

Ref: TR010063

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3 September 2024

Dear Mr Maund

**Application by Gloucestershire County Council (the Applicant) for an Order Granting Development Consent for the M5 Junction 10 Highways Improvements Scheme**

**Submission from National Highways for Examination Deadline 4 (3 September 2024)**

National Highways noted that 7 no. Actions from the Examining Authority (ExA), either in full or part thereof, were directed at National Highways at the Hearings W/C 12 August 2024.

For the avoidance of doubt, National Highways' responses to the ExA questions are in respect of the Strategic Road Network (SRN) only. Gloucestershire County Council, as local highways authority, will need to respond in relation to the Local Road Network (LRN).

National Highways have also provided the written summary of representations made at Hearings W/C 12 August 2024 as requested by the ExA.

## **Consideration of the legal powers that arise from a Development Consent Order (DCO)**

**Response:** National Highways understanding of section 120 of the Planning Act 2008 ("**Act**") is that as a matter of strict law, a DCO can confer new obligations on a third party. Section 120(3) states that "[a]n order granting development consent may make provision relating to, or to matters ancillary to, the development for which consent is granted."

Notwithstanding the above, the Act's Explanatory Memorandum ("**EM**") states that a justification must be provided in the EM for every article and requirement, explaining why the inclusion of the power is appropriate in the specific case.

National Highways does not have the expertise, funding, manpower, or resources to operate and maintain a reservoir/flood storage area (FSA).

Having this obligation conferred on National Highways pursuant to the DCO would impact National Highways' ability to meet its statutory commitments in relation to funding its own programme of development.

Accordingly, National Highways does not believe that a justification can be made to confer on it legal obligations to operate and maintain the reservoir pursuant to the DCO where it is not currently responsible for those obligations.

## **Consequences of the use on different journey times (mean/medium)**

**Response:** The Applicant confirmed during ISH3 that median journey times have been utilised consistently in the SATURN model. National Highways are therefore content that TAG unit M1.2 section 4.3.19 has been applied correctly.

TAG unit M1.2 section 4.3.19 states:

*'It is often appropriate to use the median rather than mean measure of average which is less sensitive to exceptional behaviour of a few users or of road conditions.'*

The original confusion arose from an exchange of technical notes and associated comments between the Applicant and National Highways. This is now considered resolved.

## **TAG Compliance**

**Response:** TAG Unit M3.1 – Highway Assignment Modelling is the relevant guidance covering strategic modelling and specifically in respect of this scheme, the calibration and validation of journey times. The relevant paragraphs are paragraph 4.3.2 and paragraph 4.3.4.

*4.3.2 For general purpose models, the routes for the validation of journey times should cover as wide a range of route types as possible and cover the Fully Modelled Area as evenly as possible. For models developed for the appraisal of specific interventions,*

*routes should include those from which it is expected traffic will be affected by the scheme, as well as covering the scheme itself as appropriate.*

*4.3.4 As described, it is standard practice to use journey time validation at the route level. However, increasingly there is a need to take a more detailed approach and check journey time validation at the link level or for segments of the route as well. This can be very important to assess noise and air quality impacts in the detail that they are required. Where these impacts may be material, the analyst should produce some assessment of the accuracy of speeds at a finer level.*

### **Paragraph 4.3.2 significance**

The GCTM model was developed by the Applicant to consider the impact of development across a wide area in support of the infrastructure mitigation requirements of the Cheltenham, Gloucester and Tewkesbury Joint Core Strategy (JCS). For the purposes of paragraph 4.3.2, this is a general-purpose model and as such there are a very wide range of journey time routes assessed.

However, the purpose to which it is being applied as part of the M5 Junction 10 DCO is a specific intervention and the approach to the calibration and validation of journey times and their appropriateness for confidence in the output of the model is different.

Typically, when using a general-purpose model for considering a specific intervention, a practitioner would select a suitable area from within the model that would recognise the zone of influence of the specific intervention and 'cordon down' the model to a more focused extent. They would then rerun the calibration and validation exercise on this more limited model with a greater focus on the local journey time validation as outlined in paragraph 4.3.4.

### **Paragraph 4.3.4 significance**

The validation of journey time in the model has been undertaken on the basis of the total route, but it is clear from paragraph 4.3.4 that there are occasions when a greater level of scrutiny should be paid to specific elements of the overall route. In this instance, given the importance of the two routes (see below for detail on route 208 and 209) that failed to achieve journey time validation, and the local nature of the significant disparities in journey time to the DCO scheme, National Highways consider it is essential that the operation of the relevant junctions is examined further to achieve the appropriate level of validation.

The graph, shown below in Figure 1, having been extracted from the validation information provided with the SATURN model by the Applicant, demonstrates where the significant difference is between the observed journey times and the modelled journey times. The guidance in paragraph 4.3.4 is specifically referring to exactly this situation where the difference in journey time over the whole route occurs at a

localised level; in this case in about the first 10% of the journey. Resolving the issue at this segment of the journey would bring the whole route back within the appropriate 15% margin for validation.

The other point that becomes very clear from this graph is that the only reason the journey time variance is only marginally in excess of 15% is because of the length of the route. Considering just the journey time along the A4019, a distance of around 4km would result in a far greater variance and highlight the issue to a much greater degree. The severity of the issue is significantly masked by the reliable journey time along the M5.

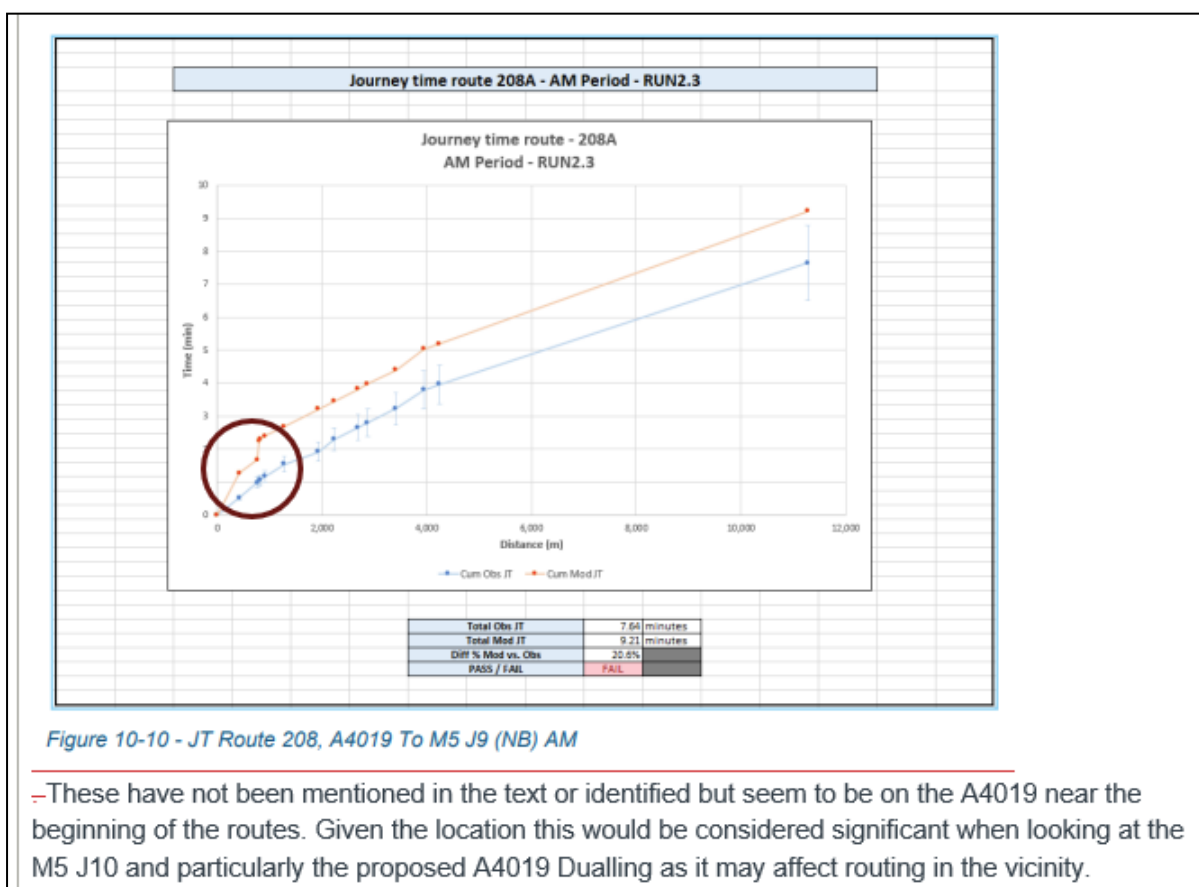


Figure 10-10 - JT Route 208, A4019 To M5 J9 (NB) AM

– These have not been mentioned in the text or identified but seem to be on the A4019 near the beginning of the routes. Given the location this would be considered significant when looking at the M5 J10 and particularly the proposed A4019 Dualling as it may affect routing in the vicinity.

