

# Highways England Delivery Plan 2017-2018







# Highways England

## Delivery Plan

### 2017-2018

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# Foreword

This Delivery Plan Update sets out our plans for 2017-18 to improve safety, reliability, and the continued delivery of the Road Investment Strategy (RIS).

**S**ince Highways England was established in 2015 we have made good progress in delivering the 5-year RIS. We remain focused on our 3 imperatives to support that work. The first of these is to make journeys safer for both our customers and our workforce. The second is to improve the network to minimise delays and congestion to provide our customers with the best possible experience. Our final priority is to deliver our work in an efficient and effective way that provides value for money and minimises disruption, as well as mitigating the impact on communities.

Our commitment to reducing the number of people who are harmed on our roads continues to underpin everything we do. We are working closely with our customers, suppliers and stakeholders to promote safer driving and working practices. This includes exploring ways to use new technology to drive safety improvements, as well as implementing targeted communication, awareness and enforcement campaigns to improve road user behaviour and reduce the risk of accidents.



Road improvement schemes also play an important role in making our network safer, as well as increasing its capacity and reliability. During 2016-17, we completed a number of developments that will improve our customers' journeys. These include the A1 Coal House to Metro Centre<sup>1</sup> scheme near Newcastle and the start of work on one of the UK's biggest road upgrading schemes, the £1.5bn A14 improvement between Cambridge and Huntingdon<sup>2</sup>. These are just 2 examples of our achievements since the start of this Road Period. To date we have completed 12 schemes, adding over 120 lane miles of capacity to the road network, with a further 20 major improvement projects in construction across the strategic road network.

This will be reinforced through our continued focus on developing our own skills, improving quality assurance and the planning and monitoring of work through our asset management strategy and asset delivery model. By having more influence over the work carried out by our maintenance and renewals suppliers, we can make further progress towards meeting our challenging target of cumulative £1.2bn of efficiencies by the end of the Road Period.

<sup>1</sup> Map number 2 in Annex 1.

<sup>2</sup> Map number 22 in Annex 1.

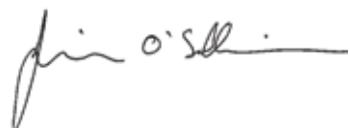


# 1. Executive summary

I am proud of the improvements we have made in the past 2 years to our organisation and to how we work. We are committed to building on these achievements so we can serve our customers even better. From more effective project management, to increased collaboration with our suppliers, to better communication with our customers, this update highlights the clear action we are taking to provide a better road network.

We are now looking to the future to identify the next set of investments for the following road period, using the evidence gathered from our Route Strategies, The Road to Growth – our strategic economic growth plan, and our ongoing discussions with road users and key stakeholders. This will be supported by a continued focus on improving the way we work to ensure that we are in a position to deliver a safe, efficient road network that our customers can rely on.

Jim O'Sullivan  
CEO





# 1. Executive summary



This Delivery Plan Update sets out our latest plans to meet our 3 imperatives: making our roads safer, improving our service to customers and delivering the RIS. It focuses on our activities in 2017-18, our ongoing work and the plans we are developing for the remainder of RIS 1 (2015-20).

In the last year we have made good progress in delivering the road investment programme which will enhance the network's contribution to economic growth.

In our supporting economic growth section we set out the schemes which will open to traffic in 2017-18 and those where we plan to start work during the year. We also set out our plans for the rest of the Road Period, including the further expansion of the smart motorways programme, adding capacity to some of the busiest sections of the country's roads. In addition, we plan to start work on a number of schemes designed to tackle congestion, improve connectivity and enhance the condition of the network.

This includes projects supported through the Growth and Housing Fund. To date, we have committed to investing over £50m from this fund during the current Road Period towards 16 improvements: 13 formally agreed, an additional 3 to be finalised, and further schemes in the pipeline. These will support the development of 22,000 new homes and enable 34,000 jobs.

These upgrades will also improve safety and help us to achieve our aim of ensuring that no one should be harmed when travelling or working on our network. This will support our ongoing work to develop our understanding of the causes of accidents and how we can change road user behaviour through enforcement and awareness campaigns. We also set out how we are strengthening our safety culture and engaging with suppliers to support their own work on safety. In addition, our renewals programme will continue to contribute to making our network safer and more serviceable.

Another important aspect of our work is to use innovation to improve the efficiency of what we do and to accommodate changes in the types of vehicles our customers use. As part of the programme to support the uptake of ultra low emissions vehicles (ULEVs) we are installing rapid charging points with the ambition to ensure 95% of the network has a charging point at least every 20 miles. The first stage of this work is to reduce the longest length on the network without a charge point from 60 to 40 miles. We are also working with car manufacturers to help deliver trials of connected vehicles including providing the infrastructure to support a range of connected technologies to enable the safe testing and development of these vehicles on the roads.

The increasing scale of investment in improving the road network means that there are greater roadworks and more potential for disruption to journeys. We are working even harder to reduce the impact of what we do and to address customers' concerns about delays. To improve traffic flows through roadworks, we are developing a range of initiatives including recommendations about how we could introduce higher speed limits as part of our standard approach. This will be supported by further progress in improving our traffic control centres, clearing incidents quickly and improving in the information we provide to road users so they can plan or adjust their journeys to avoid delays.

We are also taking steps to provide better communication to our customers about major schemes, and to improve the way we respond to their feedback and consider their input into the development of our future plans. We are continuing to improve access for vulnerable users who need to cross our roads and to improve and develop our engagement with them.

Minimising the environmental impact of our network remains a high priority. During the past year we have made good progress with our air quality pilots, projects to reduce noise and our ongoing action to reduce litter. At the same time, we continue to embed biodiversity considerations in our planning and monitoring of projects.

In order to meet the commitments set out in this update, we need to ensure that we have the right skills, organisational structure and culture. This document details a number of actions we are taking to put these in place including,

further improvements to our performance through accountable and clear leadership, focused and engaged staff and a culture that reinforces our 3 imperatives of customer service, safety and delivering the RIS.

We also have a significant recruitment campaign to secure the commercial and procurement expertise we need, as well as supporting the government's apprenticeship targets to develop the next generation of experts. This will provide more experts within our own organisation to manage our major projects and asset renewal work more effectively. We are also developing our relationships with our suppliers to support their skills development.

In all areas, our performance is measured against key performance indicators (KPIs), performance indicators (PIs) and requirements that are set out in **Annex 3**. In addition, we are continuing to develop a number of new performance indicators which we may be measured against in future years.

All our investment has to be delivered within challenging efficiency targets and this document highlights the particular measures we are undertaking to change our organisation and our relationships with suppliers so that we operate more efficiently.

We continue to work closely with partners including, Local Enterprise Partnerships (LEPs), stakeholders, the Office of Rail and Road (ORR), which monitors our activity and performance and Transport Focus to help us understand and respond to the needs and concerns of our customers.

This work, and all the activity in this update, reflects our commitment to continuous improvement across our organisation and learning the lessons from the challenges we have faced since 2015.



A303 Stonehenge  
public information exhibition





## 2. Supporting economic growth

The strategic road network is vital to the success of the UK economy and we continue to develop our plans to increase its economic contribution in line with our strategy: The Road to Growth. This outlines how we will focus on enabling international connectivity; support business productivity through safe, reliable journeys; unlock new housing and business development; and provide employment opportunities in our sector.

### Key performance indicator (KPI)

#### Encouraging economic growth



Average delay (time lost per vehicle per mile)



The government did not set a target for this measure in the first Road Period, but Highways England should act in a way that will minimise delay as far as possible

### Indicators that will be used to measure performance:

- percentage of formal planning applications responded to within 21 days of receipt by Highways England
- average delay (time lost per vehicle per mile) on Gateway Routes<sup>4</sup>
- meet the government target of 25% small and medium sized enterprise (SME) direct and indirect spend

For a full table of KPIs, PIs and requirements see **Annex 3**.

### Strategic economic growth

We are making good progress in delivering our £11bn 5-year capital programme<sup>3</sup>, which is designed to increase capacity, transform connectivity, and improve the condition of the network. In this Road Period, we plan to invest £7bn on the development and construction of major road improvement projects, details of key dates for each of the schemes are set out in

**Annex 1**.

Through the implementation of these projects we will deliver more smart motorways on key routes, reducing congestion and bring benefits to the wider economy. Other schemes will unlock nationally significant growth sites providing the road links that will enable new business and housing development.

<sup>3</sup> The £15bn funding allocated to Highways England includes £11.4bn that relates to the first five-year Road Investment Strategy. The remaining funding has been committed to the first year of the next Road Investment Strategy.

<sup>4</sup> See the Glossary in Annex 5.



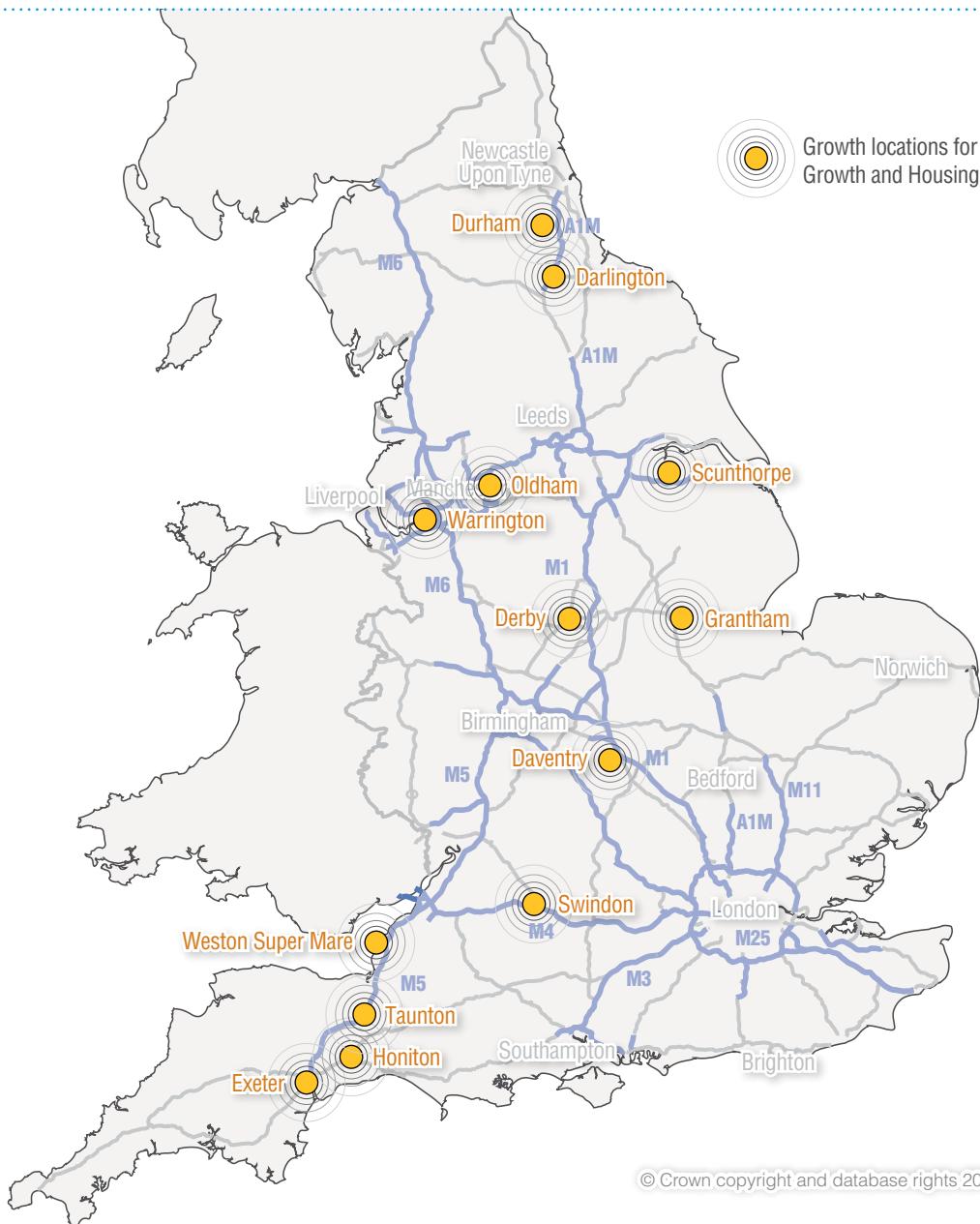
## The Growth and Housing Fund

Our Growth and Housing Fund<sup>5</sup> has so far committed to investing over £50m during the current Road Period to support 16 improvements: 13 formally agreed, an additional 3 to be finalised, and further schemes in the pipeline. These are expected to unlock almost 22,000 new homes and more than 34,000

jobs across England (see **Map 1**). £5.2m was invested during 2016-17 with a further £23m investment currently planned for 2017-18.



**Map 1:** Growth and Housing Fund – National Pipeline



<sup>5</sup> £80m fund in RIS 1 committed to unlocking housing and growth projects.

These schemes reflect engagement with 39 LEPs to develop specific proposals for the fund and work with our partners to agree the selection criteria to shortlist schemes. We are now working to assess 36 additional schemes in the pipeline and we expect the assessments to be completed during 2017.

### Working in partnership with local authorities

As part of our contribution to supporting economic growth, we work in partnership with local authorities to support development in particular areas. During 2017-18 we will continue working with Lancashire County Council and Rochdale Council to deliver a new junction on the M55 and to provide a new access road from junction 19 of the M62 to Heywood. We expect these improvements to be completed by 2019-20 and they will improve access to the Warton site of the Lancashire Enterprise Zone, the Springfields nuclear fuel facility at Salwick and enable the comprehensive development of the North West Preston area to provide more than 4,000 new homes.

Over the past 3 years we have been developing relationships with some of the 120 local authorities by entering into partnership agreements. However, in response to the emergence of new combined authorities, it may be difficult to secure agreements with all highways authorities. We are now focused on developing agreements or Memoranda of Understanding with combined authorities. We have recently concluded an agreement with the 10 Greater Manchester local authorities setting out how our North West regional team will work in collaboration with the Greater Manchester Combined Authority.

As we begin planning for the next Road Period we will use our Strategic Economic Growth Plan and 18 Route Strategies to enhance our understanding of the economic role of the road network and develop the economic case for future investment.



Highways UK, 2016



## What we plan to deliver in 2017-18

### Schemes opening for traffic in 2017-18

We always look for opportunities to accelerate schemes where we can. In November 2016 the significant junction improvements on the M25 at junction 30<sup>6</sup> opened to traffic ahead of schedule. This has improved access to wider UK markets from the Thurrock area and for the users of the Ports of Tilbury and London Gateway<sup>7</sup>.

Our plans for the coming year include the completion of work on a number of schemes that will increase capacity on key routes by adding extra lanes through smart motorways. This will help provide more reliable journeys for customers. These schemes include:

- M60 junction 8 to M62 junction 20<sup>8</sup>. This will help reduce congestion and improve journey times on parts of the M60 and M62 in Greater Manchester.
- 27 additional lane miles on the M3 from the M25, increasing capacity between junctions 2-4a<sup>9</sup> to Farnborough. This will support economic growth and development along the M3 corridor and the Thames Valley.
- 17 miles of increased capacity on the M5 between junctions 4a-6<sup>10</sup>, Bromsgrove and Worcester. This will help to reduce congestion on this very busy route to and from Birmingham.

<sup>6</sup> Map number 10 in Annex 1.

<sup>7</sup> London Gateway is a development on the north bank of the River Thames in Thurrock, Essex, that compromises a new deep-water port and one of Europe's largest logistics parks.

We have also started work to widen the slip roads at junction 45 on the M1<sup>11</sup> to improve capacity on this major route in and out of Leeds and expect this scheme to open at the end of 2017.

On another vital route for economic growth in the north, we have completed the majority of work on the A1 between Leeming and Barton<sup>12</sup> to replace the existing dual carriageway with a new 3 lane motorway; connecting together the 2 sections of the A1(M) in the north of England and completing the motorway link from the Teesside and Tyne and Wear to the rest of England.

During the delivery of this project we discovered extensive archaeological finds. Changes to our construction programme enabled a large team of archaeologists to unearth many Roman treasures and artifacts, including a major Roman settlement at Scotch Corner. We now expect the scheme to be fully completed at the end of 2017.

A critical part of our work to support economic growth is to improve the road network to accommodate local development plans that increase housing and employment opportunities.

<sup>8</sup> Map number 15 in Annex 1.

<sup>9</sup> Map number 16 in Annex 1.

<sup>10</sup> Map number 20 in Annex 1.

<sup>11</sup> Map number 46 in Annex 1.

<sup>12</sup> Map number 3 in Annex 1.

