

# SEStran Ferry Toolkit

## Section 2: Consideration of All Transport Modes

This document is part of iTransfer, a North Sea Region Interreg programme project, which is funded by the European Regional Development Fund.

iTransfer (Innovative Transport Solutions for Fjords, Estuaries and Rivers) aims to make ferry transport more freely accessible and sustainable, and encourage more people to travel by water. In areas in the North Sea Region (NSR) there are opportunities to replace existing vehicle routes with passenger ferries as a viable alternative. Travelling by ferry is more sustainable, easier and quicker. It can also provide lifeline services to remote communities.

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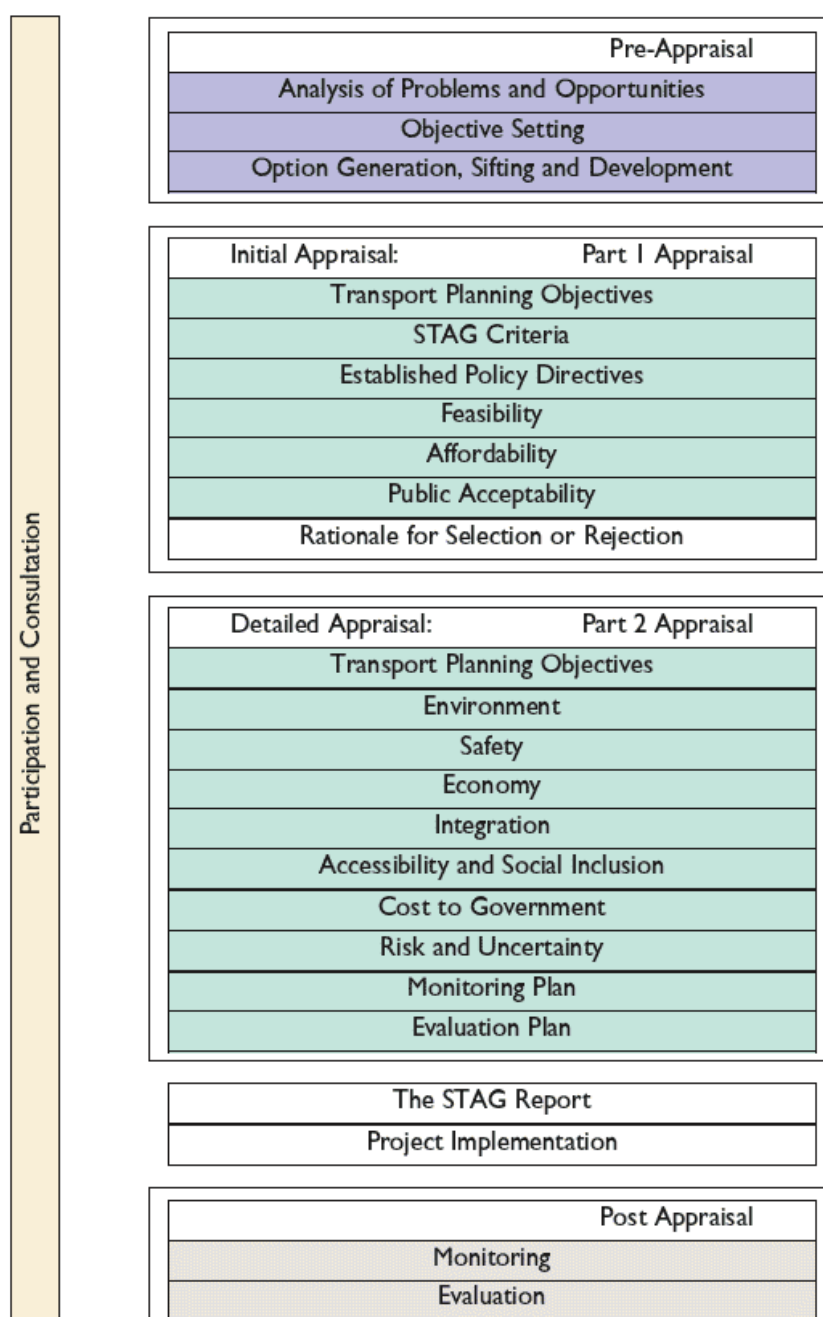
## Section 2: Consideration of All Transport Modes

