

**TRB Traffic Signal Systems Committee Mid-Year Meeting**  
*Las Vegas, Nevada*  
*July 10-13, 2005*  
*(Revised 6/8/05 and subject to change)*

Overview of Meeting

TIME	SUN JUL 10		MON JUL 11	TUE JUL 12	WED JUL 13
8 am	OPEN		PERFORMANCE WORKSHOP PART I	LOCAL TOUR	JOINT MEETING PART II
9 am					
10 am					
11 am					
12 pm					
1 pm	Signal Manual	Simulation	PERFORMANCE WORKSHOP PART II	JOINT MEETING PART I	TRAFFIC SIGNAL SYSTEMS COMMITTEE
2 pm					
3 pm	Architecture				
4 pm	Research				
5 pm	Strategic Vision				

\*\*\*\*\*

**Performance Workshop Agenda**  
**Monday, July 11, 2005**

**Monday, July 11**

**Session 1: Performance Measures for Traffic Signal Systems**

- 8:30 – 9:00 Introduction and Workshop Objectives (Tom Urbanik)
- 9:00 – 9:20 National Perspective (NOTC - Rich Taylor )
- 9:20 – 9:40. Local Perspective (TBD - Niel Rohledeor Tom Kruse)
- 9:40 – 10:00 Performance Measures for Urban Street Applications (Jim Bonneson)

**Break 10:00 – 10:20**

**Session 2: Approaches to Measuring Performance**

- 10:20-10:40 HCM perspective on performance (Rick Dowling)
- 10:40 – 11:00 Signal operators experience HCM (Peter Koonce)
- 11:00 – 11:20 Safety Measures (TBD - John Halkias)
- 11:20 – 11:40 Simulation Performance Measures in System Design (Susan Langdon)
- 11:40 – 12:00 Experiences/approaches in the Seattle region (Mark Hallenbeck)

**12:00 – 1:30 Lunch**

**Session 3: Measurements from Signal Systems**

- 1:30-2:00 Sensor System Measurements (Darcy Bullock)
- 2:00 – 2:20 ACS Lite Data MIB (Douglas Gettman)
- 2:20 – 2:40 PeMS (Karl Petty)
- 2:40-3:00 The Traveler’s Perspective (Jane Lappin)

**3:00 – 3:30 Break**

#### **Session 4: Research Topic in Signal System Performance Measures**

3:30 – 5:00 Discussion and Development of Research Problem Statements

8:30 am – Noon

### **Tuesday, July 12**

**8:00 am – Noon**

• **Technical Tour — Las Vegas' Freeway and Arterial System of Transportation (FAST) new Regional Traffic Management Center (RTMC)**

Las Vegas' Freeway and Arterial System of Transportation (FAST) new Regional Traffic Management Center (RTMC) opened March 1, 2005. FAST is a regional, multi-jurisdictional facility that houses both traffic operations staff as well as the Nevada State Highway Patrol Headquarters for the Southern Nevada Region. Some of the services provided by the FAST RTMC include variable message signs, highway advisory radio and ramp meters, and a new traffic signal management system. All of RTMC's tools are used to inform motorists of incidents, construction and congestion. Participants will see the various systems in action and gain a better understanding of the role the RTMC plays in everyday transportation in Las Vegas.

**1:00 pm – 5:00 pm**

• **Joint Workshop of TRB Traffic Signal Systems and Highway Capacity and Quality of Service Committees**

The Traffic Signal Systems Committee (TSSC) and the Highway Capacity and Quality of Service (HCQS) Committee have agreed to have a joint session to discuss areas of mutual technical interest including both ongoing research in their respective technical areas and the upcoming research.

The objectives are stated below.

1. **Develop a mutual understanding of modern traffic signal operation and how it is modeled:** The premise is traffic signal operation today is unlike 30 years ago. Today it is largely actuated, whereas 30 years ago it was largely pre-timed. Existing HCM models are based on pre-timed control which is not believed to adequately reflect reality today. A question to be answered is what attributes of traffic actuated control need to be included in traffic analysis tools. What are the implications for the HCM?
2. **Current and Future Research:** What research is currently underway relating traffic signals and the HCM? What new research is needed to provide for a more realistic modeling approach to signalized intersections (or to determine if a new modeling approach is needed)?

The sessions for the day long joint meeting are as follows. Potential topics and speakers are identified in bulleted format and will be comprised of 15 minute presentations with 15 minute discussion following each designed to increase understanding of signal systems and to suggest research topics.

# **Joint Traffic Signal Systems and Highway Capacity Committee Workshop July 12-13, 2005, Las Vegas, Nevada (Draft Agenda)**

Program Committee: Michael Kyte, Tom Urbanik, Peter Koonce, Mark Vandehey, Elena Prassas

## **Tuesday, 1:30-5:00 PM (Urbanik)**

Opening panel to discuss attributes of traffic actuated controllers that need to be the basis of traffic analysis tools.

- What determines a single phase green? Min green, passage, pedestrian, max green, number of vehicles, detector locations. (KYTE)
- How does HCM model queue service time and green extension time. (COURAGE)
- How does an intersection time – Rings Barriers and Sequence. (KOONCE)
- How does HCM Model an intersection (HCQS speaker)
- How does coordination affect timing Min cycle, peds, coordination modes. (BULLOCK)
- How does the HCM model coordination (BONNESON)
- Wrap up Session

**Tuesday, 5:00 pm – 6:00 pm**

• **Joint Reception of the Traffic Signals Committee and the Highway Capacity and Quality of Service Committees.**

## **Wednesday 8:30 a.m. – Noon**

• **Continuation of the Joint Workshop** of TRB Traffic Signal Systems and Highway Capacity and Quality of Service Committees to identify issues and methods for improving the representation of signal systems performance in the Highway Capacity Manual.

### **Report on Recent Research (Dowling)**

- Tom Urbanik on NCHRP 3-66
- Rick Dowling, NCHRP 3-70 – Factors Affecting Perceived Level of Service on Urban Streets
- Jim Powell/Jim Bonneson: NCHRP 3-79 – Real-Time Signal Metrics and Urban Streets
- TBD, Other Topics?

### **Future Research**

- Panel on future research needs

**Wednesday, July 13 – continued**

**1:00 – 5:00 PM**

**Traffic Signal Systems Committee Business Meeting.**

**Business Meeting Agenda**

**1:00 PM** Welcome, Introductions,

**1:10 PM** Approval of Minutes (Please review prior to meeting  
<http://signalsystems.tamu.edu/membersonly.html> UID=member, PW=valid)

**1:15 PM** TRB Report

**1:20 PM** Task Force/Subcommittee Reports  
Signal Manual – Peter Koonce  
Simulation – Brian Park  
Architecture– Larry Head  
Research – Jim Powell  
Strategic Vision – Tom Urbanik

**2:20 PM** FHWA Reports -- Raj Ghaman

**2:30 PM** Break

**3:00 PM** FHWA Traffic Signal Timing Roadmap – John Halkias

**3:30 PM** Annual Meeting Workshop – Peter Koonce

**3:45 PM** Summer Meeting 2006 –Topic and Location

**4:15 PM** Lesson Learned – Committee Members and Friends

**4:30 PM** Other business

**5:00 PM** Adjourn