

# 1 Introduction

The [National Performance Framework](#) identifies the Scottish Government's purpose and values. It sets out National Outcomes which describe the kind of Scotland it aims to create.

To help deliver these outcomes, the [National Transport Strategy](#) sets out a vision for transport in Scotland. The aim is to have a safe and accessible transport system which will help make Scotland healthier and fairer for communities, businesses, and visitors.

The Scottish Transport Appraisal Guidance (STAG) supports this by providing a framework to identify and appraise transport interventions. The process is designed to provide investment decision-makers with the information they need in a clear, structured format.

STAG is a key part of a transport related Business Case. Specifically, STAG aligns with a Strategic Business Case (SBC) for interventions. An appraisal using STAG will generate the Strategic Case and the Socio-Economic Case included in the 5-case model typically used in business case development.

## 1.1 What is STAG?

**STAG** stands for **Scottish Transport Appraisal Guidance**.

STAG represents best practice guidance for transport appraisals and follows a structure and methodology that is consistent with the [UK Government's Green Book](#).

A [Technical Database](#) is also available which provides detailed advice on how to use STAG. The Technical Database will be reviewed and updated throughout 2022 to bring it in line with the updated Managers Guide. If you have any queries in the interim, please email [scot-tag@gov.scot](mailto:scot-tag@gov.scot).

## 1.2 When Should STAG be Used?

An appraisal using STAG is required whenever Scottish Government funding, support or approval is needed to change the transport system. It may also offer a suitable framework for other funders.

STAG is not usually adopted when considering maintenance issues of an existing asset which will not significantly change or affect the operation of the transport system. However, it may be appropriate in some circumstances.

## 1.3 STAG and the Place Principle

The [Place Principle](#) is an approach to change based on a shared understanding of what a particular place is for and what it wants to become. It aims to ensure investment is people and community focussed.

The [Place Framework](#) is a consistent appraisal framework for all local capital investments. The Framework helps ensure that decision makers are provided with a good understanding of the place in which investment is being proposed.

STAG is aligned with the Place Framework and your appraisal should consider the Place Framework through all stages.

## 1.4 How does STAG Fit with Other Transport Assessment Guidance?

STAG is part of a suite of appraisal and assessment guidelines within the transport sector.

## Mode-specific Transport Guidance

STAG is applicable to all transport interventions, regardless of the transport modes affected. Certain proposals which emerge from the STAG process may then require mode-specific transport guidance.

Examples include:

- Project Acceleration in a Controlled Environment (PACE) – for the rail industry
- [Design Manual for Roads and Bridges \(DMRB\)](#) – for roads schemes

Transport Scotland's [Business Case Development Process](#) shows how other guidance can fit alongside STAG in the wider business case process.

STAG has been designed to be complementary to these other processes. Information derived during the STAG process can be used in the development of these mode-specific projects.

## Development Planning and Management

Where appropriate, the completion of an appraisal using STAG will normally precede any application for planning consent and associated production of Transport Assessment for developments. This ensures appropriate consideration and reporting of the transport issues relative to the options being developed. An appraisal is therefore complementary to a Transport Assessment.

Appraisals in a development plan context should refer specifically to [Development Planning and Management Transport Appraisal Guidance \(DPMTAG\)](#).

## Impact Assessments

Undertaking an appraisal using STAG does not remove the need for other statutory obligations. All relevant and applicable Scottish and UK legislation must be adhered to.

There is some overlap between STAG and other impact assessments, including:

- Strategic Environmental Assessment (SEA)
- Equality Impact Assessment (EqIA)
- Island Communities
- Fairer Scotland Duty
- Child Rights and Wellbeing
- Habitats Regulations Appraisal

Duplication of effort can be avoided if the available guidance is reviewed prior to undertaking the appraisal. This will ensure that there is continuity in the methodology and approach adopted.

## 1.5 Help and Advice

Transport Scotland can provide advice on the use of STAG. Those undertaking appraisals may wish to discuss the scope with Transport Scotland prior to commencing.

[Transport Scotland's website](#) includes advice on commissioning STAG studies, including examples and other training resources.

For general enquiries contact: [scot-tag@gov.scot](mailto:scot-tag@gov.scot)