### 1. Transport Appraisal

- 1.1. Before embarking on the development of a ferry proposal it is considered best practice to appraise all possible alternative solutions to the transport problem that has been identified. For example for remote island locations, is an air based solution more appropriate or for remote peninsular communities is a road based solution better.
- 1.2. There are a range of transport appraisal methodologies available throughout Europe and these are referenced in the index of source documents. For the purposes of this toolkit the main source document used has been the Scottish Transport Appraisal Guidance (STAG) which is an objectives-based multi modal approach including economic, financial and environmental appraisal.
- 1.3. The STAG approach has been generalised for the purposes of this toolkit to avoid specific references that are unique to Scotland to produce a general approach that can be tailored for use in any member state. The general principals are included in this document for guidance to avoid an overly prescriptive approach.
- 1.4. The completion of a transport appraisal study and production of a report should precede any application for planning consent or the production of a detailed Transport Assessment in support of the development. This ensures appropriate consideration and reporting of the transport issues relative to the options being developed.

## 2. Format of a transport appraisal

2.1. The key steps in a transport appraisal are set out in the diagram below as set out in the STAG guidelines. It represents a logical process of appraisal from Pre-Appraisal through Initial and Detailed Appraisal to production of the report and implementation followed by post implementation appraisal.



### 3. Pre-Appraisal

#### 3.1. Pre-Appraisal: Key Points

- The identification of problems and opportunities and Objective Setting are iterative exercises, one informed by the other;
- Perceived problems and opportunities should be considered, i.e. those that are experienced but cannot be easily encapsulated through data analysis;
- The analysis of problems should look beyond the immediate manifestation of such problems on the transport system and should explore root causes and consequences;
- Data analysis should be used to assist in the identification of problems and opportunities;
- Practitioners should avoid simply providing background information for the study area. Robust analysis must provide sufficient evidence of the identified problems and/or opportunities;
- Consultation with stakeholders and the public can provide a valuable input into the identification of problems and opportunities;
- When considering problems it will also be important for the practitioner to consider Issues and Constraints that may affect the study; and
- ‘Issues’ are uncertainties that the study may not be in a position to resolve, but must work within the context of. ‘Constraints’ are the bounds within which a study is being undertaken.

### 4. Analysis of Problems and Opportunities

- 4.1.1. The first step in any transport appraisal is the identification and analysis of the problem that requires to be addressed. This analysis should be evidence based without introducing a bias in favour of any specific solution. The evidence can be statistical, environmental or social depending on nature of the problem under consideration.

4.1.2. In addressing a transport problem there will be a number of alternative opportunities available and all such opportunities should be included for consideration.

## 5. Objective setting

5.1.1. Objectives should be 'SMART':

- **Specific**, it will say in precise terms what is sought;
- **Measurable**, there will exist means to establish to stakeholders' satisfaction whether or not the objective has been achieved;
- **Attainable**, there is general agreement that the objective set can be reached;
- **Relevant**, the objective is a sensible indicator or proxy for the change which is sought; and
- **Timed**, the objective will be associated with an agreed future point by which it will have been met.

