

NORTH CAROLINA  
CUMBERLAND COUNTY

**MUNICIPAL OPERATIONS – COMPUTER,  
COMMUNICATIONS, EQUIPMENT, AND SYSTEM  
OPERATIONS FOR COMPUTERIZED TRAFFIC SIGNAL  
SYSTEM AGREEMENT  
SCHEDULE D**

DATE: 4/11/2023

NORTH CAROLINA DEPARTMENT OF  
TRANSPORTATION

AND

WBS Element: 6.1026SM & 6.2026SM

CITY OF FAYETTEVILLE

THIS AGREEMENT is made and entered into on the last date executed below, by and between the North Carolina Department of Transportation, an agency of the State of North Carolina, hereinafter referred to as the "Department" and the City of Fayetteville hereinafter referred to as the "Municipality."

**WITNESSETH:**

WHEREAS, the provisions of the North Carolina General Statute (NCGS) §136-18 and §136-66.1 authorize the Municipality to contract with the Department for the installation, repair, operations and maintenance of highway signs and markings, electric traffic signals, and other traffic control devices on State Highway System streets within the Municipality; and,

WHEREAS, the Department and the Municipality have a mutual interest in the efficient and effective operation of traffic signals within the Municipality; and,

WHEREAS, the Department and the Municipality recognize that each party to this Agreement has an obligation and responsibility to provide for the safe, orderly, and efficient flow of traffic on their respective street systems; and,

WHEREAS, the Municipality finds that it is in the best public interest to enter into an Agreement with the Department to operate the computerized traffic signal system; and,

WHEREAS, the Department finds it desirable and advantageous to reimburse the Municipality for costs incurred, when the Municipality operates that portion of the computerized traffic signal system that is on the State Highway System within or near the Municipality;

NOW, THEREFORE, the Department and the Municipality do hereby agree as follows:

## **1. GENERAL PROVISIONS**

### **COMPLIANCE WITH STATE/FEDERAL POLICY**

The Municipality and/or its agent, including all contractors, subcontractors, or sub-recipients shall comply with all applicable Federal and State policies and procedures, stated both in this Agreement and in the Department's guidelines and procedures.

### **FAILURE TO COMPLY - CONSEQUENCES**

Failure on the part of the Municipality to comply with any of the provisions of this Agreement will be grounds for the Department to terminate participation in the costs of the Project and, if applicable, seek repayment of any reimbursed funds.

## **2. SCOPE OF THE PROJECT**

The Municipality shall operate the computerized traffic signal system as defined in the Appendices and as indicated hereinafter.

### **TIMING PLANS**

- A. The Municipality shall be responsible for the evaluation and preparation of timing plans at all intersections in the traffic signal system. All traffic data needed for the evaluation and development of timing plans will be obtained by the Municipality whenever possible. The Municipality will notify the Department of any additional data that is required to evaluate and prepare the necessary timing plans. The Department shall, upon request, make available to the Municipality all current traffic count data for the existing signals.
- B. The timing plans affecting intersections on the State Highway System, utilized in system operation, will be subject to the approval of the Department and will reflect the needs of traffic on both the State Highway System and the Municipality's System. In the event the Department and the Municipality cannot agree on the selection of a given timing plan, the decision of the Department will be final.

### **ONGOING OPERATION OF THE SIGNAL SYSTEM**

- C. The Municipality shall not install any traffic control devices, nor make any traffic signal phasing changes, on any State Highway System street without the prior approval of the Department, pursuant to NCGS §20-169.

- D. The Municipality shall operate the signal system in accordance with North Carolina General Statutes, the Department's current policies and guidelines as included in the Appendices, and all local codes and ordinances. If, in the opinion of the Department, the Municipality does not operate the signal system in accordance with the specified criteria, the Department shall have the right to enter into a separate operational agreement with a private contractor and deduct these costs from the Department's pro-rata share under this Agreement, or from the funds allocated under NCGS §136-41.1.
- E. The Department shall review and concur with any contract entered into by the Municipality for the operation of any item(s).
- Any contract entered into with another party to perform work associated with the requirements of this Agreement shall contain appropriate provisions regarding the utilization of Minority Business Enterprises/Women Business Enterprises (MBE/WBE), or as required and defined in NCGS 143-128.2 – 128-4 and the North Carolina Administrative Code. These provisions are incorporated into this Agreement by reference <https://connect.ncdot.gov/municipalities/Pages/Bid-Proposals-for-LGA.aspx>.
  - The Municipality shall not advertise nor enter into a contract for services performed as part of this Agreement, unless the Department provides written approval of the advertisement or the contents of the contract.
  - If the Municipality fails to comply with these requirements, the Department will withhold funding until these requirements are met.
- F. The Municipality agrees to an annual audit of the performance of intersection equipment and systems. The audit is to be performed by the Department and the Municipality.

### **3. TIME FRAME**

This agreement shall be for the current state fiscal year, beginning July 1, 2023 and ending June 30, 2024. At the end of the state fiscal year, the provision of services and quality of results may be reviewed by the Department and Municipality. The Agreement may be extended for additional fiscal years, contingent upon the availability of NCDOT maintenance funds by the General Assembly. Extensions may be made in one (1) year increments, incorporating any mutually agreed upon adjustments, up to a total of five (5) years with the end of the final fiscal year of service being June 30, 2024. On behalf of the Municipality, extensions may be authorized and executed by the Town/City Manager and/or Mayor without further resolution of the Town/City Council. The agreement may be terminated by either party upon a thirty (30) day written notice.

- A. Upon termination of each year of service, and in connection with each extension of this Agreement, the Municipality may request an adjustment of the annual rates based on actual cost records for the prior years. This request must indicate the new rate for each Schedule D item. Each rate must be verifiable by time sheets, salary rates, materials, equipment, and other qualifying costs in conformance with the standards of allowable of costs set forth in the Office of Management and Budget (OMB) Circular A-87. This shall be actual cost incurred with the exception of equipment owned by the Municipality. Reimbursement for the rates of equipment owned by the Municipality cannot exceed the Department's rates in effect for the time period in which the work is performed.
- B. The cost records may be audited by the Department to determine any adjustments or revisions in the new rates.

