

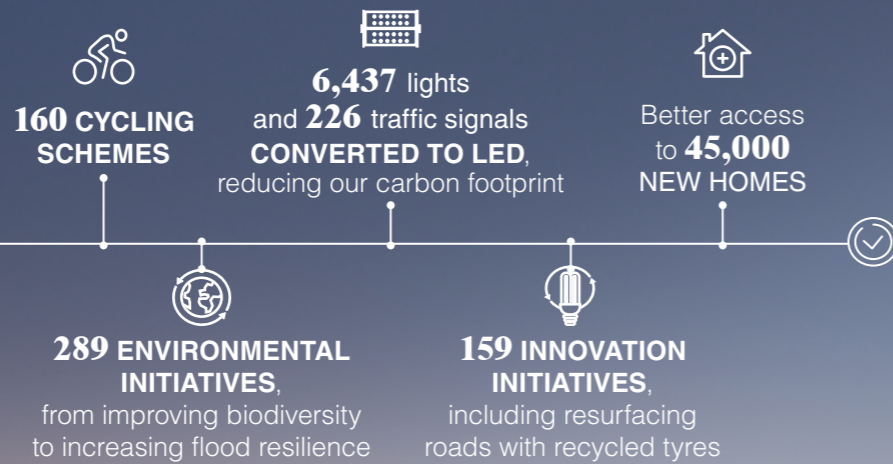
Designated funds plan 2020-2025



WHAT WE'VE ACHIEVED WITH DESIGNATED FUNDS SO FAR

£653.2 million INVESTED during our first 5 years as Highways England

Over 2,000 INITIATIVES FUNDED, including:



THINKING BEYOND OUR NETWORK

Highways England was created in April 2015, and five years on we're an organisation that's evolving. We're constantly looking for opportunities to do things differently and better.

Our Designated Funds programme is a prime example of this. Instead of thinking purely in terms of investing in roads, we're addressing social and environmental issues and adding real value to society.

I'm proud of what we've achieved so far, investing in the land and communities surrounding our network, as well as the people travelling and working on it. We'll build on this work in the second Road Period. From 2020 to 2025, we'll manage £936 million in ring-fenced designated funds, finding new ways to improve our road network and its surroundings. By doing this we'll make sure that England's motorways and major A roads are fit for future generations.

The four funding areas are:

- Users and communities
- Environment and wellbeing
- Innovation and modernisation
- Safety and congestion

This booklet sets out the details of all four funds. It covers the purpose of each fund, how they align with our strategic goals, and the criteria for funding. Crucially, it also explains how to start the application process, and make sure that your application aligns with the aims and themes of the fund you're applying for.

We're working more closely with stakeholders than ever before to deliver this exciting area of work. We're here to help turn your ideas into action. If your initiative fits the criteria for our designated funds, please get in touch with our designated funds programme team.

MIKE WILSON
Chief Highways Engineer, Highways England



We've partnered with the National Trust to restore the Grade 1 listed Penshaw Monument, which is visible from the A19. £200,000 from our designated funds has been invested in improving access to the monument for the 60,000 people who visit every year. Our funding is also being used to reduce erosion on Penshaw Hill, helping the surrounding habitat to thrive.

“The Designated Funds programme has helped us to think on a more strategic level about how we work with partners such as Highways England to protect the places we own but also the wider landscapes that are affected by major infrastructure such as roads.

The value of designated funds goes beyond the financial aspects. It has encouraged us to have conversations and build relationships with other stakeholders, such as Sustrans, as we think about projects in a more holistic way.”

JON POWLESLAND,
HEAD OF GRANTS, NATIONAL TRUST

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“Highways England are as innovative as we are in terms of ideas and doing something different. They are very enthusiastic about engaging with expert organisations; of reaching out to partners. That’s a very good thing for companies to do – and many don’t think that way. It’s all about the art of knowing who to go to.”

CARLY BROOKFIELD, CHIEF EXECUTIVE, DRIVING INSTRUCTORS ASSOCIATION

DESIGNATED FUNDS AT A GLANCE

PURPOSE

Our vision for the next 20 years is to transform our strategic roads and create a modern road network that supports a modern country. We aspire to a road network that will be smoother, smarter and more sustainable by 2040. Our Designated Funds programme is central to achieving this vision.

WHO CAN APPLY?

We work with many different partners to make sure our designated funds are reaching schemes that add real value for society. We welcome applications for funding from both Highways England teams and external organisations. These can include public, third and private sector organisations. All applications will be subject to the same principles for funding.

FUNDING PERIOD

Funding from the four designated funds outlined in this booklet will run throughout the second Road Period, from April 2020 to March 2025.

You must be able to demonstrate that the project phase which you are seeking funding for will be completed by 31 March 2025.

CONNECTING TO OUR STRATEGIC AMBITION

Our creation as Highways England in 2015 marked a radical new approach to road investment in the UK, with a five-year cycle replacing annual funding rounds. The certainty of longer-term funding means that we’re setting strategic priorities focused on reversing decades of underinvestment in the country’s vital road transport arteries.

You’ll find our strategic priorities described in the themes for each fund plan. At the core of these priorities are our three imperatives – safety, customer service and delivery. Everything we do is driven by these imperatives.

It’s important that you show in your application how your initiative aligns to our imperatives and strategic priorities.



CONNECTING TO OUR STRATEGIC AMBITION

The following documents set out in detail our investment priorities for 2020 to 2025. Your funding application should be shaped by a clear understanding of how we're planning to deliver the strategic outcomes outlined in these documents, and how we'll measure success.

- ▶ The second Road Investment Strategy (RIS2) lays out government's plans for strategic road investment over the next five years (2020-2025). It sets out an ambitious vision for the shape of the network in 2050, along with the practical steps government plans to take with our organisation to turn this vision into a reality.
- ▶ Our response to RIS2. It sets out how we'll deliver the investment plan and performance requirements set out within the government's second Road Investment Strategy over the coming five years.
- ▶ In this document, we discuss how we believe our road network will evolve over the coming decades, and what this could mean for our customers and for England's economy. It supports the Strategic Road Network Initial Report (2017), which sets out our views and advice to government on the key challenges and investment priorities for the strategic road network in the second Road Period (2020-2025).

If you're applying for funding from our **Innovation and modernisation fund**, you should show how your proposal aligns with the themes in this document and the innovation approach outlined on our **Innovation Hub**.

If you're applying for funding from our **Users and communities fund**, you should also show how your proposal aligns to one or more of these documents (where relevant to the theme you're bidding for):

- ▶ Our customer service strategy describes why and how we plan to improve the service we provide for the millions of people who use, or are affected by, our network each day. Each year we review our customers' priorities to make sure we're addressing their needs. Our annual [customer service plans](#) outline the work we're doing to build better relationships with our customers, and improve customer experiences with our roads and services.

- ▶ Published by the Department for Transport, this strategy outlines the government's ambition to make cycling and walking a natural choice for shorter journeys, or part of longer journeys, by 2040.

If you're applying for funding from our **Safety and congestion fund**, you should also show how your proposal aligns to one or more of these documents (where relevant to the theme you're bidding for):

- ▶ Describes the areas we are focusing on to improve health, safety and wellbeing within our organisation and our supply chain.
- ▶ Describes what we'll do to improve the safety of our roads by focusing safety interventions on three elements; the road, vehicles and people. This combined approach means that the amount, and severity, of crashes are reduced on our roads.

If you're applying for funding from our **Environment and wellbeing fund**, you should also show how your proposal aligns to one or more of these documents (where relevant to the theme you're bidding for):

- ▶ Sets out our environmental vision to 2040, and identifies strategic priorities for action. Designated funds projects will support delivery against all aspects of the environmental strategy and its implementation.
- ▶ Published by the Department for Environment, Food and Rural Affairs, this plan sets out government action to help the natural world regain and retain good health.
- ▶ Sets out our approach and vision for sustainable development, communicated through the five capitals model of sustainable development.
- ▶ Published by the Department for Transport, this document sets out measures to clean up road transport and lead the world in developing, manufacturing and using zero emission road vehicles.



1. USERS AND COMMUNITIES FUND PLAN

Our roads are amongst the safest in the world, and we now put our customers at the centre of everything we do. Our customers' expectations are evolving, from the ways they use technology to how they travel, and this fund is helping us make some important changes to meet their needs.

People are making fewer journeys, but longer ones. Online shopping is increasingly popular. So, levels of traffic on our roads, including truck and van movements, are growing fast. At the same time, we recognise that journeys don't begin or end on our network, so it's vital that we connect seamlessly with other roads – and with other forms of transport.

We're investing in better engagement, and gathering insight from our customers, stakeholders and partners that can be used to shape improvements both on and off our network. We're also enhancing our services for the communities who live and work alongside our roads, as well as for the people who use them.

OUR PROGRESS SO FAR

Our Users and communities fund is a new fund, introduced in April 2020. But between 2015 and 2020 we used other designated funds to achieve similar aims, including:

Completing **62 SCHEMES** which **INTEGRATE OUR NETWORK WITH OTHER TRANSPORT INFRASTRUCTURE**, including pedestrian routes and public transport hubs, helping our customers travel more easily.



Working with Transport Focus to identify specific areas for **IMPROVEMENT AT ROADSIDE FACILITIES**. We'll be using this fund to invest in these improvements over the next five years, including better signage for roadside facilities along our A-roads.



Building **160 NEW** and **UPGRADED CYCLE WAYS** to provide a safer, high-quality network for cyclists.

Identifying and testing improvements to variable speed limits and message signs. The improvements will **ENABLE FASTER, SAFER JOURNEYS FOR OUR CUSTOMERS**.



Introducing new ways for our customers to send us **REAL-TIME FEEDBACK**. We've used over **3,000 RESPONSES GATHERED** in the first five months of using our new customer feedback tool, ECHO, to make our services better.



Since 2015 we've invested over £85 million in boosting England's cycleways. In October 2018, we partnered with Sustrans to help improve the UK's 16,505 mile National Cycle Network. Our investment is providing safer crossings and connecting cycle schemes along some of England's busiest roads.

"Highways England's investment will make it easier for more people to cycle to work, the shops and for leisure."

Cycling and walking for local journeys is part of the solution to many of the challenges we face today, including road congestion, air pollution and high levels of inactivity.

We hope to build on our partnership with Highways England, to make cycling safer, more attractive and easier for everyone, regardless of age and ability."

MATT WINFIELD, NATIONAL DIRECTOR ENGLAND, SUSTRANS

AT A GLANCE

Our Users and communities fund has six themes:

■ INTEGRATION

We recognise that our customers' journeys don't just start or end on our network. So, we're working closely with transport partners and local authorities to connect the country through seamless journeys and multi-modal travel. This includes better integration between national and local roads, and with public transport.

■ WALKERS, CYCLISTS AND HORSE RIDERS

We want our roads to be safe and accessible for all. So, we're supporting walkers, cyclists and horse riders by addressing the barriers our roads can create. Through this fund, we're providing new infrastructure for these users, and enhancing existing facilities, through targeted local investment.

