

## M4 Junction 17 OBC

WC\_M4J17-ATK-GEN-XX-RP-TB-000015

# M4 J17 Benefits Realisation, Monitoring and Evaluation Plan (Outline)

25/08/22

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# Notice

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This document has 11 pages including the cover.

## Document history

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# 1. Introduction

This document sets out a draft outline 'Benefits Realisation, Monitoring and Evaluation Plan' (BREMP) for the proposed M4 Junction 17 improvement scheme, as promoted by Wiltshire Council as part of the Department for Transport's Major Road Network (MRN) fund. It is prepared in support of, and should be read in conjunction with, the Outline Business Case (OBC) - WC\_M4J17-ATK-GEN-XX-RP-TB-000001. In particular, the BREMP supports the OBC Management Dimension which addresses the overall approach to benefits management for the project.

Benefits management serves as a key element in understanding the success of the scheme. It identifies the potential benefits and the way in which these benefits will be planned for, tracked and realised through scheme implementation. Benefits realisation is the practice of ensuring that benefits are derived from outputs and outcomes.

Monitoring and evaluation provides a review of the realisation of benefits. It is concerned more broadly with how actual scheme delivery, including wider scheme impacts, construction and budget management, are to be evaluated.

It should be recognised that benefits realisation and monitoring and evaluation are not mutually exclusive. For clarity, they are presented separately within this document

Benefits management and benefits realisation are considered throughout the whole project lifecycle. The contents of this document reflects the current stage of project development and the proposed approach is presented in outline. It will be subject to review and further update as the project develops and an updated version would accompany the Full Business Case submission.

# 2. Scheme background

M4 junction 17 is a key junction providing access from the M4 towards the South coast. The junction provides the vital link between the motorway network and the A350 connecting the towns in west Wiltshire, including Chippenham, Melksham and Trowbridge; it provides a link to Malmesbury and the A429 in the north, and also allows for local access via the B4122.

The scheme is being developed as a single package of improvements to maximise and optimise capacity of the junction within the bounds of the existing Highway, without the need for land take, and which would be delivered as a single project. It is anticipated that this approach will help avoid the potential need for progressive and sequential improvement projects at the junction over many years as individual developments come forward.

The scheme proposals (based on the preferred option identified in the OBC) include:

- Introduction of traffic signals to all approaches to the roundabout i.e. completion of the full signalisation of the junction;
- Carriageway widening and additional traffic capacity on all approaches to the junction (M4 off slips, A350, A429 and B4122);
- Increase in the number of traffic lanes across the motorway bridges from two to three;
- Widening of the circulatory carriageway and introduction of additional traffic lanes and capacity around the junction; and
- Repositioning of the layby along the A429 to allow for carriageway widening work.

The current anticipated high level timeline for the scheme is as follows:

- August 2022 - Outline Business Case Submission to DfT for scheme development funding
- Autumn 2024 - Full Business Case submission to DfT (subject to progress from previous stage)
- Early 2025 - Construction commences
- Early 2026 - Scheme opening

## 3. Benefits Realisation Plan

The Benefits Realisation Plan is designed to enable benefits that are expected to be derived from the Scheme to be planned for, tracked and realised. The Plan then details the key activities that are required to manage the successful realisation of these benefits – what needs to be done, when and by whom.

This section of the document:

- Summarises the identification of benefits and the logic linking benefits to scheme outputs and outcomes;
- Outlines details of the priority benefits for measurement;
- Outlines the benefit measurement methods and associated data requirements; and
- Outlines the responsibilities and resources required to oversee the Plan.

### 3.1. Identification of benefits

#### 3.1.1. Scheme objectives

Ultimately, the success of the project is driven by the extent to which the objectives are met. The benefits of the project should align with these objectives. The scheme objectives are summarised in Table 3-1, as set out in the OBC Strategic Dimension.

