

PART 3: APPLICATIONS

Chapter 6: Lighting design

6.1 Objectives and constraints

Lighting design can have many different objectives. Ideally, these objectives are determined by the client and the designer in collaboration and cover both outcomes and costs (Figure 6.1). The most common objective for a lighting installation is to allow the users of a space to carry out their work quickly and accurately, without discomfort. However, this is a rather limited view of what a lighting installation can achieve. For traffic routes, the objective of lighting is to facilitate the safe and rapid movement of vehicles after dark. For urban areas where people and traffic may come into conflict, safety is the primary concern although the appearance of people and buildings is also important. In areas where crime is rampant, lighting can be used to enhance security. Sport facilities are lit at night to encourage their use. Businesses use lighting to promote their brand and attract customers. Most lighting installations have to serve multiple functions. When designing lighting it is always desirable to identify all the functions that the lighting is expected to fulfill.

As for constraints, an important aspect of lighting design is the need to minimise the amount of electricity consumed, for both financial and environmental reasons. It is also necessary to consider the sustainability of the lighting equipment. This means using materials that can be easily replaced and considering to what extent the equipment can be recycled at the end of its life. The financial costs, particularly the capital cost, are always an important constraint. No one wants to pay more for something than is absolutely necessary so the designer needs to be able to justify the proposal in terms of value for money.

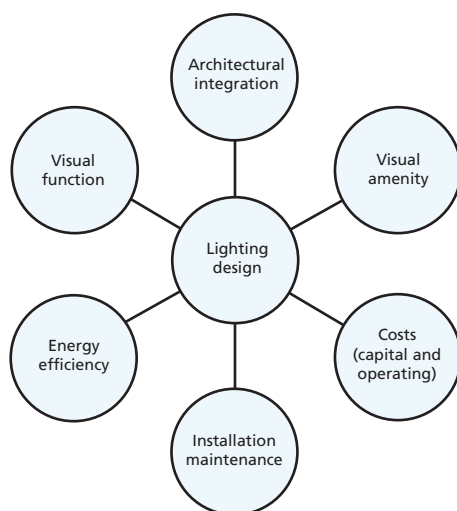


Figure 6.1 Objectives, outcomes and costs

6.2 A holistic strategy for lighting

A holistic strategy for lighting design is necessary because without it important benefits will be lost and money and human resources will be wasted. The starting point is an in-depth conversation with the client and other members of the design team to formulate a design brief. At such a discussion, it will be necessary to address such fundamental questions as what do you want to see and what do you not want to see, what is the function of the space, what is the proposed architectural style and what is the budget?