■ ROADSIDE FACILITIES

Our customers' end-to-end journeys are important to us, and we're aiming to enhance their whole experience. That's why we're working with partners in roadside facilities to improve services, including information and accessibility, for anyone who needs to stop and take a break.

■ COMMUNITIES

While we're designing, building and maintaining our roads to meet the needs of the people who use them, we're also considering the needs of our neighbours – the communities who live and work near to our roads. With this fund, we're investing in small-scale initiatives which add value to the communities affected by our work.

■ FREIGHT

Almost 80% of UK freight moves by road, with road freight alone contributing £12 billion to the UK economy. Supporting economic growth is an important part of what we do, and we're using this fund to make improvements for the freight and road-haulage sector.

■ INFORMATION

Through better communication with our customers, and providing more accurate information, we're working on giving road users and communities better experiences. This includes helping them feel safe, make informed decisions and be in control of their journeys.

These six themes support our corporate targets to:

Achieve an **82% road user satisfaction** score for the first two years of the second Road Period (2020-2025) with year on year increases in the following years. The road user satisfaction score will be taken from Transport Focus' Strategic Roads User Survey.

Reduce the number of people killed or seriously injured on our roads by at least 50% (against the 2005-2009 average baseline) by the end of 2025.

A CONNECTED COUNTRY

Our customers have told us that they want seamless end-to-end journeys. So, from 2020 to 2025 we're investing this fund in better integration between our roads and other transport and road networks.

We're also supporting travel options that are better for the environment and reduce traffic on our roads. This includes building better cycle routes, safer crossing points and improving connections between our road network and bus and rail services.

What sort of initiatives are we looking to fund?

- Research that identifies integration opportunities which add the most value for our customers and communities
- Improving bus passenger facilities to enable multi-modal journeys. This could include building better, more accessible bus stops and crossing points
- Increasing the options our customers have for multi-modal travel where it improves their journeys and reduces traffic on our roads. For example, jointly supporting better 'park and ride' and interchange facilities

This theme supports our corporate commitment to work with Transport Focus to develop satisfaction surveys for logistics and coach managers that can be used, if possible, as the basis of a performance indicator later in the second Road Period (2020-2025).



CONNECTING CORNWALL

We're helping people make better travel decisions by supporting integrated journeys that are less time consuming, more convenient, and cheaper.

In 2019, we contributed to the creation of a new transport interchange in Cornwall, bringing together journeys by road, rail, bike and foot. As the gateway to world-class tourist destinations like West Penwith and St Ives, the village of St Erth in West Cornwall see's local traffic levels increase by over 40% during holiday periods.

To ease congestion for residents, visitors and commuters alike, we've introduced a signalised junction on the A30, on the approach to St Erth station. The new junction provides safer crossings for pedestrians, a shared cycle and pedestrian path, improvements to local footway links and new access to the station for buses.

Working with Cornwall Council, and a wide range of other partners, our £0.5 million designated funds contribution to the £12 million project means that our customers can now enjoy safer, smoother, more sustainable journeys between the A30 and rail and bus services in Cornwall.



SAFER AND MORE ACCESSIBLE ROADS FOR ALL

We want to keep walkers, cyclists and horse riders safe when they're using our network. That's why, over the next five years, we're using this fund to prioritise initiatives which address the barriers our roads can create for these more vulnerable users.

We're also investing in building new infrastructure, and enhancing existing facilities, to encourage sustainable, non-motorised forms of transport.

This theme supports our corporate performance indicator which monitors the number of non-motorised users killed or injured on our road network.

It also supports our corporate commitment to work with Transport Focus to develop satisfaction surveys for cyclists and pedestrians that can be used, if possible, as the basis of a performance indicator later in the second Road Period (2020-2025).

What sort of initiatives are we looking to fund?

- Improving existing crossings, or providing new ones. This could include improving connectivity to the public Right of Way network
- Improving or building new dedicated lanes for walkers, cyclists and horse riders, safely connecting people to where they want to go
- Better signs and way markings for walkers, cyclists and horse-riders
- Enhancing lighting along footpaths, bridleways and cycle routes to make them safer



Cyclists on the Keswick Trail

RESTORING KESWICK TRAIL

We're helping to reconnect a trail in the Lake District that was severely damaged during Storm Desmond in 2015. The new trail will link Keswick and the village of Threlkeld, four miles away, providing a traffic-free route for tourists and the local community.

The storm in December 2015 washed away two bridges across the River Greta, along with 200 metres of path. A third bridge was later closed to keep the public safe. Work to reinstate the trail began at the start of 2019 and is expected to take about two years. Almost half of the £7.9 million cost for the final phase of this project will be met from our designated funds.



30 new and **23** upgraded **CYCLE CROSSINGS**

Over **13 miles** of new **CYCLEWAYS**

The Keswick Trail scheme will create



65 new and **36** upgraded **PEDESTRIAN CROSSINGS**

1.5 miles of new **FOOTWAYS**

ROADSIDE FACILITIES

We're improving experiences at roadside facilities for all our customers, from commercial drivers, to holiday makers and people with disabilities. We want to make sure that everyone knows where they can stop to take a break for a better, safer journey.

This includes letting our customers know what facilities are available along their route, and providing information which helps them make informed decisions about where they stop.

Between 2020 and 2025, we'll primarily focus on improvements to roadside facilities alongside our A-roads.

What sort of initiatives are we looking to fund?

- Researching how information for roadside facilities is set, received and understood
- Improving signs for roadside facilities on our A-roads
- Making roadside facilities more accessible for all our customers, for example increasing the number of disabled parking spaces
- Making information about roadside facilities more accessible

M6, Killington Lake Services

"Highways England has helped to create the right forum to bring together operators in the roadside facilities sector. Together, we're focusing on initiatives that make the biggest difference for our customers.

We've been collecting valuable feedback from road users and experts, enabling us to better understand the needs of road users and how we can best service them.

Our relationship with Highways England has been one of openness and transparency. We all remain wholly focussed on delivering value to road users through improved safety and heightened satisfaction with our services."

MARK FOX, CHIEF EXECUTIVE OFFICER, ROADCHEF

CARING FOR COMMUNITIES

The work we do today on nationally important infrastructure projects will have far-reaching effects for generations to come. It's one of the reasons why we're intent on helping the people who are being affected by our roads and our work, and leaving a positive legacy for these communities.

By having better conversations, we're learning more about community priorities and building stronger relationships that last long after the cones are cleared.

What sort of initiatives are we looking to fund?

- Finding new ways to capture feedback and ideas from communities so that their views are heard. This could be through digital tools which encourage people to engage with us in real-time
- Developing additional infrastructure for communities, from websites to information boards and built facilities. These initiatives will help to reduce disruption caused by our work and leave a positive legacy
- Exploring innovative technologies, such as virtual reality, which help people engage with the work we're doing near them
- Delivering small-scale regeneration schemes in built-up areas to restore social cohesion when we de-trunk a road. For example, encouraging cyclists and pedestrians back to de-trunked high streets by widening pavements, removing railings and providing more public areas and places to sit. Roads are de-trunked when strategic traffic is permanently rerouted to bypass urban areas, and they pass from our control in to the control of the local authority
- Improving diversion routes for the communities which these routes affect
- Trialling new products and processes, such as incorporating diversion routes into satellite navigation tools, which improve experiences for communities close to roadworks

This theme supports our corporate performance indicator which monitors our work with local highways authorities to review diversion routes for unplanned events.



We're using virtual reality simulations to help students learn about engineering and our work

BRINGING OUR PLANS TO LIFE

It's important to us that our public consultations are easily accessible to our neighbouring communities. By using immersive technologies, like augmented and virtual reality, we're learning more than ever about what our customers want.

It can be hard to interpret how an infrastructure project might affect your journey, home or business from a two-dimensional plan. So, for our programme of improvements to the A1 in Northumberland, we created an interactive, immersive model of what the road would look like once the improvements had been made. Using a games controller, customers could navigate the proposed road layout, and what would be their new drive to work, the shops, relatives and friends.

The experience communicated the landscape and soundscape changes resulting from the proposed scheme. It helped people get a better understanding of the road design and provide an informed response to our proposals.

We're using similar simulations to keep communities involved with other projects on our roads.

SUPPORTING ECONOMIC GROWTH

Businesses large and small need roads to get goods and services to people. Sectors which are heavily reliant on our network, including construction, logistics, engineering and raw materials, employ 7.4 million people, and contribute £314 billion to the UK economy. We expect this figure to grow by 35% by 2030.

We're using this fund to understand the needs and challenges for businesses using our roads, and enhance our network and services to support them. For example, we're improving the information we provide to the freight and road-haulage sector, and we'll support the development of better roadside facilities for commercial drivers.

This theme supports our corporate commitment to work with Transport Focus to develop satisfaction surveys for logistics and coach managers that can be used, if possible, as the basis of a performance indicator later in the second Road Period (2020-2025).

What sort of initiatives are we looking to fund?

- Doing freight surveys before we start roadworks to establish patterns of freight movements around the area. This will help us speak to the right stakeholders when we're designing the works
- Supporting new and upgraded lorry parking where it's needed. This will help reduce illegal parking and improve journey experiences for commercial drivers
- Trialling new technologies to improve our understanding of freight movements along our roads
- Developing innovative ways to provide pre-journey and in-journey tailored information to our freight customers



"Real-time roadside information is invaluable for us – like the messages you get informing you of journey times to the next junction. That's exceptional data and a huge step forward.

Highways England's roadworks forecasting has significantly improved. And there are now much better descriptions for diversions. In the past, if you were diverted off the strategic road network then technically you were no longer on the network managed by Highways England. You felt the service stopped there. Now they understand that you remain a customer, whether you're on their roads or not."

CHRIS FLOYD, GENERAL MANAGER, LINEHAUL, DPD

THE RIGHT INFORMATION AT THE RIGHT TIME

As well as managing one of the world's most advanced road networks, we provide information and assistance for the millions of road users who use our network every day. We also keep communities informed on what's happening near them so that they can have their say.

Over the next five years, we're focusing on improving the information we provide so that it's relevant, timely and accessible to our diverse range of customers, including hard-to-reach communities.

This theme supports our corporate target to achieve 90% accuracy of overnight road closure information issued seven days in advance of work starting, by 2024-25.

It also supports our corporate performance indicator which monitors journey time reliability: Measured as the average difference between observed travel time and the profile (normal) travel time

What sort of initiatives are we looking to fund?

- Developing our understanding of what customers need and want from variable signs and signals so that our roadside messaging is clear and helpful. This includes improving how we set variable speed limits so that they are more appropriate to the conditions; safely improving journey times, customer trust and compliance
- Reducing disruption for road users and communities when we need to implement diversion routes. For example, providing better information on diversion routes so people can navigate them easily and safely
- Providing an effortless experience for customers who contact us. For example, tracking customer enquiries so that we can offer a seamless experience every time someone gets in touch
- Solutions which improve the quality and accessibility of the information our customers need, such as updates on roadworks
- Improving the information our customers have access to before they set off, and while they're on the road, so that they can make informed choices about their journey

EVERY CUSTOMER HAS AN OPINION

We're building better relationships with our customers, and part of this is helping them to quickly and easily tell us about their experience of using our services.

