

Delivery plan

2020-2025



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Glossary

Foreword



This Delivery plan explains how we will invest our government funding in the strategic road network (SRN) up to 2025. It further describes how we will deliver our programme of work and meet our targets. Since Highways England's creation in 2015, we have made significant progress in how we develop the SRN and deliver our services. Through the measures contained in this plan, we will further improve our performance.

Over the past five years, we have delivered the objectives of government's first *Road Investment Strategy* (RIS1). We have opened 36 schemes for traffic, and started work on a further 31 schemes. These have added 370 lane miles of capacity to our network, helping customers travel more safely and easing congestion. We have also achieved efficiencies of £1.4 billion.

Our ambitions for our network over the next five years are set out in our *Strategic business plan*. This document, our *Delivery plan*, contains the detail of how we will invest in the safety and smooth running of our roads over the next five years. It lays out the outputs and deliverables that the Office of Road and Rail (ORR) will monitor us on over this period. Everything we do will be in the best interests of the economy, our customers, our communities, and the environment we live in.

Over the next five years, we will work hard to meet the new targets we have been set, maximising the value of every pound that we spend. We will deliver the best possible outcome for the taxpayer, and enable safer, smoother and more reliable journeys.

We will help create jobs and generate economic benefits for the whole country, at the same time as maintaining our roads for today's drivers. We will reduce our own carbon emissions, and support government's ambition to achieve net zero carbon emissions by 2050.

This plan describes how we will:

- open 52 schemes, many of which will improve access to ports and airports
- start works on 12 new major road projects
- ensure that all parts of the country benefit from our work
- get motorways ready for digital vehicles
- commit to no net-loss of biodiversity across our activities
- provide a benefit of £27 billion to customers through our enhancement programme
- save our customers over 20 million vehicle hours by tackling congestion
- help 7,500 households through noise mitigation schemes
- sustain up to 64,000 jobs in the construction industry
- deliver £2.23 billion of efficiencies to the taxpayer

This detailed document also provides a framework for our supply chain and other stakeholders. Working together means safer roads, greater efficiencies and a more digital-ready network.

Jim O'Sullivan

Chief Executive, Highways England

The strategic documents at a glance

Road investment strategy

- In March 2020, government published its second *Road investment strategy* (RIS2), which covers investment in and management of the SRN from April 2020 to March 2025.
- RIS2 sets out government's vision for a safer, more reliable and greener SRN which uses new technology, supports the country's economy and is an integrated part of the national transport network.
- Government have allocated £27.4 billion to support this vision.
- To respond to and align with RIS2, we have created our *Strategic business plan* and this document, our *Delivery plan*.
- These plans were developed before the outbreak of Coronavirus (Covid-19) and we remain committed to delivering them.
- If, over time, Covid-19 means we need to update our plans, we will set out relevant changes in our annual *Delivery plan update*.

Strategic business plan

- Our *Strategic business plan* provides the high-level direction for every part of our company for the second road period, underpinned by our three imperatives: safety, customer service and delivery.
- It is structured around our six performance outcomes from the performance framework, as agreed with the Department for Transport (DfT).

Delivery plan

- This document supports our *Strategic business plan*, covering our core activities in operations, maintenance and renewals, as well as delivery across our enhancement schemes.
- It also provides details of how we will invest through our designated funds, outlines our preparations for the third road period and shows how we will develop our organisation, including our people, processes and technology.
- In this document, we further discuss how we approach efficiency and risk management.
- Annex A provides detail of specific funding.
- In Annex B, our performance framework sets out what we will deliver over the second road period and collates all our performance outcomes and commitments into one place.
- We detail our Year 1 plan of activities from 2020 to 2021 in Annex C.

Executive summary

This document describes how we will invest £27.4 billion in our network over the second road period. Every activity detailed in this plan will help us work towards achieving the things that matter to our customers and stakeholders, and meeting our targets.

We will open 52 schemes across the second road period, as well as delivering wider activities beyond the traditional focus of road investment. To provide transparency, we have set out our deliverables for the first year, April 2020 to March 2021, in Annex C.

Above all else, we need to keep our customers and our people safe. In the second road period, we will work to prevent incidents from occurring. We will also focus on reducing the severity of accidents through a package of activities. As part of this, we will promote safer roads, safer people, safer vehicles and a coordinated response to collisions. We will review and refresh our *Home safe and well* approach by the end of 2022-23, ensuring it remains fit for purpose. We will also focus our safety communications on building customer knowledge and awareness, changing attitudes and influencing behaviour.

Operating, maintaining and renewing our network remains the bedrock of our activity, especially against the forecast increase in demand on our roads. We have made £10.8 billion of funding available for this purpose. Our primary focus will be to keep our roads running safely and smoothly, and our customers informed and prepared.

We will keep our assets, everything from bridges to roadside signs, well maintained. We will increase investment in renewals activity, particularly across concrete roads, structures and safety barriers.

We will complete the roll out of Asset Delivery, our approach to maintaining and improving our assets. This has already improved the way that we deliver our services and how we contract with our supply chain. Through Asset Delivery, we will further increase our asset knowledge, as well as improving the management of our schemes and the planning of our activities.

Major enhancement schemes are a crucial element of our investment portfolio. They contribute towards almost all the strategic outcomes in our performance framework, delivering environmental, social and economic benefits both nationally and regionally.

We have allocated £14.2 billion to these large and often complex schemes. As well as completing the enhancements started in the first road period, we will start work on 12 new major schemes. These range from the Lower Thames Crossing in the south-east to the A66 Northern Trans-Pennine in the north-west.

We have selected and developed these major schemes to increase safety, improve reliability and deliver value for money. We consider our customers and the environment in the design of each and every scheme.

As part of our enhancements programme, we will also make significant progress in delivering a smart motorway core network. In March 2020, government published its *Smart motorway evidence stocktake and action plan*. We will take forward the actions set out by the Secretary of State for Transport. As part of this work, we will also improve the information we give to our customers to help increase safety. While our response to the stocktake can be found in our *Strategic business plan*, this *Delivery plan* also includes the actions we will undertake, discussed in each of the relevant chapters.

We have allocated £936 million for designated funds, of which £66 million is to help us achieve no net loss of biodiversity. These funds will support projects which have wider benefits for customers, neighbouring communities, the environment and the economy. We want our network to be accessible to everyone, including the walkers, cyclists and horse riders who need to cross it safely. Working with stakeholders and partners, we will design and deliver these projects collaboratively. We will work with universities, technology centres and research institutes to better understand opportunities for improvement.

Over the second road period, we will increase our ambition and delivery, without any material increase in funding for our support areas. To meet this challenge, we will develop new in-house skills and capabilities and improve our systems and processes.

We have also challenged ourselves to deliver best value to the taxpayer. We will build on our track record from the first road period, delivering efficiently and driving innovation across every part of our business. We will work towards achieving our target of £2.23 billion of efficiencies by the end of the second road period.

We have already started to look further ahead. We are working to develop a steady and flexible pipeline of over 30 schemes for consideration in the third road period and beyond. A list of these schemes can be found in Annex D. To make sure we invest in the right places, we will work closely with Transport Focus, the independent watchdog for transport passengers and road users, to share insight and collaborate on research. We will also engage and consult more widely with stakeholders and customers. As we understand that situations change, and our pipeline is not exhaustive, we have allocated £347 million of our funding over the second road period for further scoping work.

As we enter into the second road period, we are confident that we are ready to deliver what our customers need and want – today, tomorrow and further into the future.

Operations

Our network is integral to our customers' journeys and is the backbone of the country's economy, moving more freight than all other transport modes put together. Our operational services help our customers – the public, business users, freight hauliers, local communities and partners – travel safely and efficiently on one of the most highly used networks in Europe.

Our operational services

We have wide-ranging services operating 24 hours a day, 365 days a year. Our traffic officers patrol our network, managing incidents safely and quickly. Equally, our control centres undertake real-time traffic management across the country. Our information systems provide customers with traffic data and alternative routes, while our weather stations and winter fleet enable safe journeys in adverse weather.

Through these operational services, we help our customers have shorter, and more reliable, journeys, with the corresponding social and economic benefits. We aim to reduce the impact of any incidents and give customers the information they need so they can change, defer or cancel their journeys. By delivering these services, we can work towards meeting many of our performance commitments, particularly improving safety for all and providing fast and reliable journeys. By improving journeys to the nation's ports, airports and employment sites, we support the country's economy.

Delivery over the second road period

In the second road period, the number of people using our network is forecast to increase. Motorway traffic has grown 28% in the last 20 years and is projected to grow a further 26% over the next 25 years. As we cannot physically increase our network to match this growth, we will need to manage the pressure placed on our roads. For instance, increased traffic is likely to cause more wear, potentially leading to more disruption for our customers.

Over the second road period, we have three main aims for operations:

- Improving safety to reduce incidents to the lowest levels possible
- Creating a better customer experience through keeping vehicles moving and improving safety
- Operating our network in an efficient and effective way, providing good value to the taxpayer



Traffic Officers attend to an incident, M6, West Midlands

This chapter sets out our plans to make improvements in the following areas:

- Keeping our network moving through the work of our frontline services
- Supporting better end-to-end journeys
- Improving the information we provide to customers
- Upgrading our fleet
- Helping customers travel safely in winter
- Improving environmental performance and helping make journeys more sustainable
- Modernising our information technology systems
- Replacing our control centre technology
- Rolling out Operational Excellence

Keeping our network moving through the work of our frontline services

We will reduce delays by clearing motorway incidents as soon as possible. Our traffic officers safely manage incidents, coordinate responses and clear the roads, reducing the risk of secondary accidents. Our analysis shows that this frontline service delivers an average saving of over 15 minutes per attended incident. Traffic officers attend and support vulnerable customers at breakdowns, clear debris, set signs and reopen closed routes when safe to do so.

We recognise the roadside rescue and recovery industry as an essential service and we will work closely with them to keep the network moving. During the second road period we will share information, improve communication of operational procedures and promote safe working practices within our newly formed working groups.

We are committed to delivering our frontline services in a more effective way to increase capacity and improve our customer service.

In response to government's smart motorways stocktake, we will also deliver a number of improvements. We will make changes to traffic officer patrols on smart motorways where the existing spacing between safe places to stop in an emergency is more than one mile. Our aim is to reduce attendance time from an average of 17 minutes to 10 minutes and reach those who need assistance quicker. Roll out will start as soon as possible with full coverage of the relevant elements of our network by July 2021.

We will also support DfT with their review of whether recovery vehicles can use red flashing lights.

Supporting better end-to-end journeys

Few journeys start and end on our network. We will work in partnership with others to support smooth and delay-free journeys from beginning to end. This will help us better manage unplanned disruptions, for example identifying alternative routes more efficiently, reducing congestion and preventing secondary accidents.

Despite the forecast increase in traffic volumes, our ambition is for there to be no increase in average delay times. We will, for example, use smart motorways to manage traffic flow at peak times. We will also improve our incident management capabilities and our coordination of and communication about roadwork closures. We will maintain our focus on longer duration incidents, completing debriefs as well as sharing opportunities to improve, always keeping customers' welfare at the forefront of our minds. We will regularly report on our performance, including quarterly on incident clearance times. We will be transparent about our activities and publish supporting metrics, such as network availability and regional delay reports.

We want to make our roads more accessible for all those who use them. Every day, for example, drivers with a disability make around 200,000 journeys on our network. National statistics suggest that there could be a further 600,000 journeys taking place with a disabled passenger. We are working with a wide range of partners to understand the barriers experienced by disabled people who travel by road.

We have learnt that we can support better journeys by providing clear and relevant advice through accessible contact channels. We are also building inclusivity into how we operate our roads, including training our traffic officers to provide on-road support for people with physical, cognitive and mental disabilities.

Improving the information we provide to customers

We already receive over 40,000 calls a month through our customer contact centre. These calls range from requests for traffic information and land enquiries, to insurance-related claims and CCTV queries. Equally, our control centres carry out traffic monitoring and management, including signalling for incidents, roadworks and congestion. Our control centre operators take roadside assistance calls from the public and communicate with emergency and vehicle recovery services, as well as deploying the right people from our teams. They use Twitter to engage with our customers, keeping them informed and answering questions.

We will work with stakeholders and customers to identify the type and quality of information they need. We will develop our contact channels to ensure they meet these needs. As part of this work, we will, for example, increase the use of voice recognition to help customers access information through self-serve channels, and implement our video relay service to support customers with hearing difficulties.

We are already improving customer information on diversion routes. Our new roadside signs will help customers understand where they are on the diversion route and the distance until they rejoin our network.

We will develop our use of real-time feedback to improve our services. This will include, for example, engaging with our customers to find out their views on the Dartford Crossing Charge, road schemes and our traffic officers.

We will also refresh our *Stakeholder engagement plan* by the end of 2022-23 to demonstrate how we engage with our key audiences and stakeholders.

In response to government's *Smart motorway safety evidence stocktake and action plan*, we will also deliver the following improvements:

- We will install more traffic signs between places to stop in an emergency. By March 2023 these will typically be between approximately 330 and 440 yards apart.
- To improve public perception and increase understanding of driving on motorways without hard shoulders, including smart motorways, we will develop a multi channel 'emergency aware' driver campaign. We will work in partnership with DfT as well as other key stakeholders including the recovery and insurance industry, Driver and Vehicle Standards Agency and the police. The campaign will include an advert aired across prime-time television, video on demand, radio, out of home and social media advertising. We will launch the campaign once traffic levels have stabilised following the impact of Covid-19.
- Using our stopped vehicle detection system, we plan to roll out the automatic display of a 'report of obstruction' message. This will warn oncoming drivers of a stopped vehicle ahead. We are already trialling this on the M25, and expect to start the full roll out of automation by the end of 2022.



Traffic Officer on patrol, A1(M), County Durham

- We will engage with car manufacturers by November 2020 to understand how we can help build greater awareness and understanding of 'eCall' or SOS buttons. Increasing numbers of new cars come with these buttons, which can be used to call for help in the event of a breakdown or emergency anywhere on the roads – not just on smart motorways.

Upgrading our fleet

We will upgrade our fleet of maintenance and support vehicles to help maintain our network and provide a good service to customers. It is important that the vehicles we use are cost effective, reliable and versatile, as well as contributing to meeting government's *Road to zero strategy*. We will aim to use ultra-low emission or electric vehicles that have the capability to meet our towing requirements.

Helping customers travel safely in winter

We will invest in a new fleet of winter vehicles to salt and plough our network. This vital service will help keep our roads available in bad weather or, in the case of significant snowfall, return them to normal as quickly as possible. We will also upgrade our weather stations. We will use these to provide data to forecasters, who in turn will help our maintenance providers and others to determine when and how to treat our network. Our fleet and weather stations will also be critical to delivering safe operations and supporting the traffic information provided by our national traffic operations centre.

Improving environmental performance and helping make journeys more sustainable

We aim to promote a more sustainable future as well as improve the environmental performance of our operational activities.

As severe delays increase vehicle emissions, our work to improve journey planning and reduce congestion will provide environmental benefits. We will also aim to reduce our own operational carbon emissions through more effective fuel and energy management, including considering the vehicles we use in our fleet.

When incidents do occur, for example flooding or accidental spillages, we will have systems in place to manage the potential negative impacts.

We know that litter harms the environment, is an eyesore and puts our people at risk when they collect it. Over the second road period, we will clean our top 25 litter hotspots twice a year, while still monitoring all other locations. If they fall below our standards, we will clear them.

Modernising our information technology systems

Our National Traffic Information Service gathers detailed data from across our network to provide estimated journey times, which we use to help manage operations and set diversion routes. This helps inform our customers, enabling them to make better choices for their journeys. We will replace this service during the second year of the road period, helping us improve our information services while reducing costs.

In the second road period, we will also complete our National Roads Telecommunications Services transformation programme. We will fit cabling alongside our network and use fibre optic cables and digital technology to improve and future-proof our services. This will help us ensure capacity for future needs, as well as deliver our ambition for digital roads: a concept based on using connectivity, data and technology to improve the way the SRN is designed, built, operated and used. This includes supporting the trial and development of connected and autonomous vehicles.

For schemes where there is no existing fibre cabling, we will roll out our wireless roadside National Roads Telecommunications Services. As wireless services require significantly less physical roadside infrastructure, we expect that we will be able to work quickly and cost effectively.

In response to government's *Smart motorway safety evidence stocktake and action plan*, we will also deliver the following improvements:

- We will roll out stopped vehicle detection to every existing all lane running smart motorway by the end of March 2023 with a clear public timeline. We have already trialled this system on two smart motorway sections of the M25. The system uses radar technology to detect stationary vehicles. It can alert a control centre operator, who can see the incident on camera, close lanes and dispatch traffic officers. This will help motorists who do have a live-lane breakdown and are unable to get to an emergency area.
- We will also complete, by December 2020 a large-scale trial of a system that analyses CCTV images. The trial will identify the viability of using our CCTV coverage on smart motorways to provide another option alongside stopped vehicle detection.
- We will make information available to SatNav providers to allow identification of emergency areas on their systems, if requested. We will work with providers and create a database of our emergency areas to enable them to use and display the information. We will provide location information to SatNav providers by March 2021.

- The law has now changed to enable automatic detection and enforcement of 'Red X' violations using cameras. The vast majority of drivers comply with Red X signs but, for the very small minority who do not, the police have the powers to prosecute. The penalty is three points on the driver's licence and a £100 fine, or the driver can be referred to an awareness course. We have already started the work, and we will complete the upgrade of all existing smart motorway enforcement cameras by July 2023 to automatically detect such violations and enable Red X enforcement.

Replacing our control centre technology

Our control centre services have a direct impact on customer safety by providing advance warning of incidents or slow-moving traffic, as well as supporting our on-road teams.

Working with the Dutch Road Authority, we have jointly developed requirements for the next generation of traffic management systems: CHARM. While originally intended to go live during the first road period, due to complexities in delivering the system in our business and technical environments, CHARM will now go live in the second road period.

CHARM will provide a single IT platform for our control centres and our national traffic operations centre. The programme will improve our systems and supporting infrastructure, preparing for future developments such as connected vehicles. It will also improve our data, and help us provide our customers with more accurate incident information.

Rolling out Operational Excellence

Operational Excellence is an internal programme of initiatives and best practice across our business, including people, processes, systems, technology and data. It covers improvements ranging from how we manage our network and respond to incidents, through to how we measure performance and create a legacy of change and improved capability.

As part of the roll out of Operational Excellence, we will better align our operational services with the delivery of larger schemes, in line with our *Asset management strategy*, published in January 2020. By integrating our programmes of work, and through monitoring our performance, we will make better use of network capacity, minimising impact on our customers.

We will train more of our traffic officers to review our assets as part of their safety patrols, freeing our inspectors to conduct more technical assessments. Using performance data from our on-road service, we will develop deployment strategies from new and existing traffic officer base sites to help us achieve our one-hour incident clearance target more often.

Through introducing automation and more efficient ways of working, we will better manage our asset information, reducing the number of manual inspections. We will establish a rigorous approach for capturing, maintaining and using data that provides us with a 'single version of the truth'. Our data analytics capabilities and cost intelligence will drive better commercial decisions and outcomes.

As part of Operational Excellence, we will also combine our control centres with our maintenance network control centres, currently outsourced, to establish single regional operations centres. This will allow us to respond to incidents more quickly, with close communication and coordination between traffic officers and maintenance crews.



Customer Contact Centre, Quinton, West Midlands

Maintenance

Our network consists of many assets, which range from bridges and footpaths to embankments and safety barriers. We support and maintain these assets throughout their lifespan, keeping them safe for customers and road workers. Well-managed maintenance activities reduce the need for major interventions and potentially extend the life of assets. Effective maintenance also prevents problems, such as large vegetation growing on an embankment which cannot support it, reducing the disruption of unplanned works.

Our maintenance services

Our maintenance work helps to:

- reduce delays by clearing roads, repairing damage and re opening lanes as soon as it is safe to do
- keep our network in good condition, by collecting litter, removing graffiti, ensuring signs and signals are clear from vegetation and removing trees which may fall on our roads
- reduce the impact of bad weather, including minimising flooding by ensuring water can drain away

Our maintenance work generally falls into two categories: routine maintenance and reactive maintenance.

Routine maintenance

Routine maintenance refers to the scheduled maintenance work we carry out regularly on our assets. Our routine activities, such as safety barrier maintenance, grass cutting, gully emptying, graffiti removal and litter collection, are part of our proactive asset management approach. They improve road safety, make the different parts of our network last as long as possible, and provide a better journey experience for customers. Our activities can also help improve the environmental performance of our network. For example, removing grass cuttings from roadside verges can help species-rich grasslands to grow, supporting biodiversity. By regularly emptying of gullies we can also reduce the risk of flooding.

Reactive maintenance

Reactive maintenance refers to any unexpected maintenance work required on our assets. Our reactive activities, such as emergency repairs from spillages or incident response, cover unforeseen, urgent action needed to make our network safe. Our traffic officers also carry out maintenance activities, ranging from clearing large spills to reviewing our assets for any issues. Some of our seasonal activities also require an unplanned response, for example in response to extreme weather.



Delivery over the second road period

We anticipate that the second road period will be more challenging from a maintenance perspective than the first. Demand for our network is increasing, and many of our assets are nearing the end of their life and may need more frequent maintenance before renewal. Despite this, we intend to keep a flat maintenance funding level, without compromising safety or network availability, as we match increases in costs with efficiencies in how we work. We have also allocated a significant share of our maintenance funding to the emergency repairs needed to deal with unexpected incidents, such as fuel spillages.

Over the second road period, we will make improvements in the following areas:

- Delivering data-driven maintenance
- Improving environmental performance
- Managing our soft estate

Delivering data-driven maintenance

Proactive maintenance is central to our journey to becoming an excellent asset manager. During the second road period, we will take greater control of our maintenance programme, including drainage cleaning, grass cutting and litter collection, and improve our asset monitoring. We already collect our own data to develop insights and we are carrying out more asset inspections, allowing us to refresh our data at a greater rate.

During the second road period, we will make better use of this data to understand, and predict, our maintenance requirements. This will allow us to intervene early, before degradation becomes a problem. It will also allow us to schedule maintenance in a cost-effective way, combining tasks into work packages.

We have already started investigating how we can bring together asset renewal activities with general maintenance work. This will help us complete even more activities every time we work on our network, lowering cost and reducing the frequency of lane closures.

