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,
South West Operations Division
Highways England
planningsw@highwaysengland.co.uk

To: Catherine Loveday, South Gloucestershire Council

CC: transportplanning@dft. gov.uk
growthandplanning@highwaysengland.co.uk

Council's Reference: PT18/6450/O

Referring to the notification of the Outline Planning Application validated on 21 December 2018, regarding M5 J14: Erection of up to 630 dwellings (Class C3); up to 700sqm for Retail (Classes A1, A2, A3) and Community Hub (Class D1), network of open spaces, new roads, a sustainable travel link, parking areas, accesses and paths; and installation of services and drainage infrastructure (Outline) with access to be determined and all other matters reserved at Park Farm, Butt Lane, Thornbury, Bristol, South Gloucestershire BS35 1RA, 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 not relevant to this application.[1]

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 2018, via transportplanning@dft. gov.uk.

Signature: Rachel Sandy	**Date:** 11 November 2020
Name: Rachel Sandy	**Position:** Team Leader, Highways Development Management
Highways England: Brunel House, 930 Aztec West, Bristol, BS32 4SR Rachel.Sandy@highwaysengland.co.uk	

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

Annex A Highways England recommended Planning Condition

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 to the planning application (Ref: PT18/6450/O) and has been prepared by Rachel Sandy, South West Highways Development Management Team Leader

We have undertaken a review of the relevant documents supporting the planning application to ensure compliance with the current guidance 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 MHCLG National Planning Policy Framework (NPPF), being advised on this matter by our consultants, Jacobs.

Statement of Reasons

Highways England provided previous responses to the Planning Authority dated 5 February 2019, 26 April 2019, 29 July 2019, 28 January 2020 and 28 July 2020 recommending temporary non-approval of the application to enable the Applicant to complete the Transport Assessment supporting the planning application, and undertake the necessary road safety audits and safety risk assessments of a proposed improvement scheme at M5 J14. Our comments below conclude the matters set out within our previous responses.

Background

The proposals referred to as 'West of Park Farm', include up to 595 residential dwellings, a neighbourhood hub (local centre) comprising up to 700m2 retail and community land uses, and a primary school. Highways England's interests relate to the operation and safety of the SRN, which in proximity to the site includes M5 J14.

M5 J14 is comprised of a single overbridge with slip roads to the north and south and a 3-lane mainline carriageway. The junction is signalised which operates on a part-time strategy, with signals not in operation during the morning peak period between 0645am and 0910am but operational on MOVA control for the rest of the day. During the morning peak period, the junction operates on a simple priority basis. The M5 J14 operates with significant capacity and performance constraints during the morning peak period and vehicle queues typically extend from the northbound offslip onto the mainline. However, previous operation of the signals during the morning peak period resulted in severe queuing and delay on the local road network and it is not considered acceptable to either Highway Authority for the signals to be operational during this time. The junction is therefore sensitive to increases in demand during the morning peak period in particular.

M5 J14 Traffic Impact and Capacity Assessment

Stantec (acting on behalf of the Applicant) has determined the forecast vehicle trips generated by the development and the resulting impact at M5 J14. Residential two-way vehicular trip rates of 0.614 (morning peak) and 0.591 (evening peak) have been derived for the development, which are comparable with other local developments and accepted by Highways England.

Trip distribution has been undertaken using a Gravity Model agreed by Highways England and South Gloucestershire Council with approximately 23% of work-based trips and 70% of non-work trips remaining internal to Thornbury. It is predicted that 18% of all external trips generated during the peak periods will distribute via the M5 J14.

Highways England is satisfied that the development proposals are forecast to generate an additional 85 movements at the M5 J14 during the morning peak hour, and 86 two-way movements during the evening peak hour. On the basis that the development proposals would result in a significant traffic impact at M5 J14, Highways England required capacity assessments to be undertaken to determine if and when highway improvements would be required to ensure an unacceptable safety impact does not occur on the SRN.

Paragraph 9 and 10 of Circular 02/2013 set out that development proposals are normally considered to be acceptable if they do not increase demand for use of a section of the strategic network that is already operating over-capacity, or cannot be safely accommodated within the existing infrastructure provision. Any development proposals which increase demand at M5 J14, which is sensitive to small changes in traffic movements on both the nearby local road network and at the junction itself, and result in mainline queuing (or increases in length, duration or frequency of existing mainline queuing), will be considered as having an unacceptable impact on highway safety. This is due to the high potential severity of collisions between stationary or slow-moving queued vehicles and fast moving through traffic. Development that results in an unacceptable impact on highway safety can be refused on highways grounds in line with paragraph 109 of the NPPF.

