

# MULTIDIMENSIONAL ASSESSMENT OF THE FEASIBILITY OF URBAN DEVELOPMENT PROJECTS

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Degree of Master of Science in Project Management

Department of Building Economics

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## DECLARATION

I declare that this is my own work and this dissertation does not incorporate without acknowledgement any material previously submitted for a Degree or Diploma in any other University or institute of higher learning and to the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

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The above candidate has carried out research for the Masters dissertation under my supervision.

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Dr. Yasangika Sandanayake  
Dissertation Supervisor

.....  
Date

## ABSTRACT

Urbanisation is a process of population concentration and it is definitely one of the global challenges of today and of the coming decades. The uncertainty created by civil unrest and natural disasters such as tsunami and floods, had a great impact on low level and rate of urbanisation in Sri Lanka. As a country emerging from the above challenges into a prosperous future, the rapid rate of urbanisation during the past couple of years has attracted widespread attention. Urbanisation creates enormous impacts on environment, society and the economy at the local, regional and global scales.

Therefore, emerging urban development projects should be focused on aforementioned issues and essential to ensure the comfort and convenience of the people. Urban development projects create various problems during both the implementation and usage stage. Hence, project feasibility studies play a vital role in the investment decision making and ultimately the success of urban development projects.

Various research studies have been carried out to assess the feasibility of construction projects. However, the key studies have assessed the impact of limited factors such as economics, social and environmental issues on aspects of feasibility of urban development projects without conclusive and substantiated results. Another shortcoming from previous research is the lack of comprehensive and elaborate feasibility assessment indicators to assess success, failure or impact of urban development project to the whole nation. There is therefore, a void in the literature on suitable indicators to assess the feasibility of urban development projects. The aim of this study is therefore to develop a comprehensive feasibility assessment model enabling a multidimensional evaluation of the impact of urban development projects on the entire society.

Research methodology was comprised with literature review, preliminary survey and structured interviews with the experts in urban development to identify feasibility perspectives and indicators to assess urban development project feasibility. Analytic Hierarchy Process (AHP) tool was applied for data analysis and prioritise feasibility assessment perspectives and indicators.

Results obtained from the survey identified seven (07) multidimensional perspectives, i.e. 'market', 'technical', 'financial', 'social', 'environmental', 'physical' and 'institutional' and 36 indicators for the assessment of urban development project feasibility. The multidimensional feasibility assessment model developed in this study can be used to enhance the feasibility of existing and future urban development projects and hence to have sustainable urban development projects for future generation in Sri Lanka.

**Keywords:** *Feasibility Assessment; Urban Development Projects; Analytic Hierarchy Process (AHP); Multidimensional Model*

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## LIST OF ABBREVIATIONS

ADB	Asian Development Bank
AHP	Analytic Hierarchy Process
ARR	Accounting Rate of Return
AW	Annual Worth
BCR	Benefit Cost Ratio
CBA	Cost Benefit Analysis
DCF	Discount Cash Flow
EIA	Environment Impact Assessment
EMS	Environment Management System
ESAT	Environmental Systems Analysis Tools
FW	Future Worth
IRR	Internal Rate of Return
LCA	Life Cycle Assessment
MFA	Material Flow Analysis
NPV	Net Present Value
PB	Pay Back
PBP	Pay Back Period
PMI	Project Management Institute
RA	Risk Assessment
SCB	Social Cost Benefit
SEA	Strategic Environment Assessment
SEEA	System of Economic and Environmental Accounts
UDA	Urban Development Authority

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