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Transport Infrastructure Ireland

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Project Appraisal Guidelines Unit 4.0 - Options Report

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TII Publications



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**Updates to TII Publications resulting in changes to
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This unit has been updated to replace the Options Appraisal Report deliverable with guidance on the Options Report, which is a combined PAG/PMG deliverable that aligns with the changes introduced in PAG Unit 3.0 Feasibility Report and the Transport Appraisal Framework.

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1. Introduction and Context

1.1 Introduction to the Options Report

Project Appraisal Guidelines (PAG) Unit 4.0 provides guidance on the structure and content required in an Options Report, which is the combined PAG and Project Management Guidelines (PMG) deliverable for Phase 2 (Option Selection). PAG Unit 4.0 will be used by consultants, local authorities and transport practitioners to input the project appraisal elements associated with the Phase 2 Options Report deliverable for TII projects.

The guidance in this unit applies to TII funded projects valued in excess of €30m, but the principles and methods can be used to assist with projects of any type and scale.

This PAG Unit supersedes the previous version of PAG Unit 4.0, which provided guidance on the consideration of options which informed the Phase 2 Options Appraisal Report (OAR) deliverable. The Options Report replaces the Options Appraisal Report as the Phase 2 PAG/PMG deliverable.

This updated PAG Unit 4.0 guidance is designed to align with the requirements of the Department of Transport (DoT) National Investment Framework for Transport in Ireland (NIFTI), the DoT Transport Appraisal Guidelines (TAF) and the TII strategy National Roads 2040 (NR2040). The Phase 2 Options Report will support the goals of NR2040, TAF and NIFTI by providing a structured appraisal process which facilitates the detailed assessment of options.

The guidance set out in this Unit is focused on the appraisal elements associated with an Options Report. As a combined PAG/PMG Phase 2 deliverable the TII PMGs should also be referred out to in terms of the preparation of the Options Report and the relevant guidance in the 'Project Manager's Manuals' for Major Roads provides guidance on the non-appraisal elements.

1.2 Relationship with TII Sustainable Implementation Plan Practical Guide

In parallel to the TII PAG/PMG, TII has also produced the Guide to the Implementation of Sustainability for TII Projects¹, which provides advice for project managers on how to better deliver projects from a sustainability perspective during Phases 0-7.

The Sustainability Implementation Plan (SIP) Practical Guide aims to prompt a sustainability review at the start of each TII project phase through a series of 'workflow' spreadsheets which project managers should complete to ensure sustainability concepts are integrated into their approach. Furthermore, the SIP Practical Guide provides valuable advice on the best use of public consultation in projects and the need for the baseline review.

However, it should be noted that the SIP Practical Guide only has an advisory role in the PAG process to improve the delivery of projects from a sustainability perspective. The SIP Practical Guide 'workflows' should be regarded as a project management tool to help integrate sustainability into projects at each phase, but the output spreadsheets from the workflows do not need to be included in the PAG deliverables.

¹ GE-GEN-01101 (tiipublications.ie)

1.3 Overview of the Phase 2 Option Selection Process

An overview of the Option Selection process across TII PMG Phases 1 and 2 is provided in Figure 4.0.1. The Option Selection process takes place in a progression which starts with the identification of the most suitable transport modes and intervention types. This then focuses the development of Strategic Options incorporating the modes and intervention types.

The Strategic Options are assessed in Phase 1 (Concept & Feasibility) to ensure that they are feasible and align with the project objectives. At Phase 2, the Strategic Options brought forward from Phase 1 are developed into Preliminary Options and finally the Preferred Option is identified as part of a 3-stage structured process:

- **Stage 1 Preliminary Options Assessment** – The Strategic Options brought forward from Phase 1 are developed into a range of corridor/alignment options and sifted through an initial Multi-Criteria Analysis (MCA) process (e.g. engineering, environment, economy assessment)
- **Stage 2 Project Appraisal Matrix** - A detailed appraisal of the Preliminary Options brought forward from Phase 2 Stage 1 is undertaken in line with the DoT TAF
- **Stage 3 Selection of Preferred Option** - The Preferred Option is the best performing Preliminary Option following the detailed appraisal undertaken at Phase 2 Stage 2.