Figure 1 – Extract from Saturn validation report prepared by the Applicant [Figure 10 extracted from Technical note]

### Relevance of Issues to Model

The model has looked at a specific intervention on the basis of the validation of a general-purpose model and not a ‘cordoned down’ model that National Highways would expect to see used for this sort of project. This is because this methodology contradicts the approach in which is outlined in Paragraph 4.3.2 in TAG Unit M3.1 – Highway Assignment Modelling as outlined above.

This approach alone does not invalidate the use of the model however, in order to be considered appropriate for use, National Highways would expect the journey time validation to be calibrated and validated locally as outlined in paragraph 4.3.4 in TAG Unit M3.1 and in accordance with the approach that would be taken for the cordoned down model. That has not been done, and consequently there is concern about the validity of the model for reliably forecasting future traffic movements and journey times.

This failure to consider the critical segment of the route where most, if not all, of the disparity between the modelled and the observed journey times occurs is a fundamental issue that should be relatively straightforward to address in a stable model. If the GCTM model is stable, as stated by the Applicant, then making the changes to the two junctions (as detailed below) in order to achieve validation on this critical route should not make any substantive changes to the wider model.

Because of the potential issues with the forecast model that would be likely to occur as a result of the failure to validate these northbound journey times National Highways consider that the model outputs are unreliable and therefore the model is not currently fit for purpose.

As set out in response to ExA written question Q15.0.7 and as per National Highways Relevant Representation dated 22 March 2024 and our most recent PADSS submission (Deadline 3), National Highways initial assessments show that the Paramics model seems to be sufficient in isolation, but it cannot be fully supported as it is fed by the SATURN model which we do not support at this stage.

If this one issue is resolved and the model remains satisfactory validated locally, then this would address National Highways concern in respect to the SATURN model and potentially any residual issues associated with the Paramics model.

### **Discrepancies with traffic modelling and the need for sensitivity testing**

**Response:** As detailed above, paragraph 4.3.4 in TAG Unit M3.1 considers the localised aspects of the model. National Highways are of the view that the model is currently not considered to be fit for purpose due to the west/northbound journey time issues for routes 208 and 209 on the A4019. Until this issue is resolved, leading to a TAG compliant model, National Highways do not consider it a suitable model to support the DCO application. The routes are shown in Figure 9 of the aforementioned technical note that the Applicant prepared and is reproduced below.



benefit that will be achieved by underestimating the potential traffic demand. This then has further potential repercussions for the junction and slip road design.

Unless the two critical junctions are adjusted to bring the journey time validation within the appropriate 15% standard, it is not possible to confirm that the forecast model is reporting future traffic conditions appropriately.

There is then a further section in the Applicant's technical note, paragraphs 2.14.13 to 2.14.17 considering traffic flow validation in eastbound and westbound directions along the A4019 corridor at four locations (8 traffic flows by direction). These are shown to all reach acceptable levels of validation in the AM peak, with two failing in the inter peak and one failing in the PM peak. This is again taken as a positive reinforcement of the validity and suitability of the model by the Applicant. However, again given the failure of the northbound journey time to validate, National Highways believes that this is potentially indicative of a separate issue with the model coding.

Without the adjustments to the two critical junctions to bring the journey time within appropriate validation limits, it is not possible to agree that the traffic flows do validate appropriately, although it may be that even with the adjustment to the junction the traffic flows will remain within validation limits. The technical note states that the traffic flow validation demonstrates the robustness of the model. If the model is suitably robust, relatively minor changes to the two junctions should not have a significant or widespread impact upon the calibration and validation of the model.

Therefore, it is considered that the failure of the two northbound route journey times to validate is a significant concern regarding the reliability of the model for forecasting purposes.

### ***Remediation Required***

The junction layouts as represented in the Saturn model are shown below in Figure 3 and 4:

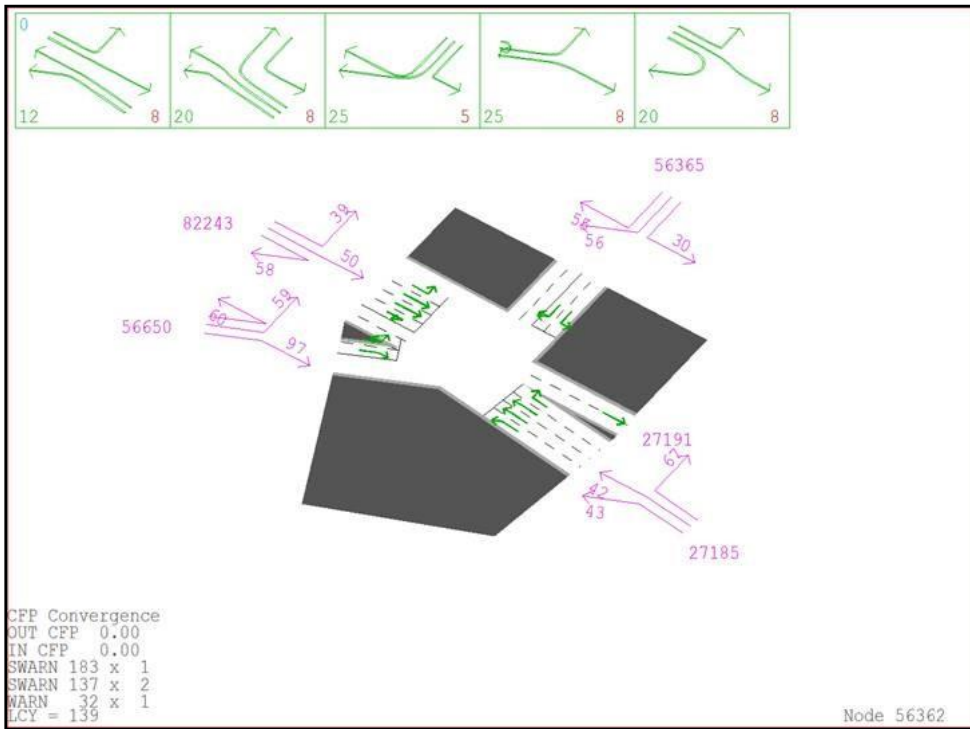


Figure 3 - Kingsditch roundabout [extracted from technical note]

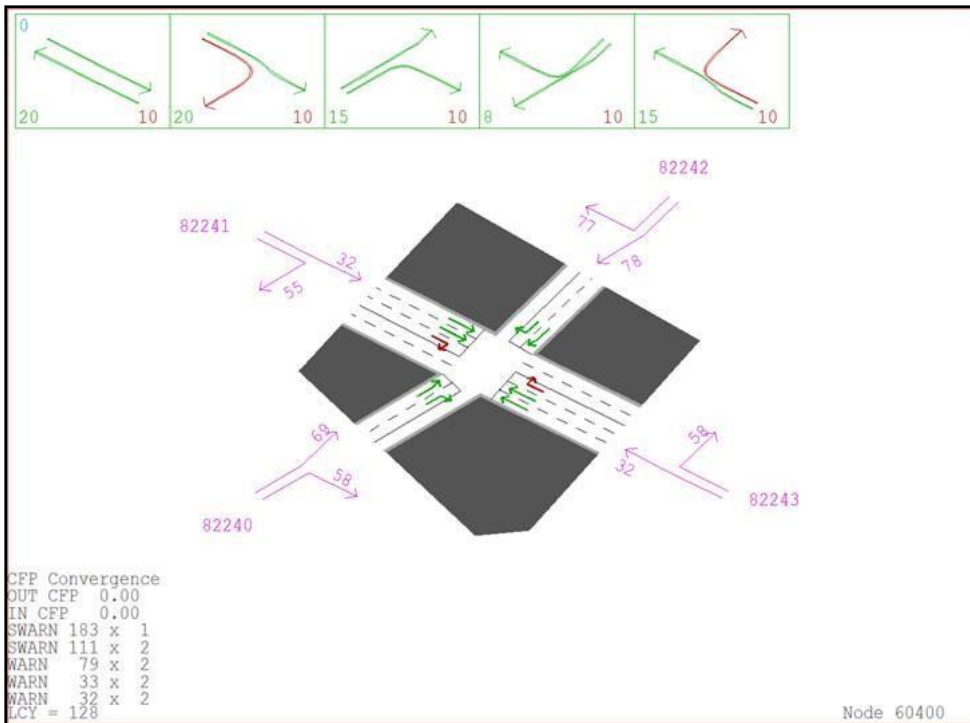


Figure 4 - Gallagher Retail Park [extracted from technical note]