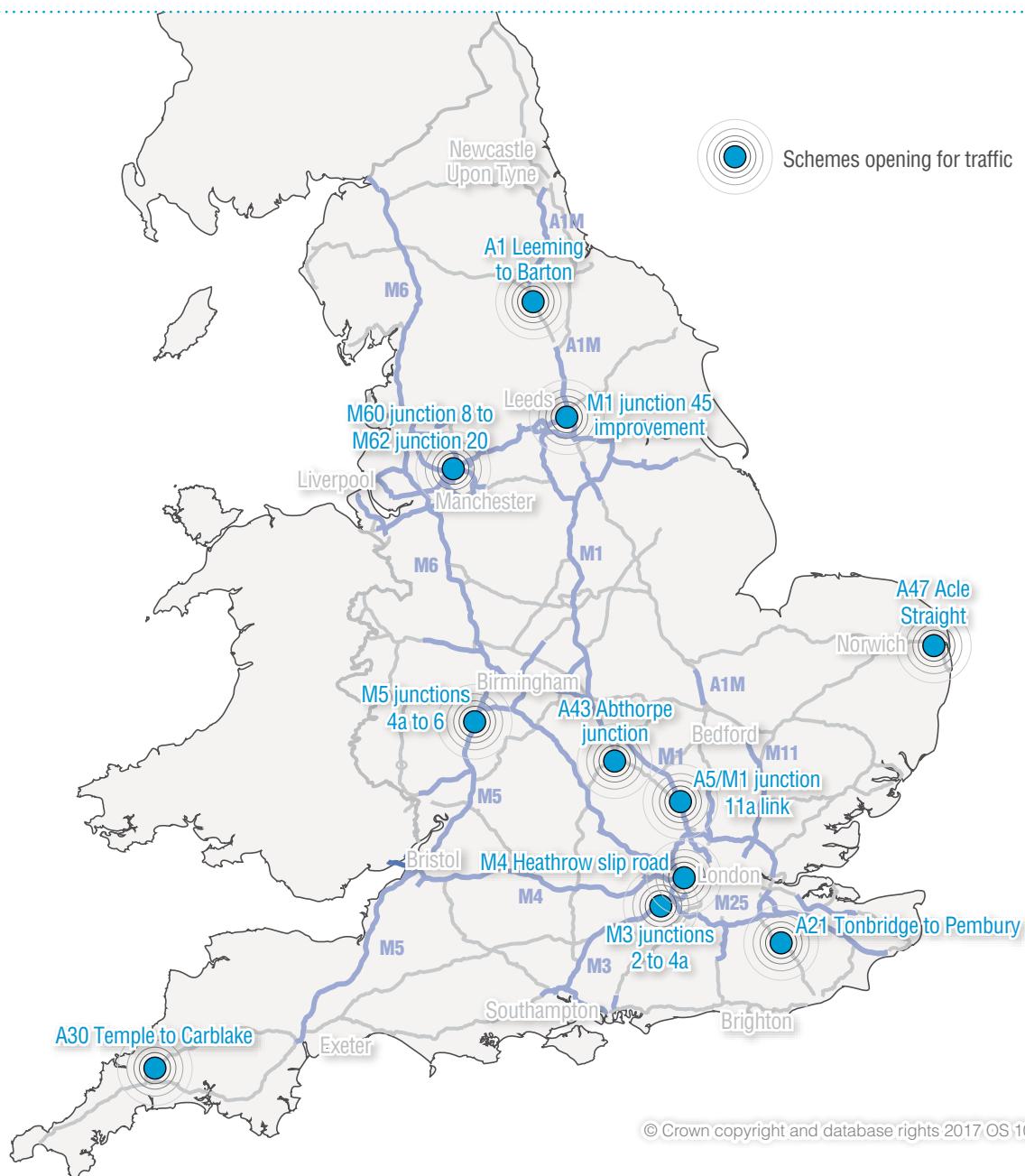
## 2. Supporting economic growth

The schemes that will be completed this year that support this aim are:

- A new dual carriageway linking the A5 to a new junction on the M1 on the A505 at Dunstable<sup>13</sup>.

- Improvements to the A43 Abthorpe junction<sup>14</sup> to accommodate the expected increase in traffic from new housing and business growth in the area and to open up opportunities for local development.

**Map 3:** Schemes opening for traffic 2017-18



<sup>13</sup> Map number 9 in Annex 1.

<sup>14</sup> Map number 65 in Annex 1.



## Schemes planned to start construction work in 2017-18

During the year we plan to start work on a number of improvements which will increase capacity on congested sections of motorway and improve links to areas of planned economic development.

Recognising the importance of the M62 to economic development in the north, and the need to increase capacity and improve flow, we will start work between junctions 10 (M6 Croft interchange) and 12 (M60 Winton interchange)<sup>15</sup>. This will provide a smart motorway and link with the M60 smart motorway schemes to the east and M6 schemes to the west. This will be followed by work to provide a smart motorway on the M62 between junctions 20-25<sup>16</sup> that will start in 2019-20.

The M6 is a key link for a large number of road users and businesses in the Midlands and we are working to upgrade further sections to smart motorway around Coventry, and from Stafford to Stoke, junctions 2-4<sup>17</sup>. This will increase capacity by adding 58 lane miles to the network.

The work at Coventry will start this year and we expect the improvements between junctions 2-4 to be complete in 2020 and the work at M6 junctions 13-15<sup>18</sup> to be finished by end of 2021-22.

We have applied for planning consent for work to improve junction 10a on the M20<sup>19</sup>. If we receive that consent, work will start this year. This project will support development in the Ashford area and help separate long distance traffic from local traffic, reducing congestion for both groups of road users.

We plan to start work in 2017-18 on 2 smart motorway schemes in the south:

- smart motorway between junctions 3-5 on the M20<sup>20</sup> near Maidstone to add 11 lane miles to the network and improve traffic flow in the area. This scheme is expected to open in 2019-20.
- smart motorway between junctions 8-10 on the M23<sup>21</sup> to increase capacity and improve access to Gatwick Airport. We expect the scheme to open to traffic in 2019-20.



<sup>15</sup> Map number 40 in Annex 1.

<sup>17</sup> Map number 28 in Annex 1.

<sup>19</sup> Map number 23 in Annex 1.

<sup>21</sup> Map number 31 in Annex 1.

<sup>16</sup> Map number 49 in Annex 1.

<sup>18</sup> Map number 29 in Annex 1.

<sup>20</sup> Map number 30 in Annex 1.

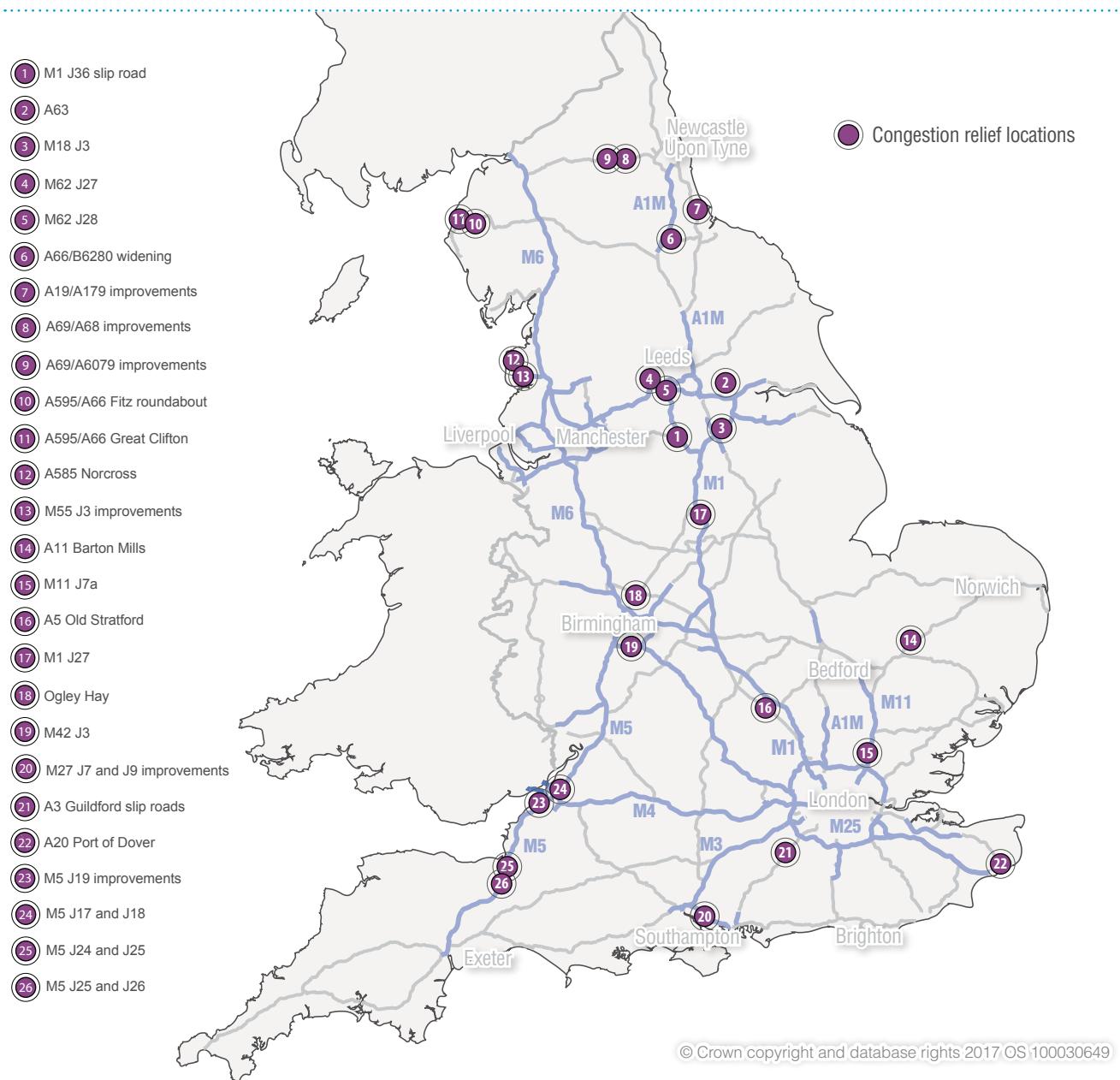
## 2. Supporting economic growth

### Stimulating growth

The strategic road network is vital to the success of the UK economy and supporting economic growth underlies much of our activities. To support the government's economic agenda of improving business productivity and competitiveness, we are increasing the capacity and reliability of the network. This includes providing efficient routes to global markets through international gateways and supporting integration with strategic infrastructure such as airports, ports facilities and existing and emerging rail links such as HS2.

We are using the additional £220m investment announced in the 2016 Autumn Statement to increase capacity on our network, reduce journey times and improve safety. This fund will be spent on existing roundabouts, junctions and slip roads on important national, regional and local routes (see **Annex 2**). In particular, the Congestion Relief Programme (see **Map 4**) will bring real benefits to communities and support economic and housing developments across the country. Additionally, as identified as part of the Trans-Pennine strategic study, we are taking forward improvements to 2 junctions on the A69 at Hexham and Corbridge. This will create an unbroken stretch of dual carriageway between Hexham and Newcastle.

**Map 4:** Congestion relief programme





M60 junction 10



## 2. Supporting economic growth

We are working with local authorities to explore ways to strengthen integration with local roads, long distance routes and off-road networks and opportunities to support park and ride sites and other interchange facilities which support local economies. At the same time we continue to use our Growth and Housing Fund to stimulate and support the sustainable development of homes and new business development.

We will continue working with our partners to improve journeys for everyone who uses our roads. This includes our work, in partnership with Essex County Council, to create a new junction on the M11 to provide another route into Harlow, cutting journey times as well as supporting new housing developments. A number of strategic studies have been identified for further development and an initial £27m has been earmarked for future development work for the Oxford-Cambridge Expressway<sup>22</sup>.

**Map 5:** Schemes for next Road Period planned for options development in 2017-18





## Schemes for the next Road Period

As we look to develop our future investment plans, we will build on the research undertaken to inform our 18 Route Strategies, Road to Growth – our strategic economic growth plan and the 6 Strategic Studies. This will be used to develop our Strategic Road Network Initial Report, which will describe the state of the network, user needs from it, and provide high level recommendations on future investment priorities. We plan to submit the report to government by November 2017. This will form the basis of a public consultation, which in turn will inform the government's setting of the next RIS.

As outlined in our Delivery Plan Update 2016-17, we have begun developing options this year for the 6 schemes listed. Our Lower Thames Crossing project has advanced significantly over the last 12 months. Following extensive analysis of more than 47,000 responses to our public consultation in 2016, we carried out further assessment of the options before

making our recommendation to government and the announcement of a preferred route for this project. This will also support the significant growth plans for the area, including proposals to create tens of thousands of new homes and jobs through a major new development around the high speed rail station in Ebbsfleet in Kent. We are committed to working closely with local communities and regional organisations to create a scheme which is sensitive to its surroundings and optimises the economic and community value of this major investment.

- A417 'Missing Link' at Air Balloon in Gloucestershire
- M1/M62 Lofthouse interchange in West Yorkshire
- A12 M25 to Chelmsford in Essex
- A64 Hopgrove junctions in North Yorkshire
- A12 Colchester bypass widening in Essex
- Lower Thames Crossing

During 2017-18 we plan to start developing options for the remaining 9 schemes (see **Map 5**).



The Dartford Crossing



### 3. A safe and serviceable network

Safety remains our first imperative and, while our road network is among the safest in the world, we are determined to meet our target to reduce the number of people who are killed or seriously injured (KSI) on the strategic road network by 40% by 2020. We continue to develop innovative programmes to improve road user behaviour and will look for new ways to make our own people safer when they work on the roads. We are also working to keep our roads in good condition through our ongoing resurfacing and renewals programme.

#### Key performance indicator

##### Making the network safer



The number of Killed or Seriously Injured (KSI) on the strategic road network



A reduction in the number of KSIs from the baseline figure of 2,321 to 1,393 by 31 December 2020<sup>23</sup>

##### Keeping the network in good condition



The percentage of pavement/road surface asset that does not require further investigation for possible maintenance



The percentage of the network requiring no further investigation to be maintained at 95% or above

#### Indicators that will be used to measure performance:

##### Road safety

- Incident numbers and contributory factors for motorways
- Casualty numbers and contributory factors for all-purpose trunk roads
- International Road Assessment Programme based road safety investigations, developed in conjunction with the DfT, to feed into subsequent route strategies
- Accident frequency rate for construction and maintenance workers, and for Operations

##### Network condition

- Geotechnical Asset Inventory and Geotechnical – asset Risk Level (condition)
- Drainage asset – inventory and condition data coverage
- Technology asset availability
- Structure asset – inventory and condition

For a full table of KPIs, PIs and requirements see **Annex 3**.

<sup>23</sup> RIS Making the network safer target of a 40% reduction against the 2005-09 average baseline by the end of 2020.



## What we plan to deliver in 2017-18

### Improving safety and reporting

Having accurate data is vital to improving safety. The results for 2016 show that, while overall collision and casualties have continued to reduce on our network, the number of seriously injured casualties has increased. This increase is, in part influenced by the new Collision Recording And Sharing (CRASH) initiative now being adopted by police forces and DfT. The system now records injuries suffered by the casualty and automatically converts them to a severity classification, rather than relying solely on police officer judgment.

Highways England, DfT and ORR are now working to develop a better understanding of the impact of this change and how we can strengthen our casualty recording approach to provide more accurate and consistent data. DfT is carrying out further research on the impact of the CRASH system and this will be reported in autumn 2017.

### Safer roads

Our ongoing investment programmes will modernise and maintain the network, they include a range of measures which improve road safety through work to upgrade junctions and lay-bys and central barriers, providing safer verges and better road signing and markings. Our programmes also target sections of our network with higher KSI rates and those where the safety star rating is lower, for example single carriageways.



### Our Health and Safety Five Year Plan

This will help us meet our aim that, by the end of 2020, more than 90% of travel on the strategic road network will be on roads with a safety rating of EuroRAP 3\* (1\* least safe - 5\* safest rating) or equivalent. To support this ambition, we have started development work with the Road Safety Foundation using the iRAP Safety Rating Model (International Roads Assessment Programme) to establish a baseline safety star rating and are assessing the impact of planned investments over the Road Period on this star rating.

Alongside this work to improve our road infrastructure, we are developing our understanding of the causes of accidents using Vulnerable User Insight Studies. These reports provide a detailed understanding of the demographics of vulnerable road users who have been involved in an accident. This then helps us target safety interventions more effectively.



### We continue to work to improve the safety of our customers and staff

Our specific work to improve safety for motorcyclists will continue, using the information we have gained from user surveys, reports and analysis. The Motorcycle Working Group which includes representatives of the Motorcycle Industry Association, the British Motorcyclists Federation, National Association of Disabled Bikers Motorcycle Action Group and IAM RoadSmart, is playing a key part in identifying and delivering actions, using existing research, to reduce the number of motorcyclist casualties.

For example, we are working in partnership with BikeSafe, a police led motorcycle initiative, which aims to reduce the number of bikers being hurt on the roads by improving skills, knowledge and hazard awareness. This is delivered through workshops which provide theory presentations and observed rides, identifying riders' strengths and weaknesses and also where to go next to develop their skills.

### Creating a safety culture

At the heart of our work to improve safety is our focus on ensuring that we have a strong safety culture across our organisation and our supply chain. To support this we will continue to provide a safety leadership and behavioural

safety programme and to implement our health and safety management system which will help us manage risk better. This will be supported by the development of a single incident management system for Highways England and our contractors.

During this year we will publish an update of our Health and Safety Five Year Plan. This will set out what we have achieved to date and our plans for the future. It will focus on identifying and embedding best practice as well as learning from other organisations to ensure we continue to work to improve the safety of our customers and staff.