In 2019, we started using a real-time feedback tool called ECHO, which stands for every customer has an opinion. Right now, we're using ECHO to learn more about how our customers feel after they've been assisted by traffic officers at the roadside. We're also using it to improve our digital channels and services, including our website. Soon, our customers will be able to use ECHO to feedback on their experience when they call or write in to us.

Capturing real-time customer feedback is not ground breaking, but for us it's very new and a real step forward that will inform many of our future service improvements.

Get in touch if you think your idea or initiative is a good fit for our Users and community designated fund.



2. ENVIRONMENT AND WELLBEING FUND PLAN

We know that there's a need to balance people's reliance on our road network with doing all we can to protect and improve the environment. It's something we're passionate about at Highways England. We must operate our business in an environmentally responsible way, while making sure sustainability shapes our work from start to finish.

Our Environment and wellbeing fund is helping us make sure our roads work more harmoniously with their surroundings. We're supporting environmental improvement and community wellbeing projects which go above and beyond traditional road investment. And we're developing plans with partners and stakeholders who are just as committed to protecting the environment as we are.

We're investing in areas which will bring our network up to the latest environmental standards. They range from enhancing biodiversity and flood resilience, through to preserving our cultural heritage and assisting communities where the noise, light and air quality from our roads affects their daily lives.

OUR PROGRESS SO FAR

Over the past five years we've worked collaboratively with landowners, expert organisations and stakeholders to achieve greater environmental outcomes than we could as individuals. Working together is helping us to prioritise where our investment will bring the most benefits. We've:



Contributed to a **48% REDUCTION** in our corporate CARBON FOOTPRINT.



Contributed to **REDUCING THE RISK OF FLOODING** in **260 LOCATIONS**.

Helped to **CONSERVE AND ENHANCE 14 SITES** of cultural and historic significance.



PLANTED over **260 HECTARES** of species-rich grassland to **BOOST BIODIVERSITY** and support pollinating insects.



Rehoming rare newts as part of our upgrade to the A14

STRENGTH IN NUMBERS

We're ambitious about how our work can protect and enhance the environment. Equally we know that we can achieve more by working with organisations who also care about environmental issues. So, over the past five years we've developed strong partnerships with a number of organisations, ranging from the Environment Agency to Natural England and the Canal & River Trust. Together, we're making a real difference to the lives of the people and wildlife living alongside our roads.

"The Environment Agency and Highways England have many shared interests. For example, how we can protect communities that are vulnerable to flooding, what can be done to improve water quality and finding better ways to plan infrastructure works jointly.

We've signed a memorandum of understanding which is a huge step forward in our shared commitment to protect the environment, providing a focal point for these efforts. To date, the Environment designated fund has committed more than £20 million to support schemes such as the flood alleviation work at Catterick on the A1(M) and there are more schemes in the pipeline."

RICHARD BOWEN,
NATIONAL PARTNERSHIP FUNDING MANAGER, ENVIRONMENT AGENCY



AT A GLANCE

Our Environment and wellbeing fund has **nine themes**:

■ BIODIVERSITY

We're boosting biodiversity so we can help wildlife thrive. We'll work to ensure there is no net loss of biodiversity across our activities by 2025, with a target of delivering a net gain in biodiversity by 2040. We'll use this fund to maximise our delivery of biodiversity, for example by creating new or enhancing existing habitats.

■ NOISE

We know that reducing the noise from our roads can have a positive effect on the quality of life and wellbeing of people living near them. So, we're using this fund to reduce noise for communities close to specific noise 'hotspots' on our network. Our target is to help 7,500 households through noise mitigation schemes by 2025.

■ AIR QUALITY

Everyone should be able to enjoy clean air. So, we're reducing concentrations of harmful pollutants along our road network to protect the health of our neighbours and road users. Our work in this area includes encouraging the uptake of cleaner vehicles, supporting clean air zones in urban areas, and trialling the effectiveness of reduced speed limits.

■ FLOODING

We're creating a road network that is resilient to a changing climate. Severe weather events like flooding can have devastating effects on communities and local economies. So, we're focusing on reducing flooding on our roads and minimising flood risks for our neighbours and local communities. This includes contributing to flood management schemes and retrofitting new drainage standards to our assets.

■ WATER QUALITY

Managing the water quality around our network helps sustain habitats, enhance biodiversity and improve the lives of people living or working near our roads. With this fund, we're stopping harmful discharges from running off our roads in to ground and surface water, and restoring damaged and modified waterbodies.

■ CARBON

We have a key role in reducing national carbon emissions and are determined to play our part in meeting the government's ambition for the UK to be net zero by 2050. We've started cutting our own direct emissions and will push ourselves to do more. We're also driving our supply chain partners to become more energy and resource efficient with a new standard, as well as helping road users lower their carbon footprint when they travel.

■ CULTURAL HERITAGE

Our roads travel through places rich with history, and we're determined to protect this cultural heritage. This fund is helping us to conserve sites of special historic or cultural interest near our roads. We're identifying heritage assets that are at risk, and working with expert organisations to protect and enhance them for future generations.

■ LANDSCAPE

We're finding more and better ways to protect and enhance the character of the landscape through which our roads pass. We're investing in green infrastructure that's sensitive to our neighbours and blends in with the surroundings, amplifying the value of place by integrating our roads with their natural setting.

■ ENVIRONMENTAL LEGACY

As we work to improve our network, we're promoting additional activities that wouldn't usually be incorporated into highway projects. Our legacy initiatives deliver better environmental, health and wellbeing outcomes from our road improvement projects, adding value for communities long after our work is finished.



ENHANCING BIODIVERSITY

Biodiversity loss – the decline in plant and animal species – is recognised as an international issue and is one of our priorities for environmental investment.

We own large stretches of land – our soft estate covers 30,000 hectares. This represents a real opportunity for us to have a positive impact on enhancing biodiversity in England. But slowing and then reversing habitat loss can take many years. So, we've divided our biodiversity efforts into three stages: slowing decline, stabilising and then ultimately increasing biodiversity by 2040.

Our work since 2015 has slowed the decline in biodiversity around our network. Over the next five years, our focus is on maximising biodiversity contributions from our activities by upgrading the condition of habitats on our land.

Since 2015, we've COMPLETED **124 BIODIVERSITY SCHEMES** including:



Helping wildlife travel safely alongside our roads through **18 SCHEMES WHICH CONNECT ROADSIDE HABITAT**

What sort of initiatives are we looking to fund?

- Enhancing the biodiversity value of our land by upgrading habitat types, such as 'improved grassland habitat', which are in poor condition.
- Converting unused hardstanding or paved areas on our network into areas of biodiverse habitat. This will increase the distribution and size of biodiversity areas on our land
- Increasing habitat connectivity by planting woodland that connects separate areas of existing woodland

A30, Cornwall



BOOSTING HABITATS IN THE SOUTH WEST

21 sites in Devon and Cornwall are benefiting from our project to enhance habitats for wildlife on the verge and areas close to the A30 and A38, two of south-west England's major routes.

We've planted over 10,000 native trees and shrubs to fill or reduce gaps in hedgerow and woodland. This planting provides around three extra miles of vegetation. It also connects more than 105 miles of habitat along the roadside. Through our investment we aim to encourage species including butterflies, bees and dormice to thrive, providing suitable places for them to feed, shelter and breed.

We've planted species including oak, field maple, holly, willow, honeysuckle and dog roses at locations between Pocombe Bridge and Pulsack on the A30, and between Wrangaton and Bellamarsh on the A38.



We've INVESTED **£550,000**



in enhancing biodiversity at **21 SITES** in Devon and Cornwall,

CONNECTING

more than **105 miles** of HABITAT.



REDUCING THE IMPACT OF NOISE

While noise is a natural consequence of a modern society, it can have serious implications for human health, economic prosperity and the natural environment. That's why we're using this fund to provide a better quality of life for our neighbours, by effectively managing road noise.

The Department for Environment, Food and Rural Affairs has identified specific noise 'hotspots' – or noise important areas – alongside our network, where road noise is impacting people living close by. Our focus over the next five years will be on reducing noise in these areas.

Since 2015, we've

contributed to successfully reducing noise levels in **1,200 NOISE** important areas, **REDUCING NOISE FOR AROUND 50,000** people



Over the next five years our corporate target is to **REDUCE NOISE FOR A FURTHER 7,500** households in noise important areas
 Benefitting around **16,000 PEOPLE**

What sort of initiatives are we looking to fund?

- Resurfacing roads with quieter surfaces
- Constructing noise barriers
- Installing noise insulation, such as acoustic glazing, in individual households



More than 5,000 people living close to the motorway in Camberley, Bagshot and Lightwater are now protected from noise by sound-absorbing barriers along the M3

A WINNING APPROACH

In 2018, we won the Silent Approach award at the Noise Abatement Society's annual awards ceremony at the House of Commons. The award was for our work to reduce noise levels for over 40,000 roadside residents since 2015.

The awards recognise organisations which are judged to have been outstanding in their efforts to both reduce the impact of noise and seek to pioneer practical and innovative solutions.

Fred and June Glass from Cheshire, who live less than 80 metres from the M56, are among those enjoying a quieter life after we installed free double glazing and ventilation in their home.

"We're delighted to have new double-glazed windows and frames installed, free of charge, to help with reducing the noise levels.

The entire process has been really easy, and the communication and care taken during the installation was superb.

We're really satisfied with the end result and have noticed a huge difference in day-to-day noise levels."

FRED GLASS, RESIDENT OF FRODSHAM

CLEANER AIR

Poor air quality is the single largest environmental risk to public health in the UK, according to Public Health England. Air pollution cuts short between 28,000 and 36,000 lives annually and costs the UK £20 billion a year. Pollution from road vehicles in the form of nitrogen dioxide (NO₂) and other pollutants is a major contributor to the problem.

Air quality is a challenging subject to address. There are some aspects that are outside our control, such as how quickly drivers are switching from diesel and petrol vehicles to ultra-low emission vehicles. However, we're using this fund to investigate a wide range of measures to improve air quality on our network.

From 2020 to 2025, we'll prioritise initiatives which help support the government's National Air Quality Plan. We're focusing on areas of our network identified by the government as exceeding acceptable NO₂ limits. We have a legal duty to bring these areas into compliance with the limit value for NO₂ in the shortest possible time.

What sort of initiatives are we looking to fund?

- Supporting and accelerating the use of zero emission (at the tailpipe) vehicles to contribute to both cleaner air and a more sustainable road network. For example, we're setting up electric van 'centres of excellence' which encourage fleet operators to switch from diesel to electric vans
- Safely dispersing and diluting pollutants generated along our road network to reduce concentrations of NO₂ at the roadside, including installing air quality barriers
- Helping our partners, including local authorities, to improve air quality in urban areas. For example, supporting authorities as they implement their local plans for clean air, including clean air zones in cities
- Traffic management solutions and in-vehicle technology which reduce vehicle emissions. This could include trialling reduced speed limits in areas with poor air quality

FRESH IDEAS WIN AIR QUALITY FUNDING

In February 2019, alongside Innovate UK, we launched a competition to encourage fresh ideas for tackling poor air quality around our motorways and major A-roads.