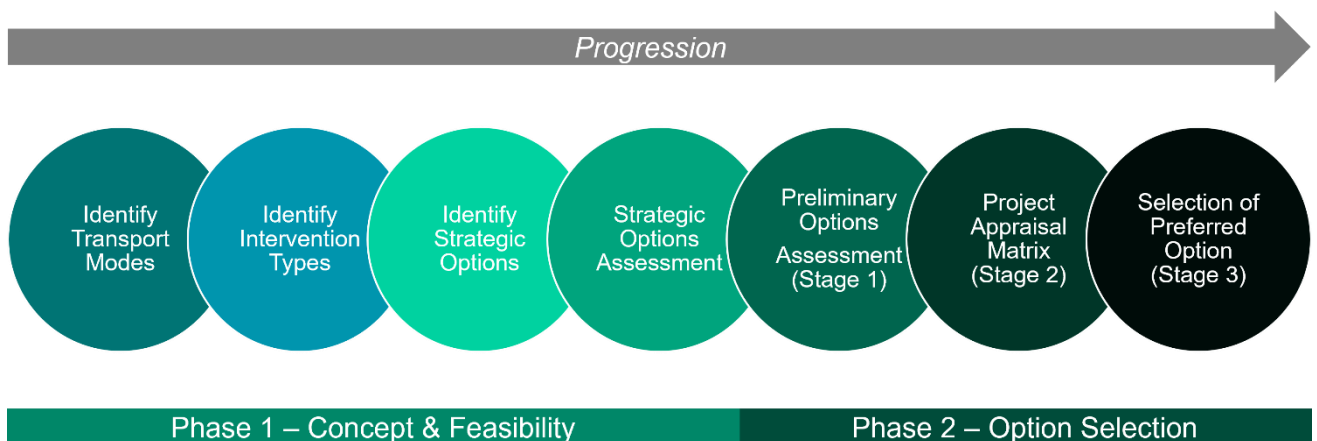


Figure 4.0.1 Option Selection Process in Phase 1 and 2

1.4 Study Area Definition

There are two types of study area that are used in the project appraisal and design process. These are defined in Section 4.3 of PAG Unit 3.0 – Feasibility Report, as the Appraisal Study Area and the Constraints Study Area.

1.5 Importance of Avoiding Bias

It is important that the appraisal process delivers a fair, unbiased assessment of the Preliminary Options and the Preferred Option based on evidence presented in the Options Report. To ensure a fair option assessment process, it is important to be aware of the various forms of cognitive and behavioural biases that can influence decisions. The Department of Transport (DoT) TAF document notes the following types of bias that should be avoided in option assessment:

- **Confirmation Bias** – Involves decision-making based on previously held beliefs or opinions which can result in data, analysis methods, and interpretations being selected to align with assumed outcomes (e.g. assuming the project will be a road-based solution and eliminating sustainable travel mode options)
- **Default Choices** – This is where the status quo situation influences decision-making as the practitioner has a bias which assumes that options which introduce significant change are inherently unrealistic (e.g. assuming a metro will not be constructed because there is no existing metro)
- **Optimism Bias** – This involves excessive optimism in predicting the likelihood of positive events occurring, which may result in time, risks or costs being underestimated (e.g. assuming a large modal shift will occur and overestimating the potential patronage of a public transport service)
- **Present Bias** – This is where short-term gains or costs of a scheme are given more importance than long term impacts, leading to inaccurate future estimates and expectations (e.g. focusing on improved level of service in the short term with capacity upgrades, which cause induced demand, resulting in a lower level of service in the long term)

1.6 Project Objectives & Key Performance Indicators

Guidance on setting Project Objectives and developing Key Performance Indicators to measures each objective is provided in PAG Unit 3.0 – Feasibility Report. The Project Objectives set at Phase 1 should be Specific, Measurable, Accurate, Realistic and Timely (SMART) where possible and as part of the Phase 2 (Option Selection) process, practitioners may refine the objectives to further align with the SMART requirement if new or more accurate information becomes known. This is also the case in relation to the Key Performance Indicators.

The Logic Path Model (LPM) process can summarise the link between objectives, options and KPIs throughout the project lifecycle. Guidance on LPM is provided in PAG Unit 2.3 – Logic Path Modelling.

