National Evaluation of SFpark

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Why Evaluate?

• Good management practice
  – Does the system perform as expected?
  – Were there any unanticipated effects?
  – What have we learned that will help us next time?

• U.S. DOT requires evaluation of major federally funded demonstrations
  – Gauge effectiveness of federal program
  – Communicate findings of the projects to help future deployers
Context for the Evaluation

- U.S. DOT awarded significant funds to six sites to demonstrate use of congestion pricing on traffic:
  - HOT lanes: Atlanta, Los Angeles, Miami, Minneapolis/St.Paul
  - Full facility pricing: Seattle
  - Variable parking pricing: San Francisco, Los Angeles
- Package of strategies required by U.S. DOT
  - Pricing plus other projects to enhance travelers’ options
- Battelle-led team selected to do independent evaluation of the projects
Structure of SFpark Evaluation

• SFpark relies on pricing to increase parking availability, reduce time to find a space, and thereby lead to less circling

• Evaluation of SFpark guided by 4 questions U.S.DOT wanted answered:
  – How much was congestion reduced?
  – What impacts were associated with the congestion reduction strategies?
  – What were the non-technical factors for success of the strategies?
  – What were overall costs and benefits of the strategies?
Evaluating Congestion Reduction

- Congestion measures of effectiveness (MOEs) before/after SFpark:
  - Travel time and travel-time reliability
  - Vehicle and person throughput
  - Travel speeds

- Data sources:
  - Newly installed network of traffic detectors at selected locations
  - Automatic passenger counters on Muni buses for travel times through the SFpark districts
Evaluating Associated Impacts

• Impacts on parking, traveler behavior and attitudes, equity, environment, goods movement

• Example MOEs include:
  – Parking search time, parking availability
  – Travelers’ use of parking information
  – Air quality metrics: \( \text{NO}_x, \text{PM}, \text{CO}_2 \)

• Data sources
  – Before/after field surveys: parking search time, double parking & disabled placard, visitor/shopper survey
  – System data: parking occupancy, duration, turnover, website and phone usage tracking, tax data
  – Modeled air quality using parking search time
Evaluating Non-Technical Factors

• What were the institutional arrangements, political and community environment, and outreach efforts?
  – How did they contribute to the project?
  – What lessons have been learned?

• Data sources;
  – Stakeholder interviews and workshop
  – MOUs and other partnership documents
  – Outreach materials (e.g. marketing plans, events, brochures)
  – Media coverage
Evaluating Cost/Benefit

• Have SFpark benefits exceeded costs?
• Cost data
  – Initial capital
  – 10 years of operation, maintenance, and replacement costs
• Benefit data
  – 10-years of estimated benefits using SF CHAMP model
  – Monetization of travel time savings, vehicle operations savings, and air quality improvements
Applying SFpark Evaluation to Other Parking Pricing Projects

- SFpark evaluation is the Cadillac in scope and resources requirements

- Evaluation of Los Angeles ExpressPark is more constrained
  - Budget permitted only collection of system data

- Other sites may want to aim for a middle ground
  - System data: occupancy, duration, price
  - Field observation data: parking search time is key
  - Customer response data: survey to understand behavior and attitudes related to parking and pricing
Next Steps in the Evaluation

- Ten evaluation data test plans (2011) will soon be available on SFpark website and USDOT website
- Post-deployment data collection through July 2012
- Final report on findings in January 2013
  - Limited analysis of early results winter 2012