Studies on the Simultaneous Interactions between Policy and Technology

- **Policy**: What cities want
- **Science**: Putting tools to work
- **Technology**: Tools
Mobility & Accessibility
- Robert Cervero
- Elizabeth Deakin

Urban Transportation Systems
- Carlos Daganzo
- Yuwei Li

Wireless Technology
- Raja Sengupta
- Alexandre Bayen

Life Cycle Assessment
- Arpad Horvath
- Samer Madanat

Congestion Mitigation
- Michael Cassidy
- Alexander Skabardonis
Improving urban mobility by managing overcrowding

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Nikolas Geroliminis
Eric Gonzales
Celeste Chavis
Macroscopic Fundamental Diagram (MFD)
Real World Experiment: Site Description

- **Fixed sensors**
  500 ultrasonic detectors
  - Occupancy and Counts per 5min

- **Mobile sensors**
  140 taxis with GPS
  - Time and position
  - Other relevant data (stops, hazard lights, blinkers etc)

- **Geometric data**
  Road maps
  (detector locations, link lengths, intersection control, etc.)

(Dec. 2001 data)

UC Berkeley Center for Future Urban Transport
A Volvo Center of Excellence

(Geroliminis & Daganzo, 2007b)
Real World Experiment: The Detectors
Real World Experiment: The Detectors

Critical Speed = 15 KPH

(Geroliminis & Daganzo, 2007b)
Finding: Effect of Control

Restrict vehicles from entering

(Geroliminis & Daganzo, 2007a)
Improving network design: A formula for the MFD

(San Francisco)

(Daganzo & Geroliminis, 2007)
Given that an MFD exists…
Given that an MFD can be predicted…

Many policy options can be designed

- Parking
- Pricing
- Street closures
What about developing world?

**POLICY**
- What cities want

**SCIENCE**
- Putting tools to work

**TECHNOLOGY**
- Tools