2. Options Report

2.1 TII Project Lifecycle & Deliverables

Figure 4.0.2 shows the PAG/PMG process from Phase 0 (Scope & Strategic Assessment) to Phase 7 (Close Out & Review). The Options Report is the deliverable created in the process at Phase 2 (Options Selection) as a combined PAG and PMG document, which meets the requirements of both processes without duplication.

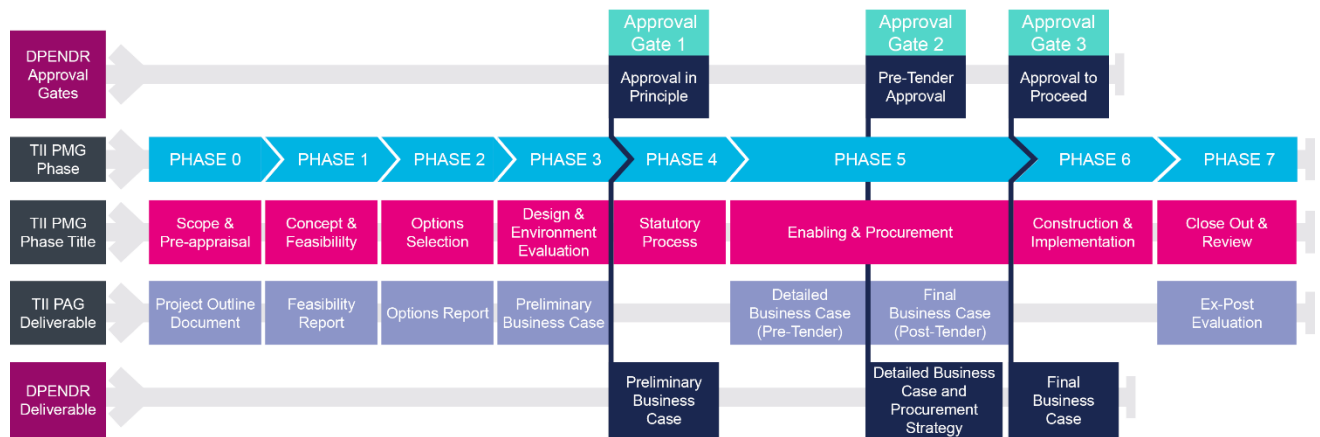


Figure 4.0.2 PAG/PMG Project Lifecycle & Deliverables

2.2 Structure and Content Guidance

Table 4.0.1 provides an overview of the structure and content of an Options Report. As previously outlined, the Phase 2 Options Report document is a combined PAG/PMG deliverable and guidance on the appraisal elements of the report is provided within this Unit, while the TII 'Project Manager's Manuals for Major Roads' provides guidance on the non-appraisal elements. Project teams should refer to the TII PMG for other content or appendices required in Options Report.

Table 4.0.1 Summary of Options Report Structure and Appraisal Related Content

| Section | Sub-Section | Content | PAG/PMG Guidance |
|--|--|---|---|
| Executive Summary | | <ul style="list-style-type: none"> Summary of the Options Report and the Preferred Option | PAG Unit 4.0 – Options Report |
| 1. Introduction and Description | | <ul style="list-style-type: none"> Description of the Project and development to date Purpose of the Options Report | PAG Unit 4.0 – Options Report |
| 2. Investment Rationale and Strategic Role | | <ul style="list-style-type: none"> Strategic role, priority of the Project within Approving Authority programme and investment rationale should be summarised | PAG Unit 4.0 – Options Report (updating/building on content of Phase 1 Feasibility Report) |
| 3. Description of Preliminary Options | Phase 1 Strategic Options | <ul style="list-style-type: none"> Explanation of process conducted at Phase 1 to identify the Strategic Options Describe the Phase 1 Strategic Options | PAG Unit 4.0 – Options Report (updating/building on content of Phase 1 Feasibility Report) |
| | Development of Phase 2 Preliminary Options | <ul style="list-style-type: none"> Describe the process of developing the Phase 1 Strategic Options into the Phase 2 Preliminary Options Define the ‘Do-Nothing’ and ‘Do-Minimum’ options against which the Preliminary Options will be assessed | PMG Project Manager Manual for Major Roads PAG Unit 4.0 – Options Report |
| 4. Transport Assessment Approach and Analysis Tools | | <ul style="list-style-type: none"> Describe the analysis tools that will be used to provide evidence in the Options Report e.g. transport modelling, GIS and other tools (TUBA, COBALT, TII REM, TII TEAM etc) Describe the assessment tables that will be used in the Options Report to inform the selection of the Preferred Option (e.g. MCA, TAA, CBA, CEA) | PAG Unit 6.3 – Guidance on using TUBA. PAG Unit 6.4 – Guidance on using COBALT. PAG Unit 7.0 – MCA PAG Unit 13.0 – Appraisal of Active Modes |