5.1.2. Objective Setting: Key Points

- Transport Planning Objectives should express the outcomes sought in the study area as opposed to any of the activities planned to achieve the Transport Planning Objectives;
- The formulation of Transport Planning Objectives should take full account of a thorough investigation of the root causes and consequences underlying identified problems or opportunities and the provision of robust evidence of problems and/or opportunities;
- It is recognised that Transport Planning Objectives may not be entirely SMART (i.e. include targets) at the Pre-Appraisal phase, but such Transport Planning Objectives should be set in such a way to facilitate the establishment of entirely SMART Transport Planning Objectives in advance of Part 2 Appraisal;

- Any existing resources in the form of previously established sets of objectives or data resulting from surveys or consultation exercises should be used fully to inform the setting of Transport Planning Objectives;
- The relevant Government's Purpose and National Outcomes should inform practitioners in setting of Transport Planning Objectives;
- Consideration should be given to the relevant established policy directives;
- A regular dialogue should take place between practitioners and decision makers throughout the Objective Setting phase (and throughout the Appraisal study as a whole)

## **6. Typical criteria for evaluating a proposal are:-**

- Environment;
- Safety;
- Economy;
- Integration; and
- Accessibility and Social Inclusion.

## **7. Option Generation, Sifting and Development: Key Points**

- It is vital to develop options that reflect the full range of options available and that seek to meet the Transport Planning Objectives set for a study, not just immediate manifestations of problems;
- The Option Generation process should not be unreasonably constrained at the start of the process. Practitioners should cast the net widely and both stakeholder participation and wider consultation can have an important role to play;

- Option Sifting is often necessary to reduce the number of options and combinations of options to manageable levels. A structured and transparent process that is documented and auditable is required;
- Future year options should be appraised against a do-minimum. The specification of the do-minimum forms a natural part of the Option Development process;
- The do-minimum comprises all schemes and proposals under construction or for which statutory powers exist and funding is available;
- When assessing options practitioners may also find it helpful to develop a reference case, which includes other non-controversial but as yet uncommitted schemes and which can be used as a baseline for option comparison;
- To allow alternative options to be considered, outline designs may be required and an assessment made of capital and other costs, and implementation timescales; and
- What is required is a pre-feasibility assessment of alternative options, sufficient to allow appraisal to take place.

## 8. Part 1 Appraisal: Key Points

8.1. The Part 1 Appraisal is intended as a check on the suitability of the options and the likelihood of options proceeding to the detailed Part 2 Appraisal. In this respect, Part 1 Appraisal is intended to act as an initial appraisal. The Part 1 Appraisal concentrates on the following areas

- An initial appraisal of the likely impacts of options against Transport Planning Objectives;
- An initial appraisal of the likely impacts of options against the appraisal Criteria;

- An initial appraisal of the fit of options with established policy directives –i.e. relevant additional transport, land-use planning and other policies;
- An initial appraisal of the feasibility, affordability and likely public acceptability of options;
- The practitioner should produce an indicative assessment of the scope and scale of the benefits and impacts associated with the options for each area noted above;
- In addition to these tasks, it is important to be clear about relevant background information including the geographic, social and economic context for a particular study;
- At Part 1 Appraisal, reporting of qualitative information is all that is required but where available, quantitative information should also be provided; and

## 9. Part 2 Appraisal

9.1. The Part 2 Appraisal phase requires a more detailed appraisal of options taken forward from Part 1. The Part 2 Appraisal should typically include detailed analysis of an option's performance against:

- Transport Planning Objectives;
- Appraisal Criteria;
- Cost to Government; and
- Risk and Uncertainty

## 10. Part 2 Appraisal against the Environment Criterion: Key Points

10.1. The Part 2 Appraisal against the Environment Criterion involves a detailed appraisal against the following sub-criteria:

- Noise and vibration;
- Global air quality – carbon dioxide (CO<sub>2</sub>);

- Local air quality – particulate matter (PM10) and nitrogen dioxide (NO<sub>2</sub>);
- Water quality, drainage and flood defence;
- Geological features;
- Biodiversity and habitats;
- Visual amenity;
- Agriculture and soils;
- Cultural heritage; and
- Landscape.

10.2. Consideration should focus on significant impacts with qualitative and quantitative measures used to determine significance, provided that these measures are understandable and robust.

10.3. The need for wider environmental assessment in relation to Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA) should be taken into consideration by practitioners.

