



Standard Guide for Summarizing the Economic Impacts of Building-Related Projects¹

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INTRODUCTION

Quantitative descriptions of economic impacts are a basic requirement in many organizations for evaluating budget requests and the value of a project to the organization. Several measures of economic performance are available for evaluating building-related investments. These measures include, but are not limited to, life-cycle cost, the benefit-to-cost ratio, adjusted internal rate of return, and net benefits. This guide provides a generic format for presenting these economic measures of building-related investments.

1. Scope

1.1 This guide covers a generic format for summarizing the economic impacts of building-related projects.

1.2 The guide provides technical persons, analysts, and researchers a tool for communicating project impacts in a condensed format to management and non-technical persons.

1.3 The generic format described in this guide calls for a description of the significance of the project, the analysis strategy, a listing of data and assumptions, and a presentation of the key economic measures of project impact.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

E631 Terminology of Building Constructions

E833 Terminology of Building Economics

E917 Practice for Measuring Life-Cycle Costs of Buildings and Building Systems

E964 Practice for Measuring Benefit-to-Cost and Savings-to-Investment Ratios for Buildings and Building Systems

E1057 Practice for Measuring Internal Rate of Return and Adjusted Internal Rate of Return for Investments in Buildings and Building Systems

E1074 Practice for Measuring Net Benefits and Net Savings for Investments in Buildings and Building Systems

E1121 Practice for Measuring Payback for Investments in Buildings and Building Systems

E1369 Guide for Selecting Techniques for Treating Uncertainty and Risk in the Economic Evaluation of Buildings and Building Systems

E1699 Practice for Performing Value Engineering (VE)/Value Analysis (VA) of Projects, Products and Processes

E1765 Practice for Applying Analytical Hierarchy Process (AHP) to Multiattribute Decision Analysis of Investments Related to Buildings and Building Systems

E2506 Guide for Developing a Cost-Effective Risk Mitigation Plan for New and Existing Constructed Facilities

2.2 Adjuncts:

Discount Factor Tables, Adjunct to Practices E917, E964, E1057, E1074, and E1121³

2.3 ASTM Software Product:

MNL 29 Software to Support ASTM E1765: Standard Practice for Applying Analytical Hierarchy Process (AHP) to Multiattribute Decision Analysis of Investments Related to Buildings and Building Systems²

3. Terminology

3.1 **Definitions**—For definitions of general terms related to building construction used in this guide, refer to Terminology

¹ This guide is under the jurisdiction of ASTM Committee E06 on Performance of Buildings and is the direct responsibility of Subcommittee E06.81 on Building Economics.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from ASTM International Headquarters. Order Adjunct No. ADJE091703.