

very much related to the nature of the project. A new housing development, an urban renewal scheme, or a transport-related project are assessed through the employment of different techniques. Not only is the choice of the technique determined by the nature of the project but also by the size of the project, whether a moderate- or a large-scale project, and last but not least, by time constraints in preparation of the assessment.

CASE STUDY: NOTTINGHAM LRT

The Nottingham Express Transit Project is a light-rail transportation project. The line links Nottingham City Centre and the northern part of the Nottingham conurbation.²⁰ The objective of the project was to serve the transport needs of the area without jeopardizing the equilibrium between environment and economy. The project was enclosed in Annex II of the 1988 Town and Country Planning Regulation on the assessment of environmental effects. However, a full environmental impact assessment was carried out because the preparation of such an assessment is required for all projects presented in Parliament. The project was granted Royal Assent in 1994, but the process itself started in 1988. It included the preparation of feasibility studies which examined several of the projects' features, such as engineering feasibility, cost, road congestion and the potential environmental impacts. Public participation was sought to define the Nottingham Express transit route. A checklist technique was used to carry out the assessment. The project impacts, assessed both at the construction and operation stage, were: transport and traffic, noise and vibration, land use and planning, contaminated land, spoil and waste, air quality, visual intrusion and landscape, community issues, water quality and ecology. Significant impacts on the environment at the construction stage were identified and a series of mitigation measures in terms of good construction practices were suggested. The study identified a

number of concerns. In particular, consideration was given to the implications of land-take of open space, the visual impact in areas of high scenic value, and noise and vibration in tranquil residential areas. The study found considerable scope for mitigating impacts through engineering solutions, changes to layout, modification to operating specifications, and by rigorous control of certain aspects of detail design. The study concluded that the positive beneficial effects outweighed the negative impacts which were reduced to a minimum by the mitigation measures. The environmental impact study was not concerned with secondary impacts because these were considered far beyond the scope of the environmental assessment. The Nottingham Express Transit Project has gone through the several steps of an environmental impact assessment process from screening to project approval. It would, however, be of use to carry out an *ex-post* assessment to evaluate the extent to which the environmental impact assessment was correct in predicting project impacts and in preventing irreversible damages to the environment.

PREDICTION OF ECONOMIC IMPACTS

To predict economic impacts, mathematical models can be employed.²¹ For instance, using several techniques based on regional multiplier theories, the effects that a new injection of investment produces on an economy can be predicted. Three types of analysis can be carried out: economic base analysis, regional multiplier analysis and an input-output analysis. These analyses are linked to three regional multiplier theories. These three main theories, namely, economic base theory, regional trade multipliers and input-output models, can be used to explain the income and employment effects in an economy owing to an exogenous change such as a financial investment. For instance, an urban regeneration project produces direct, indirect and induced economic impacts.