



Advancing Traffic Signal Management Programs through Regional Collaboration

ITS Professional Capacity Building Program
Talking Technology and Transportation Webinar

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Our Role

- Network of resources for the community of transportation professionals
 - Publications
 - Professional Development
 - Certification
 - Standards Development
 - Conferences
 - Technical Councils
 - Peer Reviews
 - National Transportation Operations Coalition (NTOC)

Publications

- *Traffic Engineering Handbook, 6th Edition*
- *Traffic Signal Timing Manual*
- *Management and Operations of ITS (2009)*
- *Signal Maintenance Handbook (2009)*
- *Manual of Transportation Studies (2009)*



TRAFFIC ENGINEERING HANDBOOK, 6TH EDITION

Institute of Transportation Engineers



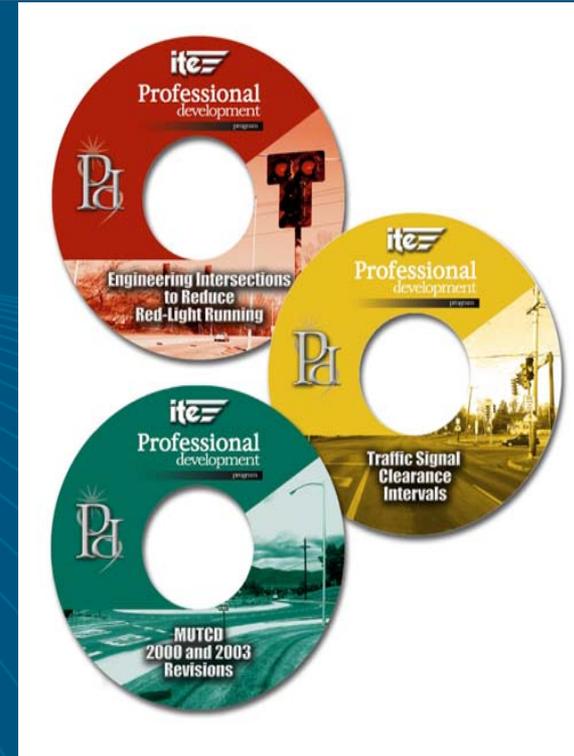
TRAFFIC SIGNAL TIMING MANUAL

Publication Number: FHWA-HOP-08-024

Task Order under contract number: DTFH61-98-C-00075
Task Order No. 1B8C75-009

Professional Development

- **Web Seminars; Online Learning, CD-ROM Modules and Face-to-Face Seminars**
- All ITE professional development **activities are accredited** by the International Association of Continuing Education and Training (IACET)



Transportation Certification

Professional Traffic Operations Engineer (PTOE)

- Voluntary process, licensed engineers
- 2,194 individuals certified worldwide



Professional Transportation Planner (PTP)

Traffic Operations Practitioner Specialist (TOPS)

Traffic Signal Operations Specialist (TSOS)

- August 1 to 31, 2009 [July 1, 2009]
- October 1 to 31, 2009 [Sept. 4, 2009]
- March 1 to 31, 2010 [February 2, 2010]

Standards

Establishing Minimum Thresholds for LED's

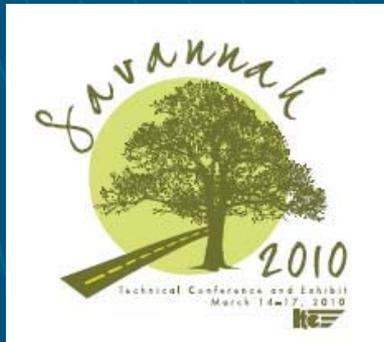
- NCHRP 20-7: Partnership with AASHTO
- Synthesize existing info on current practices for establishing minimum thresholds and field measurement procedures
- TRB published results in 2008 ***Three LED specifications***
- Circular (avail. now)
- Arrow (avail. now)
- Pedestrian (public comment period just closed)

ITE Conferences



**Annual Meeting and Exhibit
August 9-12, San Antonio, TX**

www.ite.org/annualmeeting



**Technical Conference and Exhibit
March 14-17, Savannah, GA**

ITE Information: Accessible Any Time, Any Place

- Online Bookstore
- Online Learning Courses
- Web Seminars and Briefings
- CD-ROM Modules
- ITE e-Newsletter
- *ITE Journal*
- Informational Reports



NTOC Defined

- Alliance of national associations, practitioners and private sector groups
- Represents the collective interests of stakeholders at state, local, and regional levels
- Represents a wide range of experience in operations, planning and public safety
- Foundation for institutionalizing management and operations into the transportation industry

NTOC Resources

- National Transportation Operations Coalition (NTOC):
 - Traffic Signal National Report Card
 - Traffic Signal Audit Guide
 - Performance Measures Development
 - Integrating operations into transportation planning
 - Funding compendium
 - Making the business case for Management & Operations
- The NTOC Talks newsletter contains brief news articles about current Management & Operations information, FHWA materials, original interviews with transportation leaders and training opportunities.

www.ntoctalks.com

What Is the Traffic Signal Report Card?