#### **4. FUNDING**

The eligible costs of this Project will be reimbursed from State funding.

#### **5. REIMBURSEMENT**

The Department shall reimburse the Municipality quarterly, based on an annual amount, for the operation of the computerized traffic signal system as included below:

##### **ELIGIBLE COSTS**

- A. The reimbursement rates in this Agreement represent the Department's pro-rata share of the operational cost, which is based on the ratio of the number of State System intersections to the total number of intersections in the computerized traffic signal system. The Municipality shall maintain a current inventory list of all traffic signals within the system, and classify as city- or state-owned. The current inventory list, as included in the Appendices of this Agreement, will be used to determine the Department's pro-rata share.
- B. The Department shall reimburse the Municipality based on the annual operational amount of the computerized traffic signal system as included in the Appendices of this Agreement. This total amount includes the Department's pro-rata share of cost, as included in Provision 5A, for the salary, payroll additives of a System Operations Manager(s), Systems Operations Engineer(s) Traffic Signals System Specialist(s), or equivalent. These positions, at a minimum, shall exhibit the qualifications and perform the duties as included in the Appendices. The cost of the System Operations Manager(s), Systems Operations Engineer(s) Traffic Signals System Specialist(s), or equivalent, shall be based on the pro-rata share of time dedicated to the operation of the system.

- C. The Department shall reimburse the Municipality for operation of the Central Computer and Associated Hardware, CCTV Camera System, Communications Infrastructure, system detectors and other associated central and system field equipment. The Municipality shall be responsible for providing all needed replacement parts and equipment. Under this Agreement, the Department will reimburse the Municipality for its pro-rata share of the replacement or repair costs necessary for maintaining operability and any equipment included herein.
- D. The Municipality will not receive an annual reimbursement for fiber optic communications cable and CCTV cameras. The Department will reimburse the Municipality its pro-rata share of the actual costs for the emergency restoration of fiber optic communications and CCTV cameras. This cost shall include: fiber optic cable, interconnect centers, splice trays, fusion splicing, transceivers, Ethernet switches, labor, etc.
- E. Said reimbursement shall be limited to operational costs, which would include tasks associated with insuring the continuous, safe and efficient operation of traffic signals, traffic signal systems, and control facilities. Examples include, but are not limited to, emergency repairs to system components, periodic evaluation and adjustment to operational timing parameters, computer system and software upgrades, operational upgrades to maintain or improve safety or efficiency, etc.
- F. The Department will not reimburse operational costs for activities that do not have a direct and immediate effect on the continuous, safe and efficient operation of traffic signals, traffic signal systems, and control facilities including, but not limited to, painting of poles and signal cabinets, vegetation control adjacent to facilities, interior and exterior care of traffic control centers and parking areas, furniture for traffic control centers, etc.
- G. The Municipality agrees that it shall bear all costs for which it is unable to substantiate actual costs.
- H. Any costs incurred by the Municipality prior to written notification by the Department to proceed with the work shall not be eligible for reimbursement.
- I. The Department will reimburse the Municipality for its pro-rata share, as specified in the Appendices, for any Signal Systems operational contract in which it concurs. The Department shall have access to the contractor's records and documentation for audit, which pertains to any rates billed to the Municipality for the operation of those items for a period of five (5) years from the date of the final payment made under this agreement.

- J. Equipment secured as a non-participating item by the Department (100% Municipality costs) will continue as non-participating items with respect to operations. The Department's Division Engineer will provide the necessary documentation for non-participating items.

## **PROCESS**

- K. The Municipality shall submit a quarterly itemized invoice including the certified status report to the Department for said costs no later than three (3) months after the scheduled quarterly invoicing date. This invoice will reflect the balance between the quarterly payments issued by the Department and the total amount not to exceed \$400,000, unless additional reimbursements are approved by the Department. All final invoices must be submitted within one (1) year after the work is performed or said work will be considered non-billable and will not be paid for by the Department. The Department, at its option, may elect to increase the reimbursement rates up to three percent (3%) each year in consideration of inflation rates and cost increases, subject to the availability of funds and the performance of the Municipality.
- L. The Department shall reimburse the Municipality upon approval by the Department's Division Engineer and the Fiscal Management Section.

## **6. FORCE ACCOUNT**

Work performed by the Municipality's own forces is considered force account work. Force account work is only allowed when 1) there is a finding of cost effectiveness for the work to be performed by some method other than contract awarded by competitive bidding process, and 2) the force account work is in compliance with NC General Statute 143-135, found at [www.ncleg.net/gascripts/Statutes/Statutes.asp](http://www.ncleg.net/gascripts/Statutes/Statutes.asp). Written approval from the Division Engineer is required prior to the use of force account by the Municipality. Said invoices for force account work shall show a summary of labor, labor additives, equipment, materials and other qualifying costs in conformance with the standards for allowable costs set forth in Office of Management and Budget (OMB) Circular A-87 ([http://www.whitehouse.gov/omb/circulars\\_a087\\_2004/](http://www.whitehouse.gov/omb/circulars_a087_2004/)). Reimbursement shall be based on actual cost incurred with the exception of equipment owned by the Municipality or its Project partners. Reimbursement rates for equipment owned by the Municipality or its Project partners cannot exceed the Department's rates in effect for the time period in which the work is performed, nor the maximum amount included in Appendix VI.

### **EMERGENCY WORK**

Under current Department policy, if force account work is necessary and performed by the Municipality during emergency occurrences or occurrences that endanger public safety,

additional information shall be submitted to document the emergency situation, actions taken during the occurrence and the resolution with each quarterly invoice. Approval must be obtained from the Department Division Engineer before reimbursement is made.