These two junctions require recalibration and revalidation in the base model for all three time periods (AM peak, interpeak and PM peak). While we cannot confirm what the changes to the signal timings should be, we can provide the initial advice that the intergreen times could be a focus of any sensitivity analysis undertaken by the Applicant. This is because the intergreen times are all set at 10 seconds in the model, and it is unlikely that this is correct across the whole junction. The intergreen settings should be taken from the controller settings for each junction to make the model reflective of the current road operation.

It is appreciated that the junction was operating under MOVA control which will vary the length of green time across the modelled time periods in response to the traffic demands for each movement. However, it will be possible to identify an appropriate set of timings from the controller logs to act as a suitable start point and this can be finessed through model runs to identify a set of timings that provide the best fit to the junction delay as experienced in the base year. It may also be appropriate to adjust some of the stop line saturation flows if these are lower than were being achieved.

Once the process is complete the full calibration and validation statistics from the model can be extracted to confirm that the model continues to operate satisfactorily. On the basis that the Applicant considers that this is a stable model, there should not be any widespread reassignment or revision of journey times on other routes.

The Do Minimum and Do Something models would also need to be rerun if the signal timings, and in particular the intergreens, have been taken through between the models. This will then require an update to the comparisons between the two models, and the relevant data being extracted from the models to provide updated matrices for the Paramics model. Once all of the models have been rerun, then the Transport Assessment can be updated with the new results.

National Highways do not consider that the recalibration of the two junctions is a particularly onerous exercise, but do appreciate that it will take time for the Applicant to rerun all of the models and update the Transport Assessment.

### ***Requirement for National Highways model acceptance***

In order for National Highways to be able to accept the SATURN model as being fit for purpose, and in line with National Highways requirements, the two journey time for routes, 208 and 209 in the northbound direction both need to meet the validation criteria required by TAG Unit 3.1 overall but specifically when considering only the section from the start of the route as far as the M5 Junction 10 as this represents the most critical section of the journey.

The remainder of the model must also continue to meet the TAG Unit 3.1 calibration criteria.

### **Cost estimate differences**

**Response:** National Highways continue to seek to understand the differences between the Applicants cost estimates as referred to in the Funding Statement [APP-

036] and our high-level review discussed at ISH3. The National Highways cost estimate draws its data from an assured database of costs from projects on the Strategic Road Network. National Highways wrote to the Applicant on 19<sup>th</sup> and 28<sup>th</sup> August 2024 and have also spoken with the Applicant to discuss a means to share more detailed data. Progress thus far has been limited.

National Highways have proposed a methodology with the Applicant to provide a mechanism to allow National Highways to review the Applicant's cost estimate without breaching commercial sensitivities. The Applicant has previously offered to share the Bill of Quantities (excluding rates) with National Highways; this would enable the direct works component of the estimate to be verified.

Further, National Highways have requested that greater detail in respect to the assumptions and/or data that supports the remainder of estimate e.g. indirect works, land, preliminaries etc. National Highways would then be in a position to review the cost estimates in a more detailed manner with the Applicant to assess the assumptions/rationale and allow for the identification of the key differences between the Applicants and National Highways estimate.

National Highways recognise that there will be discrepancies in the cost estimate methodology, rates and assumptions but should the Applicant not provide further detail then National Highways would be unable to endorse the Applicants cost estimate.

The proposed methodology has been communicate to the Applicant and National Highways will continue to attempt to work with the Applicant to resolve this item and provide update to the ExA at later deadlines.

### **Side agreement and use of a cash bond**

**Response:** National Highways standard protective provisions were submitted in the corporate response at relevant representation [RR:026] and can reconfirm the standard corporate position regarding the use of a cash bond remains.

Further elaboration on this matter can be found later in this response under the written summary of oral representations of agenda point 5 regarding funding.

### **Consideration of a funding requirement**

**Response:** National Highways do not believe that this is possible. Section 120 of the Planning Act 2008 provides that a DCO may impose requirements in connection with the development for which consent is granted. Requirements should be precise, enforceable, necessary, relevant to the development, relevant to planning, and reasonable in all other respects. It is unclear how a Requirement could be used to secure funding.

Funding for a DCO should be in place and be certain prior to the grant of the order. A requirement of a DCO application is the submission of a statement explaining how it will be funded.

Accordingly, a Requirement within a DCO is not an appropriate mechanism for how development is to progress and be funded.

### **PCF process outline and why PCF is not a design review**

**Response:** National Highways position is that we have not carried out an independent design review as part of the Project Control Framework (PCF) process.

PCF was first launched in April 2008 and was designed to set out how National Highways, together with the Department for Transport (DfT), manage and deliver major improvement projects. Since its inception, the framework has continually evolved to help improve the efficiency of delivery whilst ensuring projects continue to demonstrate Value for Money and follow the governance requirements mandated by the terms of our Licence and Framework Document.

PCF is an accepted National Highways and DfT approach to manage major projects. It is designed to help us to develop and deliver major roads projects. It comprises:

- A standard project lifecycle
- Standard project deliverables
- Project control processes
- Governance arrangements

The Project Control Framework focuses on what needs to be delivered at each stage of the project.

The deliverables outlined in the framework which are produced at each lifecycle stage are called products. For example, a construction phase plan, a business case, or a ground investigation report are all products. They are the things projects need to produce in order to plan, manage and progress delivery of the project in line with National Highways governance requirements.

Each product has a standard definition that specifies the products:

- Purpose
- Content
- Quality criteria
- Roles and responsibilities relating to the product

Many product definitions have been developed in line with current National Highways best practice process, guidance and standards (for example, the Design Manual for Roads and Bridges), requirement of either legislation, standards or best practice / standard project management techniques. A few examples are as follows (not an exhaustive list):

#### *Legislation*

- CDM Regulations 2015
- Equality Act 2010
- New Roads and Street Works Act 1991
- Planning Act 2008

#### *Standards*

- Design Manual for Roads and Bridges
- Interim Advice Notes (IANs)
- Traffic Signs Manual – Chapter 8
- TAG

#### *Best practice and/or project management techniques*

- Lessons Learnt
- Project Management Plan
- Project Schedule
- Risk Management Manual (Risk Register and Risk Management Plan)

Under PCF, it is the responsibility of the Project Manager to ensure that products are produced. For this scheme that role is fulfilled by the Applicant. National Highways has worked closely with the Applicant to confirm which products are appropriate for each PCF stage; this is recorded in the Stage Management Plan. Where National Highways are identified as a consultee (rather than for information), they have undertaken a review to confirm that the product meets governance requirements.

The process of design review is one that is undertaken by the project team under the direction of the Project Manager as part of the design development process. A Design Review is not an explicit requirement of the PCF process.

#### **Design Panel requirements**

**Response:** The Project Design Report (PDR) PCF product guidance, as with all other PCF product guidance, sets out the purpose, contents, quality criteria, roles and responsibilities and further advice and information.

Within the product guidance reference is made to '*Design review at National Highways: A guide (November 2022)*'.

The guidance sets out the expectations in regards to design review and the considerations that are required in the context of the National Highways Licence (DfT 2015). For a National Highways project, it is the responsibility of the Project Manager to determine the need or otherwise for a design review. This is normally determined

following recommendation made by the project technical team; more specifically the environmental advisors. The criteria to seek advice from the Design Panel are:

- On the design of road improvements schemes, where these are in sensitive locations or expected to have a substantial impact on the surrounding landscape;
- On the development of relevant design standards concerning the visual impact of schemes; and
- At any other time where required by the Secretary of State.

