

# Municipal Maintenance Agreement Schedule “D”

- Over 100 Million Dollars in TIP Funds were approved in March 2002 by the NCDOT Board of Transportation for Traffic Signal Operations and Maintenance, to be allocated over 7 years.
- One use of these funds was to implement the Revised Municipal Maintenance Agreements of Schedules C & D.

# What is Schedule "D"?

- **Operation and Maintenance Agreement for Municipalities with Computerized Traffic Signal Systems**
- **A Document that ensures consistent operation and maintenance of computerized traffic signal systems statewide;**
- **Provides reimbursement rates and defines Levels-of-Service;**
- **and defines minimum skills, knowledge, and duties required for a Systems Operations Engineer.**
- **But most of all, it's a Partnership between the NCDOT and Municipalities to provide safe and efficient transportation systems for the motoring public.**

# Why the Need to Revise the Schedule “D” Agreement?

- **16 Statewide:** There are currently 16 Municipal Based Computerized Traffic Signal Systems in North Carolina, which range from 70 - 460+ intersections.
- **Inconsistency and Confusion:**
  - Agreements were not consistent statewide.
  - There was no methodology for the negotiations of the Agreements;
  - or for Payments;
  - nor for the number of staff required to operate and maintain the systems

# Why the Need to Revise Schedule “D” Continued

- **No Standards of Performance:**

- No way of measuring what was being done.
- No Defined requirements for the Operation and Maintenance of the Computerized Traffic Signal Systems

- **Money**

- The reimbursement schedule had not been revised in over 15 years.

# What are the Key Components of the Schedule “D” Agreement?

- - **Central Computer and Associated Hardware**
  - **Communications Infrastructure**
  - **System Detectors**
  - **CCTV Cameras**
  - **Salary and Payroll Additives for System Operations Engineer(s)**

# What are the Key Components of the Schedule “D” Agreement?

- Shared Cost Participation : Operation and Maintenance cost are based on the pro-rata share of signals owned by NCDOT and Municipality.
- Performance Audits: New Agreements will require Quarterly Documentation from the Municipalities defining what work is being performed.
- 5 Levels-of-Service were defined for Maintenance and Operations. (Implementation was geared toward having all Municipalities performing at a graded Level-of-Service “C” (Good) within a 3 Year Period.

# Key Components of “Good” Level of Service: “Level C”

- + 80% of signals are monitored and controlled by Traffic Signal System
- Timing plans are evaluated every 18 months and required new plans are developed and implemented within 6 months
- \* ***Maintain active traffic data collection program*** \*
- Implement new plans on significant growth corridors annually (Growth of traffic volumes >5%)
- 80% of system detectors operational at any given time
- Maximum time to repair failed detectors is 60 days

# Key Components of “Good” Level of Service: “Level C”

- New intersections have timing plans implemented within 30 days
- Perform Preventive Maintenance every 6 months
- Control Center is staffed by qualified personnel during AM & PM peak hours and special events
- Traffic responsive plans used where appropriate and threshold values are evaluated annually.

# SYSTEM OPERATIONS ENGINEER

**1 Full-time System Operations Engineer required for every 200 Signals.**

# SYSTEM OPERATIONS ENGINEER

- **Minimum Education and Experience:**
  - **BSCE & 3 years of Transportation Engineering Experience**
  - **Knowledge of Signal Timing and Optimization Software**
  - **Operations experience and knowledge of ITS concepts, data communications and computerized traffic signal systems**

# SYSTEM OPERATIONS ENGINEER

- Essential Duties:

- Evaluate Existing Traffic Conditions
- Develop and Implement New Timing Plans
- Implement Temporary Timing Plans to allow for Local Loop Malfunctions
- Coordinate with Department on Roadway Construction Projects
- Maintains system databases and manages the traffic signal system maintenance functions.

# Schedule “D” Quarterly Reporting Requirements

- The Department shall be billed quarterly by the Municipality at the Departments Division office for the cost of maintenance and operation of the Computerized Traffic Signal System pursuant to the Agreement.
- Beginning on July 1, 2002, the reimbursement rates shown on the Schedule “D” shall be increased three (3) percent each annum in consideration of recent inflation rates, subject to the availability of maintenance funds and the performance of the Municipality.

# Schedule “D” Quarterly Reporting Requirements

- **A.** The Municipality shall submit an itemized invoice to the Department for said costs no later than three (3) months after the scheduled quarterly billing date. This invoice will reflect the balance between the quarterly payments issued by the Department and total amount of the agreement.
- **B.** The Department shall reimburse the Municipality for the cost of maintenance and operation of the Computerized Signal System performed by the Municipality for the quarterly billing period upon approval by the Department’s Division Engineer and the Fiscal Section.
- **C.** The Municipality shall keep and maintain all cost records and supporting documentation for the work which they bill the Department and shall make such information available to the Department upon request for audit for a period of three (3) years after closing of each fiscal year.

# Schedule “D” Quarterly Reporting Requirements

- The Municipality shall furnish the Department’s Division Engineer a certified quarterly status report that details the maintenance and operation of the Signal System. The status report shall be certified in writing by the Systems Operations Engineer and shall indicate:
  - Intersection Failures
  - Local and System Detector Failures
  - The percentage of time the Computer System was off-line
  - The repairs that were made and dates of said repairs/ replacements
  - Identify any new/deleted Intersections in the Traffic Signal System
  - All Signal Timing Optimization performed

# WHAT NOW?

## **-Traffic Counts.** (Panel discussion topic)

Agreement possibly needs rewording with more definitive requirements.

## **-Revised Schedule “D” Agreement**

(Panel discussion topic)

Division 2 has generated a revised version of the Schedule “D” Agreement which will allow revision to parts of the Agreement that deal with percentages to be made without having to get City Council Approval. I will be forwarding to all Divisions for consideration of use; we like it.

# Contact Information

- **Metropolitan Computerized Traffic Signal Systems**
- **Schedule “D” Agreements**
- **Mike Braswell**  
**Metropolitan Signal Systems Engineer**  
**mbraswell@dot.state.nc.us**  
**919-733-8016**