An assessment of traffic signal operations in the following areas:

- Management (D -)
- Individual Operations at Intersections (C)
- Coordinated Signal Operation in Systems (D)
- Signal Timing Practices (C-)
- Traffic Monitoring & Data Collection (F)
- Maintenance (C)
- OVERALL (D)

Noteworthy Findings

- Major improvement not realized on national basis...but only 2 years since last survey
- Some agencies experienced significant improvement.
- **Individual intersections section scored highest except for systems with less than 50 signals**
- Maintenance Section was second highest score – indicates a basic level of operation to ensure safety and protect the agency from liability.

Noteworthy Findings

- Traffic Monitoring and Data Collection Section lowest score across all agency types and system size – indicates significant focus is needed here.
- **Very small systems (<50 signals) scored markedly lower in all categories**
- Overall systems with 150-450 scored the highest – generally indicates balance of system size/complexity with resources

Success Stories

Overall Reasons:

- Used 2005 Self Assessment to evaluation their program and focus on critical areas
- Made targeted life-cycle capital investments to reduce maintenance cost
- **Placed emphasis on program of regular timing updates and arterial coordination**
- Sought independent peer review
- **Facilitated regional coordination**

Where Do We Go From Here?

-- Improving The Score

GOAL: Performance excellence in traffic signal operation.

- *Proactive program management*
 - *Substantial improvement in traffic monitoring & data collection*
 - *Routine timing updates*
 - *Sound maintenance practices*
 - *Reasonably current traffic signal hardware*
- * *Benefits of investing in signal timing outweigh costs by at least 40:1*

Program Management

Definition:

- Process of managing multiple on-going interdependent projects within an organization.
- Emphasizes on coordinating and prioritizing resources across projects, departments, and other groups so that resource management occurs at a macro level
- Focuses on:
 - Selection of the best group of programs
 - Defining them in terms of their projects
 - Providing an organization where projects can be managed successfully by the project management community

Program Management

Essential Components:

- *Leadership focus*
- *Strategic planning*
- *Customer and market focus*
- *Measurement, analysis and knowledge management*
- *Workforce development and training*
- *Process management*
- *Focus on outcomes*

Traffic Signal System Audit

Purpose: To verify that people in an organization are doing what they planned to do in accordance with:

- an established management system, and / or
- the nationally-accepted state-of-the-practice.

Traffic Signal System Audit

Process:

- *Scope, budget, schedule*
- *Independent team*
- *Field and office reviews*
- *Audit analysis and report of findings*
- *Draft report*
- *Agency provides a formal response*
- *Final report / Agency Implementation*

Traffic Signal System Audit

Audit Items:

- *Staffing and certifications*
- *System and control operation*
- *Safety*
- *System and controller maintenance*
- *System and intersection design*
- *Documentation*
- *Policies*
- *Management*

Who Performs:

- *ITE*
- *FHWA*
- *Set up your own audit team*

What Resources Are Available?

- Complete the Self Assessment now
<http://www.ite.org/selfassessment/>
- Review the 2007 National Traffic Signal Report Card Technical Report <http://www.ite.org/reportcard>
- Baseline your agency or group of agencies against the national scores by subarea
- Perform traffic signal system audit,
(see Traffic Signal Audit Guide)
http://www.ite.org/reportcard/traffic_audit_FINAL.pdf

Questions?

- For additional information contact:

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Leadership Focus

How do leaders guide and sustain the organization?

- Set vision, values, and performance expectations
- Communicate to workforce
- Develop of future leaders
- Measure organization performance
- Encourage ethical behavior and good citizenship
- Encourage high performance

Strategic Planning

- Strategic and action planning
- Deployment of plans
- Provide adequate resources for plans to succeed
- Plan execution and agility when unexpected change occurs
- Long-term organizational sustainability
- How are accomplishments measured and sustained?

NOTES:

- CIP/TIP process
- Asset management
- Reasonably current traffic signal hardware

Customer and Market Focus

- How does the organization seek to understand the voice of its customer
- Meeting customer requirements, needs and expectations
- Delighting customers and building respect
- Feedback results and trends provide understanding
- Customer behaviors

Measurement, Analysis and Knowledge Management

- To drive improvement and organizational competitiveness
- Effective measurement, analysis and performance improvement
- Managing organizational knowledge
- Aligns operations with strategic objectives
- Data quality and availability

Workforce Development and Training

- Creating and maintaining high performance workplace
- Succession planning (HR planning)
- Engaging the work force
- Adapt to change to succeed
- Integrated approach to engagement/development / work force management
- Capability, capacity, and work force support environment

Process Management

- Effective process design
- Prevention of errors
- Linkages to customers, partners, vendors, and collaborators
- Value creation for all stakeholders
- Operational performance
- Cycle time
- Emergency readiness
- Evaluation
- Continuous improvement
- Organizational learning

Focus on Outcomes

- Performance measurement
- Objective evaluation of
 - Services
 - Financial performance
 - Workforce results
 - Leadership system
 - Social responsibility
 - Key processes
 - Process improvement activities
- By your own evaluation and your customers