## **7. RECORDS AND REPORTS**

- A. The Municipality shall furnish the Department's Division Engineer a certified quarterly status report that details the 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 the dates of said repairs/replacements. The quarterly report shall also identify any new/deleted intersections in the traffic signal system and all traffic signal timing optimization performed. The Department's Division Engineer will provide detailed guidance and reporting forms for the Municipality.
- B. In accordance with NCGS §159-34, the Municipality shall arrange for an independent financial and compliance audit of its fiscal operations. The Municipality shall furnish the Department with a copy of the independent audit report within thirty (30) days of completion of the report, but not later than nine (9) months after the Municipality fiscal year ends.
- C. The Municipality shall keep and maintain all books, documents, papers, accounting records, other such cost records and supporting documentation and evidence as may be appropriate to substantiate costs incurred under this Agreement. Further, the Municipality shall make such materials available at its office at all reasonable times during the Agreement period, and for three (3) years from the date of the final payment made under this agreement, for inspection and audit by the Department's Division Engineer and Financial Management Division and FHWA.

## **8. ADDITIONAL PROVISIONS**

- A. This Agreement does not transfer legal control of, or responsibility, or legal liability for the State Highway System roads described herein to the Municipality, nor does it prohibit the Department from taking any action or undertaking any responsibilities with regard to such roads. This Agreement is solely for the benefit of the Municipality and the Department and not for the benefit of any other persons including, but not limited to, members of the public or users of the State Highway System roads, and no third party rights are created, or intended to be created, by this Agreement.

- B. The Municipality shall comply with Title VI of the Civil Rights Act of 1964, (Title 49 CFR, Subtitle A, Part 21). Title VI prohibits discrimination on the basis of race, color, national origin, disability, gender, and age in all programs or activities of any recipient of Federal assistance.
- C. It is the policy of the Department not to enter into any agreement with another party that has been debarred by any government agency (Federal or State). The Municipality certifies, by signature of this agreement, that neither it nor its agents or contractors are presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in this transaction by any Federal or State Department or Agency.
- D. The Municipality shall certify to the Department compliance with all applicable Federal and State laws and regulations and ordinances and shall indemnify the Department against any fines, assessments or other penalties resulting from noncompliance by any entity performing work under contract with the Municipality.
- E. The Municipality is solely responsible for all agreements, contracts, and work orders entered into or issued by the Municipality for this Project. The Department shall not be held liable by the Municipality for any expenses or obligations incurred for the Project except those specifically eligible for the funds and obligations as approved by the Department under the terms of this Agreement. The Department shall not reimburse the Municipality any costs that exceed the total funding at any time.
- F. The Municipality will indemnify and hold harmless the Department, FHWA, and the State of North Carolina, their respective officers, directors, principals, employees, agents, successors, and assigns from and against any and all claims for damage and/or liability in connection with the project activities performed pursuant to this Agreement including construction of the Project. The Department shall not be responsible for any damages or claims for damages, which may be initiated by third parties.
- G. The Department must approve any assignment or transfer of the responsibilities of the Municipality set forth in this Agreement to other parties or entities.
- H. This Agreement contains the entire agreement between the parties and there are no understandings or agreements, verbal or otherwise, regarding this Agreement except as expressly set forth herein.
- I. The parties hereby acknowledge that the individual executing the Agreement on their behalf is authorized to execute this Agreement on their behalf and to bind the respective entities to



the terms contained herein and that he has read this Agreement, conferred with his attorney, and fully understands its contents.

- J. A copy or facsimile copy of the signature of any party shall be deemed an original with each fully executed copy of the Agreement as binding as an original, and the parties agree that this Agreement can be executed in counterparts, as duplicate originals, with facsimile signatures sufficient to evidence an agreement to be bound by the terms of the Agreement.
- K. By Executive Order 24, issued by Governor Perdue, and N.C. G.S. §133-32, it is unlawful for any vendor or contractor ( i.e. architect, bidder, contractor, construction manager, design professional, engineer, landlord, offeror, seller, subcontractor, supplier, or vendor), to make gifts or to give favors to any State employee of the Governor's Cabinet Agencies (i.e., Administration, Commerce, Environmental Quality, Health and Human Services, Information Technology, Military and Veterans Affairs, Natural and Cultural Resources, Public Safety, Revenue, Transportation, and the Office of the Governor).

IN WITNESS WHEREOF, this Agreement has been executed, in duplicate, the day and year heretofore set out on the part of the Department and the Municipality by authority duly given.

ATTEST: \_\_\_\_\_ CITY OF FAYETTEVILLE  
BY: \_\_\_\_\_ BY: \_\_\_\_\_  
TITLE: \_\_\_\_\_ TITLE: \_\_\_\_\_  
DATE: \_\_\_\_\_ DATE: \_\_\_\_\_

N.C.G.S. § 133-32 and Executive Order 24 prohibit the offer to, or acceptance by, any State Employee of any gift from anyone with a contract with the State, or from any person seeking to do business with the State. By execution of any response in this procurement, you attest, for your entire organization and its employees or agents, that you are not aware that any such gift has been offered, accepted, or promised by any employees of your organization.

This Agreement has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act.

(SEAL)

BY: \_\_\_\_\_  
(FINANCE OFFICER)

Remittance Address:

City of Fayetteville

\_\_\_\_\_  
\_\_\_\_\_

DEPARTMENT OF TRANSPORTATION

BY: \_\_\_\_\_  
(CHIEF ENGINEER)

DATE: \_\_\_\_\_

PRESENTED TO BOARD OF TRANSPORTATION ITEM O: \_\_\_\_\_

## MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE DCITY OF FAYETTEVILLE

### Traffic Signal System Operations

**NOTE:** The Department requires the Municipality to maintain a Level of Service “C”, or “good”, in order to provide reimbursement. If the operation falls below a Level of Service “C”, or “good”, then the Department may withhold reimbursement under this Agreement. If the Municipality operates at a higher level of service, the Department will not reimburse these costs.

