

An Annotated Outline for a  
*Traffic Management Center Operations Manual*

*Prepared by the  
Management and Operations Committee  
of the  
ITS Council*

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### Introduction:

This draft TMC Management and Operations manual outline is meant to serve as a model “checklist” for the development of similar manuals used in deployed environments. This version of the draft has been reviewed by a number of public agency representatives in the Dallas – Fort Worth, Texas region and by ITE’s Management and Operations (M&O) Committee of the ITS Council.

The purpose of the outline is to provide a reference for agencies that are writing and/or updating their own operations manuals for Traffic Management Centers. In practice a document of this nature may be structured in multiple parts, but for the purpose of this outline only one document is illustrated. The ITS Council hopes that this outline will serve as a helpful checklist for development of a tailored M&O manual.

### Acknowledgements:

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## **1 EMERGENCY AND OTHER CONTACT NUMBERS**

Discussion: One of the first items in an operations manual could be a phone list of emergency agencies, support agencies and personnel that may be called for assistance and coordination.

These phone numbers could include: police, fire, courtesy patrol vehicles, transit, emergency maintenance operations (for freeways, streets, bridges and pump houses), 911 PSAP operations, towing services, operational personnel contact information (including home phones, cell phones, pagers and email). In regions characterized by a large number of jurisdictions, supplemental maps illustrating the physical boundaries for agency responsibilities could be included.

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## **2 DAILY OPERATION**

### **2.1 MANAGEMENT CENTER FUNCTIONS**

### **2.2 PERSONNEL**

Examples: Organization chart: supervisory, operators, maintenance, job descriptions, routine and emergency telephone/pager contacts.

### **2.3 HOURS OF OPERATION**

Examples: Workdays, holidays, weekends, special events, emergencies

### **2.4 STAFFING**

Examples: Workdays, holidays, weekends, special events.

### **2.5 AFTER HOURS ON-CALL ROSTER**

Examples: Routine and emergency voice/fax/pager contacts.

### **2.6 REMOTE OPERATION**

Examples: Procedures for operation from remote terminal.

### **2.7 SECURITY PROCEDURES**

Examples: Access to control system interfaces, equipment, etc.

### **2.8 MAINTENANCE CHECKLIST**

Examples: Routine checks for office and/or field equipment operation.

### **2.9 STARTUP/SHUTDOWN**

Examples: Emergency shutdown, planned shutdown, restart, cold start.

### **2.10 FAILURE RECOVERY**

Examples: Automated and manual failure recovery procedures and capabilities.

### **2.11 AGENCY/JURISDICTIONAL CONTACTS**

Examples: Routine and emergency voice/fax/pager contacts.

### **2.12 NOTIFICATION PROCEDURES**

Examples: Routine and emergency media/agency/jurisdiction notification

### **2.13 CONTACT WITH MEDIA**

Examples: Policies for media event notification, response to media inquiries, receiving incident notification. Limits, hours, dates of courtesy patrol operations.

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## **3 CONTROL SYSTEM OPERATION PROCEDURES**

Discussion: This is the nitty-gritty detail of day-to-day electronic hardware and software system operation and may be largely based on documentation furnished by system suppliers. These documents may also include specific public agency policies and procedures.

### **3.1 OPERATOR INTERFACE**

### **3.2 OPERATIONAL PROCEDURES**

Examples: Manual operation, automated operation, traffic responsive operation, free operation, default operation. Applicable software manuals could be referenced.

### **3.3 INCIDENT MANAGEMENT**

Objectives: Procedures developed by the agency to respond to non-routine occurrences including debriefing.

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## **4 MAINTENANCE PROCEDURES**

Discussion: This is electronic hardware and software system maintenance of the operations center related equipment. The procedures will be largely based on documentation furnished by system suppliers but with specific agency policies and procedures incorporated. Maintenance of the field equipment that interacts with the operations center will require similar procedures that may be incorporated herein or compiled separately.

### **4.1 ROUTINE MAINTENANCE**

Examples: Typical daily checks, adjustments, and minor component replacement.

### **4.2 PREVENTATIVE MAINTENANCE**

Examples: Scheduled preventative maintenance performed by the agency or vendor.

### **4.3 SPARE/BACKUP EQUIPMENT**

Examples: Inventory of spare and backup equipment. Listing of suppliers, vendors and contractor contact information (e.g., phone, pager, e-mail) associated with equipment and software related to the system.

### **4.4 EMERGENCY**

Examples: Non-Routine procedures, notification of responsible party (agency or contractor), shutdown.

