

# Highways England Delivery Plan 2016-2017



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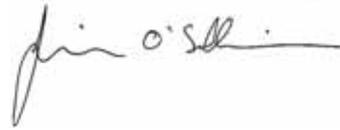
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Jim O'Sullivan  
CEO



## Foreword

The Delivery Plan we published last year set out our long term plans for the modernisation and renewal of our road network over the 5-year period from 2015 to 2020. Our first annual update provides an overview of the progress we have made on the commitments in the plan and the work we will carry out in the coming year.

We recognise our customers want to see road improvements move from planning to construction and completion as quickly as possible. We have worked to progress our schemes in year one of the Road Period, with a focus on the 112 major improvements as stated in the Roads Investment Strategy (RIS). We have also added over 90 lane miles of extra capacity to some of our busiest sections of motorway and resurfaced more than 1,200 miles of carriageway.

Our work to ensure the strategic road network (SRN) supports economic growth is a central element in the Delivery Plan and we have been developing a number of specific projects to help businesses to grow. This work includes supporting the Government's ambitions for the Northern Powerhouse by accelerating the upgrade of the M62 to a 4-lane smart motorway and investigating a new Trans-Pennine tunnel under the Peak District between Sheffield and Manchester.

In addition, we are supporting economic growth through the schemes in the Growth and Housing Fund. The best way to ensure we select the right projects is to respond to local needs. That is why we have engaged with the 39 Local Enterprise Partnerships (LEPs) and are working closely to identify the schemes that make up the programme.

The new Lower Thames Crossing will also open up significant new economic opportunities and in January 2016 we undertook an 8-week public consultation on a proposed scheme, a tunnel east of Gravesend and Tilbury. Our consultation generated extensive interest across the region with many thousands of people providing a formal response and

attending public information events. We are reviewing this feedback and plan to make our recommendations to the Secretary of State later this year. A decision by the Government on the route and its funding is expected by the end of 2016.

While long-term planning is vital, we have to be flexible enough to respond to unexpected events such as the flooding in Cumbria at the end of 2015. We have worked with Cumbria County Council to repair some of the damage caused, including the reconstruction of the A591 which is a key link for tourists and local businesses. Because of the successful results achieved, we have reviewed how we could offer similar support in future emergencies, using our rapid response approach. Providing mutual aid to other organisations will become part of our wider crisis management response, rather than being established as a standalone project.

We continue to focus on improving the safety of both our workforce and of those who use our network in everything we do. Alongside this we are developing a new business model and reorganising the way we work to ensure that we are a high-performing organisation, responsive to our customers and are managing our work effectively and efficiently.

The update shows we have made good progress in the past year in meeting our key priorities of making our roads safer, improving the experience of all road users and delivering the Government's 5-year Road Investment Strategy. We recognise there is much more to do and we remain committed to continuing our focused work to create a safer, better road network for everyone – our road users, stakeholders and neighbours.



# 1. Executive summary

The strategic road network (SRN) is a vital national asset which connects regional communities and supports economic growth. Highways England's role is to operate, maintain and modernise this network to ensure that road users have safe and reliable journeys and that businesses have the effective road links they need to prosper and expand. We also work closely with our stakeholders to enable the network to operate more harmoniously with the environment.

This update outlines the work we are doing to meet our key priorities of making our roads safer, improving the experience of all road users and delivering the Government's 5-year Road Investment Strategy (RIS). In particular, this first update focuses on our activities in 2016-17 and our ongoing work to develop our plans for the remainder of the Road Period (2015-20) and complements the original Delivery Plan.

To support the country's economic growth and longer-term vision for our road network, Highways England is funded by the Department for Transport (DfT) and our 5-year funding allocation for Road Period 1 (RP1) amounts to £11 billion of capital expenditure.

One of our key imperatives is delivering this record investment to enhance and maintain England's strategic roads over this period. This is a transformational programme that will bring real benefits both to road users and to England as a whole. We are focused on delivering these improvements to the optimal standard and providing the best possible value for taxpayers' money.

We are making good progress with 112 major road schemes, as well as many smaller schemes that support economic growth. We are also focusing on improving the network in particular areas where this can help the local or regional economy. This includes development work on Trans-Pennine routes to support the Northern Powerhouse and the upgrading of the A303,<sup>1</sup> a key strategic route for the south west of England, including a tunnel to protect the World Heritage Site at Stonehenge.



<sup>1</sup>Map numbers 109 and 110 in Annex 1

In everything we do, our first priority is that no one should be harmed when travelling or working on our network. To meet this critical aim, we continue to strengthen our own safety culture and that of our suppliers. We are also taking specific steps to improve our understanding of the causes of accidents and then take the action needed to reduce risks. This is underpinned by our major investment in renewal and maintenance projects which are making the network safer and more serviceable.

Another important element in our Delivery Plan is to ensure that the widest range of users have access to our network. In particular, we are taking action to improve connections with other forms of transport, other networks, including local roads, existing and emerging rail links, ports and airports. We are also working hard improving crossings for pedestrians and to provide improved accessibility for cyclists. All of this, coupled with increasing engagement with communities should help to make it easier, and safer, for cyclists, pedestrians and other vulnerable users to access or cross our roads safely.

This work needs to be carried out in a way that meets our aim to reduce the impact of our road network on the environment and neighbouring communities. To help achieve this we are continuing to reduce the impact of noise on our local communities; implement schemes to improve air quality; encourage biodiversity; and mitigate the visual impact of our roads.

While our investment programme will improve journeys for our customers in the long term, in the short term there will be some disruption. We are working to reduce the impact of that activity, whether that is reducing the length of roadworks or exploring the potential to increase speeds through them. At the same time, we are improving the quality of information we provide so that road users can make more informed

choices about their journeys. Communicating well with our customers is vital and we are working hard to make sure we understand their concerns and priorities better and that we respond to them effectively.

We know that one of those priorities is a more free-flowing network and we are improving the way we manage our operations and deal with incidents to reduce congestion and disruption.



That includes a joint initiative between Highways England and the Dutch road authority that will create a single more efficient operating system, called CHARM (Common Highways Agency Rijkswaterstaat Model).

The CHARM programme takes our working with the Dutch road authority, Rijkswaterstaat, to a new level. We have entered into a formal Collaboration Agreement to develop, procure and deliver a future-proofed common solution to meet our respective Traffic Management Centre (TMC) technology requirements. This will mean we can respond to emergencies more effectively and reduce the impact on drivers caught up in those incidents. Pooling our considerable joint expertise in TMC operation also allows us to deliver a solution that is both innovative and cost-effective.

Further improvements in journey times will be seen as a result of new incident detection technology and schemes to increase capacity on particularly busy roads. Our new contracting arrangements with suppliers will also enable roadworks to cover shorter lengths and cause less disruption, helping to keep our network flowing.

A particular project which will bring major benefits to road users in Kent is our proposal for a lorry area for use during disruption at the Channel ports and Channel Tunnel, to reduce the need to use Operation Stack on the M20 itself, which we have developed at the request of the Secretary of State. This will bring dramatic reductions in congestion for local people and businesses.

Delivering this large-scale investment will require a significant increase in our technical and commercial capacity and this update outlines the work we are doing to recruit people with the specialist skills we need. In addition, we are developing new ways of working with our supply chain to improve the knowledge and relationships that will enable us to make the best maintenance spending decisions.

As well as meeting the commitments in the Delivery Plan, we have responded to unexpected events. This included the storms in Cumbria throughout November and December which had a significant impact on local communities and affected many services and roads. We were asked by the Secretary of State to rebuild a large section of the A591 local road for Cumbria County Council. The road, which links Keswick and Grasmere and the north and south Lakes, is a vital tourist route and a large section of it had collapsed into the adjacent river at Dunmail Raise. This project was completed ahead of schedule and the road reopened on 11 May in time for the main tourist season.

In all these areas, our performance is measured against key performance indicators (KPIs), performance indicators (PIs) and requirements that are set out in Annex 2. We are also in the process of developing a number of new performance indicators which we may be measured against in future years.

Reconstruction of the A591 in Cumbria after the flooding damage at the end of 2015.





## 2. Delivery Plan for 2016-17

This Delivery Plan Update provides a brief outline of what we have delivered during 2015-16 and sets out a clear programme of activity for 2016-17, as well as our annual and future commitments. It complements our original Delivery Plan, outlining some key progress we have made with this work.

We have set out the key performance indicators (KPIs) and other performance indicators (PIs) from the January 2016 *Operational Metrics Manual* which has been produced in collaboration with the Department for Transport (DfT) and Office of Rail and Road (ORR). To aid navigation we have retained the structure of the 2015-2020 Delivery Plan. In the small number of cases where we have made changes to our commitments, we have highlighted these and explained how they were dealt with through the change control process.

As we set out in this update which forms our 2016-17 Delivery Plan, we continue to work with the Government to deliver their investment in our infrastructure and to ensure that our network supports economic growth. As part of the development of our Strategic Economic Growth Plan and future Route Strategies, we will set out how we will support organisations such as Transport for the North and Midlands Connect in fulfilling their ambitions. We have also created a new Relationship Manager role to support our contribution to Transport for the North and Midlands Connect.

We are working on plans to improve road connections to and from the South West to support the local economy. This includes plans for dualling sections of the A358 and A303 from the M3 to the M5 at Taunton, and plans including a tunnel option where the road passes Stonehenge.

Forecasts suggest that the East Anglia region will see significant growth in new jobs and homes. This will result in the amount of traffic on sections of A47 and A12 being above their capacity. To address this issue, a number of junction improvements are planned, along with the dualling of the most challenging single carriageway sections around Peterborough, Norwich, Wisbech, Kings Lynn, Dereham and Great Yarmouth.

We are working on plans to enable the A1, the main link from the North East to Scotland, to meet the needs of a growing local economy and fulfil its role as a key part of the transport network. We are developing plans to provide a continuous dual carriageway between Newcastle and Ellingham, and junction and overtaking improvements north of Ellingham. Additionally, in the North East, to address some of the most heavily congested parts of the network in the region, we are developing plans to carry out lane widening on the A1 south of Gateshead and between Scotswood and North Brunton.

The 2016 Budget also provided £500,000 to fund a study into a new junction 18a on the M4 to link with the A4174 Avon ring road.

Over the last year we have reprogrammed our activity to develop solutions to a number of long-term transport challenges. This includes work, with the DfT, on a study of the options for a Trans-Pennine Tunnel to improve connections

between Manchester and Sheffield. The study's final report will be used to inform this part of the content of the second Road Investment Strategy (RIS 2).

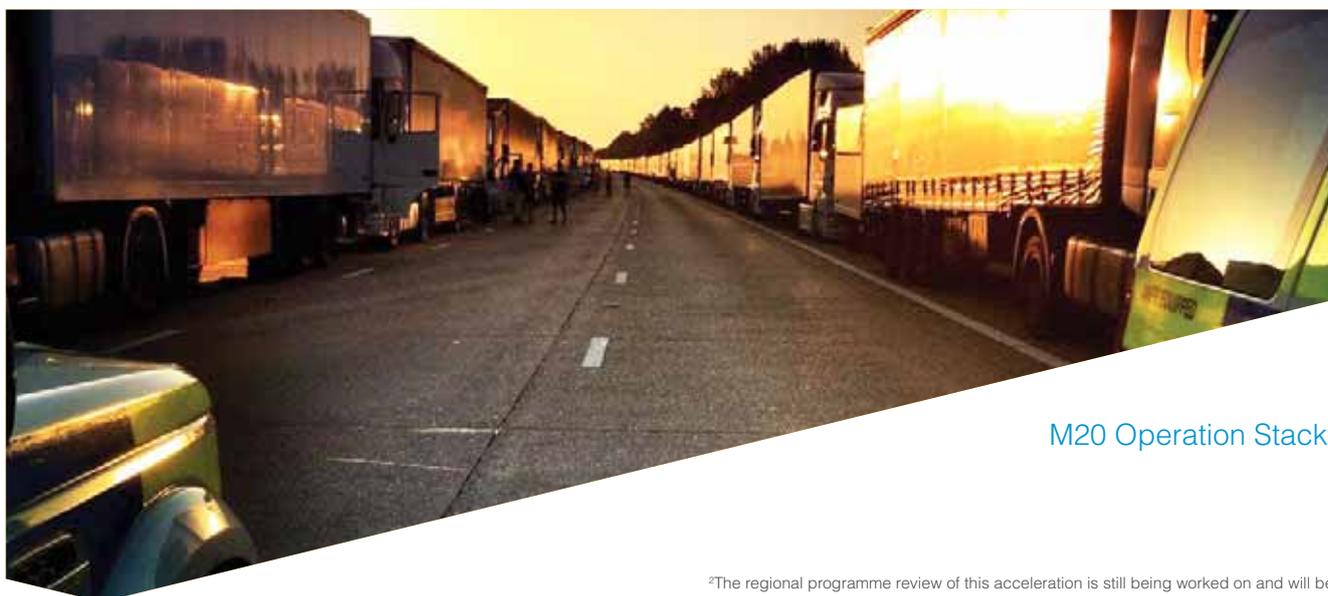
We are committed to bringing forward M62 junctions 10-12 start of work (SoW) to 2017-18 and M62 junctions 20-25 SoW to mid-2019-20, to help provide additional capacity by 2020.<sup>2</sup>

We are supporting Midlands Connect in developing and implementing a long-term Midlands Transport Strategy. This includes development work on some of the major roads in the Midlands: M1, A46 Newark bypass, A45, and the M42 and M5 around Birmingham.

