

Efficiency and Inflation Monitoring Manual



September 2015

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Section 1:

Efficiency Overview and Summary

1.1 Foreword

Highways England is committed to delivering the Public value for money. As part of the Roads Investment Strategy (RIS) we agreed with the Government that we would deliver at least £1.2 billion in efficiencies over Road Period 1 (RP1) and to meet or exceed the expectations set out in the Delivery Plan. We are committed to deliver total efficiency savings of over £2.6 billion over the next ten years.

Our Strategic Business Plan (SBP) sets out the strategic outcomes. Our effectiveness will be assessed by the extent to which these outcomes are achieved with the funding available. This will be measured against the KPIs, targets, requirements and outputs in the RIS.

We intend to add value benefits through:

- Reducing costs to deliver the same product and/or outcomes
- Producing higher quality/longer lasting products
- Early or increased realisation of benefits
- Reduction of negative economic consequences.

The purpose of this manual is to define how we will measure and monitor efficiencies. Examples of how we will achieve this are through:

- New contractual models
- Improved commercial capabilities
- Better risk management
- Category management of key products e.g. gantries
- Introduction of Regional Boards and Integrated Portfolio Office functions to improve resource allocation and save costs
- Improved planning and integration of schemes
- Using whole life costing to support investment decisions
- Implementation of a LEAN deployment strategy
- A shift from working project-by-project to a programme basis
- Continued development of the innovation Programme, the principles of which will be set out in our Innovation, Technology and Research Strategy.

The efficiency monitoring regime and five-year funding settlement that will apply over RP1, are new features of our governance framework. We expect to develop our experience in this area with assistance from the Highways Monitor and over time we will improve the type and quality of data used to support efficiency performance reporting.

Our approach to measuring, recording and monitoring efficiency cost savings is set out in this Efficiency and Inflation Monitoring Manual. It has been developed and agreed with the Department for Transport and the Highways Monitor. It is based on the principles of transparency and proportionality, with emphasis placed on the activities our customers value the most and those that involve the largest amount of spend.

1.2 Document Purpose

This document (the “manual”) lays out our approach to measuring, recording and monitoring efficiencies as committed in the Highways England Delivery Plan 2015-20.

Strategic Context

In 2014 the Government published the Road Investment Strategy (RIS) which sets out long-term programme for our motorways and major roads with the stable funding needed to plan ahead effectively.

The RIS sets out the performance requirements of Highways England. These performance requirements included a number of Key Performance Indicators (KPIs), including the Efficiency KPI (“Savings on Capital Expenditure”).

We responded to the RIS through the Strategic Business Plan, this set out our main activities and strategic outcomes, and describes how we will go about delivering the Investment Plan and meeting our Performance Specification. The Delivery Plan goes into detail about how the strategic outcomes will be delivered, how we will measure success, how we will identify future goals and plans to keep improving our customers and neighbours experience of the strategic road network.

This manual lays out our approach to measuring our commitments to achieving the efficiencies we have committed to in the Delivery Plan. We expect that it will develop and be updated over time.

The Office of Rail and Road (the “ORR”) monitors Highways England against the Licence, RIS and the Delivery Plan. It monitors performance against all KPIs and PIs, including the efficiency KPI.

This manual will be updated over time as the efficiency process embeds or changes to meet the challenges of the business. Any revisions to this manual will be agreed with the DfT, with guidance from the ORR.

Internal ‘efficiency guides’ will be written to assist in applying the principles in the manual to specific efficiency scenarios. For example we are working with the DfT and ORR on guides including approaches to unit cost analysis, overall expenditure compared to funding and treatment of whole life cost related efficiencies.

Policy issues relating to efficiency will be discussed with the ORR and DfT prior to approval and issuing guides. DfT agreement will be needed where there are any fundamental policy issues.

1.3 The Structure of the Manual

Efficiency Overview and Summary	Detailing the key principles, definitions, framework and elements of the approach to efficiency and inflation monitoring.
Detailed Efficiency Process	The process for recording and reporting efficiencies, outlining the key elements of the process including identifying, valuing and reporting.
Technical Considerations	Specific guidance on the: <ul style="list-style-type: none"> • recognition of efficiencies • the treatment of inflation • the treatment of risk & uncertainty.

1.4 The Efficiency KPI

The Efficiency KPI set in the Performance Specification is:

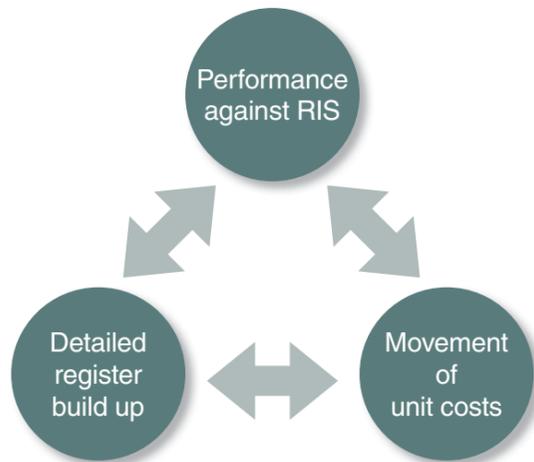
Efficiency - summary table	
KPI	<p>Cost Savings: Savings on capital expenditure.</p> <p>Delivery Plan Progress: progress of work, relative to forecasts set out in the Delivery Plan, and annual updates to that Plan, and expectations at the start of RP1.</p>
Target	<p>Cost Savings: Total savings of at least £1.212 billion^(*) over RP1 on capital expenditure.</p> <p>Delivery Plan Progress: meet or exceed forecasts.</p>
PI	Suite of PIs to demonstrate that the portfolio is being developed and the Investment Plan delivered in a timely and efficient manner. These should include the progress of major schemes and programmes in construction through reporting CPI and SPI for schemes at Project Control Framework Stage 5 and beyond.
Requirements	Demonstrate on an annual basis how efficiencies have been achieved.

(*) This target figure is in nominal terms, and is based on the efficiency assumptions used to develop the Investment Plan. In the event that the Investment Plan undergoes significant revision - for example, movement between funding lines or years - the efficiency assumptions that underpin this target may need to be revised which might necessitate a change to the target.

This manual clarifies how efficiencies will be evaluated and recorded to support and explain the achievement of the KPI. In particular it sets out how efficiency is much broader than cost savings (Economy) and includes efficiencies caused by more productive ways of working or by providing a more effective product as well as saving costs. These components of efficiency are outlined later within this manual.

1.5 Approach to Efficiency Reporting and Monitoring

The KPI is based on detailed project level efficiencies built up from efficiency registers. However when we comment on the efficiency KPI we will do this within the context of wider performance against the Delivery Plan and the RIS deliverables and unit cost movements.



The three elements above provide a different context for viewing efficiencies but would be expected to provide a consistent efficiency storyboard. In providing commentaries there will be a high level review on the consistency of the picture provided against each element.

- Detailed Register Build up

The KPI will be reported against the consolidation of the detailed registers using the principles which are laid out in this manual. Commentary will be reported through Regional Boards.

- Performance Against Plan

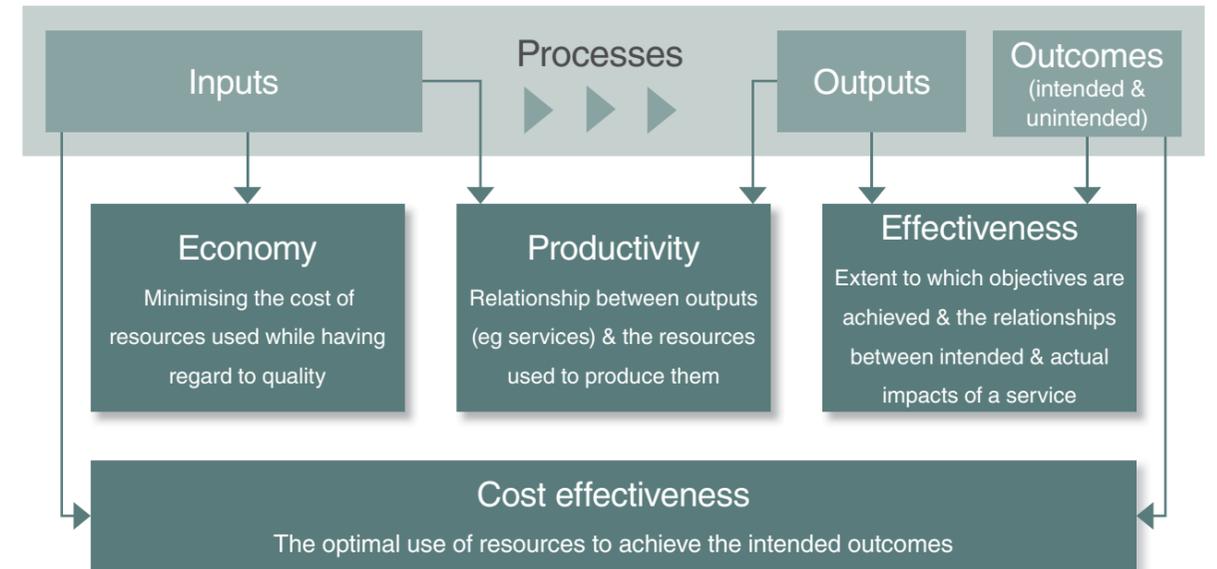
Provide analysis of how the funding is being spent against the Delivery Plan and the RIS. This will be to ensure that efficiencies reported align to the progress of the outputs laid out in the RIS.