Our contractors play a vital role in this activity and, by the end of the year we will ensure they have a structured plan and toolkits to address health, safety and wellbeing. This will be supported by the provision of material and support to help them manage risk. We will regularly audit this work to ensure that safety risks are considered throughout each project. In addition we are reviewing and revising the regional safety forums attended by contractors to ensure they are working in the safest possible ways.

Keeping our workforce safe is a critical priority and we are making progress in embedding our zero crossing initiative. This aims to eliminate the need for our workers to cross the carriageway through the use of vehicle mounted signage, communication technology and maintenance vehicles for gantries.

## Better information and compliance

We know that we cannot achieve our safety improvement ambitions alone and are continuing to work with our stakeholders to help promote safer driving and safer working practices, including exploring ways to improve the effectiveness of all our stakeholder forums and road safety partnerships.

We will continue to deliver against our safety ambition recognising that awareness, engagement and improvements in customer compliance are essential elements in how we will improve road user safety, with a particular focus on high risk groups to reduce KSIs. We will work closely with our key stakeholders and partners who have a significant role to play in helping us develop targeted compliance and information initiatives aimed at addressing a wide range of issues which can pose a risk to our customers using the network.



Gantry driver safety information on the M25

We will run a number of safety campaigns including national TV and radio advertising and news media to help increase driver awareness about safer driving. This will support increased engagement and collaboration with road safety organisations to target the key risks known as the fatal 4:

- inappropriate speed
- distraction such as mobile phone usage
- alcohol and drug driving
- not wearing a seatbelt

These campaigns will also help to inform our customers of the potential risks on the network and the need to plan their journeys ensuring their vehicles are safe and road worthy.

These campaigns are supported by initiatives focusing on high risk groups, such as The Driving for Better Business Programme Campaign. This is a business to business outreach programme providing information to companies to raise the standard of occupational road risk with businesses operating car and van fleets.



### 3. A safe and serviceable network

This summer we will host regional launch events of the new programme which will be delivered to our key stakeholders. The programme will then deliver a series of outreach events to local businesses across the country.

We have completed an update of the better business website which provides associated information and a wide range of resources, including social media activity to enable the Driving for Better Business Campaign to become a community of engaged businesses.

The New Driver Initiative will deliver awareness interventions to both driving instructors and learner/novice drivers – with the goal of reducing the risk of new drivers on the strategic road network. This initiative is being developed in partnership with DfT, Driver Vehicle Standard Agency (DVSA), Transport for London, Driver Training Industry Associations and other key stakeholders. We have designed, with the support from behavioural scientists, an in-depth e-survey for both driver trainers and novices/learners (focusing on discovering both gaps in knowledge, confidence and competence, as well as preferred learning and communication methods); this will be sent to

both target audiences nationwide through the project's stakeholders. A report of all research and findings to date will be produced to inform the development of an intervention framework and e-learning programme. This initiative will also support the introduction of learner drivers on the motorway in 2018, providing practical understanding of how to use them safely.

Alongside these engagement campaigns, we are working closely with our partners to develop and deliver a range of engagement initiatives to improve compliance and target drivers who break the law, such as driving in lanes with a red X or on the hard shoulder illegally.

This includes developing a new compliance operational model with our police partners that focuses on the South East. This will be a targeted and intelligence led programme of initiatives over a 12-month period starting in 2017. Wider compliance activities have also been progressed, including: Operation Tramline to increase the number of HGV Cabs from 1 to 3<sup>24</sup>; drug-testing for all drivers involved in a fatal and serious collision on the SRN; distribution of warning letters which seek to inform drivers on how to use our network safely, focusing particularly on red X.



<sup>24</sup> A unique motorway driver safety intervention designed to help the Police identify and record potentially dangerous commercial vehicle driver behaviour using a hand held video camera.



## Smart motorways, the M25

We also continue to develop new technologies to improve compliance. We have now completed the required preparatory activities, including market testing with suppliers and site identification, to allow on-road trials of fixed and mobile close following test detection equipment. This will provide a better understanding of close following driver behaviour at trial sites on the network (with a focus on road work sites, where close following is a particular issue).

This will allow validation of newly developed equipment and the understanding of thresholds for potential future compliance activities. Our casualty data indicates that close following is a contributory factor in around a third of all motorway collisions. On-road trials have now started and these will focus on smart motorway schemes during the roadworks and the scheme opening phase.

We are monitoring the impact of these compliance initiatives and have been encouraged by their effectiveness in communicating with drivers and reducing repeat offenders. We now intend to develop

further initiatives working closely with local safety partnerships and our enforcement agencies to establish new ways to target repeat offenders who chose to violate despite our efforts.

Since the introduction of the latest version of smart motorways, all lane running in April 2014, more than half a billion journeys have benefitted on the M25, M6 and M1. Data continues to show that collision rates have reduced, with improvement in journey time reliability. By the end of March, we will have reported on the performance of the first 3 years of all lane running.

We have listened to the concerns of stakeholders and completed a review of the concept, working closely with motoring groups and other parties. During 2017-18 we will be delivering a range of customer focused improvements on smart motorways. There will be a continued focus on effective communications and campaigns to enhance customer confidence and understanding of all lane running.

### 3. A safe and serviceable network

These measures include:

- rolling out a system to detect broken down vehicles
- introducing automated detection of red X violation to support awareness, encouragement and enforcement
- enhanced training material for vehicle recovery operators

We will introduce new standards for refuge areas to future schemes based on key learnings so that we continue to improve the smart motorways concept. Our improvements will include installing new signing and coloured surfacing to emergency refuge areas.

Specific measures will include improved signage with regular, reliable and consistent information advising the location of emergency refuge areas; additional advice to designers in determining the optimum location for emergency refuge areas; and creative awareness campaigns on key aspects of smart motorways such as emergency refuge areas. We are continuing to review the optimum spacing between refuge areas.

These complementary actions will increase road user confidence and further improve safety on our smart motorways.

Our maintenance and renewals programme has been developed to keep the assets on the strategic road network in a safe and serviceable condition. It is a programme based on the needs of customers and assets in each region, and our capability to deliver the investment effectively. We are smoothing the profile of renewals work across the year to deliver more efficiently, and packaging the programme to reduce its impact on our customers. Our planned activities are set out in **Table 1**.

As a result of extreme weather, or on some occasions incidents on the network, we may have to react flexibly which may result in the need to reprioritise our plans. There may also be variances against the target throughout the year due to reprioritisation of programmes. As a result, the volume of activity listed in the table may change over the year.

## Annual/ongoing commitments

### Improved network knowledge

We have developed an Asset Information Improvement Plan which will improve the data we have about our assets. This will help provide a more comprehensive asset data information system to improve our knowledge of the condition of our assets and improve our asset management capability. In particular, it will reduce the amount of surveying we have to carry out, saving time, money and risk to workers. We have also developed and implemented modelling tools for pavements and structures that we use to support the development of our asset management plans. Over the coming months (and years) we will continue to develop and refine our plan to provide more comprehensive and more accurate information to support our needs.

We have a Licence requirement to be consistent with the international asset management standard ISO55000. We are making good progress against this requirement and have developed our asset management framework approach, ready to commence roll out this year through our Asset Delivery procurement programme. Delivery of our ISO55000 consistent approach, supported by the asset information decision support tools we have developed, will enable us to assess asset needs over the immediate and longer term, helping



us to develop effective programmes of work to maintain asset condition, by intervening in the right way at the right time consistently across the network. The framework will also provide an improved view on performance during the year, helping us to make effective investment and programme management decisions.

New technical condition indicators have been developed for pavements and structures and these will be validated during 2017-18 and we have started the development of new technical indicators for drainage, geotechnical and technology.

**Table 1:** 2017-18 Indicative Renewals Output

Deliverables	Total quantity	Metrics description
Pavement	994 (lane miles)	Length resurfaced along centreline of the pavement.
Road markings	2,965,500 (lin m)	Length along the centre line of the road markings. This includes markings on new or replacement road surfacing.
Kerbs	1,300 (lin m)	Length along the centre line.
Vehicle restraint system	92,900 (lin m)	Length along the centre line.
Drainage	141,000 (lin m)	Summation of individual lengths measured along the centreline of the drain.
Geotech	5,700 (lin m)	Length of embankment/cutting treated (parallel to the carriageway).
Traffic sign (non-elec)	2,000 (no.)	Number of permanent traffic signs installed or replaced.
Guardrail	800 (lin m)	Length along the centre line of the new or replacement pedestrian guardrail.
Boundary fencing	33,900 (lin m)	Length along the centre line of the new or replacement boundary fence.
Lighting	1,500 (no.)	Number of road lighting columns installed or replaced.
Bridge joint	153 (no.)	Number of bridge deck expansion joint installations (installed or renewed).
Bridge bearing	110 (no.)	Number of bridge bearing units (installed or renewed).
Parapet	1,900 (lin m)	Length along the centre line of the vehicle parapet (new or renewed).
Waterproofing	29,400 (m <sup>2</sup> )	The surface area treated for waterproofing.
Motorway comms equipment	190 (no.)	Number of new or replaced motorway communications equipment items.
Tech renewals and improvements	160 (no.)	Counts of the number of assets renewed or improved.
Winter resilience	37 (no.)	Counts of the number of schemes on completion.
Network resilience	32 (no.)	Counts of the number of schemes on completion.

**Note 1:** There may be variances against the target throughout the year due to reprioritisation of programmes.

**Note 2:** Soft Estate measure removed as it represents a wide range of landscape and ecology components, and does not accurately provide comparison between schemes.

**Note 3:** Footways measure was removed as it includes channels, edgings, combined drainage and kerb blocks and linear drainage channel systems so is not an accurate reflection of simple length of footways constructed or renewed.

**Note 4:** Measurement rules and definitions apply.

## 4. More free-flowing network

We are continuing to work to provide a more free-flowing network where delays are less likely. In particular, we are addressing customer concerns about the impact of roadworks and we are taking further action to improve the way we respond to incidents and congestion.

### Key performance indicator

#### Supporting the smooth flow of traffic



The percentage of the strategic road network available to traffic



Maximise lane availability so that it does not fall below 97% in any one rolling year

#### Supporting the smooth flow of traffic



The percentage of motorway incidents cleared within 1 hour



At least 85% of all motorway lane impact closures between 06:00 and 22:00 are cleared within 1 hour

### Improving user satisfaction



The percentage of National Road Users' Satisfaction Survey (NRUSS) respondents who are very or fairly satisfied



Achieve a score of 90% by 31 March 2017 and then maintain or improve

### Indicators that will be used to measure performance:

- The percentage of NRUSS respondents who are very or fairly satisfied with: journey time; information and signs; management of roadworks; feeling safe; upkeep
- Planning time index (reliability of journeys)
- Traffic (vehicle miles travelled) on the strategic road network
- Acceptable journeys
- Average speed

For a full table of KPIs, PIs and requirements see **Annex 3**.



## What we plan to deliver in 2017-18

### Improving customer satisfaction

Our investment programme will bring significant improvements to our customers' journeys but will mean there are more roadworks. While our customers understand the need for this work they want us to find ways to reduce its impact. In response, in 2016-17 we provided much more roadside information about our biggest schemes including details about the benefits and timescales of the project, and how long it would take to get through the roadworks. We have also developed an online roadworks calendar to make it easier for customers to check the timing of road closures.

We have carried out 3 pilots of the impact of raising the speed limit in roadworks to 60mph and are now assessing the results. This includes analysing how our customers felt about the limits and any safety implications. We will also test a 55mph limit in roadworks.

This will allow us to make recommendations about how we could make higher speed limits a part of our standard approach to some roadworks. Building on the lessons learned from these trials, we will develop a more dynamic approach to speed limits so that we minimise restrictions on the work we are doing at any one time.

At the same time, we have been talking to our customers to find out what else we can do to make a difference to their experience and improve their satisfaction. We have set up customer engagement forums for 6 of our major schemes, where our customers provide detailed views about these specific projects. In addition, for the first time we have carried out customer audits, where we ask road users to drive through our roadworks and tell us about their experience. We then provide this information to our suppliers. This will reinforce our new contracting and performance arrangements that reward suppliers who find opportunities to develop and carry out works in ways that minimise inconvenience to our customers and neighbours.



We are improving our customers' journeys

## 4. More free flowing network

In particular, we are exploring new methods to limit the time we occupy the network by combining works to reduce disruption, with an aspiration to not return back to the same location to carry out further work on any given part of the network for at least 5 years. We are also reducing the number of signs and providing new induction training for our suppliers so they can work more effectively with traffic officers in managing incidents or delays.

We are continuing to work with Transport Focus to develop a new customer satisfaction survey. This Strategic Road User Survey (SRUS) will initially run in parallel with our existing National Road Users' Satisfaction Survey (NRUSS) which is now managed by Transport Focus.

This will inform our ongoing activity to maintain and improve user satisfaction through the implementation of our customer service strategy and customer service plan across the business. This includes new performance standards for managing correspondence and telephone enquiries and training for all staff. In addition, we are expanding our use of social media and web chat to contact our customers. We know that feedback can be a valuable source of insight and we have reviewed and improved our complaints process by carrying out quarterly analysis across Highways England. We will support this work by ensuring we have a clear overview of what activities we are undertaking to improve satisfaction and how we are progressing towards our satisfaction target.

We have made progress towards our commitment to develop a delay in roadworks indicator. The metric and the reporting tool are complete. Options to improve the underpinning data quality are being explored. We now plan to test the indicator during 2017-18.



Traffic officers on patrol

## Effective communication

To meet our requirement to report annually on how we have minimised inconvenience to road users through roadworks over the previous year, we provide a quarterly update to ORR and will report these activities at the end of 2017-18.

We are developing new approaches to improve our communication with customers and to incorporate their feedback into what we do. These include customer engagement forums where we explore the needs and expectations of customers travelling through roadworks, with insights fed back directly to each project team. We also compile a monthly report on customer views based on NRUSS data, correspondence and complaints, social media and regional feedback and this information is supplied to the relevant teams in Highways England.



In response to previous feedback we have changed the way we deal with correspondence, made our complaints process easier and introduced a Mystery Shopper Programme for the Customer Contact Centre (CCC) and Dart Charge to improve the quality of service. We now plan to use the mystery shopper approach for the correspondence we receive in both our business and our supply chain to drive further improvements in the way we respond to customers.

Improvements to Traffic England<sup>25</sup> and its website will give our customers and stakeholders more effective information about the best travel choices. We are also exploring the potential of using and sharing data from the National Traffic Operations Centre to improve the quality and accessibility of information. This will improve our work to provide effective updates to road users well in advance to help them plan their travel and give them real-time data in a useful format during their journeys.

This is supported by improvements to the way we respond to congestion through signposting details of alternative routes and working with partners to be more integrated.

We know that the Variable Message Signs (VMS) on the network are an important source of information for our customers and we are working to develop our processes and technology to ensure that these display accurate information. This includes providing detail about the specific location of incidents and the length of time road users are likely to be delayed. This will be supported by providing more detailed information on social media and websites to help journey planning, as well as real time updates to satellite navigation devices to outline alternative routes.

As part of our work with partners to improve our incident response we have established Regional Responder Forums and their effectiveness is being assessed. We will reinvigorate the Collision, Lead, Evaluate, Act and Reopen (CLEAR) initiative, a joint initiative with the police, to clear roads as quickly as possible after an incident and continue to work with local authorities.



**VMS, on the M25, are an important source of information**

<sup>25</sup> Traffic England is a free website which is available to the public that provides up to date information about what is currently happening on the roads and forecast traffic conditions.

### Additional activity

To improve our response to severe weather we have implemented a Severe Weather Information Service (SWIS). This gives 2,000 operational users access to real time information about weather forecasts and road treatment plans, so that those treating our roads in severe weather can improve what they do.

This also enables us to monitor all the road treatment activity carried out by its winter maintenance fleet. We have identified some potential improvements to the service and some of these are already in place, with more significant changes due to be implemented in 2017-18. Work is ongoing to improve functionality around vehicle management, such as defect reporting and vehicle journey assignment.

### Innovative approaches

New technology and innovation has an important role to play in improving the efficiency of the network and we plan to implement a number of initiatives over the year to develop that role.



We are continuing to support the government's ambition to establish the UK as a global centre for excellence in connected and autonomous vehicles. In particular, we are working with vehicle manufacturers to identify opportunities for autonomous vehicle trials by end of 2017 and manage a joint procurement, with the DfT, on a project to trial freight platooning. Through our participation in UKCITE<sup>26</sup> we are also supporting the development of the UK's first fully connected roads. This will provide the infrastructure on 40 miles of public road, including the M40 and M42, to enable a range of connected technologies which will support the safe testing of connected vehicles in a real world environment.

We are looking at the opportunities that 4G and 5G communications technologies can provide to help us improve customer service and support the development of connected vehicles at various sites on our network, including the A14 and the planned £15m A2/M2 connected corridor between London and Dover.

**New technology and innovation has an important role to play in improving the efficiency of the network**

<sup>26</sup> UK Connected Intelligent Transport Environment (UKCITE) is a project to create the most advanced environment for testing connected and autonomous vehicles.