Stantec has undertaken a 2021 ‘opening year’ capacity assessment of the development proposals at the M5 J14, utilising Highways England’s VISSIM model, which is an approved platform for testing development impact at the junction. The modelling assumptions, including growth rates and committed developments, were accepted by Highways England at the time that Stantec undertook the modelling assessment. The modelling assessment demonstrated that on the sensitive northbound offslip, the development proposals would result in a vehicle queue increase of 3m from 1,184m to 1,187m (less than one car length) during the morning peak period compared to the ‘without development’ scenario.

However, since this work was undertaken by Stantec and given that there has been a delay in determining the application, there have been material changes to the committed developments used as part of the forecast assessment. Consequently, forecast year demand and traffic flows at the M5 J14 have also changed resulting in a change to the assessment baseline. As such, to understand the impact of development traffic at the junction which as previously stated is very sensitive to changes in traffic flows, Highways England has

undertaken up-to-date testing utilising revised growth assumptions in line with recent consents granted/allowed.

Highways England's modelling assessment demonstrates that on the northbound offslip, the development proposals would result in a vehicle queue increase of 24m from 1,241m to 1,265m (approximately 5 car lengths) during the morning peak period compared to the 'without development' scenario.

On the basis of the development impact on the northbound offslip, which exacerbates an existing mainline queue (contrary to Circular 02/2013 para 9), mitigation is necessary to ensure that the development does not result in an unacceptable highway safety impact at M5 J14.

M5 J14 Improvement Scheme

The Applicant is proposing to provide an improvement scheme at the M5 J14 to mitigate the impact of development traffic at M5 J14 and as part of a package of measures to mitigate the wider impact of the development on the local area. The proposed improvement comprises lengthening the two lane offslip to 350m (from 150m) with a localised widening into the verge (Stantec dwg reference 39209/5501/SK31 - M5 junction 14 mitigation scheme 350m 2 lane n/b offslip).

The mitigation scheme has been tested for a 2021 opening year scenario utilising Highways England's VISSIM model. The assessment demonstrates that for a 'with development' scenario the improvement would result in an average maximum queue reduction on the northbound offslip from 1,266 to 1,046m (-220m) during the morning peak period.

During the AM peak, without the scheme the model predicts queue lengths to exceed the length of the slip-road at 0745. With the scheme in place, it is anticipated that this is delayed until 0800. The scheme delays the on-set of lane starvation whereby the queue in the right turn lane blocks access for vehicles trying to get into the left turn lane which causes the blocking-back onto the mainline M5. Beyond 0800, as demand increases the extent of queuing increases, though this remains below the reference case scenario (betterment).

Without the scheme in place, at approximately 0830 when demand is at its greatest, the impact of the development is most significant, and queuing remains consistently higher with the proposed development compared to without. With the scheme in place, the reduction in average maximum queuing is 220m, with a reduction in maximum queuing of 258m at the point when the impact of development is most significant (0830).

Highways England accepts that the proposed scheme mitigates the impact of the development and provides some betterment for the SRN over the existing operation and performance of the junction during the morning peak period.

Safety Audit and Risk Assessment

The Applicant has undertaken the required Stage 1 Road Safety Audit (RSA) of the proposed improvement at the M5 J14, which has now been satisfactorily completed. A GG104 safety

risk assessment has also been provided, which has been accepted by Highways England. We therefore consider that the proposed improvement is acceptable in highway safety terms with detailed matters to be considered at the next design and RSA stage.

Recommendation

Highways England recommends that planning conditions should be attached to any permission that South Gloucestershire Council is minded to grant in respect of application PT18/6450/O, to the effect that:

1. No more than 100 dwellings of the development hereby permitted shall be occupied unless or until the improvement scheme identified for M5 Junction 14, as shown on Stantec drawing reference 39209/5501/SK31, titled 'M5 junction 14 mitigation scheme 350m 2 lane n/b offslip', or an alternative scheme that provides equal or greater benefit, is completed to the written satisfaction of the Local Planning Authority (in consultation with Highways England) and is open to traffic.

   Reason: To off-set development traffic impacts at the M5 J14. To ensure the safe and efficient operation of the SRN

Informative: Works associated with this consent may impact on public highway assets or involve work within the public highway over which the applicant has no control. Highways England will therefore require the applicant to enter into a suitable legal agreement to cover the detailed design and construction of the works. Please contact ThirdpartyworksSWarea@highwaysengland.co.uk at an early stage to discuss the details of the highways agreement.

Please be advised that Highways England may charge Commuted Sums for maintenance of schemes delivered by third parties. These will be calculated in line with HM Treasury Green Book rules and will be based on a 60-year infrastructure design life period.

Enc: Development Testing at M5 J14 ADDENDUM (10 November 2020)