Metropolis and Silvester

A comparison

The issue

* Evaluating congestion pricing proposals
  * Costs & benefits
  * Compare equilibria
    * Ideally dynamic ones
  * Needed: (dynamic) (equilibrium) models
* Opportunity in Stockholm
  * Implementation of dynamic pricing in 2007
  * Two models: Silvester & Metropolis
* Very interesting, and important

Rough comparison

Silvester

* P, T, SDE, SDL, Sigma
* t^* for departures
* Discrete time
* Mixed Logit

* One shot equilibrium?
* Heterogeneous VoT within trip purpose

Metropolis

* P, T, SDE, SDL
* t^* for arrivals
* Continuous time
* Nested Logit but Continuous Logit for departure time
* Learning over days
* Homogeneous VoT within trip purpose

Differences in results

Silvester

* Stronger modal shift
* Overestimates flow change
* Lower toll revenues
* Larger CS effect from tolling

Metropolis

* Less strong
* Underestimates flow change
* Higher toll revenues
* Smaller CS effect from tolling

Why could one expect higher CS effect?

In Silvester

* Heterogeneous VoT's
* Q1 Also Heterogeneous VSD's? Would increase effect (better order of travellers)?
* Q2 Variability of travel time: does tolling reduce it in the model?
* Q3 What does Mixed Logit, compared to Nested, do to elasticities?

In Metropolis

* Continuous time
  * Q4 Can be exploited fully with time-varying tolling. Analyzed?
  * Q5 Shadow price of public fund? What value would tip the balance?

* Q6 This compares exogenous tolls. What can we expect for optimized tolls?