

Summary

The safety objective covers two sub-objectives:

- Accidents
- Security

Accidents

Planners are advised to consider whether the proposal under consideration will have any measurable impact on the number of transport related *accidents* and/or their severity.

If measurable changes to accident numbers and/or severity are identified as important impacts of a proposal, then planners are advised to adopt well established methodologies to aid the quantification of road traffic accidents and only in exceptional circumstances to depart from such methodologies.

For a rail-based public transport scheme planners should assume, in the first instance, that accidents associated with the scheme are negligible. For public transport proposals that involve shared running, planners should seek the advice of the relevant Department of the Scottish Executive.

For maritime and aviation proposals, planners should seek the advice of the respective safety agency.

Security

Where appropriate planners should consider the *security* impacts of a proposal on pedestrians, cyclists (and stored/secured cycles) and equestrians as well as public transport and car users. The appraisal of the security sub-objective should consider the impacts of a proposal on particularly vulnerable sections of the community such as children, the elderly or women travelling alone.

The approach to considering security is largely qualitative, but planners are invited to adopt quantitative methods if they are robust and have been discussed with the relevant Department of the Scottish Executive, or other appropriate funding agency, beforehand.

7. SAFETY

7.1 Introduction

7.1.1 The promotion of a safer transport system is an integral component of the Government's transport policy as established by *Travel Choices for Scotland*. The safety objective comprises two sub-objectives: accidents and security. These are covered separately below.

7.2 Accidents

7.2.1 When undertaking an appraisal, planners should consider the impact of the proposal under consideration on accidents. In Part 1, planners should identify which, if any, user groups may be affected and develop projections of what will be the impact of the proposal under consideration.

7.2.2 For proposals which change road traffic accident numbers, or their severity, the recommended approach to appraising the accident benefits or disbenefits in Part 2 is very similar to that set out in Volume 2, Chapter 5 of GOMMMS. For road accidents, standard methodologies exist for calculating the projected number of accidents, the types of accidents and associated casualties in the before and after scenarios. The methods relate the traffic on a road (measured by vehicle-kilometres) to the number of accidents via the application of an accident rate. Accident rates (and casualty rates) for different road types are set out in the NESA manual (DMRB Volume 15) and these should be adopted. The accident and casualty rates given in the NESA manual currently have a 1997 base. However, the latest version of DfT's COBA economic appraisal program, COBA11 R3 (released March 2003), includes new accident and casualty rates re-based to 2000. Users of STAG should therefore anticipate a re-basing of the NESA accident and casualty rates to a 2000 base. It should be noted that accident rates and accident severity rates are now predicted to change over time irrespective of whether or not a specific intervention is being considered.

7.2.3 Standard cost values are attributed to fatal, serious and slight casualties allowing the monetisation of accidents in the before and after scenarios, and hence the calculation of the benefits or otherwise of a proposal. The standard costs* per accident, at 1998 prices and values, are given in the NESA manual. The NESA manual also provides costs per accident (again at 1998 prices and values) for insurance administration, damage to property and police costs for different types of accidents on different types of roads. The latest version of the DfT's COBA economic appraisal program, COBA11 R3 (released March 2003), includes updated accident costs to a 2000 cost base. Users of STAG should anticipate a similar re-basing of the NESA accident costs to a 2000 base.

* Note: Accident and casualty rates in NESA currently have a 1997 base whilst accident costs are in 1998 prices and values (ref. DMRB Vol. 15 Part 6).

- 7.2.4 The calculation of monetised accident costs and benefits of a road related proposal should follow well established methodology. However, in exceptional cases, it may be felt by the planner that the established methodology does not allow the full benefits of a unique and particular proposal to be identified or that it may overstate the likely scale of the benefits. For example, accident reductions due to work to address a particular blackspot may not be sufficiently captured by the NESA rate-based methodology, or the rate-based approach may not capture the benefits of improving crossing facilities near a school. In such cases, planners may, with extreme caution, undertake an additional quantitative or qualitative assessment. Care must be taken to ensure that such an approach is based on sufficient historical data and should avoid falling into the trap of calculating benefits of improvements which are, in fact, simply due to the random nature of accidents.
- 7.2.5 The appraisal framework allows a qualitative assessment of accident benefits to be explicitly included. Such a qualitative assessment can be used to highlight matters including, but not limited to:
- the user groups affected by safety improvements (e.g. car occupants, pedestrians, cyclists);
 - a change in the balance of accidents, e.g. fewer fatalities or serious injury accidents, but an increase in slight injury accidents;
 - any uncertainties in the assessment, such as a view that the rate based calculation either under or over estimates accident savings.
- 7.2.6 The NESA rate-based methodology requires projections of vehicle-kilometres in the before and after scenarios. Such projections could be sourced from transport models, or may be derived from other data as appropriate for the scale and type of intervention being considered (e.g. traffic counts combined with growth rates).
- 7.2.7 For public transport proposals, changes in accidents involving traffic due to a transfer of trips away from cars to public transport are captured by the NESA rate-based approach reviewed above. To use the NESA approach it is necessary to develop a projection of the reduction in car vehicle-kilometre due to the proposal. These could be sourced from a transport model, or could be derived from other available data combined with reasonable assumptions.
- 7.2.8 Current Government advice is that accidents on segregated rail-based systems are negligible and so need not be considered. For systems that involve shared running by rail and other road vehicles, promoters should seek the advice of the Scottish Executive on how to consider accidents in the appraisal of such proposals.
- 7.2.9 For proposals in the marine or aviation sectors that are expected to have a measurable impact on accident rates or the risk of accidents, specific advice should be sought from the Maritime and Coastguard Agency and the Civil Aviation Authority, as appropriate.

7.3 Security

- 7.3.1 When undertaking a Part 1 appraisal, planners should consider whether the proposal under consideration has any material impact on security for the users. If so, to complete the security sub-objective in the Part 2 AST, the methodology and approach set out in WebTAG 3.4.2. should be adopted.
- 7.3.2 Insofar as possible there should be a link between the assessment of security related problems (see Chapter 3) and the appraisal of security in the AST. Public consultation can inform the appraisal of security improvements in a similar way as it can inform the identification of problems associated with security of a particular mode.
- 7.3.3 For consideration of security, it may be appropriate to introduce quantitative measures to the appraisal process to complement or even replace qualitative measures. Examples include:
- Outputs from surveys designed to capture users' perception of security in different scenarios or assess their preference for different security measures. An example of the latter could include surveys where participants are asked to prioritise security related improvements by allocating a fixed sum of money to different measures;
 - Quality of service monitors which explicitly capture perception of security at different facilities;
 - 'Before and After' surveys of levels of use of comparative facilities where security enhancing measures have been introduced;
 - The monetisation or quantification of security improvements through the use of stated preference surveys. Caution should be exercised to avoid double counting of identified benefits in other parts of the AST.
- 7.3.4 If planners are considering deviating from the methodology in WebTAG, they should consult the Scottish Executive through the STAG mailbox or other relevant means or such other funding agency as is appropriate.

