

Atlanta Regional Commission Perspective Regarding Quantifying Uncertainty in Travel Forecasts

ITM2018

Sunday Workshop



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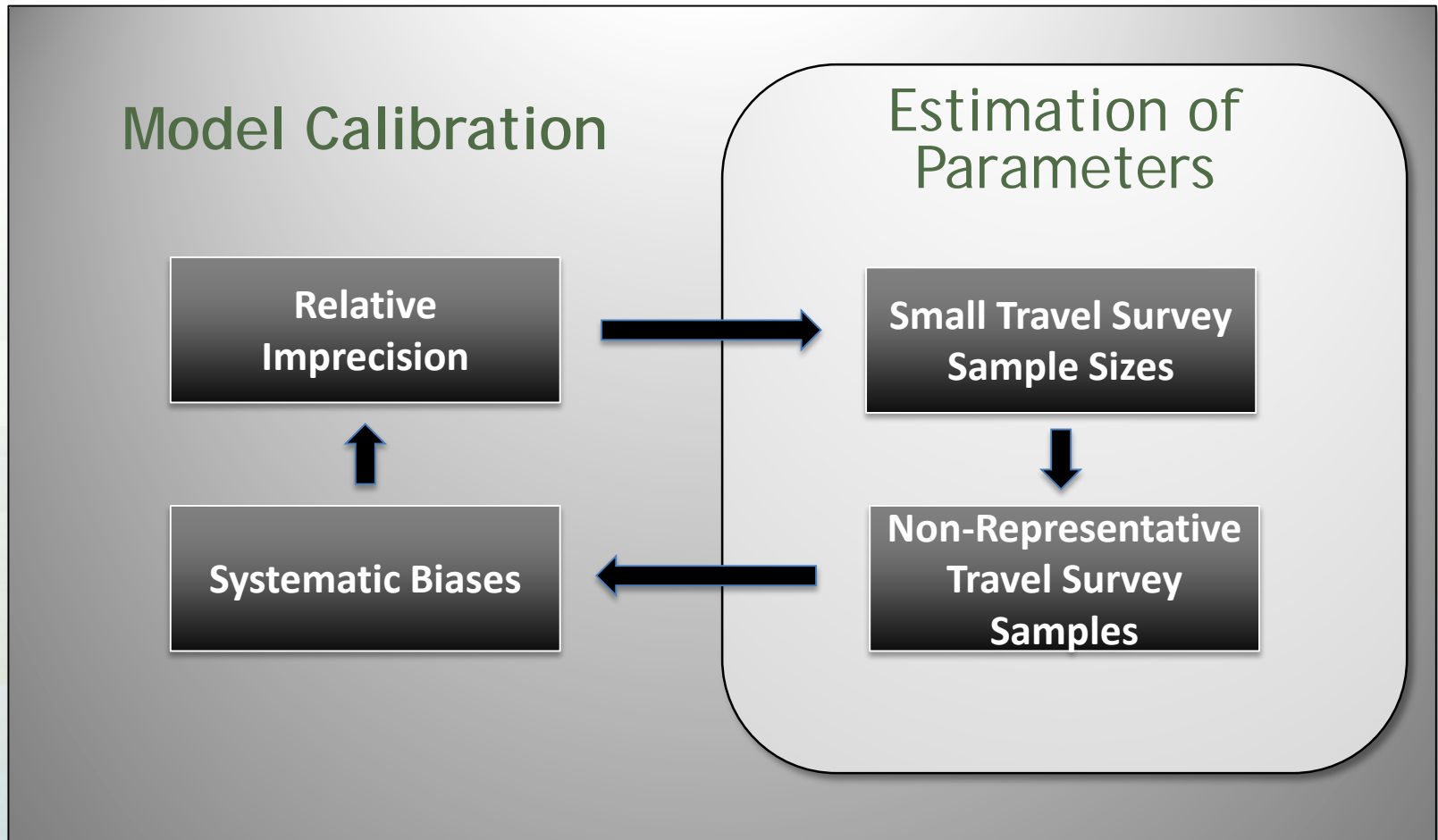
Sources of Risk & Uncertainty

- Error propagation in a fully integrated transport / land use model
 - Land use components & uncertainty in demographic inputs / socioeconomic projections
 - Outputs from land use model act as inputs into travel demand model
 - Uncertainty in various model parameters
 - Cumulative effects send shockwaves through an integrated model



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Data Uncertainty



Risk & Uncertainty in an ABM

- Monte Carlo random draws in synthetic population
 - Random sampling from inputs distribution
 - Requires large number of samples (PUMS, PUMAS, etc.)
 - Need to allow representation of extremes in probability distribution of outputs



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Estimate Uncertainty in Congestion Benefits of Capacity-Adding Projects

- For Road Projects:
 - Differences in observed vs. modeled VMT for certain functional classes
 - % error between observed counts and model estimated counts
 - RMSE should decrease as traffic volumes increase



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Thanks!

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