Based on the PDR submitted as part of the DCO Application [APP 9.47], National Highways do not believe that a design review has been undertaken. It is for the designing organisation, in this case the Applicant, to decide if a Design Panel is necessary to meet the requirements of the NNNPS. National Highways have made comments on the PDR in the context of Good Road Design principles, as part of PCF reviews to assist the Applicant in the development of their application, but these do not constitute an independent design review.

National Highways are of the view that a Design Review would be beneficial to the project in advance of the detailed design stage. A design review provides the opportunity to influence the perception and visual appearance of the scheme in the context of the surrounding landscape via consideration of aspects, such as the finish to structures.

A copy of the design review is appended to this letter in Appendix A: titled '*Design review at National Highways: A guide (November 2022)*'.

### **Written Summary of ISH3**

#### ***Agenda Item 3 - Flood Risk, Drainage, and the Water Environment***

**Management of drainage on LRN and SRN, including surface water run off, during construction and operation:** National Highways note that Section 8.7 of Chapter 8: Road Drainage and the Water Environment of the Environmental Statement [REP1-014] includes reference to potential drainage impacts (including surface water run-off) during the construction of the scheme as well as an assessment of impacts on surface water quality and that the Applicant has prepared a Drainage Strategy Report in Appendix 2.1 of the ES [APP-079].

Whilst reference to surface water quality is noted and outline plans (e.g. Pollution, Prevention and Control Management Plan) are detailed in the first iteration Environmental Management Plan (EMP), National Highways will require further, more substantive information to be provided via the detailed design and completion of all appropriate plans in the 2nd iteration EMP to confirm that the management of surface water is sufficient during construction and operation (3rd iteration EMP) including assessment of water quality in line with DMRB LA113.

National Highways' response to WQ 1.0.2, in respect to the EMP consultation, has been captured in the draft DCO (dDCO) submitted for Deadline 3 by the Applicant.

National Highways has an objection regarding the flood storage area and maintenance of the drainage asset on the slip road, where the slip road forms part of the retaining boundary of the flood storage area (FSA). Concerns regarding the FSA were addressed in more detail later in the agenda and follow this section.

**The principle of the reservoir (FSA) and its practical implications:** National Highways do not accept the principle of joint responsibility for maintenance of the reservoir, as proposed by the Applicant. The slip road proposed atop of the embankment forming the retainer of the reservoir cannot be disaggregated from the FSA itself, and on that basis National Highways will not take on responsibility for its drainage nor maintenance. It would carry a significant cost burden and have practical implications for National Highways ordinary maintenance schedule. For example, the current regime for grass cutting on verges does not fall within acceptable heights nor frequency of cutting for reservoirs. Furthermore, standard routine maintenance, such as but not limited to relaying of pavement, clearance of drainage assets works, or upgrade or renewal of other highways assets, will have to be signed off by the appointed Panel Engineer under the Reservoirs Act 1975, which also has an impact on day-to-day operations, programme, resources and cost.

As highlighted in National Highways' Relevant Representation [RR-026], National Highways considers that if the DCO is granted, it must be secured in the consent and approved documentation that the ownership and maintenance of the FSA (work no.7) and the M5 southbound on-slip embankment lies with the Applicant. National Highways' requirement would be that the M5 southbound on-slip embankment does not form part of the FSA, i.e. a separate bund/boundary should be provided for this purpose to provide physical separation.

National Highways does not have the operational capacity to maintain any aspect of the FSA under the Reservoirs Act 1975. National Highways owns one reservoir nationally, and this was an inherited asset, with this reservoir not utilising any existing highways assets to bound the reservoir. National Highways would not design its own schemes to include a reservoir.

National Highways are of the opinion that alternative drainage/flood attenuation solutions are likely to be feasible within the DCO Order limits and would encourage the Applicant to explore resolutions that do not rely upon the SRN network to form part of the feature. In the event that the FSA and the slip roads are physically separate, National Highways would want to take the drainage asset of the slip road. This is because the reliance upon the M5 southbound on-slip to form the western edge of the reservoir has the potential to increase risks to their infrastructure. Secondly, the stability of the slope could lead to failure of embankment causing risk

to life for road users on the slip road at that time. Any failure may also lead to inundation of water/sediment on the slip road and potentially the wider SRN. Thirdly, under the Reservoirs Act 1975 it is a duty to maintain the integrity of the reservoir; failure to do so can lead to prosecution should these requirements not be met. As a result, the standard maintenance regime of the SRN e.g. the nearside verge of the southbound on-slip, would not be sufficient should the reservoir be located in the current position – even if National Highways have no operational obligations of the reservoir itself.

National Highways has been asked to provide its opinion on the legal position regarding a DCO conferring obligations on a third party. In this case, specifically, can the DCO make National Highways the responsible body for the reservoir, whether individually or jointly with the undertaker. The response to this question is provided separately in the response submitted for Deadline 4 in this letter above.

#### ***Agenda Item 4 – Traffic and Transport***

**Position in relation to modelling and TAG compliance:** With regards to the SATURN model, overall, the majority of the concerns raised by National Highways have either been resolved or the additional evidence provided by the Applicant demonstrates that the model is adequate or that no further information is available which could be used to improve the model for the assessment of the scheme proposed. The one TAG compliance issue that remains to be addressed to our satisfaction is that of the journey times along the A4019. As this route is directly impacted by the scheme it is considered that further effort to ensure the base model is capable of replicating observations is a reasonable request. The model is TAG compliant in its whole - all three elements of the scheme. Compliance is a subjective matter and where most requirements are met, the model can be viewed as compliant in its sum. However, the non-compliant elements for the scheme are located on key corridors and therefore raise significant concerns, notwithstanding that the whole model can be viewed as TAG compliant. The Applicant is relying on county wide extremities within the model to get the sum of its parts to equal an acceptable whole. TAG Unit M3.1 - Highway Assignment Modelling explains in paragraph 4.3.2 that 'general purpose model', in which a range of journey time routes passing the thresholds is acceptable but those used for specific interventions need to include the most affected routes. Paragraph 4.3.4 then says that validation along the route should be complemented with validation on segments and links. The assessments National Highways have been given by the Applicant show that the key journey time routes fail, particularly at locations close to the primary centre of the scheme (being the M5 junction 10 works).

The Applicant has provided further explanation to explain how meeting the journey time criteria can be challenging especially on routes with variable traffic signal times, as SATURN can only operate with fixed times. The Applicant acknowledges that “Refinements of signal timings to account for the variation in signal timing can lead to

closer levels of simulation of traffic conditions and journey times at such locations.” The Applicant further confirmed it is at two signal-controlled junctions where the journey times diverge. It is not apparent whether refining the signal times has been undertaken. This would be a proportionate and reasonable area of investigation.

The Applicant suggests that if average (mean) journey times had been used in the assessment as opposed to median journey times these would fall within the TAG tolerances. Mean and median journey times have been used by the Applicant to exclude the impact of extreme values (high or low) that will skew the mean. Whilst the results are not disputed, the use of mean journey times is not advisable. The Applicant does not provide any information with respect to the impact using mean as well as median journey time would have on the other journey time routes. It is not considered to be a reasonable approach to “pick and choose” the data that fits the argument.

The Applicant stated that National Highways request to amend the two key signal timings would have a ripple effect on the modelling. There is no evidence to support this and the work has not been carried out.

With regards to Paramics, in principle, National Highways have no objections to the Paramics model. However, as the Paramics model draws its data from the SATURN model, should there be a change to the SATURN model then it is likely that the Paramics model will be affected and require updating. Minor issues such as unreleased vehicles are of lesser significance and not to the extent that National Highways object to the modelling, but should any amendments be made to Paramics model then these minor issues could be addressed at that time.

(Further work in relation to the differences in the parties positions relating to modelling has been undertaken post-hearing and is reported elsewhere in this response for Deadline 4.)

**The ability of the Transport Assessment and modelling to support the examination of the DCO:** National Highways has undertaken a review of The Joint Councils GC3M Assessment [REP3-065]. The document concludes that the evidence presented provides a clear indication that the level of development modelled in the Full Development Scenario cannot be accommodated in the absence of a major scheme intervention. National Highways accepts that full development will create traffic impacts across a broad area. However, the JC document does not prove that the only way to address those impacts is a major scheme intervention, and even if a major scheme intervention was required, the document does not evidence that the application scheme is the only, or correct, solution. National Highways is unsighted on alternatives, per our response to written questions 1.3.1. A major improvement to M5 J10 may well be the solution required, but the JC document does not support any particular form of junction or consider whether there are alternatives that could be introduced.



