



RESEARCH PROBLEM STATEMENT TITLES - RANKED

Format: Title (no. of votes at 7/11/05 Performance Measure Workshop)

July 13, 2005



6. & 11. Benchmarking Performance Measures in Tools & Models for Traffic Signal Systems (28)

Common definition of performance measures among tools

How sensitive is each model to common inputs?

Use uniform test data sets

Tradeoffs between measures, methods, cost

Potentially establish minimum acceptable thresholds

7. Probe Vehicle Data for Traffic Signal System Performance Monitoring & Control (18)

Fleet vehicle, toll tags for monitoring

Potential for cell phone tracking for real-time control

2. Reliability-Based Performance Measures for Traffic Signal Systems (14)

1. Safety & Safety Surrogate Prediction for Traffic Signal Systems (13)

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 simltn. conflict surrogates vs. field data
(on-going work looking at conflict analysis vs. actual accidents)*

9. Comprehensive & Consistent Consideration of Traveler Perspective in Traffic Signal System Performance Evaluation (12)

Combine all viable arterial travel modes

Harness citizen complaints?

10. Intelligent Detection for Traffic Signal System Management (11)

Use of RFID/DSRC for detection

14. Traffic Signal System Performance Degradation & Retiming Triggers (11)

4. Incident Management for Surface Street Systems (8)

15. Candidate Criteria for Selection of Advanced Control Strategies in Traffic Signal Systems (8)

e.g., Adaptive, TSP, etc

16. Translating Traffic Signal System Performance Measures into Policy (6)

8. Including Air Quality & Fuel Consumption Considerations in Traffic Signal Timing Optimization (4)

Emissions measurement at intersection for real-time assessment

13. Calibration & Validation of Performance Prediction Methods for Traffic Signal Systems (4)

Regional need

fyi

(11. Develop Benchmarks for Assessing
Traffic Signal System Performance –
combined into 6.)

Synthesis Statements

- 12. Synthesis of Practice on Traffic Signal System Performance Evaluation (20)
- 5. Medium-Size City Policies on Traffic Signal System Performance & Timing Optimization (15)
- 3. Identifying & Overcoming Institutional Impediments to Effective Traffic Signal System Management (11)