VMS displaying safety information

All connected and autonomous vehicle trials are governed by the Department for Transport Code of Practice, which describes how manufacturers and other organisations should approach and run trials on the road network. In addition to this, Highways England is using our safety risk management approach to manage and mitigate the risks to road users and workers of trials such as these, as well as the cyber security of the trials.

We have started construction on the first motorway to motorway traffic management scheme, to smooth the flow of traffic onto the M62 from the M6 at junction 21a. By using a combination of variable mandatory speed limits and traffic signals we will be able to make the best use of the existing road space and reduce congestion. We expect construction to be completed during 2017-18.

Other innovative developments include a collaborative traffic management programme on the M25 delivering integration of ramp metering<sup>27</sup> operation with local junctions to optimise performance.

Innovation can play a part in helping us detect and respond to incidents more quickly and we had planned to install a tunnel detection test bed in the Hindhead Tunnel. Our plans have now been updated with initial work reprogrammed and have now identified a viable alternative and plan to install this technology in Southwick Tunnel. We expect full testing to start in early 2018.

In our Delivery Plan we made a commitment to undertake off-road trials of Wireless Power Transfer in 2016-17. Having carefully considered the maturity and viability of the available wireless technology we decided to pause the project until at least 2018 when a similar trial on urban roads will have been completed.

Our annual innovation challenge competitions will help to support the development of innovative approaches. These bring together a wide range of organisations to identify ideas and develop new approaches to road improvements. We plan to run an innovation challenge competition by the end of 2017-18.

<sup>27</sup> Ramp metering is a traffic management technique which regulates the number of vehicles allowed to join a motorway at peak periods.



We will review the scale of the competition later this year. We have refocused some of our research and development spend to support the updating of our technical standards (a licence commitment).

We want to encourage people and organisations to send us innovative ideas. To make this easier we have introduced a single point of contact. We launched our online “Bright Ideas Survey” in November 2016, initially focusing on innovation across our smart motorways programme. Over 100 ideas were received and we are currently progressing over 10 new innovation projects as a result through Innovation Designated Funds<sup>28</sup>. We are also exploring how we can place greater emphasis on innovation within our procurement process.

Another important aspect of our work is to use innovation to improve the efficiency of what we do and to accommodate changes in the types of vehicles our customers use. As part of the programme to support uptake of ULEVs we are installing rapid charging points with a future ambition to ensure 95% of the network is within 20 miles of a charge point. The first stage of the work is to reduce the longest length on the network without a charge point from 60 to 40 miles. We are intending to meet our ambition that 95% of the network is within 20 miles of a charge point by April 2019.

### Improving free flow

Our Traffic Officer Service clears some 430,000 incidents a year and is focused on making sure that risk and delays to customers are minimised.

We have a clear commitment to improving this service by working with the emergency services to open the road or lanes more quickly after incidents and using new technology to remove stranded and overturned vehicles. We are analysing incidents to identify opportunities to reduce the time we take to clear them and minimise delays for road users.

This includes a particular focus on coordinating the clearance of incidents on smart motorways and understanding the impact of the increased use of all lane running. In addition, we are continuing a pilot where traffic officers provide greater coverage of our whole road network, so that they can give a more flexible service to our customers. We are using the Traffic Officer Service to monitor how roadworks are affecting traffic flow and to provide data about any defects they see on the roads. An improved monitoring capability to capture more details of incidents on the APTR, the majority of which is not covered by our Traffic Officer Service, is also being developed.

### Improving traffic control centres

Our traffic control centres play an important part in keeping the network moving and we are continuing to develop new information and control systems through our joint initiative with the Dutch road authority, Rijkswaterstaat, CHARM. This will improve our effectiveness, resilience and ability to deploy our officers more flexibly at particularly busy times or during emergency incidents. We had planned to introduce this system into one of our control centres by the end of 2017. However, due to challenges faced by suppliers in meeting this date this is now expected to be in operation by the end of September 2018. It will then be implemented in other control centres.

<sup>28</sup> See glossary in Annex 5.



Traffic officers on the M25





## 5. Improving the environment

We recognise that our network has a significant effect on the environment and we aim to minimise its impacts and take action to enable it to operate more harmoniously with its surroundings. To meet those aims, we continue to use our Environment Designated Fund to tackle particular challenges including noise, visual impact, flooding and biodiversity. To support those projects we continue to improve our engagement with stakeholders and partners, and continue to align our work with the government's ambition.

### Key performance indicator

Delivering better environmental outcomes



Number of Noise Important Areas (IAs) mitigated



1,150 IAs where interventions are used to reduce the noise exposure of the population within the IA

Delivering better environmental outcomes



Delivery of improved biodiversity, as set out in Highways England's Biodiversity Plan



Reduction in the net loss of biodiversity by end of the first Road Period, on an ongoing annual basis

### Indicators that will be used to measure performance:

- Number of air quality pilot studies completed
- Carbon dioxide equivalents (or CO<sub>2</sub>e) in tonnes associated with Highways England's activities
- Supply chain carbon dioxide (CO<sub>2</sub>)
- The number of flooding hotspots and culverts (high risk and very high risk) mitigated
- The number of outfalls and soakaways (high risk and very high) mitigated

For a full table of KPIs, PIs and requirements see **Annex 3**.



## What we will deliver in 2017-18

Using our Environment Strategy we have identified further key projects for the £300m ring fenced Environment Designated Fund<sup>29</sup> programme. This programme has delivered some significant improvements to date and we will continue to develop the forward programme this year. The plan reflects consultation with stakeholders who have been encouraged to submit proposals. A number of partnership projects are already being developed following earlier discussions.

### Improving air quality

Poor air quality is a concern for our road users and our neighbours and we continue to explore a wide range of solutions to improve it. We are carrying out a number of pilot studies to help us understand which measures will have the greatest effect.

The studies include a range of interventions around the country, as well as activities focused on how we might support the uptake of ultra-low emission goods vehicles on the strategic road network and emissions testing of a new type of paraffinic fuel.

We are also undertaking a trial of a mineral polymer barrier designed to absorb nitrogen dioxide. In addition, we are carrying out a study to understand how better information can help drivers play their part in improving air quality.

We are building a national air quality monitoring network of around 60 monitoring stations to continuously check the quality of air on our network.

### Reducing our carbon footprint

We are playing our part in reducing the UK's carbon emissions through lowering our corporate carbon footprint and working with our supply chain to encourage lower carbon material and construction techniques.



<sup>29</sup> See glossary in Annex 5.

Our plans to investigate the feasibility of solar panel provision on the surplus land are no longer going ahead. Instead, Environmental Designated Fund Carbon are progressing the installation of solar panel (photovoltaics) at suitable depot locations to support the reduction of carbon emissions from these maintenance depots and renewable energy generation on the Company's estate.

The amount of photovoltaic electricity to be generated will contribute to the relevant demand or 'usage' at that depot. Solar farms (photovoltaics) to support tunnel power demands are also being progressed as part of renewable energy generation. This will contribute to the relevant daily power demands of the tunnel.

### Electric vehicles

Electric vehicles have the potential to reduce emissions on our network and we know that ensuring there are sufficient charging points will be important in encouraging their adoption. We continue to work with the Office for Low

Emissions Vehicles, local authorities and stakeholders to support our work to deliver charging points and to ensure we secure value for money. Having identified the best possible locations for charging points, by the end of 2018-19, we expect to have installed sufficient rapid charging points to meet our obligation to ensure that 95% of the network has a charge point within 20 miles. To minimise the environmental impact of our own operations, we are also continuing to assess the feasibility of introducing ULEVs where appropriate for the Traffic Officer Service.

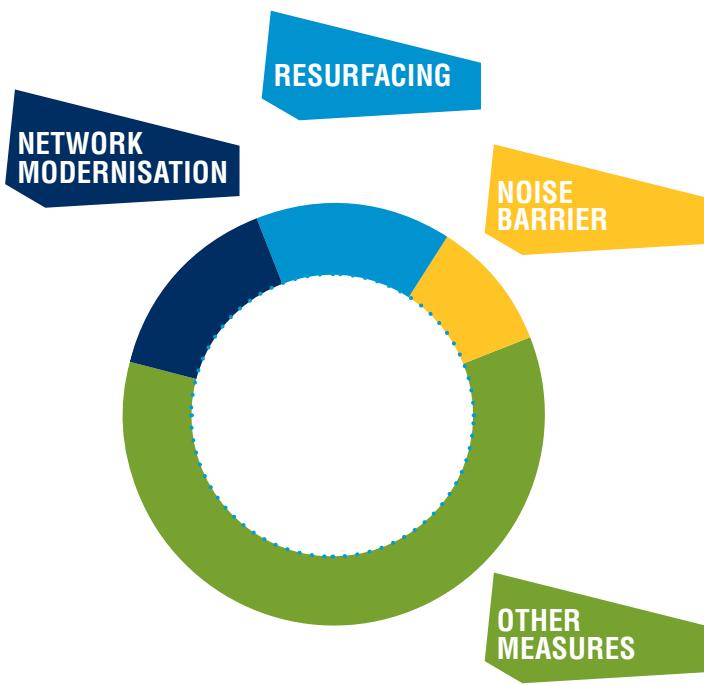
### Tackling noise

Noise is one of the biggest environmental impacts caused by road use and to develop our understanding of ways of reducing that impact we are using noise laboratories that accurately simulate traffic noise and the impact of noise barriers. We are researching other alternatives such as different surface types, and will continue this work the coming year.





We continue to develop our Noise Important Areas programme and have made some changes. 15% of the sites will now be addressed through network modernisation; 15% through wider resurfacing programme; 10% through the noise barrier construction programme; and 60% through other measures such as the noise insulation scheme<sup>30</sup>.



We will start on the noise insulation scheme, after the completion of a pilot, to address issues in 1,150 Noise Important Areas. These schemes are aimed at providing improved glazing to receptive properties within Noise Important Areas where other mitigation measures are not practical.

## Improving the appearance of the network

Improving the look of our network and protecting the character and quality of the built and natural landscape remain important activities for us. We work with Natural England,

Historic England, National Trust, National Parks and the supply chain to identify sites where we can improve the appearance of our roads and have allocated over £700,000 for feasibility studies to develop a programme of activity to support this work. In addition, £4.5m will be spent this year on schemes that reduce visual impact and improve the landscape.

## Heritage

Led by our cultural heritage specialist, we are continuing to build on our work with Historic England, and the supply chain to identify a list of heritage assets most at risk. We will then develop conservation measures that can reduce that risk.

Further work is taking place, using the Environment Designated Fund, to enhance the condition of those cultural heritage sites and historic features that we own and are responsible for, for example, milestones along the network, listed stone plinths at White Gates (A23) and the medieval Pipewell Gate (A259).

We have allocated funds to carry out feasibility studies for those sites identified as requiring investigation. This is in addition to detailed design work for sites requiring interventions and once completed funds are allocated to the enhancement works.

Heritage fieldwork continues on the network in the context of improvement works, for example, archaeological work is underway on the A14 where nearly 200 archaeologists are being employed to excavate remains in advance of works. Finds so far have included Anglo-Saxon settlement and prehistoric funerary monuments.

<sup>30</sup> Numbers are indicative. Actual figures to be finalised during programme development.

## 5. Improving the environment



Collecting litter on the network

### Reducing litter

Our new approach to asset delivery sets out the type of cyclic maintenance interventions required, their frequency and outcomes that each asset type should achieve. By improving the clarity of our requirements we are able to better tailor cyclic activities in a more granular manner to target specific network needs.

In managing the soft estate<sup>31</sup> and/or dealing with litter we now specifically instruct, by location, the appropriate interventions and the frequency, monitoring effectiveness through our route inspectors and the formal service reviews in collaboration with our contractor.

Given the very specific dynamics of the soft estate and litter, combined with the importance of these aspects to our customers perception of our network, we now have a more flexible management capacity to meet our customers need and our legal requirements. In between planned routine maintenance, we will also continue to react to situations that arise, for example, the removal of fly tipping.

### Biodiversity

We are committed to working to halt the decline in biodiversity on and around our network and to making a positive impact on the environment for wildlife. By 2040 we aspire to have a network that provides a net gain in biodiversity from our activities, using the Environment Designated Fund to support this work and our latest plans will be set out in our annual non-technical public report on biodiversity.

155 biodiversity projects have been presented to our biodiversity technical working group. We are now working with Regional Programme Boards and local wildlife partners and service providers to identify and implement revised management activities to improve biodiversity. Using the Environment Designated Fund more than 170 projects will be taken forward, a significant number of which will be delivered in 2017-18. We also support the objectives of each of the 10 Nature Improvement Areas (NIA) which are adjacent to or form part of our network, and projects specifically designed to improve urban environments with low biodiversity and which maximise habitat connectivity. The programme for these will be agreed for each region during 2017-18. Further work will take place on 2 pilot schemes at the Humberhead Levels, and the Morecambe Bay Limestones and Wetlands NIAs, with feasibility studies expected to be completed in 2017-18.

### Action on flooding

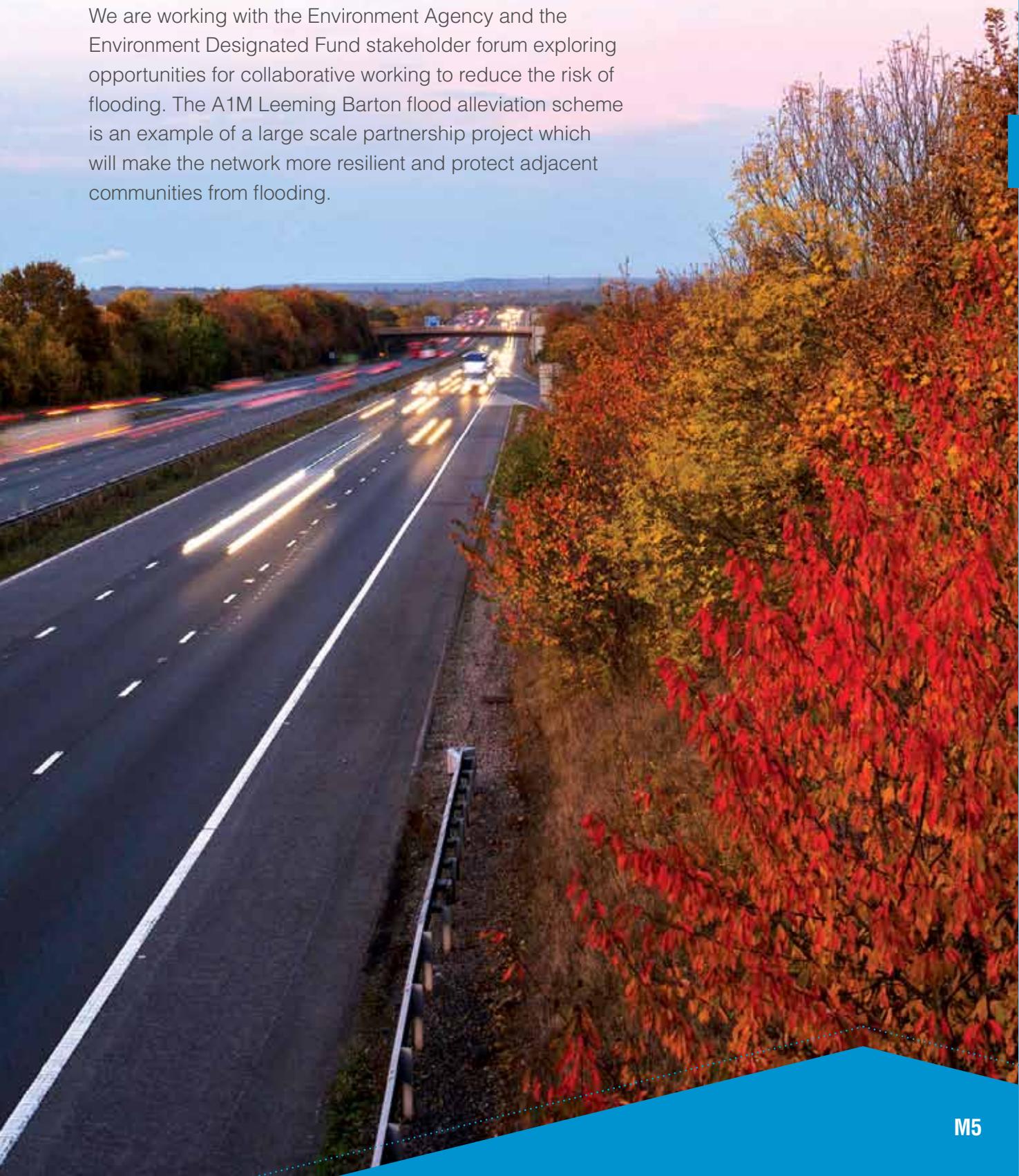
An important area of concern for our customers and neighbours is flooding and we are making progress with our investment programme to tackle this issue. We are developing plans for the identified high priority flood risk locations recorded and the design work for 13 schemes

<sup>31</sup> See glossary in Annex 5.



is expected to be completed in the coming year, with a large number of other schemes subject to feasibility assessments.

