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████████████████████  
26 February 2020

Dear Planning Inspectorate case team,

### **The Proposed Portishead Branch Line (MetroWest Phase 1) Order – Section 56 Planning Act 2008. Highways England Formal Response**

On 1 April 2015 Highways England was appointed by the Secretary of State for Transport as a 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 Highways England works 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. In the vicinity of the Proposed Development the SRN comprises the M5 Strategic Road Network (SRN), particularly junction M5 J19.

Highways England operates under a Licence granted by the Secretary of State for Transport which is available at:

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/431389/strategic-highways-licence.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/431389/strategic-highways-licence.pdf)

In conformity with Section 5.29 of our Licence, Highways England is directed by the Secretary of State to have due regard to relevant Government policy. Of particular relevance to the proposed development is Department for Transport Circular 02/2013 “The Strategic Road Network and The Delivery of Sustainable Development”

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/237412/dft-circular-strategic-road.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/237412/dft-circular-strategic-road.pdf)

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Highways England would prefer to receive communications electronically.

### **Summary Position**

This response represents our formal recommendations with regards to the Development Consent Order (DCO) submission. In order to formulate this response, we have undertaken a detailed review of the DCO submission and the supporting information which includes the review of Chapter 16 of the Environmental Statement (ES) Traffic and Transport and relevant appendices. Also, we have reviewed the documentation relating to the construction phase of the scheme and the location and use of compounds.

We have undertaken a review of the relevant documents supporting the submission to ensure compliance with the current policies 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) 2019, in so far as it relates directly to the interests of Highways England.

For the purposes of clarity, Highways England’s interests relate solely to the construction phase of the Portishead Branch Line reopening. Having reviewed the DCO documentation, we are satisfied that there are no significant adverse transport implications for the SRN once construction is complete and the scheme is operational.

In respect of our concerns regarding the construction phase, Highways England has identified a number of areas within the Transport Assessment (TA) and Outline Construction Traffic Management Plan (CTMP) where further information is required to enable us to determine the impact of the proposals on the SRN and to identify any necessary interventions to manage any significant impacts. The matters on which Highways England requires further information and/or clarification are set out below in each relevant section and listed in full at the end of the document.

On receipt of the further information/clarification requested, Highways England is likely to seek a number of requirements to be imposed by the DCO to manage the impact of the construction phase, particularly at M5 J19. These requirements will be detailed in our Written Representations at the Examination stage.

Highways England will seek to pursue a Statement of Common Ground with the applicant as expeditiously as possible to agree our requirements. This will be submitted to the Planning Inspectorate prior to Examination.

### **Policy Context**

In terms of identifying the necessity of transport infrastructure, NPPF sets out that it should be ensured that any significant impacts from development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an

acceptable degree (para 108). NPPF confirms that development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe. (para 109).

DfT Circular 02/2013, paragraphs 9 and 10 set out the approach that Highways England takes in relation to development proposals as follows:

“9. Development proposals are likely to be acceptable if they can be accommodated within the existing capacity of a section (link or junction) of the strategic road network, or they do not increase demand for use of a section that is already operating at over-capacity levels, taking account of any travel plan, traffic management and/or capacity enhancement measures that may be agreed. However, development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.

10. However, even where proposals would not result in capacity issues, the Highways England’s prime consideration will be the continued safe operation of its network”.

Applying the principals of paragraph 9 of Circular 02/2013, development proposals are likely to be unacceptable, by virtue of a severe impact, if they significantly increase demand for use of a section that is already operating at over-capacity levels. Development which adds traffic to a junction which already experiences road safety issues; would increase the frequency of occurrence of road safety issues; or would in itself cause those road safety issues to arise, would be considered to have an unacceptable impact on highway safety.

### **Development Consent Order (DCO) proposal**

North Somerset District Council has been working to promote a scheme to re-open the railway branch line between Portishead and Pill, North Somerset, and for works to improve the existing freight railway line between Pill and Ashton Junction, Bristol, to enable passenger services. The scheme is part of the MetroWest programme to enhance the West of England's local rail network. The Applicant is the promoter of the scheme on behalf of itself and the West of England Combined Authority.

The DCO sets out a list of consents being sought by North Somerset Council. Those relevant to Highways England include Traffic and Transport as set out in Chapter 16 of the Environmental Statement and those relating to the management of the construction phase of the scheme delivery.

### **Strategic Road Network**

The development proposal passes under the M5 Avonmouth Viaduct some 900m north east of M5 J19. The closest point the scheme comes to a M5 junction is some 200m to the west of M5 J19. It is proposed within the DCO that during construction the main access route to compounds will be via M5 J19, though other access routes will be used to access the railway line further east towards Bristol, including via M5 J18.