During the first road period, we launched Asset Delivery: our approach to maintaining and improving our assets, and generating better data. Asset Delivery is already changing how we deliver our services and contract with our supply chain. Through this approach, we are bringing in-house some of the early maintenance activities, and working more closely and efficiently with our supply chain. We are managing maintenance operations in a more coordinated way, as well as giving greater direction around the actions we ask our supply chain to complete. Asset Delivery also enables us to benchmark cost and productivity information between our suppliers and regions. Using a new information system, we will be able to evaluate the cost of different outputs and make comparisons nationally.

To date, we have rolled out Asset Delivery in eight of our twelve maintenance areas, and undertaken a phased transfer of responsibility in two further areas. We will roll out this approach to the remaining two areas throughout the second road period.

Improving environmental performance

We aim to improve the environmental impact of maintaining our network, as well as protect and improve our surrounding environment. During the second road period, with the roll-out of Asset Delivery, we will look to introduce stronger environmental requirements in our contracts.

We will also develop and implement more robust environmental management procedures and practices. This will increase opportunities for us to improve environmental outcomes and help us deliver all maintenance activities in a way that complies with our legislative requirements.

We will, in particular, develop a more proactive approach to addressing flood risk and improving our network's resilience to climate change. For example, we will improve the resilience of our concrete pavements to prolonged high temperatures as part of our maintenance and renewals programme, taking remedial action where necessary.

Managing our soft estate

In addition to our assets such as bridges, roads and signs, we have a soft estate of almost 30,000 hectares of land. Running alongside our roads, these diverse and multi-functional landscapes are home to a range of plants and habitats, contributing to the biodiversity of our estate. They also screen roads and help integrate them into the wider landscape.

In the second road period, we will deliver routine maintenance activities around our soft estate which are essential for increasing safety. Cutting grass or looking after vegetation, for example, can avoid sightlines being obscured, helping drivers read signs and react to traffic. We will identify and explore different approaches to capturing data and managing our soft estate, supporting our biodiversity objectives as well as our health and safety priorities.



Environmental study, A590, Cumbria

Capital renewals

To keep traffic flowing smoothly, we need to keep our roads and supporting infrastructure in good condition. Well-planned renewals are essential to safeguard, maintain and modernise our network, much of which dates back to the 1960s and 1970s. When Highways England was created in 2015, we were asked by government to develop longer-term commitments to capital renewals. We have since moved towards a 'whole-life' approach to managing our assets and a more mature, longer-term understanding of asset need.

Our renewals activities

We carry out around 2,000 renewals activities every year. These support safe, free-flowing traffic on our roads. We will ensure that every asset is:

- in a safe, stable condition
- able to fulfil its intended safety purpose
- managed and maintained to minimise risks to customers and impacts on other assets
- managed and maintained to improve environmental performance

We are developing an updated *Asset management development plan*. This will describe our improvements to better connect our activities across our assets' lifecycles, from creation and maintenance through to operation and renewal. By improving our understanding of our assets, our plan will also help us mitigate risks.

Delivery over the second road period

In the second road period, we will increase investment in renewals activity to pre-empt potential problems as some assets near the end of their life. With the forecast increase in traffic volumes, frequent access to our network is likely to become increasingly difficult. We know therefore that we must focus on getting the right balance of proactive and preventative maintenance and early renewals.

Our capital renewals plan for the second road period covers nine asset classes. It reflects our understanding of current asset condition and future need, and balances available funds, performance and our Licence commitments. We have set out cyclical renewals for each class, and major renewals for concrete roads, large structures and safety barriers.



M60 junction 14 Worsley Braided Interchange, Lancashire

Greater clarity of spend, improved asset management and better use of decision support tools will help us provide good value for money. As we move towards even more proactive planning, we can manage work in a more sophisticated way. Our inspection and planning teams will work together to make sure that, when we undertake renewals activity, we minimise disruption. Our growing understanding of long-term asset needs is already enabling us to programme secondary activities alongside main schemes, delivering better value.

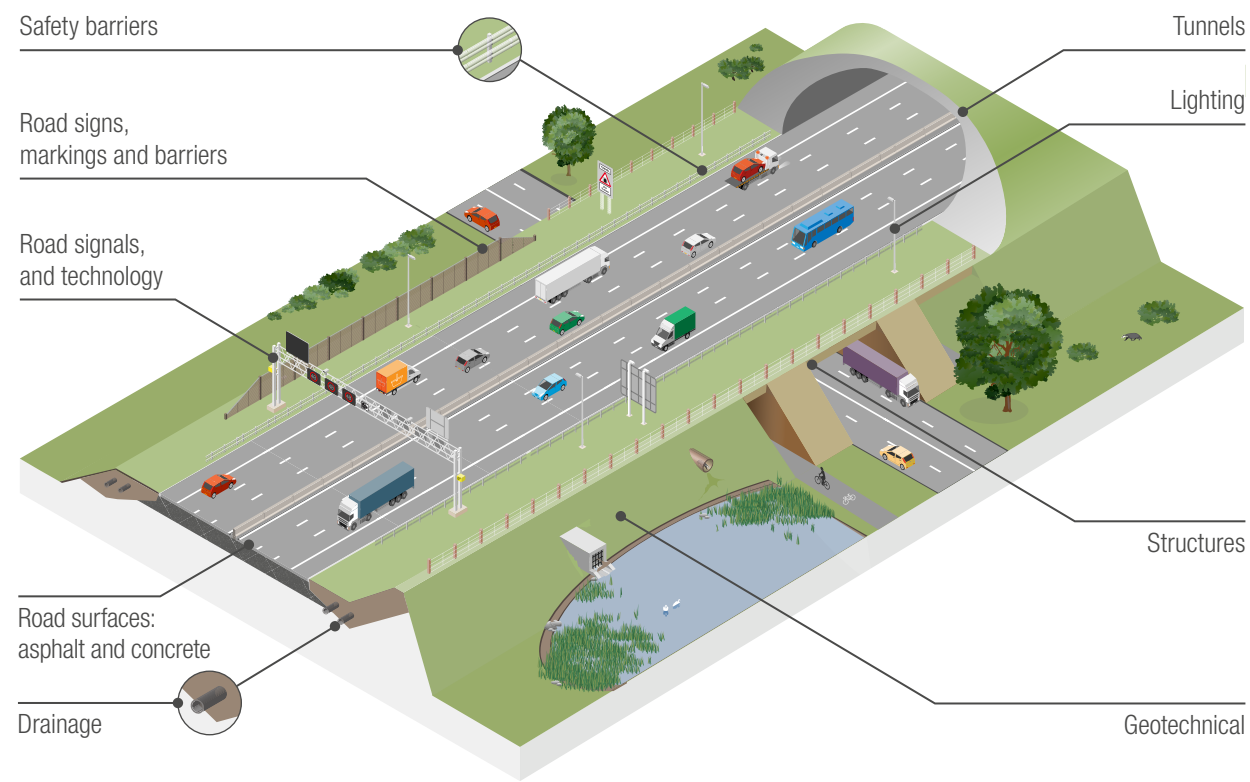
This chapter sets out our plan for the following areas:

- Improved environmental performance
- Cyclical renewals
- Major renewals

Improved environmental performance

Undertaken sympathetically, renewals should enhance the surrounding environment and improve design. In the second road period, we will promote and embed the principles set out in *The road to good design*, published in January 2018. We will develop an effective management system to carry out renewals across our nine asset classes, while being respectful of people and place, protecting the surroundings and supporting improved performance. We will design our renewals activity, for example, to be more carbon efficient and to reduce the requirement for carbon-intensive equipment. We will also investigate incorporating emissions standards into new and existing contracts for our suppliers' maintenance vehicles and associated reporting requirements.

Renewals assets



Cyclical renewals

We have developed a programme of routine repair and replacement of our assets. This will help keep them in optimum condition throughout their life. More details are provided against each asset class in the following pages.

Road surfaces

Road surfaces, also known as pavement, are the fundamental building block of our road system. They transfer the load from vehicles to the ground or structure beneath, enable safe and comfortable journeys, and shed surface water. The condition of these surfaces is a key contributor to road safety and customer satisfaction, predominantly in the first lane where heavy goods vehicles (HGVs) damage the surface more quickly. The lifespan of our road surfaces is relatively short, and deterioration is well understood.

Most of our network is currently covered in asphalt. We already collect data on surface condition and our renewals need is broadly steady. In the second road period, we will manage a renewals programme to keep our surfaces in good condition, providing similar volumes of road surface to the amount we delivered in the first road period. Our data will enable us to make informed decisions around the type of intervention we will need to undertake.

This could, for example, include deeper interventions where it is considered appropriate. We will consider customer impact when making decisions about renewals as the type of material used can have a direct impact on noise. Much of our resurfacing activity is also now possible during overnight closures, reducing disruption on our roads.

Structures

We have a diverse range of structures in our portfolio. These range from small drains and gantries to exceptionally complex structures, such as the Thelwall Viaduct in Warrington and the Severn Bridges linking England and Wales.

We carry out formal inspections of our structures every two years, collecting, evaluating and prioritising defects. Our renewals programme is primarily based on safety requirements identified through these inspections. Where possible, we combine schemes and share traffic management to support efficient planning and minimise disruption for drivers.

For many years, we have predominantly maintained the condition of our structures through cyclical renewals activity. Our planned works for the second road period will safeguard condition, mitigating unscheduled disruptions and lengthy diversions.

Safety barriers

There are three main types of safety barriers: wire, steel and concrete. Our safety barrier assets are over 7,500 miles long, predominately constructed before 1980 in steel. They are a critical safety asset, reducing the risk to customers involved in incidents and collisions. They are estimated to reduce crossover incidents by more than 40%.

Over the second road period, we will assess the condition of our safety barriers. We will upgrade certain sections of the central reservation from steel to concrete, which offers greater safety features. These works will ensure our reservations perform to the highest standards.

Drainage

There is an ever-increasing pressure on our drainage systems. Poor drainage affects the performance of our roads and creates a safety risk. Our drainage system mitigates the risk of flooding to and from our network and reduces pollution to the environment. Our drainage portfolio consists of:

- around 24,000 miles of continuous assets, such as pipes and ditches
- about 1.4 million point assets, for example chambers and gullies
- over 1,000 other assets, such as ponds

These assets collect, store and move surface water runoff from the road and geotechnical assets to the ground and surface water systems.

In the second road period, we will focus on improving how we remove surface water from our network, particularly in high-risk flooding areas. Our proactive cleaning programme clears debris and will play a crucial part in our drainage renewals plan. We will also use emerging technologies to increase our understanding of our assets.

Geotechnical

Geotechnical assets are the earthworks below the road surface and the neighbouring land. They are a critical part of our network, supporting the carriageway, structures and the safe and reliable operation of the SRN. In many instances, our geotechnical assets also support communications equipment, some of which is owned by third parties such as utility companies.

Our geotechnical assets are high value and relatively young, well designed and stable. We will monitor their condition and make risk-based interventions, as needed. We will invest in research to improve and develop our understanding of potential failure across our network and put measures in place to reduce risk. This includes improving resilience in locations of greatest need, or where failure would impact network availability.

Lighting

Our lighting assets include road, sign and subway lighting, as well as columns and bollards.

Our lighting plan balances the safety of our roads with the need to reduce our environmental footprint and improve our impact on neighbouring communities. Maintaining our lighting with energy-efficient alternatives such as LED lights will reduce local light pollution. They need to be replaced less frequently, and will help us meet our corporate carbon reduction targets. We have also developed an approach to recycling materials for all interventions, which will further help us reduce our carbon footprint.

Tunnels

Our portfolio includes 11 tunnels, five of which are currently managed by us: Roundhill, Hindhead, Saltash, Southwick and Meir. Our other tunnels are managed by Private Finance Initiatives (PFIs). Tunnels are potentially the most hazardous part of our network; they offer limited access if incidents occur, and present challenges around controlling fumes and other pollutants. They require careful operation,

including of the safety-related infrastructure such as CCTV, air quality monitoring, smoke and fire detection and vehicle detection. The operational response equipment also needs to be carefully managed, including fans, lighting, motorway signalling and barriers. There are often few practical local diversion routes, which increases the need for carefully planned renewals works to minimise disruption.

We carry out structural inspections every two years on all tunnels; collecting, evaluating and prioritising defects. We use the inspection data, together with our knowledge, to develop effective maintenance programmes. Our plan is tailored to meet the specific requirements of each tunnel within our control. We will update our tunnel systems to make them compatible and aligned with wider improvements across our network. We will consider how we can better align operational control of all eleven tunnels as a collective group, and set the standard for new tunnels.

Tunnels use more energy per mile, due to the technology within them, than any other part of our network. We are committed to reducing our environmental footprint in this area. We will make significant savings in carbon emissions and running costs by replacing lighting and other systems with more energy efficient alternatives. We will also use our innovative approach to recycling materials for all interventions.

Road signs, markings and barriers

Known as street furniture, this diverse asset class includes road markings, road studs, non-electronic signs, fences, barriers and pedestrian guard rails.

These assets help our customers travel more safely. Road signs and markings provide user information, particularly at night when they separate and guide traffic. Many of our road signs and markings have a short lifespan, particularly in high traffic areas. Effective maintenance has been proven to reduce the frequency and severity of traffic incidents. Our plan is based on our understanding of how assets degrade.

Road signals and technology

We use our road signals and technology assets to monitor the SRN, inform our customers and control traffic movement. Our assets include signs, cameras and weather data collection systems.

The condition of our road signals and technology assets is key to the safe operation of our network, especially on roads with all lane running. Our plan sets out the increasing need for these assets. This is directly linked to the growth of smart motorways, which use electronic road signage as a way of safely managing traffic. While the total length of our network has not changed, the volume of technology assets is increasing and therefore renewals investment needs to grow. We will manage renewals in line with technological development, ensuring that our assets operate to the highest standard.

Major renewals

We have identified three asset classes which will need an increase in investment during the second road period:

Concrete roads

Concrete road surfaces have very different characteristics to asphalt. Concrete is stable for a long time after construction, needing far less intervention, and it has a significantly longer lifespan. Failure of concrete road surfaces is, however, more absolute than asphalt and it is far harder to predict and monitor.

Few significant works have taken place on our concrete roads since they were constructed from the 1960s onwards, and many of these roads are now nearing the end of their life. Over the next 25 years, we will complete a large programme of renewals. Our plan sets out a strategy to reconstruct all our legacy concrete road surfaces in a managed way, modelled over five road periods.

Structures

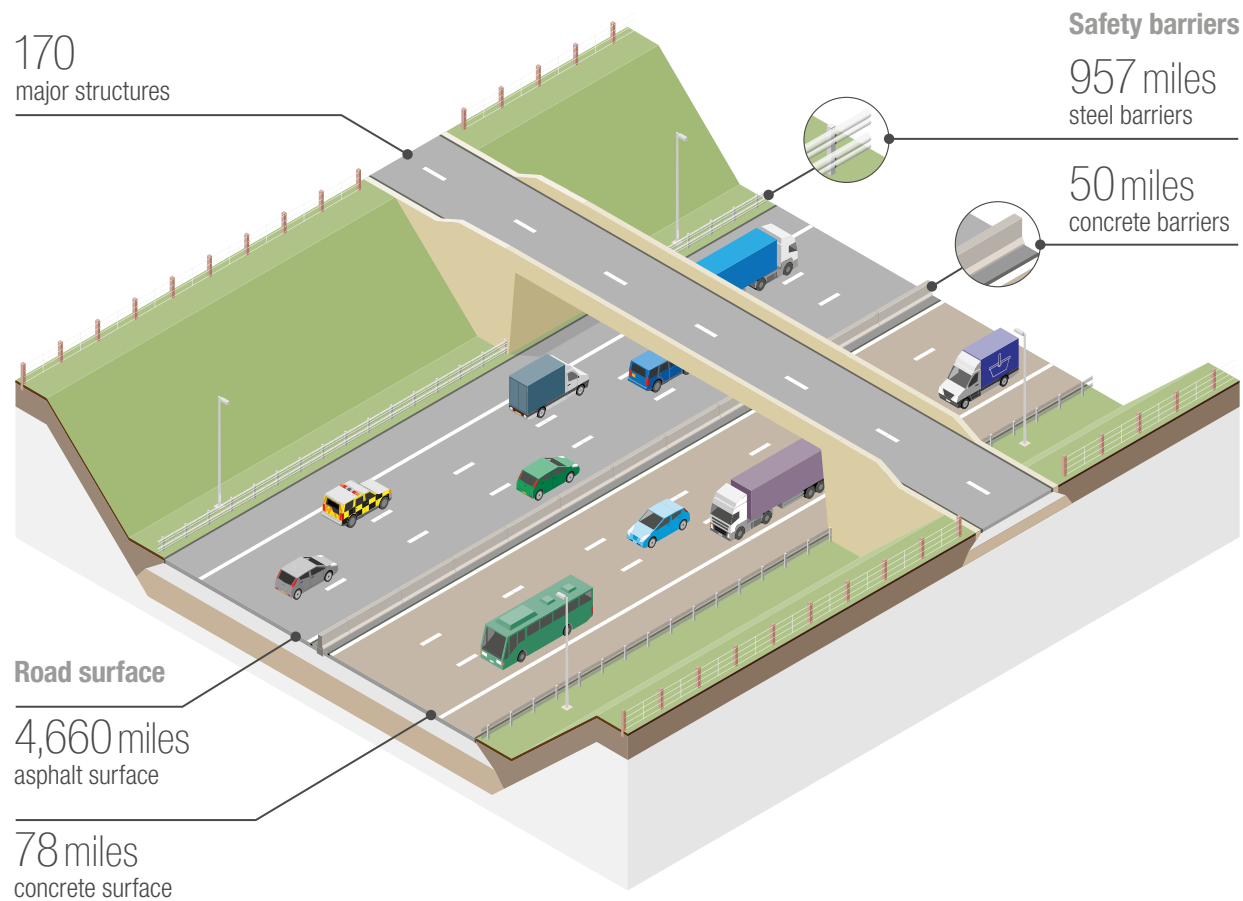
We have over 21,000 structures on our network, such as bridges and gantries, many of which were built at similar times. We have forecast that some of our largest structures will need significant work over the coming years to counteract the effects of weather and general wear and tear. We have prioritised our renewals programme using expert advice and knowledge, balanced against our aim to limit disruption to drivers.

Safety barriers

A significant proportion of our safety barriers are now reaching the end of their service life and require replacement. We have developed a programme of renewals for the second road period which will challenge us to deliver better value for our customers.

Our long-term policy is to upgrade old steel safety barriers with concrete barriers; these are more effective and have a longer lifespan. As the installation cost of concrete is higher, our programme of works will balance risk with affordability. We will install concrete barriers in locations where there is a high risk of vehicle strikes and crossovers, and use steel barriers at other, lower-risk sites.

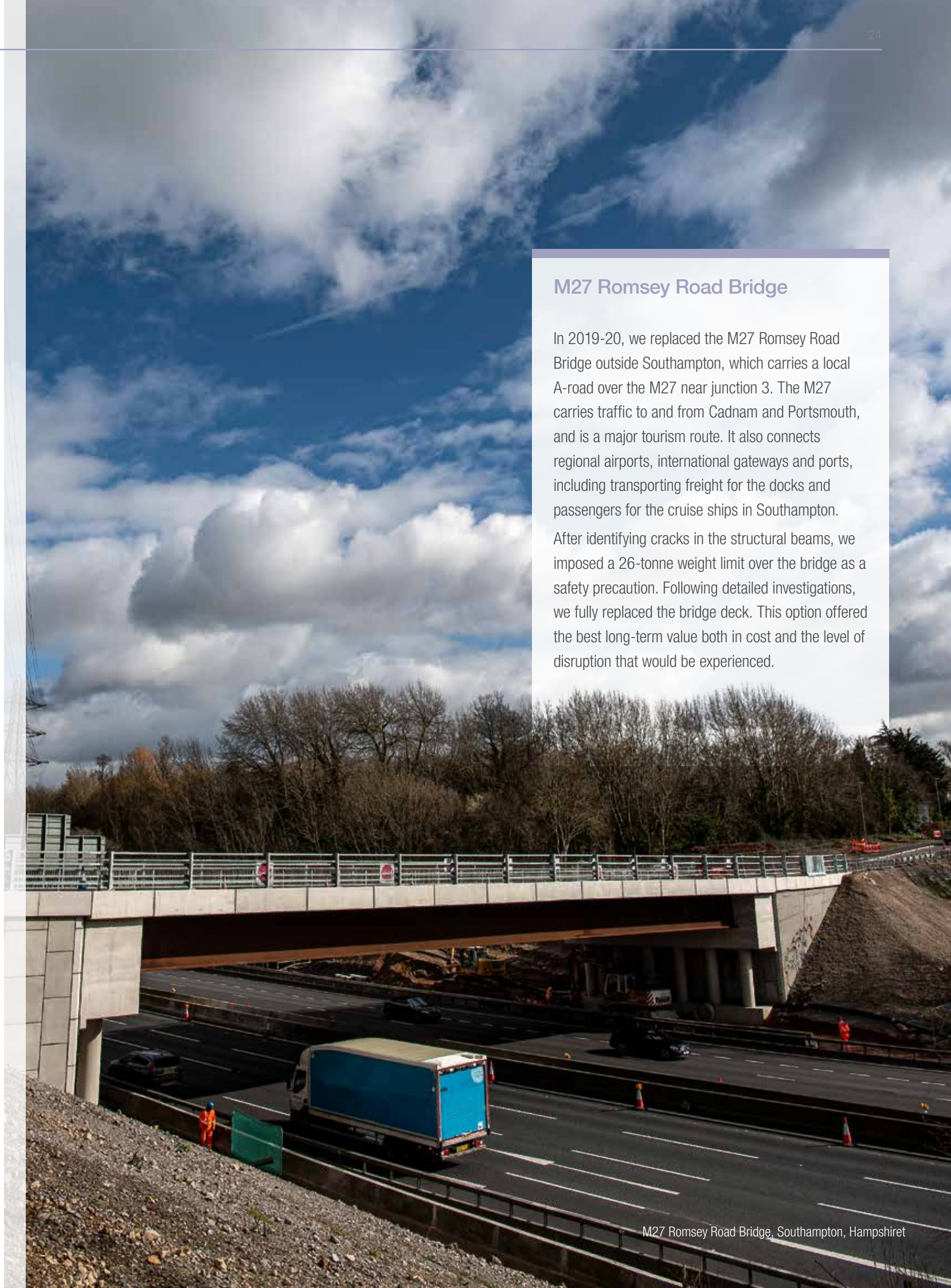
Major renewals deliverables 2020-25



M27 Romsey Road Bridge

In 2019-20, we replaced the M27 Romsey Road Bridge outside Southampton, which carries a local A-road over the M27 near junction 3. The M27 carries traffic to and from Cadnam and Portsmouth, and is a major tourism route. It also connects regional airports, international gateways and ports, including transporting freight for the docks and passengers for the cruise ships in Southampton.

