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Large infrastructure projects in urban areas usually present a difficult choice for decision-makers who have to choose between different alternative ways of tackling problems. Typical problem areas are judging the *extent* of impacts, both positive and negative, as well as assessing the *distribution* of impacts across the stakeholders affected by the project. "Evaluation" is the assessment of the comparative merits of different courses of action. Evaluation of urban infrastructure projects is carried out using evaluation models, which are essentially schemes that employ different methods to support decision-making on urban infrastructure projects. Commonly used models of project evaluation are based on one perspective of the problem, that is used as the basis for choice between alternatives. Literature on evaluation models highlights the need for using integrated models, that evaluate projects from multiple perspectives, rather than using only one model. The models to be used in the integrated model need to be chosen on the basis of their ability to answer different questions that the evaluator may have on the different alternatives.

In this thesis, three models of evaluation are chosen, based on complementarity in their approach to evaluation. They are applied to the context of the same urban infrastructure project, and compared. The models are the Planning Balance Sheet (PBS), the Goals-Achievement Matrix (GAM) and the location decision approach. The PBS uses the distribution of costs and benefits across the population, in monetary terms, to evaluate projects. The GAM is goal-seeking, evaluating projects on the extent to which they achieve stated goals. Location decisions of different groups in society are a response to their evaluation of different sites in terms of their personal goals as well as the projected development. Projected location decisions of these groups (termed as locators), in response to the three alternatives, indicate the manner in which they evaluate the alternatives and respond to them, and the impact it has on the land use patterns in the city.

These models are applied to the case of the **Mass Rapid Transit System project** in Bangalore, India. Data for three alternative means of implementing the transportation system is used to develop the three models. The performance of the models is analysed on the criteria of inputs, process and outputs of the model. The analysis shows the extent to which the models are responsive to the typical conditions of application in the Indian context. An integrated scheme of evaluation is proposed, which attempts to address the issues raised in the application of these models. The use of the integrated model is demonstrated with an application to a sub-component of the Mass Rapid Transit System in Bangalore. The thesis is expected to enhance the understanding of the use of the three models for evaluating infrastructure projects in India, as well as to provide an integrated model that combines the experience of the application of the three models.