#### Levels of Service

##### Level-of-service “A”

1. All of the signalized intersections in the Municipality's jurisdiction are monitored by the system. All of the signalized intersections are actively controlled for at least some periods of the day (e.g. timing plans are developed and implemented).
2. All timing plans and day plans are evaluated on intervals of no greater than **six months**. On corridors with a significant annual growth in traffic volume (> 5.0%), new timing plans are identified **annually**. Required new plans are developed and implemented within **three months** of identification.
3. The Municipality has an active traffic data collection program that includes turning movement counts at all signalized intersections; the collection of average daily traffic counts; and performs travel-time/delay studies on all subsystems at a **minimum of every two years**. This data is used to evaluate system operations and performance.
4. Timing plans for newly installed intersections are implemented in conjunction with the installation of the traffic signal.
5. The Municipality has an active, on-going operational performance program for operation of the traffic signal system in which system communication components and central site hardware is tested and evaluated on intervals of **no less than two times per year**.
6. A minimum of 90% of all system detectors are operational at any given time. The maximum time to repair failed detection devices is **30 calendar days**.
7. The control center is staffed by qualified personnel during the AM & PM peak hours, and during other times of high traffic volumes (e.g. special events).

8. The Municipality uses traffic responsive timing plans where appropriate and continually monitors and updates the thresholds.

## APPENDIX I

### MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE D

#### Traffic Signal System Operations

##### Level-of-service “B”

1. Essentially all (+90%) of the signalized intersections in the Municipality's jurisdiction are monitored by the system. Practically all (+95%) of the monitored signalized intersections are actively controlled.
2. All timing plans and day plans are evaluated on intervals of no greater than **12 months**. On corridors with a significant annual growth in traffic volume (> 5.0%), new timing plans are identified annually. Required new plans are developed and implemented **within three months** of identification.
3. The Municipality has an active traffic data collection program that includes turning movement counts at all signalized intersections; the collection of average daily traffic counts; and performs travel-time/delay studies on all subsystems at a **minimum of every two years**. This data is used to evaluate system operations and performance.
4. Timing plans for newly installed intersections are implemented in conjunction with the installation of the traffic signal.
5. The Municipality has an active, on-going operational performance program for operation of the traffic signal system in which system communication components and central site hardware is tested and evaluated on intervals of **no less than two times per year**.
6. A minimum of 85% of all system detectors is operational at any given time. The maximum time to repair failed detection devices is **30 calendar days**.
7. The control center is staffed by qualified personnel during the AM & PM peak hours. The operations staff is on-call during other times of expected high traffic volume.
8. The Municipality uses traffic responsive timing plans where appropriate. Threshold values are evaluated **annually**.

**MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE D**

**Traffic Signal System Operations**

**Level-of-service “C”**

1. The vast majority (+80%) of the signalized intersections in the Municipality’s jurisdiction are monitored by the system. The only traffic signals not monitored are those whose lack of proximity does not lend them to cost-effective communication. The vast majority (+80%) of monitored signals are actively controlled by the system.
2. All timing plans and day plans are evaluated on intervals of no greater than **18 months**. On corridors with a significant annual growth in traffic volume (> 5.0%), new timing plans are identified **annually**. On average, required new plans are developed and implemented within **six months** of identification.
3. The Municipality obtains the data that is used to evaluate system operations and performance.
4. Timing plans for newly installed intersections are implemented within **30 calendar days** of the installation of the traffic signal.
5. The Municipality has an active, on-going operational performance program for operation of the traffic signal system in which system communication components and central site hardware is tested and evaluated on intervals of **no less than two times per year**.
6. A minimum of 80% of all system detectors are operational at any given time. The maximum time to repair failed detection devices is **60 calendar days**.
7. The control center is staffed by qualified personnel during the AM & PM peak hours. The operations staff is on-call during other times of expected high traffic volume.
8. The Municipality uses traffic responsive timing plans where appropriate. Threshold values are evaluated **annually**.

MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE D

Traffic Signal System Operations

Level-of-service “D”

1. Most (+60%) of the signalized intersections in the Municipality’s jurisdiction are monitored by the system. Signalized intersections that are in close proximity to other signalized intersections (<0.5 mile) are in operation but are not monitored by the system. Most (+60%) of the monitored signals are actively controlled by the system.
2. All timing plans and day plans are evaluated on intervals of no greater than 24 months. On corridors with a significant annual growth in traffic volume (> 5.0%), new timing plans are identified on intervals of no greater than **two years**. New plans are developed and implemented within **12 months** of identification.
3. The Municipality obtains the data is used to evaluate system operations and performance.
4. Timing plans for newly installed intersections are implemented within **60 calendar days** of the installation of the traffic signal.
5. The Municipality has an active, on-going operational performance program for operation of the traffic signal system in which system communication components and central site hardware is tested and evaluated on intervals of **no less than one time per year**.
6. A minimum of 60% of all system detectors are operational at any given time. The maximum time to repair failed detection devices is **90 calendar days**.
7. The control center is staffed during either the AM or PM peak hour; whichever is the highest volume period.
8. The Municipality has not evaluated the use of traffic responsive timing plans.

MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE D

Traffic Signal System Operations

Level-of-service “F”

1. Less than half (<50%) of the signalized intersections in the Municipalities' jurisdiction are monitored by the system. Signalized intersections that are in close proximity to other signalized intersections (<0.5 mile), are in operation but are not monitored by the system. Most (+60%) of the monitored signals are actively controlled by the system.
2. All timing plans and day plans are evaluated on intervals greater than **30 months**. On corridors with a significant annual growth in traffic volume (> 5.0%), new timing plans are identified on intervals of no greater than **two years**. On average, new plans are developed and implemented on intervals **not to exceed 18 months** after identification.
3. The Municipality does not collect data to evaluate system performance and retime signals. All data used is provided by others.
4. Timing plans for newly installed intersections are implemented **more than 90 calendar days** after installation of the traffic signal.
5. The Municipality does not have an active, on-going operational performance program for operation of the traffic signal system in which system communication components and central site hardware is tested and evaluated. The Municipality provides emergency restoration only for system communication and hardware components.
6. A minimum of 50% of all system detectors are operational at any given time. The maximum time to repair failed detection devices is **120 calendar days**.
7. The control center is staffed during either the AM or PM peak hour; whichever is the highest volume period.
8. The Municipality has not evaluated the use of traffic responsive timing plans.

## MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE D

*SIGNALS LIST* CITY OF FAYETTEVILLE**SIGNALS LIST CITY OF FAYETTEVILLE**

<u>SIGNAL LOCATION</u>	<u>CITY ID</u>	<u>STATE ID</u>
US 401BUS (Raeford Road) at Fairfield Road		06-0001
US 401BUS/SR 1414 (Raeford Road) at US 401BUS (Robeson)		06-0002
SR 2311 (Gillespie St.) at SR 1141 (Southern Avenue)		06-0004
SR 2311 (Gillespie St.) at Blount St./Campbell Ave.		06-0006
SR 1414 (Raeford Rd.)/Arsenal Ave. at SR 1414 (Broadfoot)		06-0007
SR 1404 (Hay/Morganton/Ft. Bragg Rd.) at Highland Ave.		06-0008
SR 3828 (Robeson St.) at SR 2299 (Russell St.)		06-0010
SR 2299 (Russell St.) at Winslow St.		06-0011
SR 2299 (Russell St.) at SR 2311 (Gillespie St.)		06-0014
SR 2299 (Russell St.) at Old Wilmington Rd.		06-0015
I-95BUS/ US 301 (Eastern Blvd.) at SR 2299 (Russell)		06-0016
SR 3828 (Robeson St./Bragg Blvd.) at Hay St.		06-0018
I-95BUS/US 301 (Eastern Blvd.) at SR 1006 (Person St.)		06-0029
SR 3828 (Robeson St.) at Blount St.		06-0030
NC 24/27 (Bragg Blvd.) at Elm St.		06-0032
NC 24/27 (Bragg Blvd.) at Stamper Rd.)		06-0033
NC 24/210 (Rowan St.) at Ray Ave.		06-0039
NC 24/210 (Grove St./Rowan St.) at SR 3950 (Ramsey)		06-0040
NC 24/210 (Grove St.) at I-95BUS/US 301 (Eastern Blvd)		06-0041
NC 210 (Murchison Rd.) at Langdon St.		06-0042
US 401BUS (Ramsey St.) at Hillsboro St.		06-0044
SR 1404 (Morganton Rd.) at Churchill Dr.		06-0047
I-95BUS/US 301 (Gillespie St.) at SR 1007 (Owen Dr.)		06-0051
US 401BUS. (Robeson St.) at SR 1168 (Whitfield St.)		06-0052
US 401BUS (Raeford Rd.) at McPherson Church/Owen Dr.		06-0054
US 401BYP (Skibo) at SR 1415 (Yadkin/McPherson Church)		06-0055
US 401BYP (Pamalee/Country Club) at NC 210 (Murchison)		06-0056
SR 1007 (Owen Dr.) at Village Dr.		06-0058
US 401BUS (Robeson St.) at Village Dr.		06-0060
NC 53/210 (Cedar Creek Rd.) at SR 1009 (Clinton Rd.)		06-0072



SR 1132 (Legion/Southern) at SR 1154 (W. Mountain Dr.)		06-0074
SR 1007 (Owen Dr.) at SR 1132 (Southern Ave.)		06-0075
NC 24/210 (Grove St.) at NC 53/210 (Cedar Creek Rd.)		06-0076
US 401BYP (Country Club Dr.) at SR 1615 (Rosehill Rd.)		06-0079
US 401BUS (Ramsey) at US 401BYP (Country Club/ Tokay)		06-0081
US 401BYP (Pamalee Dr.) at Cain Rd./Helen St.		06-0084
US 401BYP (Skibo Rd.) at SR 1400 (Cliffdale Rd.)		06-0094
US 401BYP (Skibo Rd.) at SR 1404 (Morganton Rd.)		06-0095
US 401BUS (Raeford Rd.) at US 401BYP (Skibo)		06-0096
NC 24/87 (Bragg Blvd.) at Shannon Dr/ Flea Market		06-0153
US 401BUS (Raeford Rd.) at NC 59 (Hope Mills Rd.)/ SR 1596 (Glensford Dr.)		06-0155
US 401 (Ramsey St.) at SR 1712 (Melstone)		06-0211
SR 1007 (Owen Dr.) at SR 1141 (Cumberland Rd.)		06-0212
NC 24/210 (Grove St.) at Ann Street		06-0218
SR 1141 (Southern Ave.) at SR 1168 (Whitfield St.)		06-0220
NC 24/87 (Bragg Blvd.) at Pearl St.		06-0221
SR 2311 (Ramsey St.) at Cumberland St./Cross Creek Commons		06-0223
US 401BUS (Raeford Rd.) at Purdue Dr./Highlands Center McPherson Church Rd. at SR 1400 (Cliffdale Rd.)		06-0224
Hay St. at US 401BUS -NC87(NB Ramp MLK Frwy)		06-0231
Hay St. at US 401BUS-NC 87(SB Ramp MLK Frwy)		06-0232
SR 1404 (Morganton Rd.) at McPherson Church		06-0233
NC 210 (Murchison Rd.) at Jasper/ Pennsylvania Ave.		06-0234
NC 24-87 (Bragg Blvd.) at Sycamore Dairy/ Carol St.		06-0236
US 401 (Ramsey St.) at SR 1600 (McArthur)/SR 1757 (Andover)		06-0237
SR 1600 (Person St.) at Broad St.		06-0240
NC 24 (Bragg Blvd.) at US 401BUS-NC 87 (MLK Frwy Ramps)		06-0244
US 401BUS/ SR 3950 (Ramsey) at US 401BUS. (MLK Frwy)		06-0246
SR 1415 (Yadkin Rd.) at SR 1437 (Santa Fe Dr.)		06-0247
US 401BUS (Ramsey St.) at Langdon/Colonial Dr.		06-0250
SR 3828 (Robeson St.) at Franklin St.		06-0264
NC 24 (Bragg Blvd.) at SR 1563 (Mike)/ SR 1429 (Johnson)		06-0265
SR 1007 (Owen Dr.) at SR 1149 (Boone Trail)/Boone Trail EXT		06-0270
US 401 (Raeford Rd.) at NC 162 (Bunce)/ SR 1411 (Bunce Rd.)		06-0274
SR 1437 (Santa Fe) at SR 1007 (AAF NB Ramp)		06-0278
NC 24 (Bragg Blvd.) at SR 1437 (Santa Fe Dr.)/ Shaw Rd.		06-0279
SR 1437 (Santa Fe Dr.) at SR 1007 (AAF SB Ramp)		06-0281
SR 1007 (Owen Dr.) at SR 1003/1169 (Camden)		06-0289
SR 1404 (Morganton) at Pinecrest Dr.		06-0290
NC 24/210 (Grove St.) at B St.		06-0314
US 401BYP (Skibo) at AAF NB Off/On Ramps		06-0318