- Movement of Unit Costs

Analyse unit costs for the key areas of delivery and provide commentary as to their movement from pre-RIS levels through the progress of the Road Period.

The unit cost measures will be identified and enhanced as part of the data improvement plan being agreed with the Highways Monitor.

1.6 Definitions and Framework



In the Delivery Plan we set out our approach for measuring efficiency. We explained that we expect to use the flexibility available to Highways England over day-to-day operations, procurement and contract management to allow us to change the way we plan, procure and deliver schemes and to facilitate greater productivity. This will allow us to deliver more projects and a better quality of service with the funding allocation than would otherwise be the case.

We define an efficiency as an improved relationship between cost (inputs) and output (or outcome).

Framework

The overarching term efficiency can be analysed into three components: Economy, Productivity and Effectiveness. This categorisation and definition will be used to assist in understanding and identifying efficiencies.

In summary these three components of efficiency are defined as:

- Economy: minimising the input cost of resources used – spending less or procuring

things 'at a lower cost'. For example, negotiating a lower price for aggregate through category management.

- Productivity: the relationship between the output from goods or services and the inputs required to produce them – 'spending well' or 'doing things well'. For example, changing the method of laying a road which reduces the amount of traffic management required. Productivity may increase either because inputs are combined in a more productive way (e.g. using different techniques) or from reducing underutilisation of specific inputs (e.g. improved working arrangements for plant).

- Effectiveness: the relationship between the results of spending on outputs or outcomes – 'spending wisely' or 'doing the right things'.

All of these components need to be considered in reporting overall efficiency. Each component will be influenced by different factors. Viewing efficiency through these categories will provide a basis for understanding and explaining the performance against the KPI.

1.7 Key Efficiency Reporting Principles

This section outlines the key principles used in efficiency reporting. Each principle is detailed further in Section 2 of the manual.

1.7.1 Baseline Costs

A fixed set of baseline costs (which deliver the outputs) is required as a start point to monitor efficiencies. This baseline information was not available in all cases when the RIS was produced as the RIS schemes differed in their maturity of development and cost estimate.

As a result, the RIS cost estimates do not provide a firm baseline for monitoring efficiency. The approach taken is to continue to develop the baseline as the program of capital works develops so that once the single-point solution is developed on the scheme and the investment is approved, this becomes the monitorable baseline cost for the scheme.

In viewing performance against the RIS and the early funding estimates, a comparison from the estimate to the baseline cost will form part of the top down review. This review would also consider any other detailed estimates which have been released to the monitor.

1.7.2 Baseline Point in Time

The baseline point of time is the start of the Road Period (i.e. 1 April 2015 for Road Period 1). This is the standard “reference point” against which efficiency is calculated in order to ensure a proper comparison against actual costs.

1.7.3 Entire Costs

The efficiency calculation must take into account all costs, and subsequent benefits, impacted over the life of the asset affected by the efficiency in question. This means all costs and benefits across Highways England as a whole.

1.7.4 Quality / End Product

The quality of the end product or outcome must be taken into account in considering the overall efficiency made.

Spending less may not generate efficiency where there is a reduction in the quality of the asset, service delivered or outcome. Reduced quality may result in long term additional costs, for example having to repair road surfaces more often due to a reduction asset life.

1.7.5 Efficiencies Stated Net

The efficiency calculation should take into account any costs of investment or negative efficiencies (e.g. write offs). In other words, efficiency should be stated ‘net of the costs’ which generated it and / or of the costs that occurred as a consequence of it.

1.7.6 Standard Capture Mechanism

All efficiencies will be captured in an efficiency register (the “register”). This is a standard document that will capture efficiencies, as well as associated reporting information, value, evidence and approval information. Each entry in the register will be supported by a justification as to the reason why the entry is considered to be efficiency.

1.7.7 Doing the Right Thing

Highways England is tasked with maintaining and improving the strategic road network and is monitored through the series of KPIs (as defined within the performance specification). It is important to note that efficiency is only one of these KPIs, and, as such, decisions must not be driven by the achievement of this one KPI alone.

Generating efficiencies should not be an end in itself but based on “doing the right thing” for the network as a whole.

1.7.8 Appropriateness Test

The appropriateness test says that the value of the efficiency should be considered against the cost / time of valuing and evidencing that efficiency. Therefore, the amount of resource assigned to valuing and evidencing the efficiency should be proportionate to the value of the efficiency anticipated.

For clarity, it is important that if an efficiency does not pass the appropriateness test it should be recorded in the register with an estimated value.

1.8 Elements of the Efficiency Process



There are seven elements that comprise the Highways England efficiency process, along with overarching governance.

Each element is covered in more detail in Section 2.

1.8.1 Governance

The Highways England efficiency process is based on a governance framework that provides a clear line of sight for the Highways England Board and Executive Management, responsible for the oversight of the company and its operations, and for meeting the commitment made in the Delivery Plan to fulfil the RIS. This includes an established financial and business planning process (including for review of the delivery plan and the capital programme). It also includes investment decision-making governance arrangements.

1.8.2 Identify

All managers across Highways England have responsibility for identifying opportunities for efficiency and this is intrinsic to the budget process. It is an ongoing responsibility of project SROs to own and drive the process of continuously identifying opportunities for efficiency. SROs of projects are also expected to actively review the opportunities for efficiencies as part of their ongoing project management.

This manual provides a framework for a consistent approach to identifying if an efficiency opportunity exists or has been achieved.

1.8.3 Value

There are various approaches to valuing efficiency, depending on the nature of the efficiency in question. This manual lays out a framework for valuation.

As our approach to unit costs mature they will be progressively used both as a part of the valuation calculation and in providing supporting evidence for particular register entries to determine whether the efficiency is being achieved.

1.8.4 Record

Efficiencies will be recorded in a standard document called 'the register'. Each register will be consistently completed and consolidated for regional reporting, Executive Committee and Board.

For large projects it is expected that one register will be completed per project. For smaller projects it is possible to adopt a more flexible approach as decided by regions. This may include completing the register at a project, programme or other appropriate level.

1.8.5 Evidence

All efficiencies identified must be substantiated through evidence that provides satisfactory comfort over their existence and valuation. There are various features which should be considered when looking at the sufficiency of evidence and the existence of one, or more, of these features increases the strength of the evidence.

1.8.6 Validate

All efficiencies will be subject to review and validation. The detail and basis of the review will depend on the stage of development of the efficiency, project or programme. This validation provides assurance over the value being reported and the quality of the evidence presented.

All efficiencies should be reviewed by Finance Business Partners, Commercial or Procurement as appropriate to provide assurance to the Regional Directors. There should also be wider assurance over efficiencies from central finance, internal audit, independent external review and overview from the Executive, Board and the ORR.

1.8.7 Report

Efficiencies will be reported against the following levels within Highways England:

- at Corporate level against KPIs
- at Directorate level against the Delivery Plan
- at Regional level against local allocation and targets.

Detailed reporting will be developed as the efficiency process and register mature. Reporting will include efficiencies both delivered and forecast.

Highways England Performance Reporting will be used to report efficiencies to the ORR.

1.8.8 Share

Sharing knowledge and best practice for delivering outputs and outcomes is critical to ensuring Highways England creates an efficient organisation that meets its efficiency target.

1.9 Further Support

Support on efficiencies is available in the first instance through Efficiency Leads who coordinate efficiency process within a directorate or region.

Further assistance will come from finance and commercial Business Partners and who provide first line support on the technical elements of efficiency reporting and advice on valuation, evidence and unit costs to feed into efficiency claims.

Finance Directorate will provide the corporate overview and policy for the efficiency process across the organisation. They will maintain the manual and provide guidance, assurance and governance. They will also be the efficiency interface with the ORR, through the Strategy & Planning Directorate. Contact email is efficiencyCOE@highwaysengland.co.uk.

Section 2:

Detailed Efficiency Process

2.1 Governance



2.1.1 Governance Principle

Appropriate governance exists within each element of the efficiency process, and is detailed in the relevant sections below.

2.1.2 Governance Framework

There are a number of elements that come together to provide a robust governance framework for the efficiency process. These are:

Highways England Board and Executive Committee

The Highways England Board is ultimately accountable for Highways England, and the delivery of its obligations, including the Delivery Plan. This includes the performance KPIs in the Delivery Plan and its performance and efficiency commitments (including the Efficiency KPI).

The Board delegates responsibility for operational management to the CEO (who is also the Accounting Officer responsible for the stewardship of public funds) supported by the Executive Committee. To exercise its accountability, the Board receives and reviews efficiency reports as part of the Corporate Performance Report.

The Delivery Plan sets out a number of specific steps which are planned in order to deliver efficiencies. Efficiency targets will be assigned to programmes, projects and other funding streams.

Board and Executive Committees

Highways England has a number of Board and Executive Committees with particular responsibilities for financial planning, investment decision making and control and the management of risk and internal control. This includes the Investment Decision Committee; Audit & Risk Committee; Financial Investment Planning Group; Supply Chain Group; and Network Performance Group.

Senior Responsible Owner (SRO)

A SRO is an individual who is responsible for the operational delivery of a project or programme. As part of this, the SRO is also accountable for the delivery of their allocated efficiency target and ensuring that the efficiency process is followed.