After identifying cracks in the structural beams, we imposed a 26-tonne weight limit over the bridge as a safety precaution. Following detailed investigations, we fully replaced the bridge deck. This option offered the best long-term value both in cost and the level of disruption that would be experienced.



M27 Romsey Road Bridge, Southampton, Hampshire

Enhancements

In some locations, there are challenges which cannot be solved through improved operations, maintenance and renewals, or investment in local roads. In these cases, new or improved connections are needed. Major enhancement schemes are a crucial element of our balanced investment portfolio, with new enhancements reducing journey times, increasing reliability and improving connectivity. They will bolster our network's capacity and resilience, and drive economic growth, providing opportunities for people and businesses across the country.

Summary of delivery over the second road period

We will invest £14.2 billion of capital funding across our network through:

- completing the enhancements started in the first road period
- starting new enhancements
- continuing our Smart Motorway Programme

We believe our investment programme is ambitious and deliverable. We have engaged with stakeholders across the country, including sub-national transport bodies, to develop a programme which will meet government's priorities and deliver benefits across all regions. The full list of schemes, including timelines, can be found in Annex B as part of the performance framework.

Over the second road period, we will sustain up to 64,000 jobs in the construction industry and add £27 billion to the country's society and economy. Our enhancements programme will be the largest contributor to these benefits.

We will open many schemes which will improve our network's integration with transport hubs, such as the M56 junctions 6 to 8 near Manchester Airport and A63 Castle Street near the Port of Hull. We will also consider links to wider transport modes, including bus and coach facilities, pedestrian crossings and cycle routes.

We will work to minimise disruption as part of our delivery. We will, for example, set 60mph speed limits within roadworks across our major schemes, where possible.

We will consider the environment in every aspect of our schemes, from design through to completion and ongoing maintenance, building on our progress from the first road period. We will work to ensure there is no net loss of biodiversity across our enhancement activities by 2025. We want to encourage economic growth while protecting the environment, improving safety and quality of life for current and future generations. We will refresh our *Sustainable development strategy* by the end of 2022-23, and use this to help us improve our network in line with our sustainability goals.

Completing the enhancements started in the first road period

In our *Delivery plan* for the first road period, published in 2015, we set out an ambitious rolling programme of investment. We have made significant progress to date, with 36 schemes now open for traffic. This has added over 370 lane miles of capacity to the SRN.

The remaining schemes will, due to their scale and complexity, form a significant volume of work early in the second road period.

Starting new enhancements

In the second road period, we will start work on 12 new major enhancement schemes across the country. These include schemes such as M60/M62/M66 Simister Island interchange, north of Manchester, the Lower Thames Crossing, and our A417 Air Balloon scheme in Gloucestershire. We began development on five of these in the first road period. We estimate our delivery of these schemes will result in £6.7 billion of benefit across England, including reducing average journey times through affected areas and preventing road accidents. Our programme is based on these schemes demonstrating value for money and achieving the necessary statutory approvals.

We identified our new enhancement schemes through engagement with the public and key stakeholders. This engagement informed our *Route strategies* and our investment prioritisation process, which in turn created a long list of potential schemes. We use our *Route strategies* to present a high-level view of performance and constraints on our existing network as well as to recommend areas for further study. We also conducted *Strategic studies*, which consider areas where we need longer-term plans to anticipate future problems. These studies also look to address government's leading priorities:

- Improving connectivity across the Pennines between cities in the north of England
- Identifying packages of small schemes that can be developed to support the M60 Manchester North-West Quadrant
- Supporting plans proposed by the National Infrastructure Commission around the A1 in the east
- Increasing motorway capacity around London and Manchester
- Supporting the emerging economic corridor between Oxford and Cambridge

We will also work to develop a pipeline of over 30 schemes for consideration in future road periods. This will ensure we are ready to upgrade our roads in 2025 and beyond. We will only progress schemes to delivery if they provide value for money.

Our approach to smart motorways

In the second road period, we will make significant progress in connecting our biggest cities through smart motorways. This will connect England's major economic centres from London and the south-east to the West Midlands, north-west and Yorkshire.

Smart motorways increase capacity on some of the busiest sections of our network and relieve congestion. They lay the foundations for technological advances, as well as helping us work towards our digital roads vision.

Government published its *Smart motorway safety evidence stocktake and action plan* in March 2020. We will take forward the actions set out by the Secretary of State, which are detailed below:

- We will end the use of dynamic hard shoulder smart motorways, upgrading them to all lane running by converting the hard shoulder into a permanent traffic lane. We will upgrade all existing dynamic hard shoulder motorways by March 2025. We know that some road users are not always clear whether the hard shoulder is in use on dynamic hard shoulder stretches of smart motorway; all lane running will provide a more consistent experience for motorists.
- We have already implemented a design standard that reduced the distance between safe places to stop in an emergency to a maximum of one mile. We now propose that, where feasible, the maximum spacing should be $\frac{3}{4}$ mile. This new standard will be applied to future schemes when they enter the design stage from November 2020.
- We will construct 10 additional emergency areas on the M25 by December 2020. These will be on the sections of smart motorway with a higher rate of live lane stops which coincides with the biggest spacing between places to stop in an emergency. We will closely monitor and evaluate the impact of these additional emergency areas on the level of live lane stops.
- Following the installation and evaluation of the 10 additional emergency areas on the M25, we will review by March 2022 the impact of a national programme for installing more emergency areas on existing smart motorways. This will build on lessons learnt from the M25 programme around the practicalities and impact of additional emergency areas on an operational smart motorway, as well as the wider implications of a national programme.
- We will continue to monitor our network, as a whole, as per our *Licence* agreement. Should a cluster of road traffic accidents be identified, we will investigate and, where required, take action.
- Some existing emergency areas are narrower than the current 15 foot standard when measured from the edge of the carriageway, although they are still significantly wider than a traditional 11-foot hard shoulder. We will evaluate all existing emergency areas identified to be less than the 15-foot wide standard by October 2020 and, if feasible and appropriate, widen to the current standard.
- We have updated all existing emergency areas on our smart motorways to have a bright orange road surface and dotted lines, as well as better and more frequent signs on approach showing where to stop.
- We will investigate what more can be done on the M6 Bromford viaduct and sections of the M1 identified in the stocktake. We will assess these sections to understand contributory factors and consider if there are potential further suitable interventions by November 2020. This work is already underway and we will share findings with DfT before the end of 2020.
- We will also continue with our ongoing safety monitoring to evaluate whether existing and new smart motorways are as safe as, or safer than the conventional motorways they replaced. We will provide annual reporting from October 2020.

Delivering our enhancement schemes

Over the second road period, we will deliver our enhancement schemes through the following programmes:

1. Smart Motorways Programme

We will deliver all new smart motorways through this programme. We will use our alliance model for procurement – a model which allows us to partner with all the suppliers we need to safely design, assemble and manage smart motorway technology. This new procurement approach will enable us to safely deliver schemes, while working more efficiently by reducing design costs, minimising construction time and streamlining workforce planning.

2. Complex Infrastructure Programme

We will use this programme to deliver our more complex and higher value major enhancement schemes. Each above £500 million in estimated cost, these schemes will be focused on nationally important infrastructure. They will be subject to staged approvals by DfT. We will work closely with government in their development and delivery, and also consult with stakeholders and local communities.

3. Regional Investment Programme

We will use this programme to deliver our enhancement schemes focused on tackling regional problems around safety, congestion and capacity. These schemes can be complicated and varied, requiring a sensitive approach for the surrounding environments and communities.

They include:

- upgrading A roads
- improving motorway and A road junctions and link roads
- providing new carriageways for motorways and A roads

Stopped vehicle detection programme

We have also developed an implementation programme (June 2020 to March 2023) to roll out stopped vehicle detection to existing all lane running smart motorways. We have included our indicative programme in the table below for information only; it is not intended for monitoring purposes, and we may swap schemes between years. We will base our schedule on contractor procurement and agreement with our Smart Motorway Alliance. If scheme construction is deferred to finish beyond March 2023, we will include stopped vehicle detection as part of the scheme's core scope and not as part of this retrofit commitment.

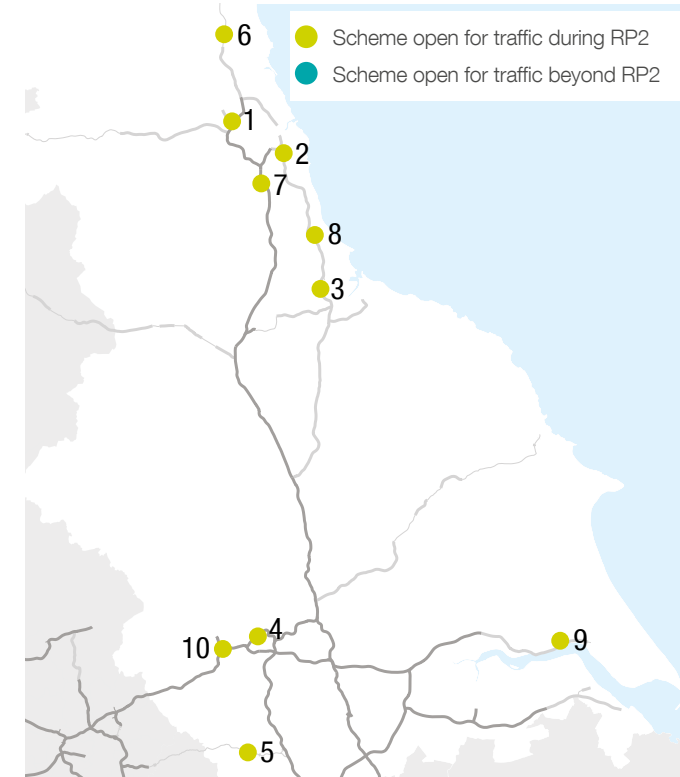
Year	Number of schemes	Proposed locations
2020-2021	2	M20 junctions 3 to 5 M3 junctions 2 to 4a
2021-2022	11	M1 junctions 23 to 25 M1 junctions 28 to 31 M1 junctions 32 to 35a M1 junctions 39 to 42 M23 junctions 8 to 10 M27 junctions 4 to 11 M62 junctions 10 to 12 M6 junctions 13 to 15 M5 junctions 4a to 6 M56 junctions 6 to 8 M6 junctions 2 to 4
2022-2023	8	M1 junctions 13 to 16 M3 junctions 9 to 14 M4 junctions 3 to 12 M6 junctions 21a to 26 M6 junctions 16 to 19 M62 junctions 18 to 20 M6 junctions 10a to 13 M1 junctions 16 to 19

Improving environmental performance

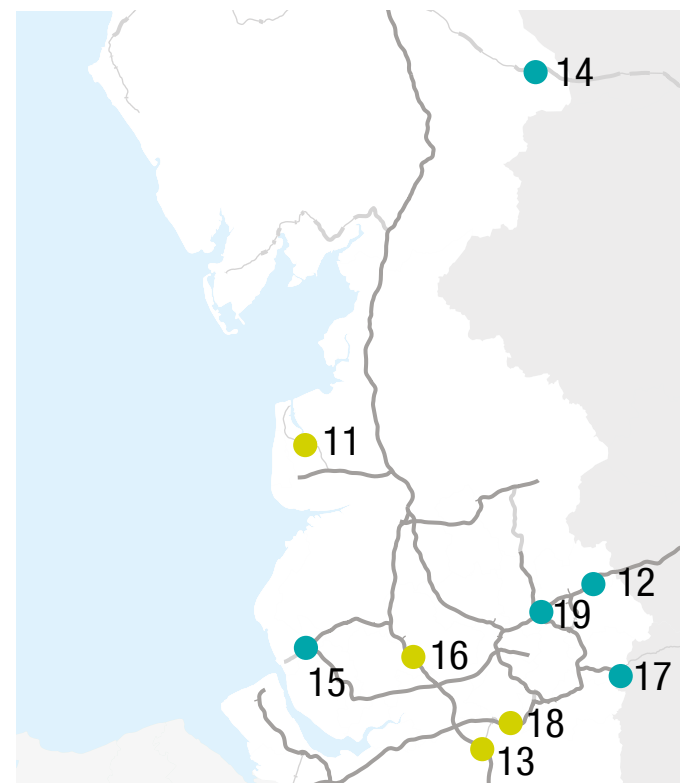
Our enhancement activities will be respectful of place, support improved environmental performance and uphold statutory obligations. We will improve our management processes and use new thinking and technology. For our suppliers, we will investigate incorporating emissions standards into new and existing contracts for their construction vehicles, along with associated reporting requirements. Through promoting and embedding the principles set out in *The road to good design*, we will challenge ourselves to deliver roads which are more than just safe, efficient and affordable.

This includes respecting heritage assets, water and geological resources, and protected wildlife sites. It also includes potentially using a wider footprint where required for environmental benefit.

The north



No.	Name
1	A1 Scotswood to north Brunton
2	A19 Testos
3	A19 Norton to Wynyard
4	M621 junctions 1 to 7
5	A61 Westwood roundabout
6	A1 Morpeth to Ellingham
7	A1 Birtley to Coal House
8	A19 Down Hill Lane
9	A63 Castle Street
10	M62 junctions 25 to 30 upgrade



No.	Name
11	A585 Windy Harbour to Skippool
12	M62 junctions 20 to 25
13	M6 junction 19
14	A66 Northern Trans-Pennine
15	A5036 Princess Way
16	M6 junctions 21a to 26
17	Mottram Moor link road & A57 link road
18	M56 junctions 6 to 8
19	M60/M62/M66 Simister Island interchange

In the first road period in the north, we opened 12 schemes and started work on a further ten schemes. These included the A19 Testos near Sunderland, M6 junction 19 and M56 junctions 6 to 8. Over the second road period, we will start construction on 10 schemes, five of which will open to traffic. The nine schemes already in construction will also open to traffic. The remaining five schemes will open in future road periods.

These schemes will improve journeys and deliver economic benefits for customers across the north. They will reduce congestion, for example through a bypass or road widening. To deliver a more integrated and accessible network, we will design schemes to support walkers, cyclists and horse riders.

Improving capacity and enabling fast, reliable journeys

Many of our schemes in the north will improve capacity and help deliver fast and reliable journeys. The M60/M62/M66 Simister Island interchange scheme, for example, will improve the intersection between the M60 (junction 18), M62 and M66, improving traffic flow on the M60 and journeys into Manchester.

We will widen the A1 south of Gateshead between Birtley and Coal House to three lanes and replace the Allerdene bridge. Taken together with the other schemes in the area, this will deliver three lanes of capacity from the Metro Centre through to the A194(M) interchange.

Supporting business and local and regional economies

Many of our schemes across the north will deliver benefits to businesses, as well as local and regional economies. During the first road period, we completed a strategic study into the Northern Trans-Pennine links. As an output of this, we will deliver our A66 Northern Trans-Pennine scheme.

The A66 provides access to the Lake District and is a major tourism route. It is also an important road for freight in the north, connecting businesses with major international ports. An alternative journey between Ferrybridge and Penrith, for example, would be 39 miles longer and take 38 minutes more on average, if customers had to travel on M62 and M6.

During the second road period, we will start the upgrade of the six remaining single carriageway sections of the A66 between the A1(M) at Scotch Corner and the M6 at Penrith. Creating continuous dual carriageway across the Pennines will support faster, more reliable journeys, decreasing journey times for trips to the Lake District, the north-east and East Midlands. The scheme will also help freight drivers as they travel to and from ports, while providing safer overtaking opportunities.

We will also carry out works on the A5036 Princess Way, improving access to the Port of Liverpool. In the north-east, we will improve capacity on the junction between the A19 and A1290 in Sunderland. This will support local plans for an international advanced manufacturing park, enabling local jobs and growth.

Delivering better environmental outcomes

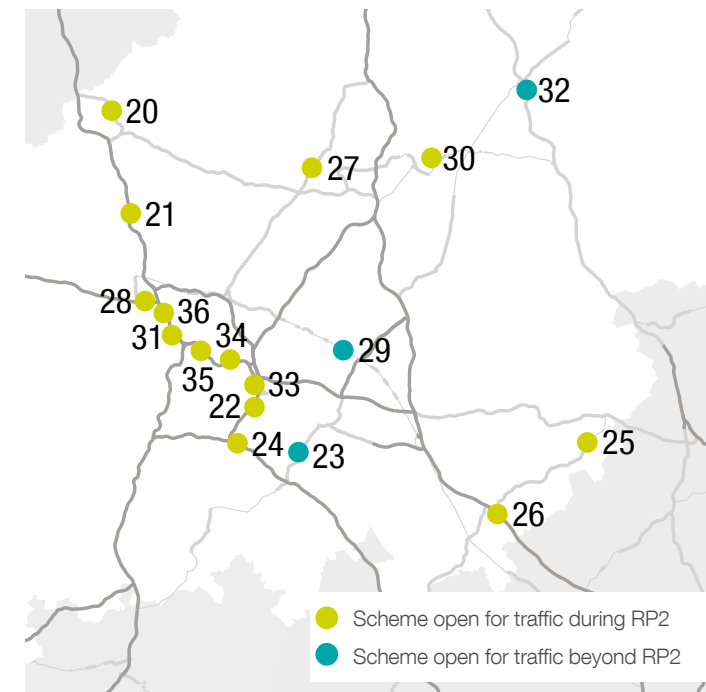
We are committed to delivering better environmental outcomes for people living close to our network. Our scheme at Mottram Moor Link Road and A57 Link Road will provide a dual carriageway bypass around Mottram, near Manchester. It will also provide an alternative route for traffic heading north-south on the A57, reducing congestion and bringing both social and environmental benefits for local communities.

Delivering smart motorways

We will open three smart motorway schemes in the north. These will support faster and more reliable journeys, reducing congestion, particularly during peak times. We will start to upgrade the M62 to smart motorway across the Pennines, from junction 20, Rochdale, to junction 25, Brighouse.

Together with other smart motorways in Lancashire and Yorkshire, this will provide a full smart motorway link between Manchester and Leeds. We will deliver a scheme between junction 21a (M62 Croft interchange) and junction 26 (Wigan), a key route between Lancashire, Merseyside, Cheshire and Greater Manchester. During the second road period, we will open for traffic the upgraded section of the M56 between junctions 6 and 8.

The midlands



In the first road period in the midlands, we opened 13 schemes and started work on nine additional schemes. Over the second road period, we will start construction on a further eight schemes. We will open 14 of these schemes before the end of the second road period, with the remainder opening in future road periods.

No.	Name
● 20	A500 Etruria
● 21	M6 junctions 13 to 15
● 22	M42 junction 6
● 23	A46 Coventry junctions
● 24	M40/M42 interchange
● 25	A45/A6 Chowns Mill junction
● 26	M1 junctions 13 to 19
● 27	A38 Derby junctions
● 28	M54 to M6 link road
● 29	A5 Dodwells to Longshoot
● 30	A52 Nottingham junctions
● 31	M6 junction 10
● 32	A46 Newark bypass
● 33	M42 junctions 4 to 7 upgrade
● 34	M6 junctions 4 to 5 upgrade
● 35	M6 junctions 5 to 8 upgrade
● 36	M6 junctions 8 to 10a upgrade

These schemes will deliver a range of benefits for customers and travellers across the midlands. For example, the A38 Derby junctions scheme will decrease journey times and provide additional facilities for walkers and cyclists.

Improving capacity, connectivity and access

As customer journeys and our network evolve, we recognise the importance of increasing capacity, connectivity and access. We will upgrade the M42 junction 6, allowing better movement of traffic around the A45, improving access to the airport and preparing for the proposed new HS2 station. We will increase the capacity of the single carriageway and junctions of the A46 at Newark, and provide better links to the A1. As well as improving route consistency, this will increase Lincolnshire’s connectivity to the motorway network. On the A5, we will widen a short section of the road near Hinckley, which carries traffic from both the A5 and A47, to dual carriageway. As part of preparing for the third road period, we will also consider evolving proposals for the A5 from Hinckley to Tamworth. In Northamptonshire, we will upgrade the Chowns Mill roundabout between the A45 and A6.

We will provide additional capacity on the M6 junction 10 (Walsall), including replacing both bridges and widening the roundabout to four lanes. Along the length of the A52 in Nottingham, we will improve junctions and signals.

Improving facilities and supporting economic growth

We are committed to delivering schemes which support regional growth. In the second road period, we will add north-facing access from junctions 10a to 11 on the M54 to M6 link road. This will support local economic growth by relieving congestion and improving facilities for customers and communities.

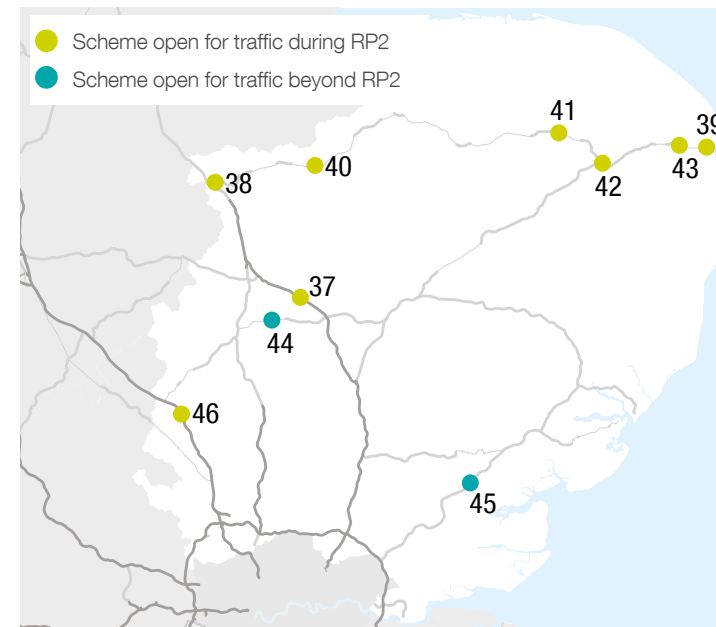
Near Coventry, we will continue work on the A46 Binley and Walsgrave roundabouts and upgrade the A45/A46 trunk road sections between the M6 and M40. Together, these will increase capacity, improve the consistency of the roads and relieve congestion to support the growing local economy. We will also widen the A500 between Wolstanton and Porthill junctions, which will support the Etruria Valley development.