We are working with the Environment Agency and the Environment Designated Fund stakeholder forum exploring opportunities for collaborative working to reduce the risk of flooding. The A1M Leeming Barton flood alleviation scheme is an example of a large scale partnership project which will make the network more resilient and protect adjacent communities from flooding.





## 6. Accessible and integrated network

Highways England and the government have a shared ambition to address the unnecessary barriers our network creates, expand people's travel choices, enhance and improve facilities, and make every day journeys as easy as possible. To help meet this ambition we continue to improve our provision for pedestrians, cyclists and other vulnerable users.

### Key performance indicator

Helping cyclists, walkers, and other vulnerable users of the network



The number of new and upgraded crossings



N/A – Measure of success is increase in the number of completed:

- new crossings
- upgraded crossings

### Indicators that will be used to measure performance:

- Number of vulnerable user casualties (broken down by cyclists, pedestrians, motorcyclists and equestrians)
- Identification and delivery of the annual cycling programme

For a full table of KPIs, PIs and requirements see **Annex 3**.





## The cycling programme

Our Cycling Strategy has been embedded throughout the company, our supply chain and service providers. We have established the Cycling Leadership Group and have taken forward initiatives to build capability, capacity and expertise. A key element has been the publication of comprehensive guidance and training to enable the design of safe and convenient facilities for cycle traffic on and around our network and to provide facilities of a consistently high standard.

We continue to provide new cycling facilities, including cycle lanes, crossings and signs that are safe, separate from traffic and can be used by cyclists of all abilities.

This supports our Delivery Plan commitment to deliver 150 cycling facilities and crossing points on or around the strategic road network by 2021 as part of our £100m investment programme (2015-16 – 2020-21).

Cycling improvements are being made as part of our major highways construction projects taking place across the country, including the A1 Leeming to Barton, which will provide enhanced access for pedestrians, equestrians and cyclists through the provision of a continuous local access road and 21 new and 6 upgraded crossings.

We ensure all schemes supported by the Growth and Housing Fund offer improved provision for all road users, including cyclists, where appropriate. A number of projects have already been approved which will benefit cyclists. These include a new link road on the M5 junction 29 which will provide segregated cycling/pedestrian lanes and upgrades to the pedestrian/cycle bridge on the A52. Schemes on the slip roads on the M1 junction 23 and M62 junction 8 will also improve crossings for cyclists.





## We continue to provide new cycling facilities, including cycle lanes and crossings

## 6. Accessible and integrated network

We will continue to undertake a wider programme of feasibility and design work to inform our future investment programmes and have currently identified over 20 schemes for construction in 2017-18.

To inform ongoing cycling scheme identification we have developed a tool to assist in the identification of areas with potential suppressed cycling demand and where these interface with our network. This will assist with the development of the cycling forward programme. We have also created a new process of scheme identification which includes closer working with local highway authorities and using their Local Cycling and Walking Infrastructure Plans (LCWIPs) to ensure our resources are concentrated in areas of the greatest network need.

We have also been working closely with our key stakeholders and partners to develop improved performance metrics which more accurately monitor our progress and will develop these for cycle usage and customer satisfaction for testing in 2017-18.

**Cycling Strategy**

**Our approach**

**Introduction**

Highways England operates, maintains and delivers the strategic road network.

As part of the challenge, we're demonstrating and developing the delivery of cycling across the network to support the Government's cycling strategy. Through our cycling forward programme, we're helping to grow the UK cycling while supporting the delivery of My Way, the Government's cycling strategy.

This means improving the environment for cycling, encouraging people to use our roads every day, and removing any barriers that may stop them from doing so.

**Our Cycling Strategy** informs how our partners make improvements to encourage more people to ride and access urban centres via cycling facilities. The aim is to contribute towards the development of an integrated, safe and accessible cycling network that is fit for the needs of the UK's population and the needs of the economy, which are both separated from traffic and that enables users of all ages and abilities to cycle safely and easily as a sustainable form of transport. Our strategy also recognises the importance of local networks, cycling infrastructure and local businesses and incorporates well-made local cycling infrastructure.

**Our cycling strategy** will help achieve a better environment for cycling, making it:

- More accessible
- More attractive
- More convenient
- More enjoyable

**Our Strategy** makes a commitment to invest £500m of Highways funding in 2018 cycling infrastructure, and to work with partners to support the Government's ambition for cycling to become a natural choice for journeys, and aligns with the development of the Government's Cycling and Walking Investment Strategy.

## Our Cycling Strategy

## Accessibility strategy

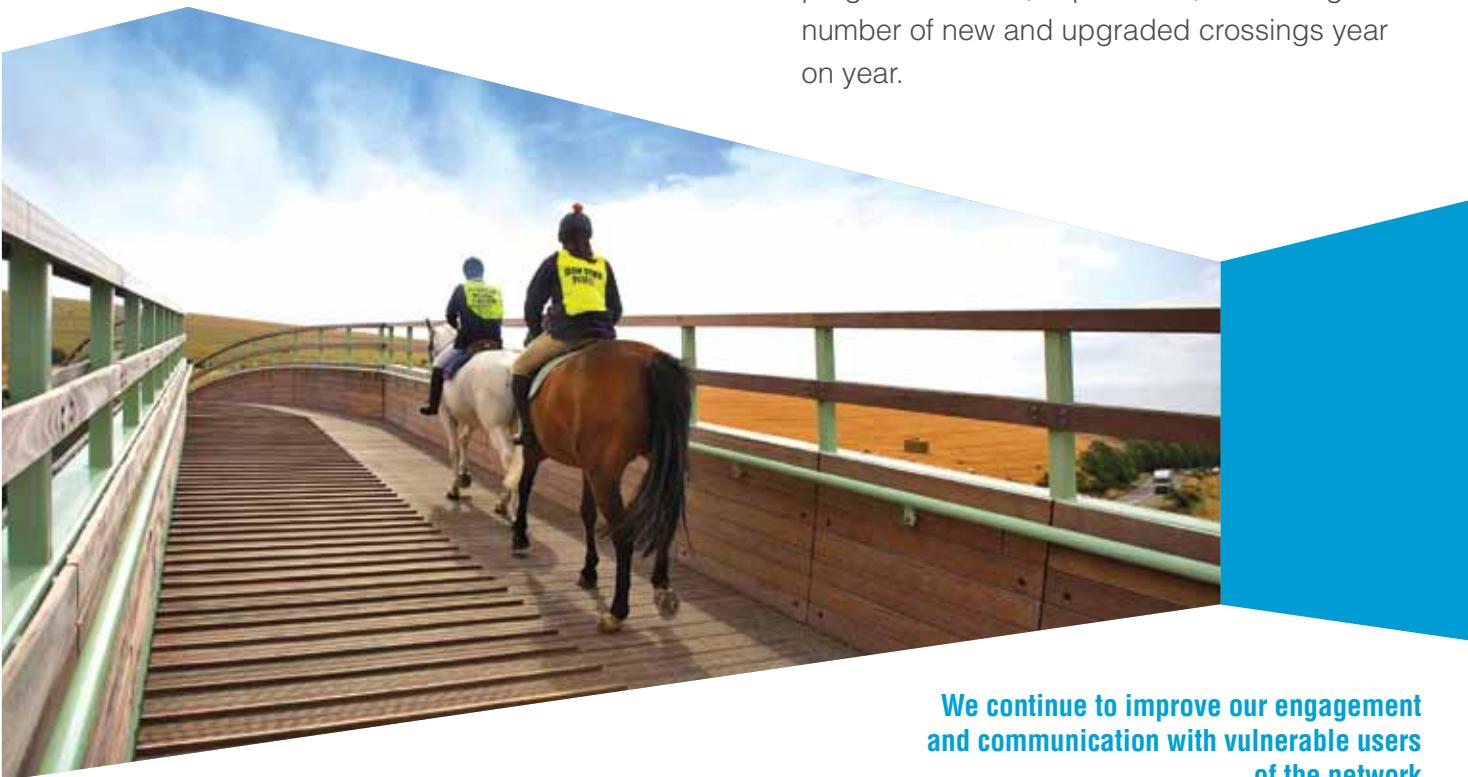
Our accessibility strategy set out our vision for an accessible, inclusive and integrated network offering flexibility for users and communities. To measure our progress against our accessibility strategy, we have established an Accessibility Leadership Group; this will set out our progress in delivery our strategy, provide examples of best practice and outlines our programme of activities for the next 12 months.



To support the development of improved facilities for vulnerable road users, we will shortly publish a revised technical design standard for undertaking vulnerable road user audits and relevant design standards. This will be supported by the publication of place making guidelines for scheme developers to understand how the strategic road network can contribute positively to connectivity and a sense of place. We are also developing new metrics that will allow us to more accurately monitor our progress and deliver continuous improvement. This will be reinforced by further activities to embed the accessibility strategy throughout the company, our supply chain and our service providers.

We have undertaken a review of the appraisal, monitoring and evaluation of accessibility schemes and will be implementing new processes to ensure benefits are accurately captured to support business case and investment decisions. A study into how we can obtain and incorporate community insight and perspective into scheme development has also been completed and will be reported in the summer.

We continue to improve our engagement and communication with vulnerable users of the network. To this end, we are working with Transport Focus on the development of a cycling, pedestrian and equestrian satisfaction survey. We will be trialling more formalised regional stakeholder engagement forums in 2017-18. This supports the steps we are taking to enhance and provide safe facilities for vulnerable users through ongoing improvement programmes and, in particular, increasing the number of new and upgraded crossings year on year.



**We continue to improve our engagement and communication with vulnerable users of the network**



## 7. Delivering performance and efficiency

We continue to make good progress towards meeting our challenging efficiency targets of £1.2bn. We are focused on improving the way we work, ensuring we have accurate information about our assets and effective relationships with our suppliers that will support our efforts to deliver value for money in everything we do.

### Key performance indicator

#### Achieving real efficiency



Savings on capital expenditure



Total savings of at least £1.212bn over RP1 on capital expenditure

#### Achieving real efficiency



Delivery Plan Progress: progress of work, relative to forecasts set out in the Delivery Plan, and annual updates to that plan, and expectations at the start of RP1

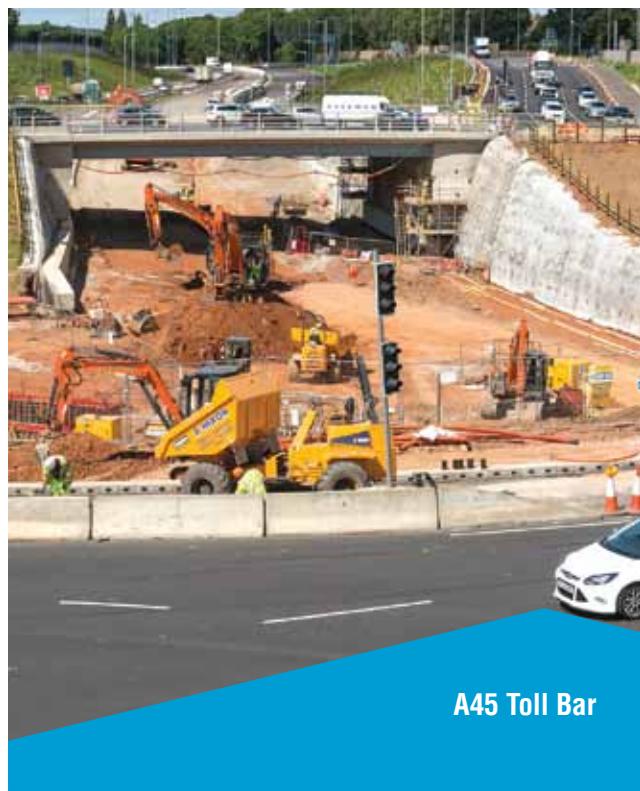


Meet or exceed 'forecasts' within the 'Delivery Plan' or subsequent 'annual updates' of that Plan

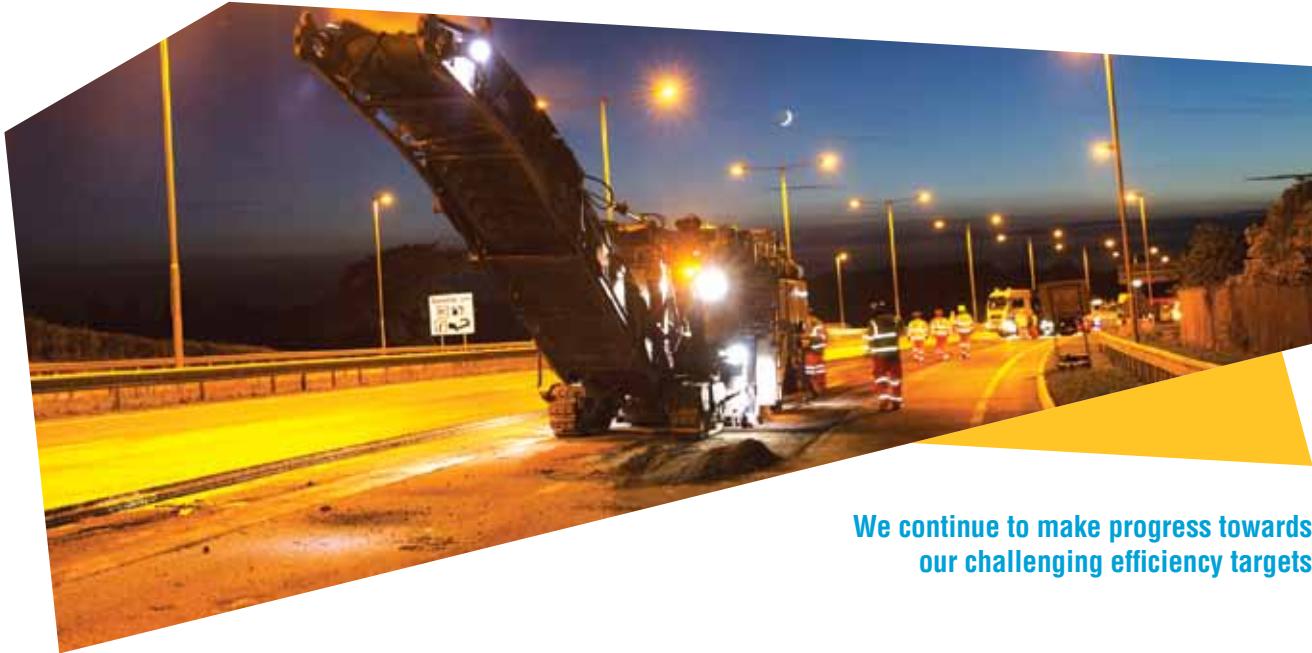
### Indicators that will be used to measure performance:

- Cost Performance Indicator and Schedule Performance Index for schemes at Project Control Framework Stage 5 and beyond

For a full table of KPIs, PIs and requirements see **Annex 3**.



A45 Toll Bar



We continue to make progress towards our challenging efficiency targets

## What we plan to deliver in 2017-18

### Focusing on efficiency

We continue to make progress towards our challenging efficiency targets and to meet our requirement to demonstrate on an annual basis how efficiencies have been achieved through our efficiency KPI performance reporting process.

### Efficiency targets

Our efficiency target for RIS 1 is total savings of at least £1.212bn on capital expenditure. Our cumulative efficiency milestone to the end of 2017-18 is £377m. At the end of 2016-17, we were ahead of the cumulative milestone and our objective is to continue to exceed the milestone for this year.

TOTAL SAVINGS  
TARGET OF  
£1.212bn



### Capital Efficiency Delivery Plan

We published our Capital Efficiency Delivery Plan in March 2017. This outlined the processes, targets, governance and assurance mechanisms we will use to deliver our efficiency target. We have set efficiency targets to individual projects and provided incentives for project managers to deliver efficiently. This is supported by a comprehensive review of the business changes which have the potential to contribute directly or indirectly to the target. We have set out a clear timescale for these to be implemented and are exploring emerging opportunities for further efficiencies.

Efficiency is growing organically with programmes and regions developing new approaches to delivery. In 2017-18 we shall ensure that best practice is deployed both geographically and pan programme. This will be supported by the dedicated resource and focus of the central group reviewing pavement innovation and delivery.