## **11. Part 2 Appraisal against the Safety Criterion: Key Points**

11.1. The Part 2 Appraisal against the Safety Criterion involves a detailed appraisal against two sub-criteria:

- Accidents; and
- Security.

## **12. Accidents**

- Consideration is required of whether the option will have any measurable impact on the number of transport related accidents and/or the severity of transport related accidents; and

- If measurable changes to accident numbers and/or severity are identified to be of significance, well established methodologies should be adopted to aid the quantification of road traffic accidents and only in exceptional circumstances should there be deviation from the standard methodologies.

### 13. Security

- The impacts of options on pedestrians, cyclists (and stored/secured cycles) and equestrians as well as public transport and car users should be considered;
- Account should be taken of the impacts of options on particularly vulnerable sections of the community such as children, the elderly or women travelling alone; and
- The adopted approach is largely qualitative.

### 14. Part 2 Appraisal against the Economy Criterion: Key Points

14.1. The Part 2 Appraisal against the Economy Criterion involves a detailed appraisal against three sub-criteria:

- Transport Economic Efficiency (TEE);
- Wider Economic Benefits (WEBs); and
- Economic Activity and Location Impacts (EALIs).

#### 14.2. Transport Economic Efficiency (TEE)

14.2.1. Net benefits to transport users, comprising:

- Travel time savings;
- User charges including fares, parking charges and tolls;

- Vehicle operating cost changes for road vehicles;
- Quality benefits to transport users; and
- Reliability benefits to transport users.

14.2.2. Net benefits to private sector operators, comprising:

- Investment costs;
- Operating and maintenance costs;
- Revenues; and
- Grant and subsidy payments

14.3. **Wider Economic Benefits (WEBs)**

14.3.1. WEB analysis relates to the notion of Wider Economic Benefits derived from the impact of transport upon agglomeration, and the underlying relationship of impacts of agglomeration upon productivity.

14.4. **Economic Activity and Location Impacts (EALIs)**

14.4.1. EALI analysis allows the impacts of an option to be expressed in terms of their net effects on the local and/or national economy.

## 15. Part 2 Appraisal against the Integration Criterion: Key Points

15.1. The Part 2 Appraisal against the Integration Criterion involves a detailed appraisal against three sub-criteria:

- Transport Integration;
- Transport and Land-Use Integration; and
- Policy Integration.

## **15.2. Transport Integration**

15.2.1. The Transport Integration sub-criterion should focus on services and ticketing and infrastructure and information.

## **15.3. Transport and Land Use Integration**

15.3.1. The relationship between an option and any major existing or proposed development should be considered in accordance with established land-use policy to determine the likely impacts of an option in the context of existing and planned land use developments.

## **15.4. Policy Integration**

- For Policy Integration, a series of checks are required to establish whether the options integrate with wider policies, including those of both Central and Local Government including, but not limited to, the Government's Purpose; and
- Additional benefits in the context of policy on disability, health and rural matters should be identified, together with further social inclusion impacts.

## **16. Part 2 Appraisal against the Accessibility and Social Inclusion Criterion: Key Points**

16.1. The Part 2 Appraisal against the Accessibility and Social Inclusion Criterion involves a detailed appraisal against two sub-criteria:

- Community Accessibility; and
- Comparative Accessibility.

## **16.2. Community Accessibility**

- 16.2.1. This includes consideration of public transport network coverage and access to local services

## **16.3. Comparative Accessibility**

- 16.3.1. This concerns the distribution of accessibility impacts by people group (for example age, gender etc) and by location. Consideration should also be given to the need to complete an Equality Impact Assessment in accordance with the Public Sector Equality Duties for race, disability and gender. It is also good practice for account to be taken of age, sexual orientation and faith.