The SRO may delegate responsibility, but not accountability, to a Project Manager and subsequently to an Efficiency Manager who would run the efficiency process on their behalf.

Efficiency Steering Group

The efficiency steering group comprises representatives from across Highways England. It is accountable for providing the tools and ensuring sharing of best practice to allow the operational teams to drive out efficiencies and deliver the KPI (for example central contract models and creating the right commercial environment). It is not accountable for delivering efficiency itself, this will be within the control of the operational teams.

Assurance

There are various layers of assurance in place throughout the organisation covering the calculation and reporting of efficiencies. In addition to routine management activity of oversight, three additional sources of assurance which will provide further assurance are outlined below.

Centre of Excellence

The efficiency centre of excellence will provide the central ownership of this manual, policies and guidance, including the development and release of efficiency guides. It will provide central support over how efficiency is to be recorded and reported, providing a view on consistency across the organisation.

Internal Audit

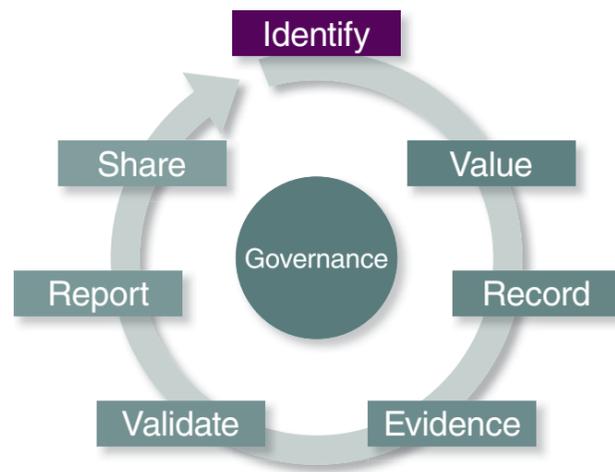
The efficiency recording and reporting process will be within the scope of Internal Audit (IA) as part of their programme of work. The scope and timing of any reviews will be confirmed by the Audit and Risk Committee.

External Review

The Audit and Risk Committee will determine the need for external review of the efficiency process and registers. This will be used to provide the Board further assurance as to the robustness of the process and the registers which underlie the reported efficiency figure.

The terms and appointment of external assurance is within the remit of the Audit and Risk Committee. They will be responsible for reviewing the outcome of the review, and will provide recommendations to the Board, should any corrective action be required.

2.2 Identify



2.2.1 Efficiency Identification

Overall accountability delivering and identifying efficiency lies with Executive Directors who will own and drive the process within their areas of responsibility.

Directors and managers are accountable for identifying and delivering efficiencies within their own areas of responsibility.

Each identified efficiency must be recorded in the register and state why it is claimed and provide appropriate evidence.

As previously defined, efficiency occurs as a result of a change in the relationship between inputs and outputs / outcomes. This could be a change in the economy, productivity or effectiveness of a project or programme.

The identification of specific efficiencies is not considered in this manual. This process is the responsibility of project and programme managers and will be carried out by them with support of the efficiency lead and business partners as required.

In developing generic efficiency interventions an 'Efficiency Guide' may be developed which will provide the information justifying any efficiency claim and an agreed valuation and evidence basis for future use.

2.2.2 Efficiency Identification & Justification

Each identified efficiency must include a justification of the reason for the efficiency being claimed and appropriate evidence. This justification will be recorded in the register.

2.2.3 Outputs & Outcomes

Outputs

Outputs are the final product (or service) to be delivered, for example a new junction or bridge. A judgement around the level of quality of the product will need to be made when considering the specifics of the efficiency calculation of the outputs.

Outcomes

Outcomes are the measure of impact that the output achieves, for example, improving traffic flow or other wider economic benefits.

2.2.4 Changes of Scope

In identifying efficiencies, it is important to understand the distinction between efficiency and change in scope.

A scope change is a change in the outputs or outcomes of the deliverable. Extra funding provided to pay for the change in scope may not impact existing efficiencies but will be an incremental investment to the funding of that project.

These changes may create efficiencies (e.g. more outputs for the same preliminary costs) but will not automatically mean efficiency has been identified. For example an increase in the scope of a project could create economy efficiency through volume discounts or could create productivity efficiency through being able to spread preliminaries over more outputs.

An increase in the scope of a project resulting in increased overall costs does not in itself eradicate efficiencies which were in place within a project.

A scheme was originally forecast to cost £100m. In the design phase efficiencies of £5m are identified meaning the forecast becomes £95m. Prior to construction, further outputs are added to the scheme totalling £15m. The forecast for the scheme is now £110m.

The fact that the final forecast is £10m above the original does not negate the efficiencies to be claimed. The £15m change of scope and the £5m efficiencies should be viewed separately.

2.2.5 Other KPIs & Outcomes

Where spend on a deliverable is increased in order to improve its performance (possibly under other KPIs e.g. customer experience), this spend would be considered an investment to improve the outcomes of the deliverable rather than an inefficiency.

This would only be when the investment is beyond the normal spend of that type of deliverable.

On a scheme, £5m is spent in order to reduce scheme duration and so limit disruption to the public in a particularly busy area. This is done to manage the Customer Service KPI and would be considered as an investment related to that KPI.

2.2.6 Change in Risk and Uncertainty

Allowances for risk and uncertainty are made within projects and programmes to provide funding for contingent or uncertain events. Across a whole programme the resultant costs would be expected to match the allowances made within each of the projects or at programme level.

The Highways England risk management process defines how the risk allowance should be generated and so appropriateness of the allowances will be within the limits set out and governed within that process.

The baseline cost is the agreed cost at which a scheme is expected to be delivered and which it will be monitored against. An allowance for risk and uncertainty forms part of that baseline, and therefore will also be monitored.

There are two points when changes to risk generate efficiency both from a variation to the baseline cost which are explained below.

Design

When the scheme is being designed, new mitigations to deal with risk and uncertainty would reduce the risk allowance within the baseline cost that otherwise would have been made.

The impact of this should be recorded on the register as efficiency due to the reduction to the baseline cost.

Delivery

Should the risk or uncertainty within the baseline cost not occur (reducing the actual cost below baseline) in the project then any unutilised risk allowance will be considered to be efficiency. Consequently, the under-provision of risk and uncertainty will be considered inefficiency and reported as such.

In summary, the release of risk could result in efficiency if, for example, one of the following criteria are met:

- Management action has been taken to directly mitigate the risk. The risk mitigation could be at project, programme or portfolio levels
- The management action was not a standard way of working at the start of the Road Period
- The link between the action and the reduction in risk is clear and demonstrable
- The final value (and profile) of the risk is known.

Risk and uncertainty is further discussed in Section 3.

2.2.7 Embedded Efficiencies

New ways of working arising from efficiency implementation will eventually become embedded in normal ways of working. Where this happens it is possible that these new ways of working will include efficiencies that are overlooked and subsequently not recorded within the register.

As these efficiencies represent changes after the start of the Road Period, they will remain claimable each time they are deployed across the Period.

For example, for an efficiency deployed in Year 1 of the Road Period, the baseline point of reference is 1st April 2015 (the start of Road Period 1). If the same efficiency is deployed in Year 4 of the Road Period, the baseline point of reference remains 1st April 2015.

Care needs to be taken when designing a scheme to consider embedded efficiencies and ensure that all efficiencies related to them are captured within the register.

When new ways of working are being designed, it will be necessary to include a methodology for ensuring that the efficiency is claimed every time it is deployed. This will be explained through the provision of Efficiency Guides released by Finance.

2.2.8 Pre Road Period Developments

The principles in Section 1 of this manual established the Baseline Point in Time as the start of Road Period 1. This means that comparison against changed ways of working should be based on those in place at this point in time.

Pre Road Period 1, activities and planning commenced with the expectation of certainty of funding to follow. By the start of Road Period 1, these activities had not yet become the embedded/standard practice across the organisation. As such, it is possible that new ways of working were developed, designed and piloted in preparation for the creation of Highways England.

Efficiencies from these could be claimed if it can be evidenced that they were developed in anticipation of the forthcoming Road Period 1 arrangements.

This manual does not define the point of development an efficiency should be in order to be part of the opening baseline. Where it is unclear, reasonable judgement will be needed as to whether the new way of working had become the “norm”. This will need to be supported by evidence justifying the decision.

2.2.9 Regional Delivery

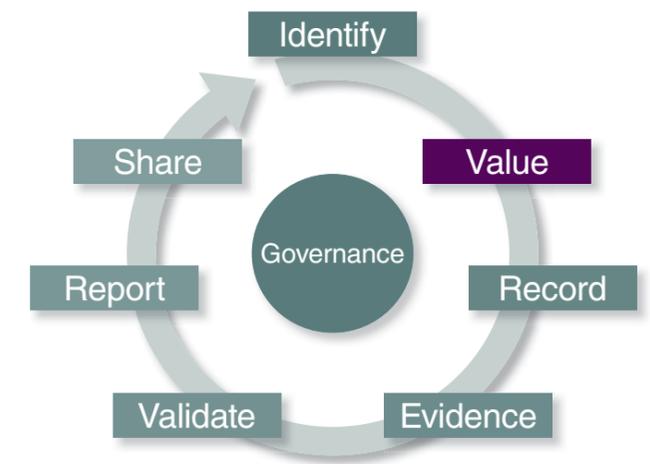
Where there are differences in the way that projects and programmes are delivered (e.g. across regions), the adoption of efficient / standard practices and ways of working across the organisation will create efficiency. This could be achieved through knowledge sharing. An efficiency claim should be based on the baseline/standard ways of working and costs for that project or programme, therefore the information used within an efficiency calculation may vary by region.

