

Proposed methodology for consideration of safety and security

Definition

This component considers the potential impact of a road development or maintenance programme on levels of safety and security within the surrounding area. Real or perceived road safety risks and crime rates in the community neighbouring a road are influenced by the quality and style of infrastructure design, and can contribute to feelings of stress and anxiety in the local community.

Real and perceived rates of criminal activity and security risks to people or property may be increased by design which provides inadequate natural surveillance of certain areas.

For the purposes of this guidance, safety and security impacts have been defined in terms of two factors. Figure 5.1 defines these factors and their likely relation to roads.

Fig. 5.1: Components and factors of Personal Safety & Security related to road schemes

Component	Factor	Example impact of road design/delivery
Safety & security	Incidence of personal & property crime (e.g. robbery, mugging, vandalism, burglary).	Lack of appropriate lighting surrounding a road (including in lay-bys and service areas) and manifestation of hidden corners or isolated areas through road design (e.g. underpasses, pedestrian alleyways, lay-bys) may provide areas of reduced surveillance in which crime or fear of crime may flourish. Security risks may be felt disproportionately by vulnerable groups, such as women, elderly or disabled people, and ethnic minorities.
	Rates of road-related accident or injury affecting local community members.	Where busy roads are located in close proximity to communities, local people may be exposed to increased safety risks. Safety risks may be experienced disproportionately by children, elderly and disabled people in an area.

A review of personal safety and security impacts arising from the interaction of a road with a community should consider the degree to which each factor contributes to actual or perceived risks in the local community.

Determining baseline characteristics

Notable data concerning baseline safety and security characteristics should be collected and incorporated within a community profile. Data for each factor can be sourced as follows.

Factor 1: Incidence of Personal & Property Crime

This factor considers the baseline actual and perceived rates of crime in the local community surrounding the road or project, taking into account the possible relationship between crime and road design, management and operation, and the location of vulnerable groups.

A review of security risks in relation to proposed road schemes should utilise information from sources such as:

Data	Source	Purpose
Crime statistics within the community, by type and rate	Available from the Office for National Statistics ⁱ and via the CrimeMapper ⁱⁱ service from the National Policing Improvement Agency. Further information about community perception and fear of crime in an area may be obtained from the Communities and Local Government Place Survey ⁱⁱⁱ and the Office of National Statistics' Area Profile ^{iv}	To map baseline crime rates in the area surrounding the proposed road scheme, to generate an understanding of existing crime risks.
Location of existing road and infrastructural elements (e.g. underpasses, lay-bys, etc.)	Available from Highways Agency databases and Ordnance Survey data. Field observation may contribute to practical understanding of these geographical features.	To map the coincidence of infrastructure types and rates of crime and vandalism, to gain an understanding of possible relationships between infrastructure design and criminal activity. For instance, the incidence of vandalism or graffiti may be concurrent with the siting of underpasses or overbridges.
Location of community groups vulnerable to crime or fear of crime (e.g. ethnic minorities, women, elderly, etc.)	Local demographic data available from recent national census database ^v and local authority databases. Field observation may contribute to practical understanding of these settlement patterns.	To map the distributional impacts of crime across different community groups, and highlight groups at particular risk.

By mapping crime rates alongside existing and proposed road infrastructure, an informed view should be taken regarding the likely security risk impacts of road scheme proposals, and opportunities can be taken to improve the baseline rate of crime through appropriate urban design.

Factor 2: Rates of Road-related Accident or Injury

This factor considers the baseline road safety statistics in the local community surrounding the proposed road project, taking into account the possible relationship between safety and road design, management and operation, and the location of vulnerable groups.

A review of community safety risks in relation to proposed road schemes should utilise information from sources such as:

Data	Source	Purpose
Road safety and traffic accident statistics	Available from the Office for National Statistics ^{vi} and the Department for Transport ^{vii}	To map baseline road safety trends in the area surrounding the road, to generate an understanding of existing risks to which the road scheme should seek to respond.
Location of existing road and infrastructural elements (e.g. pedestrian crossings, traffic calming measures, etc.)	Available from Highways Agency databases and Ordnance Survey data. Field observation may contribute to practical understanding of these geographical features.	To map the coincidence of infrastructure types in relation to road accident events, to gain an understanding of possible relationships between infrastructure design and rate of road accidents. For instance, the occurrence of road traffic accidents may be concurrent with traffic calming measures such as a chicane.
Location of community groups vulnerable to road safety risks (e.g. children, disabled communities, etc.)	Local demographic data available from recent national census database ^{viii} and local authority databases. Field observation may contribute to practical understanding of these settlement patterns.	To map the distributional impacts of road safety risks across different community groups, and highlight groups at particular risk.

By mapping rates of road traffic accidents alongside existing and proposed road infrastructure, an informed view should be taken regarding the likely security risk impacts of road scheme proposals, and opportunities can be taken to improve the baseline rate of crime through appropriate urban design.

Data collection and review

All relevant data should be collected from the sources identified above, to be incorporated into the community profile. This will provide valuable information to contextualise the proposed road scheme within the local safety and security risk environment, providing a baseline from which to infer possible cause-effect linkages between environmental stimuli and human receptors.

Data collection will mainly consist of a desk-based information gathering and mapping exercise. In addition to the above desk-based information sources, direct observations can be made about the safety and security environment via field surveys of the local area. Site visits can provide additional insight into the prevalence of crime through observation of the incidence of vandalism, graffiti, use of CCTV, etc. The locations and usage of pedestrian crossings may also be observed, along with traffic volumes, speeds

and installation of traffic calming measures, which can provide additional understanding of road safety risks.

Disproportionate Impacts

This review is also concerned with the distribution of impacts arising from a road between different groups within the community (e.g. elderly, ethnic minorities, less privileged communities, etc.). As a result, when developing an understanding of the baseline characteristics, the review should also note the identity and location of social groups within the study area. National census^{ix} or local authority data may be used to define the distribution of community groups.

In the context of safety and security, the review of baseline data should identify whether any the proposed road scheme is likely to present undue risks to a particular group of the community. For example, some individuals may be more vulnerable to personal crime than others, and may experience greater fear associated with particular elements of urban design (e.g. underpasses, etc.). Likewise, it is likely that road safety risks will be higher in a community with a high child population. The needs of different groups should be prioritised effectively, and it should be ensured that no community group is exposed to inequalities in the standard of care provided through the scheme design.

A robust approach to assessing the distributional impacts of road scheme proposals for community groups may be adopted through the implementation of an Equality Impact Assessment (EqIA).



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- ⁱ Available at <http://www.statistics.gov.uk/CCI/nscl.asp?ID=5685> (06.04.10).
 - ⁱⁱ Available at: <http://www.maps.police.uk> (06.04.10).
 - ⁱⁱⁱ Available at <http://www.audit-commission.gov.uk/localgov/audit/nis/Pages/placesurvey.aspx> (06.04.10).
 - ^{iv} Available at www.areaprofiles.audit-commission.gov.uk (06.04.10).
 - ^v Available at <http://www.ons.gov.uk/census/index.html> (07.04.10).
 - ^{vi} Available at <http://www.statistics.gov.uk/CCI/nscl.asp?ID=8094> (06.04.10).
 - ^{vii} Available at <http://www.dft.gov.uk/pgr/statistics/> (06.04.10).
 - ^{viii} Available at <http://www.ons.gov.uk/census/index.html> (07.04.10).
 - ^{ix} Available at <http://www.ons.gov.uk/census/index.html> (06.04.10).