



The road to good design



A wide-angle landscape photograph showing a multi-lane road bridge crossing a large reservoir. The bridge is a concrete structure with a road surface, and several cars are visible on it. The surrounding landscape consists of rolling hills with green and yellowish-brown vegetation, suggesting a rural or semi-rural setting. The sky is filled with large, grey clouds, creating a dramatic atmosphere. The overall scene is a blend of natural beauty and infrastructure.

inclusive
safe and useful restrained
innovative fits in context
long-lasting understandable
thorough collaborative
environmentally sustainable

Our vision

We aim to put people at the heart of our work by designing an inclusive, resilient and sustainable road network; appreciated for its usefulness but also its elegance, reflecting in its design the beauty of the natural, built and historic environment through which it passes, and enhancing it where possible.

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Principles of good road design

Good road design:

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

Foreword



As we deliver the biggest investment in our strategic road network in a generation we have been challenged to ensure that, as well as being safe, efficient and affordable, our roads are also beautiful. This aspiration, which I share, will deliver roads which not only serve a purpose but are also each examples of excellence.

To achieve this will require a shift in design culture within both Highways England and the wider roads sector. Fortunately we have the support of the Strategic Design Panel, whose work in shaping our vision and principles of good road design is invaluable. Panel members are drawn from a wide range of organisations; all committed to helping us achieve our goal.

The defined principles will help us place good design at the heart of everything we do, and ensure our roads better serve the people who use them and the environments through which they pass. And we will embed them for the future, ensuring a design-led approach becomes central to the requirements and advice contained in the Design Manual for Roads and Bridges.

I have great confidence that in meeting our challenge we will deliver safer, better, beautiful roads which connect people and connect our country. Because we believe a connected country is better for everyone.

Mike Wilson

Chief Highways Engineer and
Chair of Strategic Design Panel

Introduction

The purpose of this document is to challenge thinking about the design and quality of our roads.

Every day countless decisions are made regarding the strategic road network. These all have the potential to enhance or erode the distinctive character of a location, and our experience of driving through it. They could relate to the direction of a major road project, or a smaller, minor improvement or piece of maintenance; all can change a place for better or worse.

For many technical decisions are also design decisions and affect the quality and appearance of the network. By focussing on good design, Highways England can make a difference to the experience of road users and the communities through which our roads pass. Good design is a powerful tool for achieving a higher quality of life, as well as greater economic vitality and a more efficient use of resources.

We need to design in a way that is sensitive to the context of a road's surroundings and

responsive to the needs of those who use it and the communities through which it passes; this will create a vital piece of infrastructure that is not only functional, but also makes a positive contribution.

To support our vision for the network, we have established a set of principles for good road design which follow the themes of people, places and processes. These will encourage better design and provide the basis for road schemes to be objectively reviewed. For close engagement with communities, careful assessment of context, robust decision making and collaborative working, are all vital if ongoing road investment is going to truly enhance our urban and rural environments.

By focussing on good design, Highways England can make a difference.

Connecting England

The road to good design connects people, places and processes to achieve better outcomes.

These themes encompass 10 principles of good road design and support our aspirations for a network that responds better to both people and places through improved design processes.

Connecting people

People are at the heart of our design work, making good roads safe and useful, inclusive and understandable. Good road design reflects users' needs, engages with communities and works intuitively for all.

Connecting places

Good road design demands a deep understanding and response to place, to create a quality aesthetic experience for the user and wider community. This is restrained and environmentally sustainable design, in fitting with the context.

Connecting processes

A successful outcome focussed on people and places requires good design processes. These are collaborative, thorough and innovative, generating long-lasting outcomes that are of benefit to users and the wider community.

10 design principles

Our 10 principles are based on universal ideas of good design. They are not instructions for how to design a road, but are prompts to improve design quality and outcomes.

Design generally combines utilitarian, technical and economic considerations with aspects of place and culture. Universal good design is thus a balance and coordination of aesthetic, functional and technological considerations.

Road design is more bound to place and function than other design fields, with specific demands of technical design and safety that must be met. Since aesthetic considerations must accept these demands, the potential for variation is more challenging, but still possible for many elements such as signs and lighting for example.