Over £5 million of funding was awarded to 11 initiatives, ranging from systems to set speed limits on motorways based on forecasted air quality, to assessing the effectiveness of living walls that use plants to absorb pollutants. One of the winning initiatives aims to introduce in-vehicle technology that informs drivers when traffic lights will change to green and suggests an appropriate speed, reducing the need for vehicles to stop at junctions.

Other projects include improved electric vehicle charging and power storage systems, and a range of software solutions, including using artificial intelligence to simulate, monitor, analyse, predict and share air quality data.





FLOOD RESILIENCE

The UK has seen an increase of extreme weather in recent years, with seven of the ten wettest years on record occurring since 1998. Climate experts expect the trend to continue.

We want to do everything we can to protect communities living close to our roads, support safer journeys and keep our network running smoothly. So, we're investing in schemes designed to improve the flood resilience of our network, and reduce flooding risk to our neighbours, in response to the changing climate.

We've identified locations on our network that are vulnerable to repeat flooding and from 2020 to 2025, we'll work to reduce the risk of flooding at these locations.

What sort of initiatives are we looking to fund?

- Increasing flood resilience within our drainage infrastructure by installing sustainable drainage systems which can store more, and safely release, water
- Supporting the development of natural flood management features on land adjacent to ours. For example, the restoration of flood plains or implementation of leaky dams, to slow the flow of water within a catchment area
- Contributing to flood management schemes delivered by stakeholders and other third parties. This could include building flood reservoirs, river re-alignment or modification and pumping station upgrades

Our performance under this theme supports our corporate target for a well-maintained and resilient network. We'll monitor success through our **drainage condition** performance indicator, which measures the percentage of carriageway on our network that has a low risk of observable flooding.



The Keadby project in numbers



CRITICAL CARE FOR KEADBY

Keadby Pumping Station, near Scunthorpe, sits at the end of a complex network of rivers and pumping stations. Built before the Second World War, the station provides flood resilience to around 500 square kilometres across South Yorkshire, Lincolnshire and Nottinghamshire. That's about the equivalent of keeping the Isle of Wight dry.

Over 80 years of pumping water into the River Trent during high tides and periods of heavy rain have taken their toll on Keadby. So, we've partnered with the Environment Agency to renew the station's critical flood defences.

By replacing Keadby's diesel pumps with electric pumps, we're reducing the station's carbon footprint, as well as protecting over 28,000 homes, 30,000 hectares of agricultural land and the M18 and M180 from flooding. The new pumps will also be safer for fish and eels passing through the station on their natural migration.

Keadby Pumping Station, near Scunthorpe

CLEANER WATER

From rivers and canals to lakes, dams and seas, water has been central to our culture, wellbeing and economic prosperity for thousands of years. With the demand for road travel growing, we're doing more than ever to protect and improve the quality of water surrounding our network.

This means stopping harmful pollutants from travelling to nearby waterbodies from our roads; improving the chemical and ecological health of surface and ground water. It also means restoring waterbodies which have been modified by the historical development of roads.

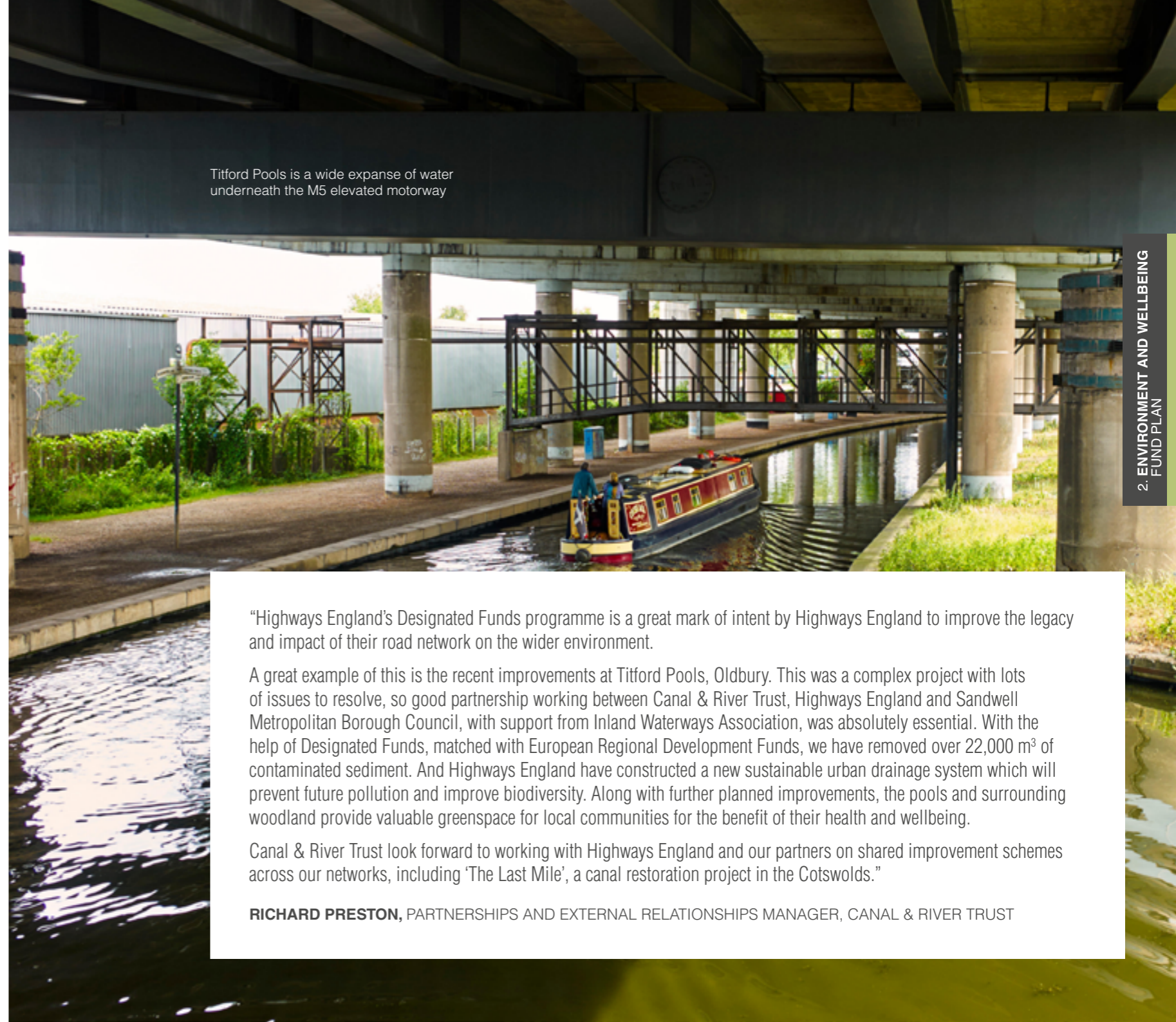
Our key focus over the next five years is to improve areas which pose a pollution risk – such as outfall locations – and where we can restore waterbodies to a more natural condition.

Our performance under this theme supports our corporate target to deliver better environmental outcomes. We'll monitor success through our **water quality** performance indicator, which measures the length (in kilometres) of watercourse that we enhance through the mitigation of medium, high, and very high-risk outfalls. Other enhancements, such as river retraining and rewilding, are also included in the metric.

What sort of initiatives are we looking to fund?

- Installing more sustainable drainage systems, including vortex grit separators, swales, ponds and wetland treatment systems, along our network
- River retraining and rewilding to improve the physical character and ecological health of waterbodies close to our roads. For example, river restoration through the addition of riffles, pools and meanders
- Introducing fish passes which allow fish to move past barriers, improving the ecological health of rivers

Titford Pools is a wide expanse of water underneath the M5 elevated motorway



“Highways England's Designated Funds programme is a great mark of intent by Highways England to improve the legacy and impact of their road network on the wider environment.

A great example of this is the recent improvements at Titford Pools, Oldbury. This was a complex project with lots of issues to resolve, so good partnership working between Canal & River Trust, Highways England and Sandwell Metropolitan Borough Council, with support from Inland Waterways Association, was absolutely essential. With the help of Designated Funds, matched with European Regional Development Funds, we have removed over 22,000 m³ of contaminated sediment. And Highways England have constructed a new sustainable urban drainage system which will prevent future pollution and improve biodiversity. Along with further planned improvements, the pools and surrounding woodland provide valuable greenspace for local communities for the benefit of their health and wellbeing.

Canal & River Trust look forward to working with Highways England and our partners on shared improvement schemes across our networks, including 'The Last Mile', a canal restoration project in the Cotswolds.”

RICHARD PRESTON, PARTNERSHIPS AND EXTERNAL RELATIONSHIPS MANAGER, CANAL & RIVER TRUST



CUTTING CARBON EMISSIONS

We'll be cutting carbon emissions associated with all our activities. This means reducing greenhouse gases generated from our day-to-day activities, like electricity consumption, fuel use and how we manage our buildings. We're also working with stakeholders to promote and support low-carbon journeys for road users and to understand where we can do more.

Our supply chain partners are committed to working with us to tackle climate change. It's a shared responsibility and we're working together to design our schemes and services to be as carbon and energy efficient as possible, supported by a new standard.

From 2020 to 2025, we'll be investing this fund in initiatives which help reduce energy consumption and waste associated with our work, and promote the generation of renewable energy on our land.

This theme supports our corporate target to reduce carbon emissions from our electricity consumption, fuel use and other day-to-day operational activities between 2020 and 2025, to levels defined by baselining and target setting activities in 2020-21.

What sort of initiatives are we looking to fund?

- Replacing lights on our roads with LED alternatives ahead of maintenance need
- Planting trees on our land to absorb and store carbon dioxide emissions
- Energy schemes that reduce our reliance and demand on non-renewable energy, such as installing solar panels at our work sites
- Piloting zero emission vehicles for our traffic officer fleet



MAXIMISING OPPORTUNITIES FOR SUSTAINABILITY

We know that while we're working to improve our network, we can have a detrimental effect on the local environment. To reduce our impact, sustainable thinking has become a core part of how we deliver road projects.

On our A14 Cambridge to Huntingdon improvement scheme, we invested £3.5 million from designated funds to reduce carbon emissions while we worked. The funding meant that:

- 100% of the energy used at our three A14 construction compounds was generated from renewable sources such as wind and solar
- we prevented an estimated 600 tonnes of CO² from being released by installing electric vehicle charging points at all of our site compounds
- the fuel saved from using solar-powered floodlights on the scheme would have been enough to power a new car around the earth 110 times

Solar-powered floodlights on the A14

PRESERVING OUR HERITAGE

While building and maintaining a robust road network for future generations, we're making sure the historic environment surrounding our network is considered and protected at every stage.

Our partnerships with special interest groups and expert heritage organisations, including Historic England and the National Trust are fundamental to this work. Together we're identifying and designing solutions that conserve and enhance sites of special historic or cultural interest near our roads, safeguarding them for future generations.

What sort of initiatives are we looking to fund?

