

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:

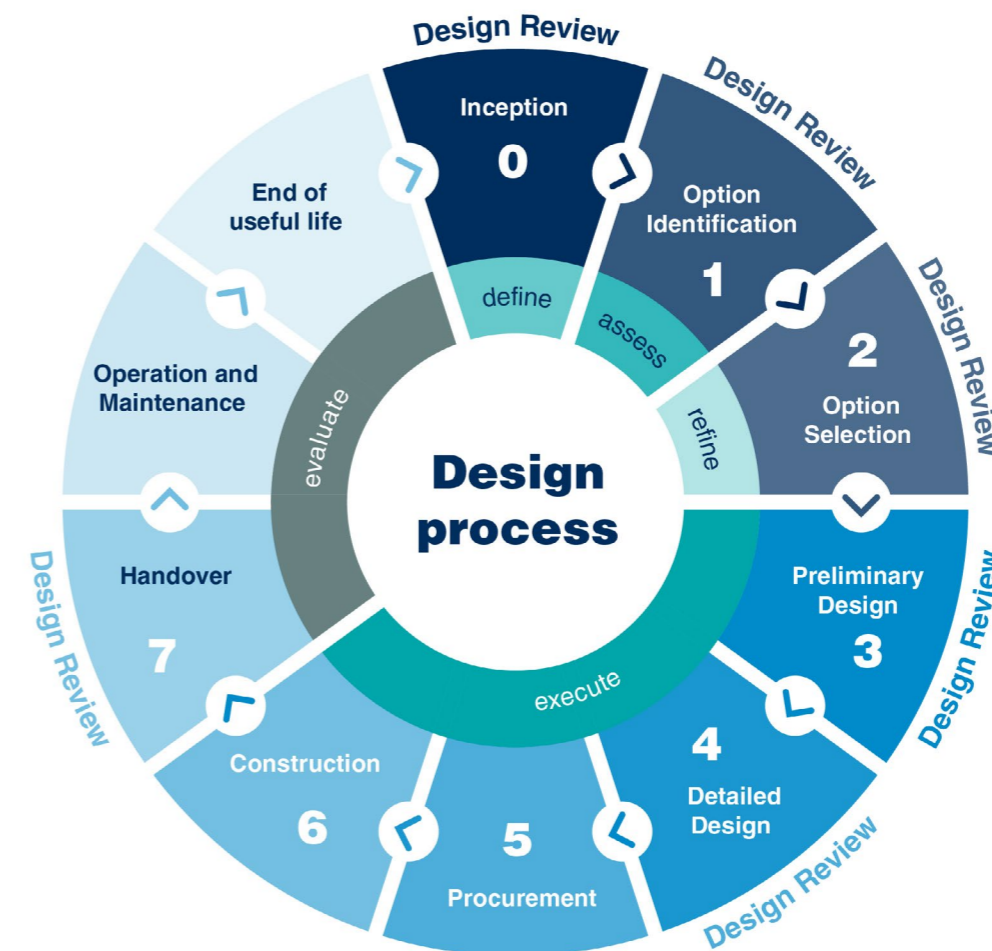
- a. The membership of the Design Panel includes representation from credible experts and relevant stakeholders, as appropriate;
- b. The Licence holder seeks, and has due regard to, the views of the Secretary of State concerning the purpose, remit and membership of the Design Panel;
- c. The Licence 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.

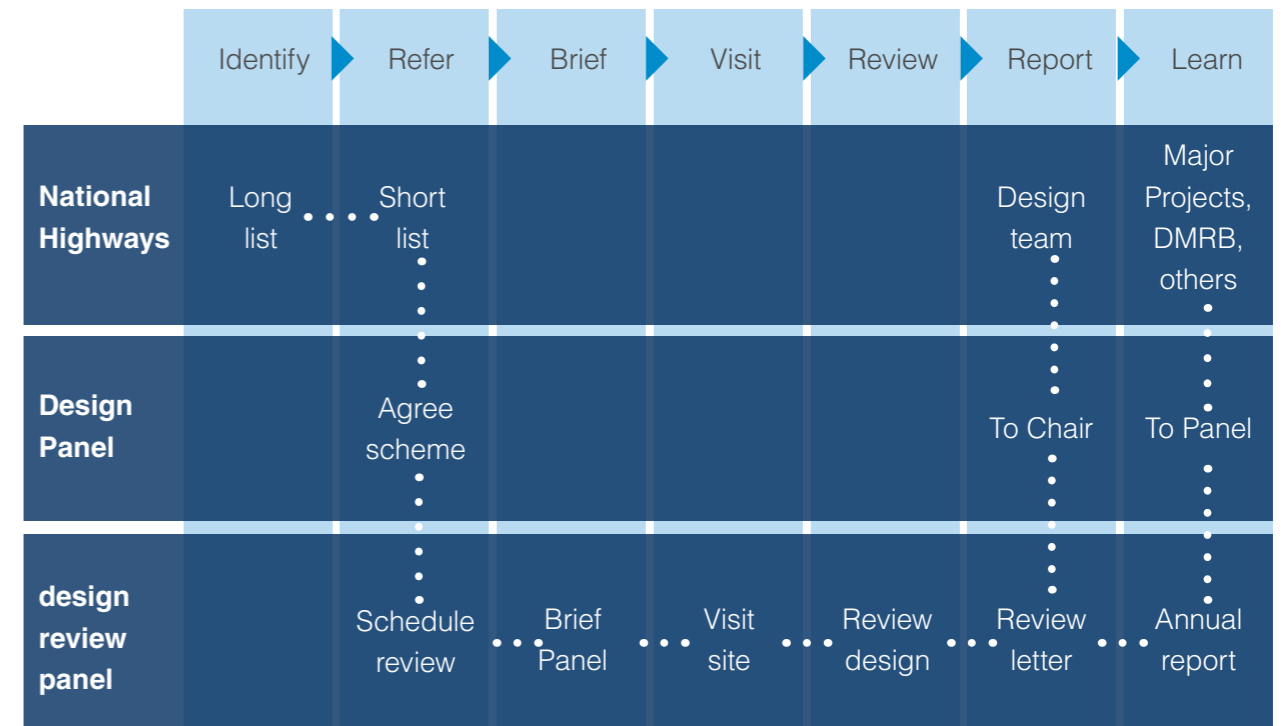
It is important that the project design team explain the immediate and the wider context of the scheme. Roads that respond to their geographical, environmental and socio-economic context will be well-grounded, be more accepted by communities and have less environmental impact. Reference should be made 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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Registered office Bridge House, 1 Walnut Tree Close, Guildford GU1 4LZ

National Highways Limited registered in England and Wales number 09346363