



Transportation Seminar Series

*Friday, November 21, 2008
4 - 5 p.m. in 240 Bechtel Engineering Center*

Shadi B. Anani

Ph.D. Candidate. Department of Civil and Environmental Engineering,
University of California, Berkeley

Revisiting the Estimation of Highway Maintenance Marginal Cost

Abstract: This presentation focuses on improving the estimation of highway pavement maintenance, rehabilitation and reconstruction (MR&R) marginal costs. There is growing interest, in many countries, for implementing highway marginal cost pricing, which includes MR&R marginal cost. The lack of accurate estimates of MR&R marginal cost remains an important obstacle to such implementation. Much of this inaccuracy stems from unrealistic simplifying assumptions.

Our research improves the estimation of MR&R marginal cost for flexible pavements by relaxing three unrealistic assumptions that are commonly made in the literature. First, we relax the common assumption that the pavement deterioration caused by an axle is proportional to the fourth power of the axle load. Second, we relax the assumption that the only MR&R activity used by a highway agency is an overlay of constant intensity. Third, we relax the assumption that pavement deterioration is deterministic. We find that relaxing these assumptions significantly improves the MR&R marginal cost estimates. An application to marginal cost pricing in California will be presented.

Bio: Shadi Anani is a Ph.D. Candidate in the Transportation Engineering program at UC Berkeley. He completed his B.E. at the American University of Beirut in 1999, majoring in Civil and Environmental Engineering. He then earned his M.S. degree in Transportation Engineering at the University of California, Berkeley in 2000. During his Master's studies, he performed research in freeway traffic operations, under the supervision of Professor Mike Cassidy. After that, he worked in transportation engineering and planning consulting for four years in Oakland, California and earned his Professional Engineer license. He returned to UC Berkeley in 2005 to work on his Ph.D. in infrastructure management, under the supervision of Professor Samer Madanat.

Please join us for a TRANSOC-sponsored cookie hour in the ITS library at 3:30 p.m.