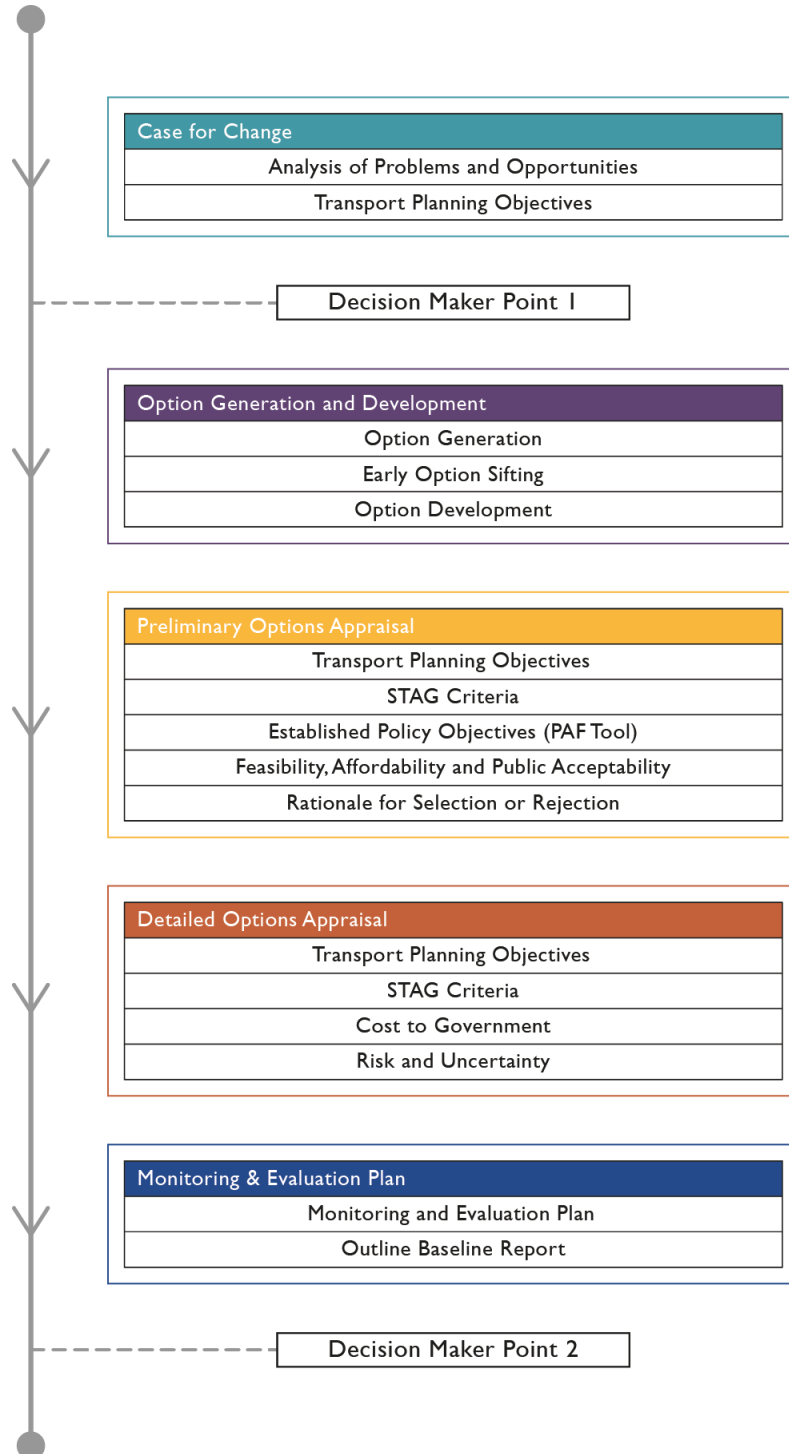
## **1.6 Business as Usual Updates**

The communication of Business-as-Usual Updates to the Technical Database will be announced on the [Transport Scotland website](#).

## 2 The STAG Process

### 2.1 Stages

There are four or five stages, depending on whether both a Preliminary and Detailed Options Appraisal are required.



### 2.2 Key Concepts

There are six key concepts which underpin the Guidance.

### **Objective-led rather than solution-led**

An objective-led process avoids pre-conceived solutions. Appraisals are expected to explore location-specific problems and opportunities, set objectives, and demonstrate how options perform against them.

STAG embraces Scottish Government policy across a range of areas. As part of your options appraisal, you will need to assess how options perform against current Scottish Government policy objectives. [The Policy Assessment Framework \(PAF\) Tool](#) should be used.

### **Evidence-based**

The foundation of all appraisals is a clear evidence base which underpins the identification of your problems and opportunities. Clear links must then be demonstrated between problems (or opportunities) and Transport Planning Objectives. Studies which do not demonstrate a case for change will not proceed beyond the Decision Point at the end of this stage.

### **Collaborative**

Participation and engagement are key elements of the appraisal. The interests of stakeholders and those affected by the change should be considered in an inclusive, open, transparent, and appropriate manner. Effective engagement is an important element of all STAG stages.

### **Proportionate**

The level of detail required in your appraisal will be determined by the nature and scale of the impacts being addressed as well as any associated risks. It is recognised that more detailed information will be required should the appraisal progress through the later stages of the Business Case process.

### **Does not prioritise between options**

Appraisals are aids for decision-makers which allow them to make informed choices. STAG may provide an initial rationale for investment; however, it is important that the appraisal outcomes are revisited as the Business Case for an intervention develops.

### **Recognises Uncertainty**

Recognising and dealing with uncertainty is a critical aspect of appraisal, and scenario planning approaches have been applied for the development of both [NTS2](#) and [STPR2](#). Uncertainty analysis is built into STAG throughout the appraisal lifecycle and should provide a greater understanding of the potential impact of disruptors and uncertainties at each stage of the process.

## **2.3 Participation and Engagement**

Participation and engagement are extremely important. Appraisals should ensure that the interests of all affected by the change are considered in a manner that is inclusive, open, transparent, and appropriate.

All stages of appraisal will include participation and engagement with those affected by the change. Examples of how engagement can benefit each stage have been included below:

**Case for Change** – good engagement will assist in understanding how people use the transport system and will help identify problems and opportunities which will be sought and developing objectives.

**Preliminary Options Appraisal** – engagement will help develop the long list of possible solutions and may help to identify the range of possible impacts.

**Detailed Options Appraisal** – engagement with those affected may assist in gathering evidence on the possible impacts of your proposed options.

**Monitoring and Evaluation Planning** – engagement at this stage will assist in preparing the Monitoring and Evaluation plan.

*Additional guidance on effective stakeholder and public engagement is in the [Technical Database](#).*

## **2.4 What Should be Reported as Part of a STAG Appraisal?**

The appraisal reporting is formed of a Case for Change report; where appropriate, a Preliminary Options Appraisal report; and a Detailed Options Appraisal report (which includes a Monitoring and Evaluation Plan).

## 3 Case for Change

### 3.1 Purpose of Case for Change

This stage can be viewed as the foundation of the business case and should clearly demonstrate a robust need for change at the Decision Point before moving to the next stage.

To support this process, you are encouraged to use the Theory of Change concept included in the UK Government's [Guidance on Evaluation](#).

*Additional guidance on the Case for Change stage will be included in the upcoming update to the Technical Database.*

### 3.2 Problems and Opportunities

Location-specific problems or opportunities should be the rationale for any appraisal.