2.3 Value

2.3.1 Value of an Efficiency

The value of efficiency is the change in cost associated with a change in the relationship between inputs and outputs / outcomes.

The value will be calculated based on a start-point (point A below) which represents the start of the Road Period. The second part of the calculation will use the forecast (then subsequently the actual) cost of the scheme (point B below).



2.3.2 Baseline Point of Reference

The baseline for all deliverables within Highways England is the cost and the standard ways of working which were in place at the start of the Road Period. The cost of a scheme at this point of reference is termed the Pre-Efficient Baseline.

Valuing of all efficiencies identified should be based on this principle. Efficiencies identified early in the Road Period will continue to deliver efficiencies based on this point in time even when and if they become the new standard way of working – because point A is fixed at the start of the Road Period.

2.3.3 Generating the Monitorable Baseline

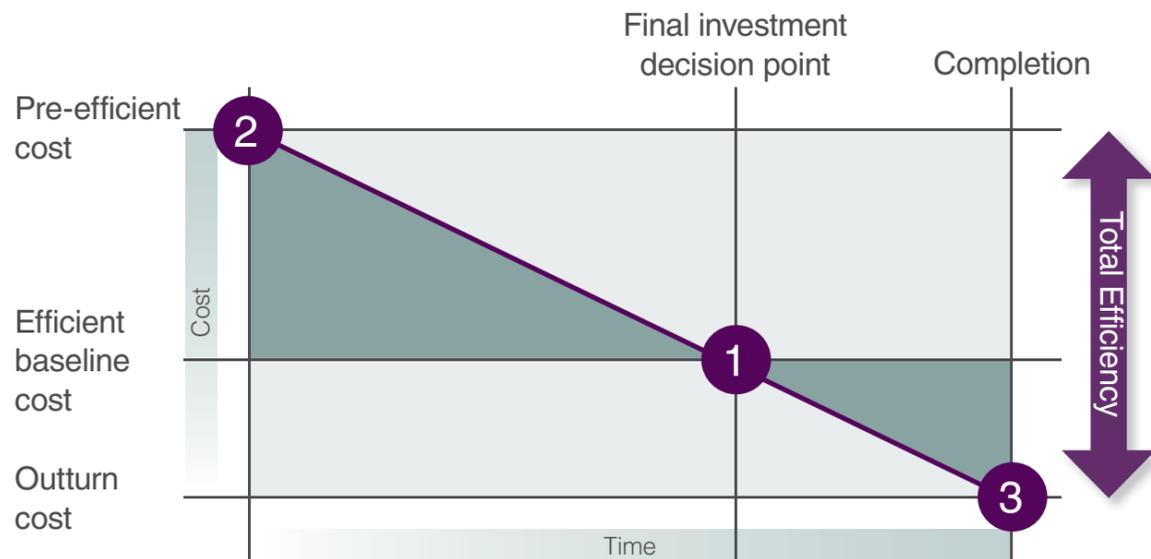
It is not possible or practical to generate a full detailed pre-efficient cost estimate at the baseline date (start of the Road Period) for the entire capital programme for the following reasons:

- expense of asking suppliers to complete a pre-efficient estimate
- resource required to generate two estimates, one at the start of the Road Period (for efficiency valuation purposes) and another at the Start of the Scheme
- difficulty and cost in tracking all changes to delivery standards across the Road Period.

Therefore, this section details an approach to establish a pre-efficient baseline against which efficiencies can be monitored and recorded.

Scheme (Pre-Efficient) Baseline

The practical solution to generating the Pre-Efficient baseline is to take the scheme estimate and add back the value of the efficiencies which have been recorded in the register. The diagram below represents this approach.



1 At this point there is a single point estimate. This is normally the final investment decision point before construction when the Final Target Cost is known, and the scheme is moving into the construction.

The cost at this point forms the baseline against which a project or programme can be monitored through delivery..

2 At point 1 the register will be populated with efficiencies identified to date. These will be valued and flagged with their certainty of delivery.

Moving from point 1 to point 2 by adding back the value of all of the efficiencies in the register gives a forecast “pre-efficient” cost for the designed scheme. This is nominally the cost which would have been estimated had none of those efficiencies been identified, hence “pre-efficient”.

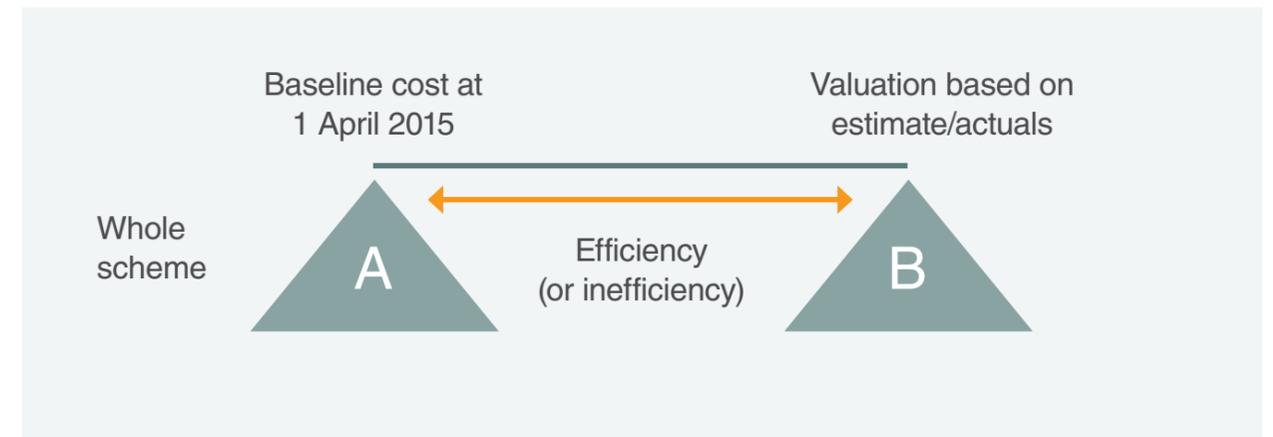
Where data is available, this point could also be estimated using 2014-15 unit cost data for that type of scheme or from similar pre-RIS schemes. This would allow a comparison with the efficiency story which the efficiency register is giving and will also provide a sense check against the efficiencies being claimed.

3 The scheme is then delivered and further efficiencies are identified during the construction phase from changes on the ground or from unit cost savings. This represents the out-turn cost which could be above or below the forecast.

↕ The total scheme efficiency is therefore the difference between the out-turn cost and the pre-efficient cost. This is the difference in cost at points 2 and 3.

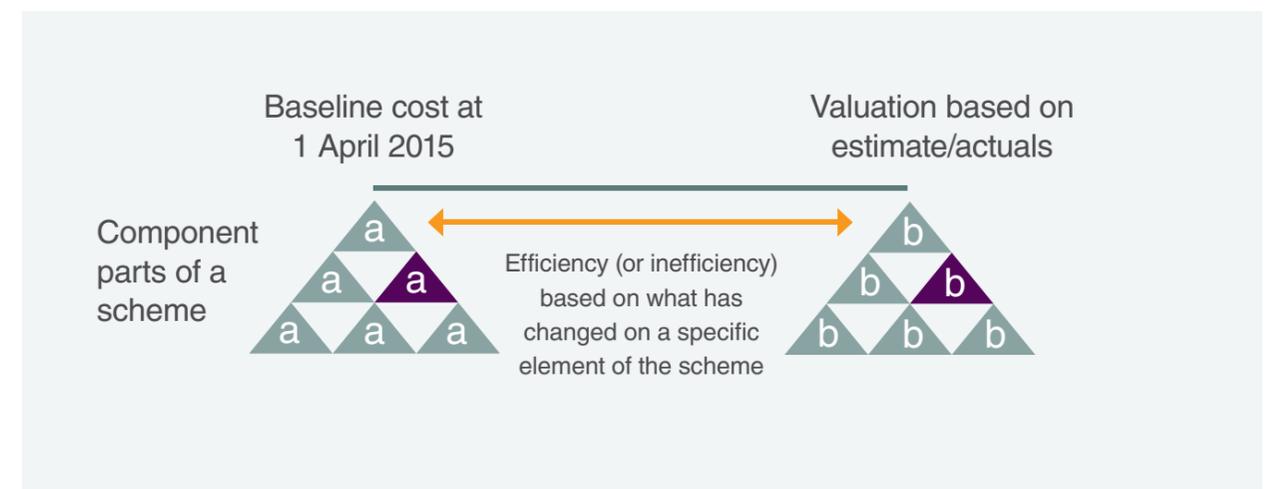
Valuing an Individual Efficiency

In valuing efficiency, the approach is to establish (i) the cost of the baseline, (ii) the latest cost position of the project or programme, and then (iii) the difference between (i) and (ii). This is represented below as 'big A' and 'big B'



The valuation of an entire project or programme may not be practical or an efficient use of resources or time. An alternate and more pragmatic approach suggests the 'breaking down' of a project/programme into the individual components which have changed and are generating the efficiency.