The aesthetics of road design is further distinguished as many of its qualities are dictated by place itself. Our view of the landscape, particularly rural, is generally conservative and this has helped preserve its beauty, but presents a specific additional challenge for road design to be place responsive.

The journey to safer, better, more beautiful roads starts here.

Connecting people

Good road design:

1 makes roads safe and useful

Safety is fundamental to good road design; it is integral to both the usefulness of its function and the confidence of road users and their well-being. Good design creates safe roads which support and link to other wider imperatives, both nationally and locally, and that are fundamentally useful, meeting users' need for mobility effectively.

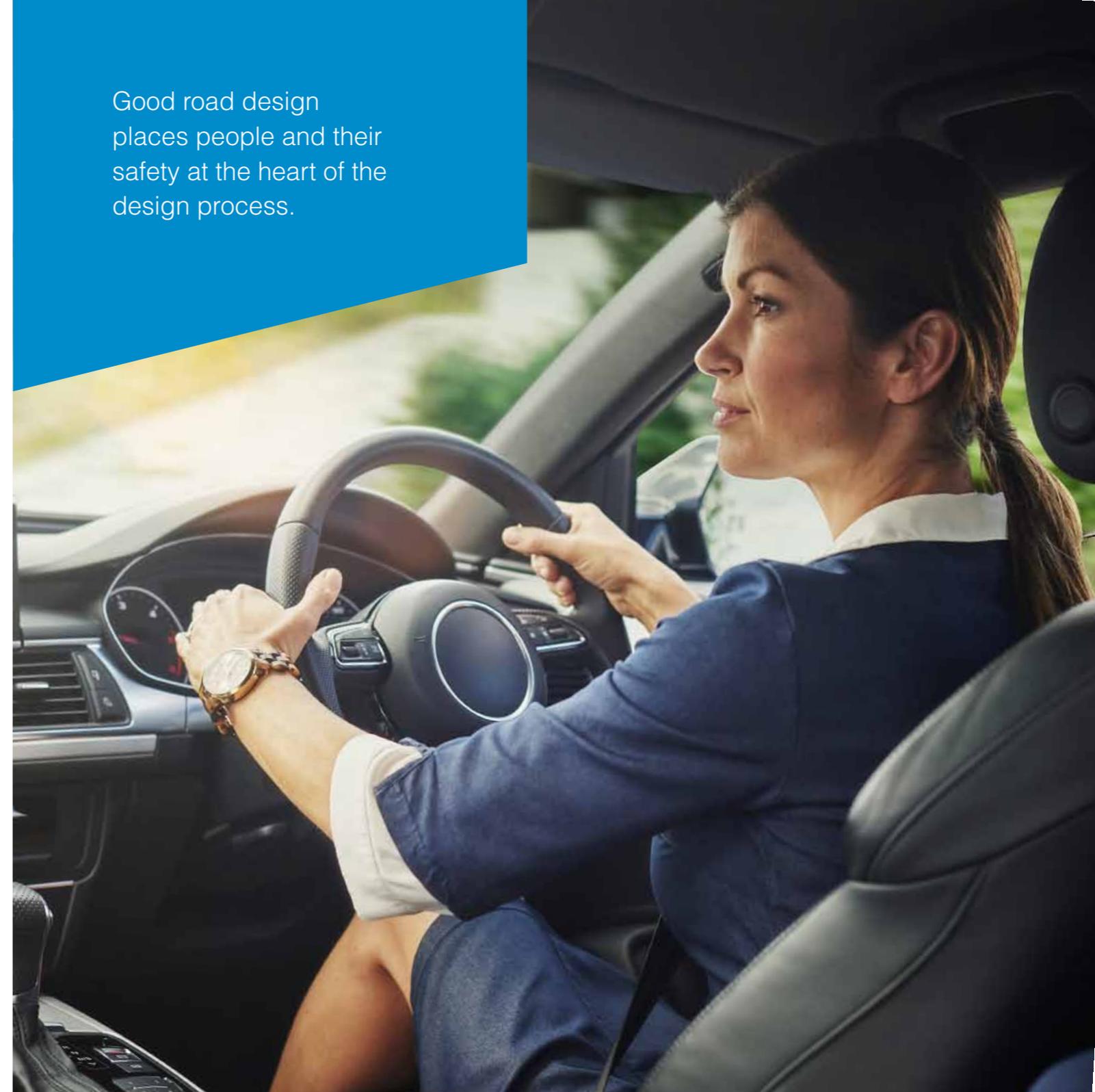
2 is inclusive

Inclusive environments facilitate dignified and equal use by all. An inter-disciplinary design process involves and places people's needs and views at its heart, nurturing well-being and creating a shared sense of ownership of the road. All users and communities are considered carefully in order to reduce barriers to access and participation, particularly mindful of the most vulnerable.

3 makes roads understandable

Easy to read, a good road is intuitive to use so as to be safe and efficient for all. 'Self-explaining roads' focus on the essentials and eliminate unnecessary and confusing clutter to make them legible, while responding to place and enhancing both environmental and economic outcomes.

Good road design places people and their safety at the heart of the design process.



Connecting places

Good road design:

4 fits in context

The aesthetic quality of a road and its design in relation to the places through which it passes, is integral to its function and the experience of those that use it. Good road design demonstrates sensitivity to the landscape, heritage and local community, seeking to enhance the place while being true to structural necessities. It builds a legacy for the future.