Problems are undesirable or harmful circumstances with the transport system.

Opportunities are where a change to the transport system may lead to a positive outcome.

Problems and opportunities can be actual or perceived. It is important to differentiate between perceived problems and opportunities which can be corroborated by independent evidence and those which are perceived but for which evidence is either not available or inconsistent.

As outlined in the Place Framework, the identification of problems and opportunities should focus on people and communities. Your appraisal should aim to answer the questions outlined within the Place Framework Narrative including:

- Why is change needed?
- Where do things need to change?
- What changes will make a difference?

Your appraisal should identify problems and opportunities for specific groups of people, such as those with disabilities, women, and young people. The nature and scale of any problems and opportunities should be demonstrated through clear evidence and you should avoid relying on contextual information alone.

Your supporting analysis should explore how and why the problems and opportunities are being experienced and the consequences for the study area. A logic map may be helpful in demonstrating the relationship between evidence and identified problems and opportunities. However, causal links can be complex and logic maps need to be accompanied by a written explanation.

*Additional guidance on the analysis of Problems and Opportunities is in the [Technical Database](#).*

### 3.3 Constraints

Constraints represent circumstances which may impact on the delivery of the potential interventions or option generation and development. These can include:

- Environmental or physical constraints
- The statutory powers of an authority to achieve change
- The funding levels that can realistically be obtained
- Scottish or UK legislation
- Scottish or UK fiscal policy

*Additional guidance on assessing Constraints is in the [Technical Database](#).*

### **3.4 Risk and Uncertainty**

A Risk and Uncertainty Log should be established as part of the Case for Change stage. This is a live document to be reviewed and updated throughout the business case cycle.

Uncertainties are circumstances for which there is limited knowledge about past, current or future events and the systems in which these events occur.

Risks are a low-level uncertainty where the potential outcome can usually be defined and therefore the risk more easily quantified.

At this stage, the Risk and Uncertainty log should identify how the case for change (as presented in the report) could be affected. This should include any uncertainties regarding the information used to evidence problems and opportunities and how this might change in the future.

The log should include details of how the risks and uncertainties will be either:

- Removed
- Mitigated
- Managed

The uncertainty analysis is expected to be proportionate to the nature of the study and the risks and uncertainties identified.

*Additional guidance on Risk and Uncertainty in the Case for Change stage will be included in the upcoming update to the Technical Database.*

### **3.5 Participation and Engagement**

Your appraisal will need effective participation and engagement to demonstrate to decision makers the impact of problems and opportunities on people and businesses in the study area.

Appraisals should demonstrate an understanding of how the transport system is used by the community. The impact of interventions on the community must also be established. To do this, the local community should be consulted alongside key stakeholders unless there is a specific reason why this is unnecessary. For example, if the appraisal were able to demonstrate that it could draw on evidence from other work.

You are expected to ensure that consideration is given to identifying problems and opportunities for specific groups such as people with disabilities, women, and young people. This is a key consideration when scoping participation and engagement.

*Additional guidance on Participation and Engagement in the Case for Change stage will be included in the upcoming update to the Technical Database.*

### **3.6 Transport Planning Objectives**

The Transport Planning Objectives form the basis of the options appraisal and will be central to Monitoring and Evaluation.

The analysis of problems and opportunities is crucial in setting robust Transport Planning Objectives. The objective must express the change sought in the study area without indicating potential solutions.



The Theory of Change concept can be used to demonstrate how problems and opportunities inform the Transport Planning Objectives, as well as the metrics which will be used for monitoring and evaluation.

Relevant established policy objectives may also be useful in helping to identify your Transport Planning Objectives. However, it is important to remember that national objectives will also be assessed through the use of the PAF Tool.

As part of the Case for Change stage, the relevant national policy objectives should be identified and agreed for inclusion in the PAF tool. The PAF Tool will be used to assess options against established policy objectives in the Preliminary and Detailed Options Appraisal stages.

*Additional guidance on Transport Planning Objectives is in the [Technical Database](#).*

### **SMART Transport Planning Objectives**

Transport Planning Objectives will be refined as the appraisal progresses and more information becomes available, but they should be set with SMART principles from the start.

In advance of the Detailed Options Appraisal, Transport Planning Objectives should be finalised and, where appropriate, include a target which captures the nature and scale of the change.

A SMART objective will be:

- **Specific:** will say in precise terms what is sought and where
- **Measurable:** will set out the metrics that will be used as an indicator of success
- **Achievable:** there is general agreement that the objective set can be reached
- **Realistic:** the objective is a sensible indicator or proxy for the change which is sought
- **Time bound:** the objective will be associated with an agreed timeframe

To help with the development of SMART objectives, you should identify data which will be used to measure the success of the proposed objective at the Case for Change stage. This will form the start of the Monitoring and Evaluation Plan.

*Additional guidance on SMART Transport Planning Objectives is in the [Technical Database](#).*

### **Participation and Engagement**

Reaching a broad agreement on the Transport Planning Objectives with those who will be affected by the change is a critical part of demonstrating a case for change.

*Additional guidance on Participation and Engagement in Objective Setting is in the [Technical Database](#).*

### **3.7 Decision-Maker Point**

The promoter must review the appraisal and make a decision on whether or not there is sufficient justification to progress to the Preliminary Options Appraisal stage.

Where Government funding or consent requires an appraisal to be undertaken, Transport Scotland may review the report to confirm if the case for change has been made.