Delivering smart motorways

We will open seven smart motorway schemes in the midlands. We will upgrade the M6 to smart motorway between junction 13 (Stafford) and junction 15 (Stoke south), providing a continuous stretch of smart motorway between Birmingham and Stoke-on-Trent. We will convert the existing smart motorway to all lane running between junctions 4 and 10a on the M6, splitting this into packages of work to reduce disruption. On the M40/42 interchange, we will:

- deliver new smart motorway on the approach to the M40/M42 interchange from the M40 junction 16
- upgrade the existing smart motorway (M42 junctions 3a to 4 and M42 junctions 4 to 7) to all lane running

The east



No.	Name
37	A14 Cambridge to Huntingdon
38	A47 Wansford to Sutton
39	A47 Great Yarmouth junctions
40	A47 Guyhirn junction
41	A47 north Tuddenham to Easton
42	A47 Thickthorn junction
43	A47 Blofield to north Burlingham
44	A428 Black Cat to Caxton Gibbet
45	A12 Chelmsford to A120
46	M1 junctions 10 to 13 upgrade

RP1 scheme - A1(M) junctions 6 to 8 rescheduled to a future road period as part of the Smart motorway evidence stocktake and action plan.

In the first road period in the east we opened two schemes, and started work on a further two schemes. Over the second road period, we will start nine further schemes. By the end of the second road period, we will open eight schemes for traffic, with the remaining two opening in future road periods.

Our enhancement schemes in the east, such as our A47 corridor scheme, will provide economic and community benefits, as well as improving connectivity to East Anglia and Essex. Through schemes such as A47 Thickthorn, we will improve cycling and walking facilities, supporting an integrated and accessible network for local communities.

In Essex, our A12 Chelmsford to A120 scheme will deliver a wide range of benefits, including reduced congestion, and will align with local authority development plans.

Improving safety, increasing capacity and reducing congestion

Our schemes in the east will improve safety, increase capacity and reduce congestion. We will, for example, deliver six enhancement schemes focused on these outcomes across the length of the A47. We will improve the junction linking A47 and A141 (Guyhirn junction) and the interchange between A47 and A11 (Thickthorn junction). We will redesign our A47 Great Yarmouth junction improvement to align with the traffic flow changes associated with the new river crossing development. We will also upgrade single carriageway stretches on the A47 to dual carriageway between:

- the A1 and the dual carriageway section west of Peterborough
- Norwich and Dereham, linking two existing sections of dual carriageway
- Norwich and Acle

To enable free-flowing journeys, we will also upgrade the remaining single carriageway section between Cambridge and the M1 to dual carriageway. This will include three grade-separated junctions: A1/A421 (Black Cat), Cambridge Road/B1428 (east of St Neots) and A428/A1198 (Caxton Gibbet).

Improving connectivity and access

We will deliver, and support, several schemes that improve connectivity and access in the area. This includes the completion of a major upgrade to the A14 between the A1 and north Cambridge. As part of this, we have widened the road to three lanes and provided a new bypass around Huntingdon. We will create distributor roads for local traffic and remodel key junctions along the route. The scheme will help decrease congestion to the Port of Felixstowe.

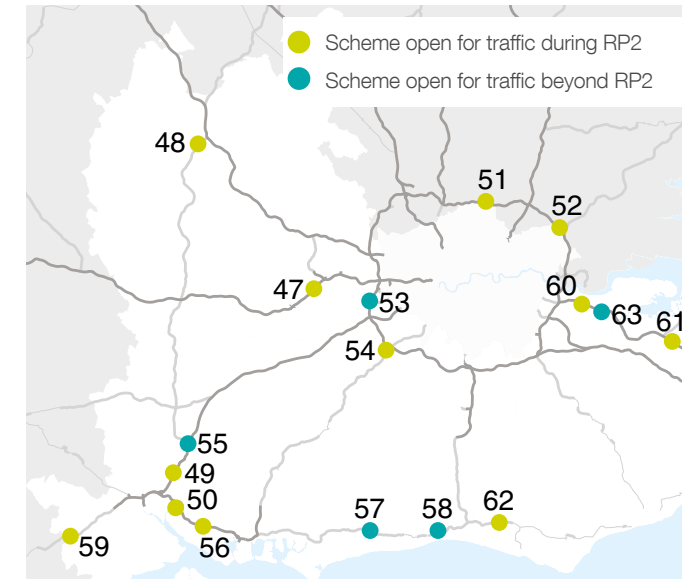
Delivering smart motorways

We will deliver one smart motorway scheme in the east. This will upgrade existing smart motorway on the M1 between junctions 10 (Luton) and 13 (A421/Milton Keynes south), providing continuous all lane running.



M5 near junction 20, Somerset

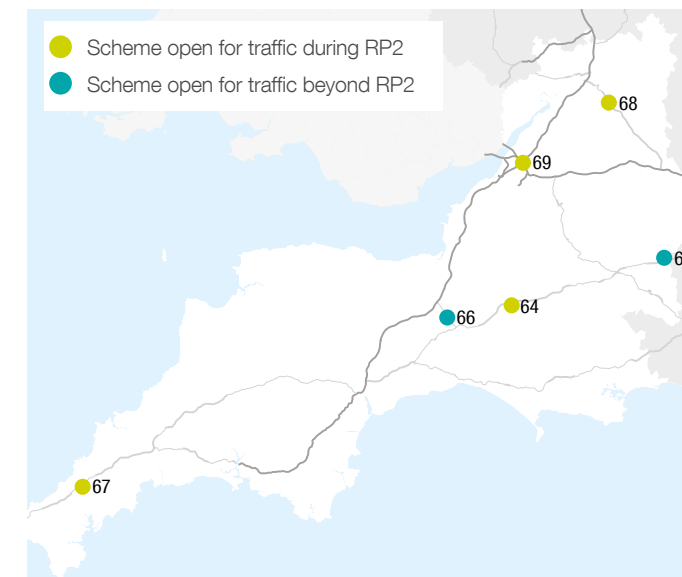
The south and west



In the first road period in the south and west, we opened nine schemes and started work on a further ten schemes. Over the second road period, we will begin an additional 16 schemes and open 16 for traffic. We will open the remaining seven schemes for traffic during future road periods.

No.	Name
47	M4 junctions 3 to 12
48	A34 Newbury to Oxford enhancements
49	M3 junctions 9 to 14
50	M27 junctions 4 to 11
51	M25 junction 25
52	M25 junction 28
53	M25 junctions 10 to 16
54	M25 junction 10
55	M3 junction 9
56	M27 Southampton junction 8
57	A27 Arundel Bypass
58	A27 Worthing and Lancing improvements
59	A31 Ringwood
60	A2 Bean and Ebbsfleet
61	M2 junction 5
62	A27 East of Lewes package
63	Lower Thames Crossing

Excludes RP1 scheme - M271/A35 Redbridge roundabout upgrade which was rescheduled to open for traffic mid 2020-21.



No.	Name
64	A303 Sparkford to Ilchester
65	A303 Amesbury to Berwick Down
66	A358 Taunton to Southfields
67	A30 Chiverton to Carland Cross
68	A417 Air Balloon
69	M4 junctions 19 to 20 upgrade and M5 junctions 16 to 17 upgrade

Reducing congestion

Our enhancement schemes in the south and west will reduce congestion through a range of measures, and deliver infrastructure that can be used by walkers, cyclists and horse riders, where appropriate. For example, our A27 East of Lewes scheme will reduce journey times by eight minutes, and deliver around six miles of improved walking and cycling facilities.

In Oxfordshire and north Berkshire, we will undertake a collection of safety enhancements, including lay-by improvements. These will also provide pedestrians with better facilities and reduce congestion.

Improvements such as dualling the A30 between Chiverton and Carland Cross in Cornwall will significantly reduce congestion, addressing a single carriageway bottleneck. This will allow for safer overtaking and move traffic away from local routes.

Upgrading the M25

We will start to upgrade the M25 junctions 10 (A3) to 16 (M40) through a mixture of enhancements. These will help deliver safer and more reliable journeys for our customers, and manage the ever increasing volume of traffic using the M25.

We will improve the M25 junction 10 (Wisley interchange) to allow free-flowing movement, along with improving the neighbouring Painshill interchange on the A3.

On the M25, we will upgrade the junction between the M25 and A10 at Cheshunt, providing greater capacity. We will also improve the junction between the M25 and A12 in Essex to provide a free flowing link from the northbound M25 to the eastbound A12.

Improving regional connectivity

We will start construction on our Lower Thames Crossing scheme, which has dedicated funding in government's RIS2. As part of this investment, we will create a new tunnel under the river Thames between Kent and Essex, together with new supporting roads linking to the M25, A13 and M2. These will increase capacity and provide quicker, safer and more reliable journeys locally, regionally and nationally. The scheme will provide an alternative to the Dartford Crossing and support the creation of thousands of jobs in Kent and Essex.

We are committed to delivering a high-quality and high-performing dual carriageway route along the A303/A358 corridor between the south-west and the south-east. This will include delivery of our A303 Amesbury to Berwick Down scheme. As a Nationally Significant Infrastructure Project, this has dedicated funding in government's RIS2. On completion, this project will provide a twin-bored tunnel, taking traffic away from Stonehenge. This will be coupled with a dual carriageway and bypass north of Winterborne Stoke, linking to the existing dual carriageway at Berwick Down.

We will also deliver further improvements along the A303. These include upgrading the single carriageway section of the A303 to dual carriageway, linking the Sparkford and Ilchester bypasses. We will create a dual carriageway link from the M5 at Taunton to the A303, incorporating upgraded stretches of the existing A358 into the SRN where appropriate.

Improving capacity on strategic roads

Many of our schemes will increase capacity on key routes. We will improve the M27 junction 8 and the Windhover roundabout, as well as delivering a package of enhancements on the A27 between Worthing and Lancing. We will also provide additional capacity for M2 junction 5 by improving slip roads and junction approaches.

For our A27 Worthing and Lancing improvement project, we will work with local stakeholders on new design proposals that deliver value for money for the taxpayer. We will agree a package of enhancements between Worthing and Lancing that improves the capacity and flow of traffic on this section of the SRN.

Supporting the economy

Our schemes in the south and west will deliver benefits to local and regional economies, as well as the national economy. Our A27 Arundel bypass, for example, will replace the existing single carriageway, linking two existing dual carriageway sections to reduce congestion and support the wider economy.

As part of our A417 Air Balloon scheme, we will connect the two dual carriageway sections of the A417 near Birdlip in Gloucestershire. We will upgrade the M3 between junction 9 (Winchester/A34 interchange) and junction 14 (M27), linking with our smart motorway scheme on the M27. We know that this is an important route for the local economy, as well as having significant environmental value. We will improve the junctions on the A2 near Greenhithe to enable major developments around Ebbsfleet.

Improving access to our network

We will deliver improvements to the A27 between Lewes and Eastbourne. This will include improving junctions around Eastbourne, upgrading to dual carriageway south of the Polegate roundabout and introducing cycling and walking facilities. We will widen to three lanes the A31 at Ringwood, a key tourism route and gateway to the New Forest.

We will also work on the nearby local road network to deliver improvements for pedestrians.

Delivering smart motorways

We will develop the Smart Motorway Programme by:

- upgrading the M4 junctions 3 (Uxbridge) to 12 (west of Reading), linking Reading and Heathrow
- completing the upgrade on the M3 junctions 9 (Winchester/A34 interchange) to 14 (M27), whilst also improving the junction slip roads
- completing the upgrade on the M27 junctions 4 (M3 interchange) to 11 (Fareham), linking with our M3 scheme
- upgrading existing smart motorways to all lane running on the M4 junction 19 (Hambrook interchange) to 20 (Almondsbury interchange) and the M5 between junction 16 (Almondsbury roundabout) and 17 (Cribbs Causeway interchange)

Designated funds

We introduced designated funds in 2015 to fund activities beyond the traditional focus of road investment. These help us to improve lives, protect the environment, support the nation's economy and increase accessibility. Designated funds also help us uphold statutory obligations and respond to wider government strategies. They enable us to build relationships and work in partnership to develop and deliver projects with other specialist organisations, such as Sustrans, the National Trust, the Environment Agency, the Canal and River Trust and the wildlife trusts.

Our funds

We will invest through four funds:

1. **Safety and congestion fund**
2. **Users and communities fund**
3. **Environment and wellbeing fund**
4. **Innovation and modernisation fund**

Safety and congestion fund

This fund will help us deliver interventions to improve safety on high-risk roads, accident-cluster locations and potential suicide-cluster areas. We will primarily focus on those A-roads where accident rates are higher.

This fund will support:

- route and junction improvements at high-risk and accident-cluster sites
- safer verges with the introduction of safety barriers
- new or improved signage and road markings
- speed limit reviews and counter measures
- suicide prevention initiatives, such as increasing the height of bridge fencing (parapet)
- measures to reduce road worker risk

Through this fund, we will also work to reduce congestion and create a free-flowing network. Our projects could include widening slip roads and junction approaches, adjusting traffic signals at key junctions and changing roundabout configurations. They could also include supporting sustainable transport measures, such as linking to public transport and facilities for walkers and cyclists.

We will support economically significant routes, enable local growth plans and unlock the development of employment and housing sites. We will work with local partners to find alternative ways of providing high-quality access to the SRN through existing connections, with third-party investment.

We will use this fund to complete the pipeline of schemes from our existing Growth and housing fund, which had its own designated fund in the first road period. Since 2015 we have used this programme to find match-funding with third parties, such as developers and local authorities. We estimate that our activity will support the creation of over 45,000 jobs and 44,000 homes throughout the lifetime of the developments.

We will also explore the implications of projects identified through government's Housing Infrastructure Fund, and work closely with key stakeholders on proposals to understand the likely timing and release of funding.

Users and communities fund

Few journeys start and end on our network. Through our Users and communities fund, we will work to improve everyone's journeys, regardless of how they are travelling. We will better integrate the SRN with the major road network and roads managed by local authorities, as well as with other transport hubs, modes and networks. Through collaborating with local authorities and service providers, we will:

- help bus and coach companies offer efficient, attractive services by smoothing access to and from the SRN
- make bus passenger facilities on our network safe and accessible, with appropriate footpaths, lighting and design features



M621 junction 4, Leeds, West Yorkshire

We will invest in making the SRN more accessible for walkers, cyclists and horse riders, and work with Transport Focus to develop a survey to understand their views. We will make targeted improvements at problem locations, for example junctions where there are safety issues or locations where walkers, cyclists and horse riders need to use the SRN. By collaborating with local highway authorities and other providers, we will deliver and maintain high-quality, seamless connections between paths and routes. This could include connecting to the major road network and local infrastructure, constructing dedicated cycle routes, upgrading crossings or building new ones. We will summarise our annual activity, key achievements and learning in our *Annual report and accounts*.

Over the second road period, we will also focus on helping the communities most affected by changes to our network, with the aim of leaving a positive legacy. This will include understanding their priorities and requirements, which could involve undertaking satisfaction surveys and developing better ways of engaging with each other. This will form part of how we address reconnecting communities, both as part of new scheme design and through improvements in problem areas.

We will work to better understand the requirements and issues of our customers and neighbouring communities around freight and road haulage, and minimise the impact of these journeys. We recognise that HGV operators and drivers also have specific needs for their journeys on our network. These include data to help journey scheduling, approved diversion routes and conveniently located parking and rest facilities. Over the second road period, we will work with the freight sector to meet these needs. We will also support efforts to tackle the shortage of lorry parking and facilities,

helping reduce the pressure on drivers to park inappropriately and the negative environmental consequences of fly-parking.

Finally, we will use this fund to develop and improve the information available to our customers and communities to help them feel safe, make informed decisions and be in control of their journeys. Over the second road period, we will focus on specific areas to make improvements which have an impact, including:

- developing our understanding of customer needs and expectations around variable signs and signals, enabling us to provide more customer-focused messaging
- improving information around diversion routes, reducing disruption for our customers and communities
- improving how customers contact us, and how we respond to them
- understanding and improving the information available to all customers, including disabled users of our network
- working in partnership to develop and deliver information through channels that customers prefer
- developing and improving information about, and during, roadworks
- providing relevant and timely information about roadside facilities, encouraging people to take a break

Environment and wellbeing fund

Minimising our impact on the environment is one of our priorities, and we will review and refresh our *Environment strategy* by the end of 2022-23 to ensure it remains relevant. We want our roads to work more harmoniously with the communities that live alongside them, and the built, natural and historic environments that surround them.

Building a walking and cycling network in the Avonmouth Severnside Enterprise Area

In the port area of Bristol, as part of our M49 Avonmouth scheme, we are creating a network of walking and cycling routes. Working in partnership with Sustrans, Bristol City Council and South Gloucestershire Council, we will deliver over four miles of segregated cycle paths. This will connect a hard-to-reach area, currently divided by three motorways (M49, M4 and M5), and help safe commuting.

As part of this project, we will improve the local cycle network and the experience of cycling. The new and improved routes will directly link to the National Cycle Network. They will also provide a continuous, high-quality route between key areas.

Our funding for this scheme not only covers design and construction, but also behaviour change, monitoring and future maintenance.



Through this fund, we want to deliver interventions which reduce the noise impact of our network on those people most affected. We will prioritise activities in 'noise important areas', which could include laying lower noise road surfaces, erecting noise barriers and installing glazing and ventilation in people's homes.

To help deliver clean air, we will deliver projects to reduce concentrations of harmful pollutants in the air. We will focus on areas of our network that the Department for Environment, Food and Rural Affairs (Defra) report exceed NO₂ limits, and on projects that will help us meet the government's *Ambient air quality directive* in the shortest time. Our projects could include installing air quality barriers and supporting local authorities to develop and implement their own clean air plans, where these coincide with our network. We will also accelerate our transition to a zero-emission fleet, including working with government and industry.

Through this fund, we will work to reduce the carbon emissions associated with the construction, use, management and operation of our network. Over the second road period, we will prioritise projects which reduce energy consumption and waste as well as generate renewable energy. For example:

- renewing road lighting with LED lighting
- running renewable energy schemes that reduce demand from the grid and provide reliable supply, for example by using solar panels
- planting trees for capturing carbon
- piloting ultra-low emission or electric vehicles that have the capability to meet the operational needs of our traffic officers

Protecting the physical environment will also be a key part of our work through this fund. We will look to increase our network's resilience to flooding, improving safety for customers and reducing risks to our neighbouring communities. Our projects could include:

- increasing flood storage within our drainage infrastructure
- supporting natural flood management, for example flood plain restoration or upland planting
- improving the quality and ecological health of surface water
- introducing sustainable drainage systems, such as ponds and wetland treatment systems

We will work to ensure there is no net loss of biodiversity across our activities by 2025, progressing towards our target of delivering a net gain in biodiversity by 2040. We will use our fund to maximise our delivery of biodiversity, for example by creating new or enhancing existing habitats.

We will design our roads to meet our vision of creating a network which works more harmoniously with its surroundings to deliver an improved environment. We will achieve through a range of activities including:

- planting and improving boundaries in the most valuable landscapes and areas, including National Parks and Areas of Outstanding Natural Beauty
- increasing landscape integrity and connectivity by introducing or restoring dry-stone walls, tree planting and wildflower planting
- reducing light pollution, for example through installing light spill hoods
- delivering initiatives to restore built-up areas, for example removing or replacing street furniture such as fences and barriers



We will support activities that improve the setting and condition of heritage assets in our ownership, for example a site of historical importance. Or those negatively affected by our network to safeguard them for the future. Projects could include relocating heritage features to protect them for future generations or improving accessibility for the public.

Finally, we will use this fund to promote activities and initiatives to improve wider environmental outcomes and wellbeing. Through consultation, we will identify opportunities with our stakeholders to deliver impactful interventions. For example:

- small-scale regeneration of built-up areas to restore social cohesion
- holding exhibitions of archaeological finds
- reducing flood risk to vulnerable communities, for example through property level protection, flood barriers or flood alleviation schemes



Green bridge, A556 Knutsford to Bowdon, Cheshire

Innovation and modernisation fund

We will use this fund to explore the full range of opportunities presented by innovation and modernisation. This will include delivering projects which use data and technology to increase the speed and quality of our design and construction, automating repetitive tasks. This will improve the safety of road workers, reducing the number of people on site and minimising the time exposed to traffic. We will also support projects that involve digital design, construction and asset management.

Connected and autonomous vehicles (CAVs) may revolutionise how people travel. We will work with partners and stakeholders to develop the future infrastructure standards for connected roads, including how technology can be safely rolled out. We will support projects that help us develop a network which enables vehicles with varying levels of connectivity and autonomy, and which help us understand our evolving role. This is likely to include:

- working with vehicle manufacturers on the flow of data and information to and from CAVs
- ensuring our smart motorways are suitable for regular use by automated vehicles to meet government's wider policy objectives
- reviewing the suitability of trunk A-roads for regular use by automated vehicles, without the need for major upgrades to their physical infrastructure
- innovating new surfacing or construction materials and ways of working, to improve scheme efficiency and effectiveness
- creating guidance or standards that local authorities can use to bring autonomy to their networks

As we look to the future, we know we will need to adapt to meet evolving mobility demands. Over the second road period, we will prioritise projects which advance new customer relationships and offer customers choices over different transport modes.



Preparing for the third road period

We undertake robust research around potential changes to our network. Alongside this, we constantly engage with customers and stakeholders to understand how our network could serve them better – in the short, medium and long term. Building on our findings, we are developing a steady and flexible pipeline of future work. This will help us provide a range of options to support ministerial decision making, carefully progress preferred schemes and ensure we are ready for the third road period (2025-2030). It will also help us build supply chain stability and enable efficient, cost-effective delivery.