**Table 3-1 – Scheme objectives**

High level objective		Transport objective	
A	Reduce congestion	1	Reduce delay and improve journey time reliability at M4 Junction 17, supporting journeys on the SRN.
B	Support the SRN	2	Enhance the wider package of MRN/LLM improvements for the A350, which would be most effective when delivered in combination.
C	Support economic growth and rebalancing	3	Improve north-south connectivity on the A350 through improvements to M4 Junction 17, the gateway to the A350 from the SRN.
D	Support housing delivery	4	Ensure that M4 Junction 17 has the capacity to accommodate planned and future growth in the A350 Corridor and in the A350 and Swindon M4 SWLEP Growth Zones, including the Wiltshire Local Plan Review.
E	Support all road users	5	Increase safety levels at M4 Junction 17, taking into account forecast traffic growth.

#### 3.1.2. Theory of change

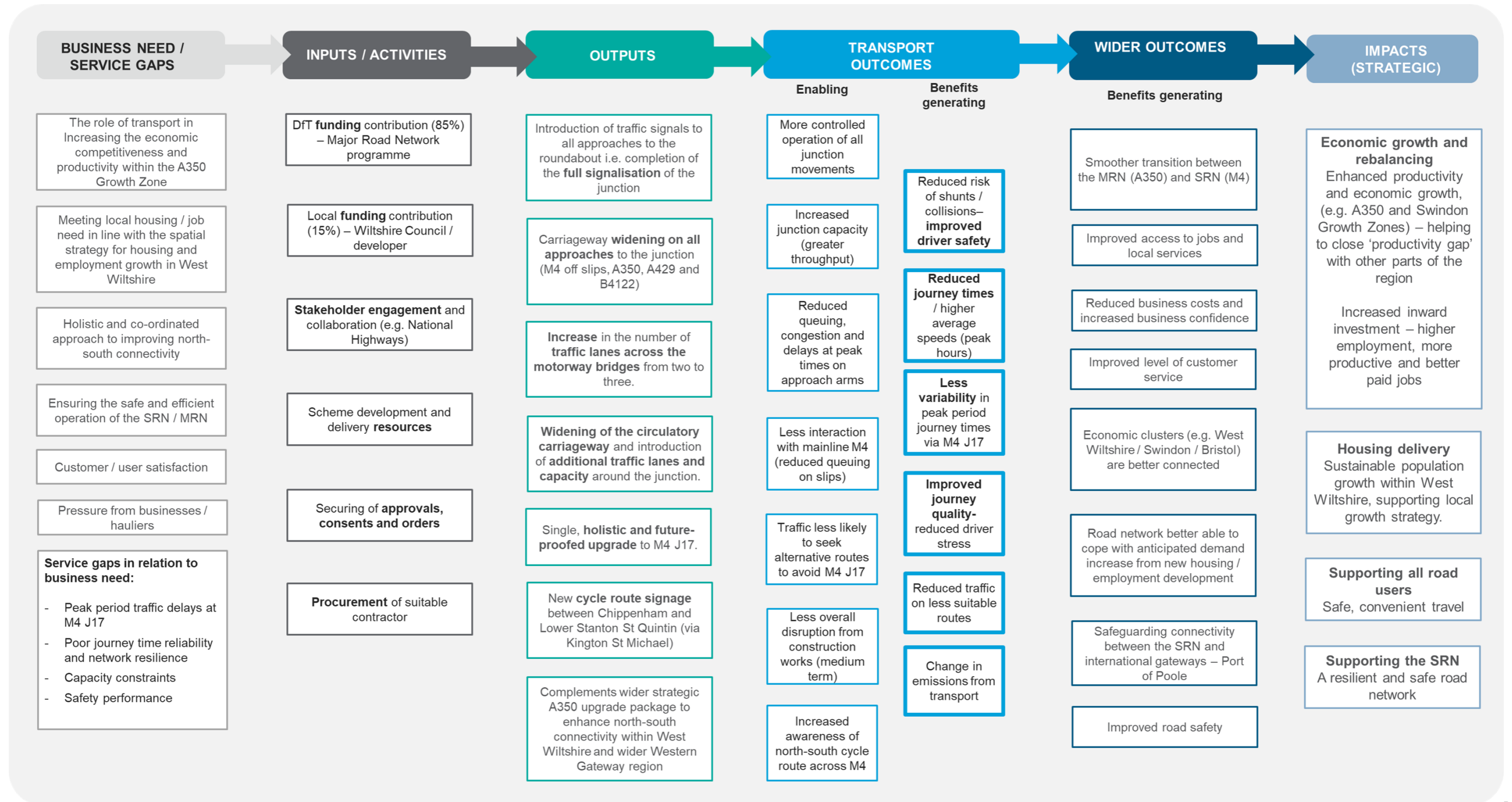
A clear ‘theory of change’ has been established for the Scheme (as set out in the OBC Strategic Dimension) which provides the basis for the identification of benefits. This was developed using a logic mapping approach and considering the relationships between:

- Drivers – the problems/ issues, expressed as the business need that the intervention is addressing;
- Objectives – the overall project aims;
- Inputs – the resources and activities invested in the project;
- Outputs – the tangible effects that are funded and produced directly as a result of the scheme;
- Outcomes – the result or the difference made by the use of outputs; and
- Impacts – the broader (sometimes longer-term) effects, aligned to strategic priorities of the organisation(s).

Within the above context, benefits are commonly defined as “***the measurable improvement resulting from an outcome that is perceived as an advantage by one or more stakeholders***”.

The logic map is presented in Figure 3-1.

Figure 3-1 - M4 Junction 17 MRN scheme - logic map



## 3.2. Prioritised benefits for measurement

The logic / benefit mapping exercise has been used to identify a range of potential benefits linked to the delivery of the M4 Junction 17 scheme. Priority benefits to be taken forward for measurement have been identified based upon the overall strength of their relationship to the scheme objectives and outcomes and the practicalities and meaningfulness of their measurement.

The benefits identified are documented in Table 3-2, identifying the following information in relation to each benefit:

- ID – a unique reference number for the benefit.
- Benefit description – the nature of the benefit.
- Linked outcome – the defined outcome(s) that the benefit is most strongly aligned to.
- Linked objective – the defined objective(s) that the benefit is most strongly aligned to (with the referencing in accordance with Table 3-1).
- Key beneficiaries – key groups and organisations most likely to receive the benefit.
- Timing – indicative timeframe for the benefit to be realised.
- Benefit owner – who is responsible for the realisation of the benefit.
- Dependencies / enablers – key factor influencing the realisation of the benefit.

**Table 3-2 – Priority benefits for measurement**

ID	Benefit description	Linked outcome	Linked objectives	Key beneficiaries	Timing	Benefit owner	Dependencies / enablers
01	Reduced journey times via M4 J17 during peak periods: -from A350 -from A429 -from B4122 -from M4 East -from M4 West	Reduced journey times / increased average speed	A / B / C / D / 1 / 2 / 3 / 4	Commuters – medium to longer distance via M4 J17 e.g. to /from the A350 towns  Business users – medium to longer distance  Freight – including to/from south coast ports  Leisure trips  Businesses (existing / prospective) around M4 J17	Short term	Wiltshire Council	Successful implementation of the M4 J17 MRN scheme
02	Reduced queuing on M4 J17 approach arms during peak periods	Reduced journey times / increased average speed  Improved journey quality  Reduced risk of collisions	A / B / C / D / E / 1 / 2 / 3 / 4 / 5	Commuters – medium to longer distance via M4 J17 e.g. to /from the A350 towns  Business users – medium to longer distance  Freight – including to/from south coast ports  Leisure trips  Businesses (existing / prospective) around M4 J17  M4 users (e.g. less risk of queuing on slips impacting mainline)	Short term	Wiltshire Council	Successful implementation of the M4 J17 MRN scheme
03	Reduction in traffic collisions at M4 J17	Reduced risk of collisions  Improved journey quality	B / E / 1 / 5	All road users travelling via M4 J17 M4 / wider SRN users (knock-on impacts)  Emergency services	Short term	Wiltshire Council	Successful implementation of the M4 J17 MRN scheme