Once this has been done, these individual components can be separately valued – as it should be easier (and more cost effective) to undertake a focussed valuation task, rather than attempting to do this for a whole project/programme. This is represented in the diagram below as 'little a' and 'little b' to reflect the individual components of a larger scheme, and the approach to focus on the elements which have changed.



A change in the way roads are laid results in a reduction in the traffic management time required. Rather than valuing the whole scheme, including things that have not changed, we can identify how much traffic management time is required for the new way of working compared to standard practice at 1st April 2015.

This estimate of the amount of time saved in traffic management costs would be the value of the efficiency.

Establishing the Cost

When using the model above, we need to cost the element of the project which has changed. For example traffic management time or mobilisation / demobilisation costs.

This may come from: previous projects; commercial or finance business partners or agreed rates within existing contracts. Whichever source is used, there should be sufficient evidence to support the cost used.

2.3.4 Valuing Economy, Productivity & Effectiveness

The principles noted above can be applied to the three categories of efficiency.

Economy

Economy should be valued in a straightforward manner in that the measure of efficiency is the difference in price of the inputs which are being used. Therefore the value of efficiency is the difference in cost charged spread across the inputs/materials used.

Two projects will use aggregate which normally costs £100 per tonne. Project A needs 10 tonnes and project B needs 25 tonnes. The procurement of these two projects is joined and for the larger purchase volume and price of £80 per tonne is gained.

The economy efficiencies on each project are as follows:
Project A
10 tonnes @ £20 per tonne (£100-£80) = £200
Project B
25 tonnes @ £20 per tonne (£100-£80) = £500

Productivity

Productivity will come from better use of the inputs to produce the same output. Therefore the simple measure would be to look at what inputs have changed (both upwards and downwards) and value those.

As part of a project changes were made to ways of working meaning that a larger area of road can be resurfaced on a standard nightly working window. As a result the resurfacing project could be completed in 12 nights rather than 15.

The productivity efficiency on the project could be represented by the savings on the costs which have changed.

Costs of materials are unchanged as the same product was produced. There may be extra costs from the change in way of working, in this example we are assuming not.

Three nights of traffic management costs have been saved. Assuming a cost of £5000 per night therefore the efficiency would be £15,000.

There may also be savings in overheads and mobilisation / demobilisation costs.

Effectiveness

Effectiveness comes from the relationship between what is spent and the output or outcome achieved. Therefore valuing effectiveness is about understanding what it would have cost to deliver the final output or outcome using the methods of working which were originally in place.

A resurfacing project is to replace thin surface which lasts 5 years (costing £10m) with a harder wearing surface which will last 15 years (costing £20m).

The original surface would need to have been renewed twice more, a cost of £10m each time, to achieve the same output (life) as the new surface.

This gives a total cost of £30m, meaning the total efficiency is £10m (£30m less £20m)

2.3.5 Investments and Inefficiencies

In valuing efficiencies, it is possible that inefficiencies (or investments) may be identified through the process; these can come from various sources:

- investments made to create or deliver efficiencies
- assets with useful life remaining being renewed (for example as part of a fence to fence scheme)
- changes in the quality of the output
- delivery inefficiencies

Our asset management processes will consider when assets require renewal and we will plan projects to deliver those renewals in the most efficient way including minimising the impact on road users and protecting the safety of both road users and road workers.

Inefficiencies reduce the efficiency that can be claimed on a scheme or as part of an intervention. The value of any inefficiency should be calculated and entered onto the register in order to report the true net value of the efficiencies overall.

Assurance over completeness of the identification of inefficiencies and investments could come from:

- reviewing total scheme cost against historic data from previous schemes (ensuring the register is showing the story as the total costs of the scheme); and
- comparing the final scheme cost against target price.

2.3.6 Efficiency Modelling

Efficiency modelling may be needed to assist in the accurate valuation of efficiencies. 'Modelling' covers a wide spectrum from very simple calculations to detailed models for complex projects or programmes. As such, an appropriateness test should be applied to help establish the nature of the modelling required.

Where efficiency is repeatable or large in value there may be an increased case for more detailed modelling as the model and evidence will be re-used in future efficiency claims.

Where efficiency has been identified through a formal programme, e.g. LEAN, an efficiency model may be generated by that programme. The output from this should form the basis of valuation.

Modelling will identify the key variables resulting from the efficiency, the unit costs relating to the variables, and the evidence supporting the efficiency. It may also define how efficiencies are to be shared across the organisation where delivered by more than one area.

The guidelines on quality assurance of analytical modelling should be followed. This is supported by the Chief Analyst and their team.

2.3.7 Share of Efficiency or Inefficiency

When measuring economy efficiencies, these should be measured in terms of change in total cost to Highways England. There may be cases where efficiency (or inefficiency) will be shared with the supplier to encourage efficient delivery of a scheme. In this case only the element of the efficiency retained by Highways England should be claimed.

2.3.8 Treatment of Inflation

The KPI includes inflation at assumed / forecast levels on costs. In all cases in the calculation of efficiencies actual inflation should be included and reported – this will be undertaken centrally through Finance. Forecast costs or out-turn cost should include actual (or expected) inflation related to the delivery of that scheme.

As part of the reporting process the difference between the assumed and actual inflation levels will be adjusted to produce the comparable efficiency metric.

Further detail in Section 3.

2.3.9 Appropriateness

It is necessary to be proportionate in considering the value of calculating any potential efficiency. In deciding to value a particular efficiency the concept of 'appropriateness' should be used. If the cost / time of undertaking a valuation is high compared to the value of the efficiency to be gained then consideration should be made as to the appropriateness of undertaking a full valuing exercise.

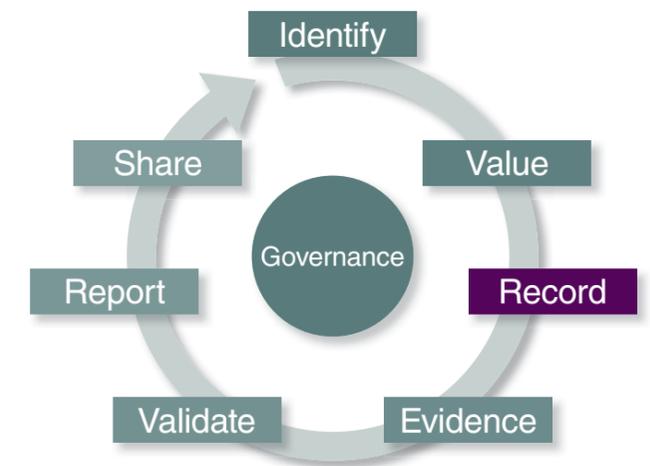
In deciding the appropriateness, consideration should be made as to whether the efficiency is repeatable. If it is then the cost of the work to value the efficiency would be a one-off but the value of the efficiency is ongoing. This may change the view on appropriateness.

The decision on appropriateness will ultimately be made by the person who is accountable for the efficiency in question.

Notwithstanding, all efficiencies should still be recorded in the efficiency register to allow knowledge and opportunity sharing. The reporting category Efficiency – Not Evidenced should be used in this case with an estimate of the efficiency.

2.4 Record

2.4.1 The Register



All efficiencies will be captured in the efficiency register. This is a standard document which captures the detail supporting the efficiency, as well as the reporting information, value, evidence and approval information related to the efficiency. The register will record all identified interventions leading to an efficiency saving, and also include tracking of inefficiencies.

The register is split into a number of areas for information gathering, examples of which are shown in the table below:

General Description of the opportunity Advantages / disadvantages / risks Contact
Reporting Description of opportunity Efficiency type Action and status
Valuing Investment required / inefficiency Time and cost saving Output date
Validation Concurrence Evidence

The register is used for capturing efficiencies as well as opportunities and benefits. To this end, appropriate selections from the register are needed in order to report the efficiency claims against the KPI and other knowledge sharing information.

Reporting Categories

The register will capture data that will be used to categorise each efficiency and enable monitoring and reporting of progress. Reporting will be generated by Finance as part of the Performance Report.

Additional reporting will include exception reporting such as average age of registers and registers not submitted within the required timescales. Examples of categories that may be included are shown in the table below:

Category	Description
Region	Region under which the scheme / programme is to be reported
Delivery Plan Category	Funding line under which the scheme / programme is funded
Efficiency Category	Economy, Productivity or Effectiveness
Efficiency Source	Type of intervention which has created the efficiency. Predefined list to allow identification of where the efficiencies have come from. Examples from the list of categories are New Contractual Models; Lean initiatives or Technology interventions.
Efficiency Status	Status used to analyse the current status of delivery of the efficiency: Identified; Planned; In Delivery; Achieved or Not being progressed

2.4.2 Register Ownership and Completion

The decision on whether registers are maintained at Project, Programme or Directorate Level will be made at an operational level. Irrespective of this decision, all registers must be completed fully and accurately to maintain consistent recording and reporting of efficiencies.

It is ultimately the responsibility of the SRO for that project or programme to ensure that a register is completed, validated and reported.