- Improving public access to heritage sites, and helping to bring the history of these sites alive through signs and information boards
- Conserving historical assets through direct physical improvements. For example, restoring walls, or protecting buildings from dilapidation and vandalism
- Relocating heritage features so that they are more accessible for public enjoyment, and are protected for future generations

Our performance under this theme supports our corporate target to deliver better environmental outcomes. We'll monitor success through our **condition of cultural heritage assets** performance indicator; an aggregate 'quality score' of Highways England's cultural heritage assets.

Hull Parish Church reflected in the glass building opposite

TRANSFORMING HULL MINSTER INTO A CITY HUB

Hull Minster was built by King Edward I at the same time as he created the city of Hull in 1285. It's the only remaining building in Hull from that time; a heritage icon that reflects the entire history of the city.

As part of our A63 Castle Street improvement scheme, which passes just 100 metres from the church, we've invested £3.9 million alongside the Hull Minster Development Trust to safeguard the Minster's heritage. Our goal is to create a sustainable future for the church as a magnificent place of worship, focal point for the community and magnet for visitors.

Our investment allows for a number of major improvements, including a glass, bronze and stone extension which will house a visitor and heritage centre with exhibition spaces, a café and other new visitor facilities. The extension will lead into a "heritage corridor" within the church, creating a home for carefully-curated exhibits about the history of Hull and the central role the church has played in it.

"Maintaining a heritage asset is very expensive and draws resources away from the core work of the church, so this grant is particularly useful in sustaining our mission to be a positive force and a place of care, compassion and support.

It means we can now put more of our own resources into our outreach work, our education programmes and our support for the most isolated and vulnerable members of our community."

REVEREND CANON DR NEAL BARNES
FORMER VICAR OF HULL MINSTER

STAYING TRUE TO OUR SURROUNDINGS

When we're designing and building roads, we take care to integrate them with their natural surroundings. This reduces their environmental impact and screens them from our neighbours.

We're also restoring and improving the quality of the landscape around existing roads, softening the boundaries between infrastructure and the natural landscape through sensitive planting and enhanced structural finishes. Road verges are green corridors that support an array of wildlife, and our investment in this area is also contributing to the biodiversity of our estate.

What sort of initiatives are we looking to fund?

- Enhancing verges and road boundaries in areas of outstanding natural beauty, such as National Parks
- Reducing light pollution to promote dark skies. This includes installing light spill hoods and removing road lighting where it's safe to do so
- Introducing or restoring dry-stone walls and planting trees and wildflowers on a scale that improves landscape integrity and connectivity
- Restoring townscape settings, for example removing or replacing lampposts, benches and green spaces

"Natural England shares many interests with Highways England. Working together on a strategic approach over the next five years through the Environment and wellbeing designated fund will result in a strong legacy for the natural environment, and provide benefits for people.

Engagement with Highways England over the last few years has provided a great opportunity to pilot new approaches, such as the Biodiversity Metric. We're now looking at natural capital tools, including a broader Eco-metric.

We've worked together on the Green Transport Corridors project, which demonstrated the important role that Highways England's soft estate can play in delivering environmental improvements. This led to a focus on the role of green infrastructure in their Strategic Design Panel's third progress report."

DEBORAH HALL
PRINCIPAL ADVISER, MAJOR INFRASTRUCTURE DEVELOPMENT, NATURAL ENGLAND

The Milky Way over Keswick in the Lake District

LEAVING A POSITIVE LEGACY

The work we do today on nationally important infrastructure projects will have far-reaching effects for generations to come. So, when we're designing roads to meet the needs of the people who'll use them, we also consider the needs of our neighbours, communities and the environment.

We want to leave a positive legacy for local communities once our projects are completed. We're working with partners to deliver small-scale initiatives which add value to existing road improvement schemes, and benefit the people who live and work nearby.

What sort of initiatives are we looking to fund?

- Working with local councils to improve environmental outcomes when we de-trunk roads. Roads are de-trunked when strategic traffic is permanently rerouted to bypass urban areas, and they pass from our control in to the control of the local authority
- Preserving and exhibiting archaeological finds from highway improvement projects
- Initiatives such as property level protection or flood barrier construction which further alleviate flooding risks for vulnerable communities

HIDDEN HISTORY

With over 250 archaeologists working across 360 hectares at its peak, our A14 Cambridge to Huntingdon road scheme was also one of the biggest and most complex archaeological digs ever undertaken in the UK.

We unearthed a series of remarkable archaeological finds on this site. From Iron Age settlements and Anglo-Saxon villages to the partial remains of a woolly mammoth and woolly rhino, both believed to date back more than 100,000 years.

Together with Cambridgeshire County Council, Homes England and South Cambridgeshire District Council, we're now working to preserve these finds and make them accessible to the public. We're contributing nearly £600,000 from designated funds to the design and construction of the Northstowe Exhibition and Presentation Space. This new facility will promote archaeology unearthed as part of the A14 scheme, providing visitors with a unique opportunity to build a picture of our history over the last 6,000 years.

Dr. Steve Sherlock, archaeology lead for the A14 project, displays a woolly rhino skull uncovered as part of the work

Get in touch if you think your idea or initiative is a good fit for our Environment and wellbeing designated fund.



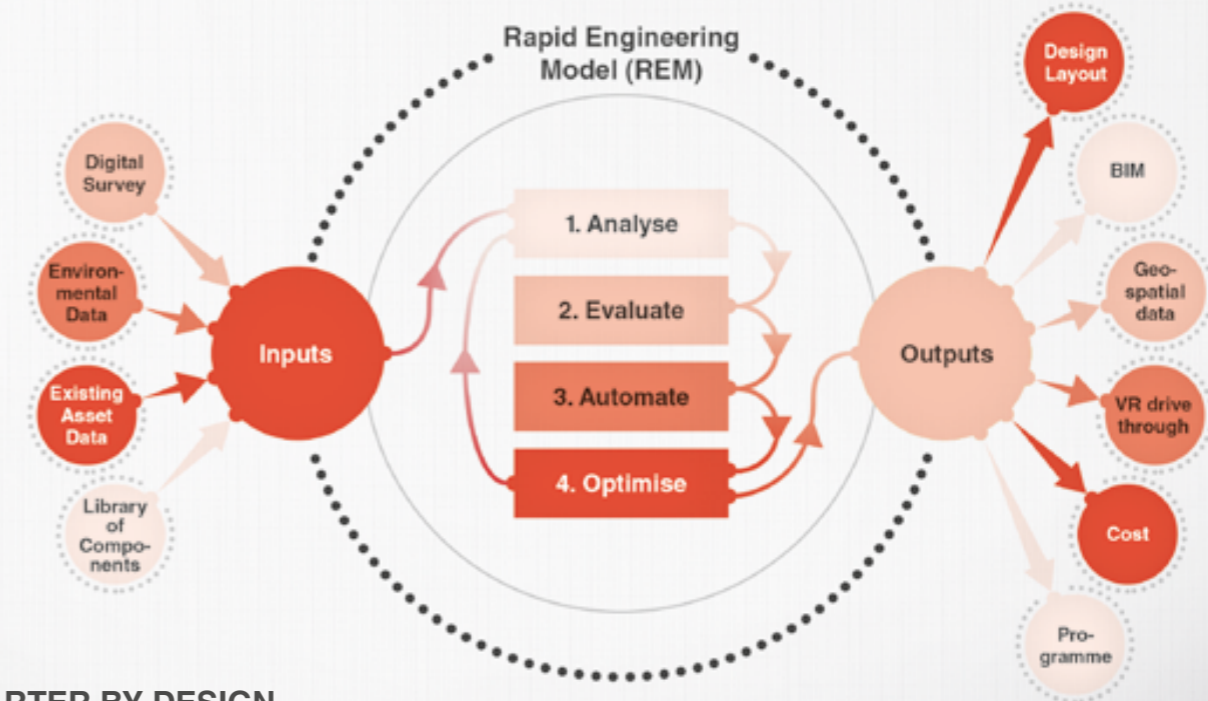
3. INNOVATION AND MODERNISATION FUND PLAN

The influence of technology is being felt across the transport sector. Electric cars, innovation in autonomous vehicles, intelligent data-led operations and digital services for road users are just a taste of what the future holds.

With this fund, we'll research and develop emerging technologies which have the potential to revolutionise what it means to travel on our roads. We'll also use this fund to produce new requirements and guidance for proven concepts, enabling the widespread adoption of innovations to modernise our network.

These innovations will help us to:

- improve safety
- connect with our customers
- design, build, maintain and operate our roads more efficiently and effectively



SMARTER BY DESIGN

Technology is changing the way infrastructure is designed, delivered and operated. The Rapid Engineering Model (REM) is just one of the tools we're now using to increase the speed, quality and safety of road design.

REM is a digital workflow, rather than a single piece of software, that enables motorway and dual carriageway schemes to be designed automatically, and much faster than by traditional means. Different types of data are digitally analysed – for example, the landscape and environment of an area – to help identify opportunities and risks within a specific project, or along an entire asset in our road network. Using this data, standardised design layouts of major roadside assemblies can be automatically generated. These can be optimised for a variety of different design and performance criteria, such as our safety and engineering standards. REM can generate many different output types and formats, including 3D virtual reality 'drive through' visualisations.

So far, we've developed 11 schemes using the REM workflow. Compared to traditional design development, the time to produce the operational concepts for these schemes decreased from around nine months to a matter of weeks. And the preliminary design timescales decreased from around a year to just eight weeks.

Our Innovation designated fund contributed over £6 million towards the early development stages of REM.



OUR PROGRESS SO FAR

We've INVESTED over **£120 million** in **159** INNOVATION INITIATIVES

} between 2015 and 2020

This has seen us digitise our design processes, transforming how we'll deliver the next generation of roads. And we're finding better ways to protect our workforce and road users, improving safety across our network and work zones. Our Innovation Hub, created in June 2018, helps us collaborate with others to bring ideas to life.



AT A GLANCE

Our Innovation and modernisation fund has **five themes**:

■ DESIGN, CONSTRUCTION AND MAINTENANCE

While recent advances, such as smart motorways, have brought improvements to our roads, some elements of road building have not evolved substantially since the 1960s. As new technologies emerge, we're using this fund to modernise and digitise the design, construction and maintenance methods used on our network.

■ CONNECTED AND AUTONOMOUS VEHICLES

By 2040, connected vehicles with semi-autonomous and autonomous control will increasingly be part of life. We know that vehicles will communicate not only with road infrastructure and road users, but increasingly with each other. We're using this fund to support our planning and response to these developments.

■ ENERGY AND THE ENVIRONMENT

We know that busy roads affect the surrounding environment. We're tackling this at source, investing in sustainable road enhancements and renewals, and supporting the transition to clean energy. These changes make a real difference to the people and wildlife surrounding our network.

■ OPERATIONS

We're unlocking capacity on our roads, and making them safer, investing in innovative roadside technologies which enable better journeys and faster incident response. We're also collaborating with partners through shared data, evolving our operations, traffic management and customer services as roads become increasingly more connected.

■ CUSTOMER MOBILITY

Society is evolving, from the ways we use technology to how we travel. Our future customers will be connected, and we'll be part of their connected world. We're responding to changes in transport business models and how people travel on our network so that our roads and services meet the needs of the 21st Century.