SR 1404 (Morganton) at AAF NB Off/On Ramps		06-0319
US 401BUS (Raeford Rd.) at Sr 1007 (AAF SB Ramp)		06-0320
US 401BYP (Skibo Rd.) at SR 1007 (AAF SB Ramps)		06-0321
SR 1404 (Morganton Rd.) at AAF SB Off and On Ramps		06-0322
US 401BUS (Raeford Rd.) at SR 1007 (AAF NB Ramp)		06-0323
SR 1007 (AAF/Owen Dr.) at Owen Dr./Walter Reed Rd.)		06-0324
US 401BYP (Skibo) at SR 3499 (Lake Valley)/ Cross Creek Mall Entrance		06-0325
US 401BUS (Raeford Road) at Ferncreek Dr./ Roxie Ave.		06-0327
US 401BUS (Raeford Rd.) at Brighton Rd./ FA Nissan Ent.		06-0328
NC 210 (Murchison Rd.) at SR 1614 (Shaw Mill)/SR 2734 (Hogan)		06-0333
US 401BUS (Raeford Rd.) at Montclair Rd.		06-0334
I-95BUS-US 301 (Eastern Blvd) at SR 2311 (Gillespie St.)		06-0336
SR 1600 (McArthur Rd.) at SR 1615 (Rosehill)		06-0341
SR 1404 (Morganton Rd.) at SR 1596 (Glensford)/Mall Entr.		06-0346
SR 1404 (Morganton Rd.) at Skye Dr.		06-0350
SR 1404 (Morganton Rd.) at SR 1400 (Cliffdale)		06-0351
SR 1219 (Ireland) at SR 1220/2913 (Village Dr.)		06-0353
US 401BYP (Skibo Rd.) at Swain St.		06-0355
US 401BYP (Skibo Rd.) at Louise St.		06-0356
US 401 (Raeford Rd.) at SR 1141 (Bingham Dr.)		06-0358
US 401 (Ramsey St.) at SR 1611 (Andrews Rd.)		06-0360
SR 1404 (Morganton Rd.) at Sycamore Dairy/Westwood Shopping Center		06-0361
SR 1403 (S. Reilly Rd.) at SR 1400 (Cliffdale Rd.)		06-0364
SR 1403 (Reilly Rd.) at SR 1404 (Morganton Rd.)		06-0369
SR 1415 (Yadkin Rd.) at SR 1408 (Bonanza Dr.)		06-0370
NC 24/210 (Grove St.) at SR 1838 (Dunn Rd.)		06-0371
NC 210 (Murchison Rd.) at SR 1444 (Charmain/ Barnhill Dr.)		06-0409
US 401BUS (Raeford Rd.) at SR 1219 (Ireland Dr.)/ Shop Cent		06-0422
NC 24/87 (Bragg Blvd.) at Ft. Bragg Rd./Cain Rd.		06-0425
I-95BUS/US 301 (Gillespie) at SR 2283 (Mountain Dr.)		06-0427
SR 1404 (Morganton Rd.) at SR 1408 (Bonanza Dr.)/Old Farm		06-0441
SR 2299 (Russell) at Cool Spring St.		06-0443
NC 210 (Murchison Rd.) at Filter Plant Dr.		06-0445
US 401 (Ramsey St.) at SR 1615 (Stacy Weaver)		06-0448
NC 210 (Murchison Rd.) at SR 1437 (Shaw Rd.)		06-0452
SR 1408 (Bonanza Dr.) at SR 1437/SR 2750 (Santa Fe Dr.)		06-0453
SR 1141 (Cumberland Rd.) at SR 1344 (Natal)		06-0456
SR 1007 (Owen Dr.) at Melrose		06-0457
US 401 (Ramsey St.) at Law Rd./Par Dr.		06-0474
SR 1403 (Reilly Rd.) at Kimridge Rd./Willowbrook Rd.		06-0482
SR 1219 (Ireland Dr.) at Coventry Rd.		06-0486