The new Lower Thames Crossing will open up significant new economic opportunities and, having assessed the options, we have consulted on a proposed scheme, a tunnel east of Gravesend and Tilbury. We have considered the consultation responses, and are reviewing all evidence to make a recommendation to the Secretary of State, with a decision by the Government on the route expected by the end of 2016.

Over the summer of 2015, Operation Stack was implemented in Kent on a record 26 days, when historically it has typically been used for a few days a year. This caused significant disruption to residents and businesses in Kent. Other traffic was also unable to use the motorway and local roads become severely congested. In autumn 2015, the Government announced up to £250 million of additional funding to build a lorry area to reduce the need for Operation Stack to be used on the M20 itself. The Government's preferred location for the development is Stanford. We expect a final decision later this year. Construction will then start on the project that will bring major improvements to Kent's economy and to the quality of life of local people.

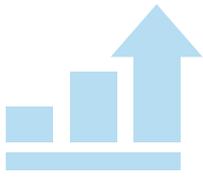
In all our work, we will be responding to emerging technologies which can improve the operation of our network. In particular, we will be taking steps to support the Government's ambition to establish the UK as a global centre for excellence in connected and autonomous vehicles.



M20 Operation Stack

<sup>2</sup>The regional programme review of this acceleration is still being worked on and will be finalised in the next phase of change control.





## 3. Supporting economic growth

Highways England is modernising, improving and increasing the capacity of our network through delivery of the £11 billion<sup>3</sup> Road Investment Strategy (RIS) and to assist the Government's agenda of supporting economic growth. This roads programme, alongside our work to relieve congestion and reduce delays, is helping businesses to grow, encouraging investment and creating jobs, and opening up new areas for development.

### Key performance indicator

#### 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 2.

### Highlights of our activity in 2015-16

We have an agreed programme of major improvements that we are taking forward over Road Period 1 (RP1) and that we are preparing for future years beyond that. This amounts to over £7 billion<sup>5</sup> of capital expenditure and comprises 112 individual schemes and a further 15 projects that will be developed for the RIS 2. Details of the key dates for each of these 112 schemes are set out in Annex 1.

During 2015-16, 5 major schemes have opened to traffic:

- widening of the A453 near Nottingham<sup>6</sup>
- widening the A14 near Kettering, Northamptonshire<sup>7</sup>
- improvements to capacity on the M6 between junction 10a north of Walsall and junction 13 in Stafford<sup>8</sup>
- increases in capacity on the M1 between junctions 39 and 42, Wakefield and Leeds<sup>9</sup>
- increases in capacity on the M1 between junctions 28 and 31, Derby and Nottingham<sup>10</sup>

<sup>3</sup>£15 billion allocated for RP1 plus 1 year

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

<sup>5</sup>Remaining £4 billion to support renewals and designated funds

<sup>6</sup>Map number 5 in Annex 1

<sup>7</sup>Map number 6 in Annex 1

<sup>8</sup>Map number 11 in Annex 1

<sup>9</sup>Map number 14 in Annex 1

<sup>10</sup>Map number 4 in Annex 1



Markham Vale Enterprise Zone

In addition, we have made improvements to junctions 5 and 7 on the M5,<sup>11</sup> and it is anticipated that work at junction 6 will follow later this year.

The first of our projects supported by our Growth and Housing Fund at Turks Head by the A30 in Devon has been completed, and additional work has commenced to identify further schemes.

## What we plan to deliver in 2016-17

### Developing our Strategic Economic Growth Plan

During the coming year we will continue to focus on developing our network to ensure that it supports economic growth effectively. We are drawing up our Strategic Economic Growth Plan, reflecting input from our public and

private partners, including Local Enterprise Partnerships (LEPs), local authorities and emerging sub-national transport bodies and the city regions. This will provide a detailed description of how we can support economic growth and set a framework for stronger collaboration with stakeholders in this area. We have started to gather evidence to inform this work, using a bespoke national mapping tool and the first round of consultation with all 39 LEPs is almost complete. We will also support the Government's devolution agenda through engagement with established and emerging regional partnerships such as Transport for the North and Midlands Connect to support development of the plan.

### The Growth and Housing Fund

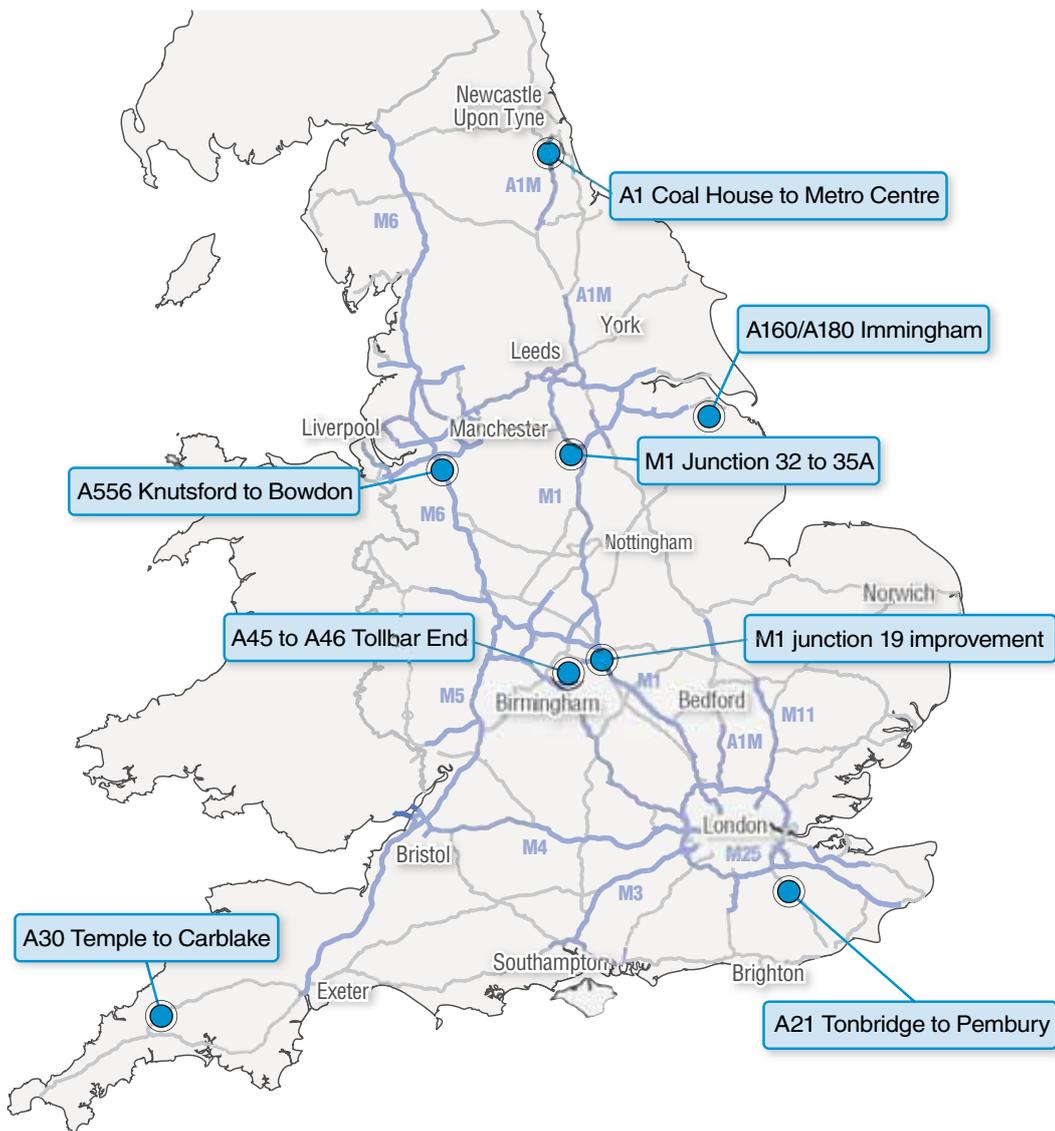
The Growth and Housing Fund (GHF) has an important contribution to make in supporting economic growth and new housing development. We have been working with our partners, including Homes and Communities Agency, development sector representative bodies such as the British Property Federation and British Land to agree the selection criteria for appraising schemes, which has been used to shortlist 15 potential pilot schemes. All GHF schemes must be supported by contributions from public or private sources ("match funding"). These other sources include developer contributions and public grant funding such as the Local Growth Fund or local authorities' own funds. It is expected that up to 50% of all GHF scheme costs will be met by third parties – with the pilot schemes potentially attracting up to £25 million in match funding. This will enable the delivery of up to 4,000 new homes and facilitate 2,000 new jobs by the end of RP1, and substantially more in the longer term. Detailed assessment and decisions on all these first wave schemes will be completed by summer 2016.

<sup>11</sup>Map number 64 in Annex 1



Following engagement with 39 LEPs to develop proposals for the full programme, we have received around 50 expressions of interest, from 25 of the 39 LEPs in England. We will complete our full assessment and make decisions on these projects and the delivery strategy by the final quarter of 2016-17. An initial evaluation of the fund, and its lessons for our wider work, will also be completed during this year.

Map 1: Schemes planned to open for traffic in 2016-17



### Progress of schemes in construction

Throughout last year, a number of major schemes have been in construction. Those we plan to open to traffic in 2016-17 are:

- A556 Knutsford to Bowdon in Cheshire<sup>12</sup>
- A1 Coal House to Metro Centre near Newcastle<sup>13</sup>
- M1 junction 19 improvement near Rugby, Warwickshire<sup>14</sup>
- A45-A46 Tollbar End near Coventry<sup>15</sup>
- A30 Temple to Carblake in Cornwall<sup>16</sup>

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

<sup>13</sup>Map number 2 in Annex 1

<sup>14</sup>Map number 7 in Annex 1

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

<sup>16</sup>Map number 12 in Annex 1

- M1 junctions 32-35A in South Yorkshire<sup>17</sup>
- A160/A180 Immingham<sup>18</sup>
- A21 Tonbridge to Pembury in Kent<sup>19</sup>

## Schemes identified following the outcomes of the 6 feasibility studies

We are making progress with the schemes developed from our feasibility studies. These studies focused on identifying ways to improve traffic flow on some of the roads with the worst congestion.

The work on the A303 Amesbury to Berwick Down<sup>20</sup> scheme near Stonehenge is an example of a scheme developed through the feasibility studies. This will remove significant congestion, as well as supporting local and regional economic growth along a key south west transport corridor. Over the last year we have been building our relationships with key stakeholders and we anticipate holding a public consultation on the options early in 2017.

Another scheme arising from the feasibility studies is the work on A47 Acle Straight<sup>21</sup> in Norfolk. This will include safety improvements this year and, in the longer term, Highways England can look at improvements to the Acle Straight, but the type of improvements have yet to be defined. These will be subject to appropriate environmental mitigation, and we will work with Natural England and the National Park authority at all stages of the project.

## Other schemes

We have made good progress on our individual schemes; despite the risks of delay when carrying out major civil engineering projects, most notably those caused by bad weather, ground conditions or unexpected issues on site. For example, the A21 Tonbridge to Pembury<sup>22</sup> scheme has been

affected significantly by ground conditions and archaeological discoveries. This has increased the risk that the planned timetable of completion by the end of 2016-17 may change. When these types of issues do occur, we re-examine our plans to see how time lost can be recovered, and anticipate achieving this for the A21 scheme.

## Schemes planned to start construction work in 2016-17

It is important to note that the decision to start work on these schemes is subject to the completion of statutory processes and demonstration of value for money:

- A14 Cambridge to Huntingdon<sup>23</sup>
- A19/A1058 Coast Road in Tyneside<sup>24</sup>
- M4 junctions 3-12 from Borough of Hounslow, London, to West Berkshire<sup>25</sup>
- M1 junctions 24-25 the East Midlands<sup>26</sup>

In the 2015-2020 Delivery Plan, we set out our ambition to start construction work on the A1 and A19 technology enhancements scheme<sup>27</sup> and the M5 Bridgwater junctions.<sup>28</sup> These schemes were at an earlier stage of design so the timing was less certain and we have not yet reached the point where we can confirm the planned start of works date. We expect that the work needed to determine a start date will be completed during the summer of 2016.

We had planned to start work on the A43 Abthorpe junction<sup>29</sup> improvement scheme in 2016-17. However we were able to start this scheme earlier (in 2015-16), so construction work is already underway. We had planned to start work on the A63 Castle Street<sup>30</sup> scheme in Hull but the timing is now subject to further assessment of the environmental impacts. Work is now expected to start in 2018-19.