### **4.5 CONTRACT MAINTENANCE**

Examples: Procedures/warrants for calling in private maintenance contractor. Phone numbers, pager numbers, etc. of contract maintenance organizations. Agency policies on the interaction between agency staff and contract employee responsibilities. Topics such as agency access to records, to components (both spare and damaged), and field/office sites could be addressed.

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## **5 SYSTEM OPERATIONS LOGS**

Discussion: Descriptions of procedures and logs (manual and automated) associated with documenting system operation.

### **5.1 OPERATIONS**

Examples: Operation periods, on-line/off line periods, manual overrides, etc.

## 5.2 MAINTENANCE

Examples: Outages, resolution of problems, etc.

## 5.3 EVENTS

Examples: Incidents (planned and unplanned), etc.

## 5.4 SYSTEM REPORTS

Examples: System operation evaluation parameters, etc.

## 5.5 TRAFFIC DATA

Examples: Historical data, data analyses, etc

## 5.6 RISK MANAGEMENT

Objectives: Some guidance to operators of what to keep, log, save, or discard in response to the agency's risk management policies.

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# 6 OPERATIONAL CONCEPTS

## 6.1 TRAFFIC CONTROL CONCEPT STRATEGY

Objectives: What is our role in the regional transportation community and how do we approach delivery of services?

Examples: Broad overview of control concepts, for example:

Signal Systems: traffic responsive or pre-timed signal system, network control, arterial control, isolated control, response to incidents, etc.

Freeway Systems: incident detection and response, Courtesy Patrol Dispatch, dynamic message sign (DMS) strategies, highway advisory radio (HAR) procedures, ramp metering strategies, lane control signal (LCS) guidelines, etc.

Other Systems: operational concepts for transit, tunnels, tollroads, ports, coast guard, etc.

## 6.2 TRAFFIC MONITORING

Objectives: Physically, how we do monitor traffic / transportation here?

Examples: Intersection vehicle detection, system detection, freeway vehicle detection, speed, volume, occupancy CCTV, environmental, emergency radio and 911 monitoring, definition of "public space" and "private space" for orientation of video cameras, media policies (e.g., release of video images, archiving of video), comparison of traffic reporting agency (public and private) data to promote precision and accuracy with the public agency system, etc.

## 6.3 DATA ANALYSIS AND WAREHOUSING

Examples: Traffic data, incident data, operational data, and other data and information to be analyzed and saved. This should include a discussion of how agency-specific data fits into a regional operational environment.

## 6.4 INTERAGENCY COORDINATION

Objectives: How do we work with our internal partners?

Examples: Coordination with departments within the agency, for example:

City: police, fire, 911, public works, etc.

State: maintenance, safety, etc.

## **6.5 INTER-JURISTIONAL COORDINATION**

Objectives: How do we work with our regional partners?

Examples: Description of coordination with other jurisdictions and agencies, summary of formal / informal agreements, relationship to regional ITS Architecture and standards.

## **6.6 EMERGENCY PROCEDURES**

Objectives: Overview of emergency procedures, related to notification, monitoring and coordination.

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# **7 CONTROL CENTER DESCRIPTION / SYSTEM FIELD DEVICES**

## **7.1 LOCATION**

Examples: Address, latitude / longitude, etc. of building(s).

## **7.2 ACCESS/SECURITY**

Examples: Building and system security, access to buildings, access to specific rooms (including control rooms), guard duty schedules, etc.

## **7.3 LAYOUT**

Examples: Plan view of control center.

## **7.4 FIRE SUPPRESSION**

Examples: Controls, cutoffs, operation, etc.

## **7.5 POWER SOURCE/LOCATION**

Examples: Controls, cutoffs, operation, etc.

## **7.6 HV/AC**

Examples: Controls, cutoffs, operation, etc.

## **7.7 DATA COMMUNICATIONS**

Examples: Terminals, equipment location, etc.

## **7.8 VOICE COMMUNICATIONS**

Examples:

Landline Instruments: location, numbers, extensions, terminals, policies, etc.

Radio communications: unit locations, call signs, policies, etc.

## **7.9 NETWORK COMMUNICATIONS**

Examples: Local area and wide area networks, other networks.

## **7.10 FIELD DEVICE DESCRIPTIONS**

Examples: Identification of the databases where current descriptions of the field devices are maintained, including the locations where any passwords are kept.

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## **8 SYSTEM DOCUMENTATION**

Examples: Maintaining vendor maintenance documentation; securing documentation revisions, procedures for updating maintenance document bibliography.