Developing our pipeline

Wider development

We have allocated £347 million of our funding over the second road period for wider development. This work will help us understand the demands that will be placed on us and our network in the future, a crucial part of our planning. This will include looking strategically at known issues on our network and undertaking research on future customer needs. We will also work closely with DfT to consider future changes to the extent of our network. This will be crucial to our understanding and will form part of planning for the third road period.

We will develop potential schemes through our programme of existing, and new, strategic studies and route strategies, as well as through specific areas of research. We will collaborate with Transport Focus and ORR to ensure that our work delivers what our customers need and want.

We will also work with stakeholders, such as sub-national transport bodies and local authorities, to understand their priorities and the schemes they are developing in parallel. This would include local development plans.

Government have, for example, investigated the potential for a new high-quality link road between the M1 and M40, which could support their ambition for further growth around the Oxford to Cambridge Arc. We have paused development of this scheme while we investigate other potential projects that could support government’s ambition, while also benefiting those who live and work in the local area. Using our route strategies approach, we will work with the Ministry of Housing, Communities & Local Government, as well as local partners, to identify the role transport can play alongside the proposed economic and housing growth ambitions for the area.

Our planning will need to take into account Nationally Significant Infrastructure Projects that could impact on the SRN. We will, for example, work closely with HS2 to minimise the impact of construction and protect our network’s long-term capacity, safety and operability. We will coordinate our own enhancements and renewals schemes, using our knowledge of these wider projects to reduce disruption for our customers.

Developing our pipeline schemes

Working closely with DfT, we have identified over 30 schemes for consideration for the third road period, partly informed by our existing route strategies process.

Over the second road period, we will prioritise schemes for development, considering value for money, affordability and our strategic objectives. We will advance our pipeline

schemes at least one stage through the project control framework and, in many cases, significantly further. At each stage, we will review whether the schemes are suitable for further development. Through this process, we will seek to develop a programme which is appropriately balanced across regions, benefits and size.

For flexibility, we have included schemes which could be taken forward quickly and be ready for construction late in the second road period, if required. Our list of proposed schemes can be found in Annex D.

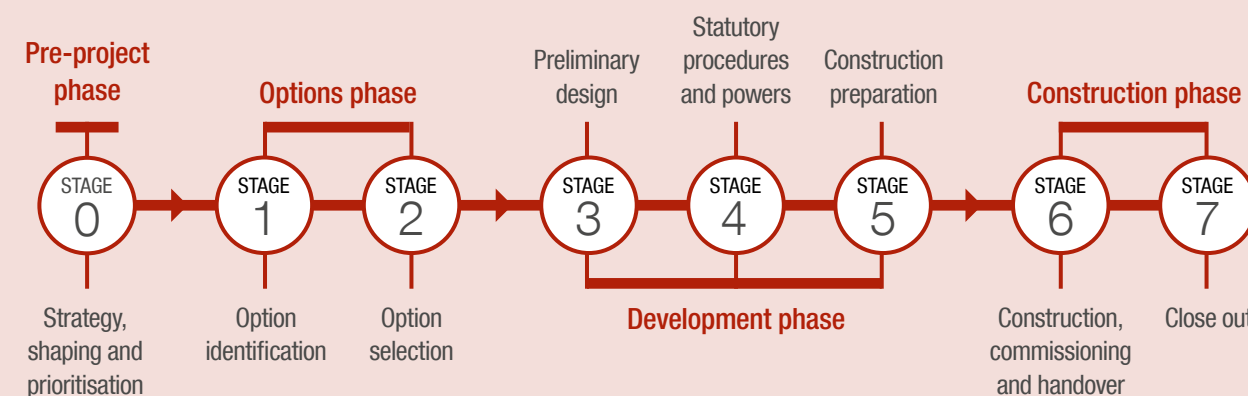
We will manage our pipeline using existing governance procedures. To maintain transparency, progress and changes will be reported in our annual *Delivery plan update*, which is subject to ministerial approval.

Development Consent Orders

A Development Consent Order is the means of obtaining planning permission for Nationally Significant Infrastructure Projects across five categories: energy, transport, water, waste water and waste. The process is run by the Planning Inspectorate.

The project control framework

Our major projects are governed by a rigorous process across four phases and eight stages:



How we run our network

We operate in a continually evolving external environment, delivering an increasingly challenging set of targets. To provide our customers with the best service, and to deliver on our commitments over the second road period, we will need to invest in our people and our organisation. We will need to develop new in-house skills and capabilities, and further improve our systems and processes. Over the next five years, we will increase the ambition and delivery of our day-to-day operations, while also managing our PFI consortia and delivering protocol services on behalf of DfT.

Progress over the first road period

Our *Highways England 2020* (HE2020) plan focused our efforts on establishing the capabilities needed to deliver our first road period commitments. We increased headcount to enable our transition to a government-owned company and to deliver our increasing enhancements programme. We designed and implemented a new organisational structure across all our regional teams, building a foundation for consistent and standardised ways of working. We started to take on direct responsibility for the maintenance and operations of our roads, and introduced rigorous controls around our expenditure. We constrained spend and limited headcount on activities not directly related to front-line delivery, enabling us to invest more in front-line services.

In 2018, we benchmarked our corporate support services against similar organisations. This exercise confirmed that our corporate functions were in line with industry standard for the total cost, headcount and output of our organisation.

Our plans for the second road period

Building on what we have achieved to date, we want to develop an agile workforce that can adapt to meet our current and future needs. Our internal plan for the second road period, *Highways England 2025* (HE2025), will help us create integrated ways of working and build capability and maturity in our core functions. It sets intermediate milestones which will direct our development in a clear and scalable way. In this plan, and in our supporting strategies, we set out our focus across a broad range of areas, including:

- attracting, recruiting, developing and retaining talented people
- processes and procedures
- standards and guidance
- workplace and operational estate
- information technology

As we have in the first road period, we will also manage our PFI consortia and deliver protocol services.

Attracting, recruiting, developing and retaining talented people

To make our organisation a great place to work, we must attract, develop, reward and recognise our people for the contribution they make. We want an inclusive culture where our people feel motivated, engaged and proud to work for us. We believe that accountable leaders, equipped with the right tools and skills, will help empower our people and build high-performing teams. By helping our people reach their potential, we will gain the skills and capability we require to meet the needs of our business, now and in the future.

Our *People strategy* is built around the following key themes:

- A great employee experience
- Right people, right place, right skills
- Accountable leadership
- Rewarded for high performance
- Engaged and motivated colleagues
- A diverse and inclusive culture

In our *People strategy*, under the themes of 'Right people, right place, right skills' and 'Accountable leadership', we describe how we will:

- become a career destination, offering people the opportunity to develop themselves whilst making an impactful contribution to connecting the country
- provide a great candidate experience that people would recommend
- achieve a healthy balance of internal succession and external hiring

- increase our internal workforce mobility, both for career development and identifying opportunities for displaced individuals to reskill and redeploy into different career paths
- understand the professional, technical and operational skills we require, and develop or recruit the required capability in these areas
- support all our people by providing access to the right knowledge and skills so they can perform their roles safely whilst delivering for our customers
- provide our people with career development tools and visibility of potential career paths from their current roles
- place the ownership of people's careers and development in their own hands
- recognise people's potential and provide career opportunities to support those who live our values and behaviours
- develop and retain the knowledge and skills we need to deliver as an organisation, whilst bringing new ideas and capabilities from the widest possible talent pools
- undertake strategic workforce planning to meet the future needs of our business
- grow capability and talent through emerging talent pipelines, like graduate and apprentice schemes or returners programmes, and by giving all our people access to high-quality learning and development from day one
- developing effective leadership and people management skills across our organisation
- provide expertise in organisation design, development and change management
- develop approaches to support leadership and effective management through times of change

We are building an inclusive culture that encourages, celebrates and supports diverse voices, and reflects the communities we work in. We want to recognise and develop the potential of a diverse talent pool and enable all our people to bring their whole self to work.

We will work with schools to encourage young women to consider engineering and other roles in our sector. It is important for us to build on our early talent programmes, where 38% of participants are female graduates and apprentices. We also want to improve the gender split in our science, technology, engineering and mathematics schemes.

We will develop our networks, such as our Leading Women network, and initiatives such as our Returners programme, which helps us attract new people. This has been recognised by the Employers Network for Equality & Inclusion, Working Mums and Mumsnet, and has a 95% retention rate into permanent roles. We will also invest in wider programmes, such as our Armed Forces programme.

We want a diverse supply chain with the necessary skills, resources and capabilities. We will require our suppliers to demonstrate how they meet our equality, diversity and inclusion objectives. Specifically, we will ask them to:

- create inclusive working practices, cultures and environments that enable everyone to perform to their full potential
- consider and value the diverse needs of our customers and neighbouring communities at all stages of our work
- develop wider supply chain capability around equality, diversity and inclusion

We are working across the sector with the Strategic Transport Apprenticeship Taskforce to support delivery of the commitments in government's *Transport infrastructure skills strategy*. During the first road period, we recruited over 300 apprentices and graduates in key capability areas, such as digital, project management, operational planning, commercial, finance and engineering. We plan to further develop this pipeline during the second road period, focusing on higher and degree-level apprenticeships. We have encouraged our supply chain to create apprenticeship opportunities through contractual requirements. During the first road period, our supply chain provided 765 apprenticeships across 40 business areas. We will build on this during the second road period and report to DfT.

Processes and procedures

We will set out our vision for all our processes, ranging from our strategic asset management plans to how we control what activities happen on our network. We will work towards creating clear, consistent and repeatable processes that translate asset and customer needs into effective interventions.

We will simplify and streamline our current processes and policies, empowering our people to take ownership of and be accountable for decision making. We will establish new, Lean end-to-end processes, procedures and ways of working. By 2025, we will use innovative commercial arrangements and partnerships to access the services and capabilities we need.

With improved digital capabilities, we will deliver our road network activities through more efficient and safer design and construction methods. Working with our supply chain, we will further embed digital design and off-site manufacture in our infrastructure delivery.

This will reduce customer disruption through having fewer lane closures, and ensure our people spend less time working on a live network. We will work with small to mid-size enterprises to explore innovative solutions for on-site automation and robotics that deliver safer and more efficient working practices.

Standards and guidance

We issued an updated *Design manual for roads and bridges* in 2019-20, and we will provide ongoing development of standards and guidance for the country's roads sector. We will collaborate with government, partners and other interested parties to deliver government's *Transport infrastructure skills strategy*.

We will lead an update to the Highway Code to provide more guidance for motorists on smart motorway driving, including emergency area signage. This will require close working with DfT and the Driver and Vehicle Standards Agency. We expect the updated Highway Code to be published by March 2022.

In March 2020, we signed a partnership agreement to unite with the independent recovery industry. The agreement sets out several initiatives. These include identifying opportunities for how we can support recovery operators' safety through educational material and information promoting safe working practices on the SRN.

We will undertake a review of our current touchpoints and activities with the recovery industry, and develop a plan for improving engagement and partnership working by September 2020.

Workplace and operational estate

Our accommodation footprint has grown over the first road period to meet the demands of Asset Delivery and partnership working with our supply chain.

Our *Workplace and location strategy* sets out five principles that we consider as part of any estate decision. This helps us create a flexible and fit-for-purpose estate that caters to the needs of its users rather than taking a one-size-fits-all approach.

Over the second road period, we will stabilise our needs around our estate. Where possible, we will create genuine choice in how and where our people work. Our facilities management teams will deliver services to enable our people to work in a more flexible manner. We anticipate that, in the later years of the second road period, we will have more people collaborating in fewer spaces, leading to a reduction in the number of buildings we need. This will help us connect our people across fewer locations, develop flexible operating models and adopt smart working principles, as described in the *Government estates strategy*.

Information technology

We have developed our *Information vision and strategy*, which we will use to guide our delivery in the second road period. In our strategy, we set out how we will connect the country by first connecting ourselves.

We have four primary objectives:

- Harnessing the passion of our people to innovate and realise value from information
- Treating information as an asset and a means of achieving our strategic objectives
- Building advocacy with our suppliers, stakeholders and customers by sharing trusted information
- Using information to shape our future role as a great company

Our strategy recognises that transport is becoming a technology business, driven by data. To capitalise on this change, we will support the development of new transport solutions, new ways of using digital technology in design, and better ways of using our data and information.

Over the second road period, we will, for example, improve our data analytics capability. This will help us make informed decisions to increase safety, reduce operating costs and drive efficiencies. We also recognise that providing more accurate, real-time information directly to our customers will help them make informed travel decisions. We will therefore invest in building our data-to-intelligence services and building an open-data architecture. This architecture will drive innovation and improve our ability to manage how we use and extract value from our data. We will improve our data and information governance, building greater confidence that what we hold is kept safe and used ethically.

We will make our data and insights accessible and share this information even more widely, as permitted by data processing legislation. We will, for example, collaborate and share data with local highway authorities.

This will help our customers have the information they need to make decisions about their whole journey. It will also help us make sure that the things we do on our network do not negatively impact on local roads, reducing congestion and delays.

We will use innovative technology to support our teams, improve ways of working and run pilots and trials, while maintaining safety and service levels.

PFI funding

We currently operate 11 design, build, finance and operate contracts, awarded to the private sector through PFIs. These relate to roads which are funded and managed by private companies for a set period of time. Such contracts account for approximately 10% of the road miles in our network and they have delivered around £2 billion of upgrade works. Our objectives for each PFI are to:

- ensure that the project is designed, maintained and operated safely and satisfactorily
- minimise adverse impact on the environment and maximise benefit to customers
- transfer the appropriate level of risk to the private sector
- promote innovation in technical and operational matters, and in financial and commercial arrangements
- spread the public sector funding requirement over a longer operating period, making the asset more affordable and enabling economic benefits to be realised earlier

The current contracts cover capital enhancements, capital renewals and maintenance and operational activities. The roads are:

- A1(M) Alconbury to Peterborough
- M40 Denham to Warwick
- A50/A564 Stoke to Derby Link
- A249 Stockbury (M2) to Sheerness
- M25 Orbital
- A30/A35 Exeter to Bere Regis
- A417/A419 Swindon to Gloucester
- A1 Darrington to Dishforth
- A19 Dishforth to Tyne Tunnel
- A69 Carlisle to Newcastle
- M1/A1 Lofthouse to Bramham Link

We pay unitary charges to the PFI companies which vary for inflation, traffic volumes and discretionary additional works. The services provided by the existing PFI contractors form an integrated part of our network. With the exception of discretionary works, payments are contractual.

Eight of the PFI contracts will end by 2026-27. Given that this is the first wave of such projects to finish, it is vital that we effectively manage and monitor these contracts through to completion, using a robust methodology. Handback occurs during the last five years of the contract. We are already working closely with the PFI companies to ensure they meet their contractual obligations and there is sufficient time to deliver their renewals programmes. Our approach has been shared with the Infrastructure and Projects Authority as part of their wider review of PFIs.

The remaining three PFI contracts will end by 2039-40.

Protocols

As well as our day-to-day operational activities, we also perform protocols services on behalf of the Secretary of State. These cover functions or activities which are not core to our role as a strategic highways company. As we have in the first road period, we will deliver the following protocols:

Abnormal loads

We are responsible for authorising the movement of abnormal loads within Great Britain and for planning routes for the largest and heaviest abnormal loads within England and Wales. This includes managing and maintaining the electronic service delivery system which allows online management of roads and structures for abnormal loads movement.

Dartford Crossing free-flow

We will use agreements between government and appointed contractors to performance manage Dart Charge collection and enforcement management services. The income from Dart Charge will accrue directly to DfT.

Dartford and local authority pension schemes

We are responsible for discharging the liabilities from DfT's commitment to fund any future deficits for these pension schemes.

National salt stocks

We will maintain a strategic salt stock as an emergency reserve for local highway authorities. We will also manage the allocation of the salt and coordinate its collection by local authorities.

M6 Toll

We will be responsible for fulfilling government's M6 Toll concession arrangements, including on road signage and incident liaison.

Severn River Crossings

We will operate and maintain the M4 and M48 Severn River Crossings on behalf of the Secretary of State. We will ensure effective operation, service and safety continuity of these national assets.

Technical regulations

We will continue the ongoing development and maintenance of standards, guidance and specifications for all works on the motorway and all-purpose trunk road network.

Deliverables outside RIS2

There will be a requirement for us to deliver additional cross-government projects. Investment for such projects would be outside the £27.4 billion from RIS2, with the funding covered separately by the relevant government department or local authority.

The confirmed projects for 2020-21 can be found in Annex C.

Efficiency

Over the past five years, we have found ways to work more efficiently in every area of our business. From resurfacing our roads to refinancing projects, building bridges to planning projects, we are already seeing the benefits of better working. During the second road period, we have challenged ourselves to deliver even better value to the taxpayer. We will build on the efficient ways of working from the first road period, understanding the need for efficiency in procuring and delivering new assets as well as in operating and maintaining existing assets.

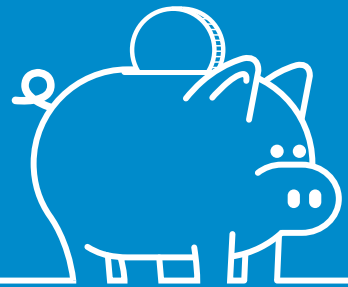
Efficiency KPI

We have an ongoing efficiency KPI to demonstrate value for money, which is set and agreed with government for each road period. We aim to deliver £2.23 billion of efficiencies over the second road period, and our funding takes these efficiencies into account.

Measuring success

Efficiency target

£2.23bn



This target is intended to be stretching yet achievable without jeopardising the safety of people working or travelling on our network, or the long-term viability of our supply chain. Our aim is for this KPI to be driven by project teams and suppliers, and to be measured simply and consistently, without scope for misinterpretation. This will help us embed positive behaviours and performance around efficiency.

Best practice

Our efficiency approach is based on best practice and compares well with other organisations or sectors. Although we have already made significant progress, we recognise the need for continuous improvement and further savings.

We believe that it is important to share what we learn, for example around modern and innovative working practices.



Through our Innovation and modernisation fund, we have the potential to help establish the UK's position as a leader in innovation. Our procurement frameworks already encourage our supply chain to share innovation. Through initiatives such as the Infrastructure Client Group we will collaborate with government and other parties to share best practice and improve delivery. We will drive continuous improvement, as detailed in the government's *Transport infrastructure efficiency strategy*. We are already working closely with DfT, Network Rail, HS2, Transport for London and others to benchmark commercial capability. This will help develop good practices and deliver efficiencies across all organisations.

Operations and maintenance

Our delivery and efficiency targets will be stretching as we work to achieve more with a similar funding level. We will match inflationary increases in costs with efficiencies in how we work, the processes we follow and the technologies we use.

We will finish rolling out Asset Delivery. This approach places increased focus on targeting investment and managing risk, two critical processes that have the potential to deliver significant efficiencies. Through Asset Delivery, we will further improve our asset knowledge and increase our control over schemes and the planning and scheduling of our activities.

Through our Operational Excellence programme we have already challenged conventions around delivery, and have achieved efficiencies during the first road period. As part of this programme, we are already working across our on road service to deliver even more. We will train more of our traffic officers to review our assets as part of their safety patrols. We will use performance data about our on-road service to develop deployment strategies from new and existing traffic officer base sites.

In the second road period, Operational Excellence will help us take advantage of joined-up working opportunities, and design and embed sustainable change.

Renewals

Our plan for how we intend to deliver efficiency savings in this area is based on a longer-term view of renewals. We will work to deliver strategically planned interventions at the right time, using risk-based forecasts and improving procurement, capability and processes.

Our detailed asset information and condition data will help us better predict the volume of materials required to deliver our yearly commitments, as well as plan over the longer term. We will use this data to improve our programme, and we will work with suppliers to improve planning and management, lowering our purchase costs.

Our Lean programme is focused on the areas that provide the biggest benefit for our second road period programme. For example, we will increase output from surfacing roads through the night.

This will reduce the time spent on the network, decreasing traffic management and costs, as well as disruption. Another Lean focus area is around reducing the costs of replacing our safety barriers. We are in the process of identifying more efficient design, procurement and installation methods.

Our inspection and planning teams will also work together to make sure that, when we undertake renewals activity, we reduce the disruption for our customers and deliver value for money. It is important that we time our renewals work appropriately. For example, by having a clear understanding of our assets' needs, we can avoid remedial works that keep the condition of our assets stable yet disrupt customers more often. Instead, we will group renewals schemes together and coordinate with the delivery of larger schemes, using the same occupancy of the road.

We have already identified many large programmes of work which will benefit from specialist supply chain partners, delivering asset replacement as a national programme. This will drive efficiencies in scale and productivity.

Enhancements

Schemes committed during the first road period

We have already achieved efficiencies in the schemes developed and delivered during the first road period. Most of our Regional Investment Programme schemes have now progressed to detailed design or construction. Further efficiencies will come from:

- changes to how we procure
- applying Lean practice on site
- accelerating delivery of schemes

We have revised our procurement approach to develop Regional Delivery Partnerships, six-year design and build contracts aligning all parties' interests and where safety is paramount. Through these partnerships, we have created a delivery model designed to provide:

- distinct regional programmes of work, driving delivery efficiencies and increasing predictability
- opportunities for upfront awards of work to suppliers, allowing them to build capability and capacity
- performance based allocation of work, rewarding suppliers that deliver best value and removing the labour-intensive secondary competition approach
- a National Contingency Framework, outlining alternative means of procurement where performance-based allocation is not possible (either due to poor performance by suppliers, lack of sufficient performance data or supplier failure)

- timely handover of accurate asset information by suppliers during scheme close down, helping us adopt data driven asset management
- increased financial incentives to deliver below the post efficient budget
- technical advisors to manage the early options phases of scheme development, and then monitor and assure delivery
- delivery integration partners to manage the construction of schemes on a design and build basis

Through this new delivery approach we expect to generate considerable benefits for all parties over the second road period. These partnerships also address the challenges set out by DfT in the *Transport infrastructure efficiency strategy*.

New schemes for the second road period

The most significant efficiency savings are found in the early design and concept stages of road schemes, as opposed to during construction.