<sup>17</sup>Map number 13 in Annex 1

<sup>18</sup>Map number 17 in Annex 1

<sup>19</sup>Map number 18 in Annex 1

<sup>20</sup>Map number 109 in Annex 1

<sup>21</sup>Map number 102 in Annex 1

<sup>22</sup>Map number 18 in Annex 1

<sup>23</sup>Map number 22 in Annex 1

<sup>24</sup>Map number 24 in Annex 1

<sup>25</sup>Map number 25 in Annex 1

<sup>26</sup>Map number 27 in Annex 1

<sup>27</sup>Map number 45 in Annex 1

<sup>28</sup>Map number 87 in Annex 1

<sup>29</sup>Map number 65 in Annex 1

<sup>30</sup>Map number 26 in Annex 1



## Route Strategies

We published 18 Route Strategies in April 2015 and during the coming year we will be developing further strategies. This work will inform our *Strategic Road Network Initial Report*, which is due for submission to the Government by November 2017 and will inform the Government's setting of RIS2.

## Strategic studies

As stated in the RIS, we have commissioned 6 strategic studies on behalf of DfT, which are considering potential improvements to the capacity and connectivity of parts of our network and which could drive economic growth in key locations. These are:

- Northern Trans-Pennine routes (A66 and A69) – options for a new strategic corridor upgrading one or both of the A66 and A69. One of the most visible gaps in the UK transport network is the lack of a complete dual carriageway between the east and west of the country anywhere north of the M62. The study will explore the potential to create a new strategic corridor in the region and link the A1 and the M6.
- Manchester North West Quadrant – an appraisal of the potential improvements to the transport network to the north west of Manchester. The M60 is a critical part of the north west transport network and the north west quadrant of the road between junctions 8 and 18 is one of England's busiest stretches of road. This study will look at the options for improving the transport network around this area.
- Trans-Pennine Tunnel – options for a new high performance road link between Manchester and Sheffield through a purpose built tunnel. This connection could have a dramatic impact on the economy of the north, particularly in combination with plans for improved rail links. This project would be the most ambitious road scheme since the construction of the first motorways 50 years ago and needs to be studied in detail to confirm its viability.
- A1 east of England – options to bring consistency to the southern section of the route. With more than 50 years of local upgrades, the A1 ranges from 4-lane motorway to dual carriageway. The study will look at bringing consistency to the southern section of the route, from the junction with the M25 in the south to Peterborough.
- Oxford to Cambridge Expressway<sup>31</sup> – options to support economic growth by improving connectivity. This study will examine the case for creating an Expressway to connect the towns and cities in this area. It will also look at other enhancements on existing roads along the route, including the A34 around Oxford.
- M25 South West Quadrant – options for improving the performance of this part of the transport network across all modes. This part of the M25 is the busiest motorway in Britain. The investment programme will help improve the road but it is now time for a more far-reaching study that considers all the options for transport in this area.

## Annual Commitments

### Continuing commitments beyond 2016-17

The National Infrastructure Commission's report *High Speed North* recommended accelerating improvements to upgrade the M62 to a 4 lane smart motorway between junctions 10-12, Warrington to Eccles,<sup>32</sup> and junctions 20-25, Rochdale to Brighouse.<sup>33</sup> An additional £161 million of funding has been allocated to Highways England to progress these schemes,

<sup>31</sup>See the Glossary in Annex 4

<sup>32</sup>Map number 40 in Annex 1

<sup>33</sup>Map number 49 in Annex 1

with the initial funding of £65 million available in 2018-19 and the remainder in 2019-20. Consequently we will review the specific timings for these schemes in this coming year.

Other schemes that will support economic growth in particular areas include work 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 which we expect to be completed by 2018-19.

We are continuing to assess our portfolio to identify any further land that could be released and disposed of for housing. This will help us to play our part in helping the DfT meet its overall target of releasing land for homes.

Highways England will continue to engage with emerging sub-national transport bodies, elected Mayors and combined authorities to help deliver their transport aspirations.

### **Schemes for the next Road Period**

We are planning 15 potential new schemes for delivery in the next Road Period and are using our Route Strategies, which are one of the key steps for developing the RIS, to identify where we can improve the performance of our network to support economic growth.

In addition to continuing our work to develop the Lower Thames Crossing scheme, we will be starting option development work on the following 5 schemes this year:

- A417 'Missing link' at Air Balloon in Gloucestershire (options identification 2016-17)
- A12 M25 to Chelmsford in Essex
- A12 Colchester bypass widening in Essex
- M1/M62 Lofthouse interchange in West Yorkshire
- A64 Hopgrove junction in North Yorkshire

In 2017-18 option development for the remaining 9 schemes will be started:

- M60 Simister Island Interchange
- A46 Newark Northern Bypass
- M5/M42 Birmingham Box Phase 4
- A45 Stanwick to Thrapston
- A3 Guildford
- M1 Junctions 19-23A
- A1(M) Doncaster Bypass
- M1 Junctions 35A-39
- A1 Redhouse to Darrington

We will work with Transport for the North to take forward Government proposals, set out in the 2016 Budget, for new schemes which have been allocated £300 million in funding. These include developing the business case for a new Trans-Pennine Tunnel and options to enhance the A66, A69 and the north west quadrant of the M60. This work is expected to be completed by the end of the year. As specified in the Budget 2016, we will look accelerate the development of the M1/M62 Lofthouse Interchange and M60 Simister Island Interchange.

We will work to develop Midlands Connect's priority strategic roads schemes and this includes development work on 4 major roads:

- upgrades to the M1 to provide a continuous smart motorway from London to Yorkshire
- improvements to the A46 Newark bypass and its junction with the A1 in Nottinghamshire
- upgrading the single carriageway link on the A45 Stanwick to Thrapston in Northamptonshire
- upgrading parts of the M42 and M5 around Birmingham to a 4 lane smart motorway





## 4. A safe and serviceable network

Safety is our first imperative. Our aim is that no one should be harmed when travelling or working on our road network and we are committed to taking the action that will help us move towards our goal of bringing the number of people killed or injured as close as possible to zero by 2040. We also have responsibilities to ensure that the network is kept in good condition.

### Key performance indicators

#### 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>34</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 Department for Transport, 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 2.

<sup>34</sup>RIS Making The Network Safer Target of a 40% reduction against the 2005–09 average baseline by the end of 2020.

## Highlights of our activity in 2015-16

### Improving safety

To help us meet our aim that no one should be harmed when travelling or working on our network we have published *Health and safety: Our approach*. This document sets out how we work with suppliers and stakeholders to deliver improvements in the health and safety and wellbeing of road users, our staff and suppliers. This work is being informed by our commissioned road safety research projects. These will improve our understanding of the causes of fatalities in collisions, the current state of roadworthiness of vehicles and the impact of roadworks on driver stress.

We have appointed Regional Safety Coordinators to help establish Regional Incident and Casualty Reduction Plans.



### Investing in renewals

A critical part of our work is keeping the network in good condition through effective maintenance and in 2015-16 we continued to invest in renewal of road surfaces, structures, drainage, lighting, geotechnical and technology assets. We have also worked on our asset management guiding principles and Asset Management Strategy to help improve our long-term planning of this work.

## What we plan to deliver in 2016-17

### Creating a safety culture

We know that improving safety depends on our action as a company and on ensuring that all those who work for us take personal responsibility for their safety, so creating a strong safety culture across our organisation remains our first imperative. We are continuing our work to develop a safety leadership and behavioural safety programme which will reinforce that culture. By the fourth quarter of 2016-17, we will develop a single company-wide health and safety management system to help us manage risk better.

During 2016-17 we are planning to take a number of specific actions that will improve the safety of those who work on our roads. This includes further progress on a zero crossing initiative by the fourth quarter of 2016-17, which aims to eliminate the need for our workers to cross the carriageway when carrying out work.

### Better information and compliance

During the financial year, we will explore ways to use education and enforcement initiatives to improve compliance with lane and hard shoulder restrictions. We will continue to develop our understanding of the causes of accidents with a key focus on motorbikes and



mopeds. By the third quarter, we aim to identify the factors which result in injuries to vulnerable users of these vehicles and the measures we can develop to reduce risk.

During the financial year, we plan to undertake further work with partners and stakeholders to promote safer driving. For example by working with the Motor Insurance Bureau to improve our understanding of incidents on the network, in particular those which are 'damage only' that may inform our safety work and road design.

By the fourth quarter we intend to set out an investment strategy so that roads with a 1\* and 2\* (1\* least safe - 5\* safest rating) can be raised to a higher standard. This will support our work to make sure 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\* or equivalent.

Last year, we developed an independently reviewed KSI Forecasting Tool. We are continuing to refine and improve it and we plan to undertake the next stages of development during 2016-17.

Table 1: 2016-17 indicative renewals outputs

	Deliverables	Total quantity 2016-17
Renewal of roads	Pavement/road surface	1,200 (lane km)
	Road markings	1,952,868 (lin m)
	Kerbs	8,088 (lin m)
	Vehicle restraint system – concrete	10,000 (lin m)
	Vehicle restraint system – non-concrete	85,910 (lin m)
	Drainage	177,295 (lin m)
	Geotech	11,884 (lin m)
	Traffic sign (non-electronic)	1,140 (no.)
	Guardrail	147 (lin m)
	Boundary fencing	28,544 (lin m)
	Footway	2,015 (lin m)
	Lighting	2,332 (no.)
	Soft estate	6 (no.)
	Renewal of structures	Bridge joint
Bridge bearing		159 (no.)
Parapet		2,202 (lin m)
Waterproofing		27,067 (sq. mtrs)
Renewal of technology	Motorway communications equipment	96 (no.)
	Technology renewals and improvements	256 (no.)
	Winter resilience	55 (no.)
	Network resilience	24 (no.)

There may be variances against the target throughout the year due to reprioritisation of programmes.

## Plans for maintenance and renewals 2016-17

The Delivery Plan contains dedicated funding for the renewal of the SRN and challenging efficiency targets for delivery. Table 1 sets out our plan for renewals. This renewals investment also includes capital expenditure on major structures and asset life extension that are not listed here. 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 commitments

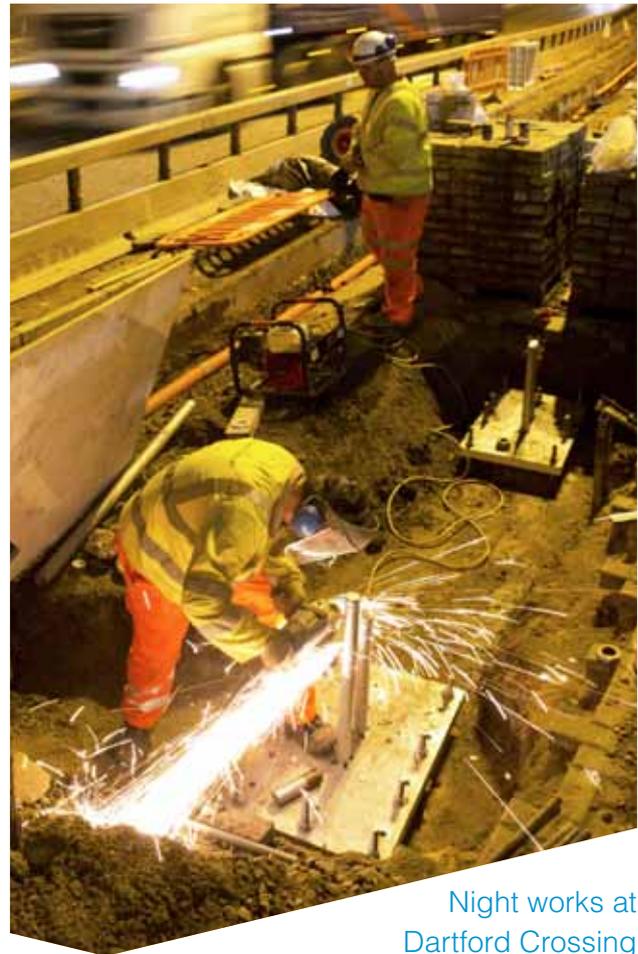
We carry out annual progress reviews on the schemes we are delivering to make sure we are applying our increased knowledge about the causes of incidents and how to improve safety. At the same time, we measure our overall performance through yearly inspections of the road surface.

## Improved network knowledge

By the end of April 2018, we aim to have an improved monitoring capability to ensure we capture more details of incidents on the all purpose trunk road as the majority of this is not covered by our Traffic Officer Service. We are also introducing a more comprehensive asset data information system to improve our knowledge of the condition of our assets and improve our asset management capability. We will start to measure this across RP1 to 2019-20.

We are required to develop a suite of performance indicators for RIS 2 to provide more information about the condition of assets across the network including:

- new condition indicators for Pavements/ road surface and Structures for agreement by 31 March 2017 and to complete validation for these by 31 March 2019
- new condition indicators for Technology, Drainage, and Geotechnical Works for agreement by 31 March 2018 and to complete validation for these by 31 March 2020



Night works at Dartford Crossing





# 5. More free-flowing network

We are working to provide a more free-flowing network where journeys are easier, safer and more reliable, and delays are less likely. In particular, we are improving our response to road user concerns about the impact of roadworks on their journeys and taking steps to reduce the impact of this work on journey times.

