MCC Impact Evaluation Conference
January 21, 2011

Roads Evaluations: How to Reduce Roughness in Your Road Evaluation Design

Moderator: Rebecca Tunstall (0:00)
Panelists: Ariel BenYishay (MCC), Barry Deren (MCC), and John Felkner (NORC)

Ariel BenYishay: *Comparing Evaluations of Road Improvements: The MCC Experience* (3:45)

- MCC has invested $2.3 billion in roads; roads programs consist of 33% of MCC compact expenditures
- MCC is providing the first rigorous impact evaluations of highways and secondary roads using multiple methodologies to measure impacts to improve robustness of the evaluation and to allow the comparison of different methods
- Roads Selection
    - Public consultation – ask views of public on their perception
    - Government selection – analyze where impacts are likely
    - MCC ERRs – select roads with highest impact
- Challenges
    - Project scope changes because of cost overruns and poor policy performance
    - Delays in construction
    - Changes to roll-out and/or construction strategy

Barry Deren: *Economic Analysis of Road Investments: HDM-IV Modeling* (27:00)

- Origins of HDM-IV
    - World Bank original product, but now is the responsibility of a consortium of HDM-IV Global group
    - The idea was to create a program that could examine transportation economics and look at how consumers maximize utility and firms can minimize prices
    - HDM-IV estimates user surplus
    - Used in a lot of studies to inform transport sector policies and to determine which combination of policies is best
- Implementation
    - Allows estimates of road user costs as a function of changes in road conditions
    - Can include variables such as time spent on road, fuel quality, lubricants, changes in traffic counts, trips taken, and traffic patterns, road roughness, motorized vs. non-motorized, type of tires, characteristics of road segment, weather
- Benefits of HDM-IV
    - Transparency of analysis
    - Flexible program – can examine short run, medium and long run

John Felkner: *Use of Geographic Information System (GIS) in NORC Infrastructure Impact Evaluation Projects* (45:00)

- GIS can be used to give precise measures on distance and accessibility
- Ideal for calculating travel time changes a new road will cause, and identifying the degree of effects as a function of location
- Allows for metric formulae comparing changes in travel costs and travel time
- Impacts inferred by estimating outcomes (e.g., income) as a function of extent of road improvement benefits