M5 J19 links the M5 to the A369 and the Portbury Dock, part of the Port of Bristol. It is positioned to the east of Portishead and Bristol is some 8km to the east. It is heavily used by motorists from the M5 and Portishead, particularly during network peak hours, and freight traffic travelling to and from the Port throughout the day.

It is a grade-separated junction where the M5, passing beneath the junction, runs north to south, remaining uninterrupted, whilst the A369 running from east to west forms a raised circulatory carriageway providing access on to the M5 via slip roads. The junction also provides access to the Gordano off-line motorway service area, which is well used.

The existing operation of the highway network surrounding M5 J19 is sensitive to increases in traffic, particularly during network peak hours. During the morning (AM) peak period (07:00 to 09:00) the A369 eastbound queue typically extends from the M5 J19 towards Portishead. During the evening peak period (16:00-18:00) the M5 southbound off-slip queues back on to the main line for some distance, representing a critical safety risk, as well as traffic from Bristol queueing on the westbound A369 approach.

The circulatory roundabout at M5 J19 has undergone a series of traffic management improvement schemes seeking to address the safety issues (high demand and mainline queueing) which arise during the network peak periods. As part of the discussion with West of England (WoE) authorities regarding future planned growth across the WoE area, it was recognised that additional assessment of potential improvement schemes and their subsequent implementation would be required to safely accommodate further growth at this junction, in accordance with NPPF and DfT Circular 02/2013 paragraph 9.

### **Pre-application Advice**

A scoping exercise for the Transport Assessment (TA) required to support the DCO submission was undertaken with Highways England in 2015. A meeting was held with Highways England on 11<sup>th</sup> September 2015, where our requirements for an SRN impact and capacity assessment during the construction phase and the eventual operational phase were outlined.

The construction phase issues raised by Highways England during the Scoping exercise were:

- Although it was recognised that detailed construction arrangements may not be known at this stage, Highways England sought a consistent level of information and detail about construction plans with each DCO application;
- Any unusual vehicle loads – such as large fabricated sections for footbridge or other crossings – should be identified at the earliest opportunity and communicated to Highways England. The choice of delivery routes was particularly important, such as use of Avonmouth Bridge, and the need to take account of junction layout and dimensions. It was noted that the removal of Highways England signage was an expensive process;
- A construction management plan and a delivery (route) management plan would be required as part of the submission; and

- To raise any works or measures that cross culverts and the potential impact on the SRN.

Highways England requested that the operational assessment included an assessment of the impacts on M5 J19 and its approaches, notably Wyndham Way.

It was also outlined that any assessment undertaken regarding the SRN should take into account both committed developments and committed highways schemes, including those located in the area surrounding the M5 junctions.

### **DCO Transport Assessment (November 2019)**

The Transport Assessment (TA) for the scheme has been produced by CH2M (now Jacobs) on behalf of North Somerset Council, dated November 2019.

The TA presents an assessment of the transport impacts of the scheme during the construction phase and once the train service is in operation. The full reference of the TA document is:

- 6.25, Environmental Statement, Volume 4, Technical Appendices, Appendix 16.1: Transport Assessment (Part 1 of 18)

There are a number of other Appendices to the ES Volume 4 that are of importance to the assessment of impact on the SRN. These include plots of traffic model outputs, locations of works compounds and proposed haul routes. These have been noted in the review below.

A Code of Construction Practice and an Outline Construction Traffic Management Plan (CTMP) have also been included as ES Appendices as well as standalone documents. These documents carry an explanation that the version within the ES Appendices is the 'original submission version', but the version submitted as a standalone document is likely to be updated and refined over the duration of the construction phase. It was found that during the review of the two versions of each document, there were differences, notably with the Outline CTMP. The standalone version of the Outline CTMP contains more detailed quantified assessment work on the potential trip generation as a result of the construction works when compared to the chapter in the TA within the ES. Therefore, it is the standalone versions of the Code of Construction Practice and Outline CTMP that have been taken as the evidence for the review that follows.

The full references of the reviewed documents are:

- 8.13, Construction Traffic Management Plan
- 8.15, Code of Construction Practice

### **Operational Traffic Impact**

The strategic highway impacts once the scheme is operational, are reported in Section 6.4 of the TA. The assessment has been undertaken using the WoE GBATS4 transport model, which has been specifically updated for the assessment of the MetroWest scheme. The

model has been run as a Variable Demand Model, which is appropriate when considering a public transport scheme. We acknowledge that the GBATS4 model is the best available tool at this time to assess the scheme impact on the highway network, but we have identified some weaknesses in the model with respect to mainline traffic flow on the M5 as a result of other assessment work. It should therefore not be assumed that HE would find use of the model acceptable for the assessment of any other development proposals.