## Key performance indicators

### Supporting the smooth flow of traffic



The percentage of the strategic road network (SRN) 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 SRN
- Acceptable journeys
- Average speed

For a full table of KPIs, PIs and requirements see Annex 2.

## Highlights of our activity in 2015-16

Our new *Operational Strategy* sets out the actions we are taking to make the most effective use of road capacity, improve our customers' journeys, and keep them safe and in control.

We have improved the quality of information that we give to our customers about the most disruptive roadworks. We are providing news about planned roadworks more effectively, alongside other useful traffic updates, and will continue to do so in the future. Our *Traffic Information Strategy* and *Customer Service Strategy* outline how we are responding to our customers' needs and taking into account their views and feedback.

## What we plan to deliver in 2016-17

### Innovation

Innovation will play a key role in meeting our economic, environmental and efficiency challenges. To support our work in this area, we have completed our *Innovation, Technology and Research Strategy* and will apply its approach to deliver a smarter and more effective network.

We are supporting the Government's ambition to establish the UK as a global centre for excellence in connected and autonomous vehicles. This ambition includes enabling trials of driverless cars on our network by 2017 and the establishment of a £15 million 'connected corridor' from London to Dover to enable vehicles to communicate wirelessly with infrastructure and potentially other vehicles. We are also working with the DfT and the freight industry on freight platooning (lorry

convoys) trials. We will provide further support for the development of these vehicles through preparing smart motorways for connected vehicles, for example by introducing radar technology to detect stationary vehicles in live lanes. It will alert a traffic officer in a control room that there is a stopped vehicle and will allow us to use the technology associated with smart motorways to set signs, inform oncoming traffic, reduce speed limits and use red X compliance to protect people in stopped vehicles.

As the impact of these developments on future network requirements becomes clearer, future investment plans will be adapted to incorporate the benefits of emergent technology. The costs associated with research into such developments will be clearly identified as they arise.

We have started the first trials of comparative fuel price signs on the M5 between Bristol and Exeter, to drive price competition.

In addition, we are using the £120 million Innovation Designated Fund<sup>35</sup> to deliver the benefits of new technology to road users. This includes developing incident detection technology and work to develop the best solution for a tunnel incident detection system in the tunnel on the A3 at Hindhead, which will contribute to improved safety.

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 wireless technology that could power electric vehicles, we have decided to pause the project until at least 2018 when a similar trial is completed on urban roads.

<sup>35</sup>£150 million allocated for RP1 plus 1 year



## Improving customer satisfaction

While our investment programme will improve journeys for our customers in the long term, the coming years will see more roadworks and we want to reduce the impact of this work on road users' journeys. By the fourth quarter we will carry out an audit of our roadworks, and commence trials to better understand the effect of increasing speed limits through roadworks to 55 and 60 mph in appropriate locations. If the trials are safe and provide a benefit to our customers then we will plan future implementation across schemes.

We are also gathering information on the customer experience of roadworks and the recommendations arising from this work will be implemented into major schemes by the second quarter of 2016-17. By the fourth quarter we will have improved the quality and accuracy of roadworks information disseminated through all our information channels, including Traffic England, and developed a new roadworks section as well as improving the variable message signs on our network. To further aid the development of our information, we have doubled the size of our customer panel.

We are working with Transport Focus to help shape the new customer satisfaction measure to be introduced by the end of 2017, which will initially run in parallel with our existing National Road User Satisfaction Survey. We are developing new performance indicators and enhancing skills to improve how we deal with customer correspondence and telephone enquiries to help us become a more responsive organisation. This will be supported by the use of new training courses focused on improving the quality of our written correspondence, which complements the development of our communication with customers. As part of

a progressive roll out over this year, we will explore methods to enhance communication about smart motorways, and have undertaken research to be able to better understand how we influence poor driver behaviour and compliance through enforcement and education initiatives. All of this is part of our commitment to make safety our number one imperative.

## Tackling congestion

To minimise the impact of incident-related congestion, we developed a new incident management measure in 2015-16 and are assessing its effectiveness. We aim to implement this fully from 2020 onwards.

We are also taking steps to reduce congestion on particular roads, including piloting a new operating model.

Expressways aim to improve the flow on busy all-purpose roads by reducing local turnings and junctions which cause congestion and removing vulnerable users and slow moving vehicles to improve safety. An early example of how expressways will transform our network is in our planning for improvements to the A14. We will develop the standards for the expressways concept with the aim of proposing and constructing a number of other schemes in RP1 and RP2.

Our new contracting arrangements with suppliers will enable roadworks to cover shorter lengths and cause less disruption, helping to keep our network flowing.

## Changes to speed cameras

Speed cameras on England's smart motorways play a valuable role in enhancing safety, smoothing traffic flow and reducing congestion. In November 2015 the Government announced that all operational speed cameras on our network would be yellow for maximum visibility. The majority of colour changes are taking place during standard renewal of speed camera units, alongside other planned work, to minimise the cost and disruption to road users. We have developed a programme to achieve this by October 2016.

## Continuing commitments beyond 2016-17

### Improving control centres

Traffic control centres play an important part in keeping the network moving. We are working on a new measure to improve traffic flow by introducing a new system for managing traffic into one of our regional control centres. This is a joint initiative between Highways England and the Dutch road authority, Rijkswaterstaat, where we have collaborated to tackle a number of issues faced by both Agencies. The objective of the CHARM project is to specify, install and migrate to a new, integrated traffic management system capable of managing current and planned capacity of the network and with provision to interface with emerging technologies. CHARM is a critical part of ensuring our network is fit for the future and will replace the many systems that we currently use to manage the network. It will interlink key command and control systems into a single, more efficient operating system to enable remote operation and response from any control centre. This will improve our effectiveness, resilience and ability to flex operational capability 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 March 2017 but due to challenges faced by suppliers in meeting this date, this is now expected to be in place by December 2017 and will be implemented in other centres after that.

We are also analysing and capturing lessons learned from operating smart motorways so we can apply these to future schemes.



New yellow cameras on M25





## 6. Improving the environment

Highways England is working to develop our network so that it operates more harmoniously with its surroundings to deliver an improved environment. We are using the Environment Fund and Air Quality Fund to deliver improvements, as well as taking action to address environmental challenges relating to noise, visual impact, flooding, biodiversity and cultural heritage. As we update our environmental standards and contractual requirements, our construction and maintenance work will bring enhancements to the environment.

### Key performance indicators

#### 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 2.

## Highlights of our activity in 2015-16

We continued to work to reduce the environmental impacts of our network. In our work to improve air quality, we initiated 6 air quality pilot schemes, including studies of specific locations and potential mitigation techniques. We developed our *Biodiversity Plan* which outlines the actions we will take to change the culture and working processes within Highways England and our service providers to recognise the importance and value of biodiversity.

## What we will deliver in 2016-17

### Working with stakeholders

We recognise the importance of the public and wider environmental stakeholder organisations in helping us identify which actions will be of greatest benefit to the environment. Our regional teams and their suppliers will continue to engage with local groups and organisations particularly on the use of the Environment Designated Fund, a ring fenced fund of £225 million over RP1. We will also continue to engage at a national level with environmental organisations to obtain their views and comments on our environment policy and approach.

### Improving air quality

We plan to provide further information on the development of a new performance indicator for air quality, which will be part of a suite of performance indicators that provide additional information on environmental performance.

By the third quarter of 2016-17 we will report the findings of 3 of the geographic air quality pilot studies, with the report on the fourth



Environmental studies for M4 junction 4-12 scheme

due by the final quarter. We will then use the lessons from the first air quality pilot studies to help identify 4 further pilot studies that we plan to start by the fourth quarter of 2016-17.

### Reducing our carbon footprint

We aim to reduce our corporate carbon footprint by focusing on electricity consumption on the network and in our offices. Working closely with our suppliers we will encourage innovation and efficiency to reduce emissions from their network related activity. We will fully embed our carbon footprint assessment tool and manage our suppliers' carbon performance.

### Innovative approaches

We know that innovation and technology can play a key role in improving our network and reducing environmental impact. We are working on a number of initiatives to secure the benefits from new developments. Up to £15 million of Government funding is available to support electric vehicles and we are assessing



the best way to support the uptake of ultra-low emission vehicles by installing rapid electric charging points along our network. We have identified the current level of coverage to develop, cost and programme a 4-year delivery programme for charging points. During 2016-17 we will be increasing the numbers of rapid charge points which should reduce the longest length on the network without a charge point from approx 60 to 40 miles.

We have engaged with existing suppliers and operators of electric vehicle charge points to help us develop our approach to procurement and secure value for money. By 2018-19 we expect to have installed sufficient rapid charge points to meet our RP1 obligation to ensure that 95% of the network has a charge point within 20 miles.

### **Tackling noise and visual impact**

We will develop an in-year programme by the end of the second quarter of 2016-17 that will outline how we will deliver our commitment to mitigate noise at 1,150 Noise Important Areas during RP1. In 2015-16 noise in 48 areas was mitigated through resurfacing and we will meet the KPI target of 1,150 through a combination of resurfacing and barriers and insulation works, delivered through maintenance, standalone projects funded by the Environment Designated Fund and major projects.

We will conduct a feasibility assessment of alternative low-noise surfaces (twin layer porous asphalt) and will report on the findings in the second quarter of 2016-17. If this is positive, we will identify a suitable location for a trial, most likely on a section of urban motorway.

We will continue to work with our Design Review Panel to encourage design excellence in the landscape, engineering and built environment aspects of our construction projects.

### **Biodiversity**

As set out in our *Biodiversity Plan*, by December 2016 we intend to have baseline management information in place for Sites of Special Scientific Interest (SSSI) and other statutory sites on or adjacent to the network. This will include a statement on the current condition of the site, and identifying areas for action to improve the status of the site. Over the same period, we aim to have completed a range of baseline studies to support development of Designated Fund projects.

We will be fully transparent about our performance in relation to biodiversity and will produce a report.

### **Reducing litter**

We take seriously our statutory obligations in relation to litter clearance and seek to be supportive of other regional authorities. When litter is visible it affects our customers' perception of our network and ultimately our reputation and we are working with local authorities and motorway service area operators to tackle littering at source. Best practice is being identified and will be shared across all regions. We are launching a Litter Collaboration Pack which will help formalise working relationships and facilitate better coordination of litter clearing operations. At the same time, we will continue to build relationships with external stakeholders to develop interventions on and off our network. We will continue to participate in and support the Government's National Litter Strategy Advisory Group, of which we are a member.

## Continuing commitments beyond 2016-17

### The Environment Designated Fund

Over the period to 2019-20 we will invest the £225 million Environment Designated Fund to provide a range of specific environmental enhancements on or around our network. In addition, we are investing £75 million in a range of projects to reduce air pollution. We are also developing ways to measure carbon dioxide and other greenhouse gas emissions arising from the use of our roads.

### New work on biodiversity

To support our continued work on biodiversity, we are reviewing opportunities where we could contribute to Nature Improvement Areas (NIAs). We are continuing to work on 2 pilot schemes at the Humberhead Levels, and the Morecambe Bay Limestones and Wetlands NIAs. Further work on biodiversity will reflect the outcome of our review of opportunities to contribute to SSSIs or where there are other opportunities to increase the nature conservation value of our network.

### Improving the appearance of the network

We work to improve the look of our network and protect the character and quality of the built and natural landscape. This includes amending the design of our roads, where appropriate, to better address national, regional and local environmental priorities and promote schemes that are better integrated with the surrounding environment. In addition, we are continuing to work on measures to protect and enhance heritage assets that are most at risk.

### Action on flooding

Another important area of concern for our customers and neighbours is flooding. We expect to invest £78 million over RP1 to address flooding and pollution runoff from our roads. This includes improvements to locations where our drainage facilities discharge water into ditches, streams, rivers or ground water and measures to reduce the likelihood of flooding in high-risk locations.



Environmental studies near the A14, Huntingdon





## 7. 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 everyday journeys as easy as possible. To help meet this ambition we are improving 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: a) new crossings; and b) upgraded crossings

### Indicator 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 2.

### Highlights of our activity in 2015-16

During the year, we set out our cycling objectives in our first *Cycling Strategy*. This outlines how our planned roads improvement programme will provide integrated schemes which improve cycling facilities. This work will contribute towards the development of an integrated, safe, comprehensive and high quality cycling network.

In 2015-16 we delivered 21 of our 44 named cycling schemes. Although this was below what was planned we actually began construction on 49 schemes in total. However as a consequence of additional design work, delays in completing third party works and adverse weather conditions we delivered 21 schemes by the end of March, with a further 28 schemes well advanced with completion scheduled by end of summer 2016. We also undertook a wider programme of feasibility and design work at a further 40 locations.