| Section | Sub-Section | Content | PAG/PMG Guidance |
|--|---------------------------------------|--|---|
| 5. Stage 1 - Preliminary Options Assessment | | <ul style="list-style-type: none"> Findings from first Public Consultation including responses from the public. Engineering assessment Road Safety Impact Assessment Environmental assessment Economy assessment (Options Comparison Estimates) Assessment matrix detailing engineering, environment, and economy (e.g. MCA) Recommendation on refined number of Options to proceed to Stage 2 Project Appraisal Matrix | PAG Unit 7.0 – MCA PMG Project Manager Manual for Major Roads |
| 6. Stage 2 - Project Appraisal Matrix | | <ul style="list-style-type: none"> Findings from the second public consultation process, if held Update of Options Comparison Estimate MCA assessment of shortlisted options (informed by Engineering, Environment, Climate, Social, Safety and Economic assessments etc.). Summarised as required based on TAA, CBA/CEA structure. Written justification of the Preferred Option based on evidence and alignment to the project objectives | PAG Unit 7.0 – MCA PMG Project Manager Manual for Major Roads |
| 7. Stage 3 - Preferred Option | Summary of Preferred Option | <ul style="list-style-type: none"> Summary of Road Safety Audit Stage F (Part 2) Information on the design standards for the Preferred Option Detailed composition of costs for the Preferred Option Summary of Preferred Option appraisal impacts and Recommendation to proceed to Phase 3 | PMG Project Manager Manual for Major Roads PAG Unit 4.0 – Options Report PAG Unit 7.0 – MCA |
| | NIFTI Investment Priorities Alignment | <ul style="list-style-type: none"> Alignment of the Preferred Option with the NIFTI Investment Priorities | PAG Unit 4.0 – Options Report |

| Section | Sub-Section | Content | PAG/PMG Guidance |
|-------------------|-------------|---|--|
| Appendices | | <ul style="list-style-type: none"> • Environmental Evaluation Reporting (Constraints, Opportunities, Risks and Options) • Options Comparison Estimates (OCE) • Cost Benefit Analysis (CBA) • Transport Modelling Report (TMR) • Risk and Value Management • Summary of Public Consultation Feedback • Road Safety Audit Stage F Report (Phase 1 & 2) | PMG Project Manager Manual for Major Roads Unit 5.5 - Transport Modelling Report Unit 6.7 – CBA Report |

2.3 Executive Summary

An executive summary should be provided prior to the main content of the Options Report. This should summarise the conclusions of the Options Report and explain the Preferred Option selected for Phase 3 and the rationale for it.

2.4 Section 1 – Introduction and Description

The first section of the Options Report should provide a description of the project and its development to date. The purpose of the Options Report should be outlined as well as the project design strategies.

2.5 Section 2 – Project Context, Need, Strategic Fit and Priority

The Phase 1 Feasibility Report introduced the investment rationale and strategic role for the project, this content should be reviewed, updated (if required) and summarised in the Phase 2 Options Report. In exceptional circumstances, where the policy review is incomplete or an investment rationale needs to be strengthened, this section can be updated and expanded in Phase 2. Any refinements to the project objectives from those developed at Phase 1 will also be described in this section.

2.6 Section 3 – Description of Preliminary Options

The purpose of this section is to develop and describe the Preliminary Options, which will be the focus of the Phase 2 Stage 1 Preliminary Options Assessment and to define the 'Do-Nothing' (DN) or 'Do-Minimum' (DM) option which will be used as the baseline for comparison against the Preliminary Options.