## 7. Delivering performance and efficiency

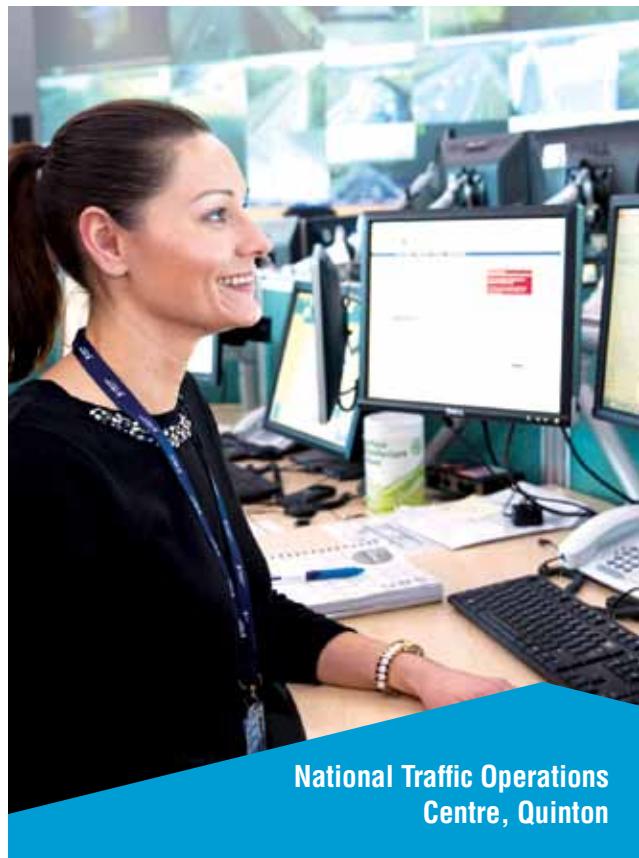
In the coming year, we will focus on our capital renewals, smart motorway, widening/by pass programmes and the A14 scheme. We will consolidate changes relating to:

- accelerating delivery time lines
- designing schemes most effectively
- ensuring best implementation of engineering standards
- ensuring contracts and supplier incentives maximise efficiency generation
- combining schemes to make best use of resources
- managing risk
- optimising scheme delivery logistics
- basing decisions on consideration of costs across the life of an asset

### Partnership working

We recognise that to achieve our target we need to work in partnership with our supply chain and have created a Supplier Engagement Council. The council has established a joint working group to identify ways to improve efficiency without impacting on the sustainability of suppliers' businesses. In addition, we continue to encourage suppliers to innovate to drive efficiency and to submit their ideas and examples for our annual supply chain awards.

We have revised our Collaborative Performance Framework which measures both supplier performance and behaviour. Equally, our performance measurement of suppliers working



on major projects enables us to ensure that efficiency requirements in budgets for schemes are met. This is reinforced by a programme of audits and assurance.

### New approaches to delivery

Other efficiencies are being piloted through increased supply chain collaboration and these will be deployed going forward across geographical regions and programmes as part of 'business as usual'. This will continue to drive delivery of the efficiency target.

Our focus on carrying out capital renewals programmes more efficiently is continuing through adjusting the timing of work to take advantage of more daylight and better weather. We are securing efficiencies by packaging major schemes together, combining renewals and routine maintenance, better design and improved reliability, as well as finding new and innovative ways of working.



## Improving data quality

Over the course of this year we will adopt an open approach to start standardising business data definitions and identifying opportunities to rationalise data, reduce manual processing and make sure we can share accurate data between systems. We also plan to move towards a master data management approach for physical and technological network assets and are implementing advanced software tools to help us with this work.

In parallel we will improve our approach to data management to increase ownership and control of our data and provide better quality assurance. Our aim is to establish a culture which treats data as an important organisational asset with an initial priority being improvements to our performance metrics. This will increase confidence in our data and reduce processing costs.

The Information Leadership Group, an executive sub-committee, will set priorities, monitor delivery and provide regular updates on progress.



## Managing risk and uncertainty

We are committed to deliver as much as possible within the allocated level of funding. If risks materialise, we look to see if we can/should manage the change within the portfolio. If this is not possible, we will manage them through a transparent change control process with key changes in outputs agreed periodically and reported in our Annual Report.

We use these themes to underpin our risk reporting. This provides us with assurance that the risks to our key delivery objectives are effectively managed across all of our directorates and risk registers.

While we will always focus on managing those risks that are within our control, there are, inevitably, some risks over which we do not have control. We work closely with our partners and stakeholders to mitigate the impact of risk on our operations. The Audit and Risk Committee reviews the effectiveness of our internal controls and procedures to identify assess and report risk. Safety risks are reviewed separately by the Safety Committee and feed into the wider Board discussions. The Board and the Executive have also discussed the corporate risk register to ensure it continues to reflect the key risk factors for the company.

**We are committed to deliver as much as possible within the allocated level of funding**



## 8. People and our company

We continue to improve our organisation to ensure that we have the right people, skills and incentives to deliver our commitments to government, provide excellent service to our customers and drive further improvements in safety.



### What we plan to deliver in 2017-18

#### Improving our organisation

We are making good progress with our work to improve our organisation and ensure that we recruit and develop the right people, skills and capabilities to support our ambitions. Our organisation is growing in size and evolving to meet our 3 imperatives but will only succeed if these changes are underpinned by the right structures, procedures, capacity, culture and governance. Only by making these considered, proactive improvements to how we operate, will we be able to deliver on our commitments.

The scale of our investment programme means that one of our biggest challenges is recruitment and one way we can meet this challenge is through apprenticeships. We are supporting the government's goal of creating 30,000 apprenticeships in road and rail by 2020 and this year plan to recruit 150 apprentices and 50 graduates through our Early Talent Plan. This is in addition to our ongoing recruitment of key roles such as commercial and procurement specialists needed to support our investment plans for the remainder of RIS 1.

Our focus on improving the skills of our existing workforce will be reflected in the leadership and specialist talent development programmes and the expansion of the management development programme to all managers. We will provide an enhanced online learning platform and e-learning options and develop innovative learning products such as a driver simulator to refresh and assess all our traffic officers' driving skills.

A range of work will take place in 2017-18 to embed our company values further through integration of our behavioural framework which will become part of our performance management process. These values are: safety, integrity, passion, ownership and teamwork and we continue to improve our communication about these to ensure our employees can identify with them and align our work and their performance objectives to them.

#### Delivering our equality objectives

We are a maturing organisation that is growing and developing to meet the investment and performance plans set out in the RIS. To accomplish this and meet the requirements of our public sector equality duty (PSED), we will continue to embed equality, diversity and inclusion (EDI) actions into all areas of our work

as well as expanding our capability and that of our supply chain partners. This includes developing and using tools and processes that enable genuine engagement with our customers and the communities we serve.

We will continue to make use of the NRUSS, the customer panel, our design panel and other opportunities to listen and act on the needs of our customers. We will work collaboratively with our partners to ensure that the strategic road network is accessible and integrated for both our users and the communities living alongside. This includes acting on the recommendations of the 'disability awareness in construction' pilot which is advancing during 2017 and, involves internal project and communication managers as well as our supply chain partners.

There is clear evidence that pressures within the labour market mean that suppliers and organisations who are taking robust action on EDI are much better placed with skills, capability and competitive positioning. As a result, we will advance our work to support and deliver positive changes so that our sector is strongly positioned for future investment

growth. This includes pre-assessment of certain contracts and the use of our collaborative performance framework to monitor how well suppliers working on our projects are meeting their contractual requirements. This involves providing evidence of improving diversity and inclusion for employees and customers and communities impacted by our work on the network.

Throughout 2017-18 we will work with the Supplier Diversity Forum, a group consisting of suppliers and ourselves who are working together to create a more inclusive industry whilst better serving society. Work includes research around attracting people into the sector, improving workforce data collection and developing a threshold for EDI performance in employment, customer service and community engagement. We will continue to recognise achievement through our supplier recognition awards and by promoting good practice in our annual PSED report. This will summarise actions we have undertaken to embed EDI into everything we do and specifically in relation to our 3 equality objectives around customers and communities, the supply chain and employment.



**We are making good progress with our work to improve our organisation**



## Annual commitments

### Supporting skills development

As part of our work to develop the capability of the whole sector, we continue to deliver the Roads Academy programme for business leaders across the industry. The 2017-18 programme will be delivered with Coventry University following the successful creation of our new learning and development supplier framework. During the year, the programme will be redesigned and an emerging leaders' level will be created.

### Additional services

We will continue to perform other services on behalf of the government. These are governed by protocols under the Framework and are activities or functions, specified by the Secretary of State that we will carry out.

Examples of these include:

- [Operation of Severn crossing](#)

We will take over the full operation of the crossings at the end of concession, with the transition from SRC PLC back to public ownership and management by Highways England, expected to take place between October 2017 and February 2018.

- [The National Salt Reserve](#)

We manage this on behalf of DfT in accordance with the agreed protocol. Future storage solutions beyond the expiry of the current contracts in April 2018 are being considered.

- [Abnormal loads](#)

We manage the movement of abnormal loads on the UK road network (excluding Northern Ireland) as required by S.44 of the Road Traffic Act 1988.



Delivering the Roads Academy  
programme, 2016



## 9. Collaborative relationships

We continue to build strong and enduring relationships with our supply chain and a wide range of stakeholders, all critical to our success. These range from our suppliers to motoring organisations, the emergency services and those who are affected by our network such as cyclists, walkers and environmental groups. We also maintain our focus on our key relationships with the Highways Monitor (ORR), where appropriate, and Transport Focus.

### What we plan to deliver in 2017-18

#### Working with stakeholders and improving communication

We recognise the value of engaging with our customers to deliver our objectives and have continued to improve our communication with them through stakeholder groups and events. This is supported by our ongoing work with Transport Focus, which represents the views of road users. In addition to our monthly meetings with them, we are supporting their work to develop a new customer satisfaction measure which will initially run in parallel with our existing NRUSS.

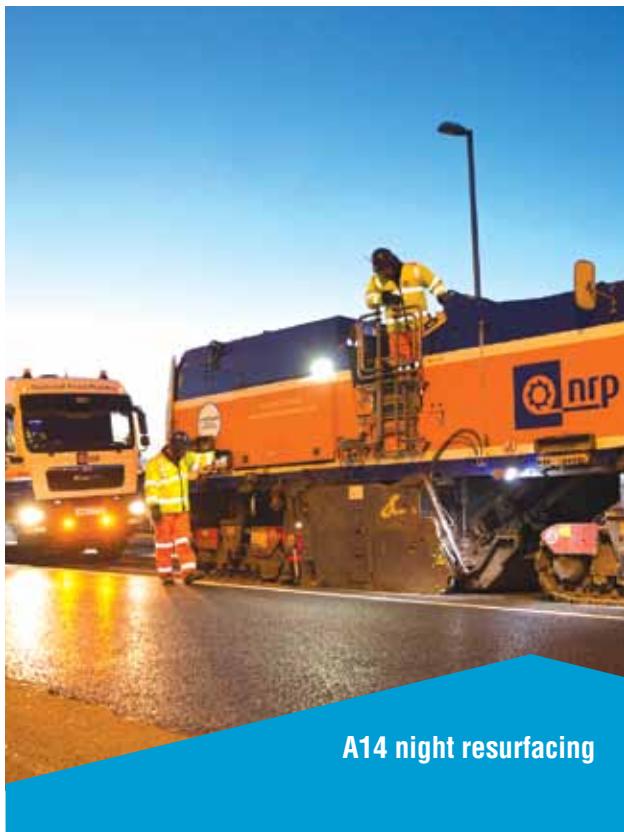
Another way we develop our understanding of the needs and experiences of our customers is through targeted behavioural research, feedback from focus groups and insight from our Customer Panel. We involve our customers at a regional level to secure their input into particular schemes and initiatives, with update events and briefings throughout the year.

We update and consult with stakeholders throughout the year on schemes in their regions, corporate initiatives and communications campaigns. Our approach includes a yearly Stakeholder Insight Survey to inform us of stakeholder views and identify areas for improvement.

We will set up a stakeholder advisory panel this year, to advise us on economic growth and strategic planning to support our role in facilitating economic growth.

Over the coming year we will hold a number of roadshows to contribute to the planning of the next road investment strategy. These will provide information about our route strategies, and our Road to Growth document and highlight opportunities to access designated funds.

In addition, we have significantly strengthened our partnership working with the Emergency Services through the National Roads Police Intelligence Forum (NRPIF). This partnership has now developed a plan for enforcement and compliance activities on the road network. A number of actions are being implemented with the Driver and Vehicle Standards Agency



A14 night resurfacing

and other agencies to reduce the number of poorly-maintained vehicles on the network with a specific focus on commercial vehicle incident prevention programmes and on young drivers' behaviour. This is underpinned by ongoing improvements in our communications with stakeholders and research into the most effective ways to reach key audiences.

## Working with the supply chain

Our suppliers are critical to our success and we are working closely with them to develop their skills and capability for the longer term through the supply chain skills and capability plan. This supports the work of the Collaboration Board and Engagement Council, joint company/supply chain forums and the development of a programme of value chain plans that are scheduled for implementation during 2017-18.

To embed collaborative behaviour throughout the industry, we have set up a cross-industry group with representatives from company and across our supply chain. This group has developed a way to assess a team's maturity in terms of how collaboratively they work and now has trained over 40 facilitators to work with the team to improve their performance. Looking to the wider industry we continue to actively support the Construction 2025 goals and provide quarterly reporting of our activity in support of these goals.

A large graphic element featuring a man in a suit and glasses speaking at a podium. He is positioned in front of a pink banner with the 'Highways UK' logo and the text 'ROADS FOR A MOBILISATION' and '16-17 NOVEMBER 2016 | NEC BIRMINGHAM'. The Highways England logo is also present on the banner. A yellow diagonal shape is overlaid on the bottom right of the graphic.

Highways England's CEO addressing Highways UK, 2016





## 10. Changes we have made

Our aim is to deliver the outcomes and outputs defined in the RIS. However, in a small number of cases we have redefined or amended our approach.

### Changes to business commitments

Item	Change type	Change description
<b>Strategic Economic Growth Plan</b>	Changes from Highways England Delivery Plan 2016-17	Plan was published in March 2017 and not on the anticipated date in December 2016. However, a discussion paper was published in November 2016 and was consulted upon extensively and received 130 responses by January 2017. Views expressed by stakeholders were analysed and appropriately reflected in the final publication version.
<b>Growth &amp; Housing Fund (GHF)</b>	Changes from Highways England Delivery Plan 2016-17	An identified need for additional appraisal work means the detailed assessments of pipeline schemes will be completed during 2017-18; after which the fund will be subject to an evaluation.
<b>Local Highways Authority</b>	Changes from Highways England Delivery Plan 2016-17	As a result of the changing political regional priorities through devolution, it is no longer mutually beneficial to have agreements with all LHAs by April 2017, as the governance structure of the combined authorities will supersede LHAs. We are therefore re-prioritising our resource to develop agreements or MoUs with combined authorities based on reciprocal requirements.
<b>Feasibility of solar panel provision (renewables)</b>	Changes from Highways England Delivery Plan 2016-17	The economic case for the generation of renewable energy adjacent to the network has changed. Our plans to investigate the feasibility of solar panel provision on the surplus land are not going ahead, instead our ambition is to use the energy on-site as it is being generated in facilities such as tunnels. The current plan is to use land around the tunnels to establish a solar field that would allow power generation for the tunnel.
<b>Biodiversity Action Reporting System (BARS)</b>	Changes from Highways England Delivery Plan 2016-17	In November 2016 the UK BARS partnership discontinued support for BARS and the system was closed down.
<b>CHARM</b>	Changes from Highways England Delivery Plan 2016-17	Due to challenges faced by suppliers in meeting this date, this is now expected to be in operation by the end of September 2018.
<b>Feasibility study (tackling noise)</b>	Changes from Highways England Delivery Plan 2016-17	Feasibility study planned to be completed in 2016-17. Initial findings are positive and further work is being undertaken to incorporate recent international research results into the report.
<b>Insulation schemes</b>	Changes from Highways England Delivery Plan 2016-17	We are prioritising our renewals investment to maintain a safe and serviceable network. These needs coincide with the NIAs less often than we had assumed at the time of the first Delivery Plan. Consequently, we are aiming to achieve more NIA mitigation through the noise insulation contract than was first thought.



M1 junction 19  
(Catthorpe junction)



# Annex 1: Major improvement projects

Map Ref	Scheme	Region	Programme			
			Start of works		Open for traffic	
			Commit	Status	Commit	Status
1	A556 Knutsford to Bowdon	North West		Complete	2016-17 Q4	Complete
2	A1 Coal House to Metro Centre	North East and Yorkshire		Complete	2016-17 Q4	Complete
3	A1 Leeming to Barton <sup>32</sup>	North East and Yorkshire		Started	2017-18 Q1	
4	M1 junctions 28-31	Midlands		Complete	2015-16 Q4	Complete
5	A453 widening	Midlands		Complete	2015-16 Q2	Complete
6	A14 Kettering bypass widening	Midlands		Complete	2015-16 Q1	Complete
7	M1 junction 19 improvement	Midlands		Complete	2016-17 Q3	Complete
8	A45-A46 Tollbar End	Midlands		Complete	2016-17 Q3	Complete
9	A5/M1 junction 11a link	East		Started	2017-18 Q1	
10	M25 junction 30	South East and London		Complete	2017-18 Q1	Complete
11	M6 junctions 10a-13	Midlands		Complete	2015-16 Q3	Complete
12	A30 Temple to Carblake <sup>33</sup>	South West		Started	2016-17 Q3	
13	M1 junctions 32-35a	North East and Yorkshire		Complete	2016-17 Q4	Complete
14	M1 junctions 39-42	North East and Yorkshire		Complete	2015-16 Q3	Complete
15	M60 junction 8 to M62 junction 20: smart motorway <sup>34</sup>	North West		Started	2017-18 Q2	
16	M3 junctions 2-4a	South East and London		Started	2017-18 Q1	
17	A160/A180 Immingham	North East and Yorkshire	2015-16 Q1	Complete	2016-17 Q4	Complete
18	A21 Tonbridge to Pembury <sup>35</sup>	South East and London	2015-16 Q1	Started	2016-17 Q4	
19	M1 junctions 13-19	Midlands	2015-16 Q3	Started	2021-22	
20	M5 junctions 4a-6	Midlands	2015-16 Q3	Started	2017-18 Q2	
21	M6 junctions 16-19	North West	2015-16 Q3	Started	2018-19	
22	A14 Cambridge to Huntingdon	East	2016-17 Q3	Started	2020-21	
23	M20 junction 10a	South East and London	2017-18 Q4		2018-19	
24	A19/A1058 Coast Road	North East and Yorkshire	2016-17 Q2	Started	2018-19	
25	M4 junctions 3-12	South East and London	2016-17 Q4	Started	2021-22	
26	A63 Castle Street	North East and Yorkshire	2018-19		2021-22	
27	M1 junctions 24-25 <sup>36</sup>	Midlands	2016-17 Q4	Started	2018-19	
28	M6 junctions 2-4	Midlands	2017-18 Q4		2019-20	
29	M6 junctions 13-15	Midlands	2017-18 Q4		2021-22	

<sup>32</sup> A1 Leeming to Barton – Extensive archaeological finds have resulted in an extension to the construction programme. The scheme is now expected to open for traffic 2017-18 Q3.