The TA has identified that locally, around the proposed stations, there will be some impacts once the train service commences operation (paragraph 6.4.11 of the TA). This is a result of people accessing the station. However, the SRN impacts are minimal and those that have been identified as a result of the transport model assessment are mostly beneficial. That is, there is a slight reduction in traffic on the SRN and its junctions across the day. Table 6.12 in the TA reports on network wide statistics from the model without and with the scheme. These show that the scheme itself (once operational) has little impact on the performance of the highway network overall.

The outputs from the model have also been presented as a series of network plots of traffic flows in the ES document:

- 6.25, Environmental Statement, Volume 4, Technical Appendices, Appendix 16.1: Transport Assessment (Part 9 of 18) – Appendix E, Network Plots

The plots show traffic reductions for all time periods on most arms of M5 J19 and where there is an increase, as a result of redistributed traffic, this is proportionately small. There are also traffic flow reductions in most scenarios on the mainline M5.

The strategic highway review reported in Section 6.4 of the TA is the only assessment of M5 J19 and the M5 mainline. No specific junction modelling of the impact of the scheme opening has been undertaken. This is acceptable as it can be seen from the strategic review that the impacts are minimal and mostly beneficial.

### **Construction Phase Traffic Impact**

Section 8.4 of the TA describes the traffic generation and impacts during the scheme construction phase.

It is noted that during the construction phase of the scheme there will be the delivery of materials, journeys made by workers accessing the site and its compounds, and particular mention is made of the removal and provision of ballast for the works. A methodology is outlined for assessing the number of material and personnel vehicle trips generated by the construction phase, as described in paragraphs 8.4.1. to 8.4.5 of the ES TA, but no quantification arising from this methodology is reported in the TA. As noted earlier, quantification is shown in the standalone version of the Outline CTMP. Therefore, there has been no assessment of construction traffic impact, or capacity assessment on the M5, particularly M5 J19, within the TA

M5 J19 is already under pressure at peak times, and though there is a scheme currently being implemented on the A369 towards Portishead to address queueing back to this junction, further proposals for schemes at this junction which seek to reduce the extent of M5 mainline queueing, are under consideration. These recognise that the demand to use this junction is high, and as the modelling undertaken to assess the traffic impact of the scheme once operational identifies, if additional capacity is provided at the junction there is latent demand to use or pass over the junction from vehicles currently using alternative routes.

It is noted that the Construction Strategy for the Scheme, and the Final CTMP is being developed by Network Rail Infrastructure Ltd (NRIL). However, these documents will not be fully detailed until the construction contractor has been appointed. Our comments regarding construction traffic impact are therefore provided on the basis of information contained in the TA and the Outline CTMP.

### **Construction sites, site compounds and access routes**

The standalone Outline CTMP describes the location and nature of the temporary construction compounds. However, the Outline CTMP notes that the use of compounds described is indicative at this stage and will be confirmed by the Contractor. Indicative site working hours and the duration of time the temporary compounds will be in operation have also been outlined.

The construction site is, by nature of the scheme, a linear site over some distance. Thus, a number of access points will be required to allow construction related vehicles to access the site and a number of compounds.

There are some 20 locations described as 'main compounds' and 'satellite and other compounds'. There are 7 main compounds that will be responsible for the shipment of materials and a destination for site workers, and a further 13 satellite locations where site workers will be based. The access routes and facilities at each of these locations is listed in Section 4 of the Outline CTMP.

One of the selected locations proposed for a satellite compound is under the M5 Avonmouth Viaduct. Table 4.1 in the Outline CTMP notes that the location will be used for Rail Road Vehicle (RRV) access and some deliveries. Access will be via Royal Portbury Dock Road and Marsh Lane. Table 4.2 in the Outline CTMP notes that the M5 compound location may be used for car parking, Road Rail Access Point (RRAP), a small storage area and location for a welfare van or small welfare unit. The compound would be required for the duration of the construction works for the import of materials, which may be brought in at night. The use of this location has been discussed with Highways England as part of an ongoing dialogue. We will require this dialogue to continue to ensure that we can maintain the safe operation of the strategic highway above the compound for the duration of its use.

Given the location of the site compounds distributed over the length of the scheme, the Outline CMTP states that, where possible, journeys should seek to avoid residential areas and keep to main roads. Specifically, it is noted that the M5 and M5 J19 should be used to access the compounds and site accesses, to avoid lengthy journeys through urban areas.

Highways England understands this approach, though needs to ensure that the increase of construction traffic does not impact on the safe operation of the SRN.

The temporary construction compounds detailed in Table 4.1 in the Outline CTMP will contain varying levels of staff car parking and areas for storage as well as welfare facilities for site personnel. This has been detailed in Table 4.2 in the Outline CTMP, noting that the use of compounds described is indicative at this stage, and will be confirmed by the Contractor. Indicative site working hours and the duration of time the temporary compounds will be in operation has also been outlined. Where noted, site working hours are 6am to 6pm (not including time to set up and set down), but the potential for 24 hour working to complete specific construction activities, or enable certain deliveries, is also outlined in the Outline CTMP.

