

## Annex A. Scheme operation and system design issues

### A.1 Introduction

This annex is the first of eight that cover scheme operation and system design issues. It provides the context and introduction to the subsequent annexes. Its content, intended audience and purpose can be summarised as follows:

- **Content** - this annex provides an overview and introduction to scheme operation and system design issues.
- **Target audience** - it is aimed at senior management (e.g. heads of service) and project managers within local authorities as well as technical scheme and system design teams working on business case development and scheme design.
- **Purpose** - the main purpose of Annex A is to set the context for guidance contained in subsequent annexes.

Key terms used in this annex include the following:

- **scheme** - a road pricing implementation that charges users for road use within defined geographic areas and within defined periods of time;
- **business case** - part of the road pricing submission to the Department by a local authority (or group of authorities) seeking to reach the TIF Programme Entry stage;
- **consistency** - similarity in the way in which local road pricing schemes are presented and operated in order to ensure that user and service provider experiences are consistent; and
- **interoperability** - the ability of systems and system components from different schemes (and certain other organisations) to communicate and interact with each other.

More detailed definitions of the main terms used in these annexes are included in Annex H.

### A.2 Assessment and structure

The TIF Programme Entry guidance<sup>9</sup> outlines how business cases should be structured. For the road pricing part of the package, we will be particularly keen to see how local authorities propose dealing with the following issues:

1. **Effective operation:** will the proposed scheme function properly from the perspectives of both the scheme owner and the user? Will users reliably be charged for the relevant driving they do and no more? Will defaulters be dealt with effectively?  
*This relates to the description of the scheme and how it fits into the local authority's overall strategy. It addresses delivery, governance and implementation issues.*
2. **Consistency and interoperability:** is the approach of the proposed scheme likely to be consistent with other schemes? Is it capable of being interoperable, where appropriate, with other schemes?  
*This also refers to the description of the scheme and how it fits into the local authority's strategy.*
3. **Best value:** are the cost estimates soundly based and realistic? How has the local authority engaged with the market?  
*This expands on the funding and finance section, as well as those covering appraisal and value for money.*

These are explored in greater detail in A.3 below.

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<sup>9</sup> [www.dft.gov.uk/pgr/regional/tif](http://www.dft.gov.uk/pgr/regional/tif)

Within these annexes, key items of information related to scheme operation and system design that need to be included within business case submissions are highlighted in text boxes similar to this one.

Local authorities will need to structure their business case submissions in line with the TIF Programme Entry guidance. Within that structure, they should make clear how they are addressing the three specific sets of questions identified above.

Business case submissions will need to describe an outline system design, setting out how it is intended that the road pricing scheme will operate, including the technology basis. This will need to include clear identification of the components of the proposed scheme operation, how they fit together and what opportunities they offer for interoperability. The overall scheme design should clearly flow from the transport analysis set out in WebTAG and there should be a clear exposition of how the practicalities of scheme design have interacted with, informed and been informed by the transport analysis.

The outline system design can be included as an annex to the main business case document. It is envisaged it will form a key reference for describing specific design issues in response to the points raised in the annexes. Estimates of capital system procurement costs and ongoing operating costs will need to be included within the main document.

Annexes A to H therefore serve four principal purposes:

- to set out the specific details that need to be addressed within the outline system design and cost estimates included within the business case;
- to provide basic common planning assumptions that will allow the Department to review business cases on a consistent basis;
- to steer certain aspects of solution design to accord with national policy objectives regarding consistency and interoperability; and
- to help ensure that any local authority contemplating a road pricing scheme is clear about the main scheme operation and system design issues that need to be considered to ensure that it functions properly. Some of the guidance provided in this area is most relevant to business case preparation, while some will be useful in later, more detailed design and procurement stages.

The subsequent annexes cover the following topics:

- B - the candidate operational and technical solution options for road pricing.
- C - high level design issues from interoperability to the potential roles of service providers.
- D - the functions that together make up a road pricing scheme.
- E - more detailed design issues for each of the solution options under consideration.
- F - the key procurement considerations, setting out the options available.
- G - a structure for the cost elements of a road pricing business case.
- H - a glossary of key terms used in these annexes.

### **A.3 Overview of the three key issues**

#### ***A3.1 Effective operation***

In order to be able to deliver its policy objectives (e.g. congestion reduction), a road pricing scheme must be effective in applying charges and denying would-be evaders. It should also be perceived by users and the wider public as being trustworthy in the way that it works. There are a number of dimensions to this:

- **simplicity:** the obligations that a road pricing scheme imposes on users should be reasonable. It should be reasonably simple to understand and to comply with the scheme's rules;
- **accuracy:** schemes should charge people accurately and reliably for the relevant driving they do and no more; defaulters should be dealt with effectively;
- **assurance:** road pricing schemes should enjoy the reasonable trust of the public and to do this they should be operated in a reliable, transparent way. Equally, users should be confident that the scheme will respect and maintain their privacy within any national parameters and principles set out for road pricing by Government;
- **flexibility:** schemes should be sufficiently adaptable in order to meet changes in operational or policy priorities and should be able to accommodate new technology should such technology emerge;
- **deliverability:** proposed schemes should be able to be implemented, within the timetable set out, supported by systems and technology that are certain to be available at the appropriate time. They must not rely on speculative technology proposals; and
- **manageability:** proposed schemes should be able to be operated in a reasonable and cost-effective manner. There must be clear descriptions of the proposed management regime, governance structure and its impacts.

The outline system design within the business case submission needs to show that scheme operation will be effective at taking account of these factors.

### *A.3.2 Consistency and interoperability*

The user's experience of road pricing should be broadly consistent from scheme to scheme in order to encourage scheme acceptance and minimise the burden on users and likely associated errors. Consistency between schemes is also likely to help encourage a market for commercial service providers interacting with the schemes. Consistency requirements in various areas are set out in Annexes C and E in particular.

Interoperability among schemes involves making it possible for a user equipped to interact with one scheme to interact in a broadly similar way with other similar road pricing schemes. As an example, where tag and beacon technology is offered by more than one scheme, a user should need only one tag and one account to use all relevant schemes. Further details of these issues are included in Annex E.

### *A.3.3 Best value*

The proposed scheme is required to demonstrate value for money. The costs should be clearly worked through and set out and the manner of operation should be proportionate and take all opportunities for maximising value for money. This could include linkages to other existing or proposed services not otherwise required for the road pricing scheme, such as support services for decriminalised parking enforcement.

A thorough and reasoned assessment of the costs of the scheme is an essential element of business case submissions. The set up costs will need to account for equipment and establishment of support services and compliance regimes. Operational costs will be affected by the nature of the proposed solution types, the volumes of transactions through each solution and the extent to which solutions will be able to share certain elements.

The Department is keen for scheme owners to engage with the market in delivering road pricing where this offers improved cost-effectiveness. For example, involvement of service providers may enhance convenience for some road users and help minimise operating costs. Competition and diversity of supply in road pricing may also reduce risk. Local authorities are therefore encouraged to consider ways of engaging the market in providing road pricing solutions.

The best value assessment includes the following areas:

- assessment of scheme costs;
- integrity and completeness of costs;

- affordability of the scheme;
- validation of cost estimates;
- consistency of cost information with other elements of the business case; and
- engagement with the market.

These will be used in part in relation to the projected benefits from a scheme. Annex G provides information on the component costs of road pricing schemes and the format in which the Department is seeking cost information in business case submissions.