*Additional guidance on the Case for Change Decision-Maker Point will be included in the upcoming update to the Technical Database.*

### **3.8 Reporting**

A report should be completed for this stage. It should outline the process and findings of the Case for Change stage and as a minimum should:

- Demonstrate a thorough understanding of how the transport system is used by the community
- Explore how and why the problems and opportunities are being experienced within the study area
- Demonstrate a clear link between the evidence and the problems and opportunities identified
- Clearly differentiate between perceived problems which can be corroborated through independent evidence and those for which evidence is not available or inconsistent
- Include a Risk and Uncertainties log
- Include location-specific Transport Planning Objectives which express the outcomes sought for the study, without indicating potential solutions
- Clearly demonstrate the link between the evidenced problems and opportunities and the Transport Planning Objectives – this can be through a logic map but must be accompanied by a written explanation
- Identify metrics which could be used to measure the success of the proposed Transport Planning Objectives
- Identify the Established Policy Objectives to be included within the PAF tool

*Additional guidance on the Case for Change Report will be included in the upcoming update to the Technical Database.*

## 4 Option Generation and Development

### 4.1 Option Generation

Option Generation should take place before you complete the Preliminary Options Appraisal – you may wish to include an ‘early’ Option Sifting process where there is general consensus that a particular option will not contribute to the Transport Planning Objectives.

Option Generation should be unconstrained and should fully reflect the range of options available. Sources for option generation may include:

- Ideas from stakeholder and community engagement
- Proposals from previous studies
- Through the statutory planning and policy process, both for transport initiatives and land-use plans; and
- Outputs from the evidence-led process followed by the team undertaking the appraisal.

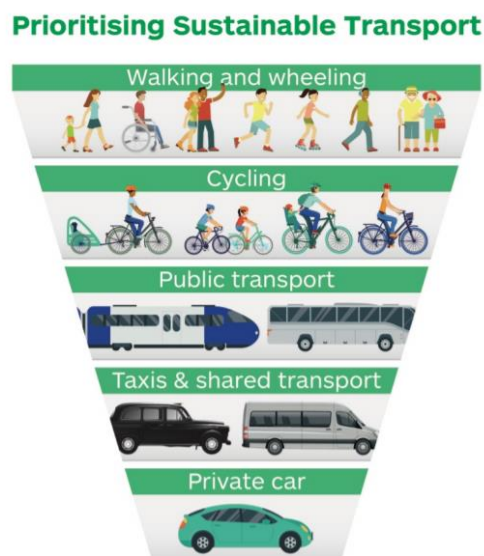
You may find it useful to consider concepts such as the [Triple Access System](#). This model recognises that accessibility can be achieved through physical mobility (our transport system), spatial proximity (land use) and digital connectivity (telecommunications system). Identifying options in this way can avoid a singular focus on transport infrastructure options.

You will need to refer to both the Sustainable Travel Hierarchy and the Sustainable Investment Hierarchy when identifying options. Note that the NTS2 states that transport options focusing on reducing inequalities and the need to travel unsustainably will be prioritised.

#### Sustainable Investment Hierarchy



#### Sustainable Travel Hierarchy



You should investigate the possibility of packaging measures to achieve the desired outcomes. It is important to recognise cumulative impacts from the packaging of measures.

Additional guidance on Option Generation is in the [Technical Database](#).

## 4.2 Early Option Sifting

You may wish to use this stage when a large number of options have been generated or where there is general consensus that a particular option will not contribute to the Transport Planning Objectives.

There are various ways in which options can be sifted. You must document why options have been taken forward to the Preliminary Options Appraisal or why they have been sifted out.

*Additional guidance on Early Option Sifting is in the [Technical Database](#) (currently referred to as Option Sifting). This information will be revised as part of the upcoming update.*

## 4.3 Option Development

Options may need to be developed into a reasonable number of broadly defined alternative options that can be subjected to appraisal. As part of option development, you should:

- Develop alternative options only where they are likely to perform significantly differently in Preliminary Options Appraisal
- Define each option so that it can be appraised independently from other options
- Develop costing and timescale information sufficient for the appraisal
- Review and adjust options (or packages of options) as necessary – option development is an iterative process.

*Additional guidance on Option Development is in the [Technical Database](#).*

## 4.4 Reporting

At this point in your appraisal, you may only have a small number of options which you think are likely to be taken forward to Detailed Options Appraisal. You may therefore wish to skip Preliminary Options Appraisal and proceed directly to Detailed Options Appraisal.

Option Generation and Development should be included in a report alongside either Preliminary Options Appraisal or Detailed Options Appraisal; depending on which stage is progressed to next.

*Additional guidance on reporting requirements for Option Generation and Development will be included in the upcoming update to the Technical Database.*

## 5 Preliminary Options Appraisal

### 5.1 Purpose of Preliminary Options Appraisal

The purpose of this stage is to determine which options merit a detailed appraisal.

In this respect, the Preliminary Options Appraisal is intended to focus appropriate effort and resources towards options which merit detailed quantitative appraisal and eliminate options which are unlikely to meet the Transport Planning Objectives, alleviate problems or realise opportunities identified during the Case for Change stage.

The Preliminary Options Appraisal stage includes the appraisal of options against:

- Transport Planning Objectives
- STAG Criteria
- Established Policy Objectives (PAF Tool)
- Feasibility, affordability, and likely public acceptability of options

*Additional guidance on Preliminary Options Appraisal is in the [Technical Database](#) (currently referred to as Part 1 Appraisal). This information will be revised as part of the upcoming update.*

### 5.2 Preliminary Options Appraisal

#### Transport Planning Objectives

A summary of the performance of each option against each Transport Planning Objective is required during Preliminary Options Appraisal. This will be mainly qualitative, but you can use quantitative information where available.

A qualitative assessment must be completed for each option against each Transport Planning Objective using a seven-point assessment scale. The assessment should consider the relative size and scale of impacts.

In some cases, it may be appropriate to include a range of scores – for example, if an option is likely to result in different impacts for different groups of people. A supporting narrative should be provided to explain any differences.

Stakeholder engagement may help in providing greater insight into the likely performance of options against Transport Planning Objectives.