We will look to identify efficiencies in the early stages of our new enhancement schemes when we will have the opportunity to influence the cost. As we mature as an organisation, we will introduce improved ways of working for our schemes by:

- adopting new methods of construction, improving all aspects of delivery and logistics
- increasing our use of standardised components and processes, developing off-site modular solutions where appropriate
- implementing digital working practices through our Rapid Engineering Model to improve data quality
- developing an integrated supply chain and improving resource usage and efficiency



Smart motorways

Our Smart Motorways Programme has led the way with innovation in digitally enabled design and construction. We have shortened the time it takes to construct smart motorways, and we will make further reductions over the second road period, without compromising safety.

We will take advantage of developments in digital technology and introduce the next generation of digital delivery, including using the Rapid Engineering Model in construction and handover.

We will deliver all new smart motorways through our alliance model, which will be implemented in 2020. This will allow us to partner with all the suppliers we need to design, assemble and manage smart motorway technology.

As well as increasing the potential for stable and repeatable delivery, it will enable us to align objectives and outcomes, reduce design costs and minimise construction time.

It also provides the vehicle to streamline planning and deliver standardisation and technical innovation.

After forming the Smart Motorways Alliance, we will produce a plan that will detail how we will realise the benefits outlined in the final business case to improve safety, customer experience and delivery.

Internal capability

Our greatest resource is our people, and they already play an integral role in achieving efficiencies, whether through engaging with our values or being open to creativity, change and development.

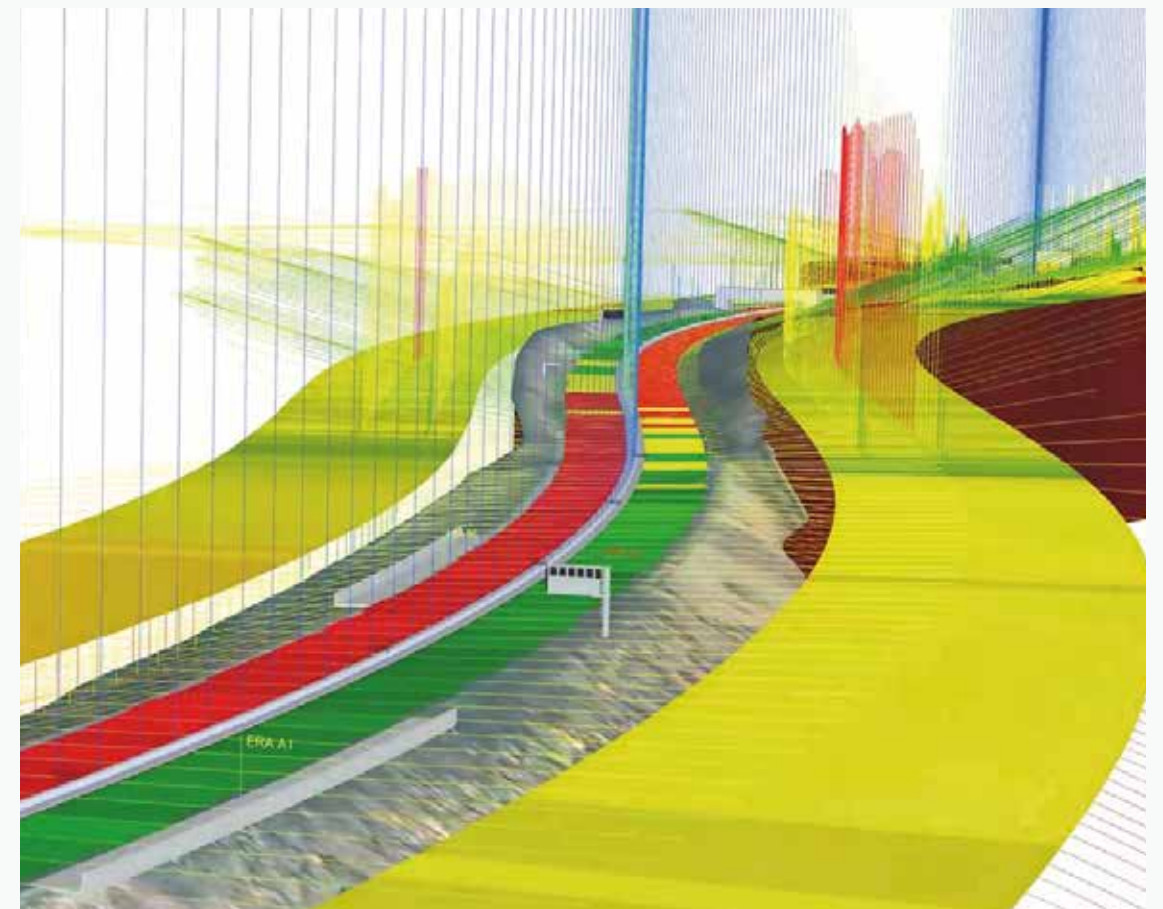
We have already strengthened our internal capability, creating a strong foundation for efficient delivery over the second road period. We have, for example, introduced commercial, legal, regulatory and project management skills from outside the sector. This will help us bring about culture change and better manage contracts across all our programmes. Our improved in-house programme management capability will also help us improve planning and scheme delivery, as well as support our work with stakeholders, communities and our supply chain.

We will implement a range of internal development programmes across the second road period, as described in the 'How we run our network' chapter of this document. These will ensure that our organisational shape and capabilities can help drive efficient delivery over the second road period and beyond.

Rapid Engineering Model

Our Rapid Engineering Model enables quicker development of our network through automatic digital design. Three-dimensional topographic data is analysed alongside environmental data to help identify opportunities and risks within a specific project, or along an entire asset in our network. This has reduced design time from months to weeks, and means that scheme options can be produced and assessed much faster.

We are digitising the *Design manual for roads and bridges* to future proof our standards. This digital manual will enable the further development of our Rapid Engineering Model. The next generation of the model will reduce the cost and delivery time for major schemes, using data analytics and modular construction techniques. By providing a data-driven approach to asset management, the model will also support business operations.



Risk management

While delivering any infrastructure project is not without risk, we believe our investment programme is ambitious and achievable. This has been confirmed by the ORR in their independent *Efficiency review*. Using lessons learned from the past five years, we will have opportunities to manage risk and uncertainty more effectively over the second road period.

In the first road period, we refined our original programme, cancelling or postponing schemes where the costs outweighed the benefits. This accounted for roughly 10% of our portfolio. In the second road period, as more of our enhancement schemes will be nearer to construction, we expect there will be less cost variance.

With more schemes in construction, we will absorb many pressures as business as usual risks. In some areas, we will manage these pressures by prioritisation, undertaking different interventions or additional targeted cost reduction, where this does not impact on committed outcomes.

We will also address risks through better quantification of and provision for uncertainty. We will have a contingency within our funding for unexpected risks in the form of a centrally managed risk reserve of £1.6 billion. This represents 11% of the value of our capital investments, to which this contingency applies, across the five-year road period.

We will centrally manage this portfolio-level risk reserve, and set challenging cost targets that exclude this reserve to individual projects and our supply chain. This approach is consistent with industry best practice, and it was supported by the ORR in their *Efficiency review*, published in March 2020. We will regularly report the operation of our risk reserve to DfT and ORR, and set more robust baselines and change control.

The scale of our Lower Thames Crossing scheme means that we will hold its risk provision outside of the centrally-managed risk reserve. This is in line with guidance on projects of this size issued by the ORR and the Infrastructure and Project Authority.

Around 90% of our committed schemes in the second road period have progressed to preferred route announcement or single option design stage. As a result, we have more confidence in scope, schedule and cost assumptions. We also have greater appreciation of known risks.



Ground investigation works, Lower Thames Crossing project, Kent

In planning for the second road period, we have worked from an early stage to implement effective project and governance controls across our enhancements capital investment portfolio. Our improvements to our systems and capabilities, coupled with the effective use of central contingency, has given us confidence that we are far better placed to deliver what remains a challenging investment programme.

Our plans for the second road period were developed before the outbreak of Covid-19. If, over time, Covid-19 means we need to update our plans, we will set out relevant changes in our annual *Delivery plan update*.

Annexes



Annex A: Funding table

£m	2020-21	2021-22	2022-23	2023-24	2024-25	Total
Operations and maintenance (Opex)	1,034	1,015	1,037	1,050	1,119	5,254
Operations and maintenance (Capex)	355	317	217	318	226	1,434
Renewals	676	765	844	888	935	4,108
Enhancements	2,460	3,081	2,995	2,918	2,722	14,176
Designated funds	182	180	185	200	189	936
RP3 preparation and development	31	43	81	92	99	347
How we run our network (Opex)	167	145	162	171	174	820
How we run our network (Capex)	66	63	52	69	33	283
Total	4,973	5,609	5,572	5,708	5,496	27,358

Table 1 Funding table for 2020-25

Note: Some activities are classified differently in this table compared to the Statement of Funds Available (SoFA).

This Delivery plan has been set out according to the Highways England capital baseline. As agreed with government, this plan will be delivered within the £27.358 billion set out in RIS2, with the need to revise the allocation of funding in each year as shown in this table. It is planned that the profile of funding should be updated later in 2020-21, when the impacts of Covid-19 are fully understood.

We have been allocated additional funding of £81 million for deliverables in 2020-21 outside the scope of RIS2. Further details can be found in Annex C.

Annex B: Performance framework

Over the first road period, ORR monitored our performance using the performance specification in government's RIS1. DfT updated this specification for the second road period, and we have also prepared our own performance framework.

Our performance framework includes DfT's performance specification, as published in RIS2, as well as what we will deliver over the second road period. It collates all our commitments into one place.

Further details of the performance measures against which we will be monitored can be found in our *Operational metrics manual*, which also outlines our plans for metrics that are currently in development.

Performance outcomes

We have agreed six performance outcomes with DfT for the second road period:

- 1 Improving safety for all
- 2 Providing fast and reliable journeys
- 3 A well-maintained and resilient network
- 4 Delivering better environmental outcomes
- 5 Meeting the needs of all users
- 6 Achieving efficient delivery

Key Performance Indicators (KPIs)

Unique ID	Metric	Target	Target type	Unit	2020-21 performance target	2021-22 performance target	2022-23 performance target	2023-24 performance target	2024-25 performance target
Outcome: Improving safety for all									
1.1	The number of people killed or seriously injured (KSI) on the SRN	Ongoing reduction in the number of people KSI on the SRN to support a decrease of at least 50% by the end of 2025, against the 2005-09 average baseline	Achieve	Number		Ongoing reduction			At least a 50% reduction in KSIs by the end of 2025, against the 2005-09 average baseline
Outcome: Providing fast and reliable journeys									
2.1	Average delay	Performance to be no worse at the end of the second road period than it is at the end of the first road period	Ambition	Seconds per vehicle per mile	N/A	N/A	N/A	N/A	Ambition of being no worse than at the end of the first road period
2.2	Network availability	Achieve 97.5% lane availability in 2020-21	Achieve	%	97.5% (against first road period metric)	Existing metric will be replaced by a new expanded metric with target based on baselining work undertaken during 2020-21			
2.3	Incident clearance rate*	86% of motorway incidents cleared within one hour	Achieve	%	86%	86%	86%	86%	86%
Outcome: A well-maintained and resilient network									
3.1	Pavement condition (road surface)	Percentage of the network (as defined by Highways Agency Pavement Management System, excluding DBFOs) requiring no further investigation to be maintained at 95% or above	Achieve	%	95%	95%	Target for year 3 onwards will be based on the concept of road surface in good condition and determined through parallel running using the new metric trialled in the first road period		

*We will continue to monitor this metric to understand any impacts from the smart motorway stocktake.

Unique ID	Metric	Target	Target type	Unit	2020-21 performance target	2021-22 performance target	2022-23 performance target	2023-24 performance target	2024-25 performance target
Outcome: Delivering better environmental outcomes									
4.1	Noise	7,500 households benefiting from noise reduction in mitigated 'noise important areas', defined by Defra, using funding from the Environment and wellbeing fund during the second road period	Achieve	Number	N/A	N/A	N/A	N/A	7,500 households benefiting from noise reduction in mitigated noise important areas
4.2	Biodiversity	Achieve no net loss of biodiversity across all Highways England activities by the end of the second road period	Achieve	Biodiversity units	N/A	N/A	N/A	N/A	No net loss over Road Period 2
4.3	Air quality	Bring links agreed with the department and based on the Pollution Climate Mapping model into compliance with legal NO ₂ limits in the shortest timescales possible	Achieve	Number of links	Following periodic reviews of the Pollution Climatic Mapping model by DfT and Joint Air Quality Unit, they will recommend the number and locations of existing sections of the SRN (links) likely to exceed the annual mean NO ₂ legal limit value. We will undertake a detailed assessment of those links and, after agreement of the outcomes with DfT and Defra, we will, where required, introduce measures to help support compliance in the shortest timescales possible				
4.4	Highways England carbon emissions	Reduce Highways England's carbon emissions as a result of electricity consumption, fuel use and other day to day operational activities during the second road period to levels defined by baselining and target setting activities in 2020-21	To be defined by target setting activities in 2020-21	To be defined by baselining and target setting activities in 2020-21	N/A creating baseline	Target to be defined by baselining and target setting activities in 2020-21			
Outcome: Meeting the needs of all users									
5.1	Road user satisfaction	Achieve an 82% road user satisfaction score in 2020-21 and 2021-22, with year-on-year increases in following years	Achieve	%	82%	82%	Road user satisfaction targets for post 2021-22 will be reviewed during 2021-22		
5.2	Roadworks information timeliness and accuracy	Achieve 90% accuracy of roadworks information seven days in advance of works by 2024-25, with an increasing trajectory of improvement through the second road period from the level of performance achieved by the end of the first road period	Achieve	%	Increasing trajectory of improvement through the second road period from the level of performance achieved by the end of the first road period				90%
Outcome: Achieving efficient delivery									
6.1	Total efficiency	Demonstrate efficiency of £2.23bn*** of capital and operational expenditure by the end of the second road period	Achieve	£bn	£233.3m**	N/A	N/A	N/A	£2.23bn

Table 2 KPIs

**This is an indicative efficiency milestone and not a performance target.

***We have agreed a revised efficiency target with government to reflect changes to the Smart Motorway Programme.

Performance Indicators (PIs)

Unique ID	Metric	Unit
Outcome: Improving safety for all		
1.2	The total number of people killed or injured on the SRN	Number
1.3	The number of non-motorised and motorcycle users killed or injured on the SRN	Number
1.4	The number of injury collisions on the SRN	Number
1.5a	The accident frequency rate for Highways England staff	Accidents per 100,000 hours worked
1.5b	The accident frequency rate for Highways England supply chain employees	Accidents per 100,000 hours worked
1.6	The % of traffic using iRAP 3 star or above rated roads	%
Outcome: Providing fast and reliable journeys		
2.4	Delay on smart motorways	Seconds per vehicle per mile
2.5	Delay from roadworks	Minutes per hour travelled
2.6	Journey time reliability	Seconds per vehicle per mile
2.7	Delay on gateway routes	Seconds per vehicle per mile
2.8	Average speed	Mph
Outcome: A well-maintained and resilient network		
3.2	Structures condition	Average condition score/critical condition score/% of structures rated 'good' in opinion of inspector
3.3	Technology availability	% of time when available and functioning
3.4	Drainage resilience*	% length of carriageway that does not have an observed significant susceptibility to flooding
3.5	Geotechnical condition	% length in good condition
Outcome: Delivering better environmental outcomes		
4.5	Supply chain carbon emissions	Tonnes of CO _{2e} and tonnes of CO _{2e} /£m
4.6	Condition of cultural heritage assets	Condition score
4.7	Water quality	Km of watercourse enhanced
4.8	Litter	% of SRN where litter is graded at A or B
Outcome: Meeting the needs of all users		
5.3	Timeliness of information provided to road users through electronic signage	Average time (mins:secs) to set manual signs and signals on motorways
5.4	Ride quality	% of pavement asset delivering ride quality consistent with the three-metre Enhanced Longitudinal Profile Variance value in Highways England's standards
5.5	Working with local highways authorities to review diversion routes for unplanned events	% of local highway authorities engaged with
Outcome: Achieving efficient delivery		
6.2	Cost performance index and schedule performance index	Index

*From 2024/25 it is intended that this metric will be weather normalised.

Descriptive commitments

Commitment description	Completion date
Outcome: Improving safety for all	
Work with Transport Focus to investigate a rate-based measure for non-motorised user casualties	Feasibility to be completed during the second road period*
iRAP baseline to be established in 2021, and 2025 forecast developed, based on latest iRAP methodology	Development to be completed year 2
Outcome: Providing fast and reliable journeys	
Working with Transport Focus, investigate the development of new metrics on journey time reliability which reflects more accurately road users' understanding of reliability, and delay in roadworks	Feasibility to be completed during the second road period*
Investigate new PIs on delays from incidents and delays on the local road or SRN boundary, and an alternative performance measure for smart motorways operation to keep track that these roads are delivering their intended journey-time related objectives	Feasibility to be completed during the second road period*
Outcome: A well-maintained and resilient network	
Implement the Asset Management Development Plan for the second road period	Annual deliverables
Investigate an improved structure condition metric during the second road period, and an alternative indicator for technology assets	Feasibility to be completed during the second road period*
Outcome: Delivering better environmental outcomes	
Investigate, and as appropriate develop, new environmental metric(s) informed by the natural capital approach	Feasibility to be completed during the second road period*
Investigate and assess incorporating into new and existing contracts air quality standards for supply chain vehicles deployed on Highways England work, and associated reporting requirements. A more detailed timetable for these investigations will be produced in year 1 of the second road period, as well as potential implementation opportunities identified by that stage	Year 1/End of the second road period
Outcome: Meeting the needs of all users	
Review Strategic Roads User Survey performance in year 2 of the second road period to determine the road user satisfaction targets for post 2021-22	End of year 2
Develop with Transport Focus during the second road period a measure of ride quality which reflects road users' experience of the network	End of year 2
Investigate expanding the scope of the timeliness of electronic signage information PI to potentially include the time taken to adjust and clear signs	Feasibility to be completed during the second road period*
Work with Transport Focus to develop satisfaction surveys for cyclists and walkers that can be used, if possible, as the basis of a PI later in the second road period	During/end of the second road period
Work with Transport Focus to develop satisfaction surveys for logistics and coach managers that can be used, if possible, as the basis of a PI later in the second road period	During/end of the second road period
Investigate expanding the scope of the working with local highways authorities PI to include diversion routes linked to planned roadworks	Feasibility to be completed during the second road period*
Outcome: Achieving efficient delivery	
Investigate and look to develop new or improved metrics to monitor cost and schedule for enhancement scheme development and construction, engaging with ORR	Feasibility to be completed during the second road period*

Table 4 Descriptive commitments

* Further stages to be confirmed following reviews

Enhancements

North-east schemes			
Scheme number	Scheme	Start of works	Open for traffic
1	A1 Scotswood to north Brunton	Started	2022-23
2	A19 Testos	Started	2021-22 Q3
3	A19 Norton to Wynyard	Started	2022-23
4	M621 junctions 1 to 7	Started	2022-23
5	A61 Westwood roundabout	Started	2021-22 Q1
6	A1 Morpeth to Ellingham	2022-23 Q2	2024-25
7	A1 Birtley to Coal House	2021-22 Q2	2024-25
8	A19 Down Hill Lane	2020-21 Q4	2022-23
9	A63 Castle Street	Started	2024-25
10	M62 junctions 25 to 30 upgrade dynamic hard shoulder running to all lane running	2021-22 Q4	2022-23

North-west schemes			
Scheme number	Scheme	Start of works	Open for traffic
11	A585 Windy Harbour to Skippool	Started	2023-24
12	M62 junctions 20 to 25*	2022-23 Q4	RP3
13	M6 junction 19	Started	2021-22 Q3
14	A66 Northern Trans-Pennine	2024-25	-
15	A5036 Princess Way	2023-24	RP3
16	M6 junctions 21a to 26	2020-21 Q4	2022-23
17	Mottram Moor Link Road and A57 link road	2022-23 Q4	RP3
18	M56 junctions 6 to 8	Started	2021-22 Q4
19	M60/M62/M66 Simister Island interchange	2024-25	-

*The M62 junctions 20 to 25 has been rescheduled as part of the *Smart motorway evidence stocktake and action plan*.

Midlands schemes			
Scheme number	Scheme	Start of works	Open for traffic
20	A500 Etruria	Started	2020-21 Q3
21	M6 junctions 13 to 15	Started	2021-22 Q2
22	M42 junction 6	Started	2024-25
23	A46 Coventry junctions	Started	RP3
24	M40/M42 interchange	Started	2023-24
25	A45/A6 Chown's Mill junction	Started	2021-22 Q4
26	M1 junctions 13 to 19	Started	2022-23
27	A38 Derby junctions	2021-22 Q2	2024-25
28	M54 to M6 link road	2021-22 Q4	2024-25
29	A5 Dodwells to Longshoot	2024-25	RP3
30	A52 Nottingham junctions	Started	2023-24
31	M6 junction 10	Started	2022-23
32	A46 Newark Bypass	2024-25	-
33	M42 junctions 4 to 7 upgrade dynamic hard shoulder running to all lane running	2023-24	2024-25
34	M6 junctions 4 to 5 upgrade dynamic hard shoulder running to all lane running	2021-22 Q2	2022-23
35	M6 junction 5 to 8 upgrade dynamic hard shoulder running to all lane running	2022-23 Q4	2024-25
36	M6 junctions 8 to 10a upgrade dynamic hard shoulder running to all lane running	2023-24	2024-25

East schemes			
Scheme number	Scheme	Start of works	Open for traffic
37	A14 Cambridge to Huntingdon	Started	2020-21 Q3
38	A47 Wansford to Sutton	2022-23 Q4	2024-25
39	A47 Great Yarmouth junctions	2023-24	2024-25
40	A47 Guyhirn junction	2020-21 Q4	2022-23
41	A47 north Tuddenham to Easton	2022-23 Q4	2024-25
42	A47 Thickthorn junction	2022-23 Q4	2024-25
43	A47 Blofield to north Burlingham	2022-23 Q4	2024-25
44	A428 Black Cat to Caxton Gibbet	2022-23 Q2	RP3
45	A12 Chelmsford to A120	2023-24	RP3
46	M1 junctions 10 to 13 upgrade dynamic hard shoulder running to all lane running	2022-23 Q2	2023-24

RIS1 scheme A1(M) junctions 6 to 8 rescheduled to a future road period as part of the *Smart motorway evidence stocktake and action plan*.