ID	Benefit description	Linked outcome	Linked objectives	Key beneficiaries	Timing	Benefit owner	Dependencies / enablers
04	Less variability in day to day journey times via M4 J17 during peak periods	Improved journey reliability	C / 1 / 3	Commuters – medium to longer distance via M4 J17 e.g. to /from the A350 towns Business users – medium to longer distance Freight – including to/from south coast ports	Short term	Wiltshire Council	Successful implementation of the M4 J17 MRN scheme
05	Reduced traffic impacts associated with re-routing traffic	Reduced traffic on less suitable routes	E	Residents along alternative routes	Short to Medium term	Wiltshire Council / National Highways	Successful implementation of the M4 J17 MRN scheme Wider awareness of the improvement scheme
06	Increased customer satisfaction	Improved levels of customer service	E / 3	National Highways Wiltshire Council	Medium term	Wiltshire Council / National Highways	Successful implementation of the M4 J17 MRN scheme Awareness raising Dissemination of scheme benefits
07	Enhanced viability of strategic housing sites in the A350 corridor	Road network better able to cope with anticipated demand increase from new housing / employment development	D / 4	Wiltshire residents / wider society Developers Wiltshire Council	Medium term	Wiltshire Council	Successful implementation of the M4 J17 MRN scheme Wiltshire Local Plan Review
08	Increased inward business investment to the A350 and M4 Swindon Growth Zones	Reduced business costs and increased business confidence	C / 1 / 3	Wiltshire residents / wider society Businesses (existing and prospective)	Medium term	Wiltshire Council / SWLEP	Successful implementation of the M4 J17 MRN scheme Wider promotion of investment opportunity and benefits

### 3.3. Benefit measurement methods

To determine whether the identified scheme benefits are being realised, each benefit requires a means of measurement in the form of a performance indicator. The identification of appropriate indicators needs to take a pragmatic approach taking into account the effectiveness in demonstrating the attainment of the benefit alongside other factors such as practicality and cost. Where feasible, indicators are quantitative in nature (and can be measured in specific numerical values on a continuous scale), but in some instances a qualitative measure might be necessary (measured in category-based or descriptive terms).

An outline of the proposed measurement approach for the M4 Junction 17 scheme benefits is set out in Table 3-3. This is subject to further development and refinement as the project progresses and full details would accompany the Full Business Case submission.

**Table 3-3 – Proposed benefit measurement indicators (initial outline, subject to further development and refinement)**

ID	Benefit description	Benefit Indicator	Type	Baseline	Target	Key data requirement	Measurement frequency	
01	Reduced journey times via M4 J17 during peak periods: -from A350 -from A429 -from B4122 -from M4 East -from M4 West	% change in average journey time (based on all movements for each arm), for each hour in the AM/PM peak periods:						
		A350 arm	Quantitative	TBC	TBC	TomTom journey time data Traffic count data	Before implementation 3 months and 1 year after completion	
		A429 arm	Quantitative	TBC	TBC			
		B4122 arm	Quantitative	TBC	TBC			
		M4 East (off-slip)	Quantitative	TBC	TBC			
		M4 West (off-slip)	Quantitative	TBC	TBC			
02	Reduced queuing on M4 J17 approach arms during peak periods	Change in average / maximum queue lengths during each hour in the AM/PM peak periods:						
		A350 arm	Quantitative	TBC	TBC	Queue surveys TomTom data Traffic count data	Before implementation 3 months and 1 year after completion	
		A429 arm	Quantitative	TBC	TBC			
		B4122 arm	Quantitative	TBC	TBC			
		M4 East (off-slip)	Quantitative	TBC	TBC			
		M4 West (off-slip)	Quantitative	TBC	TBC			
03	Reduction in traffic collisions at M4 J17	Change in collisions (absolute / rate) at, and on the approaches to, M4 J17 (based on 3 year average)	Quantitative	TBC	TBC	STATS19 data Traffic count data	Before implementation 3 years after completion	
		Change in collision severity (absolute / rate) at, and on the approaches	Quantitative	TBC	TBC	STATS19 data Traffic count data	Before implementation 3 years after completion	