*Additional guidance on Transport Planning Objectives in the Preliminary Options Appraisal is in the [Technical Database](#).*

#### STAG Criteria

A qualitative assessment must be completed for each option against the STAG Criteria, using a seven-point assessment scale. The purpose of the assessment is to allow a comparison of alternative options, enabling those options which are unsuitable to be filtered out at an early stage.

Before completing this assessment, you should identify the likely requirements for impact assessments which may be undertaken as part of the future business case. This will help identify possible overlaps where data may be required, helping to ensure minimal duplication of future work. A list of potentially relevant impact assessments will be included in the updated Technical Database.

A summary of the requirements for appraisal against the STAG Criteria is provided in the following sections.

## Environment

The Environment criterion includes eight sub-criteria, although some may not be relevant to the study area or the options proposed.

The Environment sub-criteria are:

- Biodiversity and Habitats
- Geology and Soils
- Land Use (including Agriculture and Forestry)
- Water, Drainage and Flooding
- Air Quality
- Historic Environment
- Landscape
- Noise and Vibration

The main environmental attributes and characteristics of the study area should be summarised. The summary should include specially designated sites and known proposals for change. Environmental baseline data is important to allow an informed view of the vulnerability of the study area to likely changes. At this stage, the data will be generally limited to readily available existing information.

As part of the Preliminary Options Appraisal, it is important to:

- Identify the range of likely impacts on the environment
- Identify the extent to which these impacts need to be investigated
- Identify methodologies to be employed
- Define data availability and further data gathering requirements
- Set the indicative thresholds and significance criteria to be used in the Evaluation of impacts
- Identify broad mitigation measures
- Agree the above with statutory bodies

*Additional guidance on Environment is in the [Technical Database](#). Some of this information will be revised as part of the upcoming update.*

## Climate Change

The Climate Change Criterion comprises three sub-criteria:

- Greenhouse Gas Emissions
- Vulnerability to the Effects of Climate Change
- Potential to Adapt to the Effects of Climate Change

You should use available information to take account of the impact of each option on the sub-criteria using the seven-point assessment scale.

*Additional guidance on Climate Change will be included in the upcoming update to the Technical Database.*

## Health, Safety and Wellbeing

The Health, Safety and Wellbeing Criterion comprises four sub-criteria:

- Accidents

- Security
- Health Outcomes
- Access to Health and Wellbeing Infrastructure
- Visual Amenity

A qualitative assessment should be completed using the seven-point-scale assessment.

*Additional guidance on Health, Safety and Wellbeing (currently referred to as Safety) is in the [Technical Database](#). This information will be revised as part of the upcoming update.*

### [Economy](#)

The Economy Criterion has two sub-criteria, which together should summarise the full extent of economic impacts.

- Transport Economic Efficiency (TEE) covers the benefits ordinarily captured by standard cost-benefit analysis – including traffic volumes, journey times, driver frustration or travel time reliability
- Wider Economic Impacts (WEIs) refer to any economic impacts which are additional to transport user benefits. How might the option help attract new jobs, help existing businesses, open up appropriate land for development?

Appraisals have traditionally focussed on the TEE assessment with less emphasis placed on WEIs. To ensure an effective economic assessment, both should be addressed.

As part of the Preliminary Options Appraisal, only indicative information is required. What is important is to ensure that:

- Both positive and negative impacts are scoped and
- Areas and groups in society likely to be affected are identified, with indicative levels of impacts.

*Additional guidance on [Economy](#) is in the [Technical Database](#).*

### [Equality and Accessibility](#)

The Equality and Accessibility criterion includes five sub-criteria.

- Public Transport Network Coverage
- Active Travel Network Coverage
- Comparative Access by People Group
- Comparative Access by Geographic Location
- Affordability

At Preliminary Options Appraisal, a qualitative assessment should be completed for the overall appraisal against the Accessibility and Social Inclusion Criterion using the seven-point-scale assessment, considering the relative size and scale of impacts.

*Additional guidance on Equality and Accessibility (currently referred to as Accessibility and Social Inclusion) is in the [Technical Database](#). This information will be revised as part of the upcoming update.*

### **Equality Impact Assessment**

The Public Sector Equality Duties require public bodies to promote race, disability, and gender equality. As part of this requirement public bodies should take due consideration of the impact of

their policies and practices on race, disability, and gender issues through the undertaking of an Equality Impact Assessment. It is also good practice for account to be taken of age, sexual orientation, and faith. Further information on the requirements of the Public Sector Equality Duties and Equality Impact Assessment process is available [here](#).

### **Established Policy Objectives**

Options should also be assessed against the established policy objectives identified in the Case for Change stage, using the PAF Tool.

*Additional guidance on Established Policy Objectives is in the [Technical Database](#). This information will be revised as part of the upcoming update.*

### **Feasibility, Affordability and Public Acceptability**

The Preliminary Options Appraisal should also assess the feasibility, affordability, and public acceptability of each option. You should consider:

- Feasibility – the feasibility of construction or implementation and operation (if relevant) of an option and the status of its technology (e.g. proven, prototype, in development, etc.) as well as any cost, timescale or deliverability risks associated with the construction or operation of the option, including consideration of the need for any departure from design standards that may be required;
- Affordability – the scale of the financing burden on the promoting authority and other possible funding organisations and the risks associated with these. The level of risk associated with an option’s ongoing operating or maintenance costs and its likely operating revenues (if applicable); and
- Public Acceptability – the likely public response is of importance at this initial appraisal phase and reference to supporting evidence, for example results from a consultation exercise should be provided where appropriate.

*Additional guidance on Feasibility, Affordability and Public Acceptability is in the [Technical Database](#).*

### **Hierarchies**

You will have previously referred to the Sustainable Investment Hierarchy and Sustainable Travel Hierarchy as a means to guide your initial Option Generation and Development. As part of the Preliminary Options Appraisal, you should now clearly identify where your options sit within these two hierarchies and include a supporting narrative.

