

Multipurpose Asset Valuation for Civil Infrastructure: Aligning Valuation Approaches with Asset Management Objectives and Stakeholder Interests

Adjo Amekudzi, Ph.D.¹
Pannapa Herabat, Ph.D.²
Shuchun Wang³
W. Creighton Lancaster⁴

ABSTRACT

Valuation is a critical component of asset management for civil infrastructure because it provides a means for evaluating the facilities whose value we seek to preserve or enhance. While the basic concept of valuation is generic, there are various quantitative approaches for valuing assets. These approaches can be classified to provide guidance for selecting the right valuation approaches to accomplish different asset management objectives. In this paper, the authors examine various approaches for valuing assets in transportation corridor, financial, and corporate real estate asset management, from the viewpoint of the purpose of valuation. They show how different valuation approaches support different purposes, and discuss the importance of selecting appropriate valuation methods to achieve different objectives. On this basis, the authors identify critical issues for developing useful valuation classification frameworks to relate valuation approaches with the agency's asset management objectives and the scope and emphases of stakeholder interests. Building on the purposes of valuation associated with the GASB 34 requirements, the authors develop a prototype framework for classifying valuation approaches and discuss emerging opportunities for expanding the scope of valuation tools for multipurpose infrastructure valuation. This paper is potentially useful to agencies grappling with understanding how various valuation tools can help them to accomplish different asset management objectives, as they upgrade their infrastructure management systems to asset management systems.

KEYWORDS

Asset Valuation, Asset Management

Paper prepared for review for presentation at the 2002 Annual Transportation Research Board Meeting and for publication in the Journal of the Transportation Research Board.

¹ Assistant Professor, School of Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta, GA 30332. Tel: 404-894-0404; Fax: 404-894-2278; Email: adjo.amekudzi@ce.gatech.edu

² Assistant Professor, School of Civil Engineering, Asian Institute of Technology, P. O. Box 4, Klong Luang, Pathumthani 12120 Thailand. Tel: (66-2) 524-5510; Fax: (66-2) 524-5509; Email: pannapa@ait.ac.th

³ Graduate Research Assistant, School of Civil and Environmental Engineering, Georgia Institute of Technology.

⁴ Undergraduate Student, School of Civil and Environmental Engineering, Georgia Institute of Technology.