### What we plan to deliver in 2016-17

We will continue to work with key stakeholders, local communities and partners to further develop a package of integration measures. We will continue to use our new Equality, Diversity and Inclusion Tool to apply equality, diversity and inclusion considerations to all our work.



## The cycling programme

Our annual cycling programme currently includes 36 schemes for construction in 2016-17 under the Designated Fund's Cycling, Safety and Integration Programme. This includes:

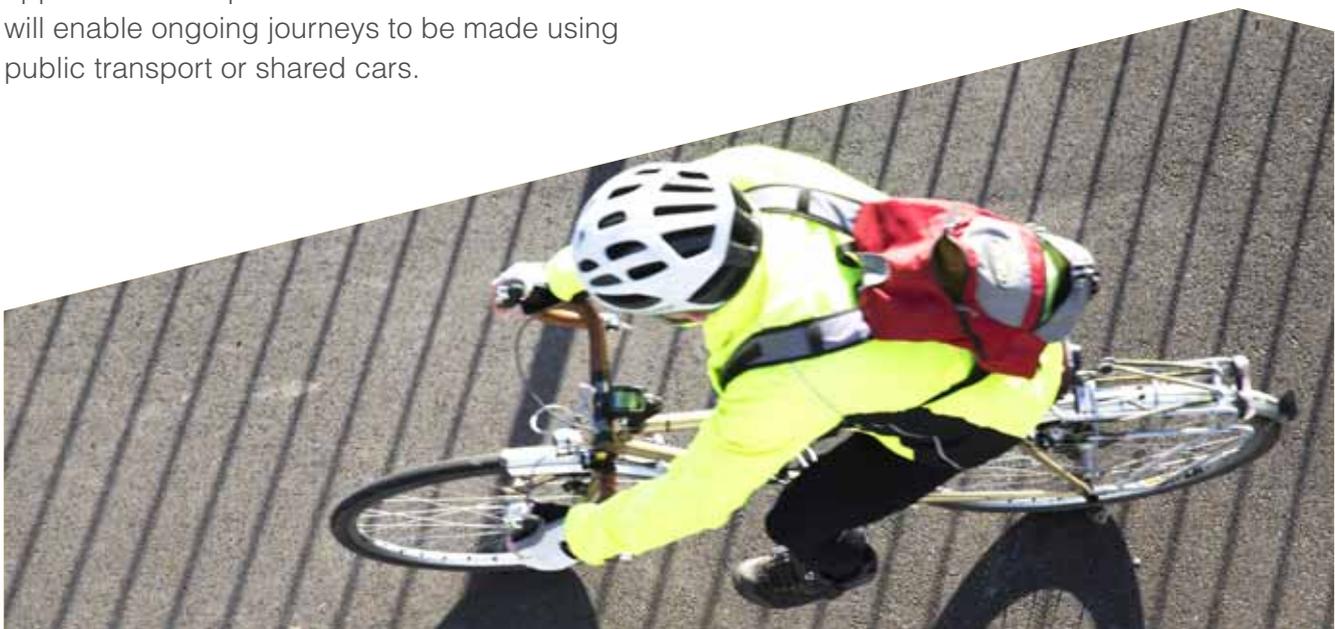
- the completion of cycling schemes started in the last financial year
- schemes at A421/A6 Interchange Bedford; M53 junction 2 (Moreton Spur) and M53 junction 4 on the Wirral; and M60 Stockport town centre (Phase 2) near Manchester
- improvements on the A36 Southampton Road Corridor, A63 Brough to Melton Corridor in Yorkshire and improvements to the A5103 Yew Tree Bridge in Manchester

As part of our work to improve our understanding of the use of our network by vulnerable users, we will identify further performance measures and develop a range of new metrics, for example, covering walking.

In 2016-17, we aim to carry out further work on measures to enable better integration of our network with other transport systems. This will reflect the input from a series of feasibility studies including how dedicated lanes can support integration and an exploration of opportunities for park and ride facilities which will enable ongoing journeys to be made using public transport or shared cars.

In addition, we are making improvements to provision for cyclists as part of our major highways construction projects, including:

- the A1 Coal House to Metro Centre upgrade in the north east
- the new A556 motorway link road in Cheshire



These projects will provide new cycling facilities, including cycle lanes, crossings and signs, which are safe, separate from traffic and can be used by cyclists of all abilities. Alongside our current delivery programme, we will take forward our development programme to support further schemes in future years.

Details of the likely number of new and upgraded crossings will be available later in the first quarter of 2016-17 and will be incorporated in schemes for future years.

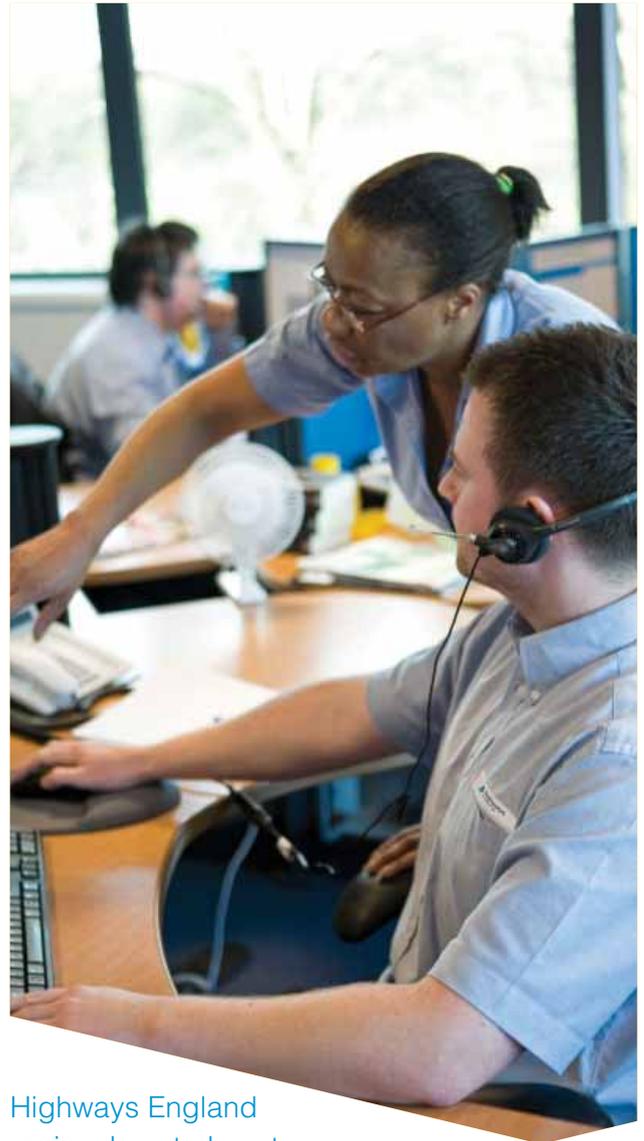
We recognise further work is needed to develop performance indicators and targets for cycling and are exploring a range of new metrics to measure areas such as cycling usage and customer satisfaction. We aim for this work to be complete by the third quarter of 2016-17. Over the same period, we intend to develop a customer survey of cyclists to make sure we understand their priorities.

We are making sure our workforce has the skills and capability to address the needs of cyclists through a dedicated e-learning training package to disseminate knowledge of the improved cycling design requirements. This will be available in the third quarter of 2016-17.

### **Working with stakeholders**

By the third quarter of 2016-17, we aim to set up an Accessibility Working Group.

We will continue to support our local communities through the establishment, by the final quarter of 2016-17, of a series of place-making guidelines for scheme developers. These will help them to understand how our network can contribute positively to connectivity and a sense of place.



Highways England regional control centre

## Continuing commitments

The government is committed to improving active travel options, such as cycling and walking. Too often the SRN acts as a barrier to these activities, so we are committed to improving access through building new bridges, crossings and cycle paths. The Investment Plan has allocated £100 million to invest in 200 projects to improve cycling and walking across and alongside existing stretches of the SRN. Highways England has also committed to cycle-proofing new schemes as standard, as well as working with Local Authorities to improve end-to-end cycling and walking journeys.

A proportion of many RIS scheme costs will also be spent to improve cycling and walking provision on those parts of the network which are being upgraded in this RIS.

For example approximately £1 million is being invested under the A556 Knutsford to Bowdon improvement scheme. As part of a non-motorised user (NMU) facility for pedestrians, equestrians and cyclists an underpass under the new bypass has been created and an NMU track along Chester Road is due to be constructed in 2016-17.

Within our major improvement scheme on A14 Cambridge to Huntingdon we will be making a further significant investment of around £25 million to deliver a total of over 30 km of new NMU facilities, including segregated cycleways, bridleways and equestrian tracks links and new crossings, highway over-bridges and highway.



Cycle route alongside the A27, near Chichester





## 8. Delivering performance and efficiency

Alongside record levels of Government investment in highways, Highways England have been set challenging efficiency targets of £1.2 billion, in order to deliver a transformational capital programme. This will be challenging but we are already making good progress.

### Key performance indicators

#### Achieving real efficiency



Savings on capital expenditure



Total savings of at least £1.212 billion 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

### Indicator 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 2.

### Highlights of our activity in 2015-16

In our first year as Highways England we have demonstrated cost savings in excess of £250 million. Of this cost saving, £200 million has been separately reported to Government and comes from schemes which started between 2010 and 2013, and were in progress when Highways England was created. Other later schemes have contributed over £50 million of additional efficiency in our first year.<sup>36</sup> This exceeds our internal first year target of £33 million efficiencies. The additional efficiency, and all further efficiencies in this period, will be independently assessed by the Highways Monitor.

<sup>36</sup>Subject to confirmation

We continue to develop our initiatives to drive efficiencies and cost savings. These include road surface efficiency, value chain mapping, review of standards, lean reviews and our approach to programme delivery. These initiatives balance the need to save money with the need to ensure the longevity of our assets, without compromising safety.

## What we plan to deliver in 2016-17

### Focusing on efficiency

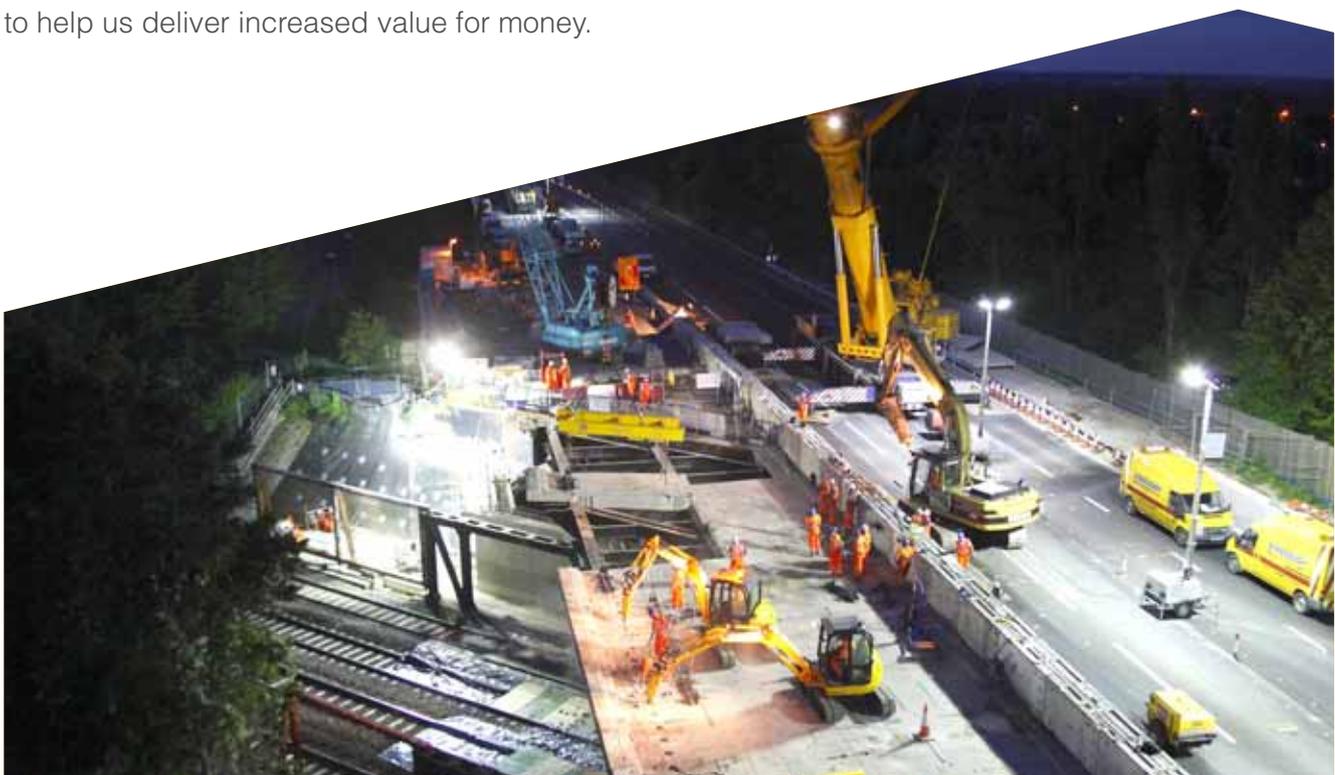
We have a commitment to deliver £139 million of efficiency savings in 2016-17. Future years have even more challenging targets, so in the autumn we will finalise our plans to ensure we can be confident about delivering the full £1.2 billion savings by the end of RP1.