<sup>33</sup> A30 Temple to Carblake – This scheme, delivered by Cornwall Council has been rescheduled to open in 2017-18 Q2 due to changes in traffic management strategy that was implemented to minimise disruption to peak summer traffic volumes.

<sup>34</sup> M6 junction 8 to M62 junction 20: smart motorway – The construction programme has been extended to take the opportunity to carry out additional work on the existing asset for flood mitigation, pavement resurfacing, environmental barrier and data cabling. We now expect to open for traffic in 2017-18 Q4, this avoids the need for future additional network access in this location.

<sup>35</sup> A21 Tonbridge to Pembury – Despite the implementation of several re-programming activities, concerns with large volumes of hazardous waste and archaeological finds have extended the construction programme. We now expect to open for traffic 2017-18 Q3.

<sup>36</sup> M1 junctions 24-25 – Agreed through change control to deliver this scheme as a combined programme with M1 junctions 23a-24. We now forecast to open this scheme in 2018-19 but we expect to realise significant benefit in delivery efficiency and avoid repeated disruption to the same area of the network.

Updated scheme schedule 2015-2020						
Map Ref	Scheme	Region	Programme			
			Start of works		Open for traffic	
			Commit	Status	Commit	Status
30	M20 junctions 3-5	South East and London	2017-18 Q4		2019-20	
31	M23 junctions 8-10	South East and London	2017-18 Q4		2019-20	
32	M27 junctions 4-11	South East and London	2017-18 Q4		2020-21	
33	M6 junctions 21a-26	North West	2018-19		2019-20	
34	M60 junctions 24-27 and junctions 1-4	North West	2018-19		2019-20	
35	A19 Testos	North East and Yorkshire	2018-19		2020-21	
36	M54 to M6/M6 toll <sup>37</sup>	Midlands	2018-19		2021-22	
37	A27 Chichester bypass <sup>38</sup>	South East and London	2018-19		2020-21	
38	A38 Derby junctions	Midlands	2019-20		2022-23	
39	A2 Bean and Ebbsfleet	South East and London	2019-20		2022-23	
40	M62 junctions 10-12	North West	2017-18 Q4		2019-20	
41	M56 junctions 6-8	North West	2019-20		2021-22	
42	M3 junctions 9-14	South East and London	2019-20		2021-22	
43	A19 Down Hill Lane junction improvement	North East and Yorkshire	2019-20			
44	A19 Norton to Wynyard	North East and Yorkshire	2019-20			
45	A1 and A19 technology enhancements	North East and Yorkshire	2019-20			
46	M1 junction 45 improvement	North East and Yorkshire	2019-20	Started	2017-18 Q4	
47	M621 junction 1-7 improvements	North East and Yorkshire	2019-20			
48	M62/M606 Chain Bar	North East and Yorkshire	2019-20			
49	M62 junctions 20-25	North East and Yorkshire	2019-20			
50	A585 Windy Harbour – Skippool	North West	2019-20			
51	A5036 Princess Way – access to Port of Liverpool	North West	2019-20			
52	M6 junction 22 upgrade	North West	2019-20			
53	M53 junctions 5-11	North West	2019-20			
54	M56 new junction 11a	North West	2019-20			
55	M6 junction 19 improvements	North West	2019-20			
56	A500 Etruria widening	North East and Yorkshire	2019-20			
57	M1 junctions 23a-24 <sup>39</sup>	Midlands	2019-20	Started	2018-19	

<sup>37</sup> M54 to M6/M6 Toll – Programme commitments are being reviewed following request by DfT to undertake further development work on possible options.

<sup>38</sup> A27 Chichester bypass – Following review of public consultation responses from residents, local authorities, and MPs, the scheme has been cancelled due to no clear consensus on a preferred option solution.

<sup>39</sup> M1 junctions 23a-24 – Agreed through change control to deliver this scheme as a combined programme with M1 junctions 24-25 and have started works in 2016-17. We expect to open and deliver the benefits of this scheme earlier in 2018-19 and realise significant benefit in delivery efficiency and avoid repeated disruption to the same area of the network.



Map Ref	Scheme	Region	Programme			
			Start of works		Open for traffic	
			Commit	Status	Commit	Status
58	M6 junction 10 improvement	Midlands	2019-20			
59	A5 Dodwells to Longshoot widening	Midlands	2019-20			
60	M42 junction 6	Midlands	2019-20			
61	A46 Coventry junction upgrades	Midlands	2019-20			
62	M40/M42 interchange smart motorways	Midlands	2019-20			
63	A45/A6 Chowns Mill junction improvement	Midlands	2019-20			
64	M5 junctions 5,6 and 7 junction upgrades	Midlands	2019-20	Started	2018-19	
65	A43 Abthorpe junction	Midlands	2019-20	Started	2017-18 Q1	
66	A428 Black Cat to Caxton Gibbet	East	2019-20			
67	M11 junctions 8-14 – technology upgrade	East	2019-20			
68	A12 Chelmsford to A120 widening	East	2019-20			
69	A12 whole-route technology upgrade	East	2019-20			
70	A1(M) junctions 6-8 smart motorway	East	2019-20			
71	M11 junction 7a – junction upgrade <sup>40</sup>	East	2019-20			
72	A34 Oxford junctions	South East and London	2019-20			
73	A34 technology enhancements	South East and London	2019-20			
74	M25 junction 25 improvement	South East and London	2019-20			
75	M25 junction 28 improvement	South East and London	2019-20			
76	M4 Heathrow slip road	South East and London	2019-20			
77	M2 junction 5 improvements	South East and London	2019-20			
78	M25 junctions 10-16	South East and London	2019-20			
79	M25 junction 10/A3 Wisley interchange	South East and London	2019-20			
80	M3 junction 9 improvement	South East and London	2019-20			
81	M3 junction 10-11 improved sliproads	South East and London	2019-20			
82	M3 junctions 12-14 improved sliproads	South East and London	2019-20			
83	M27 Southampton junctions	South East and London	2019-20			
84	M271/A35 Redbridge roundabout upgrade	South East and London	2019-20			

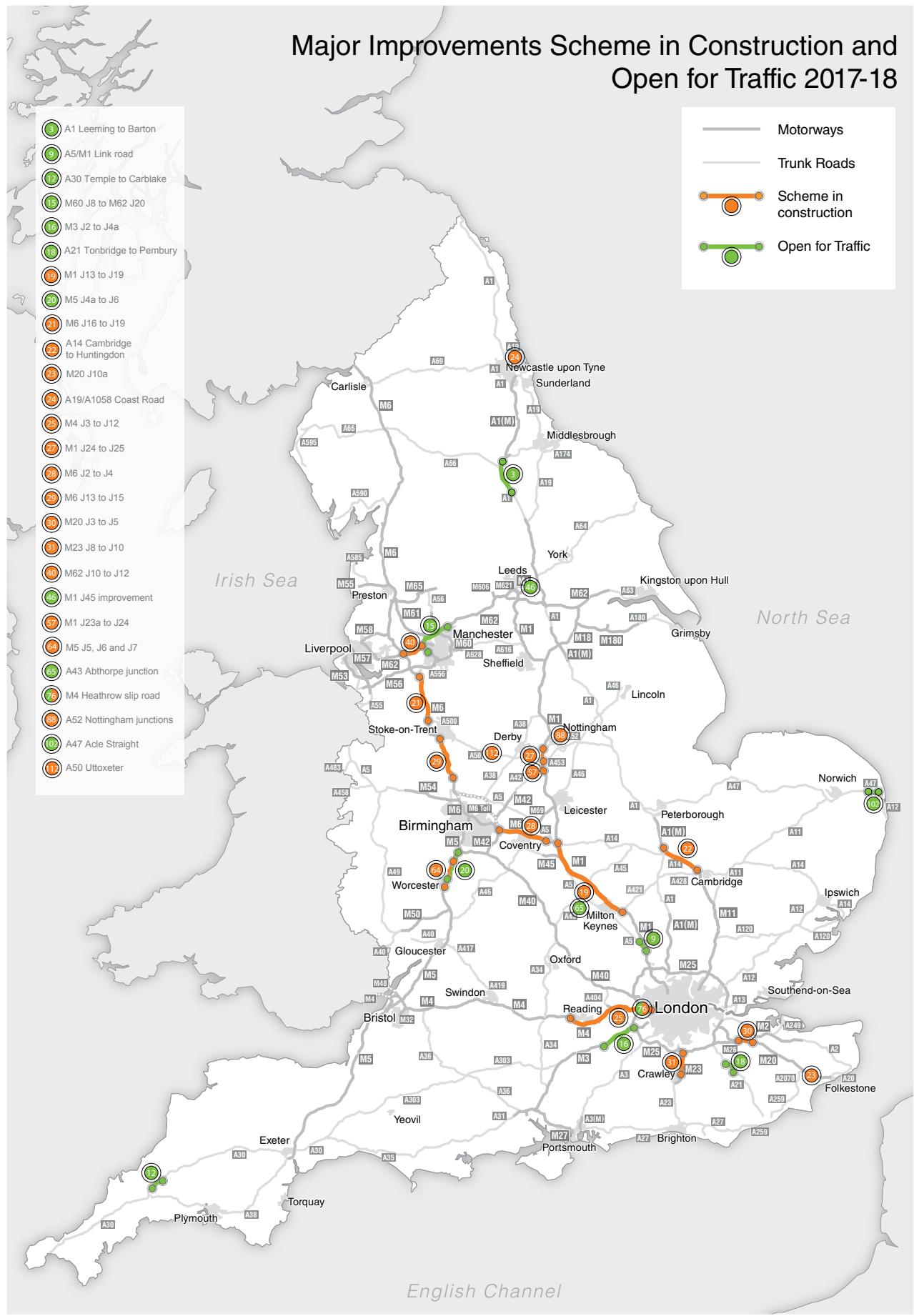
<sup>40</sup> M11 junction 7a – DfT have requested that funding previously allocated for improvements to M11 junction 7 be transferred to Essex County Council for the delivery of an alternative junction - M11 junction 7a. It is envisaged that this new scheme will start works within this roads period and a more detailed delivery programme is under development with the local authority.

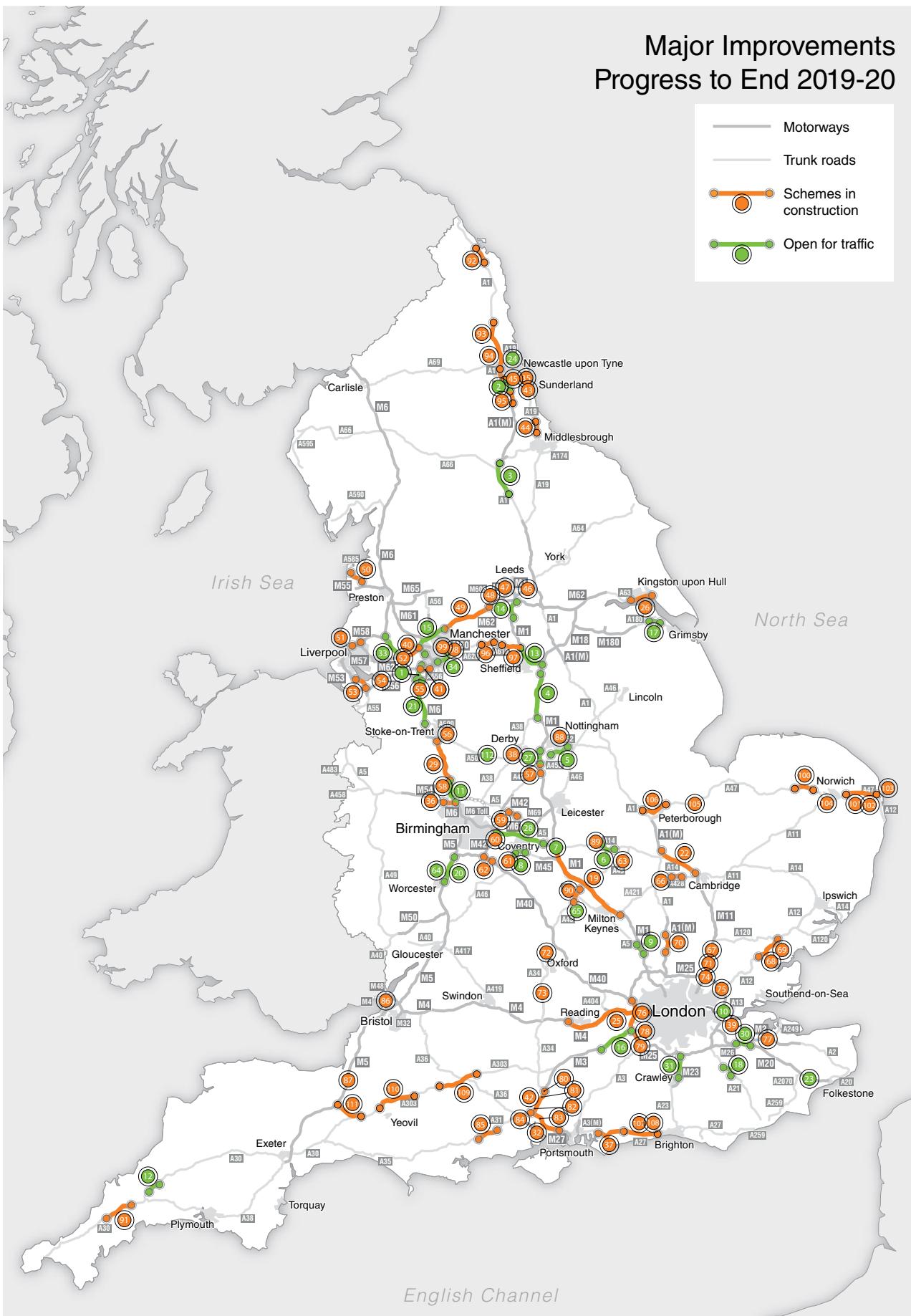


## Updated scheme schedule 2015-2020

Map Ref	Scheme	Region	Programme			
			Start of works		Open for traffic	
			Commit	Status	Commit	Status
85	A31 Ringwood	South East and London	2019-20			
86	M49 Avonmouth junction	South West	2019-20			
87	M5 Bridgwater junctions	South West	2019-20			
88	A52 Nottingham junctions <sup>41</sup>	Midlands	2019-20	Started		
89	A14 junction 10a	Midlands	2019-20			
90	A5 Towcester relief road	Midlands	2019-20			
91	A30 Chiverton to Carland Cross	South West	2019-20			
92	A1 North of Ellingham	North East and Yorkshire	2019-20			
93	A1 Morpeth to Ellingham dualling	North East and Yorkshire	2019-20			
94	A1 Scotswood to North Brunton	North East and Yorkshire	2019-20			
95	A1 Birtley to Coal House widening	North East and Yorkshire	2019-20			
96	A628 climbing lanes	North East and Yorkshire	2019-20			
97	A61 dualling	North East and Yorkshire	2019-20			
98	Mottram Moor link road	North West	2019-20			
99	A57(T) to A57 link road	North West	2019-20			
100	A47 North Tuddenham to Easton	East	2019-20			
101	A47 Blofield to North Burlingham dualling	East	2019-20			
102	A47 Acle Straight	East	2019-20	Started	2017-18 Q4	
103	A47 and A12 junction enhancements	East	2019-20			
104	A47/A11 Thickthorn junction	East	2019-20			
105	A47 Guyhirn junction	East	2019-20			
106	A47 Wansford to Sutton	East	2019-20			
107	A27 Arundel bypass	South East and London	2019-20			
108	A27 Worthing and Lancing improvements	South East and London	2019-20			
109	A303 Amesbury to Berwick Down	South West	2019-20			
110	A303 Sparkford – Ilchester dualling	South West	2019-20			
111	A358 Taunton to Southfields	South West	2019-20			
112	A50 Uttoxeter	Midlands	2015-16 Q3	Started	2018-19	

<sup>41</sup> A52 Nottingham junctions – In order to deliver benefits ahead of schedule we taken the opportunity to deliver this programme of junction improvements in a phased approach. The first 2 junctions started in 2016-17. Completion of 2 of the remaining 9 junctions will be subject to achieving an appropriate value for money case.







