any planning permission that may be granted (see Annex A – Highways England recommended Planning Conditions);~~
- c) recommend that planning permission not be granted for a specified period (see Annex A – further assessment required);
- ~~d) recommend that the application be refused (see Annex A – Reasons for recommending Refusal).~~

Highways Act Section 175B ~~is~~ is not relevant to this application.¹

¹ Where relevant, further information will be provided within Annex A.

This represents Highways England formal recommendation and is copied to the Department for Transport as per the terms of our Licence.

Should you disagree with this recommendation you should consult the Secretary of State for Transport, as per the Town and Country Planning (Development Affecting Trunk Roads) Direction 2015, via transportplanning@dft.gsi.gov.uk.

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Annex A Highways England recommended further assessment required

HIGHWAYS ENGLAND (“we”) has been appointed by the Secretary of State for Transport as strategic highway company under the provisions of the Infrastructure Act 2015 and is the highway authority, traffic authority and street authority for the Strategic Road Network (SRN). The SRN is a critical national asset and as such we work to ensure that it operates and is managed in the public interest, both in respect of current activities and needs as well as in providing effective stewardship of its long-term operation and integrity.

This response represents our formal recommendations with regard to the planning application submission (Ref - 17/03417/OUT) and has been prepared by Rachel Sandy of the Operations Division Growth and Improvement Team and Asset Manager for the SRN in Wiltshire.

We have undertaken a review of the relevant documents supporting the planning application to ensure compliance with the current policy of the Secretary of State as set out in DfT Circular 02/2013 “The Strategic Road Network and the Delivery of Sustainable Development” and the DCLG National Planning Policy Framework (NPPF), being advised on this matter by our consultants, CH2M.

Statement of Reasons

Highways England has undertaken a review of the Transport Assessment (TA) and Framework Travel Plan (FTP) dated November 2016, as prepared by Peter Brett Associates (PBA). Highways England’s primary concern includes the operation and safety of the Strategic Road Network (SRN) which includes M4 J17 in proximity to the site. Our comments are set out below.

Development Proposals

The proposals include 92,904m² Gross Floor Area (GFA) of B8 storage / distribution land uses. This matches the planning application form submitted to Wiltshire Council, which seeks outline consent for the employment space and associated infrastructure, including full details of vehicular access to the B4122.

With the end occupants not yet confirmed, a series of individual units are considered possible for the site, providing the applicant with flexibility to meet the individual requirements of prospective occupiers. The cumulative floor area will however remain within the land use and total floor area for which planning permission is being sought.

Trip Rates and Generation

The applicant has previously discussed and agreed the approach to deriving trip rates for this bespoke site with Highways England. During these pre-application discussions it was agreed that the applicant could utilise trip rates derived from the Triangle Site in Swindon. This includes a similar sized B8 distribution centre, in the absence of suitable and comparable large-scale sites included in TRICS.

This results in the following trip generation for the site:

AM Peak: 186 arrivals, 84 departures. Total 269 vehicles two-way

PM Peak: 102 arrivals, 232 departures. Total 334 vehicles two-way

Given the nature of the proposals, a significant proportion of development trips generated will be HGV's. PBA have estimated this HGV split by making reference to B8 land uses contained within the TRICS database. This results in 145 of the 269 two-way AM peak and 180 of the 334 two-way PM peak trips being HGV trips.

As a result of the pre-application discussions, trip rates and trips generation is agreed.

Trip Distribution

Employee Trip Distribution

Employee trip distribution has been based on Census 2011 data, utilising a total of 35 Middle Super Output Areas (MSOAs), as the key potential residential locations for employees of the site. These have then been grouped into zones for determining traffic assignment routes.

Based on the information presented in the TA, this results in 107 two-way employee trips impacting on M4 junction 17 in the AM peak and 132 in the PM peak.

Employee trip distribution / assignment was accepted by Highways England as part of pre-application discussions.

Operational Trip Distribution

This has been calculated using "economic analysis undertaken in support of the proposed development" and "discussions with an industrial land agent". Highways England has previously requested that the supporting information be provided but this has not been forthcoming.

Notwithstanding the above, as the end occupiers of the site are not known, Highways England considers that operational distribution would be best calculated by assuming robust assumptions for SRN impact, given the nature and location of the proposals. On this basis, PBA assume that 90% of operational trips travel on the SRN. This assumption is acceptable to Highways England.

For clarity, the employee and operational results include 275 Passenger Car Units (PCUs) in the AM peak impacting on M4 junction 17 and 332 PCUs in the PM peak. PCUs are a measurement of length and equate to 5.75m each.