Further work is continuing to embed efficiency processes and increase our ability to align cost variances and unit costs to reported efficiencies. We are taking steps to improve the understanding of our fixed and variable costs to help us deliver increased value for money.

Our focus is to enhance operational capability across the regions; provide fully-integrated technology and improved data; and meet our Delivery Plan commitments. We established a Capital Portfolio Management function in November 2015. Its objective is to establish and maintain a clear plan that meets all our capital programme requirements. It also looks to identify opportunities to maximise the benefits and value for money of the investment programme and to mitigate risks to the delivery of that programme.

This work will be underpinned by providing appropriate management information to stakeholders. This function, and the associated programme control framework, will be progressively developed and implemented throughout 2016-17 and will give us an increasing understanding and confidence in the actions we are taking to deliver the RIS 1.

Other efficiencies are being achieved through increased supply chain collaboration.



We already work in partnership with the Traffic Police on improving safety and network monitoring in our National Traffic Operations Centre in Quinton, Birmingham. This provides on going efficiency savings and better customer service as we improve our ability to rapidly and safely respond to traffic issues as they arise.

### Improving data quality

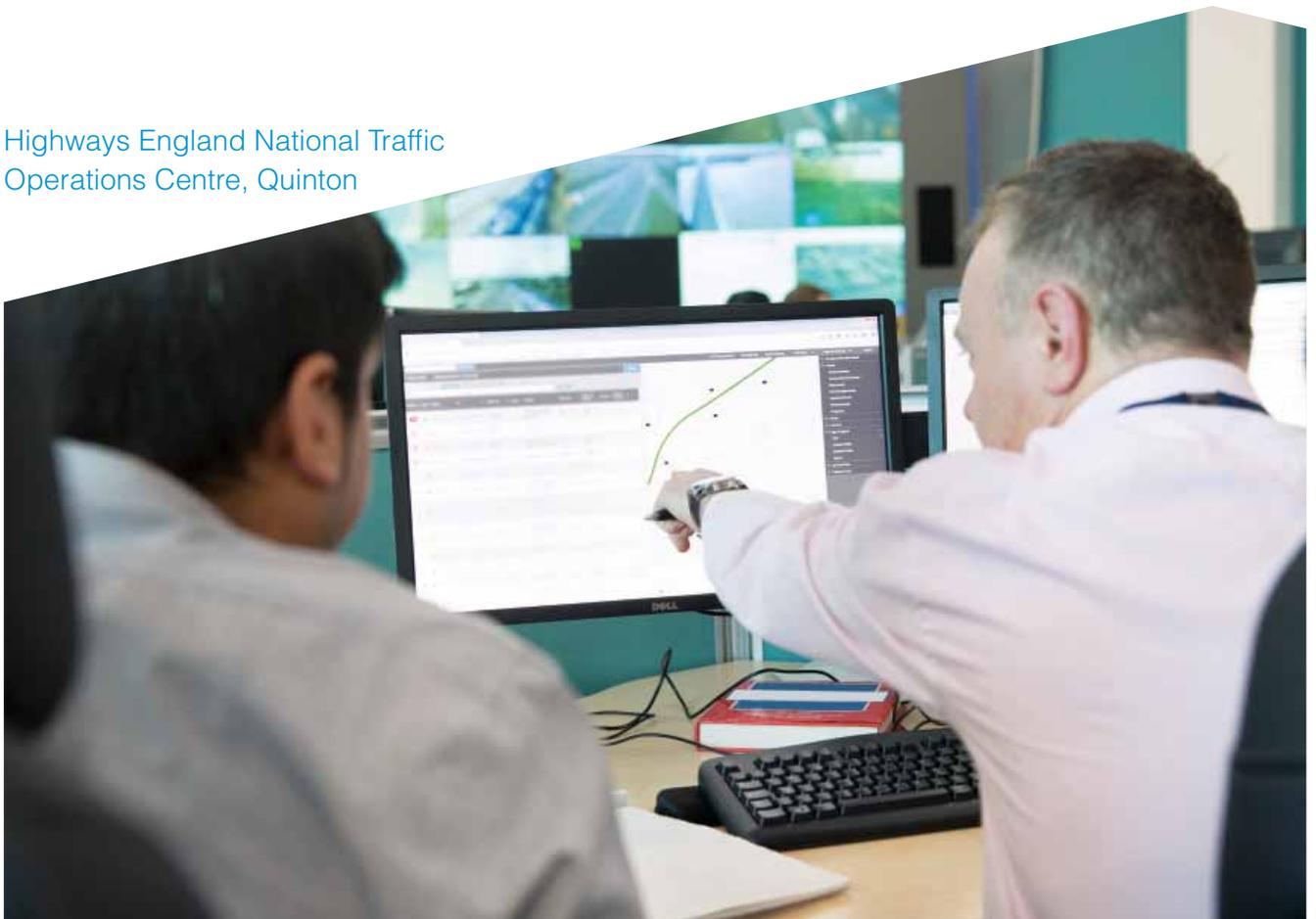
We have established an Information Change Leadership group to drive a fundamental improvement in our data quality. We will draw up detailed plans for data improvement and monitor this work across the business. We will also provide regular updates to DfT, ORR and other stakeholders and agree and communicate common data messages around the cultural change needed to improve data quality.

### New approaches to contracting

We are developing new contractual and delivery models, for example, the East Midlands asset-led delivery model for maintenance and renewals of our network. This approach allows us to better understand the condition of our roads and structures and make decisions on the work required, providing better value for money and ensuring that the condition of the asset continues to improve.

Our lean deployment strategic approach is also building a culture of continuous improvement internally and across our supply chain and making demonstrable contributions to improving efficiency.

Highways England National Traffic Operations Centre, Quinton



## Managing risk and uncertainty

We are committed to delivering as much as possible with the record investment Government have made in highways. Our risk management process is aimed at early identification and mitigation, and our framework gives us the structure through which we consistently identify, prioritise, manage, monitor and report risks. If risks materialise we manage them through a change control process with DfT and key changes in outputs are agreed on a quarterly basis.

We take a thematic approach to risk reporting. We identified 9 themes linked to our Delivery Plan and the Performance Specification within the Road Investment Strategy from which we manage our risk based approach.

### Mitigating risk

While we will always strive to manage 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.

Over the year we revised our approach to reporting risk to recognise the change in risk profile. We included key factors such as:

- becoming a separate legal entity
- the increase in our capital investment for our network (including numbers of schemes and volume of procurement)

- staff changes (eg capability, capacity and maintaining the corporate memory) have been considered and form part of the network of identified risk across the organisation



Night resurfacing on the A14, near Kettering





## 9. People and our company

We continue to implement initiatives on: accountable leadership, capable employees, customer-focused delivery, and rewarding performance. These will help us to ensure we have the capability and capacity to deliver our commitments to Government, customers and our stakeholders.

### Highlights of our activity in 2015-16

We have established a regular workforce planning process so that we have the right numbers of staff, at the times we need, with the skills we need. We are improving strategic succession planning initiatives to ensure we have talented people with the potential to develop fulfilling career paths.

We have seen further success in our graduate recruitment programme and are in the second year of a pilot Civil Engineering Apprenticeship scheme and are currently recruiting for the 2016-17 graduate scheme.



### What we plan to deliver in 2016-17

#### Improving our organisation

We have reviewed our approach to managing performance and will introduce an improved performance management system for all employees. This includes setting behavioural competency standards to reflect our values, which will allow us to assess and develop the way we work.

We will ensure we have a renewed focus on cultural change and embedding new ways of working across Highways England, balancing the need for effective delivery with the requirement for consistency of approach across a regionalised operations structure. To support this work we will launch our next Employee Survey, using the results to develop meaningful and targeted improvement actions.

Our workforce planning methods inform our recruitment and talent management programmes. These include mid-career management and leadership development, as well as early-career programmes to build on our existing commitment to apprenticeships.

#### Delivering our equality objectives

When Highways England was created as a company, our Public Sector Equality Duty objectives were reviewed. One overarching objective and 3 refreshed supporting objectives were then set which run from

2016 to 2020. The overarching objective is to embed the principles of equality, diversity and inclusion into all areas of our business, working with customers and communities; our supply chain; and employees. The 3 equality objectives are:

- that by consulting with our customers and neighbouring communities we will ensure we consider their diverse needs when we make decisions and demonstrate a lasting commitment to the customers and communities
- that by 2020, all our key suppliers will have improved their strategic alignment review tool (StART) scores for inclusion by 15%. StART is a toolkit which provides Highways England with an in-depth assessment of the supplier's alignment to our strategic direction
- that we will create a more diverse workforce that is managed, developed and led in an inclusive manner. We will report on our performance against these objectives in future years

## Annual commitments

We are required to report annually to the Government on how we are delivering against the wider Public Sector Equality Duty and have revised our objectives to reflect the ambitions of our organisation.

### Supporting skills development

Reflecting our role in developing skills across the sector, we are required to continue to deliver the Roads Academy programme for business leaders across the industry, reporting the numbers in each year's cohort and the proportion who successfully graduate. This programme explores ways to deliver solutions that provide value for money safely and sustainably, and to reduce capital and

operating costs. It also contributes towards the sustainability agenda by exploring new ways of doing things and challenging the effectiveness of existing processes.

### Other services

We will continue to perform other services (which do not form part of the RIS) on behalf of the Government. These are governed by protocols under the Licence and are activities or functions, specified by the Secretary of State, that Highways England will carry out.<sup>37</sup>

These activities include:

- Dart Charge
- Severn Bridge crossing concession
- M6 toll
- national salt reserve
- abnormal loads
- historic railways estate
- technical requirements
- Dartford local authority pension scheme



Dartford crossing

<sup>37</sup>These are annual ongoing commitments.





## 10. Collaborative relationships

We need to work closely with a range of stakeholders, customers and suppliers. We must communicate and engage with them effectively to deliver our objectives and desired outcomes. Our *Communications Strategy* supports this work and sets out how our stakeholders and customers will be made aware of, and properly consulted on, the running and development of the strategic road network.

### Highlights of our activity in 2015-16

We published our *Communications Strategy* and this sets out how we communicate to encourage safer driving and safer working on our network; provide relevant, accurate and timely information about traffic and conditions; and develop strong, trusted relationships. To reinforce this work we have set up the Customer Panel to provide us with rapid input on customer needs.

To strengthen our relationships with suppliers, we published our *Supply Chain Strategy and Procurement Plan*. This gives all suppliers details of our current plans on timing and routes to market for our programme of activity in RP1 and how we are transforming our approach to procurement. It will be updated regularly as information is developed and refined.

### What we plan to deliver in 2016-17

#### Improving communication

Following the publication of our *Communications Strategy* we will continue with its implementation and keeping our wide range of customers, stakeholders, suppliers, special interest groups and employees informed.

Our information will be delivered consistently and interactively via a broad range of communication channels such as Twitter, YouTube, email, apps and websites. Areas of communication include safety, encouraging safer driving/working on our network and delivery, providing a constant flow of delivery-focused information.

#### Working with the supply chain

We have been working with our supply chain to develop skills and capability for the longer term. This will include work to support skills development; reviewing the provision of training facilities; and developing opportunities to make the sector more attractive to new entrants. Through 2016-17 we will develop and deploy clear requirements within new contracts for the supply chain to develop skills and capability. This will include training of apprentices at a rate of up to one in every £5 million for appropriate contracts, supporting Government's target of 30,000 apprentices in the road and rail industry to 2020.<sup>38</sup>

In collaboration with our supply chain we developed and published our *Supply Chain Strategy* in September 2015. We are now making good progress with its implementation. This work includes setting out plans to improve performance in road surface renewal by focusing on reducing disruption and using different materials. Pilots of the new approach are now taking place in the Yorkshire and North East region and on the M3 smart motorway.

<sup>38</sup>Each contract above £10 million must have a skills section in its procurement strategy which will consider the workforce element of the contract and its ability to support apprenticeships.

We have also set up a collaboration board and engagement council which are helping to build collaborative relationships with highways suppliers.

We have developed a suite of Value Chain Plans across our priority investment areas. These build on the good results we have already seen and lessons learned.

### **Rapid response - enhanced mutual aid capacity**

Following the storms across England in December 2015, Highways England has repaired significant damage to the A591. This road was not part of our SRN and we became involved to provide support to Cumbria County Council. We are proud of our work in Cumbria, and following its success, we have reviewed how we could offer similar support in future emergencies to our partners, to share our expertise and capability.

We will put new arrangements in place by the second quarter. This will increase the number of senior staff available to lead our response to incidents and emergencies, ensuring that work to keep our roads running are fully coordinated with the response of partners. Additionally, where we have the resources, will endeavour to provide support to deal with incidents off the SRN. For example, our Traffic Officers may provide assistance to close local roads which have been damaged or flooded, and our contractors could supply sandbags or other equipment from our depots to aid those in need.