Additionally, National Highways would note that they have been undertaking work separately on identifying the quantum of development that can come forward in advance of the DCO scheme, and this has identified a number far higher than the deadweight assessment put forward by the Applicant. A final report on this work is due to be published this month by National Highways. The JC document does not pick up on the fact that the A40 Elmbridge Court roundabout will be subject to significant congestion unless it is improved. The 2017 scheme that was carried out is not performing as predicted due to issues with the local highway network traffic queueing back into the roundabout, an issue that is unlikely to be picked up by the SATURN model. In addition, the scheme that was identified for the roundabout and included as part of the DS7 package of measures in the JCS is not deliverable in either policy or design terms. National Highways are doing a parallel piece of work to identify an interim improvement at the A40 Elmbridge Court roundabout to provide for growth to at least 2031 and identify a larger scheme to be delivered in the next Local Plan period to provide for current and future growth.

**Departures From Standard:** The M5 junction 10 Improvements Scheme Safety Report, published on 19 June 2023, identifies four Departures from Standard on the Strategic Road Network. These were applied for as 'Provisional Agreement' (not as full departure submissions) and were approved in November 2021 by National Highways:

- M5 J10 - Southbound Diverge
- M5 J10 - Northbound Diverge
- M5 J10 - Southbound Merge
- M5 J10 – Northbound Merge

At that time, from the information provided, it appeared that the principle of the departures was acceptable and likely to be approved if supported by sufficient justification as part of a full departure application later in the scheme design process. Provisional agreement establishes if, in principle and later supported by a full technical justification and benefits case, the proposed departure is acceptable. The intent is not to assess the benefits, risks and impacts of a proposed departure at this stage, but to reduce the risk of schemes proceeding on an untested assumption that a departure can be approved.

To gain a full Departure from Standard, the 'Provisional Agreement' departures will need to be resubmitted with updated and validated traffic data and modelling figures. Other more detailed specific information will be required such as measures to mitigate the non-compliance to junction standards if appropriate, to fully assess the Departure applications.

In terms of the Gloucestershire County Council Departures from Standard referred to in the document, it is the decision of the local authority to determine the design standards they choose to use. If applicable, and departures are identified, these

would need to be agreed by the local highway authority before National Highways provided a recommendation. With regards to road safety audits, National Highways are awaiting information from the Applicant regarding compliance with GC119 (SoCG5.46).

It should be noted that some of the DMRB standards have been updated since the Provisional Agreement departures were submitted and there are likely to be other Departures from Standard that have not yet been identified.

### ***Agenda Item 5 – Funding***

**Inadequacy of Applicant's scheme costs estimate:** National Highways have undertaken a review of the cost estimate that the Applicant has prepared. Based on the limited detail provided, National Highways have not been able to reconcile a number of aspects of the estimate. It is unclear, for example, where VAT and biodiversity net gain costs are included in the Applicant's numbers.

National Highways utilise an assured database of actual costs from schemes delivered across the SRN network based at Q1 2019 prices. In order to compare this date with the Applicant's base of Q2 2022, National Highways applies Implied Output Price Index (IOPI) data. Whilst National Highways accepts that the Applicant's cost estimate will be based on its own tender process and the rates the Applicant was able to secure, it does seem significantly lower than what National Highways would expect to pay for the same scheme.

National Highways, like the Applicant, uses the BCIS indices to calculate inflation cost, so it is anticipated that this component will be comparable. However, National Highways believes that the base costs underpinning the estimate are too low and if the base figures start apart, the % increase for inflation will be proportionally higher.

Without further detail from the Applicant, it is not possible for National Highways to determine if or where the variances are within the scheme estimates of each party. National Highways are willing and keen to engage directly with the applicant to review the cost estimating process in order to determine where the areas of difference are.

It is important to reconcile the difference in costs estimates between the parties because National Highways will require evidence that funding is in place for the scheme before allowing works to commence in the event that the Application does not put in place a bond. The Applicant's current position is that a bond will not be provided.

**Reliance Upon s.106 contributions, timing and certainty:** National Highways has concerns regarding the reliance on s.106 contributions to fund the shortfall in Homes England funding for the scheme. There is no certainty at this stage that s.106

agreements will be entered into; if they are secured, there is no certainty that they will be at a quantum to fill the funding gap; and any contributions secured are likely to be phased and due over a long period of time. This leads to a potential cash flow problem, unless commencement of the scheme is delayed until all s.106 monies are received. There is also the uncertainty that even if s.106 agreements are entered into and planning is secured, development may not commence for a number of years, if at all, under those permissions.

## **Agenda Item 6 – Environmental Matters**

**Independent review of design:** National Highways position is set out in the SoCG with the Applicant, submitted 30 July 2024 [REP3-038] as part of Deadline 3, Section 9.1: *"National Highways confirms that its role prior to the acceptance of the DCO was to provide support to the Applicant to ensure that the application documentation met the requirements of governance for projects on the SRN at the Preliminary Design at Project Control Framework Stage 3 (PCF 3). National Highways did not review any products that have been de-scoped from the PCF 3 process or any documents that were sent for National Highways information only at PCF 3 stage. National Highways reviews and advice at PCF 3 are intended to ensure that documents are in accordance with governance requirements and include the chapters, headings and topics that should be covered. The PCF 3 review does not provide any level of technical assurance or endorsement of the scheme's viability or design, nor comment on the accuracy or acceptability of any substantive consent, simply that content is there. The PCF 3 process is to ensure that documents meet governance standards only. If it assists the examination process, a full list of which documents that National Highways reviewed at PCF 3 stage can be provided to the Examining Authority, as well as a list of documents that were de-scoped. National Highways confirms that despite reviewing a selection of documentation for PCF 3 stage, there are a number of matters which were not resolved by the Applicant and National Highways can provide the Examining Authority with further information should this be required."*

The Applicant stated at the hearing that where comments from National Highways had been received, all material and major comments were addressed as part of the pre-application process. An example of matters not being addressed when raised by National Highways is in respect of the access track being introduced to the western side of the new junction. The current carriageway of the slip road is being left in situ, meaning the access track is pushed wider than would otherwise be necessary. National Highways raised concerns about the redundant road surface being left and the location of the access track and the response from the Applicant was that the design was being left as proposed. This is not a case of failing to comply with some minor comments.

The Applicants response to ExA written questions, specifically 7.0.1 and 7.0.3, does not align with what has been agreed in the SoCG. National Highways would like to

reconfirm the purpose of the stage gate assessment review process and confirm that the purpose of this is for the joint governance arrangements where National Highways endorsed products on this basis only and provided no form of technical approval or design review. The purpose of National Highways review of certain documentation was to ensure that the joint governance arrangements had been correctly followed to provide the assurance that the project had followed the pre-established management process. For example, documents were produced in accordance with document standards and contained the expected content, without reviewing the content itself. At no point was the scheme design reviewed on a technical basis and accepted by National Highways.

National Highways' position is set out in SoCG point 9.1 in relation to what level of assurance/review we have undertaken. In line with that we dispute the comment from the Applicant's answers to 7.0.3 which implies that independent design advice has been embedded throughout the PCF process and provided by National Highways. This is because reviews were limited to that of endorsing the joint governance arrangements. Further information regarding the design panel requirements can be viewed earlier in this document regarding the PCF and design panel requirements ExA action.

### ***Agenda Item 7 – Mitigation***

**Requirements:** The Applicant confirmed at the hearing that the Secretary of State will be introduced as the determining authority for discharge of Requirements in the next version of the dDCO. National Highways welcomes this change. National Highways also confirms that it has been included as a consultee for relevant Requirements in the latest version of the dDCO.

**EMP:** National Highways is content with the proposed wording in the latest dDCO in respect of Requirement 3 and 4, subject to the substitution of the Secretary of State as decision maker expected in the next dDCO.