2.6.1 Phase 1 Strategic Options

A section summarising the development of the Strategic Options at Phase 1 should be provided. In addition, a summary of the Phase 1 Strategic Options should be provided.

2.6.2 Development of Phase 2 Preliminary Options

The process for developing Strategic Options into Preliminary Options for assessment as part of the Phase 2 Stage 1 Preliminary Options Assessment is outlined below and should be described for the scheme under consideration:

1. A refined list of Strategic Options will have been identified at the end of Phase 1.
2. For each Strategic Option, the practitioner should identify the potential alignments/routes or locations for the infrastructure in the Appraisal Study Area e.g. a 'spider's web' approach.
3. Feasible alignments for each Strategic Option should be developed with reference to the constraints, risks and opportunities study undertaken at Phase 1. These alignments form the Preliminary Options to be assessed as part of the Phase 2 Stage 1 – Preliminary Options Assessment.

2.6.3 Definition of Do-Nothing Option

The Do-Nothing (DN) option assumes there will be no investment in the transport network beyond regular maintenance during the appraisal period. The DN Option is distinct from the Do-Minimum (DM) Option, with the latter assuming a greater level of investment.

In certain circumstances, the Do-Minimum option may actually be the same as a Do-Nothing Option if no committed schemes are present in the study area. It is important that this section clearly defines the assumptions used for the DN Option to provide context for the option results.

2.6.3 Definition of Do-Minimum Option

The Do-Minimum (DM) option establishes a baseline against which the Do-Something options can be assessed. The DM Option also informs policymakers about the likely outcomes if the scheme is not pursued. The DM Option aims to capture the transport changes/impacts which would occur without further intervention, such as maintenance and the implementation of committed projects or policies.

- When considering the DM Option, complementary projects or investment proposals should be considered. These can have varying levels of certainty of delivery, depending on what stage of development they are at. The definition of 'committed' and 'planned' schemes within the context of the DM Option is provided in the information box below. It should be noted that the only **planned** schemes suitable for inclusion in Phase 2 option selection do-minimum option are projects from statutory plans (e.g. NTA GDA Transport Strategy, National Development Plan, NR2040).

Definition of Committed and Planned Schemes

There are two definitions of complementary projects that should be considered in the appraisal of the scheme in question. Choice among these is determined by the local situation, particularly the degree of certainty that other transportation improvements will be made between now and the horizon year. The possible definitions include:

- "**Planned**" improvements that are included in the fiscally constrained long-range plan for which the need, commitment, financing, and public and political support are identified and may be reasonably expected to be implemented; and
- "**Committed**" improvements that have been progressed through planning and are either under construction or are programmed into the capital expenditure budget.

- The Do-Minimum Option should include all transport projects within the study area which are **committed** projects within the appraisal period as assumptions. The Do-Minimum Option will be integrated into each Preliminary Option in terms of transport modelling to provide a consistent baseline for future assumptions. The only exception to this will be when the Preliminary Option replaces the services or facilities assumed in the DM Option. If there are no **committed** schemes to include in a Do-Minimum Option, then the Do-Minimum option will effectively become a Do-Nothing option.

The DM Option should include the following as assumptions:

- The maintenance of existing facilities and services in the study corridor and region
- The completion and maintenance of committed projects or policies that have successfully completed their environmental review.
- The continuation of existing transportation policies
 - In some cases, it may be necessary to consider **planned** schemes as part of the DM scenario in Phase 2, but this inclusion should be treated with caution as it may create a dependency on the planned project being delivered for the business case conclusions to be accurate. The inclusion of **planned** schemes is justifiable for active travel or public transport options, in order to facilitate a fairer assessment of a sustainable travel mode option or observe the impact when it operates as part of a network.

However, the inclusion of **planned** schemes is only permissible in Phase 2 to allow for a fair assessment of sustainable travel mode options, the Phase 3 design process should only use **committed** schemes in the Do-Minimum Scenario.

- It is also possible to explore the impact of a Preliminary Option when combined with planned schemes as a separate sensitivity test, without incorporating planned schemes into the Do-Minimum assumptions.

