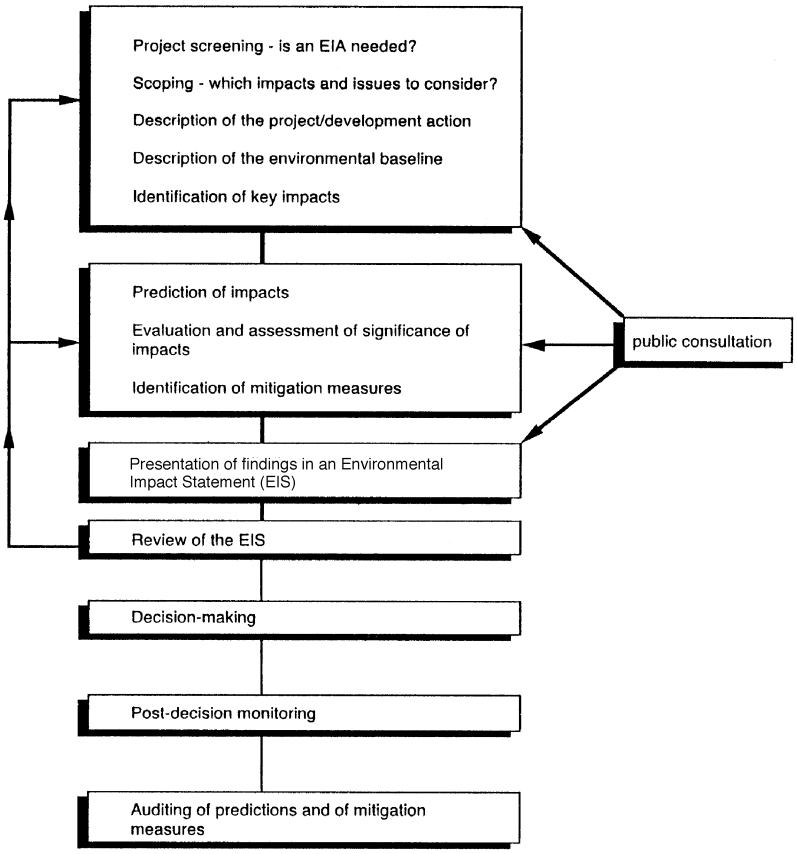

Figure 6.1 The EIA process.

project impacts. For instance, an urban regeneration project can have potentially negative effects (increasing air pollution), and beneficial socio-economic effects (increasing levels of local employment) or vice versa. The inclusion of both components implies that techniques that deal with the assessment of both types of impact are needed.

A tool to determine potentially negative environmental effects is Environmental Impact Assessment. The term environmental impact assessment implies a package of methods aimed at both identifying any impact of policies, programmes, plans and projects, and assessing their effects on the environment and human health.[10] Environmental impact assessment is defined as a process through which significant environmental impacts are assessed and taken into account in the planning, design, authorization and implementation of all relevant types of action. As can be seen from Figure 6.1, this process supports decision making through the screening, scoping, identification, prediction and evaluation of key impacts of projects, and through the preparation and review of environmental impacts statements.

A similar process can be applied to policies, plans and programmes, which is called 'strategic environmental assessment'. The aim of this assessment is to ensure that consideration of environmental impacts is taken into account at the decision-making level, that is when policies and plans are formulated. This assessment will ensure that alternative approaches can be taken into consideration before a definitive decision is made about a particular project.

Environmental impact assessment is normally applied to certain kinds of development categories in relation to three features, viz. type of development, scale of development and the site of the development. The European Community Directive 337/85 on environmental impact assessment specifies in its Annex I the types of project for which the elaboration of an environmental impact assessment is mandatory. These projects include oil refineries, power stations but also construction of motorways, express roads and trading ports which are more often part of an urban design project. Annex II lists the projects which are submitted to environmental impact assessment only if the regional authorities require it. This second Annex includes infrastructure projects which have more relevance for the types of project considered in this book, such as urban-development projects, and tramways for passenger transport. This second Annex has created controversy because of the possibility that potentially harmful projects are overlooked if the decision of EIA is left to local authorities.[11] In the UK, the European Community

Directive was implemented by Section 71A of the *Town and Country Planning Act 1990* and Section 26B of the *Town and Country Planning Act* in Scotland, and the *Town and Country Planning Regulations 1995*. The recent publication of Directive 11/97/EC requires various amendments to the UK legislation.[12] Below is a summary of the necessary changes to environmental assessment procedures.

1 More formal screening procedures are necessary with criteria which are based on: the project's characteristics, its location in relation to sensitive areas and the nature of any impact.
2 Competent authorities, at the request of the developer, will be expected to give an opinion about the information to be included in the environmental statement.
3 The environmental statement is to contain an outline description of the alternatives studied and an indication of the main reasons for choosing the proposed option.
4 Decisions must take account of public consultations and the reasons for the decisions should be made public.
5 Member States may set up a single procedure to deal with projects which involve both environmental assessment and integrated pollution prevention and its control.
6 A number of changes have been made to the classification of projects which appear in Annex I and Annex II. In future a greater number of developments will require a more rigorous environmental assessment.

IDENTIFICATION OF IMPACTS

The classification of environmental impact assessment techniques can relate to their organizational characteristics or to the distinction between magnitude and significance of impacts. Magnitude refers to the size of the impacts, while significance is related to the importance of impacts for decision making. There are five main categories of assessment techniques: checklist, matrix, overlay, network and quantitative methods.[13] These techniques are normally utilized to identify the impacts of different types of projects on the environment. The following is a short description of the techniques; this will not be exhaustive of all aspects of the techniques. How these techniques fit within the field of urban design method and techniques will be examined.

The *checklist technique* (Figure 6.2) consists of constructing several lists which enumerate the

1 **Local economy**
- Impact on public finances
- Impact on businesses
- Impact on employment
- Change in land values
- Impact on support grants of other agencies
- Impact on land tenure

2 **Local environment**
- Impact on air quality
- Impact on water resources (surface/ground)
- Changes in noise and vibration
- Impact on greenbelt and open spaces
- Impact on natural habitats, species and vegetation
- Changes in land use and densities

3 **Aesthetic and cultural values**
- Impact on urban patterns
- Visual impacts and effects on buildings
- Impact on cultural heritage and designated areas
- Impact on amenity and personal security
- Impact on community cohesion and identity
- Impact on minority groups and equal opportunities

4 **Infrastructure**
- Impact on public utilities
- Impact on public services and facilities
- Impact on emergency services
- Impact on traffic conditions
- Impact on public transport
- Impact on health and safety

Figure 6.2 Checklist for assessing impacts of urban developments.