### **Written Summaries of Oral Submissions made on behalf of National Highways during CAH**

### ***Agenda Item 2 - Statutory Conditions and General Principles for CA powers***

**Compliance with s.122(2) by reference to a number of plots:** The Examining Authority identified a number of plots and asked the Applicant to justify its position in relation to the level of compulsory acquisition powers sought over those plots. In responding to these questions, the Applicant outlined the discussions that have been ongoing with National Highways in relation to land matters. National Highways confirms that a number of plots in which National Highways has an interest are to be downgraded from permanent acquisition to either temporary possession or temporary possession with permanent rights, in accordance with a set of principles

agreed between the parties. Several plots will also need upgrading as part of a change request. Subject to the agreed changes being shown on the land plans and the agreement of suitable protective provisions about the exercise of CA powers generally over National Highways interests, National Highways has no concerns with the powers sought nor the extent of the plots shown. In respect of protective provisions, National Highways and the Applicant are largely agreed on land matters to be included.

**Extent of land to be acquired:** National Highways has no concerns in respect of the extent of any plots to be acquired in which it has an interest, subject to agreeing protective provisions to control the exercise of the powers. Likewise, National Highways does not have concerns about the extent of the Limits of Deviation in a compulsory acquisition context.

***Agenda Item 3 – Whether there is a reasonable prospect of the requisite funds becoming available***

**Certainty of funding, timing of availability of funding and whether the current cost estimate is realistic:** As discussed during ISH3, National Highways base costing is much higher than Applicant's. Other than the Homes England funding, there is no certainty of additional funding being available and if it is contractually secured, when the monies will be paid. The Homes England funding is a fixed amount and it not inflation linked, therefore any funding gap increases with time passing.

***Agenda Item 6 – Sections 127 and 138 of the PA2008 – the acquisition of statutory undertakers land and the extinguishment of rights and removal of apparatus of statutory undertakers***

**Protective Provisions:** Discussions are ongoing with the Applicant in relation to protective provisions. Most areas of principle are agreed. The outstanding areas of negotiation relate to security of funding - whether a bond is required or whether an alternative mechanism can be agreed to control works until monies are in place - and the payment of a commuted sum for future maintenance costs of the enhanced SRN network.

National Highways standard protective provisions were submitted with relevant representations. In the event that negotiated provisions cannot be agreed, National Highways would provide justification for inclusion of its preferred form of protective provision for any outstanding matters.

Matters of principle relating to land acquisition are resolved between National Highways and the Applicant and therefore even if there are outstanding matters to be resolved in the protective provisions relating to funding, National Highways believes that a form of provisions are capable of being agreed for the purposes of

satisfying s.127 and s.138 Planning Act 2008. Subject to the plot downgrades discussed earlier in the hearing (and others not directly discussed), no permanent land take is proposed within the SRN operational boundary.

S.127(6)(a) is satisfied as to rights, as all rights sought relate to highways functions or access, which would not cause serious detriment to National Highways undertaking.

***Agenda Item 9 – Representations from parties who may be affected by the compulsory acquisition provisions in the dDCO***

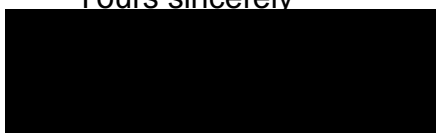
**Affected Person representation:** With regards to representations from Affected Persons, National Highways request to speak was protective. The approach to land and rights is now resolved between National Highways and GCC, subject to updated plans being submitted to the panel. All matters National Highways wished to raise have already been covered in either ISH3 or earlier in the CAH hearing.

**National Highways position**

To confirm, National Highways continues to support the principle of a scheme of improvement works at Junction 10 of the M5 motorway. However, the DCO application still contains insufficient information for National Highways to support the current application scheme and therefore National Highways objects to the DCO and the Authorised Development in its submitted form on a protective basis.

If you have any queries, please do contact me at your earliest convenience.

Yours sincerely



Andrew Alcorn  
Programme Manager  
Email: [m5junction10@nationalhighways.co.uk](mailto:m5junction10@nationalhighways.co.uk)

# Appendix A: Design review at National Highways: A guide (November 2022)'.

# Design review at National Highways: A guide





## Introduction

Improving the design quality of the strategic road network has been a key ambition of National Highways since 2015.

Design review provides project design teams with independent advice on good design. It helps schemes deliver positive impacts for local communities and better environmental outcomes. It also provides tangible benefits to us in terms of implementing best practice and working efficiently.

Design reviews are a constructive dialogue between experts with common objectives on achieving good design. They are not something to 'pass' or to be adversarial. A design review panel will offer robust challenge in a professional manner.

Design reviews are formal in recognition of their need to be independent, but allow for flexibility to enable project design teams to get the best from the process.

*'On the road to good design: Design review at National Highways'* (2022) presents a range of case studies which demonstrate the value of design review and shows that the reviews have had a positive impact in challenging us and promoting good road design.

This guide sets out an overview of our design review process and offers practical advice to project design teams working on our schemes. It draws on *'Design Review Principles and Practice'* (Design Council, 2019), and further good practice models by other expert bodies such as the Design Commission for Wales.

The design review process has been developed to suit our requirements and will continue to evolve.

## Why do we do design review

Good infrastructure is the result of good design, and design review is part of that process in supporting project design teams.

In *The road to good design* (Highways England, 2018), 10 principles for good road design are set out. Our design review process uses these principles to assess each scheme put forward to improve design quality as a key ambition of ours.

The *National Highways Licence* (Department for Transport, 2015) requires a focus on good design. Paragraph 5.26 of the Licence states, "The holder must have due regard to relevant principles and guidance on good design, to ensure that the development of the network takes account of geographical, environmental and socio-economic context."

In addition;

"National Highways must establish a Design Panel to get advice on design issues, and ensure that:

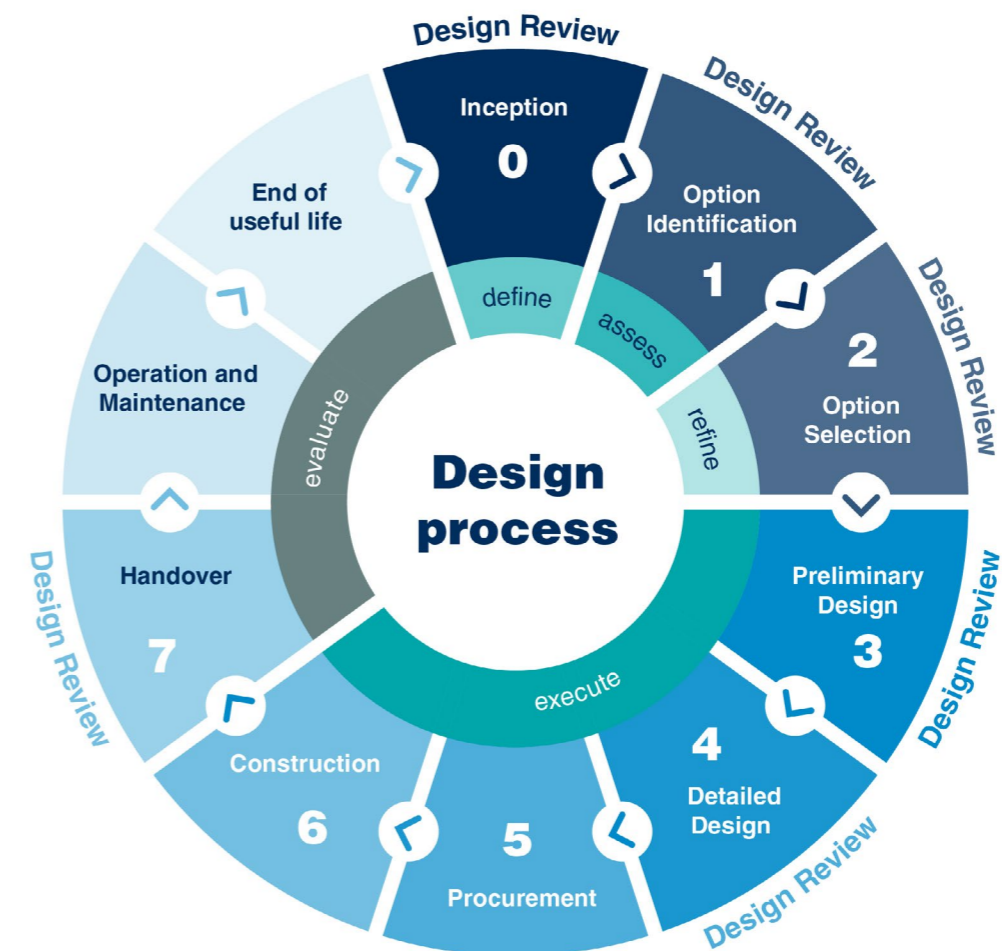
- a. The membership of the Design Panel includes representation from credible experts and relevant stakeholders, as appropriate;
- b. The Licence holder seeks, and has due regard to, the views of the Secretary of State concerning the purpose, remit and membership of the Design Panel;
- c. The Licence holder seeks advice from the Design Panel:
  - i. On the design of road improvements schemes, where these are in sensitive locations or expected to have a substantial impact on the surrounding landscape;
  - ii. On the development of relevant design standards concerning the visual impact of schemes; and
  - iii. At any other time where required by the Secretary of State.
- d. The Licence holder has due regard to the advice and general recommendations of the Design Panel, and the particular observations of the Panel on specific schemes".