2.7 Section 4 – Transport Assessment and Analysis Tools

This section of the PAG Unit provides guidance on the analysis tools and assessment methods which can be used in projects. In the Options Report, this section of the report should summarise the transport analysis tools and assessment methods used in the detailed appraisal of options.

2.7.1 Analysis Tools

This section describes the analysis tools used to provide evidence in the Options Report. This is a summary of some key appraisal tools which practitioners could use, but it is not a comprehensive list. Furthermore, the use of analysis tools is at the discretion of the practitioner based on their relevance to the project. As part of the Phase 1 Feasibility Report the agreed Appraisal Pathway for the assessment of Options at Phase 2 should influence the analysis tools used.

For instance, it is not necessary to use transport modelling in all projects, transport models should only be used if they will add valuable evidence to the appraisal process. This version of PAG Unit 4.0 introduces new appraisal tools like the CRUSE or TEAM tool which could be used instead of transport modelling for example in active travel projects.

Transport Modelling and the National Transport Model

PAG Unit 5.0 provides an overview of the transport modelling guidance provided for the PAG projects. The National Transport Model (NTpM), an all-Ireland strategic model that can be used to assess and evaluate the impact of transport infrastructure, policy or demand management measures. The NTpM is a consistent starting point for transport modelling used in TII projects. Model development for schemes will generally start with a cordon from the NTpM and a more detailed Local Area Model (LAM) will be developed.

More detailed guidance on transport modelling best practice is available in PAG Unit 5.0 (Scoping of Transport Modelling), PAG Unit 5.1 (Construction of Transport Models), PAG Unit 5.2 (Data Collection), PAG Unit 5.3 (Travel Demand Projections) and PAG Unit 5.4 (Transport Modelling Report). Transport modelling at Phase 2 should be guided by the best practice methods outlined in these PAG Units and the complexity of the options under consideration.

TII Road Emissions Model (REM)

The TII Road Emissions Model (REM) uses outputs from the transport model to produce road user emissions estimates for the DM and Preliminary Options. The REM allows practitioners to assess and compare emission levels for varying parameters such as vehicle speed, Annual Average Daily Traffic (AADT), and road type (rural/urban). It produces data on a range of transport emissions across Carbon Dioxide, Carbon Dioxide equivalent, Oxides of Nitrogen, Particulate Matter and other indicators. It is recommended that all TII projects will utilise the REM so that emissions can be estimated and integrated into the Climate and Local Environmental appraisal elements of the Phase 2 detailed appraisal process.

In addition, the REM contains a separate module which can be used to calculate the monetary impacts of changes in emissions. These outputs can then be used to inform and assess the Economic impacts of the option under consideration.

TII TEAM Tool

The 'Tool for Economic appraisal of Active Modes' (TEAM) is an Excel-based tool created by TII to assist with the Cost Benefit Analysis (CBA) of active travel schemes. TEAM is a user-friendly tool that can estimate the benefits associated with increased levels of walking and cycling from improved active travel infrastructure.

TEAM provides a summary of the impacts and economic outputs which are required under PAG. This allows for greenway projects, or other similar active travel schemes, to be assessed with quantitative tools without the need for complex transport modelling. The use of the TEAM will strengthen the case for active travel projects going forward.

TII CRUSE Tool

TII's Cycle Route Uptake and Scenario Estimation (CRUSE) tool is an online application for strategic cycle network planning and investment prioritisation across the Republic of Ireland. The CRUSE tool generates a 'cycle friendliness' score and calculates the potential daily uptake for a cycle route based on factors such as distance, terrain, and attractiveness. This information can be used to inform decisions on whether to invest in cycle infrastructure as part of the Preliminary Options. Like the TEAM tool, CRUSE will help to quantify the benefits associated with new cycle infrastructure to strengthen the case for them in the appraisal process.

2.7.2 Transport Assessment Methods

There are several assessment tables used in the Options Report to identify the EPO. In line with TAF, the PAG guidance requires projects over €30m to complete a Transport and Accessibility Appraisal (TAA) table, a Cost Effectiveness Analysis (CEA) table or a Cost Benefit Analysis (CBA) table for the shortlisted options all of which form part of the Multi-Criteria Analysis assessment required as part of the Phase 2 appraisal process.