ID	Benefit description	Benefit Indicator	Type	Baseline	Target	Key data requirement	Measurement frequency
		to, M4 J17 (based on 3 year average)					
04	Less variability in day to day journey times via M4 J17 during peak periods	Change in the standard deviation of journey times during the AM/PM peak periods (weighted average across all arms/movements)	Quantitative	TBC	TBC	TomTom Data Traffic count data	Before implementation 3 months and 1 year after completion
05	Reduced traffic impacts associated with re-routing traffic	Change in traffic volumes at M4 J17	Quantitative	TBC	TBC	Traffic count data	Before implementation 3 months and 1 year after completion
		Change in traffic volumes on selected alternative routes (TBC)	Quantitative	TBC	TBC	Traffic count data	
06	Increased customer satisfaction	Change in user perception of the performance of the road network around M4 J17	Qualitative	TBC	TBC	Anecdotal evidence	Ad hoc
07	Enhanced viability of strategic housing sites in the A350 corridor	Approval of Wiltshire Local Plan Review	Qualitative	TBC	TBC	n/a	One-off
		Progress of strategic sites	Qualitative	TBC	TBC	TBC	Ad hoc
08	Increased inward business investment to the A350 and M4 Swindon Growth Zones	New / expanded businesses and significance of M4 J17 to investment decisions.	Qualitative	TBC	TBC	Business feedback	Approximately 1 and 3 years after completion

### 3.4. Baseline and target measurements

As indicated in Table 3-3, it is intended that benefit indicators would have a baseline measurement, typically reflecting the pre-implementation situation, and a target measure to assist with tracking. These will be developed further through the next iteration of the Benefits Realisation, Monitoring and Evaluation Plan, and informed by further input from relevant stakeholders including National Highways.

### 3.5. Responsibilities and resources

Benefits management should be integrated into the project management and delivery structure. The Senior Responsible Owner will have overall responsibility for ensuring appropriate governance and processes are in place for benefits management and benefit realisation. As identified in Table 3-2, Wiltshire Council is identified as the relevant owner for the majority of the benefits. Monitoring and reporting would be tied into overall project monitoring and evaluation (see Section 4).

Resource implications (staffing and data requirements) of the proposed benefits measurement are to be considered further and will be factored into the preparation of the Full Business Case.

Governance and resourcing arrangements will be developed further through the next iteration of the Benefits Realisation and Evaluation Plan.

## 4. Project monitoring and evaluation

### 4.1. Introduction

Whilst benefits realisation measures whether the project realises the identified benefits, monitoring and evaluation looks at all aspects of the project, including unintended outcomes. It therefore has a wider remit than benefits realisation and considers, for instance, performance in relation to actual scheme delivery, including wider scheme impacts, construction and budget management.

An initial proposed outline of monitoring and evaluation needs is provided below. This will be subject to further development and refinement following OBC approval.

### 4.2. Monitoring and evaluation aims

The purpose of monitoring and evaluation is to provide an assessment of the project's design, implementation and outcomes, including key lessons learned. It seeks to address questions such as:

- How well did the intervention meet its SMART objectives?
- Were there unexpected outputs and outcomes?
- Were costs, benefits and delivery times as predicted at approval?
- Was delivery achieved as expected and were any changes needed?
- What can be learnt for future interventions?

Monitoring and evaluation therefore has a role in:

- improving the intervention;
- supporting transparency and accountability;
- enhancing the evidence base available for future decision making; and
- improving understanding of change and how it is caused, informing intelligence on what works and why.

### 4.3. Outline approach to monitoring and evaluation

The approach should be applied proportionately in the context of the M4 Junction 17 project, whilst aligning to the main principles established in guidance and best practice<sup>1</sup>.

The approach would seek to cover:

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<sup>1</sup> Including, for instance, the HMT Green Book and HMT Magenta Book

- **Process Evaluation** – involving assessment of whether the project is being implemented as intended within its cost budget, whether the design is working, what is working more or less well and why. It supports understanding of internal processes used to deliver outputs, alongside what was actually delivered and when; and
- **Impact Evaluation** – involving an objective test of what changes have occurred, the extent of those changes, an assessment of whether they can be attributed to the intervention and a comparison of benefits to costs. It supports understanding of the intended and unintended effects of outputs, as well as how well SMART objectives were achieved.

Whilst monitoring and evaluation occurs throughout the project lifecycle, this outline approach identifies three distinct stages:

- Stage 1 – Pre-Construction Study;
- Stage 2 – One Year Post Opening Process Evaluation; and
- Stage 3 – Five Year Post Opening Impact Evaluation Study.