Advice from our Design Panel is given through our design review process. Design review helps to reduce the risks and costs of delays in the planning process that can result from poor design quality. It points out opportunities for design changes that could improve the quality of the proposals in cost effective ways, to make the scheme more satisfactory for its users and help realise wider benefits.

### Design review can benefit a scheme by:

- bringing to the project design team a greater level of experience
- offering expert views on a wide range of issues and help to achieve sustainable development
- challenging the design assumptions that lie behind the scheme
- giving design teams confidence that they have had the best possible independent advice on design quality
- supporting and encouraging good design and innovative proposals
- identifying poor design at an early stage, when changes can be made with a minimum of effort
- offering opportunities for continued learning about design quality

Our design review process gives decision makers the confidence and information to support innovative, high-quality schemes that meet the needs of users and communities, and to resist poorly designed schemes, together with means of understanding where improvements could be made.



Design review covers the core elements of the life cycle of a scheme.

## Who does the design review and how do they work

Design review is an independent and impartial evaluation process in which a panel of relevant experts in road design and development, who are drawn from a wide range of professions, review and assess a scheme, with the aim of improving the quality of design. The design review panel are commissioned by our Design Panel.

Design review explores how a scheme can better meet the needs of its users and communities who will be affected by it, by constructively endeavouring to improve the quality of the strategic road network. It is a constructive process aimed at improving the quality of engineering, the environment, planning and landscape for the benefit of the public.

Design review meetings are held in confidence and the material submitted is also confidential.

For design review to be successful, it must be a robust and defensible process. The advice provided must also meet consistently high standards as summarised by the Design Council's following 10 principles (*Design Review Principles and Practice*, Design Council 2019):

**Independent** It is conducted by people who are unconnected with the scheme's promoters and decision makers, and it ensures that conflicts of interest do not arise.

**Proportionate** It is used on projects whose significance, either at local or national level, warrants the investment needed to provide the service.

**Expert** It is carried out by suitably trained people who are experienced in design and know how to criticise constructively. Review is usually most respected where it is carried out by professional peers of the project designers, because their standing and expertise will be acknowledged.

**Timely** It takes place as early as possible in the design process, because this can avoid a great deal of wasted time. It also costs less to make changes at an early stage.

**Multidisciplinary** It combines the different perspectives of architects, urban designers, urban and rural planners, landscape architects, engineers and other specialist experts to provide a complete, rounded assessment.

**Advisory** A design review panel does not make decisions, but offers impartial advice for the people who do.

**Accountable** The review panel and its advice must be clearly seen to work for the benefit of the public. This should be ingrained within the panel's terms of reference.

**Objective** It appraises schemes according to reasoned, objective criteria rather than the stylistic tastes of individual panel members.

**Transparent** The panel's remit, membership, governance processes and funding should always be in the public domain.

**Accessible** Its findings and advice are clearly expressed in terms that design teams, decision makers and clients can all understand and make use of.



## What to expect from the design review process

### Schemes for review

Schemes should seek advice from our Design Panel in line with the requirements of the National Highways Licence. This is where schemes are located within sensitive locations or expected to have a substantial impact on the surrounding landscape.

This may include schemes adjacent to National Parks, Areas of Outstanding Natural Beauty and urban areas, designations such as Sites of Special Scientific Interest, ancient woodland and scheduled monuments, historic parkland, flood plain, and potential for significant impact on the landscape.

The scale of schemes, their local profile, national significance, challenging on-line schemes, schemes requiring land, or the need for complex or visually prominent structures, viaducts or tunnels may all be reasons why a scheme should seek advice from our Design Panel.

### Briefing

Once a scheme has decided to seek advice from our Design Panel, an independent design review is then commissioned.

Once commissioned, a briefing meeting is held between the design review manager and the project design team. The aim is to establish an understanding of the scheme so that the right design review panel members can be selected to offer the best advice to the project design team.

The briefing also establishes what type of review would be the most appropriate in relation to the scheme stage and its issues, an outline agenda discussed and what presentation materials would be most appropriate.

An initial discussion will be held on who the most appropriate project design team members should be in attendance. This will be driven by the nature of the scheme and the issues it presents.

The project design team will be briefed on how to present their proposals clearly and succinctly.

Some of the practicalities and arrangements are agreed, setting out who is doing what, so the review runs smoothly on the day.

It may be considered appropriate that the design review panel chair may attend the briefing so that they can develop a sound understanding of the scheme and consider how the review can best be conducted.

## Type of review

A number design reviews types are undertaken.

The project design team should indicate at the briefing meeting with the design review manager what the most valuable outcome from the design review would be to them. The most appropriate type will then be selected through discussion.

Reviews range from whole scheme reviews with site visits, more formal full day design review, full day or half day workshops, and issue specific workshops, focussing on structures for example.

The type of review used may change as the scheme moves through the various design stages and as it returns for follow up review.

## Venues and facilities

Design review meetings may be held face to face, online or as a hybrid meeting.

A venue close to the location of the scheme might be chosen to tie in with a site visit.

The venue should be fully accessible, with enough room for everyone to sit and circulate comfortably.

Audio-visual equipment may be needed for on-screen presentations and to enable hybrid meetings.

Venues will need to be provided with appropriate welfare facilities including refreshments.

It is the responsibility of the project design team to provide the venue, equipment and facilities.

## Site visits

It is very important that the design review panel members are fully aware of the characteristics of the site, context and key issues. Wherever possible, each scheme should be visited by all the panel members as part of the review. Depending on the nature and scale of the scheme to be reviewed, the site visit may form part of the review on the day. Larger schemes may require a whole day to visit the site before the review meeting.

If visits are not possible, site and context details may be communicated to panel members through briefing papers, aerial and other photos of the site and its surroundings, and a briefing by panel members who may have visited the site.



## Appropriate design team members

The right project design team members should be in attendance at the review so that the questions posed by the design review panel can be answered and that discussions between technical experts are meaningful.

The briefing meeting is used to establish which members of the project design team should attend the review. For schemes at early design stages a wider engineering and environmental design team may be required, whereas issue specific workshops may require a smaller team, for example the bridge architects and structural engineers to discuss bridge designs.

The National Highways project manager and/or project director should attend as the client.

Once agreed, changes to the project design team attending the review should be avoided. If changes are required, these should be communicated to the design review manager as soon as possible. Last minute changes may not always be possible to accommodate.

## Materials and information required

Sufficient information materials explaining the scheme are required to be sent to the design review panel before the review meeting. This is so panel members can familiarise themselves with the proposals and fully appreciate the nature of scheme and its context before the review meeting. All materials and presentations are provided in confidence to the design review panel.

Existing materials can be used if they are appropriate, for example plans used at a consultation stage. Drawings are the main form of presentation required by the design review panel. 3D digital models, animations and fly through's, photographs, sketches, images and precedents are also all useful ways of presenting the scheme.

The briefing meeting should be used to identify what material is available, what additional material may be required and what information may not be required. For example, detailed technical reports which are unlikely to be read or used in the discussion.

The materials submitted should include a summary and background to the scheme and its design stage.

It is important that the design review panel understand what decisions have already been made so that they can focus on areas of design that they can influence. For example, a preferred route may already have been selected.

The design review panel will meet in advance of the review meeting to discuss the scheme and agree areas and issues to focus on at the review. The project design team can indicate which areas that would like the panel to focus on.