Real-time data is transforming how we manage over 300,000 assets along our network, including:

121,000 street lights	19,000 miles of carriageways	
21,000 bridges and other structures	187,000 signs and signals	70,000 sensors, including traffic sensors



MODERNISING OUR ROAD NETWORK

We're always looking to improve how we design, build and maintain our road network. We're maximising the infrastructure, technology and capabilities that we have now, and exploring how we can develop them to make more radical changes in the future.

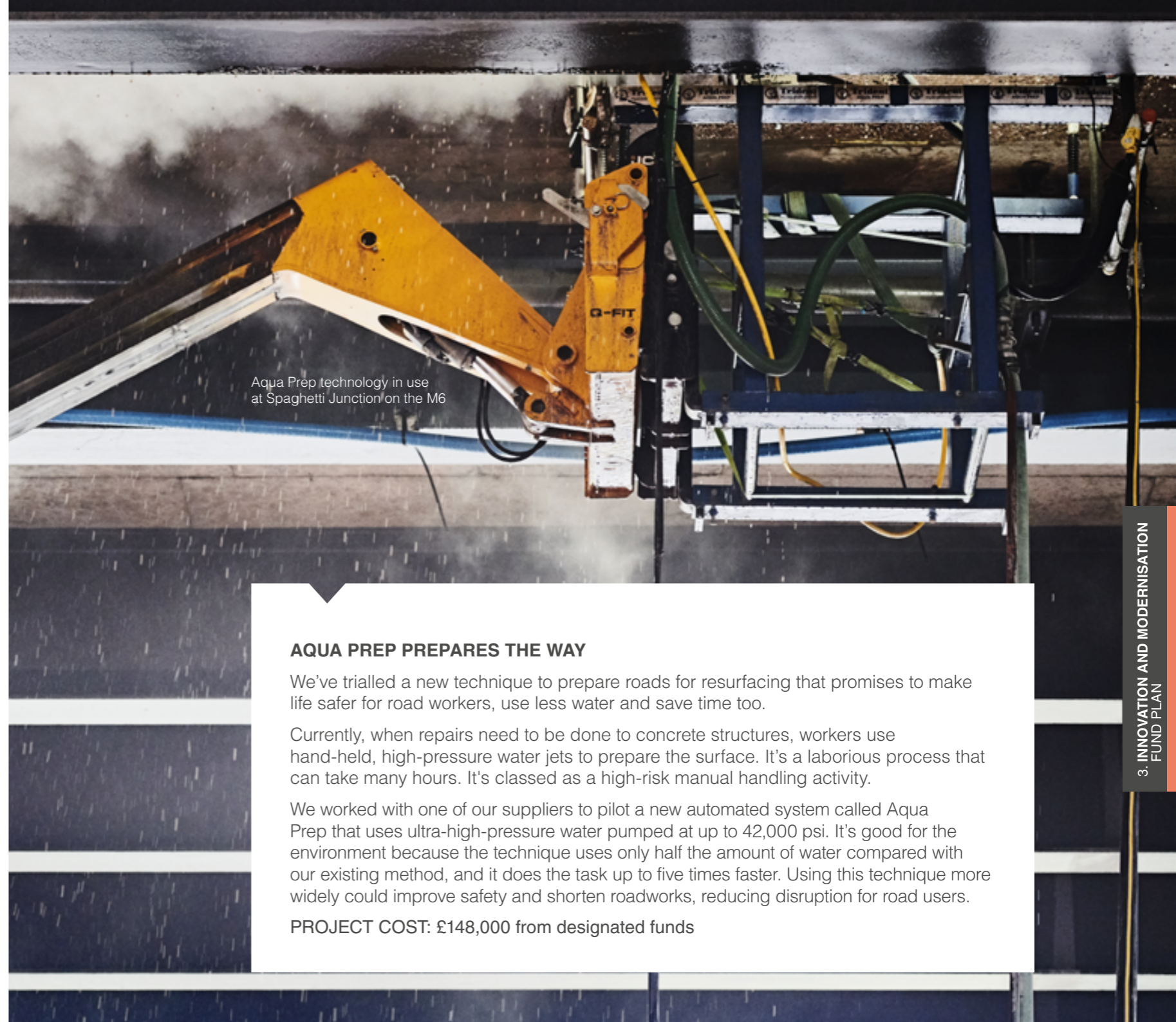
By using digital technologies, we're building better quality roads more quickly, with less disruption for road users and communities. We're also harnessing information so that we can more effectively manage and maintain our assets throughout their lifecycle.

Our priorities over the next five years are to:

- remove exposure to harm for road workers. For example, reducing the need for human intervention in asset management and routine maintenance
- improve efficiencies throughout the lifecycle of our assets
- reduce disruption for road users through faster, high-quality on-site assembly of pre-fabricated components
- improve collaboration, planning, and risk mitigation during the design and construction phases of a project

What sort of initiatives are we looking to fund?

- Developing more connected and autonomous maintenance and construction plant
- Automating repetitive design and construction tasks
- Developing longer lasting materials that self-heal and self-monitor
- Modular or prefabricated construction solutions
- Digitising our design, construction and asset management processes to more efficiently gather all the information required for the construction, maintenance and operation of our assets
- Adding monitoring technology to our assets so that we know what their condition is at all times



Aqua Prep technology in use at Spaghetti Junction on the M6

AQUA PREP PREPARES THE WAY

We've trialled a new technique to prepare roads for resurfacing that promises to make life safer for road workers, use less water and save time too.

Currently, when repairs need to be done to concrete structures, workers use hand-held, high-pressure water jets to prepare the surface. It's a laborious process that can take many hours. It's classed as a high-risk manual handling activity.

We worked with one of our suppliers to pilot a new automated system called Aqua Prep that uses ultra-high-pressure water pumped at up to 42,000 psi. It's good for the environment because the technique uses only half the amount of water compared with our existing method, and it does the task up to five times faster. Using this technique more widely could improve safety and shorten roadworks, reducing disruption for road users.

PROJECT COST: £148,000 from designated funds



A CONNECTED FUTURE

The rise of connected and autonomous vehicles is expected to be one of the most significant changes in future personal mobility.

Connected systems promise integrated, reliable, and safer travel, whilst autonomy could increase mobility, reduce incidents, and increase national productivity. Both technologies will have implications on current infrastructure and are providing us with many exciting opportunities, as well as a number of challenges.

Our priorities over the next five years are to:

- prepare our road network for vehicles with varying levels of connectivity and autonomy
- develop the UK's standards and guidance for connected roads
- collaborate with industry to develop our role in operating connected and autonomous vehicles on our network

What sort of projects are we looking to fund?

- Connecting drivers to real-time, personalised information through in-vehicle communications
- Innovative road-side technologies that collect or supply information from or to road users about traffic and travel
- Using crowd-sourced data from vehicles travelling on our roads to improve incident management

“The UK CITE project has demonstrated that connected vehicles have a potentially important role to play in making our roads safer. Although fully autonomous vehicles may be some years away, we have been able to show that connected vehicles and connected infrastructure can make a difference today.

Without Highways England's involvement and the money secured from the Designated Funds programme, UK CITE would have been a smaller and less ambitious project, so it was a vital contribution. We've learned a huge amount and this will now be applied in the Midlands Future Mobility programme – a larger-scale collaboration that will roll out in 2020.”

CHRIS LANE, HEAD OF TRANSPORT INNOVATION, WEST MIDLANDS COMBINED AUTHORITY (TRANSPORT FOR WEST MIDLANDS)

OUR INVESTMENT SO FAR

HumanDrive

A future of self-driving vehicles got a little bit closer in March 2020 after a modified Nissan Leaf completed a difficult 230-mile journey autonomously in the UK. We've collaborated with nine industry leaders and academia on this government-backed project, building an autonomous vehicle with human-like control.

Autonomous impact protection vehicle trial

We're working with industry to remove drivers from the vehicles used to protect road workers and users during maintenance.

HGV platooning trial

We're working with the Department for Transport, leading an on-road pilot of HGV platooning to better understand what greater automation of HGVs can deliver.

Connecting vehicles to each other and the road

We've been involved in two exciting initiatives to trial how roads, infrastructure and vehicles can all talk to each other, safely and efficiently:

UK Connected and Intelligent Transport Environment (UK CITE)

We invested £4.9 million, alongside the government's Intelligent Mobility Fund, in the industry-led CITE consortium. The consortium's work centred on an advanced real-world environment, to test communication technologies and the way that vehicles and infrastructure might talk to each other in the future.

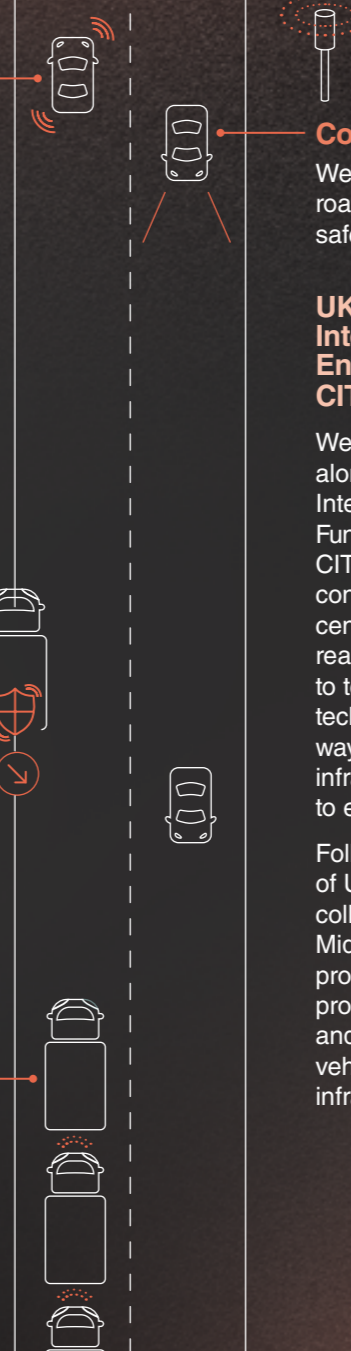
Following the success of UK CITE, we've joined collaborators in the Midlands Future Mobility programme to accelerate progress in connected and autonomous vehicle technology and infrastructure.

Connected corridors

Connected roads will have technology installed alongside them to gather information about traffic and travel. This information can then be sent directly to connected vehicles. It will warn about other vehicles having to break sharply, poor weather conditions, incidents ahead, changes to speed limits due to congestion, lane closures ahead, or emergency vehicles wishing to overtake.

Together with the Department for Transport, Transport for London and Kent County Council we've successfully tested four connected corridor services along the A2 and M2, including in-vehicle signing and a roadworks warning service which aims to reduce the number of accidents caused by roadworks.

The A2 and M2 corridor, linking London to Dover, is made up of a variety of road types – making it ideal for testing how connecting vehicles to road-side technology can support end-to-end journeys.



SEAMLESS AND SUSTAINABLE JOURNEYS

The ways in which our customers travel, both on and off our network, will transform over the coming years. Developments in technology are changing how transport is used, and we're likely to see a real shift in the way that transport systems interact and provide for their users.

We're adapting fast to meet evolving mobility demands, working to provide seamless and sustainable journeys for our customers through reliable, information-rich highways.