## **16.4. Cost to Government: Key Points**

- It is essential that the likely net cost of an option from the public sector's point of view is identified within the appraisal. This enables a comparison with the total benefits and an assessment of overall value for money.
- 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, operating and maintenance costs, grant/subsidy payments, revenues, and taxation impacts.
- In many cases the revenues of private sector operators are unlikely to cover the investment and operating costs of an option considered. As a result, some form of grant or subsidy may be required, and any such payments represent a cost to the Government.
- Some options, particularly those aimed at promoting modal shift, could have a significant impact on indirect tax receipts. These

impacts represent costs to the Government and, where appropriate, the appraisal should assess the expected change in indirect tax revenue attributable to changes in the transport sector.

- All capital costs and estimate of works duration should be adjusted for Optimism Bias and risk.

#### **16.5. Risk and Uncertainty: Key Points**

- All risks and uncertainties associated with an option need to be fully taken into account within a transport appraisal.
- Risk management strategies should be adopted throughout the appraisal and implementation stages of options in order to ensure that steps have been taken to prevent and mitigate risks and uncertainties.
- Evidence from past transport projects illustrates that there is a tendency for project appraisers to be overly optimistic when estimating costs and benefits. To redress this tendency, some member states require explicit adjustments for bias when appraising projects (optimism bias).
- When more reliable estimates of relevant costs are built up, risks are explicitly assessed and quantified, and work to minimise project-specific risks is undertaken, adjustments can be made to reduce the level of Optimism Bias.
- However, in general, even with a well developed project there will remain some risks which cannot be foreseen. In such cases it will not be possible to include these risks in the expected value, so instead a contingency figure should be added in order to take account of possible unanticipated risks.
- No matter how well risks are identified and analysed, the future is uncertain. Therefore a fundamental part of an appraisal is to carry out sensitivity analysis to test the vulnerability of options to future uncertainties.

- Through analysing the range of values that key variables may take, practitioners can examine how this may alter the preferred option.

## 16.6.     **The Appraisal Report: Key Points**

16.6.1.       The format of the Appraisal Report should typically include:

- Introduction;
- Analysis of Problems and Opportunities;
- Objective Setting;
- Option Generation, Sifting and Development;
- Part 1 Appraisal;
- Part 2 Appraisal;
- Cost to Government;
- Risk and Uncertainty;
- Option Summary Table;
- Monitoring Plan;
- Evaluation Plan; and
- Conclusions.

## 16.7.     **Monitoring: Key Points**

16.7.1.       The term ‘Monitoring’ describes an ongoing process which has an important role in determining the success of a project in achieving established Transport Planning Objectives and measuring the performance of the project against the Appraisal Criteria and the impacts of the project on established policy directives. Monitoring is likely to be required in the event of public funds being required for the project. Monitoring includes:

- The development of a proposed Monitoring Plan, as part of an appraisal, to outline how Monitoring will be undertaken, post-implementation, and the scope of the Monitoring process;
- The development of challenging but achievable key performance indicators (KPIs) clearly linked to the Transport Planning Objectives, Appraisal Criteria and established policy directives;
- The collection, analysis and interpretation of data relating to any number of established indicators. The amount of effort and expenditure required should be appropriate to the scale and nature of the proposed intervention; and
- The development of a Monitoring Report to detail the extent to which a project is delivering value for money and achieving the objectives set.

## 16.8. **Evaluation: Key Points**

16.8.1. The term 'Evaluation' describes a detailed, one-off objective driven review or audit of a project's performance and includes:

- The development of an Evaluation Plan as part of an appraisal to outline how Evaluation will be undertaken post-implementation;
- Process Evaluation. This is carried out early in the life of a project, before its full effects are known and concentrates on whether input (activity) and expected outcomes for a project are being/have been met;
- Outcome Evaluation. This is carried out once sufficient time has elapsed for the project to have delivered its principal outcomes, and assesses whether the Transport Planning Objectives have been achieved and the performance of the project against the Appraisal

Criteria and the impacts of the project on established policy directives and whether this has been done effectively and efficiently; and

- The preparation and completion of an Evaluation Report, based on the outputs from the Process Evaluation and Outcome Evaluation undertaken.

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