2007 Transportation Management Center (TMC) Survey

General Information

1. **Center name:**

   _____

2. **Location (address):**

   _____
   _____
   _____

3. **Does your TMC have a website?**

   Yes,

   What is the URL?

   No

4. **What is the geographical area of coverage or area of responsibility?**

   _____
   _____
   _____

5. **Which of the following best describes the functions or services supported by this transportation management center? (Check all that apply)**

Function	Arterials	Freeways
Network or roadway surv. and data coll.		
Incident management		
Information dissemination		
En-route driver information (DMS, HAR, IVS)		
Environmental monitoring		
Special event traffic management		
Disaster management and traffic coordination		
Emergency services traffic control coordination		
Ramp management and control		
Lane management and control		
Corridor mgt/traffic signal coord. or control		
Network perf. monitoring, evaluation and reporting		
Incident management dispatch		
Maintenance dispatch		
Snow and ice removal		
Other (please specify)		

Maintenance

6. **Which of the following technologies are used to communicate with field devices? (Check all that apply)**
   - Fiber optic communications cable
   - Copper communications cable system
   - Wireless
   - Leased land lines
   - Ethernet communications network
   - Other (please specify): _____

7. **Does your TMC operate a publicized call-in number or web site that the public can use to report malfunctions, ask questions, and suggest operational improvements?**
   - Yes, call-in number only
   - Yes, web site only
   - Yes, call-in number and web site
   - No

8. **In general, do your ITS systems provide continuous malfunction monitoring notification of critical**
   - Yes
   - No

9. **Do you use or have access to the following test equipment? (Check all that apply)**
   - Oscilloscopes
   - Optical Time Domain Reflectometer (OTDR)
   - Signal Generator
   - Voltmeter
   - Other (please specify): _____

10. **When performing maintenance, what level(s) of involvement do you typically exhibit? (Check all that apply)**
    - Component Level
    - Board Level
    - Chip Level

11. **Do you use an asset management system?**
    - Yes
      - Controllers
      - Closed Circuit Television (CCTV)
      - Video Incident Detection System (VIDS) Cabinets
      - Signal heads
      - Other (please specify): _____

      In monitoring components, what information is collected? (Check all that apply)
        - Date Installed
        - Last Date Repaired
        - General Maintenance History
        - Other (please specify): _____
    - No, do not use an asset management system

12. **What level of emergency response is available under current ITS maintenance procedures? (Check all that apply)**
    - Within 1 hour
    - Within 2 hours
    - Within 3 hours
    - Other (please specify): _____

13. **Is ITS maintenance performance measured and tracked?**
    - Yes,
        - How? (Check all that apply):
            - Equipment up time percentages
            - Response and repair completion times
            - Other (please specify): _____
    - No

Operations

14. **Do you use performance measures to analyze your maintenance program with regard to attainment of goals, etc.?**
    - Yes,
        - Please describe them below (e.g. total response time, time to repair, etc.):
          _____
    - No

15. **Does your agency participate in a regional or statewide disaster planning program?**
    - Yes, Regional - intrastate
    - Yes, Statewide
    - Yes, Regional - multi-state
    - No

16. **Does your region or state activate a designated multi-agency emergency operations center (EOC) in case of natural or man-made disasters?**
    - Yes
    - No

17. **If an EOC is used, how much of your TMC staff is physically located at the EOC during emergency operations?**
    - All
    - Some, not all
    - None

18. **Which of the following approaches are used by your TMC during emergency operations to make your TMC system more reliable? (Check all that apply)**
    - Backup power in center
    - Backup power for some or all field devices
    - Redundant data systems
    - Multiple data communications paths
    - Other (please specify): _____

Policy and Planning

19. **How does you agency coordinate ITS projects with the Regional ITS architecture to ensure system interoperability? (Check all that apply)**
    - A system engineering process is used during design
    - An ITS Architecture Conformance Statement is prepared
    - No Regional ITS Architecture
    - Other (please specify): _____

Traffic Signals

If you do not operate traffic signals go to question 25

20. **Please provide the following information on your traffic signal control system and software.:**
    - Type(s) of signal controllers: _____
    - Type(s) of signal cabinets: _____
    - Type(s) of signal control software used: _____

21. **Which of the following does the process of developing new area-wide or corridor signal timing include? (Check all that apply)**
    - The use of traffic signal optimization software
    - The use of simulation of optimized timing
    - Field installation, observation, and fine-tuning
    - Do not develop new signal timing plans

22. **What percentage of signal modules utilize LEDs as the light source?**

    _____

23. **How often are crash records reviewed to identify intersections at which safety could be improved through revised signal operations (e.g., protected turns, longer clearance intervals, etc.)?**
    - Monthly
    - Quarterly
    - Every year
    - Every other year
    - Every 3 years
    - Other (please specify): _____

24. Do you coordinate signal timing across jurisdictional boundaries?

Yes,

Does your agency have a cross-jurisdictional and/or regional agreement (formal or informal) regarding signal coordination and operations?