Where only options at the bottom of these hierarchies are identified, you should provide an explanation as to why more sustainable options are not being appraised.

*Additional guidance on the Hierarchies will be included in the upcoming update to the Technical Database.*

### **Risk and Uncertainty**

The assessment of options should also include a qualitative assessment of how susceptible each option is to the uncertainties identified in the Risk and Uncertainties Log at the Case for Change stage.

*Additional guidance on Risk and Uncertainty as part of the Preliminary Options Appraisal will be included in the upcoming update to the Technical Database.*



### 5.3 Rationale for Selection or Rejection

The results of the Preliminary Options Appraisal should be presented clearly and concisely so that the decision maker can understand why options have been either taken forward to the more Detailed Options Appraisal or rejected.

Where there is insufficient information or data available to fully justify the rejection of a particular option then it should be taken forward to Detailed Options Appraisal.

*Additional guidance on the Rationale for Selection or Rejection is in the [Technical Database](#).*

### 5.4 Reporting

A separate report should be completed for the Preliminary Options Appraisal stage. It should outline the process and findings and as a minimum should include the following:

- A description of the option generation process and evidence that the full range of options were explored
- Evidence of how the Sustainable Travel and Sustainable Investment Hierarchy have been considered when generating options
- An explanation of why options have been taken forward for Appraisal or why they have been sifted out
- To allow alternative options to be considered, outline designs may be required, and an assessment made of capital and other costs, and implementation timescales
- An initial appraisal of the likely impacts of options against Transport Planning Objectives, using the seven-point scale
- An initial appraisal of the likely impacts of options against the STAG Criteria using the seven-point scale
- An initial appraisal of the fit of options with established policy objectives using the PAF tool
- An initial appraisal of the feasibility, affordability, and likely public acceptability of options
- Reporting of qualitative information is all that is required but where available, quantitative information should also be provided
- Preliminary Options Appraisal Summary Tables (ASTs)

### Preliminary Options Appraisal Summary Tables

You must complete Preliminary Options ASTs for all options. These assist decision makers and reviewers by providing a summary of the outcome of the appraisal in a consistent format. The Preliminary Options ASTs should include:

- A brief description of the option;
- Summary background information on the geographic, social, and economic context of the study area likely to be affected by the option;
- The Transport Planning Objectives set, as defined during Objective Setting, and a summary of the performance of the option against these objectives;
- A summary of the scoping appraisal of the impacts of the option against the STAG Criteria;

- Any relevant additional established policy objectives and a summary of the performance of the option against these objectives;
- A statement of the scope for implementation – i.e. feasibility, affordability, and public acceptability; and
- A summary of the rationale for taking the option forward to Detailed Options Appraisal or a summary explanation of why the option is being rejected.

For each rejected option there should be discussion of its performance against the Transport Planning Objectives and any other reason for rejection. Full Preliminary Options ASTs do not need to be included for rejected options although you should keep partly completed ASTs as they could be called upon for audit or inquiry purposes at a later date.

*Additional guidance on the Preliminary Options Appraisal Report is in the [Technical Database](#) (currently referred to as Part 1 Appraisal). This information will be revised as part of the upcoming update.*

## 6 Detailed Options Appraisal

### 6.1 Purpose of Detailed Options Appraisal

The Detailed Options Appraisal provides a detailed analysis of an option's performance against:

- Transport Planning Objectives
- STAG Criteria
- Cost to Government
- Risk and Uncertainty

The Technical Database describes assessment techniques to support the Detailed Options Appraisal. The database may be subject to change as new techniques and methodologies emerge. We recognise that some appraisals may require different methodologies and techniques. If you are following an alternative methodology to that found in the Technical Database, you will need to consider what additional supporting evidence is required to support your approach.

If a Preliminary Options Appraisal has been undertaken it will be necessary to introduce quantitative measures to the appraisal to complement or even replace qualitative measures.

*Additional guidance on Detailed Options Appraisal is in the [Technical Database](#) (currently referred to as Part 2 Appraisal). This information will be revised as part of the upcoming update.*

### 6.2 Option Refinement

Option development is an iterative process – before starting the Detailed Options Appraisal, you can refine the options which have emerged from the earlier appraisal stage in light of new circumstances or supporting information. As you continue to develop your options, additional options may also emerge which you may wish to include.

*Additional guidance on Option Refinement will be included in the upcoming update to the Technical Database.*

### 6.3 Transport Planning Objectives

The Transport Planning Objectives must be finalised to ensure they are SMART. You will have identified data which will be used to measure the success of the objectives at the Case for Change stage. This data should be reviewed and clear targets which capture the nature and scale of the change be defined. The objectives should enable a quantitative appraisal and future monitoring and evaluation.

A description of how each option performs against each Transport Planning Objective should be provided.

*Additional guidance on Transport Planning Objectives in the Detailed Options Appraisal will be included in the upcoming update to the Technical Database.*

### 6.4 STAG Criteria

The Detailed Options Appraisal against the STAG Criteria is outlined in the following sections – please note that the following sections contain the same information as per the overview of the STAG Criteria as part of the Preliminary Options Appraisal.

- Environment
- Climate Change
- Health, Safety and Wellbeing
- Economy

- Equality and Accessibility

## 6.5 Environment

The Environment sub-criteria include:

- Biodiversity and Habitats
- Geology and Soils
- Land Use (including Agriculture and Forestry)
- Water, Drainage and Flooding
- Air Quality
- Historic Environment
- Landscape
- Noise and Vibration

*Additional guidance on Environment is in the [Technical Database](#). Some of this information will be revised as part of the upcoming update.*

## 6.6 Climate Change

The Climate Change Criterion includes three sub-criteria:

- Greenhouse Gas Emissions
- Vulnerability to Effects of Climate Change
- Potential to Adapt to Effects of Climate Change

The Climate Change Scotland Act (2019) includes a target date of 2045 for achieving net zero carbon as well as a target of 75% reduction against 1990 emissions levels by 2030. The effect of each option on our ability to meet net zero targets should be assessed.