Our priorities over the next five years are to:

- help our customers to make informed decisions, both before and during their journeys
- support smoother transitions for our customers when they're switching between transport modes, including developing our links with other transport networks
- help our customers feel safe through on-demand and responsive support
- provide accurate and up-to-date information about third-party services, such as car sharing and ride hailing services, across our road network
- understand end-to-end journeys so that we can support seamless journey experiences for our customers

What sort of initiatives are we looking to fund?

- Improving real-time information so that we have a better understanding of how people are using our roads, the trends in travel demand and different customer needs
- Responding to the operating requirements of car sharing and ride hailing services
- Working with other transport organisations to progress intelligent mobility projects. For example, providing support which accelerates connected and autonomous vehicle technology and infrastructure

EVOLVING OUR RED X ROAD SAFETY PROGRAMME

When you're driving along a motorway and you see a sign marked with a red X, it means stay out of that lane because there's a hazard up ahead.

It's also illegal to drive in a red X lane. While most drivers comply, those who don't put themselves, other road users, and those attending incidents, at risk. Innovation in safety is about reducing risk above everything else so, since 2015, we've invested in a programme of interventions to improve how our customers respond to red X signals on our roads.

We've collaborated with government, police, and industry to increase awareness of red X signals and improve driver behaviour, road signs and signal settings, bolster driver awareness courses and introduce new legislation for cameras to automatically detect red X offences for police enforcement purposes.

Our compliance monitoring tool shows non-compliance has reduced by 4% since 2015, to approximately 7%.

In 2019, our red X programme received a Prince Michael International Road Safety Award in for creating a safer environment for those using and working on motorways.

Our Innovation designated fund has contributed over £2.5 million towards the red X road safety programme.

Increasing red X awareness at the A417 Missing Link public consultation





SAFEGUARDING THE ENVIRONMENT

The scope of our work to limit the impact of our roads on the wider environment is growing. Whilst our Environment and wellbeing fund mitigates this impact through construction and operations, this fund looks to minimise impact at source.

Innovative approaches to saving energy and eliminating waste are just two practical examples of how we're working with industry and our supply chain to protect the environment.

We're also one of the biggest landowners in England. Our soft estate – the land surrounding our road network – stretches to 30,000 hectares. We're finding new and better ways to manage this estate, maximising the wider benefits it can bring to the UK.

Our priorities over the next five years are to:

- reduce our consumption of non-renewable energy
- decarbonise our activities
- prepare our road network and operations for low emission vehicles
- reduce our demand and reliance on the power network so that we're contributing to national energy resilience
- protect and harness the natural capital of our soft estate, including clean air and water, biodiversity and cultural heritage, to benefit people and the economy

What sort of initiatives are we looking to fund?

- Trialling electric construction plant to understand how it could be used on our sites
- Advancing future clean energy resources. For example, using solar panels to power construction equipment on our work sites
- Trialling renewable energy technology
- Adopting low-carbon designs, specifications, products and materials, such as low temperature asphalt
- Removing harmful pollutants from the air and water surrounding our roads
- Eliminating waste from our processes and increasing our capabilities to re-use and recycle

CHARGING UP THE ELECTRIC REVOLUTION

Electric vehicles can make a real contribution to improving air quality on our roads, so we're making sure there are enough rapid charging points near our network.

In March 2019, we invested £2.8 million from designated funds to install over 50 electric vehicle charging points across the country. We've identified the best locations for charging points, and now over 95% of England's motorways and major A-roads are within 20 miles of an electric vehicle charging point.

The charging points will help drivers of electric vehicles make longer, cleaner journeys and reduce the anxiety of potentially running out of power.

Over **95%** of our roads



are now within **20 miles** of a rapid electric vehicle **CHARGING POINT**





A BETTER ROAD EXPERIENCE

Real-time data is transforming our operations. It's giving us more information to make strategic decisions, helping us to increase safety and reduce congestion on our road network.

Over the next five years we'll be investing this fund in innovation initiatives which improve our customer service, our response to incidents and severe weather, traffic management and roadworks.

Our priorities over the next five years are to:

- improve temporary traffic management measures to protect road workers and road users
- enable more of our operational decisions to be data-led
- understand and address behavioural causes of incidents on our roads and on our work sites
- increase customer satisfaction by enabling informed real-time decision making and improved journey planning

What sort of initiatives are we looking to fund?

- Developing machine learning to predict traffic flows
- Trialling the use of drones, where it's safe to do so, to improve incident management
- Gathering data on journey planning and customer preferences to better understand customer needs
- Improving stopped vehicle detection capabilities on our roads



iDRAIN

Over the years, one of the greatest persistent problems faced by road infrastructure is flooding. The risk of incidents and road closures increases significantly during periods of heavy rain, with excessive surface water on carriageways reducing skid resistance for vehicles travelling at speed.

In the past, our approach to managing drainage assets has generally been reactive; responding to flood events or carrying out drainage surveys after reports of flooding. iDrain uses an intelligence-led approach, allowing us to proactively manage flood risks and maintenance, and prevent hazards on our roads.

It's a low cost, real-time monitoring system designed to detect possible flood events before they happen. Using the system, we can remotely monitor water levels in drainage chambers at flooding hotspots on our network, giving us early warning of flood events.

We're currently using iDrain in three areas on our road network known for challenging flooding issues.

PROJECT COST: £313,000 from designated funds

Get in touch if you think your idea or initiative is a good fit for our Innovation and modernisation designated fund.



4. SAFETY AND CONGESTION FUND PLAN

With around 95 billion miles travelled on our network every year, our roads play a vital part in everyone's lives: connecting people to their work, family and friends. We want to make sure every person gets to where they want to go, safely and reliably.

We can't eliminate every risk from our roads, or from our work. But we can recognise those risks, assess them and do everything we can to protect people from them. Our Safety and congestion designated fund plays an important role in this, supporting smaller-scale initiatives which aim to alleviate congestion and improve safety on our roads.

OUR PROGRESS SO FAR

Our Safety and congestion fund is a new fund, introduced in April 2020. Between 2015 and 2020, we delivered similar improvements through its predecessors; our Cycling, safety and integration fund and our Safety and Congestion Relief programme. Through this fund, we'll also be finalising Growth and housing initiatives carried over from the first Road Period.

Over our first five years as Highways England, we've delivered:

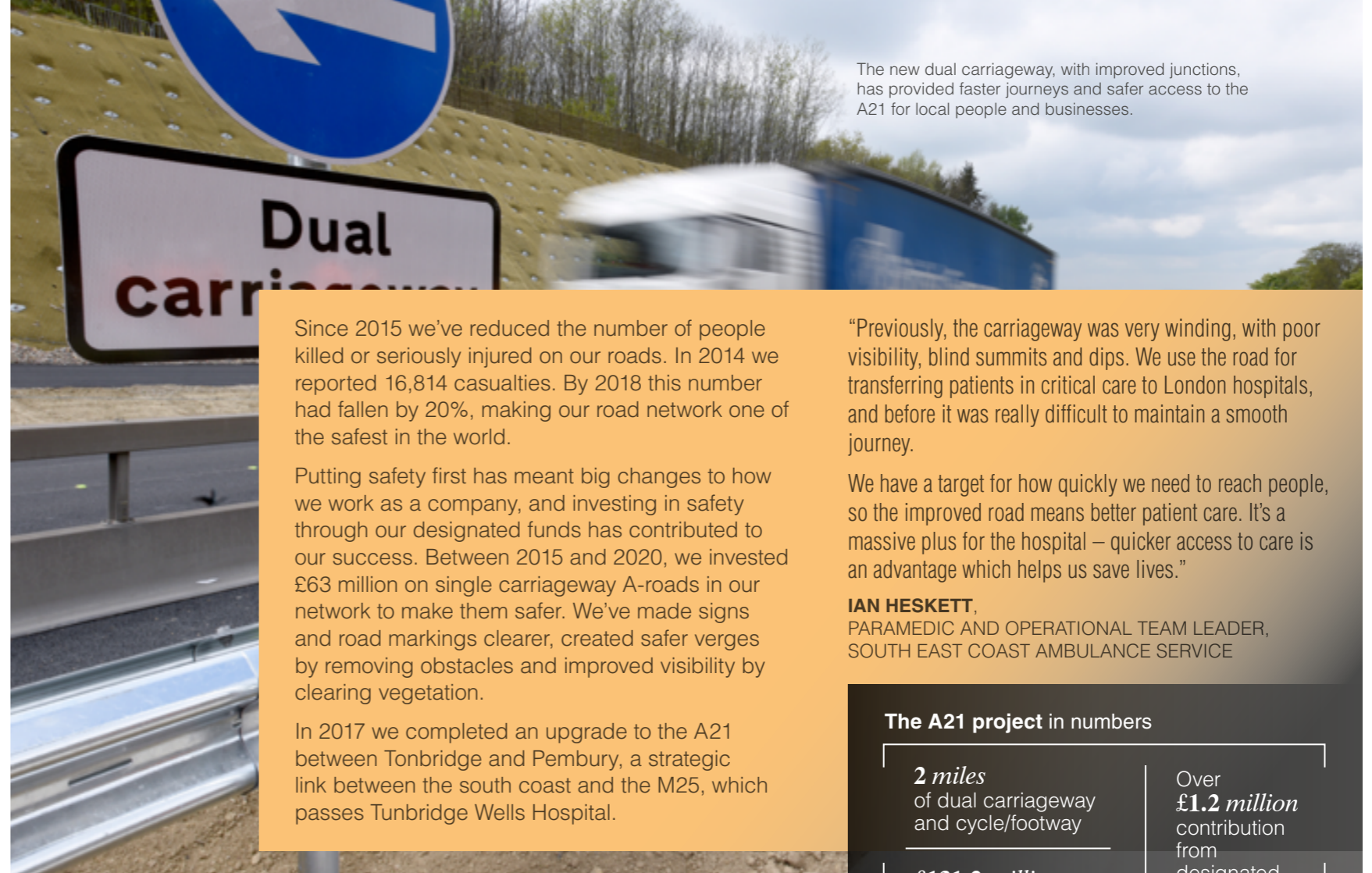


Over **150 SAFETY IMPROVEMENTS** on single carriageway roads to reduce the number of people killed or seriously injured



111 SCHEMES which **REDUCED DELAYS AND IMPROVED SAFETY** in areas identified as traffic 'bottlenecks' on our network

28 SCHEMES supporting local and economic growth which we estimate, over their lifetime, will support **45,000 NEW HOMES** and **44,000 NEW JOBS**



The new dual carriageway, with improved junctions, has provided faster journeys and safer access to the A21 for local people and businesses.

Since 2015 we've reduced the number of people killed or seriously injured on our roads. In 2014 we reported 16,814 casualties. By 2018 this number had fallen by 20%, making our road network one of the safest in the world.

Putting safety first has meant big changes to how we work as a company, and investing in safety through our designated funds has contributed to our success. Between 2015 and 2020, we invested £63 million on single carriageway A-roads in our network to make them safer. We've made signs and road markings clearer, created safer verges by removing obstacles and improved visibility by clearing vegetation.