## Typical materials could include:

- Wider landscape context of the scheme, including an assessment of the urban, natural or rural landscapes and places through which the scheme passes and any cultural significance of the landscape and features.
- Wider movement network, including connectivity with surrounding roads, lanes and streets and public transport.
- A diagram visualising design opportunities and constraints, including social, economic and environmental. For example, archaeology, biodiversity, ecology, nearby communities, planned or potential development, new or changed connections.
- A concept or strategic diagram illustrating how the scheme has responded to the landscape and wider context.
- A route plan, including road numbers and names, and key structures including bridges and retaining walls and important elements of the proposed route.
- Overall general arrangement showing the scheme at a suitable scale.
- Walking, cycling and horse-riding network impact and opportunities.
- Key views from places where people are likely to experience the scheme and sensitive viewpoints to understand visual impact.
- Large scale drawings of key aspects, such as junctions, bridges, facilities, or interfaces with sensitive landscapes, communities and buildings that the project design team consider important and wish to discuss.
- Sections at key points along the route.
- Fly-throughs and visualisations, if available and appropriate, and visualisations of the road user's experience.
- Early sketches and concept drawings where relevant.

## Presentation

Most reviews are carried out as presentation sessions, where the project design team present the scheme to the design review panel. This gives the project design team the opportunity to make a case for their ideas, engage in discussion and hear the panel's comments directly.

The presentation should be appropriate to the scheme stage. It may start with a description of the nature of the site and its context before moving to an overview of the scheme, aims and objectives, followed by details and response to the main design issues.

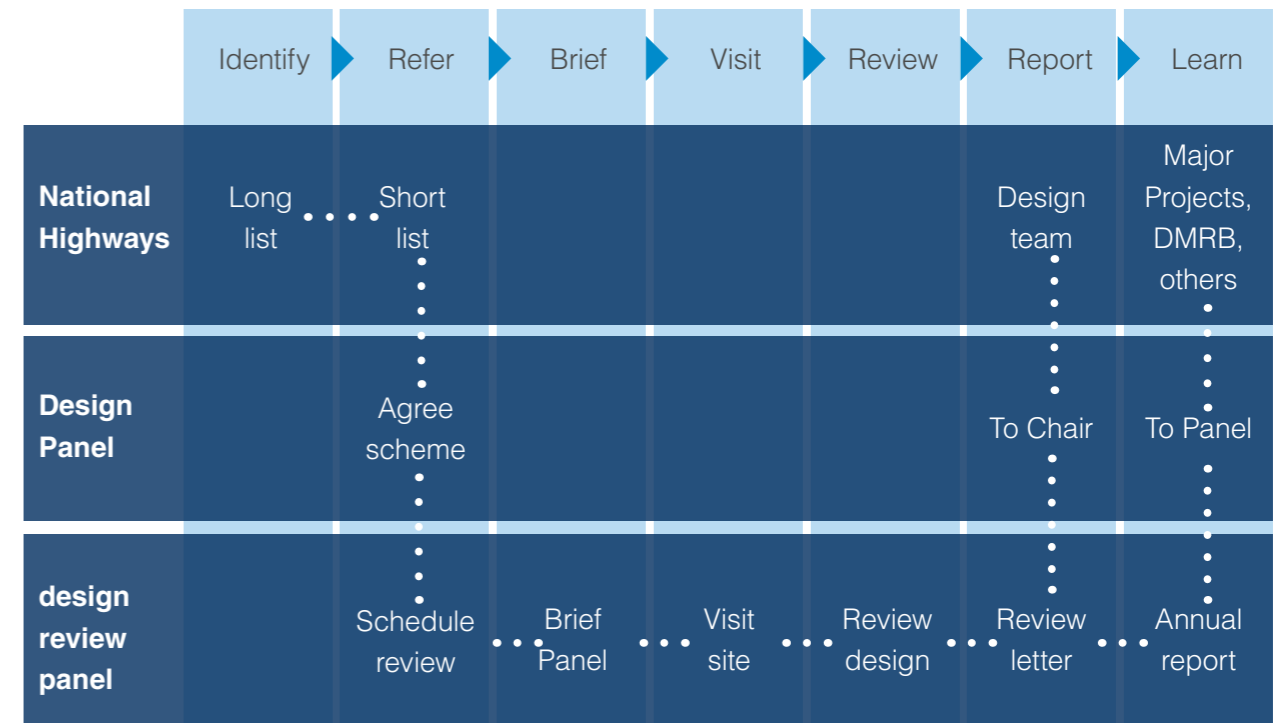
It is important that the project design team explain the immediate and the wider context of the scheme. Roads that respond to their geographical, environmental and socio-economic context will be well-grounded, be more accepted by communities and have less environmental impact. Reference should be made to *People, places and process: A guide to good design at National Highways (2022)*, Section A. Section C in this guide should also be referenced with the project design team being able to discuss design concepts such as scale, identity, materiality and views for example.

### The presentation should provide:

- an outline of the project vision, objectives, and brief
- a concise overview of planning context, including key dates
- relevant analysis of the site and context, showing how this has informed the scheme approach
- a demonstration of the strategic approach to good design
- an overview of the proposal
- detail of the scheme as appropriate for the current design stage
- planned next steps

The length of the presentation should be tailored to suit the complexity of the scheme. It should be recognised that the design review panel will have reviewed the materials submitted previously, and that the most valuable part of the design review meeting is the discussion.

Presentations may be virtual, hybrid or face to face. The above guidance applies to all presentation types, recognising that each scheme presentation will have its own design review needs.



Panel relationships and overview of the design review process.

## Discussion

The chair designated for the review will structure the discussion around the materials submitted, the review of the materials undertaken by the design review panel in advance of the meeting, the presentation made and what issues the project design team would like to discuss.

It may for example, flow from the general, such as the project's overall strategy, to the more detailed aspects of the scheme. During the first review of a scheme any major issues will be raised.

The design review chair will call upon the panel members to comment and ask questions. They will ensure that the full agenda and areas for discussion are each given appropriate time, avoiding the discussion spending too much time on one item.

The design review chair will also make sure that the project design team has time to respond to comments and questions and to make the meeting an effective discussion.

Whilst the chair will generally follow the agenda, it should be recognised that the discussion may take a different direction, exploring some issues in more detail, or on new aspects that the design review panel and project design team consider worthwhile discussing. This is normal and part of the design review process.

Our Design Panel seeks to ensure the strategic road network displays design quality through being safe, functional and effective, responding positively and sensitively to landscape character, cultural heritage and communities, while also conforming to the principles of sustainable development. Therefore, a design review panel will generally assess the scheme against our 10 principles set out in *The road to good design*, (Highways England, 2018).

### Good road design:

- |                                |                                   |
|--------------------------------|-----------------------------------|
| 1. makes roads safe and useful | 6. is environmentally sustainable |
| 2. is inclusive                | 7. is thorough                    |
| 3. makes road understandable   | 8. is innovative                  |
| 4. fits in the context         | 9. is collaborative               |
| 5. is restrained               | 10. is long-lasting               |

## Observers

Design review meetings may occasionally be held with observers present. The observers may be from either National Highways staff and supply chain or the design review panel. If observers are to be present the design review chair will ensure that the project design team and the design review panel know this before the meeting starts, remind observers that they cannot contribute to the review and must be made aware of the confidentiality required.

Last minute requests for observers to attend meetings will generally be refused.

## Conclusions

The design review chair must ensure that the project design team leave with an accurate understanding of the design review panel's views and this will be set out in the summary which the chair will give at the end of the review meeting. Once the discussion has been summarised, the project design team will be thanked and asked to leave.

The chair and design review panel may then confirm their views in private, and the panel manager can confirm the points and comments that will be covered in a written letter. New observations will not be introduced during this closed discussion.

## Advice and follow-up

The formal design review advice letter will be based on comprehensive notes taken at the meeting by the design review chair, panel manager and panel members.

The letter will contain appropriate advice and point out the strengths of a proposal alongside any missed opportunities and potential benefits or threats. The letter will be issued to the National Highways project manager for distribution and copied to the chair of our Design Panel for information.

The Design Panel may want to ensure that design quality has been improved and maintained through the development process. This can usually be achieved by offering to review the scheme again.

Wherever possible, the same design review panel members from the first, or other previous review meetings, will attend follow-up reviews.



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