## Annex 2: Stimulating growth schemes

The additional £220m investment announced in the 2016 Autumn Statement will fund the schemes set out below.

These improve existing roundabouts, junctions and slip roads on important national, regional or local routes to support economic growth.

Region	Scheme (ST1)
Yorkshire and the North East	M1 junction 36 slip road
	A63 Garrison Road
	M18 junction 3
	M62 junction 27
	M62 junction 28
	A66/B6280 Morton Palms widening
	A19/A179 Sheraton
	A69/A68 junction improvements near Corbridge
	A69/A6079 junction improvements near Hexham
North West	A595/A66 Fitz roundabout
	A595/A66 Great Clifton
	A585 Norcross
	M55 junction 3 improvement
East	A11 Fiveways, Barton Mills
	M11 junction 7a, Harlow, Essex
Midlands	A5 Old Stratford
	M1 junction 27
	M42 junction 3
	Ogley Hay traffic signals
South East	M27 junction 7 improvements
	A3 University Interchange, Guildford
	A3 Stoke Interchange, Guildford
	A20 at the Port of Dover
South West	M5 junction 19 improvements
	M5, driver information and queue protection between junctions 17-18
	M5, driver information and queue protection between junctions 24-25
	M5, driver information and queue protection between junctions 23-24



Highways engineer  
on the M3





## Annex 3: Key performance indicators and performance indicators

	As set out in January 2016 Operational Metrics Manual		
Topic	Performance specification	Measure	KPI target
Encouraging economic growth	KPI	Average delay (time lost per vehicle per mile).	The government did not set a target for this measure in the first Road Period, but Highways England should act in a way that will minimise delay as far as possible.
	PI	The percentage of formal planning applications responded to within 21 days of receipt by Highways England.	99% of formal planning applications should be responded to within 21 days.
	PI	Average delay (time lost per vehicle per mile) on gateway routes.	No target
	PI	Meet the government target of 25% small and medium sized enterprise (SME) direct and indirect spend.	N/A
	Requirement	Highways England should report on average delay.	N/A
	Requirement	Actively support the Construction 2025 goals.	N/A
	Requirement	Deliver the Roads Academy programme across the industry.	N/A
	Requirement	Develop Highways England's approach to innovation, technology and research, and agree an implementation plan by 31 March 2016.	N/A
Making the network safer	Requirement	Through route strategies identify constraints to economic growth that the performance of the SRN could help to alleviate and identify how future delivery and investment plans might address them.	N/A
	KPI	The number of KSIs on the SRN.	A reduction in the number of KSIs from the baseline figure of 2,321 to 1,393 by 31 December 2020. A +/- variance of 5% each year has been agreed with DfT Road User Safety Division to support this target.
	PI	Incident numbers and contributory factors for motorways: a) Incident numbers for motorways b) Casualty numbers and contributory factors on motorways.	a) To report on incident numbers b) To report the number of casualties on the motorway network which will contribute to the KPI target of a 40% reduction in KSI casualties on the SRN by 2020.
	PI	Casualty numbers and contributory factors for all-purpose trunk roads (APTRs).	To report the number of casualties on the APTR network which will contribute to the KPI target of a 40% reduction in KSI casualties on the SRN by 2020.
	PI	International Road Assessment Programme based road safety investigations, developed in conjunction with the department, to feed into subsequent route strategies.	90% of travel on the SRN will be roads with a safety rating of EuroRAP 3* (or equivalent to a new Highways England star rating system) by the end of 2020.
	PI	Accident Frequency Rate for construction and maintenance workers, and for Operations.	N/A



As set out in January 2016 Operational Metrics Manual			
Topic	Performance specification	Measure	KPI target
Keeping the network in good condition	KPI	The percentage of pavement/road surface asset that does not require further investigation for possible maintenance.	The percentage of the network (as defined by HAPMS, excluding DBFOs) requiring no further investigation to be maintained at 95% or above.
	PI	Geotechnical asset inventory and geotechnical: asset risk level (condition).	N/A
	PI	Drainage asset – inventory and condition data coverage.	N/A
	PI	Technology asset availability.	N/A
	PI	Structure asset – inventory and condition.	N/A
	Requirement	Produce an implementation plan, by 31 March 2016, to show how Highways England will improve asset information quality over RP1.	N/A
	Requirement	Develop new condition indicators for pavements/road surface and structures for agreement by 31 March 2017 and complete validation for these by 31 March 2019.	N/A
		Develop new condition indicators for technology, drainage, and geotechnical works for agreement by 31 March 2018 and complete validation for these by 31 March 2020.	
Improving user satisfaction	KPI	The percentage of NRUSS respondents who are <i>very</i> or <i>fairly satisfied</i> .	Achieve a score of 90% by 31 March 2017 and then maintain or improve.
	PI	The percentage of NRUSS respondents who are <i>very</i> or <i>fairly satisfied</i> with: journey time; information and signs; management of roadworks; feeling safe; upkeep.	N/A
	Requirement	Demonstrate what activities have been undertaken, and how effective they have been, to maintain and improve user satisfaction.	N/A
	Requirement	Support the Watchdog as it develops replacements for the NRUSS.	N/A



KPI



PI



Requirement

As set out in January 2016 Operational Metrics Manual			
Topic	Performance specification	Measure	KPI target
Supporting the smooth flow of traffic	KPI	The percentage of the SRN available to traffic.	Maximise lane availability so that it does not fall below 97% in any one rolling year. For the avoidance of doubt this means that short-term spikes in lane use for works are permitted both from month to month, and from one part of the network to another. The target applies to an all-network rolling year average, calculated each month using data from the preceding rolling year.
	KPI	The percentage of motorway incidents cleared within 1 hour.	At least 85% of all motorway lane impact closures between 06:00 and 22:00 are cleared within 1 hour.
	PI	Planning time index (reliability of journeys).	No target
	PI	Traffic (vehicle miles travelled) on the SRN.	No target
	PI	Acceptable journeys.	No target
	PI	Average speed.	No target
	Requirement	Report annually on how Highways England has minimised inconvenience to road users through roadworks over the previous year.	N/A
	Requirement	Demonstrate that Highways England is working effectively with its partners to improve incident response.	N/A
Delivery of better environmental outcomes	KPI	Number of noise important areas mitigated.	1,150 Important Areas (IAs) where interventions are used to reduce the noise exposure of the population within the IA.
	KPI	Delivery of improved biodiversity, as set out in Highways England's <i>Biodiversity Plan</i> .	Reduction in the net loss of biodiversity by end of the first Road Period, on an ongoing annual basis.
	PI	Number of air quality pilot studies completed.	N/A
	PI	Carbon dioxide equivalents (or CO <sub>2</sub> e) in tonnes associated with Highways England's activities.	N/A
	PI	Supply chain carbon dioxide (CO <sub>2</sub> ).	N/A
	PI	The number of flooding hotspots and culverts (high risk and very high risk) mitigated.	N/A
	PI	The number of outfalls and soakaways (high risk and very high) mitigated.	N/A
	Requirement	Demonstrate what activities have been undertaken, and how effective they have been, to improve environmental outcomes.	N/A
	Requirement	Highways England should develop metrics covering broader environmental performance. These should include: a) a new or improved biodiversity metric b) carbon dioxide, and other greenhouse gas emissions arising from the use of the network.	N/A

As set out in January 2016 Operational Metrics Manual			
Topic	Performance specification	Measure	KPI target
Helping cyclists, walkers, and other vulnerable users	KPI	The number of new and upgraded crossings.	N/A – measure of success is increase in the number of completed: a) new crossings b) upgraded crossings
	PI	Number of vulnerable user casualties (broken down by cyclists, pedestrians, motorcyclists and equestrians).	To report on the number of vulnerable user casualties on the SRN.
	PI	Identification and delivery of the annual cycling programme.	N/A
	Requirement	Report annually on the number of new and upgraded crossings.	N/A
	Requirement	New indicators which demonstrate improved facilities for cyclists, walkers, and other vulnerable users.	N/A
	Requirement	Report on how Highways England is delivering against the Public Sector Equality Duty.	N/A
Achieving real efficiency	KPI	Savings on capital expenditure.	£1.212bn
	KPI	Delivery Plan progress: progress of work, relative to forecasts set out in the Delivery Plan, and annual updates to that plan, and expectations at the start of RP1.	Meet or exceed 'forecasts' within the 'Delivery Plan' or subsequent 'annual updates' of that Plan.
	PI	Cost Performance Indicator and Schedule Performance Index for schemes at project Control framework stage 5 and beyond.	N/A
	Requirement	Demonstrate on an annual basis how efficiencies have been achieved.	N/A

This table sets out Highways England's planned activities in response to the KPIs, PIs and requirements as specified by the government in the Road Investment Strategy.





## Annex 4: Funding table

£m	2015-16	2016-17	2017-18	2018-19	2019-20	Period 1
<b>Capital plans</b>						
<b>Modernise/enhance</b>						
SR10 and SR13 schemes	1,022	1,218	1,026	1,466	1,510	6,242
RIS schemes	20	70	120	165	292	667
Feasibility studies	4	36	44	63	123	270
Air quality	-	5	18	19	33	75
Cycling, safety and integration	17	16	50	32	60	175
Environment	6	12	69	42	96	225
Innovation fund	4	20	28	25	43	120
Supporting growth schemes	-	5	23	19	33	80
<b>Sub total</b>	<b>1,073</b>	<b>1,382</b>	<b>1,378</b>	<b>1,831</b>	<b>2,190</b>	<b>7,854</b>
<b>Maintain/renew</b>						
Renewals	709	595	788	761	805	3,658
<b>Other</b>						
Non-RIS delivery	149	43	115	-	75	382
Autumn Statement 2016	-	-	111	111	45	267
<b>Total capital</b>	<b>1,931</b>	<b>2,020</b>	<b>2,392</b>	<b>2,703</b>	<b>3,115</b>	<b>12,161</b>

The total capital funding across the 5-year period is as per the Statement of Funds available in the RIS. It also includes an additional £144m provided to the company in 2015-16 to complete delivery of small improvement schemes which were not funded in the RIS as well as the acceleration of improvements to upgrade sections of the M62 to a 4-lane smart motorway which have passed through formal change control.

Non-RIS delivery funding includes any additional funds made available to the company for the implementation of a solution for Operation Stack which has passed through formal change control. Additional funding announced in the Autumn Statement 2016 is shown separately. This is currently passing through formal change control.

Within the figures there is also an assumption that some funding may need to be flexed between years to smooth the programme. Further smoothing of the programme may be required in years 4 to 5, in particular for designated funds.

This table is consistent with budgeting rules which existed when the RIS was agreed. Since then research and development budgets have been re-classified as *Capital* - this change is not reflected in the table above and is subject to formal change control.

Resource/operational	2015-16	2016-17	2017-18	2018-19	2019-20	Period 1
<b>Operate the network</b>						
Operations						
Operations	253	195	175	177	180	980
PFI contracts	394	416	429	408	413	2,060
Maintenance and renewals	279	254	256	268	265	1,322
<b>Sub total</b>	<b>926</b>	<b>865</b>	<b>860</b>	<b>853</b>	<b>858</b>	<b>4,362</b>
Support						
Support	107	154	164	164	165	754
Protocols	39	40	36	39	39	193
Autumn Statement 2016	-	-	6	11	10	27
<b>Total resource/operational</b>	<b>1,072</b>	<b>1,059</b>	<b>1,066</b>	<b>1,067</b>	<b>1,072</b>	<b>5,336</b>

The total resource funding reflects the outcome from the 2015 Spending Review in terms of baseline funding to the company.

The resource funding includes additional funds made available to the company as part of the Autumn Statement 2016. This is currently passing through formal change control. This does not allow for any changes for the Severn River Crossing Protocol at the end of the concession which is subject to formal change control.

This table is consistent with budgeting rules which existed when the RIS/SR15 was agreed. Since then research and development budgets have been re-classified from *Operational* expenditure to *Capital* – this change is not reflected in the table above and is subject to formal change control.



Highways England staff





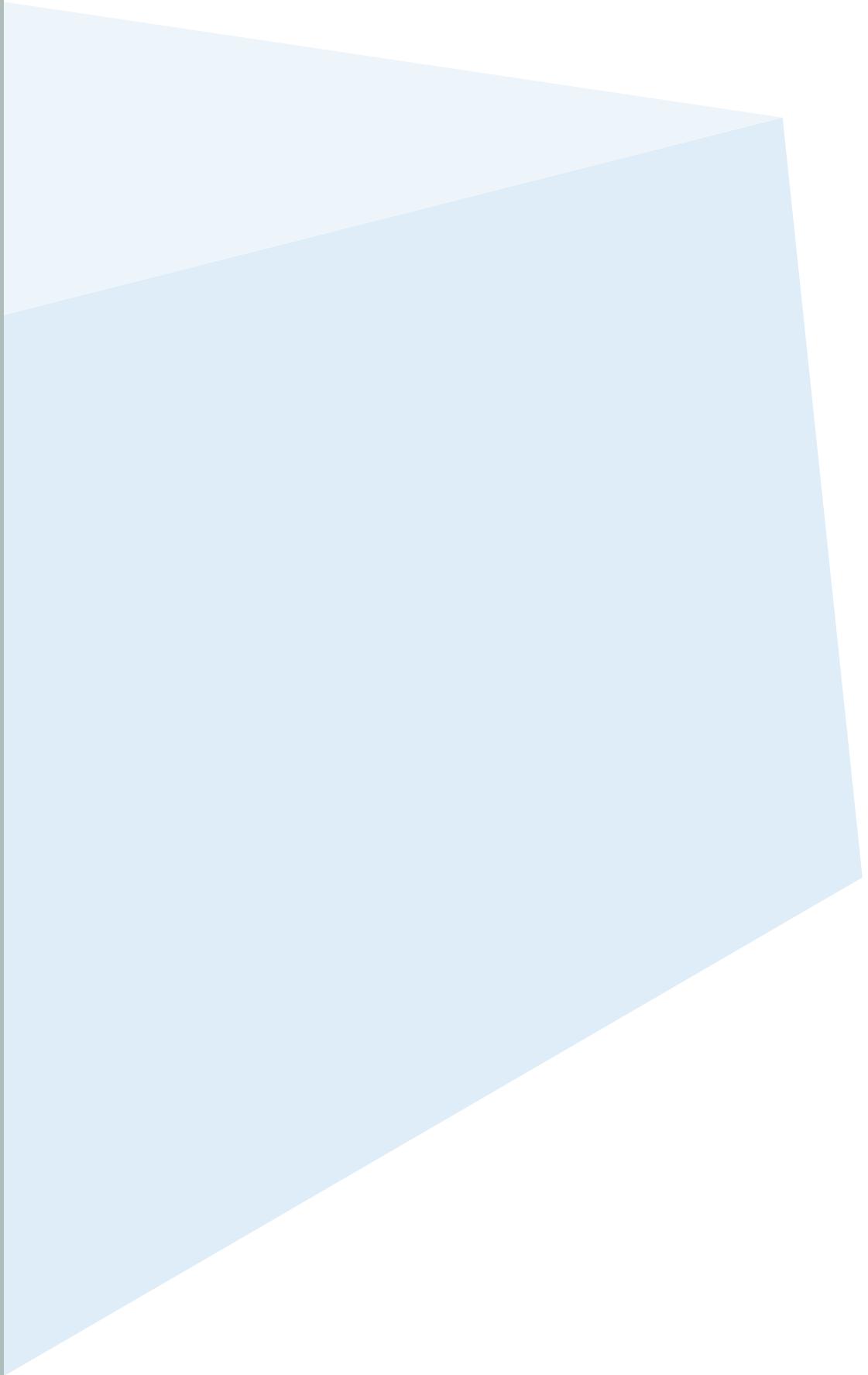
## Annex 5: Glossary

APTR	All purpose trunk road, which comprises of dual and single carriageway A-roads on the strategic road network (SRN)
CHARM	Common Highways Agency Rijkswaterstaat Model
Designated Funds	The Government has 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
EuroRAP	The European Road Assessment Programme (EuroRAP) is an international not for profit association dedicated to saving lives through safer roads
Expressways	An upgrade for A-roads to provide motorway quality journeys to drivers
Gateway routes	Routes linking major population centres, or business and manufacturing sites, with the most important ports and airports, and potentially strategic rail freight interchanges
Geotechnical engineering	The branch of civil engineering concerned with the engineering behaviour of earth materials
HAPMS	Highways Agency Pavement Management System
IA	Important area
Key performance indicator (KPI)	A key metric used to define and measure progress towards organisational objectives
KSI	Killed or seriously injured
LEP	Local Enterprise Partnership
NIA	Nature Improvement Areas
NRUSS	National Road Users' Satisfaction Survey
ORR	Office of Rail and Road (also known as the Highways Monitor)
Pavement	Road surface
PFI	Private Finance Initiative
Performance indicator (PI)	A metric used to define and measure progress toward organisational objectives
RIS	Road Investment Strategy
RP1	Road Period 1
RP2	Road Period 2
Soft estate	Soft Estate describes the natural habitats that line motorways and trunk roads
Transport Focus	The 'watchdog' responsible for gathering the views of strategic road network users and using them to shape policy and decision-making



Smart motorways







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