Yes
No

No

Funding

25. Do you estimate future annual maintenance costs associated with ITS equipment deployments?

Yes,

How? (Check all that apply)

Based on percentage of deployment costs

If so, what percentage is used?

Local historical data

Detailed annual cost estimates based on expected expenditures

Other (please specify): _____

No

26. Do you budget for ITS maintenance and operations separately?

Yes
No

27. What is the most common method used to pay for field ITS maintenance?

In-house staff
Time and materials basis by private entities
Each piece of work performed by private entities and paid for at contract pricing
By piece of equipment functional on a daily basis to private entities
On a lump sum annual basis for scoped and included ITS equipment
Other (please specify): _____

28. Approximately what percentages of the following funding sources are used to finance ITS maintenance costs?

Local funding (Including toll revenue)
State funding sources
Federal funding sources
Private funding sources
Other funding sources (please specify): _____

Technical Integration

29. How is emergency management integrated with your TMC? (Check all that apply) Workstations are placed in the related Emergency Operations Center (EOC)

We have a formal interagency agreement with emergency management agencies covering goals, policies, and organizational roles
We have a private data network with availability limited to cooperating regional agencies
We have a restricted-access website for cooperating agencies
The TMC facility houses the EOC
Other (please specify): _____

30. Do you integrate public safety CAD information within the TMC through an interagency agreement?

Yes,
What is included in the agreement? (Check all that apply)
Definition of what CAD information will be passed
Use of common incident location identifiers
Use of common format or an exchange format
No

31. Do you have a redundant, survivable network to enable the operations centers of all organizations involved with emergency response to coordinate operations?

Yes
No

Procurement

32. How is your ITS system deployed / constructed? (Check all that apply)

Design-build
Through design and plan production with low bid letting process
Proposal based selection of contractors
Other (please specify): _____

33. How are spare / replacement parts procured? (Check all that apply)

Through procurement contracts based on bid supplier selection
Through procurement contracts based on proposal review suppliers
Through procurement contracts through other agencies
Through ITS maintenance contractor
Purchased through deployment projects
Other (please specify): _____

34. How is most field ITS maintenance performed?

In-house dedicated maintenance staff In-house electrician maintenance staff
Contracted for with other public agencies
Contracted for with private entities
Other (please specify): _____

Maintenance Contracting

If you do not use an outside contract for maintenance of ITS devices and/or systems go to question 43

35. Which of the following describes the factor you relied upon most in selecting a maintenance contract?

Cost Qualifications
Combination of cost and qualifications (e.g., best value)
Other (please specify): _____

36. What is the typical contract duration (in years)?

_____

37. Is the contract renewable?

Yes,
Please describe the conditions of renewal:
No

38. What is the basis for payment to the contractor?

Unit cost
Lump sum
Force account
Other (please specify): _____

39. Is liability defined in the contract?

Yes
No

40. How are parts and equipment provided? (Check all that apply)

Parts provided by contractor
Parts provided by owner/agency
Equipment provided by contractor
Equipment provided by owner/agency

41. In general, is preventive maintenance separated from corrective maintenance?

Yes,
What does the contract cover?
Preventive only
Corrective only
Both

No

42. How is inflation adjusted for in the maintenance contract?

Annual increase
Included in initial pricing
No adjustments

Human Resources

43. Does your agency provide regular training programs for ITS maintenance personnel?

Yes
No

44. What level(s) of certification do you require for your ITS maintenance staff? (Check all that apply)

None
International Municipal Signal A IMSA Level 2
IMSA Level 3
Other (please specify): _____

45. Are new ITS maintenance staff trained in-house or externally?

In-House Training
External Training (from manufacturers, vendors, or others)

46. How many full time equivalent in-house and contractor employees are dedicated to ITS maintenance?

In-house Number of Employees: _____
Contractor Number of Employees: _____