Capacity Analysis

Highways England has, as part of pre-application discussions stated that assessment of M4 J17 will be required using the Highways England S-Paramics model, which is maintained by Systra. PBA have commissioned this work, but it has not yet been completed, and as such, the TA submitted only contains analysis of M4 J17 using LinSig.

The LinSig assessments include 2019 opening and 2026 future year scenarios using a model provided by Atkins, built on behalf of Wiltshire County Council. This model was developed in support of a partial signalisation scheme identified for M4 J17 to accommodate Local Plan allocations up to 2026, and to address existing M4 mainline queuing during peak periods. This scheme, which signalises the eastbound and westbound junction M4 off-slips is programmed for implementation in Autumn 2017.

PBA have presented two flow scenarios within the TA – the first being the flows as utilised by Atkins, and the second being flows surveyed by PBA in June 2016. The latter flows are lower and so PBA have confirmed that the “primary” set of flows are those utilised by Atkins. Our modelling comments that follow, only relate to the Atkins flows.

As a result of the changes made to the LinSig model, the 2019 “base” scenario with the partial signalisation scheme and proposed Chippenham Gateway development, results in the junction operating at capacity on all arms, except for the M4 westbound off-slip in the AM peak. In the PM peak, the junction is shown to have greater capacity compared to the AM peak, with Degrees of Saturation (DoS) recorded around the 86%-94% level on most approaches, apart from the B4122 which includes significant capacity constraint and queuing.

PBA have proposed an additional package of mitigation which broadly comprises signalising the A350 approach to M4 J17 with local widening, signalising the B4122 approach with local widening, and widening the circulatory carriageway at the A350

and B4122 arms to three lanes. This is an improvement scheme beyond that currently identified and for implementation later this year.

The LinSig modelling results show the operation of the M4 off-slips remain within “acceptable limits”, despite saturation flows being well over 90%, many approaches to the junction are shown to operate with significant queuing (such as the A429 southbound in the AM peak having a mean maximum queue of 160 PCUs, some 1.2km of queuing).

A comparison of the accepted 2019 Highways England / Wiltshire Council (Atkins) model position, and that compared to the 2019 scenario inclusive of proposed development and mitigation, is set out below.

AM PEAK		2019 Base + Com HE/WCC accepted position		2019 Base+Com+Dev+Mit) with dev and mitigation scenario		Difference in Results	
Link	Approach	% Sat	MMQ	% Sat	MMQ	% Sat Diff	MMQ Diff
2/1	A429 S'bound (giveway)	116%	112	126%	160	10%	48
5/1	M4 E'bound Offslip	119%	61	116%	58	-3%	-3
5/2	M4 E'bound Offslip	119%	62	116%	57	-3%	-5
7/1	A350 N'bound	108%	121	112%	111	4%	-10
7/2	A350 N'bound	108%	111	112%	111	4%	0
7/3	A350 N'bound (Mit only)			115%	89		
9/1 (9/2)	B4122	70%	5	83%	7	13%	2
9/3	B4123 (Mitigation only)			99%	15		
4/1	M4 W'bound Offslip	82%	10	90%	14	8%	4
4/2	M4 W'bound Offslip	82%	10	84%	11	2%	1
TOTAL		804%	492	839%	529	35%	37

PM PEAK		2019 Base + Com HE/WCC accepted position		2019 Base+Com+Dev+Mit) with dev and mitigation scenario		Difference in Results	
Link	Approach	% Sat	MMQ	% Sat	MMQ	% Sat Diff	MMQ Diff
2/1	A429 S'bound (giveway)	85%	8	92%	11	7%	3
5/1	M4 E'bound Offslip	87%	12	89%	13	2%	1
5/2	M4 E'bound Offslip	87%	12	81%	10	-6%	-2
7/1	A350 N'bound	74%	2	89%	13	15%	11
7/2	A350 N'bound	73%	1	89%	13	16%	12
7/3	A350 N'bound (Mit only)			84%	13		
9/1 (9/2)	B4122	53%	3	94%	11	41%	8
9/3	B4123 (Mitigation only)			78%	6		
4/1	M4 W'bound Offslip	88%	13	95%	18	7%	5
4/2	M4 W'bound Offslip	88%	13	90%	14	2%	1
TOTAL		635%	64	719%	103	84%	39

Based on the results above, it is unlikely that this level of operation is acceptable to the local highway authority, especially as queuing on the A429 approach increases by 49 PCUs (MMQ) in the AM peak. This is a queue increase of 282m. Whilst it is accepted that there are some queue reductions on other approaches, including the M4 off-slips, the proposed development with mitigation, does not negate the developments impact on overall junction capacity, increasing both queues and delays compared to the 2019 agreed position.