Where there is major damage to local highways infrastructure, Highways England will proactively engage with the local authorities to help assess and understand the scale of the problem, before sharing our skills and expertise to identify the best response for customers. Each situation will require a specific

response which could be through secondment of staff with appropriate skills from our own business and the wider supply chain.

Temporary bridging may be a particular need where we can significantly reduce the lead time for procurement and installation. Our structures specialists have met with the 5 main UK suppliers and now maintain a database of the available types of temporary bridge and length of span that each can provide, allowing for swift communication and resolution when required.

We expect to be in a position to make a proposal in the first quarter to establish a Framework Contract for temporary bridge supply and installation.

### **Working with stakeholders**

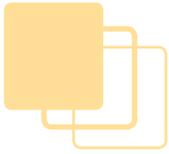
In order to meet our Delivery Plan commitment we will continue our work to set up the Stakeholder Advisory Panel. This will provide expert advice on issues relevant to the operation of our network, in particular strategic planning and our role in supporting economic growth as well as providing technical advice and commercial intelligence. The panel will include representatives from local government, the Homes and Communities Agency, business and planning sectors and other stakeholders, including environmental and safety groups.

We are also continuing to develop other relationships including collaboration with the Driver and Vehicle Standards Agency to improve safety.



Highways UK event, Excel, London, 2015





# 11. 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, and in the March 2016 Budget, Government announced additional funding to support acceleration of some major schemes. All of these changes require agreement through DfT and our Board through a change control process.

## Change control

We aim to be responsive to our customers' and other stakeholders' needs and, in a small number of cases, we have applied our change control process to modify or develop previous commitments. Under the terms of our licence the Secretary of State can formally request us to consider changes to the RIS. Likewise where Highways England wishes to make changes, the proposal can be considered under our formal change control process and determined by the Secretary of State. The particular commitments affected are set out in this chapter.

## Managing roadworks

In order to minimise the impact of roadworks on our customers, we are exploring alternative designs for roadworks and potential schemes where speed limits could be increased. Before introducing any changes, we will test different designs for roadwork layouts, examine the benefits of raising the speed limit and how road users react. When this work is complete we will look to conduct pilot trials later this year.

We have made progress towards our commitment to develop a delay in roadworks indicator which was planned for 2015. However, a number of complex data alignment issues have delayed this development. We expect this indicator to be ready by summer 2016.

## Designated Funds

RP1 includes a total of £675 million of expenditure from funds that are intended to provide wider societal benefits from the investment programme on our network. These are known as Designated Funds and cover Air Quality, Cycling, Safety and Integration, Environment, Innovation and Growth and Housing. In the first year of RP1 we have worked hard to identify opportunities and maximise the benefits from this funding.

We have engaged widely with stakeholders, are developing strategies and have started pilot schemes to test and trial new solutions, for example, as seen in our work on air quality schemes.

In some cases more work needs to be done before we can commit to specific schemes to ensure we fully understand the benefits they could provide. We have therefore decided to defer some expenditure from 2016-17 into future years. This will help us maximise the value of the investments and give us more time to engage with stakeholders. While this changes the timing of the investment, as these funds are ring fenced, the commitments made in the RIS will be fully met by March 2020.

## Reprogramming

The exact timing of the A63 Castle Street<sup>39</sup> scheme in Hull has been revised after discussion with stakeholders to allow further consideration

<sup>39</sup>Map number 26 in Annex 1

of the air quality challenges in the scheme and to avoid disruption to visitors during the Hull City of Culture Celebrations in 2017. Work is now expected to start in 2018-19 and to open for traffic 2021-22.

Following consultation and engagement with the local community and stakeholders, and

examination of the environmental impact, we are reviewing the timescale for the M54 to M6/M6 toll<sup>40</sup> scheme.

We are also currently reviewing the overall scope and funding of the A50 Uttoxeter<sup>41</sup> scheme. The following table covers the main changes that have arisen over the first year of RP1.

Table 2: Changes we have made (where appropriate these will be subject to change control)

Item	Change type	Change description
Operation Stack Relief – Lorry Park	Change from RIS obligations	Commission to construct a new lorry park area next to the M20 to alleviate the effects of Operation Stack. In Autumn Statement 2015, the Government committed up to £250 million of additional funding to build a permanent lorry area to reduce the need for Operation Stack to be used. £234 million additional funding has been provided by the DfT.
M62 schemes	Change from RIS obligations (in discussion)	£161 million additional funds announced in the Budget 2016 bringing forward start of works on 2 M62 smart motorway schemes during this RP.
Acceleration of the three northern strategic studies: <ul style="list-style-type: none"> <li>■ Trans-Pennine Tunnel Study</li> <li>■ Manchester North West Quadrant Study</li> <li>■ Northern Trans-Pennine Routes Study</li> </ul>	Change from Highways England Delivery Plan 2015-16	£75 million additional resource funds provided to bring forward northern strategic studies.
A63 Castle Street	Change from Highways England Delivery Plan 2015-16	Work is expected to start by the third quarter of 2018-19 (previously 2016-17) and to open for traffic 2021-22 (previously 2020-21).
Designated Funds	Change from Highways England Delivery Plan 2015-16	Deferring some expenditure from 2016-17 into future years to maximise the value of the investments. The commitments made in the RIS will be fully met by March 2020.
Speed cameras	Change from Highways England Delivery Plan 2015-16	In November 2015 the Government announced that within a year all operational speed cameras on our network would be yellow.
Off-road trials of Wireless Power Transfer technologies	Change from Highways England Delivery Plan 2015-16	Project paused until at least 2018 when a similar trial is completed on urban roads.
M54 to M6/M6 toll	Change from RIS obligations (in discussion)	Reviewing the timescale following request by DfT to undertake further development work of the possible options.
Common Highways Agency Rijkswaterstaat Model (CHARM)	Change from Highways England Delivery Plan 2015-16	Was planned for March 2017, now December 2017.
Indicator for delay in roadworks	Change from Highways England Delivery Plan 2015-16	We expect this indicator to be ready by summer 2016 (previously planned for 2015).
A50 Uttoxeter	Change from RIS obligations (in discussion)	Reviewing the overall scope and funding of the project.

<sup>40</sup>Map number 36 in Annex 1

<sup>41</sup>Map number 112 in Annex 1





# Annex 1 – Major improvement projects

Updated scheme schedule 2015-2020						
Map Ref	Scheme	Region	Programme			
			Start of works		Open for traffic	
			Commit	Status	Commit	Status
1	A556 Knutsford to Bowdon	North West		Started	2016-17 Q4	
2	A1 Coal House to Metro Centre	North East		Started	2016-17 Q1	
3	A1 Leeming to Barton	Yorkshire		Started	2017-18 Q1	
4	M1 junctions 28-31	North West		Started	2015-16 Q4	Complete
5	A453 widening	East Midlands		Started	2015-16 Q2	Complete
6	A14 Kettering bypass widening	East Midlands		Started	2015-16 Q1	Complete
7	M1 junction 19 improvement	West Midlands		Started	2016-17 Q3	
8	A45-A46 Tollbar End	West Midlands		Started	2016-17 Q3	
9	A5/M1 junction 11A link	East		Started	2017-18 Q1	
10	M25 junction 30	South East and London		Started	2017-18 Q1	
11	M6 junctions 10a-13	Midlands		Started	2015-16 Q3	Complete
12	A30 Temple to Carblake <sup>42</sup>	South West		Started	2016-17 Q3	
13	M1 junctions 32-35A	Yorkshire and North East		Started	2016-17 Q4	
14	M1 junctions 39-42	Yorkshire and North East		Started	2015-16 Q3	Complete
15	M60 junction 8 to M62 junction 20: smart motorway	North West		Started	2017-18 Q2	
16	M3 junctions 2-4A	South East and London		Started	2017-18 Q1	
17	A160/A180 Immingham	Yorkshire and North East	2015-16 Q1	Started	2016-17 Q4	
18	A21 Tonbridge to Pembury	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	
21	M6 junctions 16-19	North West	2015-16 Q3	Started	2018-19	
22	A14 Cambridge to Huntingdon	East	2016-17 Q3		2020-21	
23	M20 junction 10a	South East and London	2017-18		2018-19	
24	A19/A1058 Coast Road	Yorkshire and North East	2016-17 Q2		2018-19	
25	M4 junctions 3-12	South East and London	2016-17 Q4		2021-22	
26	A63 Castle Street <sup>43</sup>	Yorkshire and North East	2018-19		2021-22	
27	M1 junctions 24-25	Midlands	2016-17 Q4		2017-18	
28	M6 junctions 2-4	Midlands	2017-18		2019-20	
29	M6 junctions 13-15	Midlands	2017-18		2021-22	
30	M20 junctions 3-5	South East and London	2017-18		2019-20	
31	M23 junctions 8-10	South East and London	2017-18		2019-20	
32	M27 junctions 4-11	South East and London	2017-18		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	

Updated scheme schedule 2015-2020						
Map Ref	Scheme	Region	Programme			
			Start of works		Open for traffic	
			Commit	Status	Commit	Status
35	A19 Testos	Yorkshire and North East	2018-19		2020-21	
36	M54 to M6/M6 toll <sup>44</sup>	Midlands	2018-19		2021-22	
37	A27 Chichester bypass	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		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	Yorkshire and North East	2019-20			
44	A19 Norton to Wynyard	Yorkshire and North East	2019-20			
45	A1 and A19 technology enhancements <sup>45</sup>	Yorkshire and North East	2019-20			
46	M1 junction 45 improvement <sup>46</sup>	Yorkshire and North East	2019-20			
47	M621 junction 1-7 improvements	Yorkshire and North East	2019-20			
48	M62/M606 Chain Bar	Yorkshire and North East	2019-20			
49	M62 junctions 20-25	Yorkshire and North East	2019-20			
50	A585 Windy Harbour – Skippool	North West	2019-20			
51	A5036 Princess Way – access to Port of Liverpool <sup>47</sup>	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	Midlands	2019-20			
57	M1 junctions 23A-24	Midlands	2019-20			
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 Chowms Mill junction improvement <sup>48</sup>	Midlands	2019-20			
64	M5 junctions 5,6 and 7 junction upgrades <sup>49</sup>	Midlands	2019-20	Started 2015-16 Q2	2018-19	
65	A43 Abthorpe junction <sup>50</sup>	Midlands	2019-20	Started 2015-16 Q4	2017-18	



Updated scheme schedule 2015-2020						
Map Ref	Scheme	Region	Programme			
			Start of works		Open for traffic	
			Commit	Status	Commit	Status
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 7 – junction upgrade	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 <sup>51</sup>	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			
85	A31 Ringwood	South East and London	2019-20			
86	M49 Avonmouth junction <sup>52</sup>	South West	2019-20			
87	M5 Bridgwater junctions <sup>53</sup>	South West	2019-20		2017-18 Q3	
88	A52 Nottingham junctions	Midlands	2019-20			
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 <sup>54</sup>	Yorkshire and North East	2019-20			
93	A1 Morpeth to Ellingham dualling	Yorkshire and North East	2019-20			
94	A1 Scotswood to North Brunton	Yorkshire and North East	2019-20			
95	A1 Birtley to Coal House widening	Yorkshire and North East	2019-20			
96	A628 climbing lanes	Yorkshire and North East	2019-20			
97	A61 dualling	Yorkshire and North East	2019-20			
98	Mottram Moor link road	North West	2019-20			

Updated scheme schedule 2015-2020						
Map Ref	Scheme	Region	Programme			
			Start of works		Open for traffic	
			Commit	Status	Commit	Status
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 <sup>55</sup>	East	2019-20			
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 <sup>56</sup>	Midlands	2015-16 Q3	Started	2018-19	

Where appropriate these will be subject to change control.

<sup>42</sup> A30 Temple to Carblake – Highways England is contributing toward the cost of this scheme which is being delivered by Cornwall Council.

<sup>43</sup> A63 Castle Street – revised programme milestones progressing through change control with DfT.

<sup>44</sup> M54 to M6/M6 toll – programme commitments being reviewed following request by DfT to undertake further development work of the possible options.

<sup>45</sup> A1 and A19 technology enhancements – subject to completion of business case for this scheme, and associated detailed design, we are continuing to work towards an earlier start of works in 2016.

<sup>46</sup> M1 junction 45 improvement – we are continuing to target an earlier start of works in 2017.

<sup>47</sup> A5036 Princess Way – access to Port of Liverpool – although challenging, we are continuing to look at how we can start construction work on this project in 2019.

<sup>48</sup> A45/A6 Chowms Mill junction – detailed design is in progress and we are targeting to start works on site by the end of 2019.

<sup>49</sup> M5 junctions 5, 6 and 7 junction upgrades – we have been able to start work on this scheme early and have already completed improvements to junction 5 and 7.

<sup>50</sup> A43 Abthorpe junction – construction work for this scheme has already started which we now plan to complete in 2017-18.