This section describes the different assessment tables and provides a summary of their role in the appraisal process. Specific advice on how to conduct each type of assessment is provided in Unit 7.0 - Multi-Criteria Analysis, along with advice on considering the results of TAA, CEA and CBA in combination to identify the EPO.

Transport and Accessibility Appraisal (TAA)

The Transport and Accessibility Appraisal (TAA) assessment scores the impact of each Preliminary Options across six TAF criteria, with the focus being on non-monetisable benefits. The TAA does not assess the economic criteria under TAF, with the economic aspects considered separately in the CEA or CBA.

Each option is assessed in the TAA and then the results are compared across options to identify the best performing solution. The TAA captures the impact of a Preliminary Option across six criteria from TAF:

- Accessibility Impact
- Social Impact
- Land Use Impact
- Safety Impact
- Climate Change Impact
- Local Environment Impact

The Preliminary Options should be assessed against each TAA criteria in line with the process recommended in PAG Unit 7.0.

Cost-Benefit Analysis (CBA)

Cost-Benefit Analysis (CBA) identifies and monetises certain social and economic benefits of a project. The CBA is designed to accompany the TAA assessment, which focuses on the non-monetisable impacts of an options under consideration. The TAA should be prepared first for the shortlisted options, with the CBA performed second to monetise the impacts across the different options and consider the results in combination. Further details on conducting a CBA are provided in PAG Unit 6.1 - Guidance on Conducting CBA.

Cost Effectiveness Analysis (CEA)

Cost Effectiveness Analysis (CEA) should be performed on the options where the monetisation of impacts/benefits is not possible, after the TAA is completed. Key Performance Indicators (KPI) should be used in the CEA that relate to the primary objectives of the scheme (e.g. number of expected transport users, collision reduction). This KPI should then be divided by the scheme cost estimate of each option to achieve a CEA score. The CEA is conducted to evaluate the value for money across the shortlisted options which cannot be assessed in CBA. Further guidance on CEA is provided in PAG Unit 7.0.

2.8 Section 5 – Stage 1 Preliminary Options Assessment

For larger and more complex projects, a high-level Multi-Criteria Analysis (MCA) assessment is generally required in order to reduce the overall number of options to bring forward for detailed appraisal (often described as sifting or shortlisting). For example, the 3 E's approach (i.e. Engineering, Environment and Economy assessment) can be used to help refine the number of Preliminary Options to take forward. Regard should be given to all Environmental factors as outlined in the EIA Directive. Alternative bespoke methods can be used if it is better suited to the local context or project requirements.

A manageable number² of Preliminary Options should be taken forward for detailed appraisal as part of Phase 2 Stage 2 Project Appraisal Matrix. Each Preliminary Option should be described along with the assumptions which are relevant to detailed appraisal process e.g. the type of intervention, it's length and alignment, etc.

² The DoT TAF refers to a minimum of 3 options to be brought forward for detailed appraisal. This should not be treated as a target number for a TII project as each project is unique in its nature and complexity. It is recommended for TII projects that a maximum of 6 options are brought forward, however there is flexibility in this regard.

Phase 2 is not a detailed design stage so the descriptions can be focused on the key aspects or differences between options that will be the focus of assessment in the detailed appraisal process. A simple tabular format supported by indicative images may suffice to allow a direct comparison of the preliminary options.

2.9 Section 6 – Stage 2 Project Appraisal Matrix

The detailed appraisal of options seeks to identify the Preferred Option (PO) from the shortlisted Preliminary Options. The Preliminary Options Assessment section should begin by presenting the results of the detailed appraisal of the Preliminary Options, covering:

- The findings of the second public consultation (if held) on the Preliminary Options
- An updated Options Comparison Estimate for the Preliminary Options
- The results from transport modelling, analysis tools, environmental assessment and GIS for the Preliminary Options
- Using this evidence, the following assessment should take place in this sequence:
 1. The TAA table is completed, scoring non-monetised benefits for each option using the six TAF criteria (Accessibility, Social, Land Use, Safety, Climate Change, Local Environment). This is informed for example by the Engineering, Environment, Climate, Social, Safety assessments etc. undertaken in parallel with modelling/appraisal process.
 2. The CBA is completed for the options which have monetised benefits, with the overall Benefit-Cost-Ratio (BCR) score used in the option selection summary table.
 3. If an option does not have monetised benefits, then a CEA is produced for the Preliminary Option instead
 4. An option selection summary table is produced to show the results across TAA, CBA and CEA for each option as part of an overall Multi-Criteria Analysis assessment, allowing for a conclusion to be reached on the PO in line with the guidance provided in PAG Unit 7.0
 5. A written justification is provided to make the case for the option selected as the PO based on the evidence presented. This should include reference back to the project objectives.