In the AM peak, DoS increases by 35% and MMQs increase by 37 PCUs. In the PM peak, junction DoS increases by 84% and MMQs increase by 39 PCUs, although DoS and queues largely remain within acceptable levels during the PM period.

Subject to the results generated by the Highways England's S-Paramics model, Highways England will need to coordinate a response with Wiltshire Council before providing comments on the mitigation scheme identified. For Highways England to accept this mitigation scheme (in principle) for the SRN, it would be on the basis of accepting it at the consequence of a severe impact occurring on the local highway network. This response will be coordinated and provided once the S-Paramics modelling results are presented.

It is also noted that no details of the operation of the circulatory links are shown within the TA. These should be provided for completeness. This will also be considered in the S-Paramics model review.

Whilst the provision of the LinSig assessment is useful, Highways England is unable to determine whether the proposed mitigation is acceptable without assessment in S-Paramics. The S-Paramics model remains Highways England's validated model, and the modelling tool consistently used to determine the level of impact of all Chippenham developments on the SRN.

In addition to the S-Paramics modelling, the following information will be required to support the proposed mitigation scheme:

- Amendments to the proposed mitigation scheme drawing so as to:
 - Show proposed signal head locations
 - Ensure all proposed lining enables the movements indicated.
- An AutoCAD drawing of the mitigation scheme;
- Stage 1 Road Safety Audit conducted fully in accordance with HD 19/15;
- NMU Audit Context Report;
- Confirmation that there are no departures or relaxations from standards; and
- Swept path analysis demonstrating that two HGV's can negotiate the improvements side by side.

It is, however, considered that this information be provided following Highways England's review of the S-Paramics modelling results, in case the mitigation scheme presented is not accepted, and to prevent abortive work.

Travel Plan

A Framework Travel Plan (FTP) has been presented by PBA to promote sustainable journeys to/from the site by employees and identifies a range of measures to be provided, targets and monitoring. Our comments are as follows, with reference to the relevant paragraph from the document where applicable:

- Some of the wording within the document could be tightened to offer more commitment to the details set out in the FTP.
- No details are set out in relation to car parking provision on site and this will be key in ensuring that the FTP can meet targets;
- We note that no information is provided on car parking provision. Whilst we appreciate that some details relating to parking cannot be resolved until occupiers are established, we consider that setting out some details at this stage would be beneficial in ensuring that the parking provision is commensurate with the trip generation as set out in the TA, and the measures and targets within the FTP. A FTP measure could also include the removal of some car parking if the FTP meets/exceeds targets?
- 4.2.2 – whilst the provision of a shuttle bus is welcome and we understand that its times and frequency of operation cannot be determined at this stage, some further details (such as typical hours of operation, frequency and number/size of vehicle(s)) would be welcomed so that we can be further assured that there is an understanding of the level of funding required.
- 4.3.1 – reference should be made to confirm that the cycle parking will be secure and that there will be provision within each unit for showering/changing facilities and lockers
- 4.4.2 – these options should be listed as “and/or” rather than “or”.
- 4.5.1 – whilst car sharing is to be promoted, no incentives are set out, such as better located car parking, free breakfasts etc.
- 5.31 – it is unclear at what point the Travel Plan Coordinator will be appointed – this should be sufficiently before first occupation to enable them to develop the FTP.
- 6.1.5 – Whilst car sharing is to be monitored

Summary

Following Highways England’s review of the TA and FTP, a number of points require clarification or further information. These include:

- S-Paramics analysis (conducted by Systra) is required;
- Further information to support the proposed mitigation scheme will be required:

- An AutoCAD drawing
 - A Stage 1 Road Safety Audit
 - NMU Audit Context Report
 - Confirmation of no departures or relaxations from standards
 - Articulated vehicle swept path analysis
- A number of amendments to the Framework Travel Plan to make it more robust.

Based on the comments provided above, Highways England's recommendation is presented below.

Recommendation

Highways England recommends that Wiltshire Council does not grant planning permission for the Chippenham Gateway proposals (ref: 17/03417/OUT) for a period of 3 months.

Reason

To provide the applicant with sufficient time to address outstanding Highways England concerns regarding the operation and safety of the SRN (M4).