<sup>51</sup> M2 junction 5 improvements – our aim on this scheme is to start construction in 2019.

<sup>52</sup> M49 Avonmouth junction – we anticipate being able to start construction work for this scheme earlier and are targeting 2017.

<sup>53</sup> M5 Bridgwater junctions – we plan to complete detailed design in 2016 and subject to the final business case, we anticipate a start of works in late 2016.

<sup>54</sup> A1 North of Ellingham – this scheme will be delivered as part of a programme of works on the A1 in Northumberland, elements of which we anticipate being able to start construction in 2018.

<sup>55</sup> A47 Acle Straight – following confirmation of the business case, we now expect to deliver safety improvements to this section of the A47 in 2016.

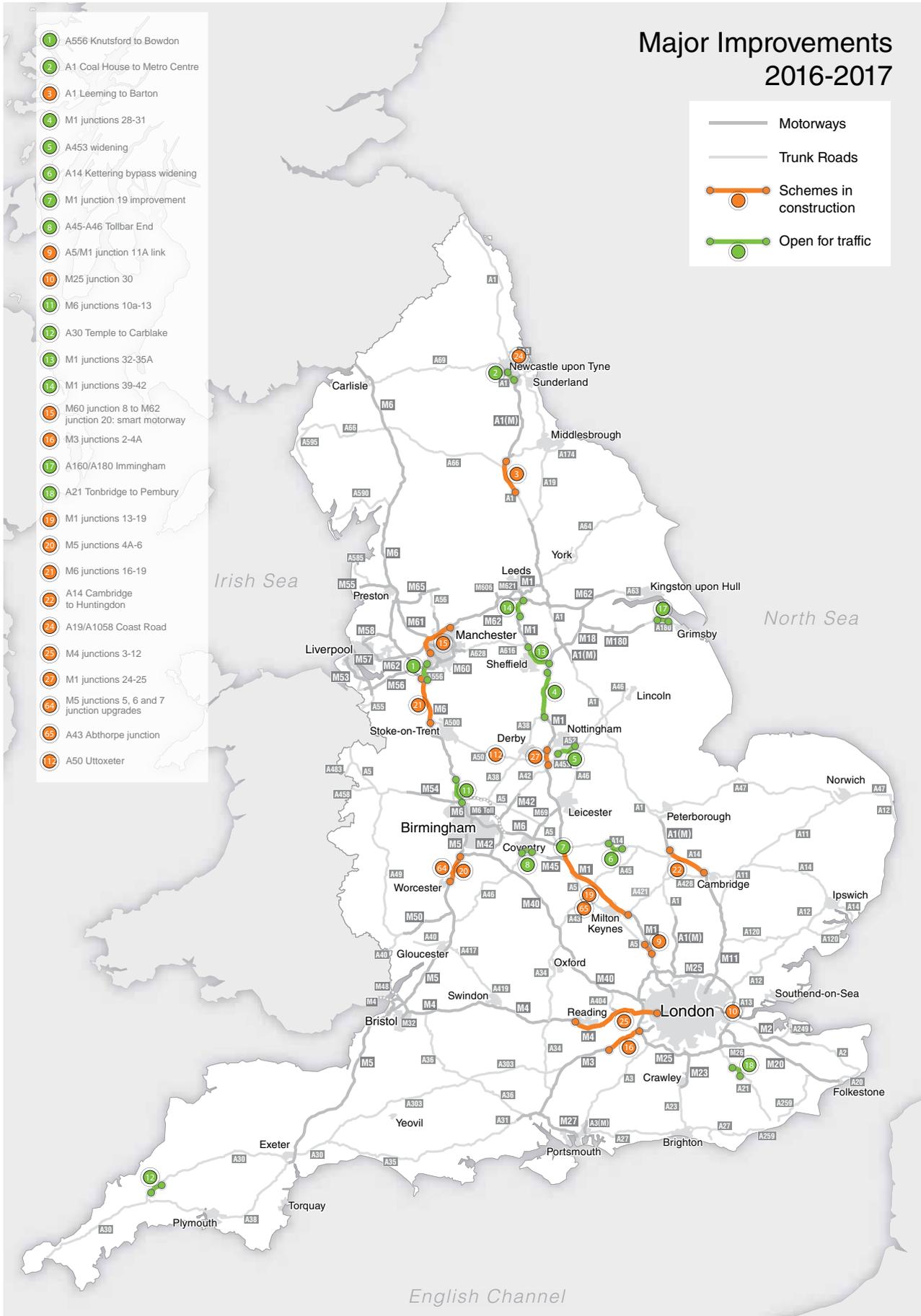
<sup>56</sup> A50 Uttoxeter – we are working with Staffordshire County Council to deliver these improvements.



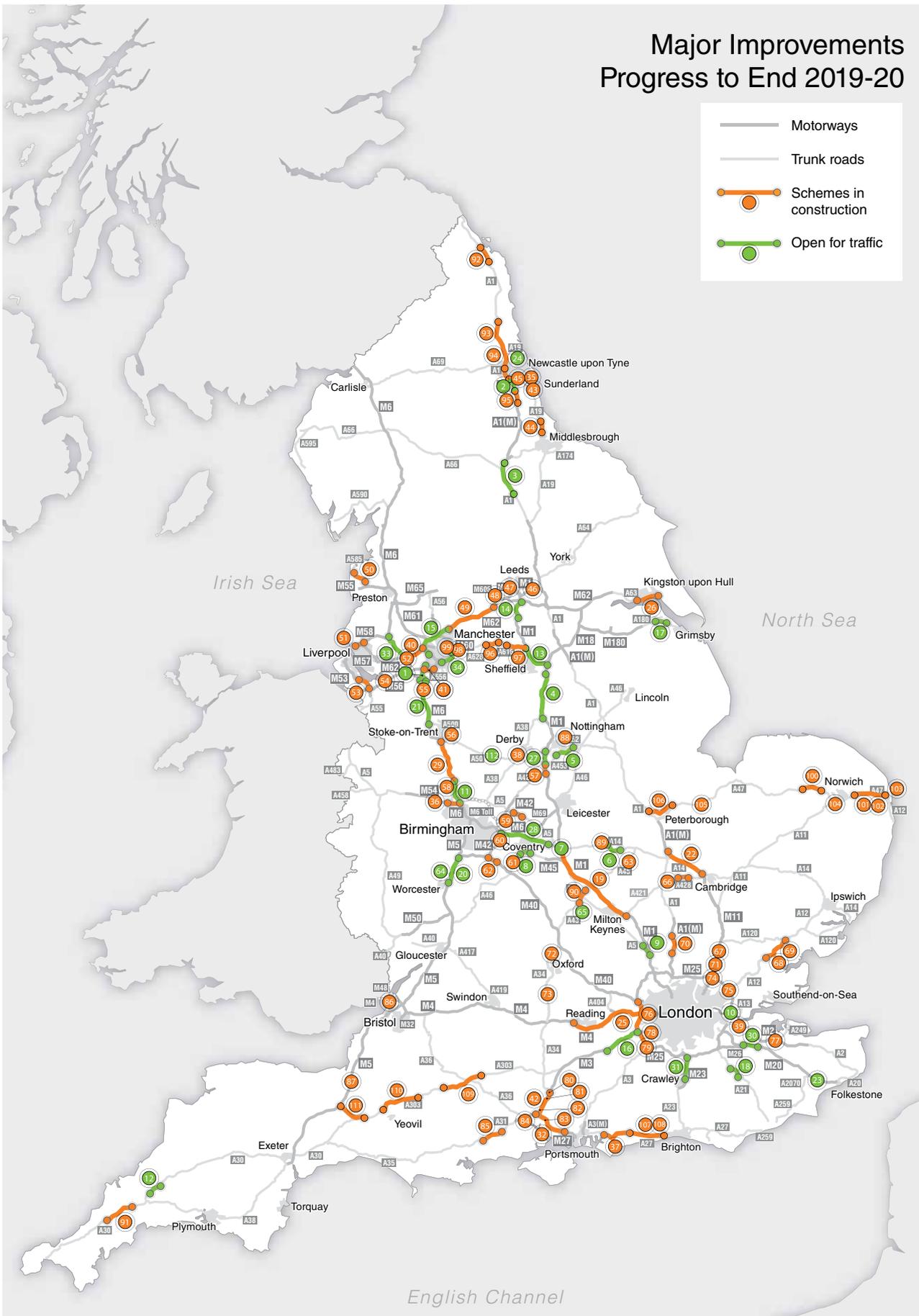
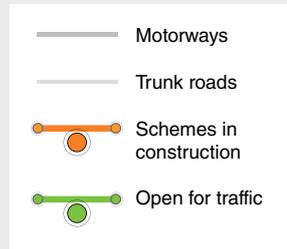
# Major Improvements 2016-2017

- 1 A556 Knutsford to Bowdon
- 2 A1 Coal House to Metro Centre
- 3 A1 Leeming to Barton
- 4 M1 junctions 28-31
- 5 A453 widening
- 6 A14 Kettering bypass widening
- 7 M1 junction 19 improvement
- 8 A45-A46 Tollbar End
- 9 A5/M1 junction 11A link
- 10 M25 junction 30
- 11 M6 junctions 10a-13
- 12 A30 Temple to Carblake
- 13 M1 junctions 32-35A
- 14 M1 junctions 39-42
- 15 M60 junction 8 to M62 junction 20: smart motorway
- 16 M3 junctions 2-4A
- 17 A160/A180 Immingham
- 18 A21 Tonbridge to Pembury
- 19 M1 junctions 13-19
- 20 M5 junctions 4A-6
- 21 M6 junctions 16-19
- 22 A14 Cambridge to Huntingdon
- 24 A19/A1058 Coast Road
- 25 M4 junctions 3-12
- 27 M1 junctions 24-25
- 28 M5 junctions 5, 6 and 7 junction upgrades
- 29 A43 Abthorpe junction
- 31 A50 Uttoxeter

-  Motorways
-  Trunk Roads
-  Schemes in construction
-  Open for traffic



# Major Improvements Progress to End 2019-20





## Annex 2 – 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
	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
Making the network safer	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

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



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

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	£1.212 billion
	KPI	<i>Delivery Plan</i> progress: progress of work, relative to forecasts set out in the <i>Delivery Plan</i> , 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.

- KPI
- PI
- Requirement





## Annex 3 – Funding table

£ million	2015-16	2016-17	2017-18	2018-19	2019-20	Period 1
<b>Capital</b>						
<b>Modernise/Enhance</b>						
SR10 and SR13 Schemes	1,022	1,218	1,026	1,401	1,446	6,113
RIS Schemes	20	70	120	165	260	635
Feasibility Studies	4	36	44	63	123	270
Air Quality	0	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	0	5	23	19	33	80
<b>Sub Total</b>	<b>1,073</b>	<b>1,382</b>	<b>1,378</b>	<b>1,766</b>	<b>2,094</b>	<b>7,693</b>
<b>Maintain/Renew</b>						
Renewals	709	595	788	761	805	3,658
Non-RIS Delivery	140					140
<b>Total Capital</b>	<b>1,922</b>	<b>1,977</b>	<b>2,166</b>	<b>2,527</b>	<b>2,899</b>	<b>11,491</b>

The total capital funding across the 5-year period is as per the Statement of Funds Available in the RIS, plus an additional £140 million provided to Highways England in 2015-16 to complete delivery of small improvement schemes which were not funded in the RIS.

The capital funding excludes any additional funds to be made available to Highways England for the implementation of a solution for Operation Stack or for the acceleration of improvements to upgrade sections of the M62 to a 4-lane smart motorway. These are 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 3 to 5, in particular for designated funds.

<b>Resource/Operational</b>						
<b>Operate the network</b>						
Operations	253	195	199	197	203	1,047
PFI Contracts	394	416	426	408	413	2,057
Maintenance and Renewals	279	254	258	268	266	1,325
<b>Sub Total</b>	<b>926</b>	<b>865</b>	<b>883</b>	<b>873</b>	<b>882</b>	<b>4,429</b>
Support	107	154	136	141	140	678
Protocols	39	40	41	41	42	203
<b>Total Resource/Operational</b>	<b>1,072</b>	<b>1,059</b>	<b>1,060</b>	<b>1,055</b>	<b>1,064</b>	<b>5,310</b>

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

The resource funding excludes any additional funds to be made available to Highways England for the Northern Strategic Studies.

All funding is subject to statutory process and the Government reserves the right to reopen this settlement in response to wider macroeconomic shocks or other changes.





## Annex 4 – Glossary

APTR	All purpose trunk road, which comprises of dual and single carriageway A-roads on the SRN
CHARM	Common Highways Agency Rijkswaterstaat Model
DBFO	Design Build Finance and Operate
DfT	Department for Transport
EuroRAP 3	European Road Assessment Programme
Expressways	A-roads that can be relied upon to be as well-designed as motorways and which are able to offer the same standard of journey to users.
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 behavior 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
SSSI	Sites of Special Scientific Interest
Transport Focus	A 'watchdog' responsible for gathering the views of strategic road network users and using them to shape policy and decision-making



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