TSS Performance Measure Workshop

Problem Statement Titles

July 11, 2005
1. Safety & Safety Surrogate Prediction for Signal Systems
   
   Incorporating safety and efficiency trade-offs in signal timing optimization tools

   Quantify red-light violations, rear-end crashes as may be related to coordination

   Validation of sim. conflict surrogates vs. field data

2. Reliability-Based Performance Measures for Signal Systems

3. Identifying & Overcoming Institutional Impediments to Effective Arterial Street Management

   Synthesis
4. Incident Management for Arterial Street Systems

5. Synthesis of Medium-Size City Policies on Arterial Performance & Timing Optimization

*NCHRP Synthesis*


*Common definition of P.M. among tools*

*How sensitive is each model to common inputs?*

*(Use uniform test data sets)*

*Tradeoffs between measures, methods, cost*
7. Probe Vehicle Data for Arterial Performance Monitoring & Control

Fleet vehicle, toll tags for monitoring
Potential for cell phone tracking for real-time control

8. Including Air Quality & Fuel Consumption Considerations in Signal Timing Optimization

Emissions measurement at intersection for real-time assessment
9. Comprehensive & Consistent Consideration of Traveler Perspective in Arterial Performance Evaluation

*Combine all viable arterial travel modes*

*Harness citizen complaints?*

10. Intelligent Detection for Arterial Traffic Management

*Use of RFID/DSRC for detection*

11. Develop Benchmarks for Assessing Arterial Performance
12. Synthesis of Practice on Arterial Performance Evaluation

*NCHRP Synthesis*

13. Calibration & Validation of Performance Prediction Methods

*Regional need*

14. Signal System Performance Degradation & Retiming Triggers
15. Candidate Criteria for Selection of Advanced Control Strategies
   *e.g.*, *Adaptive Control, TSP, etc*

16. Translating Performance Measures into Policy