Your appraisal will also report the monetised value of Greenhouse Gas Emissions within the Detailed Options ASTs.

It is also important to assess the vulnerability of each option as well as the potential of each option to adapt to the effects of climate change.

*Additional guidance on Climate Change will be included in the upcoming update to the Technical Database.*

## 6.7 Health, Safety and Wellbeing

The Health, Safety and Wellbeing Criterion includes five sub-criteria:

- Accidents
- Security
- Health
- Access to Health and Wellbeing Infrastructure
- Visual Amenity

*Additional guidance on Health, Safety and Wellbeing (currently referred to as Safety) is in the [Technical Database](#). This information will be revised as part of the upcoming update.*

## 6.8 Economy

The Detailed Options Appraisal under the Economy Criterion has two sub-criteria which together should summarise the full extent of economic impacts. These are:

- Transport Economic Efficiency (TEE)
- Wider Economic Impacts (WEI)

*Additional guidance on [Economy](#) is in the Technical Database.*

## 6.9 Equality and Accessibility

Equality and Accessibility are broad concepts that defines the extent to which people and businesses to access goods, services, people, and opportunities.

The Detailed Options Appraisal focuses on detailed qualitative and quantitative assessments of the following metrics:

- Public Transport Network Coverage
- Active Travel Network Coverage
- Comparative Access by People Group
- Comparative Access by Geographic Location
- Affordability

It should be noted there is also a further aspect to Accessibility – expressed or revealed accessibility i.e., the demand for travel.

This is captured through the Transport Economic Efficiency (TEE) analysis completed as part of the economic appraisal where a monetary value can be provided for observed and forecast travel demand.

*Additional guidance on Equality and Accessibility (currently referred to as Accessibility and Social Inclusion) is in the [Technical Database](#). This information will be revised as part of the upcoming update.*

## 6.10 Cost to Government

At Detailed Options Appraisal, you need to assess the net cost of an option from a public spending perspective. This cost can then be compared with the total benefits of the option in terms of the STAG Criteria. This allows an overall value for money assessment to be made.

Cost to Government refers to all costs incurred by the public sector as a whole, net of any revenues. The total net cost consists of:

- Investment costs – all infrastructure and other capital costs incurred by public sector operators
- Operating and maintenance costs - the annually recurring costs incurred by the public sector in running and maintaining the option considered
- Grant or subsidy payments required
- Revenues – for example user charges
- Taxation impacts

All investment costs presented should be adjusted for [Optimism Bias](#). Other appropriate alternative processes – if available – may be used instead.

Costs and revenues to private sector should be separately identified.

Additional guidance on [Cost to Government](#) is in the *Technical Database*.

## 6.11 Risk and Uncertainty

In line with the approaches taken in both the Case for Change and Preliminary Options Appraisal, the Risk and Uncertainty log should be used to document the steps to be taken to prevent and mitigate both risks and uncertainties.

It will be useful to engage with stakeholders, members of the public, and specialists during the early stages of a STAG study through to the STAG Detailed Options Appraisal in order to identify, control and mitigate risks identified.

Additional guidance on [Risk and Uncertainty](#) is in the *Technical Database*.

### Uncertainty Analysis

You will need to consider how future uncertainties could affect the performance of each option. This is key information and analysis should be focussed on uncertainties which have the potential to change the decision about which option(s) are taken forward to Outline Business Case.

The reporting must set out the dependency between the uncertainty and its optimal option.

Additional guidance on *Uncertainty Analysis* is in the [Technical Database](#) (currently *Assessing Uncertainty*). This information will be revised as part of the upcoming update.

### Sensitivity Analysis

It should be the norm, rather than the exception, to carry out sensitivity analysis on the key variables of each transport option considered during the Detailed Options Appraisal. These variables will usually have a significant impact on either the overall cost or benefit of the project.

Additional guidance on *Sensitivity Analysis* is in the [Technical Database](#) (currently *Uncertainty Analysis: Sensitivity and Scenario Testing*). This information will be revised as part of the upcoming update.

### Risk Management

Risk management is a structured approach to identifying, assessing and controlling risks that emerge during the course of the option lifecycle. This supports better decision-making by developing a more thorough understanding of the risks inherent within an option and their likely impact. Risk management involves:

- Identifying possible risks in advance and putting mechanisms in place to minimise the likelihood of their materialising with adverse effects
- Having processes in place to monitor risks, and access to reliable, up-to-date information about risks
- The right balance of control in place to mitigate the adverse consequences of the risks, if they should materialise
- Decision-making processes supported by a framework of risk analysis and evaluation

At the level of individual transport projects, risk management strategies should be adopted in a way that is appropriate to their scale and impacts. The aim of risk management is not necessarily to completely eliminate risks, but to reduce risks wherever the cost of mitigation is less than the cost of the risk.

A Quantified Risk Assessment (QRA) should be presented for all transport options. As project design and development progresses, it will become possible to explicitly quantify and value risk

factors. In general terms this is calculated by multiplying the probability of the risk occurring by the size of the outcome (as monetised) and summing the results for all the risks and outcomes.

*Additional guidance on Risk Management is in the [Technical Database](#).*

## 6.12 Benefits Blueprint

For some projects, it may be appropriate to start considering a Benefits Blueprint. The Benefits Blueprint will be considered further as part of the Management Case of the SBC.

The purpose of a Benefits Blueprint is to maximise additional social and economic opportunities in the study area generated through implementing the proposed option. The workstream identifies and delivers additional interventions in the study area to realise these additional benefits. This will include a process to facilitate, manage and implement the additional interventions, including defined roles and responsibilities.