### **Construction traffic movements**

As noted earlier, the ES Transport Assessment Section 8 contains a narrative of the impacts during the construction phase, however there is no specific technical assessment of the impact of construction traffic on the highway network. The standalone version of the Outline CTMP provides some more detail regarding the potential construction phase traffic demand, however it is not possible based on the information presented at this time to determine the impact on the SRN, particularly M5 J19 during network peak periods.

Section 5 of the Outline CTMP sets out how much traffic will be generated throughout the construction period, drawing on the Construction Strategy and other GRIP3 deliverables. Key activities have been assessed, in particular deliveries of the material to each of the main compounds and the personnel attending both the satellite and main compounds during the construction period.

The approach to the assessment is set out in Section 5.2 of the Outline CTMP. The first stage of the assessment is to assess what could be bought in by road and what could be bought in by rail. Then, for the road trips, how many movements would be necessary and what routes would they take to compounds.

There are two distinct aspects to the quantification of movements:

- the removal of waste ballast from the former track bed and then the bringing in of new ballast; and
- the movement of other construction materials and construction workers.

The assessment contained in Outline CTMP Section 5, describes journeys undertaken as 'movements' and 'trips'. The definition of a 'movement' and 'trip' is not stated. By making some calculations, we consider that a 'movement' and 'trip' as assumed in this assessment, accounts for both the inward and outward trip associated with, for example, the delivery of materials or driving to work at the site. Hence, in traffic impact terms, a 'movement' or 'trip' (as described in the Outline CTMP) comprises two one-way trips, one to the site and the other from the site.



## Ballast transport

Outline CTMP Section 5.3 sets out the ‘overview of the transport of ballast materials’.

The TA and the Outline CTMP (paragraphs 2.2.4 to 2.2.9) make specific note of the transfer of ballast from and to the site. This activity will result in a large number of HGV movements to the construction site (Outline CTMP paragraph 5.3.1). A methodology to quantify the number of HGV movements has been proposed, but it has been acknowledged that the methodology depends on a number of assumptions. Hence, the exact quantification will be confirmed by the contractor ahead of construction. A series of options are being considered for the movement of ballast, the options depend on the availability of a railhead either on the Portbury docks line or the Avonmouth docks line.

Notwithstanding the need for the contractor to input to the quantification of movements, Table 5.1 in the Outline CTMP sets out the methodology used to estimate HGV movements to remove spoil from the disused line and then bring in new ballast.

Outline CTMP Table 5.1 notes that between 1,200 to 1,800 HGV movements will be necessary to remove the waste (2,400 to 3,600 one-way trips). These will be undertaken over a 2 to 3 month period, resulting in 40 to 60 vehicle movements per day. The calculation is based on 22,500 tonnes of waste divided into 20 ton loads, which equates to 1,125 trips to remove waste and 1,125 trips where the lorry is empty in order to collect the waste.

Outline CTMP Table 5.1 also notes that the bringing in of ballast would result in 1,500 to 2,000 vehicle movements (3,000 to 4,000 one-way trips) over a 3 to 4 month period, resulting in 30 to 40 vehicle movements per day. The calculation is based on 34,500 tonnes of wastes divided into 20 ton loads, which equates to 1,725 trips to bring in the ballast 1,725 trips where the lorry is empty in order to collect the waste.

It is noted that the number of HGV loads for the waste disposal noted in Outline CTMP Table 5.1 is greater than the calculated number of movements (1,200 to 1,800 compared to 1,125 trips), but the number of HGV loads for the bringing in of ballast is midway in the range quoted (1,500 to 2,000 compared to 1,725). The logic of the assessment of the expected range of number of HGV movements is therefore not clear.

It is concluded, therefore, that a greater quantity of movements is required to fulfil the waste/spoil removal stage. This represents the greatest potential number of daily HGV movements.

The methodology set out in the Outline CTMP anticipates that track formation and new ballast materials will be brought into the rail sidings at Avonmouth or Portbury Docks (subject to agreement with the Port Authority). The material would then be transported to site or compound using HGVs. The methodology assumes that the new materials would be stockpiled at compounds (Portbury Hundred and Lodway) until ready to be transported to site. However, if the rail sidings are not available, the materials could be brought in from other local sub-regions or a temporary railhead created adjacent to the Lodway compound.

It is anticipated that the old ballast will be transferred via haul roads to the construction compounds (Portbury Hundred and Lodway) to be stockpiled. It will then be transferred via HGV to the rail sidings at Avonmouth or Portbury Docks (subject to agreement with the Port Authority) for removal via rail. Should this not be available, materials could be removed off site onto engineering trains located on the existing Portbury freight line.