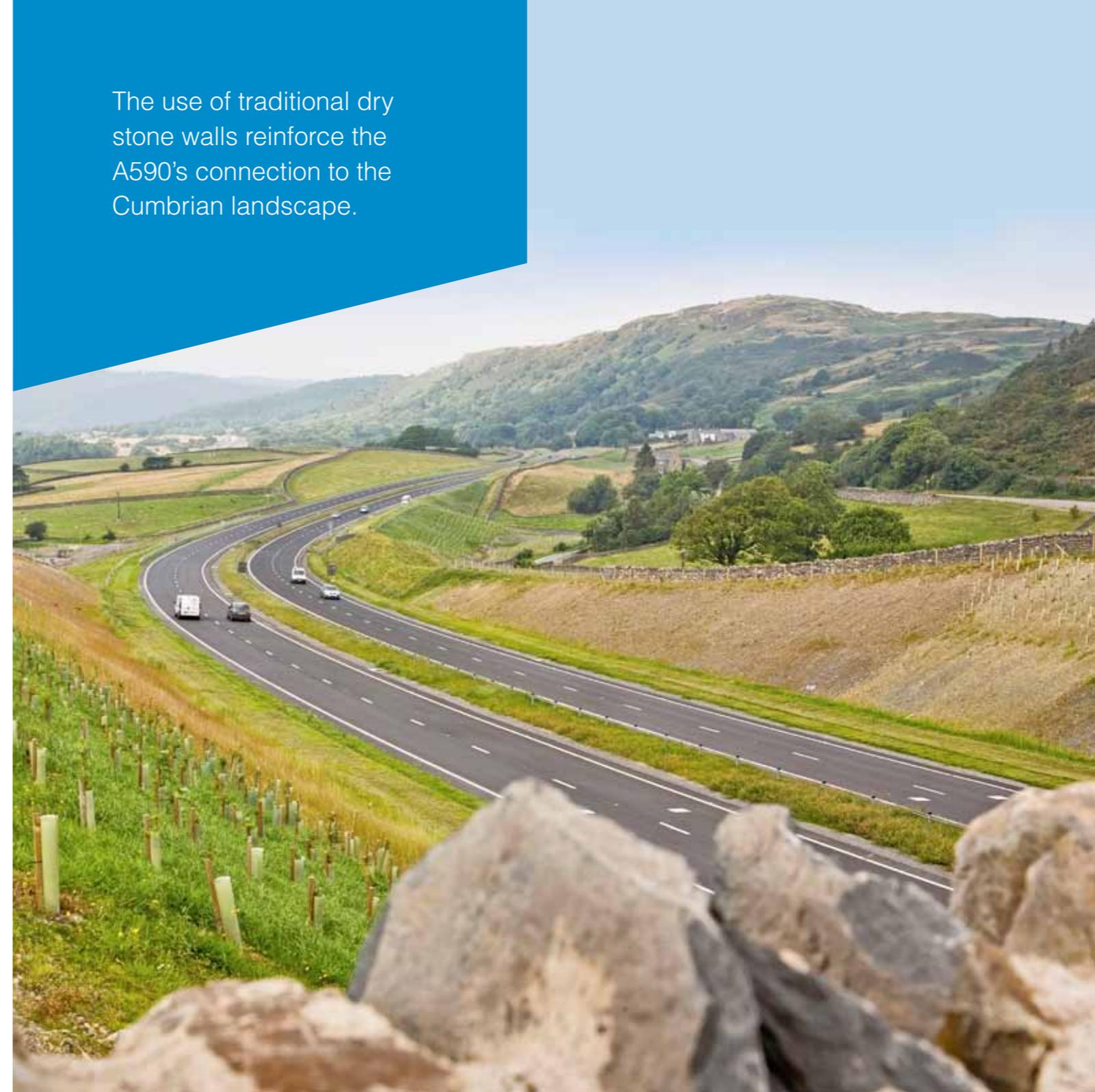
5 is restrained

Functional, but responding positively and elegantly to the context, good road design allows for the expression of the character and identity of the places and communities through which a road passes. Good road design can enhance a sense of place and add to what we have inherited, particularly through the use of appropriate materials and traditions, but does not make unnecessary superficial or superfluous visual statements.

6 is environmentally sustainable

Making an important contribution to the conservation and enhancement of the natural, built and historic environment, good road design seeks to achieve net environmental gain. It is multi-functional, resilient and sustainable, allowing for future adaptation and technical requirements, while minimising waste and the need for new materials.

The use of traditional dry stone walls reinforce the A590's connection to the Cumbrian landscape.



Connecting processes

Good road design:

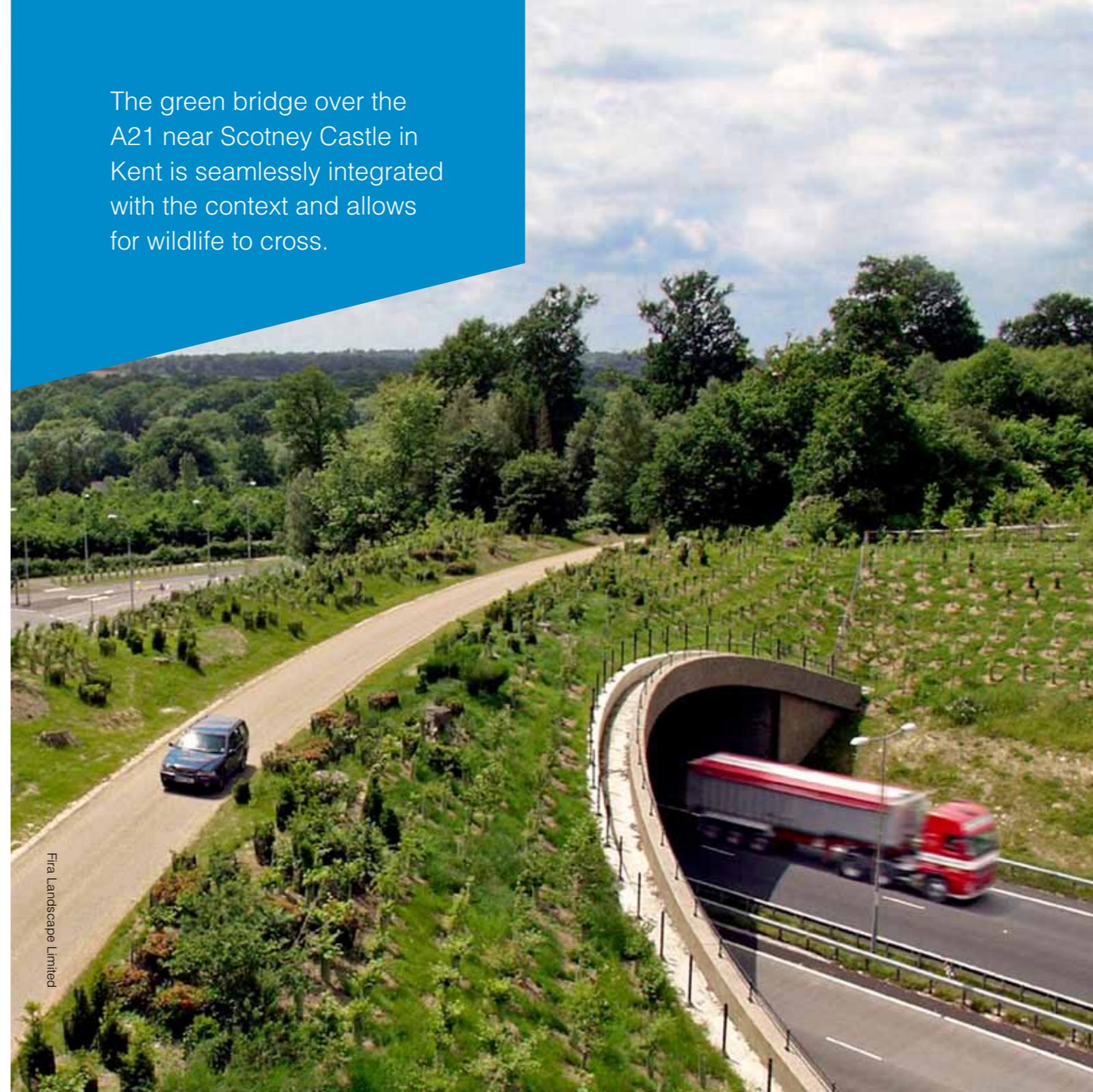
7 is thorough

The result of robust processes that create a continual cycle of improvement, good road design starts with an in-depth understanding of people, place and context; learning from best practice worldwide. The design of all elements of the road environment are considered together and integrated into a responsive design.

8 is innovative

Responding positively to change, good road design captures opportunities for betterment and develops in tandem with emerging new technologies. Designing to a standard is not the same as achieving good design; an innovative and resourceful approach that is mindful of context is necessary to achieve better outcomes.

The green bridge over the A21 near Scotney Castle in Kent is seamlessly integrated with the context and allows for wildlife to cross.



Connecting processes

Good road design:

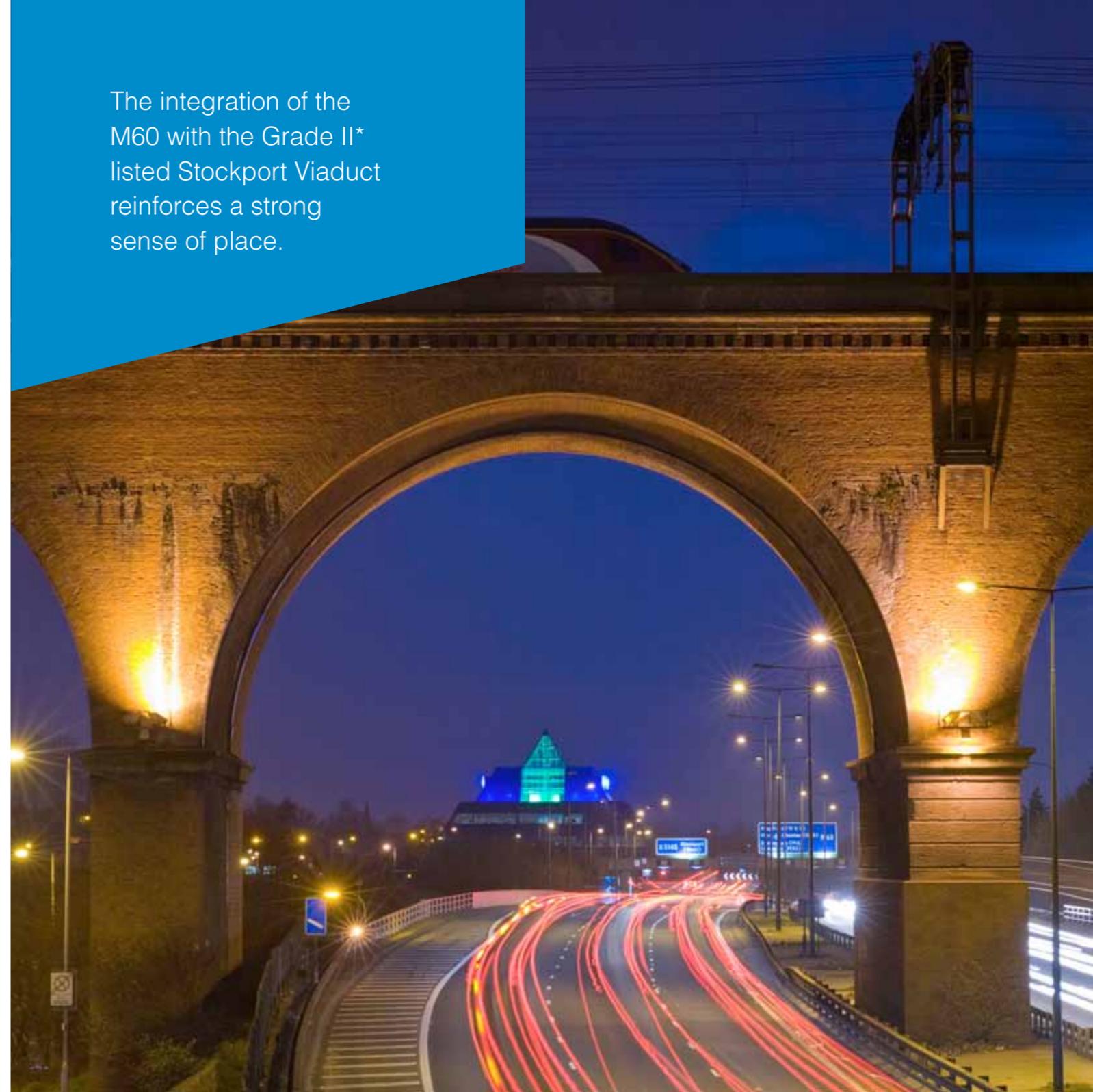
9 is collaborative

Collaboration ensures roads are useful to and accepted by the communities they serve. Collaborative working requires a rigorous process that identifies dependencies and wider opportunities, and facilitates effective communication and engagement from the start. Community engagement will be led by a local sense of culture, place and value.

10 is long-lasting

With quality materials and careful detailing, good road design brings lasting value. The design process requires sufficient time for challenges to be resolved before delivery and is adaptable to future needs and technologies as part of the commitment to whole-life operation, management and maintenance.

The integration of the M60 with the Grade II* listed Stockport Viaduct reinforces a strong sense of place.



Strategic Design Panel

The Highways England Strategic Design Panel is supporting the company to make a step change in the design quality of the strategic road network.

This change will see that design excellence in landscape, engineering and the built environment is at the heart of Highways England projects. The 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.

The work of the Panel takes place in the context of the government's wider road investments and its role is to independently advise Highways England on its approach to implementing projects and day to day operations. While the Panel does not have a statutory function in its own right, its advice and guidance can inform the statutory consent processes.

Highways England seeks advice from the Panel:

- to embed a context led approach into the development of the network
- on the design of road improvements, network management and operations
- on the development of relevant design standards and processes
- as required by the Secretary of State

The Panel takes an integral multi-disciplinary approach that sees design as a way to add value to projects by maximising opportunities and not simply as a mitigation tool. It publishes an annual progress report on its work and oversees the independent design review of individual Highways England projects.

Strategic Design Panel members:

Campaign for Better Transport
Design Council
Transport Focus
Chartered Institute of Highways and Transportation
Institution of Civil Engineers
Landscape Institute
Historic England
The Prince's Foundation
Institution of Structural Engineers
Royal Institute of British Architects
Campaign to Protect Rural England
Natural England
National Trust



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