Thesis Title:

Carbon Finance Opportunities in Transportation and Clean Development Mechanism (CDM) in Developing Countries—Examining The Interplay Of Investment, Emission Reduction, and Carbon Credit Revenue: Bogota TransMilenio and Chongqing BRT

Author: Ji Yeun Yu (jy2480@columbia.edu)

Thesis Advisor(s): Professor David King

Department(s): Urban Planning, GSAPP

Abstract:

The Clean Development Mechanism (CDM), established under the 1997 Kyoto Protocol and overseen by the United Nations Framework Convention on Climate Change (UNFCCC), provides a funding mechanism for Greenhouse Gas (GHG) reduction projects in developing countries. Despite the logical relationship with GHG, the transport sector represents a small percentage of projects approved for CDM financing, possibly because of its complex and lengthy implementation process as well as the general large scale cost. In an attempt to examine CDM’s practical applicability as a financing tool for the transport sector, this study will focus on CDM’s financial contributions to select BRT projects: Bogota’s (Colombia) TransMilenio and Chongqing (China) BRT. This study hypothesizes that the CDM financing in these BRT projects must be significant in covering the projects’ operating deficits. The study’s findings indicate that in the case of TransMilenio, while the CDM financing was not a significant contributor to the total cost, it guaranteed access to cheaper financing with low interest rate. BRT Chongqing, on the other hand, has shown to correlate to the hypothesis in so far as the CDM earnings were available. The study concludes that CDM financing has limited and marginal impact for the project completion and direct costs. However, its practical applicability rests in mitigating the project’s financial risk. CDM’s limitation remains in the market-driven nature of the Certified Emission Reduction (CER) price and other fundamental issues in the mechanism itself.