Though the options are relatively close together geographically, it is noted that any proposal that involved using the Portbury Hundred compound would involve passing through M5 J19 (subject to NSC reaching agreement with the Port Authorities to use this access point ahead of construction). The use of the Lodway compound would allow the creation of a temporary railhead, using the existing Portbury freight line which could then be used to take out waste material and bring in materials for the scheme, but it is not clear how many HGV movements via the highway network would be necessary to distribute the material once it has arrived at the Lodway compound. Highways England is inclined to believe that some of these trips would use M5 J19. Conversely, if the nearest railhead is located within the Avonmouth docks, both M5 J19 and M5 J18 will have to be used by HGVs to access the scheme site.

The Outline CTMP Table 2.1 notes that the hours of operation of the Portbury Hundred and Lodway compounds for the extraction of old ballast (3 to 5 months) and the delivery of new ballast and other materials (4 to 6 months) would be 6am to 6pm. It is noted that there could be 24 hour working. The 6am to 6pm period covers both the AM and PM network peak periods at M5 J19 and M5 J18. Significant additional traffic at these times, without mitigation/management measures is likely to have a detrimental impact on the operation of these junctions and an unacceptable impact on highway safety.

In light of the above comments, HE requires further information regarding HGV construction traffic movements and critically the impact at M5 J19, for the ballast import/removal activity. This should include a profile of arrivals and departures (two-way trips) during network peak periods and average daily movements (by month) for the duration of the construction phase. The information should be provided either by option (i.e. on the availability of a railhead and/or railway sidings), or for the 'worst-case' option, disaggregated by vehicle type. It should also include any abnormal loads. Without this information, we will have no other option than to seek requirements to restrict the number of HGV movements at M5 J19 to the network interpeak only and to identify a maximum average daily HGV cap. This is to ensure that construction traffic movements do not exacerbate existing safety issues (mainline queuing) at the junction, which would be contrary to policy set out with NPPF 2019 and DfT Circular 02/2013.

#### Other construction materials traffic and staff (personnel)

The Outline CTMP Section 5.4 sets out the overview of the transport of non-ballast material and personnel. Confusingly, Paragraph 5.4.4 of the Outline CTMP in this section discusses movements undertaken for ballast removal and delivery. It is not clear whether the number of movements relating to ballast removal and delivery are additional to the movements

discussed in Section 5.3 of the Outline CTMP (set out above), or are the same movements. Highways England requires clarification in this respect.

Paragraphs 5.4.3 and 5.4.4 of the Outline CTMP describe the assessment of the bringing in of construction materials to the site. Paragraph 5.4.3 of the Outline CTMP notes that material will arrive at main compounds via the M5, 10% from the south and 90% from the north. The other materials and plant include rail signalling systems, electric power and plant, permanent way and operational telecoms, as well as buildings, other civil engineering items and plant. It is not clear what routeing has been assumed for personnel.

Paragraph 5.4.4 of the Outline CTMP notes that the indicative assessment suggests around 20-26 road movements per day for materials and plant at each main compound. This is made up of 14-20 movements for ballast removal and delivery (during these works) and around 6 movements per day for other items. Given that it has been assumed there will be traffic generations from 7 main compounds (reference Paragraph 5.5.2 of the Outline CTMP which explain that movements to 7 compounds has been assumed for a robust assessment), this equates to a total of 98-140 movements per 12 hour day associated with spoil (old ballast) removal and delivery (though different figures were given for spoil removal and ballast delivery in Table 5.1) and a total of 140-182 movements per 12 hour day for the movement of all materials. In Paragraph 5.4.3 of the CTMP it is noted that that deliveries will be spread evenly (flat profile) across the 24 month construction period. It is not clear if this only refers to the 6 trips per day associated with other items noted in Paragraph 5.4.4 of the CTMP.

Specific periods of time have been indicated for spoil (old ballast) removal (3 to 5 months) and delivery of new ballast (4 to 6 months). Hence, the maximum indicated time that these movements will take place is up to 11 months, not the 24 month construction period identified in Paragraph 5.4.3 of the Outline CTMP. Furthermore, from Section 5.3 of the Outline CMTP, the majority of spoil and ballast would be removed via the Portbury Hundred and Lodway main compounds, whereas by including the spoil and ballast movements in the materials quantification, the impact has been spread over the 7 main compounds. Thus, as the Portbury Hundred and Lodway compounds are close of M5 J19, the impact on M5 J19 could be greater than suggested in the assessment undertaken.

Outline CTMP Paragraphs 5.4.5 and 5.4.6 describe the assessment of facilities and personnel. The assumptions for the assessment are set out in Paragraph 5.4.5 of the Outline CTMP, these include that there will be one site manager at each of the main compounds and 20-50 operatives 'and more in peak periods'. At each of the satellite compounds it has assumed that there will be 4-20 operatives. Highways England requires clarification with regards to the use of 'peak periods' in this context as it is not clear whether this refers to peaks in construction activity or peaks during the working day. If this is the case, it is not clear why the movements for construction personnel have been flat profiled across the construction phase or what may be the scale of the increase in personnel.