2.5 Evidence



Existence

Evidence as to the existence of an efficiency should demonstrate that the efficiency has been (or is expected to be) realised. This evidence may include:

- analysis of a new approach verses the April 2015 position e.g. change to documented ways of working;
- supporting the 'little a' to 'little b' movement (per valuation above) e.g. evidencing the reduction in traffic management time used;
- proof that more lane kilometres have been delivered for the same (or less) cost; or
- demonstration that a new design feature has been established and implemented.

Value

Evidence over the calculation made in valuing the efficiency will vary by the efficiency in question. The key evidence will be supporting the elements of the data that supports the calculation and forms the basis for key assumptions. Evidence over these elements must be maintained.

Where the efficiency is a saving in a particular activity, such as traffic management time, the evidence should support the assumed time (and cost) which would have been expended, and a basis for estimating the actual time and cost. This could be by reference to previous or similar projects, or by referring to unit costs.

Unit costs should be supported by contracts, estimates or analysis from the Commercial Directorate.

Where efficiency is based on an improved end product (e.g. technology which will have a longer life), the evidence could be based on technical specifications from the manufacturer, reports within industry specific publications or recorded client experience (e.g. other road authorities in other countries etc.).

2.5.1 Evidence Requirement

All efficiencies identified must be supported by credible evidence.

The evidence should be of a quality to provide an appropriate and satisfactory platform of information from which to base the assumptions of the efficiency on. It should demonstrate both the existence and valuation of the efficiency being claimed.

All evidence must be either referenced or summarised in the register, and further documentation available 'off-line' as necessary. This will be stored on Highways England document records management platform.

2.5.2 What Evidence is Required

The evidence required to support all efficiencies should address both the existence and the value of the efficiency. The evidence will vary due to the nature of the efficiency in question, and the appropriateness of evidence required.

The evidence should be clearly referenced within the register, and stored so as to be accessible when required. This should be using the Records Management platform of Highways England or through adding tabs within the register.

The same level of evidence requirement would be needed for investments and inefficiencies which enable, or are as a result of, the efficiency.

All evidence should be kept under review so that further support and updates can be made to strengthen the evidence base as it becomes available.

2.5.3 Features of Good Evidence

The following list provides key features of what is considered as 'good evidence':

- relevant to the efficiency in question;
- independent of Highways England (where appropriate), for example
 - o contractor invoices and final settlements;
 - o industry standard comparisons ;
 - o external commercial data.
- verified / validated by internal controls and underpinned by strong governance, for example:
 - o products from Investment Decision Framework, for example the business case;
 - o documented checks / 'sign offs' by the PM, Efficiency Manager, Efficiency Lead and the Regional Board.
- supported by qualified opinion, for example documented concurrence from qualified staff from Finance (including centrally and from finance business partners), Commercial and Procurement.
- timely; and
- objective and demonstrable.

2.5.4 What is the Appropriate Level of Evidence Required?

As with everything, the concept of appropriateness should be applied. The level of effort in cost and time required to gather evidence should be in proportion to the value of the efficiency

In deciding the appropriateness, consideration should be made as to whether the efficiency is repeatable. If it is then the effort to evidence the efficiency in should be compared to the potential total value. If the total efficiency is considered significant an Efficiency Guide may be generated by Finance.

The decision on appropriateness for one-off efficiencies will ultimately be made by the person who is responsible for the efficiency in question; this may be the SRO for the project or an efficiency manager who has delegated responsibility from the SRO. Notwithstanding, all efficiencies should still be reported in the efficiency register to allow knowledge and opportunity sharing. The reporting category Efficiency – Not Evidenced should be used in this case with an estimate of the efficiency.

2.6 Validate



2.6.1 Validation Requirement

Validation is the process by which we can confirm that the information gathered to support the efficiency calculation is sound and can be relied upon. This will include the evidence gathered.

All efficiencies should be subject to review and validation. The detail and basis of the review and validation will depend on the stage of development of the efficiency and scheme.

2.6.2 Linkage to the Investment Decision Control (IDC) Process

Highways England has established an Investment Decision Committee to oversee its arrangements for investment decision making within the framework of financial delegations.

As part of the investment decision control process a five part business case is required. This should include details of the efficiencies to be delivered as part of the project or programme as well as contribution towards the other KPIs. This will be the responsibility of the SRO supported by finance business partners, Commercial and Procurement.

Efficiencies will be reviewed at each stage of the business case submission:

Strategic Business Case

The strategic business case should include a high level statement highlighting the target efficiency which will be delivered by the investment. The value of this would be based on the assumptions from the original Funding Model.

Outline Business Case

At this point the case should state expectations as to whether the target efficiency identified in the Strategic Business Case can be delivered, how, and any risk in respect of Funding Model Assumptions

Final Business Case

At this point there should be a single option and the scheme should be close to entering delivery. There should be a populated efficiency register and a good indication of the expected value of the efficiency to be produced from the scheme.

2.6.3 SRO Approval

The scheme SRO is the person who is ultimately accountable for all deliverables within their scheme and so is accountable for delivering efficiency and for the contents of the register. The Project Manager is responsible to ensure that the content of the register is complete and accurate.

The SRO (or their delegate) should conduct their own review of the register to satisfy themselves that the contents of the register are adequate. They can take assurance from the periodic reviews from the business partners but ultimate accountability is theirs. The SRO should evidence their review by approving the register.

2.6.4 Review of Register Entries

A key part of validation of efficiency entries in the register will be through assurance provided by Commercial Division.

These reviewers must provide assurance on the adequacy of the valuation and evidence through a review of the register entries.

The register will be reviewed for concurrence which in this scenario means that the relevant business partner has reviewed the entries and to the best of their knowledge there are no significant issues with the entries, the valuation and the adequacy of the evidence submitted.

For the purposes of the review, concurrence needs only to be given against the entries which are flagged for reporting against the KPI.

The key areas of the review are:

Entry

The reviewers are not expected to have the relevant operational knowledge of the entry. However, the entry should be clear enough for someone without in-depth operational knowledge to understand the main objective of the efficiency.

Valuation

The reviewers should review the valuation (together with any supporting data) to make sure the assumptions behind it are appropriate and make sense in the context of the efficiency being claimed.

Evidence

The reviewers should consider whether there is adequate evidence to support the entry and the valuation. The level of evidence should be sufficient to demonstrate the calculation of the value is correct and that its delivery is achievable to someone without the in depth technical knowledge required at an operational level. This is detailed further in section 2.4.

The concept of appropriateness should also be applied in considering the adequacy of the evidence being reviewed.

2.6.5 Regional Review

As part of the reporting process the registers will be collated and reported within each Region. It is recommended that there is an Efficiency Lead in each Region to whom the Regional Director delegates the coordination of efficiencies.

The Lead should put a process in place to collate the registers for monthly reporting. As part of this process they should conduct a 'completeness review' to ensure that the regional registers contain a complete picture of efficiency delivery across the region and that the appropriate reviews and approvals have been completed prior to regional and central reporting. This review may be carried out by the Regional Programme Office.

2.6.6 Validation Using Unit Cost Approach

The movement in the total costs of the projects or programmes should be in line with the efficiencies claimed and recorded in the register. If efficiencies have been recorded in the register you would expect to see the overall cost of the project or programme to decrease, and therefore measures such as cost per mile reducing. If this pattern doesn't exist, further investigation and explanation will be required. This is termed the top-down approach to validating the efficiencies.

This comparison will (for example):

- provide evidence and assurance of delivery of identified efficiencies within the scheme out-turn;
- judge whether the efficiency register is complete;
- identify possible inefficiencies which have reduced the out-turn;
- identify possible out-turn efficiencies achieved in delivery; and
- provide information for efficiency claims for unit cost related items or projects or programmes.

It would be expected that this review would be done at the close of the scheme or project, where applicable, and that it would be performed jointly by the Project Manager and Commercial Assurance Team. This review would tend to be more appropriate to items where there are unit cost measures for the outputs of the scheme.

The top down review would include:

- how expenditure compares to funding level (and baselines); and
- how do unit costs compare over time.

There are a number of corporate high level unit cost metrics within the business which will be used for this top-down review. For example the established Maintenance Cost Indicator and the concept of reference roads. In addition a programme of data improvement will be undertaken which will support the generation and analysis of unit cost metrics across the organisation, this is being agreed with the Highways Monitor.

2.6.7 Knowledge Share

As part of the Knowledge Share process, registers will be reviewed by the Efficiency Leads for information gathering to feed into the ongoing development of the way projects or programmes are developed and delivered. During this process it is expected that registers will be reviewed, and commentary provided, on the completeness and adequacy of the contents.

2.7 Report



There are currently no formal targets for each region for efficiencies; however, their share of the KPI target will be established from the share of funding controlled by that region.

Reporting will also be undertaken against the Delivery Plan. Each Delivery Plan category has allocated funding and a related efficiency target which contributes to the overall KPI.