US 401BUS (Raeford Rd.) at Sandalwood Dr./Lafayette Ford		06-0491
SR 1415 (Yadkin Rd.) at SR 1406 (Fillyaw Rd.)		06-0508
US 401 (Raeford Rd.) at SR 1105 (Graham Rd.)/ SR 1409 (71 <sup>st</sup> School Road)		06-0516
SR 1404 (Morganton Rd.) at SR 3578 (Dobbin Avenue)		06-0518
US 401BYP (Skibo) at Campground Rd.		06-0521
SR 1400 (Cliffdale Rd.) at SR 1596 (Glensford Dr.)/Glensford Dr. Extension		06-0527
SR 1404 (Morganton Rd.) at Cross Creek Mall/Cross Point		06-0530
NC 24 at SR 1839 (N. Plymouth St.)		06-0535
SR 1415 (Yadkin Rd.) at Southwick Rd.		06-0540
SR 1400 (Cliffdale Rd.) at SR 1409 (71 <sup>st</sup> School Rd.)		06-0541
SR 1400 (Cliffdale Rd.) at SR 1410 (Bunce Rd.)/ Allonby Rd.		06-0542
SR 1403 (Reilly Rd.) at SR 1406 (Fillyaw Rd.)		06-0543
US 401BUS/SR 3828 (Robeson) at NC 87 (MLK Off/On Ramp)		06-0544
SR 3828 (Robeson St.) at US 401BUS/NC 87 Off/On Ramps		06-0545
NC 24/87 (Bragg Blvd.) at Ames St.		06-0565
SR 1404 (Morganton Rd.) at SR 2783 (McFayden)		06-0573
US 401BYP at Richwood Ct./Home Depot		06-0576
US 401 (Raeford Rd.) at Revere St/ Time Warner Cable		06-0592
US 401 (Raeford Rd.) at SR 1104 (Strickland Bridge)		06-0596
US 401BUS (Ramsey St.) at Veterans Hospital		06-0609
SR 1400 (Cliffdale Rd.) at Tradewinds Dr.		06-0626
SR 1404 (Morganton Rd.) at SR 1458 (Ruritan Dr.)		06-0688
SR 1404 (Morganton Rd.) at SR 2610 (Hearthstone)		06-0689
US 401BYP (Skibo Rd.) at Cross Creek Mall/ CC Plaza		06-0705
SR 1400 (Cliffdale Rd.) at SR 1412 (Pritchett Rd.)		06-0741
SR 1400 (Cliffdale Rd.) at Water's Edge Dr.		06-0742
US 401BUS (Ramsey St.) at Rosehill Road		06-0748
US 401BYP (Pamalee Dr.) at Blanton Rd.		06-0751
US 401 (Raeford Rd.) at Chilton Dr./Rayconda Rd.		06-0767
US 401 (Ramsey St.) at Northgate Shop Center/ Wendy's		06-0771
US 401 (Ramsey St.) at Methodist Univ./Fernwood Dr.		06-0785
US 401 (S Raeford Rd.) at SR 3569 (Old US 401)/ Bentrige		06-0845
SR 1404 (Morganton Rd.) at SR 3259 (E Loch Haven)/Westlake		06-0856
NC 24/87 (Bragg Blvd.) at Knox St.		06-0905
I-95BUS/US 301 (Eastern Blvd) at Old Wilmington Rd.		06-0910
US 401 (Skibo) at K-Mart/Pep Boys		06-0915
I-95BUS/US 301 (Eastern Blvd.) at NC 87 MLK SB On/Off Ramps		06-0916
SR 1408 (Bonanza Dr.) at SR 2638 (Glen Canyon Westover		06-0922
SR 2311 (Gillespie St.) at NC 87 (MLK NB Ramps)/ Elementary Dr.		06-0933

SR 2311 (Gillespie St.) at NC 87 (MLK SB Off/On Ramps/ Old E-Town Rd.		06-0934
I-95BUS/US 301 (Eastern Blvd.) at NC 87 (MLK NB Off/On Ramp		06-0936
SR 1403 (S. Reilly Rd.) at Riegelwood ST./Lexi Ln.		06-0956
US 401BYP (Skibo Rd.) at Chason Ridge/ Fay. Pavillion Ent.		06-0979
SR 1596 (Glensford Dr.) at Campground Rd./ Commercial Dr.		06-1008
SR 1596 (Glensford Dr.) at Red Tip Rd.		06-1009
US 401 (Ramsey St.) at Kinlaw Rd./Aloha Dr.and Ridgeway		06-1139
SR 1415 (Yadkin Rd.) at Walmart/ WalGreens		06-1148
US 401BYP (Skibo) at Walmart / Legend Rd.)		06-1161
US 401BYP (Skibo) at Red Tip Rd.		06-1169
US 401BUS (Ramsey St.) at Eastwood		06-1178
SR 1400 (Cliffdale Rd.) at SR 1007 (AAF NB Ramps)		06-1182
SR 1400 (Cliffdale Rd.) at SR 1007 (AAF SB Ramps)		06-1183
US 401BUS (Ramsey) at US 401BUS (MLK On Ramp)/Builders Blvd.		06-1193
SR 1003 (Camden Rd.) at SR 1154 (W. Mountain Dr.)		06-1195
US 401 (Ramsey St.) at Treetop Dr.		06-1200
SR 3828 (Bragg Blvd) at SR 3825 (Walter St.)/ Schwarzkopf		06-1210
US 401 (Ramsey St.) at NC 295 Ramps		06-1223
US 401 (Ramsey St.) at Lowe's Entrance		06-1224
US 401BUS (Robeson St.) at Levy Dr.		06-1230
SR 1408 (Bonanza Dr.) at Super Compare Foods/Morganton Elementary School		06-1237
SR 1415 (Yadkin) at SR 3499 (Lake Valley Dr.)		06-1257
SR 3499 (Lake Valley) at Embassy Suites/IMAX Entrance		06-1258
NC 210 (Murchison Rd.) at Coley Dr./ W.T. Brown Dr.		06-1265
SR 1596 (Glensford Dr.) at Glensford Commons		06-1274
US 401 (Ramsey St.) at Meadowcroft		06-1280
US 401 (Ramsey St.) at Walmart Ent.		06-1281
US 401BYP (Country Club) at Green Valley Rd.		06-1286
NC 24/87 (Bragg Blvd.) at I-295 WB Ramps		06-1300
NC 24 (Bragg Blvd.) at I-295 EB Ramp/Loop		06-1301
NC 87/210 (Murchison Rd.) at I-295 WB Ramp/Loop		06-1302
NC 87/210 (Murchison Rd.) at I-295 EB Ramp/Loop		06-1303
SR 1600 (McArthur Rd.) at I-295 EB Ramp/Loop		06-1304
SR 1600 (McArthur Rd.) at I-295 WB Ramp/Loop		06-1305
US 401 (Ramsey St.) at Shawcroft Rd.		06-1313
US 401 (Ramsey St.) at Francam Dr./ Northwood Temple Dr.		06-1314
SR 1437 (Santa Fe) at Antietam Creek/Plantation Garden		06-1325
SR 1437 (Santa Fe Dr.) at Coalition Blvd.		06-1326
NC 210 (Murchison Rd.) at Stadium Dr.		06-1329
SR 1400 (Cliffdale Rd.) at I-295 SB Ramps		06-1330