Further details of the proposed approach for these three stages is provided in Table 4-1.

**Table 4-1 – Monitoring and evaluation key stages**

Stage / timescale	Details / focus of activity	Key output(s)
<b>Stage 1</b> Pre-construction study (2024)	<ul style="list-style-type: none"> <li>Collection of baseline information which can be used in the benefits realisation and evaluation of impacts in the later stages</li> </ul>	Records of baseline data Benefits profiles Data collection scope
<b>Stage 2</b> One Year Post-implementation Review (2026-27)  Principal focus on process evaluation, plus initial impact evaluation	<ul style="list-style-type: none"> <li>Programme management, success factors and key obstacles to delivering the scheme. Assessment of project plan, delivery at key milestones, etc.</li> <li>Comparison of budget against actual costs involved in the management, construction and delivery of the scheme.</li> <li>Identify any changes to the delivered scheme from the planned scheme and the reasons behind any changes. This can be used to identify good practice</li> <li>Review of evidence collated through Wiltshire Council’s project management and governance procedures.</li> <li>Consultation with key stakeholders (including National Highways) to garner a range of views of the operation and success of the scheme.</li> <li>The evolution of the risk register and the effectiveness of the risk management strategy e.g., safety during construction, delay to transport users, impacts on local business during construction.</li> <li>If and how the context and rationale behind the scheme has changed.</li> <li>Initial assessment of benefits realisation and delivery of objectives, at this stage.</li> </ul>	One Year Post-implementation Review Report  Dissemination of initial findings
<b>Stage 3</b> Three Year Post-implementation Review (2028-29)  Principal focus on impact evaluation	<ul style="list-style-type: none"> <li>Evaluation of benefits realisation.</li> <li>Evaluation of wider impacts / outcomes and scheme objectives.</li> <li>Identification of any impacts not expected or planned as part of the scheme.</li> <li>Identification of lessons learned.</li> </ul>	Three Year Post-implementation Review Report  Wider dissemination of full findings

## 4.4. Data requirements

Data identified to support measurement of benefits (Section 3.3) may need to be supplemented to enable broader evaluation of the scheme. This will require further consideration as part of the development of the Benefits Realisation, Monitoring and Evaluation Plan. Where feasible, it is desirable to make use of any existing data sources.

Data relating to process evaluation is expected to be readily available from the project delivery team, but expected requirements should be confirmed.

It is envisaged that stakeholder feedback (both pre and post implementation) will provide a further valuable input to the evaluation, including from:

- National Highways;
- Western Gateway Sub-national Transport Body;
- Swindon and Wiltshire Local Enterprise Partnership; and

- Local businesses.

## 5. Benefits realisation, monitoring and evaluation - delivery arrangements

### 5.1. Schedule and timescales

Benefits realisation, monitoring and evaluation will be an ongoing process throughout the scheme development and implementation, and beyond. Based upon the current scheme delivery programme (with scheme opening scheduled for 2026 Q1) Table 5-1 provides a high-level outline of key milestones.

**Table 5-1 - Benefits realisation, monitoring and evaluation delivery schedule (outline)**

Task	Timescale
<b>Pre-Construction</b>	
Updated Benefits Realisation, Monitoring and Evaluation Plan	Q3 2023
Collect baseline data	2024
Benefits Realisation, Monitoring and Evaluation Plan submitted with FBC	Q3 2024
<b>During Construction</b>	
Data assembly for process evaluation	2025-2026
<b>Post-Construction</b>	
Data collection for benefits realisation and impacts evaluation	2026-2029
One Year Post-implementation Review Report	Q2 2027
Three Year Post-implementation Review Report	Q2 2029

### 5.2. Next steps

Subject to OBC approval, it is anticipated that further development of the Benefits Realisation, Monitoring and Evaluation Plan for the M4 Junction 17 scheme will involve:

- Further review and confirmation of the priority benefits;
- Further development and refinement of the planned measurement methods and data requirements;
- Further review and confirmation of the scope of evaluation;
- Consideration of resource implications, including cost estimates for data collection, monitoring and evaluation activities; and
- Further development of governance arrangements relating to benefits management and evaluation.



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