South-east schemes			
Scheme number	Scheme	Start of works	Open for traffic
47	M4 junctions 3 to 12	Started	2021-22 Q4
48	A34 Newbury to Oxford enhancements	Started	2021-22 Q4
49	M3 junctions 9 to 14	Started	2023-24
50	M27 junctions 4 to 11	Started	2021-22 Q2
51	M25 junction 25	2020-21 Q4	2022-23
52	M25 junction 28	2021-22 Q4	2024-25
53	M25 junctions 10 to 16	2022-23 Q2	RP3
54	M25 junction 10	2021-22 Q4	2023-24
55	M3 junction 9	2023-24	RP3
56	M27 Southampton junction 8	2021-22 Q2	2022-23
57	A27 Arundel bypass	2023-24	RP3
58	A27 Worthing and Lancing improvements	2024-25	RP3
59	A31 Ringwood	2021-22 Q2	2022-23
60	A2 Bean and Ebbsfleet	Started	2022-23
61	M2 junction 5	2020-21 Q4*	2024-25
62	A27 East of Lewes package	Started	2022-23
63	Lower Thames Crossing	2022-23 Q4	RP3

*Start of works date subject to change following recent delays to statutory planning processes.

Excludes RP1 scheme M271/A35 Redbridge roundabout upgrade which was rescheduled to open for traffic mid 2020-21.

South-west schemes			
Scheme number	Scheme	Start of works	Open for traffic
64	A303 Sparkford to Ilchester	2020-21 Q4*	2023-24
65	A303 Amesbury to Berwick Down	2022-23 Q2*	RP3
66	A358 Taunton to Southfields	2024-25	RP3
67	A30 Chiverton to Carland Cross	Started	2023-24
68	A417 Air Balloon	2022-23 Q4	2024-25
69	M4 junctions 19 to 20 and M5 junctions 16 to 17 upgrade dynamic hard shoulder running to all lane running	2022-23 Q2	2023-24

*Start of works dates subject to change following recent delays to statutory planning processes.

Table 5 Enhancements scheme list

Housing infrastructure fund schemes			
Scheme	Region	Start of works	Open for traffic
A120: Tendring/Colchester Border Garden Community	East	2022	2024
M5 junction 10 and link road	South-west	2022	2024
A249: Swale transport infrastructure	South-east	2021	2024
M6: South Lancaster Growth Catalyst – junction 33a	North-west	2024	RP3

These schemes will be delivered by local authorities with our support and are subject to future planning decisions.

Schemes delivered by third parties with a funding contribution from Highways England			
Scheme	Region	Start of works	Open for traffic
A5 Towcester relief road	Midlands	2021-22	RP3
M11 junction 7a	East	2020-21 Q2	2022-23
M55 junction 2	North-west	Started	2023-24
M62 junction 19	North-west	2020-21 Q3	2022-23

These schemes will be delivered by third parties with our support and are subject to future planning decisions.

Renewals

Asset	Number	Unit	Description
Asphalt pavement (road surface)	4,660	Lane miles	Total length of existing asphalt pavement resurfaced
Concrete pavement (road surface)	78	Lane miles	Total length of existing concrete pavement reconstructed and replaced with asphalt surface
Safety barriers (Steel)	957	Miles	Total length of steel vehicle restraint system installed or renewed
Safety barriers (Concrete)	50	Miles	Total length of concrete vehicle restraint system installed or renewed
Significant structures	170	Number	Number of significant structures

Table 6 Key asset renewals 2020-25

Additional monitoring

Area	Description
Sharing best practice	We will collaborate with government and other parties to share best practice and drive continuous improvement as detailed in the Transport infrastructure efficiency strategy
Data and open data architecture	We will invest in building our data-to-intelligence services and building an open-data architecture
Fitting cabling	We will fit cabling alongside our network and use fibre optic cables and digital technology to improve, and future proof, our services
New metrics and reporting	Our Operational metrics manual outlines our plans for metrics that are currently in development. Alongside our published transparency policy, we will continue to update ORR on our approach to data transparency, quality and how we communicate our metrics and performance over the course of RP2

Table 7 Additional monitoring

Protocols

Protocol	Description
Abnormal loads	We are responsible for authorising the movement of abnormal loads within Great Britain and for planning routes for the largest and heaviest abnormal loads within England and Wales. This includes managing and maintaining the electronic service delivery system which allows online management of roads and structures for abnormal loads movement
Dartford crossing free-flow	We will use agreements between the Secretary of State and appointed contractors to performance manage our service providers to ensure the collection of the Dart Charge and enforcement management services. The income from Dart Charge will accrue directly to DfT
Dartford and local authority pension schemes	We are responsible for discharging the liabilities from DfT's commitment to fund any future deficits for these pension schemes
National salt stocks	We will maintain a strategic salt stock as an emergency reserve for local highway authorities. We will also manage the allocation of the salt and coordinate its collection by local authorities
M6 toll	We will be responsible for fulfilling government's side of the M6 toll concession arrangements, including on road signage and incident liaison
Severn river crossings	We will operate and maintain the M4 and M48 Severn River Crossings on behalf of the Secretary of State. We will ensure effective operation, service and safety continuity of these national assets
Technical regulations	We will continue the ongoing development and maintenance of standards, guidance and specifications for all works on the motorway and all-purpose trunk road network

Table 8 Protocols

Designated funds

Fund	Description
Safety and congestion fund	To address safety, congestion and economic development (jobs and housing) issues, striking the right balance to achieve network performance, meet strategic outcomes and fulfil existing commitments
Users and communities fund	To help us understand our customers' evolving expectations and improve the service provided to all users. This fund will support engagement with stakeholders and the collection of actionable insight to deliver improvements on and off our network
Environment and wellbeing fund	To support environmental and community wellbeing outcomes across the SRN. We want our roads to work more harmoniously with the communities that live alongside them, and the built, natural and historic environments that surround them
Innovation and modernisation fund	To exploit the potential that innovation holds to transform our roads by supporting the development of new technologies and working practices and enabling wider rollout once concepts are proven

Table 9 Designated funds definition list

Annex C: Plan for year 1

In this annex, we have summarised the activities we will deliver during the first year of the second road period. Safety, customer service and delivery remain our guiding imperatives and underpin everything we do. We will refresh our plans as part of our annual *Delivery plan update*, although there will be no separate update this year as we are at the start of the road period. We will report on progress in our *Annual report and accounts*.

Overview of delivery in 2020-21

In 2020-21, we will invest over £4.9 billion in our network, working towards meeting our commitments and performance outcomes. Our activities, as detailed over the following pages, include:

- supporting our frontline services to manage incidents effectively
- gathering insight from our customers and, in turn, improving the information we provide
- improving environmental performance and mitigating our impact across operations, maintenance and renewals
- developing information technology systems and starting the delivery of the next generation of traffic management systems (CHARM)
- building on our work so far to roll out Asset Delivery
- delivering renewals activities to safeguard our assets, particularly across the five main asset classes
- starting work on at least six major projects and opening two for traffic
- meeting existing designated fund commitments, and starting to invest through four new funds to increase accessibility, protect the environment and support the nation's economy
- starting development work on our pipeline for the third road period
- undertaking activities to improve how we run our network and support delivery

Operations

Our operational services help our customers travel safely and efficiently on one of the most highly used road networks in Europe. In 2020-21, we will progress a series of initiatives across the following areas:

Keeping our network moving through our frontline services

We will refresh the tools and equipment our traffic officers need to manage incidents effectively. This will include equipment to remove broken down vehicles from live lanes. We will look for ways to reduce the duration of incidents, for example improving how we deal with spillages and improving the lighting we carry in our vehicles.



Supporting better end-to-end journeys

During 2019-20, we implemented a new feedback mechanism, *Every customer has an opinion*, to gather real-time insight from customers about the service they received from our traffic officers at the roadside. During 2020-21, we will extend this across other channels, including our website, to deepen our understanding and help us identify where to focus improvement activities.

In 2020-21, we will adopt our new customer relationship management system across our business, improving our understanding of customers and helping us develop services that meet their needs.

Every day, drivers with a disability make around 200,000 journeys on our network. National disability statistics suggest that there could be a further 600,000 journeys taking place with a disabled passenger. During 2020-21, we will work to reduce the barriers faced by disabled users of our roads. We will, for example, survey motorway service areas to create a detailed assessment of accessibility.

Improving the information we provide to customers

During 2020-21, we will implement a new and improved call handling system. This will enable us to more effectively manage the 40,000 calls per month we receive through our customer contact centre. We will provide customers with the option to self-serve through our improved interactive voice recognition facility. To help customers with hearing difficulties, we will introduce a new video relay service.

We regularly talk to customers to understand their views about the messages we use on roadside electronic devices. As a result, in 2020-21, we will deliver around 25 new types of messages to explain what is happening when roads are disrupted and give more specific information during and after accidents.

We will also carry out a rolling programme to review variable speed limits to make sure that they are relevant and trusted, making improvements to speed settings where necessary.

In 2020-21, we will develop new fixed roadside signs, focusing on diversion routes. These signs will help customers understand where they are on the route and the distance until they rejoin our network.

Upgrading our fleet

Over the past two years, we upgraded more than 460 of our vehicles, including 98 in our winter fleet, as part of our upgrade programme. In 2020-21, we will purchase over 125 vehicles to help us meet government's *Road to zero strategy*. This will include 93 vehicles for our winter fleet, which will complete phase one of our replacement programme. All our new vehicles will meet Euro 6 standards, which are focused on reducing harmful exhaust emissions.

Helping customers travel safely in winter

Weather stations help us make intelligent decisions about how we operate our network during severe weather. During 2020-21, as these stations near the end of their lifespan, we will develop our requirements for their replacement. This will include carrying out a study to determine the best locations.

Improving environmental performance

During 2020-21, we will work with our partners to deliver and promote initiatives that raise awareness of the impact of litter and the need to dispose of it in the right way.

We will work with local authorities to complete trials to capture evidence of littering from vehicles and enable enforcement action to be taken. We will also refresh our customer service standard for reducing litter on the SRN.

Modernising our information technology systems

In the second road period, we will further develop our National Road Telecommunications Services programme to meet the needs of our business and support the latest generation of telecommunications, including 5G. During 2020-21, we aim to have 99% availability of the services this system provides to our control centres, our national traffic operations centre and our 30,000 roadside assets.

Replacing our control room technology

Working with the Dutch Road Authority, we have jointly developed requirements for the next generation of traffic management systems: CHARM. It will improve our data and provide customers with more accurate incident information. In the first road period, we delivered the IT infrastructure and completed the development of the traffic management system. Originally intended to go live during the first road period, due to complexities in delivering the system in our business and technical environments, CHARM will now go live in the second road period. During 2020-21, we will start delivering CHARM to our control centres, beginning in the north-east region. Following this, we plan to roll it out to the south-west and north-west.

Maintenance

Well-managed maintenance activities, both routine and reactive, are essential. They reduce the need for major interventions and potentially extend the lifespan of our assets. In 2020-21, we will undertake maintenance activities across the following areas:

Delivering data-driven maintenance

During 2020-21, to improve the effectiveness of our maintenance and renewals work, we will further roll out Asset Delivery. By the end of 2020, we aim to fully adopt Asset Delivery in Kent and Sussex (Area 4). Nine out of our 12 operational areas will then have fully adopted Asset Delivery, with a further two areas operating the approach in part. We will make further preparations for the rollout of Asset Delivery in Yorkshire and Humberside (Area 12) throughout 2020-21, in readiness for going live in early 2021-22.

Improving environmental performance

Adverse weather is having a greater impact on our network, resulting in increasing pressure on our drainage system. To improve our understanding of our drainage assets, we will trial emerging technologies. During 2020-21, we will investigate viable technology that will automate the reporting and recording of flood incidents on the network, and write a specification in support of a trial. Over the next five years, we will use our existing data to better inform drainage inspection and maintenance activities. This will provide evidence for more proactive maintenance in future road periods.

During 2020-21, we will trial the use of geotechnical and road surface data to prioritise inspections.

Renewals

Our renewals programme keeps all assets on our network, such as bridges and signs, in a safe and serviceable condition. We will carry out around 1,500 interventions in 2020-21 and focus on getting the right balance of proactive and preventative maintenance and early renewals. This will allow us to extend the life of our assets, and maximise the impact of our spending on the safety and availability of our network.

In Table 10, we have summarised the key renewal activities we will carry out in 2020-21 for the five main asset classes. We have also provided information on some of the supplementary asset classes.

Road surfaces

The road surface is the fundamental building block of our road system. Most of our network is covered in asphalt, with a small proportion of our road surfaces made out of concrete. We collect data on road surface condition, and our renewals plan will keep these surfaces in a broadly steady state. Many of our resurfacing renewals will take place during overnight closures to lessen the impact on road users.

While the majority of our renewals will be on our asphalt surfaces, we will develop plans for replacing worn out concrete. The reconstruction of legacy concrete will take time and, in 2020-21, we will develop our approach. Full reconstruction will begin in 2021-22. During 2020-21, we will repair existing concrete road surfaces to ensure their ongoing safety for road users.

Safety barriers

Our safety barriers play an essential safety role on our network, and we will carefully manage their renewals. Our five-year plans will address both steel and concrete barriers. We will start our programme of replacement in 2020-21.

Structures

Our structures portfolio is diverse in complexity, size and construction, ranging from bridges to viaducts. Weather and asset age have started to impact a growing number of our largest structures. In 2020-21, we will treat a small number of these, while developing plans to treat the others. We will carry out inspections and maintain safety across our portfolio of structures using a variety of treatments. Our 2020-21 commitments in Table 10 also represent some of those tasks.

Geotechnical

Our geotechnical assets, the earthworks below the road surface and neighbouring land, are high value, well designed and stable. During 2020-21, we will monitor their condition against those low-probability, high-impact events which could cause significant disruption for customers. We will provide greater resilience at locations of greatest need, or where failure would impact network availability the most.

Drainage

During 2020-21, and beyond, we will focus on interventions to support better surface water removal rather than asset replacement.

Lighting

Our lighting plan takes a balanced approach to the environmental benefit of renewing lighting columns, or removing them where there are no negative safety implications. As shown in Table 10, we will replace around 1,300 lighting columns in 2020-21.

Road signs, markings and barriers

Known as street furniture, this diverse asset class includes road markings, road studs, non-electronic signs, fences, barriers and pedestrian guard rails. Many of these have short lifespans and, using our 2020-21 plan, we will ensure these are replaced as required.

Renewals deliverables for 2020-21

Asset	Number	Unit	Description
Monitoring			
Asphalt road surface (pavement)	929	Lane miles	Total length of existing asphalt road surface resurfaced
Concrete road surface (pavement)	7.5	Lane miles	Total length of existing concrete road surface reconstructed and replaced with asphalt surface
Safety barriers (steel)	89	Miles	Total length of steel safety barriers installed or renewed
Safety barriers (concrete)	2.5	Miles	Total length of concrete safety barriers installed or renewed
Significant structures	44	Number	Number of significant structures
Assurance			
Road markings	3,450,000	Linear metres	Length along the centre line of the road markings, including markings on new or replacement road surfacing
Kerbs	20,500	Linear metres	Total length of kerbs laid or renewed
Safety barriers (steel)	143,000	Linear metres	Total length of steel safety barriers installed or renewed
Safety barriers (concrete)	4,000	Linear metres	Total length of concrete safety barriers installed or renewed
Drainage	98,000	Linear metres	Total length of drainage installed or renewed
Geotechnical	3,000	Linear metres	Total length of embankment/cutting treated parallel to the carriageway
Traffic signs (non-electrical)	475	Number	Number of permanent non-electrical traffic signs installed or replaced
Guardrail	2,300	Linear metres	Total length of new or replacement pedestrian guardrail
Boundary fencing	80,000	Linear metres	Total length of new or replacement boundary fencing
Lighting	1,300	Number	Number of road lighting columns installed or replaced
Bridge joint	525	Number	Number of bridge deck expansion joint installations installed or renewed
Bridge bearing	110	Number	Number of bridge bearing units installed or renewed
Parapet	4,750	Linear metres	Total length of vehicle parapet installed or renewed
Waterproofing	28,000	Square metres	Total surface area treated for waterproofing
Motorway communications equipment	150	Number	Number of new or replaced motorway communications equipment items
Technology renewals	325	Number	Number of technology assets renewed or improved

Table 10 Renewals deliverables for 2020-21

Road signals and technology

Our technology assets include message signs, cameras, weather data collection systems and emergency roadside telephones. These help us monitor our network, inform our customers and control traffic movement.

As a proportion of the total length of motorways, smart motorways are increasing, meaning that the density of technology assets on our network is also increasing. Our technology assets also often reach obsolescence before the hardware fails. We will maintain a ready supply of replacement assets, ensuring we can replace failed assets promptly to keep the controlled environment of smart motorways operating safely.

Over the second road period, there will be a growth in technology renewals. As shown in Table 10, we will renew or improve 325 assets in 2020-21.

Enhancements

Major enhancement schemes are a crucial element of our balanced investment portfolio, contributing towards almost all the strategic outcomes in our performance framework. In 2020-21, we will start work on at least six major improvement projects, and open two for traffic. We will invest over £2.4 billion of our capital funding to:

- complete some of the enhancements started in the first road period
- respond to government's smart motorway stocktake
- start developing and constructing some of the new enhancement schemes

Details of our enhancement schemes can be found in Annex B.

Responding to government's smart motorway stocktake

In March 2020, government published its *Smart motorway safety evidence stocktake and action plan*. In 2020-21, we will take forward a number of actions set out by the Secretary of State which are detailed below:

- We will construct ten additional emergency areas on the M25 by December 2020. These will be on the sections of smart motorway with a higher rate of live lane stops, which coincides with the biggest spacing between places to stop in an emergency.
- We have updated all existing emergency areas on our smart motorways to have a bright orange road surface and dotted lines, as well as better and more frequent signs on approach showing where to stop.
- To improve public perception and increase understanding of driving on motorways without hard shoulders, including smart motorways, we will develop a multi-channel 'emergency aware' driver campaign. We will work in partnership with DfT as well as other key stakeholders, including the recovery and insurance industry, Driver and Vehicle Standards Agency and the police. The campaign will include an advert to be aired across prime-time television, video on demand, radio, out of home and social media advertising. We will launch the campaign once traffic levels have stabilised following the impact of Covid-19.
- We will complete by December 2020 a large-scale trial of a system that analyses CCTV images. The trial will identify the viability of using our CCTV coverage on smart motorways to provide another option alongside stopped vehicle detection.
- Some existing emergency areas are narrower than the current 15 foot standard when measured from the edge of the carriageway, although they are still significantly wider than a traditional 11 foot

hard shoulder. We will evaluate all existing emergency areas identified to be less than 15 foot wide standard by October 2020 and, if feasible and appropriate, widen to the current standard.

- We will investigate what more can be done on the M6 Bromford viaduct and sections of the M1 identified in the stocktake. We will assess these sections to understand contributory factors and consider if there are potential further suitable interventions by November 2020. This work is already underway and we will share findings with DfT before the end of 2020.
- We will also continue with our ongoing safety monitoring to evaluate whether existing and new smart motorways are as safe as, or safer than the conventional motorways they replaced. We will provide annual reporting from October 2020.
- In March 2020, we signed a partnership agreement to unite with the independent recovery industry. The agreement sets out several initiatives. These include identifying opportunities for how we can support recovery operators' safety through educational material and information promoting safe working practices on the SRN.
- We will undertake a review of our current touchpoints and activities with the recovery industry, and develop a plan for improving engagement and partnership working by September 2020.
- We will engage with car manufacturers by November 2020 to understand how we can help build greater awareness and understanding of 'eCall' or SOS buttons. Increasing numbers of new cars. These come with these buttons, which can be used to call for help in the event of a breakdown or emergency anywhere on the roads – not just on smart motorways.

Enhancement schemes in the north

Many of our schemes in the north will improve capacity and help deliver fast and reliable journeys.

We will develop and design road projects to improve the connectivity of the north, including:

- Mottram Moor and A57 Link Road, providing a dual carriageway bypass around Mottram
- A5036 Princess Way, upgrading the main link between Liverpool docks and the motorway

During 2020-21, we will work to finalise options to improve traffic flow on the M60 at the intersection between the M60 (junction 18), M62 and M66 north of Manchester. We plan to announce the preferred route and start detailed design.

We will also begin work to unlock the potential for economic growth through junction improvements between A19 and the A1290 in Sunderland, supporting local plans for an international advanced manufacturing park.

We aim to achieve a key milestone on the new A66 Northern Trans-Pennine scheme by announcing the preferred route in 2020-21.

Enhancement schemes in the midlands

As we enter the second road period, we already have nine major road projects in construction in the midlands.

We will widen the A500 between Wolstanton and Porthill junctions in Staffordshire, providing improved access to the business and housing developments planned as part of the Etruria Valley development. Over the next 12 months, we will also progress the statutory planning application and finalise detailed design on the M54 to M6 Link Road.

To help develop our preferred route for the new A46 Newark Bypass scheme, we plan to consult with the public in December 2020.

Enhancement schemes in the south and west

In the south and west, we are due to start three new projects that will add further capacity and reduce congestion. This includes continuing work to upgrade the M27 to smart motorway between junction 4 (the interchange with M3) and junction 11 (the interchange with Fareham). When completed, this will connect to the M3 smart motorway scheme that we started in the first road period, enabling faster journey times.

The A417/A419 has long served as the main road between Swindon and Gloucester. This busy road runs through the environmentally sensitive Cotswolds Area of Outstanding Natural Beauty. The last remaining single carriageway near Birdlip separates Sites of Special Scientific Interest and cuts across walking routes. With our A417 Air Balloon scheme, we will repurpose part of the road for walkers, cyclists and horse riders, providing new connections to safely cross the road. During 2020-21, we plan to incorporate these environmental proposals into scheme design and statutory planning proposals for this scheme.

During 2020-21, we will also search for world-class contractors, including tunnel specialists, to help us design, build and maintain the best solution for our iconic A303 Amesbury to Berwick Down scheme. This will help us to meet our commitment to start work in 2022-23.