Paragraph 5.4.6 of the Outline CTMP notes that the indicative assessment suggests around 40 to 100 road trips per day associated with personnel movements per main compound. This represents a two-way trip (an arrival and a departure) per staff member per day (though this

may increase during a 'peak period' as noted above) and 8 to 40 personnel trips per day per satellite compound. We accept the methodology for generating the number of two-way trips generated by a member of staff on the basis that it has been identified that a staff member would generate one inbound and one outbound movement per day to a compound. However, the personnel trip data reported in Outline CTMP Table 5.3 is presented as number of personnel, not the number of trips. Hence, the number of trips that could be generated at each location should be double the number of personnel, as shown by Paragraphs 5.4.5 and 5.4.6 of the Outline CTMP.

Outline CTMP Table 5.3 shows that movements generated from a single main compound and 2 satellite compounds do not route through M5 J19. Therefore, for M5 J19, Table 5.3 of the Outline CTMP sets out that 23 to 53 personnel movements per main compound will pass through M5 J19. This results in 138 to 318 personnel movements to 5 main compounds over a 12 hour period. A further 11 satellite compounds will use M5 J19, generating 6 to 22 personnel movements per site equalling 66 to 242 movements to 11 satellite compounds per 12 hour period.

Thus, for the personnel travel movement assessment, using data from Outline CTMP Table 5.3, the range of total traffic passing through M5 J19 is 204 to 560 movements per 12 hour day. This equates to 480 to 1120 one-way trips. The Outline CTMP does not provide any information in respect of staff shift times and clarification should be provided in this respect. Critically, we need to understand the impact at M5 J19 of personnel (and all other trips) travelling to and from the compounds, particularly during network peak hours.

### Scheme traffic impact at M5 J19

Section 5.5 of the Outline CTMP seeks to address the impact on the highway network of all vehicle movements associated with the construction phase. Table 5.3 of the Outline CTMP sets out all vehicle movements per compound across a 12 hour period using a flat profile for the entire construction phase and assigns the movements to a route. However, Highways England is concerned that whilst Outline CTMP Table 5.3 attempts to set out the additional vehicle movements generated through the construction phase (which are yet to be accepted by Highways England), it provides an assessment of likely additional demand only, and not an impact or capacity assessment of the highway network.

Outline CTMP Table 5.3 disaggregates material movements from personnel movements, however, it is not clear whether the materials section includes movements associated with ballast delivery and removal, as the numbers appear inconsistent with those set out in Outline CTMP Section 5.3 and Table 5.1. Table 5.3 of the Outline CTMP also assigns all vehicle movements for each of the compounds to a route.

Paragraph 5.5.2 of the Outline CTMP notes that the 'trip figures' have been calculated assuming that total material deliveries are divided equally between the 5 main compounds. However, the stated level of traffic is actually applied to the 7 main compounds resulting in a worst-case assessment.

Paragraph 5.5.2 and Table 5.3 of the Outline CTMP present a flat profile of total vehicle movements across a 12 hour period and then assume 10% of the 12 hour total would represent the 'de facto' peak (worst case) number of construction vehicle movements in any one hour. However, the evidence supporting this assumption has not been provided and Highways England is unable to accept, without further information/clarification, that this represents a robust assessment of impact at M5 J19 and J18.

Also, it is not clear from Section 5.5 and Table 5.3 of the Outline CTMP whether it is assumed that the total movements per hour (10% of the 12 hour total) is being used to represent the network peak hour construction impact on each of the highway sections, however it is implied that this is the case. Without further information in respect of ballast and other materials vehicle movements, and further information regarding personnel shift times, Highways England is unable to determine whether this represents a robust assessment of the potential network peak hour construction traffic impact.

Paragraph 5.5.3 of the Outline CTMP quotes the number of movements using M5 South (J19) as 29-64, as can be seen Table 5.3 of the Outline CTMP, and suggests that "this is a small fraction of the total traffic which is already using this heavily trafficked route which currently generates over 1,000 trips (2-way) per hour at peak periods". This conclusion also appears in the ES TA (Section 8.6 Paragraph 8.6.2), but the relevant evidence and assessment work has not been provided to support the conclusion.

Highways England requires further information regarding all vehicle movements generated during the development construction phase and critically the cumulative impact of construction phase traffic at M5 J19. This should be set out within the TA and include a profile of arrivals and departures (two-way trips) for the duration of the construction phase, disaggregated by vehicle type and construction activity (with any options set out, or a 'worst-case' option assumed). It should include any mobilisation and demobilisation, as well as clearly demonstrating peak months for average daily HGV movements (e.g. we would anticipate a peak in average daily HGV movements to occur during the up to 11 month ballast import/removal period). HGV movements associated with ballast removal and import should be clearly identified and not included within 'other construction materials'. It should also be clear which compounds will be used for the delivery and removal of ballast. Staff and personnel traffic arrivals/departures should also be disaggregated from construction traffic movements and shift times clearly identified.