In 2017 we completed an upgrade to the A21 between Tonbridge and Pembury, a strategic link between the south coast and the M25, which passes Tunbridge Wells Hospital.

"Previously, the carriageway was very winding, with poor visibility, blind summits and dips. We use the road for transferring patients in critical care to London hospitals, and before it was really difficult to maintain a smooth journey.

We have a target for how quickly we need to reach people, so the improved road means better patient care. It's a massive plus for the hospital – quicker access to care is an advantage which helps us save lives."

IAN HESKETT,
PARAMEDIC AND OPERATIONAL TEAM LEADER,
SOUTH EAST COAST AMBULANCE SERVICE

The A21 project in numbers

2 miles of dual carriageway and cycle/footway

Over **£1.2 million** contribution from designated funds

£131.2 million total project cost

AT A GLANCE

■ SAFETY

In 2015, the government set Highways England a target for reducing the number of people who are killed or seriously injured on our network by 40% by the end of 2020. Aiming higher, we want to bring this down to zero by 2040. This fund supports small-scale initiatives which contribute to improved safety for the people who travel and work on our roads.

“We’ve seen Highways England’s maturity develop, with safety becoming a real collective responsibility, both in terms of road worker and customer safety. And there’s been a significant change emerging in how Highways England listens to advice from suppliers.”

PHIL CLIFTON, MANAGING DIRECTOR,
BALFOUR BEATTY HIGHWAYS

■ CONGESTION

Our road network carries a third of road traffic and two-thirds of all freight traffic. As demand grows – volumes of traffic are expected to rise by 32% by 2040 – we must make sure that our network is able to cope. That’s why we’re investing this fund in small-scale initiatives which tackle locations of high congestion on our roads and keep traffic flowing.

Safety in numbers

We typically invest our Safety and congestion fund in initiatives that cost between **£100,000** and **£3 million**

Our key focus for this fund over the next five years is to improve A-roads on our network with poor incident records. Single carriageways are our highest risk roads, where the likelihood of serious collisions is **6 x HIGHER** than on motorways

In 2019, we spent close to **£1.6 million** on suicide prevention initiatives, including reducing access at priority locations for people in crisis

A19, Tyne and Wear

PUTTING SAFETY FIRST

We prioritise safety above everything else. By looking at how vehicles, people and the design of our roads interact over time, we now know much more about how to improve road safety. We've developed our approach to include designing safer roads, supporting the development of safer vehicles and encouraging safer driving and safer working.

A key area of focus for us over the next five years is to make more improvements to our A-roads, where accident rates are generally higher and safety 'star ratings' can fall below the required 3-star threshold. This fund will help us with this work.

What sort of initiatives are we looking to fund?

- Route and junction improvements at high risk and high frequency accident locations
- Creating safer verges by removing obstacles and installing more safety barriers
- New or improved signs and road markings
- Reviewing existing speed limits to see where we can make these safer, and introducing measures to improve speed limit compliance
- Suicide prevention initiatives, such as increasing the height of bridge fencing
- Reducing risks to road workers, such as providing safer means of access for maintenance workers

This theme supports our corporate target to reduce the number of people killed or seriously injured on our roads by at least 50% (against the 2005-09 average baseline) by the end of 2025.

Monitored through performance indicators, which measure:

- the accident frequency rate for our employees and employees in our supply chain
- total casualties
- the number of non-motorised and motorcycle users killed or injured on our roads
- the percentage of traffic using 3-star or above rated roads



SAVING LIVES THROUGH 3-STAR ROADS

Halving road deaths and injuries is a United Nations Sustainable Development Goal. UN member states have agreed that all new roads will be built to a 3-star or better standard, and that by 2030 more than 75% of travel is on the equivalent of 3-star or better roads. It is estimated that achieving these targets will save an estimated 467,000 lives globally every year.

We set a commitment in 2015 that 90% of travel on our roads would be 3-star or better. We have exceeded this target, with 95% of our roads now rated 3-star. We'll continue to work with the Road Safety Foundation to develop future targets for road safety.

A14, Cambridgeshire

KEEPING TRAFFIC FLOWING

We're aiming to make journeys on our roads as trouble-free as possible for the people who use them. By reducing congestion, we're aiding faster, safer and more reliable journeys and supporting economic growth across all parts of the country.

Through this fund, we're investing in small-scale initiatives, ranging from junction and slip road improvements to wider carriageways, enhanced visibility and better signage. These initiatives complement other projects that are already making a big difference for road users.

What sort of initiatives are we looking to fund?

- Widening slip roads and approaches to junctions to increase capacity at traffic 'bottlenecks' and improve journey times
- Adjusting traffic signals at key junctions to optimise traffic flows
- Amending existing roundabout configurations

This theme supports our corporate target to reduce delays for people travelling on our network so that average delay per mile driven is no worse by the end of the second Road Period (2020-2025) compared to the end of the first Road Period (2015-2020).

Monitored through performance indicators, which measure:

- delay on smart motorways
- delay from roadworks
- journey time reliability
- delay on gateway routes
- average speed (mph) while travelling on our roads



A63, Roger Millward Way roundabout

TACKLING CONGESTION IN HULL

The Roger Millward Way roundabout in Hull city centre is one of England's busiest junctions, with around 4,500 vehicles travelling through every hour during peak times.

As part of a £4.5 million improvement scheme to reduce congestion here, we've introduced additional lanes through the centre of the roundabout. Known as a 'hamburger junction', the new layout has increased capacity for traffic travelling through this busy intersection.

Those wishing to travel straight on through the junction can now use the additional lanes, with the usual circular routes for drivers wishing to turn left or right. This means traffic flows better through the junction, reducing journey times in the area.

While working on the roundabout, we also repaired the existing drainage, ensuring the drains run freely and will not require maintenance in the near future.

Get in touch if you think your idea or initiative is a good fit for our Safety and congestion designated fund.



FUNDING PRINCIPLES

Your proposal should align with all, or most, of our funding principles. It should:

1. Contribute to our long-term objective of improving safety on our roads.
2. Go over and above the traditional focus of road investment; adding value to our customers, local communities and our stakeholders.
3. Align with one or more of the aims and objectives of the fund which you're applying to. The expected benefits should be clearly identified.
4. Include only capital costs. Our Designated Funds programme cannot fund revenue costs unless they can be capitalised.
5. Support our key performance indicators (KPIs), performance indicators, commitments and obligations to our stakeholders. We'll prioritise proposals that contribute towards our KPIs most effectively.
6. Result in measurable improvements in our road network's performance. Your proposal should make it clear how these improvements are going to be monitored and evaluated against defined performance indicators and targets.
7. Improve the efficiency of our road network and/or our operations.
8. Demonstrate that the project phase which you are seeking funding for can be completed by the 31st March 2025.
9. Maximise opportunities for joint funding or partnership with other organisations. These can include public, third and private sector organisations.
10. Demonstrate value for money.
11. Have a minimum benefit cost ratio greater than one. For some of the funds, our appraisal process provides a standardised way of demonstrating this.
12. Be on the Highways England estate or have a clear relationship with it.
13. Clearly demonstrate that the land required for the project is either owned by Highways England, one of our partners, or an access agreement is in place. Designated funds cannot be used to purchase land on behalf of third parties.
14. Not already funded by another Highways England programme.



M5, Aztec West cycle scheme

If you're applying for funding from our **Innovation and modernisation fund**, your proposal should also:

- clearly explain how the concept, once proven, could be adopted more widely. This should include a roll-out plan
- not have already been trialled on our roads

If you're applying for funding from our **Users and communities fund**, your proposal should also:

- take into consideration our customer service standards for diversion routes for planned works and activities, and unplanned events, if it relates to diversion routes
- be compliant with the Department for Transport's Circular 02/13: *The Strategic Road Network and the Delivery of Sustainable Transport* (2013), if it relates to the development of roadside facilities. All roadside facilities must meet the minimum mandatory requirements in Annex B of the Circular
- take into consideration the principles of our *Customer contact approach* (2018), if it relates to improving how we engage with our customers

EXCEPTIONAL CONSIDERATIONS

We recognise that there may be worthwhile proposals that align with our strategic ambitions, but do not clearly fit all the criteria outlined here. For example, initiatives which could improve our customers' journey times. In such cases, please **get in touch** with our designated funds team to discuss your proposal.





PARTNERSHIP PROPOSALS

We work with many different partners to make sure our designated funds reach schemes where they make the biggest difference and have a lasting benefit.

Partnership proposals are subject to the same principles for funding. We also expect that our partners will contribute to the delivery of mutual, greater or improved outcomes.

This could include our partners providing one or more of the following:

- co-financing for the project
- labour
- expertise
- land required to complete the project
- future maintenance of the improvement
- equitable treatment of intellectual property



COMPETITIONS

We may hold competitions relating to a specific designated fund at any point during the Road Period, to stimulate funding applications.

Competitions are open to any organisation, and they provide a good opportunity for those who are not already working with us, particularly small and medium sized enterprises. We'll award funding by assessing competition entries against agreed selection criteria.

In February 2019, alongside Innovate UK, we launched two competitions to encourage ideas aimed at revolutionising roads and driving. Through the competitions we awarded £10 million in funding to six pilot projects and seven feasibility studies.

"The competitions have been a huge success. The number of responses we received from such a wide range of organisations was extraordinary, demonstrating that there's a real desire to collaborate with our Designated Funds programme on developing innovative technologies.

We're in the process of further developing and testing the winning ideas, looking at how these new technologies can help to support our three imperatives of safety, customer service and delivery."

VINITA HILL, PERFORMANCE AND CHANGE DIRECTOR – HIGHWAYS ENGLAND

"We've seen some amazing ideas come through the innovation competitions, including projects which help monitor and improve air quality, projects which help provide real time data to connected vehicles, traffic management and vehicle charging innovations, road surface technologies and many more.

We're very much looking forward to seeing the final results of these projects, and continuing our partnership with Highways England to support thought-leading innovations in the UK."

KARLA JAKEMAN, INNOVATION LEAD – CONNECTED TRANSPORT, INNOVATE UK

A19, Testo's roundabout improvement scheme





GET YOUR APPLICATION STARTED

If you're a Highways England colleague, or are already working with us, contact your local designated funds lead for more information about how to apply for funding from our designated funds.

If you're not already working with us, but have a project that might be eligible for funding, please tell us more about it by completing an **expression of interest form**. Once we receive the form we'll identify someone within one of the delivery teams in the region where your project is located. They will be responsible for taking your funding bid through our appraisal and approval process, and can also offer some support in developing your application form and full business case for the project.

The business case for external applications should be prepared using the **5-case business model** as recommended by HM Treasury and the UK Office of Government Commerce. A designated funds project summary form must then be created as a high-level version of this.

Your project will be appraised and endorsed to confirm strategic alignment, deliverability within the confines of the wider programme and value for money before going to the designated funds Investment Decision Committee for approval.

If you have questions, or would like to discuss an idea before completing the expression of interest form, please email designatedfundscheme@highwaysengland.co.uk

Or, for more information, please visit highwaysengland.co.uk/designated-funds

A21, Tonbridge to Pembury improvement scheme



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