Table 4.0.2 shows an example template for the Option Selection summary table, which is used to select the PO. A significant amount of transport modelling, analysis tool results and environmental assessment work will be completed to feed into the completion of the TAA, CBA and CEA. Specific guidance on how to complete the TAA in the Options Report is provided in PAG Unit 7.0 - MCA, with CBA guidance provided in PAG Unit 6.0.

Table 4.0.2 Preliminary Option Selection Summary Table

| | TAF Criteria | Option 1 | Option 2 | Option 3 |
|--|--------------------------|----------|----------|----------|
| TAA (Non-Monetised Benefits Assessment) | Accessibility Impact | | | |
| | Social Impact | | | |
| | Land Use Impact | | | |
| | Safety Impact | | | |
| | Climate Change Impact | | | |
| | Local Environment Impact | | | |
| CEA Score (Non-Monetised Options) | Economic Impact | | | |
| CBA BCR (Monetised Options) | Economic Impact | | | |

2.10 Section 7 – Stage 3 Preferred Option

Summary of Preferred Option

A high-level summary of the Preferred Option should be provided in terms of its impacts (both positive and negative), its alignment with the Project Objectives and performance against the KPI for the project. It should end with the recommendation that the Preferred Option should process to Phase 3. This section can be used to inform the executive summary in relation to the impacts of the proposed scheme.

2.10.1 NIFTI Investment Priorities Alignment

In this section, a table should be completed which demonstrates the alignment of the Preferred Option with the NIFTI Investment Priorities shown in Figure 4.0.3 (Mobility of People and Goods in Urban Areas, Protection and Renewal, Enhanced Regional and Rural Connectivity, and Decarbonisation). This alignment is an important funding requirement under TAF, as the Sponsoring Agencies must demonstrate the project’s alignment with NIFTI investment priorities in order to be considered for funding.



Figure 4.0.3 NIFTI Investment Priorities

To understand the project’s potential impact on the Investment Priorities, a NIFTI Alignment table, like the example shown in Figure 4.0.4 from TAF, should be created. The table should highlight the potential negative, positive, or neutral impact that the scheme will have in respect to the four Investment Priorities. Mitigation measures should be recommended if issues are identified, and these will be used to inform the design of the Preferred Option in Phase 3. It is important to note that this table is not an assessment, and the Preferred Option does not need to be revised again at this late stage in Phase 2.

| | Decarbonisation | Protection and Renewal | Enhanced Regional and Rural Connectivity | Mobility of People and Goods in Urban Areas |
|---------------------------------|-----------------|------------------------|--|---|
| Preferred Option | | | | |
| Impact Score | Neutral | Neutral | Neutral | High Positive |
| Impact After Mitigations | Low Positive | Neutral | Neutral | High Positive |

Figure 4.0.4 NIFTI Alignment Table (Example)

2.11 Section 7 – Appendices

The Options Report should have detailed appendices which contains all relevant information to support the conclusions reached in the Options Report. The appendices can include:

- Environmental Evaluation Reporting (Constraints, Opportunities, Risks and Options)
- Options Comparison Estimates (OCE)
- Cost Benefit Analysis (CBA)
- Transport Modelling Report (TMR)
- Risk and Value Management
- Summary of Public Consultation Feedback
- Road Safety Audit Stage F Report (Phase 1 & 2)

From an appraisal perspective the deliverables to be included in the appendices are the OCE, CBA and TMR reports, guidance on which is provided under PAG Unit 5.0 and PAG Unit 6.0. Guidance on the other documents to be appended to the Options Report is provided in the Project Manager’s Manual for Major National Road Projects (PE-PMG-02042).



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