Once this information has been disaggregated and clearly profiled across the construction phase, the cumulative total vehicle impact at M5 J19 by time period (network peak period, interpeak, 12 hour, night time) should then be identified for the 'worst-case'/peak daily movements month. The information currently provided at Table 5.3 of the Outline CTMP assumes a flat and even hourly profile across a 12 hour day, which is unlikely to be the case. Following the provision of this information, Highways England may require capacity assessments to be undertaken, particularly at M5 J19. The Highways England Vissim model can be provided to the applicant for their use. Alternatively, Highways England may require restrictions to network peak hour construction and personnel vehicle movements through M5 J19, and caps on average daily HGV movements.

As set out above, the Outline CTMP provides an over-simplistic assessment of likely construction phase trip generation (additional demand generated by the construction phase), which is not accepted by Highways England at this time without further clarification. Furthermore, neither the Outline CTMP nor TA provide a construction phase impact assessment or capacity assessment on the SRN. It is therefore not possible at this time for Highways England to determine the scale and/or duration of the impact of the construction works on the operation of the SRN and if any interventions/management measures (which should then be set out within the CTMP) are required to ensure the construction phase traffic can be safely managed and accommodated.

### **Final Construction Traffic Management Plan (CTMP)**

The TA proposes that construction traffic demand and routeing will be supported by a robust Final CTMP to be developed by the selected construction contractor. However, as the construction contractor has not yet been identified, the DCO application is supported by an Outline CTMP, which will be updated once a contractor is appointed.

Highways England understands that there may be a number of uncertainties and unknowns with regards to the construction phase at this stage of the DCO process, and that the Final CTMP will be a living document which allows for the management of construction traffic to remain agile to the needs of the scheme as it evolves.

However, as a responsible Highway Authority and statutory consultee, Highways England requires a reasonable level of assessment (including robust assumptions) to be undertaken of the construction phase traffic impacts prior to Examination, in order to determine if any significant impacts are likely to occur on the SRN for which interventions/management measures will be required to ensure that severe and unacceptable safety impact do not arise.

The TA submitted in support of the DCO should clearly set out the number of additional vehicle trips generated by the scheme during the construction and operation phase (with a robust methodology for doing so), followed by clear distribution and assignment assumptions, taking into account the various options for compounds, railheads, sidings etc if these are still to be determined (or alternatively the 'worst case' for SRN impacts). The actual and percentage traffic impacts (including HGV impacts) should then be set out for the relevant SRN junctions, including for network peak hours and the interpeak. From this work within the Transport Assessment, Highways England should be able to determine whether the impacts on the SRN are considered to be significant and whether further capacity assessment (modelling) is required. Alternatively, it may be possible to agree interventions and management measures at the junctions to mitigate that impact.

These interventions and measures, which could include restrictions to peak hour construction traffic movements, average daily HGV movement caps, shift start/end time requirements or site working hours restrictions, should then be clearly set out within the Outline CTMP.

Section 2 of the standalone Outline CTMP submitted by the applicant, suggests that it will be the Final CTMP, to be prepared post DCO consent, that assesses the traffic impact of the

scheme construction phase and sets out any necessary interventions/management measures. However, notwithstanding that this assessment should be part of the TA, if the information is not provided at this stage of the DCO process, Highways England will be unable to determine whether the scheme (construction phase) has a severe or unacceptable safety impact on the SRN and what necessary interventions/management measures are required to ensure its safe and efficient operation for the duration of the works.

We accept that the Final CTMP cannot be finalised until a contractor has been appointed, and that the preparation of a Final CTMP should form a requirement of the DCO. However, the Final CTMP should be prepared in accordance with, and only seek to refine, the Outline CTMP and then be used as a tool to manage any necessary changes to the interventions/management measures set out within it, as required by the evolving needs of the scheme.

A Transport Management Working Group (TMWG) should be established as part of the CTMP, comprising the relevant highway authorities, transport operators and other relevant organisations/stakeholders, to monitor the CTMP and to agree the change the process for any measures contained within it (e.g. should there be a need to temporarily change a construction traffic route to a compound).

Highways England will require that a Final CTMP is submitted and agreed by the TMWG prior to the commencement of the scheme construction phase, and that we are invited to participate in the TMWG.