As part of the appraisal, an outline framework can be provided, with more details developed as part of the Management Case of the Business Case.

*Additional guidance on the Benefits Blueprint will be included in the upcoming update to the Technical Database.*

## 6.13 Reporting

A separate report should be completed for the Detailed Options Appraisal stage. It should outline the process and findings, as well as setting out a Monitoring and Evaluation Plan. As a minimum, this report should include the following:

- A description of the option generation process and evidence that the full range of options were explored (if not already completed as part of a Preliminary Options Appraisal stage)
- If completed, a summary of any refinement or changes to options following the Preliminary Options Appraisal
- Confirmation of the Transport Planning Objectives and how they will be measured
- A description of how each option performs against each Transport Planning Objective
- A description of how each option performs against each STAG Criteria
- A clear statement of the likely net cost of the options under consideration
- Risk and uncertainty analysis
- A clear demonstration of the steps taken to prevent and mitigate both risks and uncertainties identified (this should include also include a summary of the steps taken to assess uncertainty and should clearly identify key variables selected for sensitivity analysis, as well as the outcomes and implications for the proposed options – your Risk and Uncertainty log should be updated)
- Detailed Options Appraisals Summary Tables (ASTs)
- A Monitoring and Evaluation Plan (including an Outline Baseline Report)

*Additional guidance on the Detailed Options Appraisal Report is in the [Technical Database](#) (currently covered under 'STAG Report'). This information will be revised as part of the upcoming update.*

## **6.14 Decision-Maker Point**

The promoter should review the findings from the Detailed Options Appraisal stage Report to make an informed decision about whether there is sufficient justification to progress the preferred option.

*Additional guidance on the Case for Change Decision-Maker Point will be included in the upcoming update to the Technical Database.*



## 7 Monitoring and Evaluation Plan

### 7.1 Purpose of Monitoring and Evaluation

Monitoring and Evaluation is needed to determine the success of the implemented option in achieving the Transport Planning Objectives, performance against STAG Criteria and any impacts on established policy objectives.

Monitoring is the process of gathering and interpreting information on the performance of the implemented option.

Evaluation is a post implementation event designed to identify whether the implemented option is performing as originally intended.

The majority of the Monitoring and Evaluation will take place *following* the completion of the appraisal; however, a Monitoring and Evaluation Plan must be developed as part of the appraisal. This should be submitted alongside the Detailed Options Appraisal Report.

*Additional guidance on Monitoring and Evaluation is in the Technical Database at [Section 15](#) and [Section 16](#) respectively. This information will be revised as part of the upcoming update.*

### 7.2 Monitoring and Evaluation Plan

Your Monitoring and Evaluation Plan should outline how the outcomes of the implemented option will be monitored and evaluated.

People affected by the change should be consulted during the development of the Monitoring and Evaluation Plan.

#### Monitoring

This part of the Monitoring and Evaluation Plan should set out how and when the indicators will be measured. Your appraisal will already have identified data to be used to measure the success of the Transport Planning Objectives. This data will help define the outcomes to be monitored.

Monitoring performance allows a measurement of whether a project has been successfully implemented or not. Effective monitoring requires the regular analysis of information to continuously review the performance of the project against the Transport Planning Objectives, STAG Criteria and established policy objectives. As the results are assessed, the detailed performance indicators and targets may need to be re-defined.

Monitoring should identify any areas of under-performance and why. This will allow you to implement appropriate changes at an early stage.

The scope of the monitoring should depend on the level of resources available (both in terms of time and finances), the scale of the project and risks and uncertainties associated with project outcomes.

#### Evaluation

This part of your Monitoring and Evaluation Plan should outline how the evaluation will be undertaken.

The evaluation will use information gathered for monitoring purposes but will also involve data gathering, analysis and detailed interpretation that is particular to the evaluation itself.

Evaluation is always undertaken against indicators and targets derived from the Transport Planning Objectives, STAG Criteria and relevant established policy objectives and involves comparisons of the 'do-minimum' with actual outcomes. This will likely include a:

- **Process Evaluation** – this is conducted at an early stage following implementation and is primarily concerned with how well the project has been implemented
- **Outcome Evaluation** – this is conducted once the project has been in existence for a sufficient period to enable an examination of actual performance against objectives.

### 7.3 Outline Baseline Report

An Outline Baseline Report, based on the information included in your Case for Change, must be prepared to accompany the Monitoring and Evaluation Plan.

This Outline Baseline Report will then be developed into a full Baseline Report following the appraisal, but prior to the implementation of the option.

*Additional guidance on the Outline Baseline Report will be included in the upcoming update to the Technical Database.*

### 7.4 Reporting

A Monitoring and Evaluation Plan must be included as part of the Detailed Options Appraisal reporting.

The Plan should outline how the outcomes of the implemented option will be monitored and evaluated. As a minimum, your Monitoring and Evaluation Plan should consider the following:

- Your Plan should outline how the outcomes of the implemented option will be monitored and evaluated
- It may be appropriate to start considering a Benefits Blueprint or a Benefits Realisation Plan as part of your Plan
- You will have identified data to be used to measure the success of the Transport Planning Objectives at the Case for Change stage – this data will help define Key Performance Indicators (KPIs) to be monitored.
- Evaluation is always undertaken against indicators and targets derived from the Transport Planning Objectives, STAG Criteria and relevant established policy objectives and involves comparisons of the 'do-minimum' with actual outcomes
- An Outline Baseline Report must be submitted alongside the Monitoring and Evaluation Plan

*Additional guidance on reporting requirements for Monitoring and Evaluation is in the Technical Database at [Section 15](#) and [Section 16](#) respectively. This information will be revised as part of the upcoming update.*