2.7.2 Reporting Process

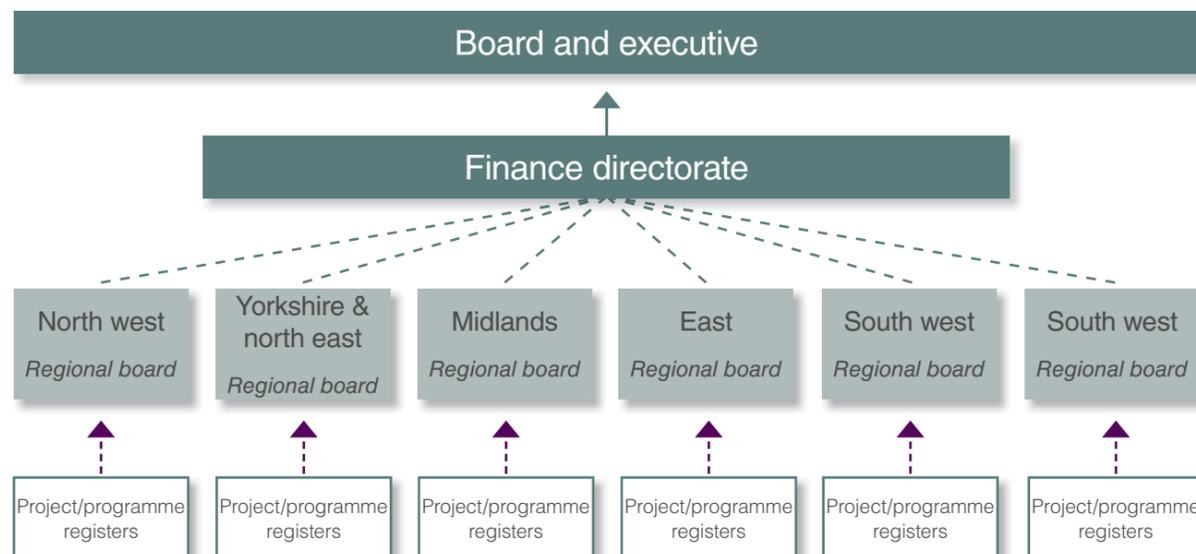
Registers

The register should be submitted at least quarterly to the regional programme offices to allow the information within the register to be reported against the KPI. Whilst the policy is to review on a rolling three month basis, more regular reviews, particularly at times in the scheme or programme where the register is developing, is encouraged. In addition to the above, before financial year-end all registers should be updated to ensure that the annual KPI figure reported is timely, accurate and complete.

2.7.1 Reporting Requirement

Efficiency reporting will be completed on a monthly basis through both Regional and Corporate Performance Reports.

The diagram below shows how efficiencies will be reported from an individual register, through Regional Boards and up to the Executive Committee and the Board.



The actual monthly (or annual) cut offs will be specified by Finance centrally, and applied within local processes.

All registers should be approved and collated regionally for reporting on a minimum of a rolling three month basis. Only line entries which have received approval from the SRO and Regional Programme Office will be included within central reporting.

Exception reporting of registers – in the form of the average age of registers – will be undertaken to ensure regular updates are being made to registers.

There will also be a requirement to ensure that the reporting and status of the registers at the end of the financial year are up to date to ensure that the figure reported in the company's annual report against the KPI is accurate and complete.

Regional

On a monthly basis the region will extract the reporting summary from each register – this will go into the regional reporting template to produce the regional reports. This should be completed in the week before month-end cut off based on the latest registers available at the cut-off date.

The regional reports will be reviewed by the Regional Efficiency Lead who will provide a commentary to the monthly reporting template. The template and underlying data table will then be forwarded to Finance Directorate.

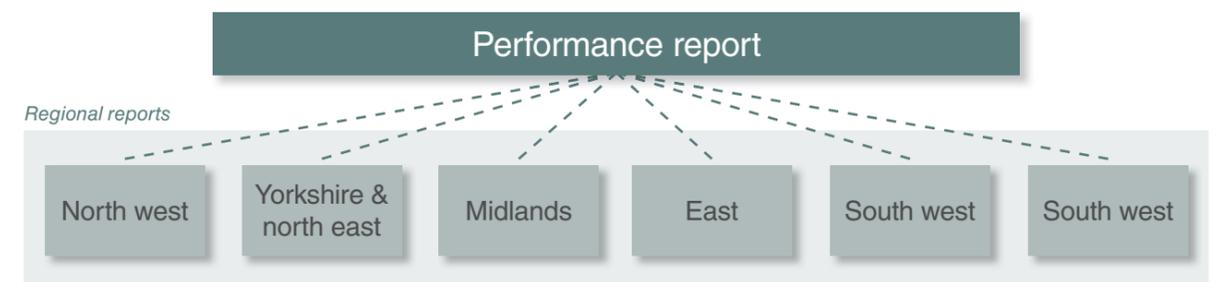
Performance Report

Centrally, Finance will gather the regional reports and bring them together into the Performance Report templates on a monthly basis. They will provide a commentary on the figures based on the reports and commentaries provided by the regions.

In addition, Finance will provide reporting against the Delivery Plan efficiency forecasts. This reporting will be against each Delivery Plan category and provided to the appropriate accountable director and their delivery manager.

Executive Accountability

Reporting will also be provided which aligns with individual executive/ Directorate accountability.



2.7.3 Recognition

Efficiencies will be recognised (reported against the KPI) over the period where they are realised. This is outlined in more detail later in Section 3.

For capital, efficiencies will generally be recognised over the construction period. For resource, efficiencies will be recognised against the costs which are saved.

2.7.4 Forecasts

This process will allow the business the opportunity to identify efficiencies at an early stage in a scheme's development and will allow the ability to forecast with differing levels of certainty. To enable this, the various stages of efficiency are summarised below.

Stage	Explanation	Example
Identified	<p>Changes to working practices mean that there is an expectation that efficiency will be delivered on all work of that type.</p> <p>Therefore a forecast can be identified based on allocated funding to that type of work (or regional estimates) for future efficiencies.</p> <p>These forecasts would then be replaced by register items as the funding is allocated to schemes or projects.</p>	<p>Where we have shown all resurfacing has 10% efficiency due to changes in the standard ways of working, Highways England could forecast an efficiency based on the funding allocated to resurfacing.</p>
Planned	<p>A specific efficiency opportunity has been identified, project is still in design stage so recognition has not commenced but the efficiency is designed within the solution.</p> <p>There will be expected dates for delivery so a forecast can be made for when it will be recognised.</p>	<p>Efficiency identified in a major project where construction starts in 6 months.</p> <p>Can forecast the efficiency which will start to be reported in 6 months with some level of confidence.</p>

In delivery	<p>Efficiency is either built into the design of the scheme or is in the process of being delivered or constructed.</p> <p>At this point the efficiency will have started being recognised; however, with a good level of confidence, the ongoing recognition can be forecast.</p>	<p>Scheme has £10m of efficiencies identified which are being delivered over the 10 month life of the scheme. Recognition policy is that £1m of efficiency will be recognized each month.</p> <p>At month 4 there will be £4m of efficiencies forecast in the subsequent months.</p>
Achieved	<p>The scheme is complete or the efficiency in question has been fully delivered within the scheme.</p> <p>For construction efficiencies, the efficiency would be fully recognised and so there would be no more forecasting for the item.</p> <p>For resource and some effectiveness efficiencies recognition could continue into the future to match the cost savings and so forecast of these savings would be included in reporting.</p>	<p>If the scheme has already been fully recognised, there is nothing remaining to forecast.</p> <p>Where savings are related to an effectiveness efficiency, the monthly savings would be included within the reporting.</p>

The efficiency figure to be reported would be the real (inclusive of assumed inflation) figure.

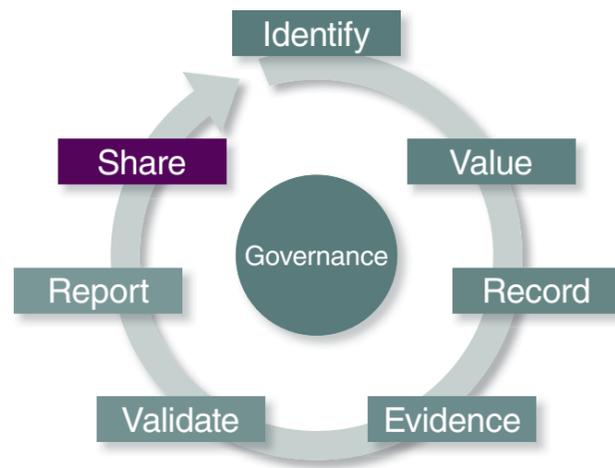
Reporting and forecasting on this basis enables the business to understand the totality of the level of efficiency that should be delivered (through accurate forecasting) and a regular view of progress and achievement against the KPI target.

The target is to deliver a total cumulative efficiency by the end of the Road Period; therefore the forecast view as to how the efficiency figure is accumulating is important to the Executive (who are responsible for its achievement) and the Board (who are accountable for its achievement).

Regular reporting will increase the level of confidence that the efficiencies agreed to within RP1 are being delivered and provide some assurance as to how the future pattern of efficiency recognition is accumulating against the KPI.

In addition, those efficiencies forecasted as falling beyond the end of the current Road Period (for example beyond March 2020 for RP1) will be separately reported. This will demonstrate the future efficiency being delivered in the Road Period but which do not directly score against the KPI.

2.8 Share



Sharing knowledge and best practice relating to efficiencies is critical to ensuring Highways England creates an efficient organisation that will meet the efficiency target.

The detailed process of knowledge share is outside of the scope of this manual; however, the Efficiency Steering Group (see below) will have a standing agenda to review the level of sharing occurring.