Section 6.9 of the Outline CTMP states that there will be a Construction Workers Travel Plan. A high-level description of the proposed document is provided, but there is no detail on what measures will be put in place to reduce the impact of construction workers travel. For example, it is unclear how construction personnel parking demand will be managed. As previously identified, the assessment of personnel travel to work impact on the SRN and particularly at M5 J19 is critical to ensure that the safe operation of the SRN is maintained. Alongside the Final CTMP, the Travel Plan should be reviewed in detail (and in consultation with Highways England) and monitored for the duration of the construction phase by the TMWG. Highways England will require that the Travel Plan is monitored for the duration of the construction phase and reported to the TMWG.

### **Construction Management Conduct**

This Code of Construction Practice (“CoCP”) provides over-arching principles for environmental management of the adverse effects that may arise during the construction of the scheme. Whilst the majority is concerned with environmental issues Section 4.9 of Document 8.15 sets out the traffic management requirements and refers to the Outline CTMP. Highways England’s concerns with the Outline CTMP and the transport assessment work on which it is based, have been set out above.

### **Impact on the SRN Infrastructure Asset**

There are two locations where the works necessary to deliver the scheme could directly impact on the integrity of the infrastructure asset. These are:

- the point at which the reinstated railway line passes under the M5; and
- the location of one of the proposed compounds is directly under the M5 Avonmouth Viaduct, and this location is also proposed to accommodate the realigned bridleway that currently uses the track-bed of the Portishead branch line.

The reinstatement of the railway line under the M5 makes use of the existing structure that was built to accommodate the now closed railway. Hence, the works description does not reference any specific activities associated with this part of the railway line reinstatement. However, as the works to reinstate the line pass under the SRN, we will require a method statement to be ensured that the works do not undermine the integrity of the asset structure whilst they are being undertaken. This should include identification of any new works that may affect the M5 earthworks or associated drainage in the vicinity of the railway underbridge. On submission of this information Highways England will consider if any further assessment is required. This may require the application of CD622 (Managing Geotechnical Risk) requirements, which will be advised at the time. We will engage further with the applicant regarding the works method statement through the Statement of Common Ground

The re-use (it was previously used in Summer 2017) of the compound area under the M5 Avonmouth Viaduct has been discussed with Highways England. Though we are not the landowner of the site to be used, the viaduct supporting structures are located within the land identified for use as a temporary compound. We have requirements regarding the operations that can be conducted and the items that can be stored under the structure. We also note that there is also a CLH oil pipeline beneath the proposed construction compound under the M5 Avonmouth bridge (reference ES Chapter 4 - Description of the Proposed Works). We will require ongoing dialogue with the scheme promoter and the contractor (when appointed) to ensure that the use of the compound is in accordance with our requirements.

### **Statement of Common Ground**

Highways England will work with the North Somerset to progress a Statement of Common Ground, which will be submitted to the Planning Inspectorate prior to Examination. The Statement will cover areas of assessment that remain to be agreed and accepted, notably those concerning the construction phase impact on the SRN, particularly M5 J19, and any necessary mitigation measures. It will also cover any issues and agreements regarding the protection of the integrity of the Highways England asset, namely the M5.

### **Summary and Further Information Required**

Highways England is unable to support the Portishead Rail DCO application at this time, on the grounds that further information and clarification is required in respect of the Transport Assessment and Construction Traffic Management Plan. This information will enable Highways England to determine the likely impact of construction phase traffic on the SRN, particularly M5 J19, and identify any interventions/management measures required to be imposed by the DCO to ensure the safe and efficient operation of the SRN for the duration of the construction phase.



The following information/clarification is requested:

- Further clarification and refinement of construction traffic generation, particularly ballast import/removal HGV movements (trip generation);
- A clear distinction between HGV movements associated with ballast/spoil removal and delivery and the movements of 'other construction materials';
- Clarity on which compounds will be used for the delivery and removal of ballast;
- Clear presentation of the arrival and departures profile for all vehicle movements across the construction phase, disaggregated by vehicle type and construction activity, with the peak construction period (in terms of vehicle movements) clearly identified (including the duration of this peak);
- Clarification and refinement of the methodology for deriving network peak hour construction traffic generation and a cumulative impact assessment for network peak hours, interpeak and 12-hour.;
- Clarity on staff and personnel arrivals/departures with likely shift times/patterns clearly identified. Subject to the findings of the cumulative construction traffic impact assessment, undertake a capacity assessment of M5 J19; and/or:

*\*The above should be provided within a Transport Assessment Addendum*

- Identify appropriate and proportionate construction traffic management measures (potentially including measures to restrict peak hour and interpeak construction traffic movements at M5 J19 (which should be set out in the Outline CTMP) with the Final CTMP and TMWG to be secured by Requirement imposed by the DCO); and
- A statement confirming the nature of the use of the compound located under the M5.

We look forward to working with the applicant in respect of the further transport assessment work required and agreeing the Statement of Common Ground.

**Highways England**  
**26 February 2020**