Enhancement schemes in the east

We are committed to improving journeys and delivering economic benefits for customers across the east. In 2020-21, we plan to create a new junction linking the A47 and A141 (Guyhirn junction). This project is part of a corridor of work to improve the link from the A1 across East Anglia. This work will see us finalise designs across a further four schemes to provide dualling and junction upgrades on the A47 near Peterborough and Norwich.

In 2020-21, we will progress the design and statutory planning approval for schemes which are due to start before the end of the second road period:

- A428 Black Cat to Caxton Gibbet, dualling the remaining single carriageway between Cambridge and the M1 and upgrading junction capacity
- A12 Chelmsford to A120, developing proposals for widening to three lanes between junctions 19 and 23, as well as finalising the options for junctions 23-25, aligning with local authority development plans

Our work to upgrade 21 miles of the A14 between Cambridge to Huntingdon scheme is well advanced, and we will complete this work in 2020-21. We have already opened a major part of this scheme, a year ahead of schedule.

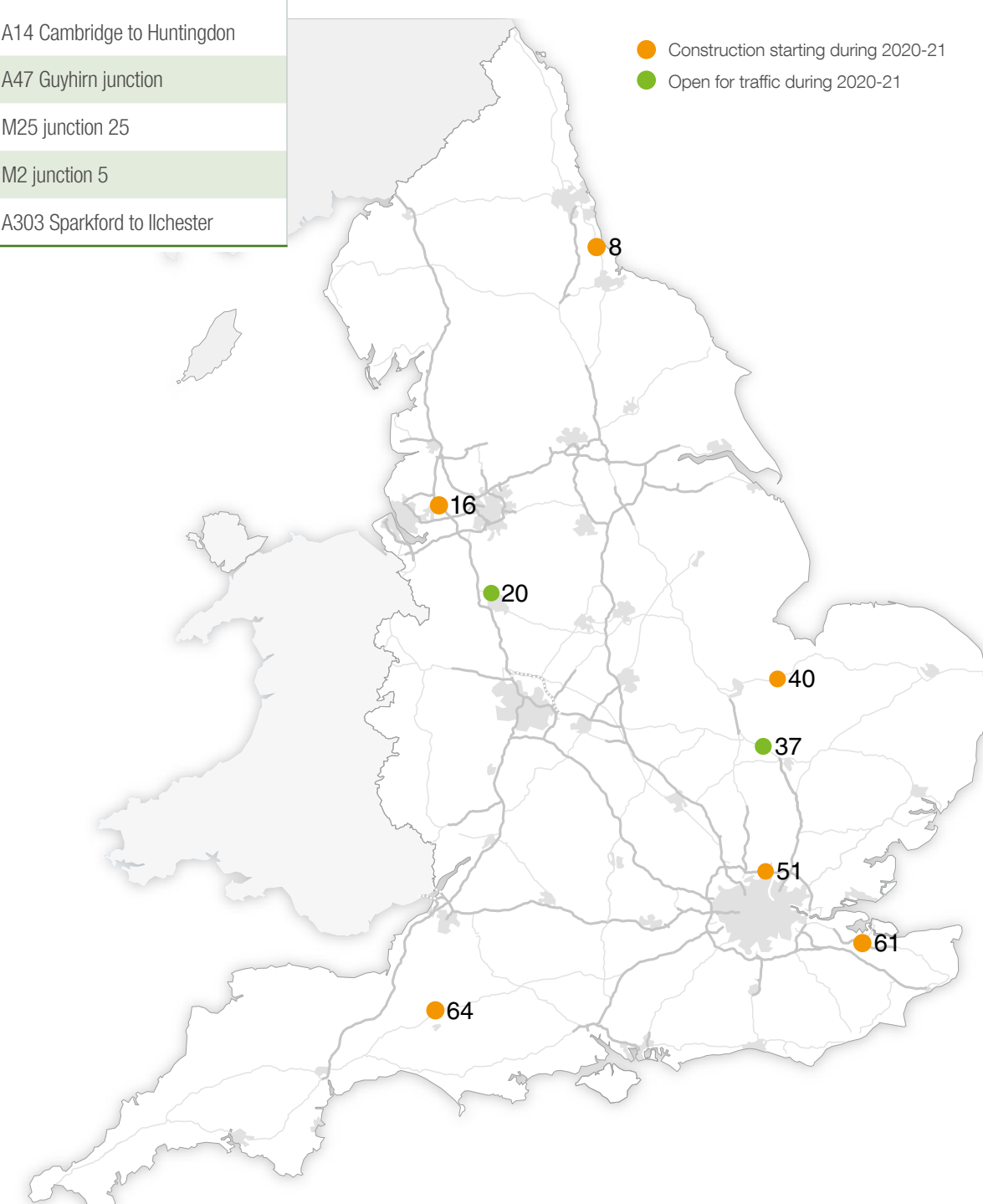
In 2020, we will submit our Development Consent Order application for permission to build the Lower Thames Crossing. We will engage with customers, communities and stakeholders as we seek to deliver the best possible design.

We will work with DfT to investigate potential road projects that could support government's ambition for the Oxford to Cambridge Arc. This may include exploring opportunities to reduce congestion around the Arc's major economic centres.

Enhancement schemes starting works and opening for traffic in 2020-21

The map below shows the schemes which start works or open for traffic in 2020-21.

No.	Name
8	A19 Down Hill Lane
16	M6 junctions 21a to 26
20	A500 Etruria
37	A14 Cambridge to Huntingdon
40	A47 Guyhirn junction
51	M25 junction 25
61	M2 junction 5
64	A303 Sparkford to Ilchester



Designated funds

Designated funds enable us to go beyond the traditional focus of road investment to improve lives. Over the second road period, we will choose our schemes carefully, based on defined objectives and criteria.

We will invest through four funds:

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

Scheme	Description
M25 junction 23	Junction works at South Mimms in Hertfordshire to improve a busy intersection with the M25 and A1(M)
M25 junction 13	Junction works near Staines-upon-Thames, Surrey, to improve traffic flow and support greater access into west London
A27 Falmer RRS phase 2	Safety barrier installation on the B2123 to protect road users on the A27
A38 safety partnership signing	Three sites identified for new signage and hardstanding for mobile speed camera vehicles, enabling our safety camera partnership to operate at key locations on the A38
A66 Little Burdon roundabout	Construction of a dedicated left-turn filter lane from the A66 eastbound carriageway at Little Burdon onto the A1150 to increase capacity and safety
A64 village gateways	A holistic approach to the reduction of speed limits through key rural villages on the A64, including the installation of gateway features such as entry signage, coloured surfacing and lane narrowing
M1 junction 47	Widening of the northbound exit slip road to provide additional capacity and improve safety
A64 Whitwell duals	Installation of safety barriers to protect road users along a section of the A64 in North Yorkshire

Table 11 Safety and congestion fund scheme list

Safety and congestion fund

This fund will help us deliver a safety programme which goes beyond our business as usual activities. In 2020-21, we will invest to meet existing commitments, including from our first road period Safety and congestion relief programme and our Safety designated fund. We will have over 15 schemes, including the schemes summarised in Table 11.

We will also invest around £8 million in three schemes to meet existing commitments from our first road period Growth and housing fund. Summarised in Table 12, this will complete the funding package for the schemes.

Scheme	Description
A46 RAF Newton	New footbridge over the A46, linking the RAF Newton development site to central Bingham
M181 terminating junction	New terminating junction to the M181 to support local housing development
M55 J4 Heyhouses link road	New 2.5km link road between the B5410/Copper Road roundabout and Lytham south Anne's Way, south-west of M55 junction 4, increasing access via M55 junction 4 and relieving demand at M55 junction 3

Table 12 Growth and housing fund scheme list

Users and communities fund

Few journeys start and end on our network. We want to integrate better with other transport networks and support other modes of travel. To help meet this aim, in 2020-21 we will install park and ride signage on the M5 junctions 25 and 26 near Taunton, and the A64 Askham Bar, near York (Hazel Bush crossroads).

We will invest in making the SRN more accessible for walkers, cyclists and horse riders. During 2020-21, we will deliver the following schemes:

- A19 Testos, upgrading the Whitemare Pool cycleway near Sunderland to provide cyclists and walkers with a combined cycleway and footway
- A30 cycling schemes near Honiton, to deliver high-quality, off-road walking, cycling and horse riding improvements

During 2020-21, we will also undertake local accessibility and signage studies. We will, for example, trial and test the impact of using fewer signs and signals, including variable speed limits, on compliance and incident management. As we recognise that HGV operators and drivers also have specific needs for their journeys on our network, we will complete a feasibility study for future 'weigh in motion' sites.

Finally, we will use this fund to develop and improve the information we provide. In 2020-21, we intend to deliver CCTV schemes on A1033 Marfleet-Salt End and M18 Langham, both near Hull, and introduce new variable message signs on the A64 between Scarborough and York.

Environment and wellbeing fund

Minimising our impact on the environment is one of our priorities. Through this fund, we want to deliver interventions which reduce the noise impact of our network on those people most affected. In 2020-21, we will build a noise barrier on the M621 (junctions 6 to 7), near Leeds. We will also start phase two of our noise insulation scheme, providing replacement acoustic glazing and ventilation for homes closest to our network.

To tackle air pollution, we will make sure the schemes we fund support government's *Air quality directive*. During 2020-21, we will develop a tool to assess how our elevated sections of road, running above local roads, impact on air quality. We will also construct a specialised vehicle observation point on the A556, near Warrington. We will stop vehicles and test for:

- emission cheat devices
- safety defects (including those that reduce air quality performance)
- overloaded vehicles (which also reduces air quality performance)

In 2020-21, we will replace existing lighting with LED lighting on the M1 junctions 21 to 21a.

Protecting the physical environment will also be a key part of our work through this fund. We will plant between 26 to 28 hectares of woodland close to the A14. After 20 years, this would potentially achieve additional carbon storage of 5,850 metric tonnes.

We will deliver schemes that restore landscape or townscape character impacted by our roads. We will begin to address the national Ash dieback issue through undertaking a risk evaluation in 2020-21, following an iTree mapping exercise in 2019-20. We will complete a feasibility study in collaboration with the Cotswolds Area of Outstanding Natural Beauty Board, that will address concerns about the impact of the SRN on the landscape.

In 2020-21, we will complete 12 projects to address the impact of flooding at identified hotspots and carry out 20 feasibility studies to explore flooding and water quality solutions. We will create a pipeline of projects for the rest of the road period that will support:

- mitigation at outfall locations which pose a pollution risk
- waterbodies negatively impacted by the historic construction of our roads

Some of our funded projects will also conserve and improve the setting and condition of heritage assets, helping safeguard them for future generations. In 2020-21, we will improve the A19 junction at Mount Grace Prior, continuing our work with English Heritage to identify how we can reduce the impact of our network on this historic environment. We will also undertake feasibility and design work for screening to Lullingstone Castle near Dartford.

We will work with Cambridgeshire County Council and Homes England to set up a heritage facility. It will showcase discoveries on the A14, along with existing local collections and finds from Northstowe New Town. Subject to planning approval, Northstowe Heritage Facility may open in late 2020. It will promote archaeology unearthed as part of the scheme and also help develop a coherent approach to cultural heritage across the corridor, including activity which is directly related to our A14 scheme.

Innovation and modernisation fund

The impact of new technology is being felt across the entire transport sector. Electric cars, innovation in autonomous vehicles and better sharing of data with motorists are just a taste of what the future holds. We are focused on finding and implementing the best innovation and technology to help save lives and enable more efficient ways of using roads.

During 2020-21, we will deliver the UK's first automated lane closure system, capable of taking possession of multiple lanes using a single vehicle. This system removes the need for our people to be on live carriageways during such traffic management, reducing their risk.

We recognise the potential of data and technology to help us increase the speed and quality of design and construction, and to effectively manage our assets throughout their lifespan. During 2020-21, we will work on technology innovation around the design, build and development of renewable and low-power energy infrastructure.

We will also deliver an industry trial to evaluate different road marking products, and the systems and processes for applying and removing them. As part of this trial, we will identify how to remove ghost markings, which give our customers conflicting and dangerous information.

Over the second road period, our aim is to reduce the environmental impact of our network. During 2020-21, we will work to support this aim through innovation. We will, for example, deliver a self-cleansing ditch scheme, which will trial the use of microbes to clean pollution in the area.

Preparing for the third road period

In 2020-21, we will start development work on around half of our pipeline programme of potential schemes by value for the third road period. This will inform the prioritisation of the schemes for further investment.

During 2020-21, we will collaborate with sub-national transport bodies across the country, supporting them to develop or refresh their transport strategies. We will support the development of their investment plans and help the process by which they feed their evidence into our *Route strategies*.

How we run our network

To support the delivery of our commitments, we will work across the following areas:

HE2025

At the end of the first road period, we completed a high-level capability assessment covering our people, processes and technology. During 2020-21, we will make plans to address any gaps that have been identified. This will include end-to-end mapping of our current and future processes around customer experience and forecasting. In the second half of 2020, we will agree roles and responsibilities, and begin implementing the new processes.

Attracting, recruiting, developing and retaining talented people

During the first road period, we have significantly grown our capabilities by recruiting new people to our business. In 2020-21, we will further develop our market presence and reputation as an employer, running recruitment campaigns to find and attract the best people. We will also renew our supplier framework for recruitment services.

We will invest further in apprenticeships and graduate programmes. We will make a proportion of our apprenticeship levy available to invest in SME apprenticeships across a number of areas, including digital, commercial, asset management and project management.

Processes and procedures

We have already defined and started reviewing our core business services and processes. In 2020, we will re-design these and begin implementing any changes. In 2020-21, we will also work with our corporate functions to design and implement appropriate operating models. This will help increase their capacity whilst ensuring that they have effective skills, systems and suppliers.

In the first road period, we improved our workforce planning capabilities, including implementing, in 2019, a system to help us analyse our resource and skills availability against delivery demand. Over the next road period, we will use this system to support the delivery of our enhancement schemes. In 2020-21, we will further develop the system to include our operational services. This will inform our capability development planning, including whether to develop or procure capability to meet changing demand.

Information technology

In 2020-21, we will implement a new operating model and set of capabilities for information technology delivery. As well as covering internal delivery within our organisation, it will inform technology on our network. We will embed automated digital design, standardised products and methodologies, and off-site manufacturing into our infrastructure delivery.

PFI contracts

We currently operate 11 design, build, finance and operate contracts, awarded to the private sector through PFI initiatives. Eight of the PFI contracts will end by 2026-27. During 2020-21, we will:

- assess options to achieve better value
- develop and implement an inspection programme to help ensure our assets' condition will be in line with the contractual standard at the transfer date
- plan for wider impacts, such as the transfer of staff

To drive consistent reporting, we will investigate and assess the practicality of aligning the performance of all routes under PFI contracts to our performance framework.

Deliverables outside RIS2

Additional funding of £81 million for deliverables outside the scope of government's RIS2 has been agreed for the following cross-government projects during 2020-21:

Movable barrier on the M20 junctions 8 to 9

Operation Brock was a temporary traffic management solution. A temporary steel barrier allowed HGVs to queue for the Port of Dover and the Eurotunnel. Other traffic was able to use the motorway via a contraflow system. During 2020-21, we will construct a new moveable barrier. This will form part of Kent Resilience Forum's permanent solution for an emergency response to managing traffic congestion caused by potential disruption at Dover ports.

Free-flow charging

We will continue to develop and deliver a second generation free-flow charging solution, primarily driven by the Dartford Crossing (Dart Charge). Our focus is to implement and transition to a new multi-package service delivery model during the second road period.

Historical railways estate

In 2020-21, we will manage the historical railways estate on behalf of the Secretary of State. The future of this estate, including who will be responsible for managing it from April 2021 onwards, will be decided during 2020-21.

Annex D: Proposed pipeline of future schemes

Working closely with DfT, we have identified over 30 schemes for consideration, many of which have come from our *Route strategies* process. We believe that this pipeline appropriately balances competing pressures and risks, providing a sound basis for further planning.

North schemes	Midlands schemes
A19 north of Newcastle junctions	M6 junction 15 Potteries southern access
A64 Hopgrove	A483 Pant-Llanymynech bypass (in cooperation with the Welsh Government)
M1 Leeds eastern gateway	M1 North Leicestershire extra capacity
M1/M62 Lofthouse interchange	M1 Leicester western access
M6 Junctions 19 to 21a Knutsford to Croft extra capacity	A5 Hinckley to Tamworth*
M1 Junctions 35 to 39 Sheffield to Wakefield extra capacity	
A1 Doncaster to Darrington	
M6 junction 22	
Manchester south-east junction improvements	
East schemes	South and west schemes
A47/A1101 Elm Road junction	Severn resilience package
A11 Fiveways junction	A404 Bisham junction
M11 junction 13 Cambridge west	A2 Brenley Corner
A12/A14 Copdock interchange***	A303 Phase 2 upgrade
A120 Braintree to A12**	A3/A247 Ripley south
Tilbury link road	A21 safety package
	A2 Dover Access***
	A27 Lewes to Polegate
	A27 Chichester improvements
	M27 south and Westhampton access***
	A38 Trerulefoot-Carkeel safety package
	A404/M40 junction 4 High Wycombe

**The A120 Braintree to A12 proposed timeline is currently being investigated in order to coordinate with the A12 Chelmsford to A120 scheme.

*** Scheme development supported by the Port Infrastructure Fund.

*In cooperation with work funded by the Ministry of Housing, Communities and Local Government on the A5 Transport Corridor.

Table 13 Proposed pipeline of future schemes

Glossary

Alliance model	The model used to deliver the majority of our SMP outputs in the second road period. The alliance will consist of Highways England and six other parties (three delivery, two design and one production hub) who will engage with each other in one contract which will be based on an NEC4 document
All lane running	A smart motorway which includes the permanent conversion of a hard shoulder to a running lane and features regular emergency areas
Ambient air quality directive	European Commission directive which sets limits for key pollutants within the outdoor air
Asset Delivery	This approach enables us to directly manage maintenance operations and scheme delivery. Through Asset Delivery, we will improve our asset knowledge and increase our control, including over interventions, planning and sequencing. This will improve safety and quality, as well as reducing disruption and delivering better long-term value for money
Asset management	The coordinated activity of an organization to realise value from assets
Benchmarking	Benchmarking is a widely used tool for drawing inferences about the potential for efficiency improvements. Where it is targeted and implemented appropriately, it can provide useful insights and challenge
CAVs	Connected and Autonomous Vehicles
CHARM	Common Highways Agency Rijkswaterstaat Model project
Complex Infrastructure Programme	Our Complex Infrastructure Programme (CIP) is comprised of enhancement schemes above £500 million in estimated cost, and relates to the delivery of nationally important infrastructure. They are known as Tier 1 schemes as they are subject to staged approvals by DfT, and we work closely with government in their development and delivery
Designated funds	During the first road period, the government created a series of designated funds, to address a range of issues over and above the traditional focus of road investment, including: growth and housing, innovation, environment, air quality, and cycling, safety and integration
DfT	Department for Transport
Digital roads	Digital roads is a concept we have developed based on using connectivity, data and technology to improve the way the SRN is designed, built, operated and used
DMRB	Design Manual for Roads and Bridges
Driving for Better Business	A government-backed Highways England programme to help employers in both the private and public sectors reduce work-related road risk, decrease the associated costs and improve compliance with current legislation and guidance
Environment Agency	A non-departmental public body sponsored by the Department for Environment, Food and Rural Affairs, with responsibilities relating to the protection and enhancement of the environment in England
First road period	The initial road period that followed roads reform (2015-2020)
HGV	Heavy goods vehicle
Housing Infrastructure Fund	A government fund available to local authorities for infrastructure to unlock housing
HS2	High Speed 2
I3P	The Innovative Enterprise Incubator of the Polytechnic University of Turin promotes science-based businesses in relation with university researchers or entrepreneurs
Innovate UK	A non-departmental public body operating at arm's length from government as part of the United Kingdom Research and Innovation organisation

International Road Assessment Programme	The umbrella programme for Road Assessment Programmes (RAPs) worldwide that are working to save lives
IPA	Infrastructure and Projects Authority
IT	Information technology
KPI	Key performance indicator – a key metric used to define and measure progress towards organisational objectives
Lean	Method which creates more effective business processes by eliminating wasteful practices and improving efficiency
Licence	Sets out the Secretary of State's aims, objectives and conditions for Highways England
Metric	The individual measurements that we are judged on, that fit within the performance specification
National Traffic Information Service	Provides up-to-the-minute traffic information for the strategic road network in England
Nationally Significant Infrastructure Project	Major infrastructure projects which require a type of consent known as 'development consent' under procedures governed by the Planning Act 2008
Noise important area	Areas in England are adjacent to major roads
ORR	Office of Rail and Road
PFI	Private Finance Initiatives
Protocols	Additional services to our day-to-day operational activities, not core to our role as a strategic highways company
Rapid Engineering Model	Highways England digital approach to automated design
Regional Delivery Partnerships	The Routes to Market Regional Delivery Partnerships incentivise suppliers to improve safety and deliver increased value. This approach contains incentives for results including: shorter and more accurate roadworks; more efficient, local buying; innovation; and increased environmental benefits.
RIS1	First Road Investment Strategy (2015-2020)
RIS2	Second Road Investment Strategy (2020-2025)
Road Investment Strategy	Government's long-term strategy for the strategic road network
Route strategies	Route strategies present a high-level view of performance and constraints on existing road network as well as recommending areas for further study
Routes to Market programme	Highways England has provided forward visibility to help our supply chain to make plans to commit resources and people, to encourage innovation and to bring new highway suppliers into the market. It consists of Asset Delivery, Regional Delivery Partnership, Smart Motorways Alliance and Complex Infrastructure Programme
Second road period	Road period 2 (2020-2025)
Smart motorways	Motorways that use technology to manage the flow of traffic, controlled from Highways England control centres. They monitor traffic and set variable speed limits and signs to help keep the traffic flowing safely and freely.
SRN	Strategic road network
Strategic road network	The network of roads managed by Highways England, comprising motorways and some A roads
Sustrans	A UK walking and cycling charity and custodian of the National Cycle Network
Transport Focus	The 'watchdog' responsible for gathering the views of SRN users and using them to shape policy and decision making
Vehicle Excise Duty	A tax levied on vehicles using public roads in the UK
Weigh in motion	System used to weigh and classify vehicles in live traffic lanes for statistical reasons related to asset management or for enforcement

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