2.8.1 Sources

There are a number of sources of knowledge that can be accessed:

- the register includes information for knowledge sharing purposes e.g. efficiency opportunities, methods of valuation, appropriate evidence, likelihood of achieving efficiencies and the status of completion;
- networks of people across the organisation involved in efficiencies at both delivery and management levels;
- Efficiency Review Groups which meet throughout the year to share best practice;

- Business Partners that transcend schemes / regions;
- Finance which will promote best practice through the release of Efficiency Guides which will address how to process different efficiencies; and
- efficiency case studies available from the Lean Team and Finance.

As previously stated, a requirement of this process is to document all identified efficiencies in the register at an early stage in order to facilitate and benefit from this knowledge sharing.

The sharing of efficiencies is not considered in detail in this manual, as it will be developed and documented separately.

2.8.2 Efficiency Steering Group

The purpose of the Efficiency Steering Group (“the Steering Group”) is to be accountable for providing the tools and ensuring sharing of best practice to allow the operational teams to drive out efficiencies deliver the KPI (for example central contract models and creating the right commercial environment). It is not accountable for delivering efficiency itself, this will be within the control of the operational teams.

The diagram below summarises the main areas of responsibility for the Steering Group, which will provide overall assurance at a company level that there are appropriate processes, controls and governance over the delivery of the efficiency KPI.

The Director of Finance and Business Services is named the Accountable Director for this KPI.



Section 3: Detailed Guidance

3.1 Efficiency Recognition

3.1.1 Introduction

Recognition is the manner in which the Efficiency can be reported against the KPI. This section lays out the key principles surrounding the recognition of efficiencies identified in the registers.

This section is designed to provide specific guidance and examples to assist and guide when recognising efficiencies.

3.1.2 Recognition Key Principle

Identified efficiencies can generally be recognised over the same time period through which the benefit of the efficiency is delivered.

Where an element of efficiency sits outside of the current Road Period, only the element relating to the current Period will be reported against the KPI. The balance (the post current Road Period value) will be separately reported and fed into the next Road Period.

3.1.3 Applying the Principle

Construction and Capital Spend

Where efficiency reduces the capital cost of construction, the recognition of that efficiency should be:

- in line with the forecast capital spend for that project or scheme; and
- over the period in which the benefit is to be delivered i.e. the construction period of the project or scheme.

If construction efficiency has been identified then this should be recognised throughout the construction phase.

For example, if the construction phase lasts 5 years then efficiencies relating to that construction should be recognised over the same 5 year period in the same pattern as the scheme's forecast spend.

The exception to this is where efficiency can be shown to have been fully delivered within a specific period – and in this case the efficiency can be recognised over that period.

For example, if Design has been undertaken in a different (cheaper) way, then this will constitute a saving as the part of the project that has generated that saving is now completed.

Whole Life Cost Capital Spend

The efficiency may also be a result of saving future capital or resource spend (e.g. renewals or maintenance) on a whole life cost basis. Where efficiencies have been generated in this manner, the net position will be calculated and recognised over an appropriate period which will be set out in an efficiency guide.

This basis of this approach to recognising whole life cost efficiencies is that Highways England is tasked through the Licence to use whole life costing as a basis for investment decision making. Recognising the benefit from the efficiency to the investment will encourage the designated approach and discourage behaviour which does not follow the licence requirements.

3.1.4 Future Road Periods

Where efficiency is to be recognised across two Road Periods, it is the element which falls within the current Road Period which will score against the current KPI.

The extent to which efficiency is recorded in current and subsequent Road Periods will be determined by the recognition criteria in this manual and the evidence against specific efficiencies on a case by case basis.

The balance of the total efficiency, which relates to future Road Periods will be separately tracked and reported.

3.1.5 PFI Efficiencies

PFI contracts include efficiencies built into them which come from the funding model which underlies the contract. The efficiency which is built into these contracts will be extracted from the funding model and analysed as efficiency.

The analysis of PFI efficiency will consider whether the activity which results in the efficiency was one which would be classed as capital or resource efficiency had it been carried out by Highways England.

3.1.6 Considerations

There are a number of considerations that are critical to ensure the recognition of efficiencies is accurate and robust.

These include:

- avoiding double counting against future renewals or maintenance expenditure; and
- ensuring evidence appropriately matches the efficiency claimed.

3.2 Risk and Uncertainty

3.2.1 Introduction

Allowances for risk and uncertainty are part of the forecast costs of projects and programmes. The principle followed is that as projects or programmes progress through their lifecycle, risk and uncertainty is identified and managed either through:

- the provision of suitable cost and time allowances built into the forecast; or
- by permanent changes to the design or delivery to eliminate or mitigate them.

Across the programme of outputs, risk and uncertainty will be realised in some projects and released in others. The objective of the risk estimating process is that across the programme, the actual costs that are realised should equal the provisions made within the forecasts of the programme. This action of spreading across the programme and the process underlying it provides assurance that the levels of risk and uncertainty provided for in forecasts is at an appropriate level.

There are two ways in which risk and uncertainty can score as efficiency:

- mitigations in scheme design and development; and
- realisation or non-realisation during delivery.

3.2.2 Mitigations in scheme design and development

During scheme design new ways of mitigating particular risks may be identified. The result of these would be to reduce the size of the allowance which will be required for risk and uncertainty within the baseline / target price.

This reduction would therefore constitute efficiency. The mitigation would need to be one that was not the normal course of action at the start of the Road Period.

The value of the efficiency (from the resultant reduction in the risk allowance) would be the net value after all additional costs of mitigation and associated changes to the design or delivery have been actioned.

A scheme has identified a risk allowance of £250k for weather delays as it is being carried out in the winter.

As part of the design scheme a new method for protecting the site from the impact of weather (costing £25k) is identified meaning that the allowance is reduced to £150k. Meaning there is an efficiency of £75k (£100k - £25k).

3.2.3 Realisation or non-realisation during delivery

An allowance for risk and uncertainty will form part of the baseline cost of schemes, projects and programmes. This baseline will be the agreed monitored cost for which the outputs of the scheme are expected to be delivered.

Where that level of risk and uncertainty does not materialise, it will score as efficiency as the scheme will have been delivered at a cost below the baseline. Conversely, if a greater value of risk and uncertainty materialises then this constitutes inefficiency.

This efficiency would normally be captured during either reforecasting of the scheme or the final scheme closure process. It should be recorded and evidenced in the register.

For a project, part of the risk allowance at the estimate stage contains a provision to allow for disruption as a result of extreme weather of £100k.

On completion this allowance has not been utilised as no weather disruption was incurred. The efficiency would be £100k.

3.3 Treatment of Inflation in Efficiency Reporting

3.2.4 Scheduling to Reduce Risk

Due to the certainty of capital funding, it is now possible that work can be scheduled in a manner which minimises risk and uncertainty where previously it was not possible due to the annual budgeting cycle. Therefore, where the rescheduling reduces the necessity to build in allowances for risk and uncertainty the resultant saving is recognised as efficiency.

For example, traditionally Highways England has undertaken a large amount of the renewals work in the winter due to annularity of the budgeting process. This results in a significant weather risk to the delivery of these interventions. Having certainty of funding provides the supply chain, and the company's asset delivery teams, the ability to proactively schedule work across the year. This means that there would be a reduction in programme risk for bad weather and other seasonality based activity.

The resultant reduction in weather risk would mean there is a level programme efficiency which could be claimed.

3.3.1 Introduction

This section provides detail of how inflation is to be handled, and particularly within the context of the reporting of efficiencies.

3.3.2 Inflation and the KPI Target

The KPI target in the Performance Specification is stated in "nominal" terms. This means that the target includes actual out-turn inflation.

Reporting against the KPI will utilise the figures from registers unadjusted for inflation. This will be supported by analysis of the impact of inflation on the figures.

3.3.3 Inflation Risk

The Statement of Funds Available within the Road Investment Strategy (RIS) lays out the funding available over the Road Period, inclusive of assumed inflation. There is no allowance for significant variation in inflation from the assumptions.

If there is a significant variation (positive or negative) from the assumptions, impacting the ability of the company to deliver the RIS outputs then this will be reported to the Board who will discuss possible actions. One possible action may be a variation of the RIS outputs which could require a change control mechanism to be actioned.

3.3.4 Reporting Indices

The following indices will be used for analysis of the KPI performance:

- resource expenditure - Consumer Prices Index ("ONS")
- capital expenditure - BIS Output Price Index for New Construction

Primarily these indices will be used within reporting variances between the assumptions from the funding model (below) to the reported KPI figure to demonstrate any impact of a change in the inflation rate. This consideration will be key in reporting progress against the KPI figure.

Selection of the indices was supported by Commercial and Procurement Directorate ("CPD") from evidence provided to them from external sources. The capital expenditure index is also used by Highways England for valuing the network and also for the unit cost database held by CPD.

3.3.5 Indices Used in the Funding Model

The assumptions for inflation which were used within in the funding model which supported the investment plan are shown below. Indices have been updated for what we will use in reporting based on advice provided by Commercial and Procurement Directorate:

	15/16	16/17	17/18	18/19	19/20	20/21
Capital	4.0%	4.0%	4.0%	5.0%	5.0%	5.0%
Resource (RPI)	3.2%	3.1%	3.3%	2.5%	2.5%	2.5%

The capital assumption was based on a combination of construction indices from forecasts produced by the Building Cost Information Service (BCIS). These showed a range of forecasts and represented a summary of views from Construction Products Association, Experian and Oxford Economic Forecasting and BCIS's interpretation on the cost and pricing impact.