SR 1400 (Cliffdale Rd.) at I-295 NB Ramps		06-1331
Canopy Lane at I-295 SB Ramps		06-1332
Canopy Lane at I-295 NB Ramps		06-1333
Canopy Lane/Reilly Rd. at Reilly Rd.		06-1334
NC 24/210 (Rowan) at NC 24 (Bragg Blvd.)/NC 210 (Murchison Rd.)		06-1336
SR 1403 (S. Reilly) at Glen Allen St.		06-1337
SR 1403 (S. Reilly) at Northumberland St.		06-1338
SR 1403 (S. Reilly) at Jeffery Dr.		06-1339
NC 24/87 (Bragg Blvd.) at Coalition Blvd.		06-1341
US 401 (S. Raeford Rd.) at Rayconda		06-1345
SR 1007 (Owen Dr.) at Dallas St.		06-1351
US 401 (Ramsey) at Summerchase		06-1369
US 401BYP (Skibo) at Freedom Parkway		06-1370
SR 1400 (Cliffdale Rd.) at Freedom Parkway		06-1371
SR 1400 (Cliffdale Rd.) at Cutchen Ln.		06-1377
SR 1400 (Cliffdale Rd.) at Marksbury Dr.		06-1378
Boone Trail at Boone Trail Center	C001	
Cain Road at Rogers Drive	C002	
Devers Street / Skye Drive at Hull Road	C003	
Fort Bragg Road at Churchill Drive	C004	
Fort Bragg Road at Devers Street / Barrington Cross Street	C005	
Fort Bragg Road at Hull Road	C006	
Fort Bragg Road at Stamper Road	C007	
Gillespie Street at Franklin Street / Ottis Jones Parkway	C008	
Green Street at Old Street / Bow Street / Maiden Lane	C009	
Hay Street at Bradford Avenue / Woodside Avenue	C010	
Hay Street at Ray Avenue / Old Street	C011	
Hillsboro Street at Boundary Lane	C012	
Hillsboro Street at Cumberland Street	C013	
McPherson Church Road at Barcelona Drive	C014	
McPherson Church Road at Sycamore Dairy Road	C015	
McPherson Church Road at Westwood Shopping Center	C016	
Person Street at B Street	C017	
Person Street at Bow Street / Ottis Jones Parkway	C018	
Pinecrest Drive at Rush Road / Mirror Lake Drive	C019	
Rosehill Road / Chadwick Road	C020	
Sycamore Dairy Road at Bargain Street	C021	
Sycamore Dairy Road at Legend Avenue	C022	
Village Drive at Boone Trail	C023	
Village Drive at Conover Drive	C024	
Village Drive at Fordham Drive	C025	
Village Drive at Metro Medical Drive	C026	
Village Drive at Purdue Drive	C027	
Village Drive at Roxie Avenue	C028	
Blount Street at Winslow Street	C029	

<b>Hay Street at Hillsboro Street / Winslow Street</b>	<b>C030</b>	
<b>Franklin Street at Winslow Street</b>	<b>C031</b>	
<b>Purdue Drive at Breezewood Avenue</b>	<b>C032</b>	
<b>Freedom Parkway Drive at Freedom Town Center</b>	<b>C033</b>	
<b>TOTAL NUMBER OF CITY SIGNALS</b>	<b>33</b>	
<b>TOTAL NUMBER OF STATE SIGNALS</b>		<b>207</b>
<b>TOTAL NUMBER OF ALL SIGNALS</b>		<b>240</b>
<b><u>PRO-RATA SHARE</u></b> <b><i>SCHEDULE D</i></b>	<b>DIVIDE NUMBER OF STATE SIGNALS BY THE TOTAL NUMBER OF ALL SIGNALS</b>	<b>86%</b>

## MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE D

## CCTV CAMERA LIST CITY OF FAYETTEVILLE

PLACEHOLDER ONLY – REPLACE WITH SUBMISSION FROM  
DIVISION/MUNICIPALITY

<u>CCTV LOCATION</u>	<u>CCTV ID #</u>
Ramsey @ Northgate	06-7037
Ramsey @ Meadowcroft	06-7038
I-295 @Ramsey	06-7040
Morganton @ Bonanza	06-7041
Yadkin @ Santa Fe	06-7042
Murchison @ Country Club	06-7043
I-295WB @ Murchison	06-7044
Bragg @ Shannon	06-7045
Owen @ Gillespie	06-7046
Gillespie @ Mountain	06-7047
Grove @ Eastern	06-7050
Bragg-Robeson @ Hay	06-7051
Robeson @ MLK	06-7052
Robeson @ Village	06-7053
Owen @ Village	06-7054
Owen @ Dyer	06-7055
Raeford @ AAF NB	06-7056
Grove @ Ramsey	06-7057
Murchison @ Langdon	06-7058
Bragg @ MLK	06-7059
Ramsey @ Rosehill	06-7060
Ramsey @ Country Club	06-7061
Ramsey @ Bartow	06-7062
Ramsey @ MLK	06-7063
Cliffdale @ AAF	06-7064
Skibo @ Morganton	06-7065
Skibo @ K-Mart	06-7066
Skibo @ Cliffdale	06-7067
Morganton @ Glensford	06-7068
Glensford @ Red Tip	06-7069
Morganton @ AAF	06-7070
Reilly @ Morganton	06-7071
Raeford @ Hope Mills	06-7072
Raeford @ Skibo	06-7073

<b>Skibo @ Richwood</b>	<b>06-7074</b>
<b>Raeford @ Bunce</b>	<b>06-7075</b>
<b>Raeford @ VA Hospital</b>	<b>06-7076</b>
<b>Cliffdale @ 71<sup>st</sup> School</b>	<b>06-7077</b>
<b>Bragg @ Santa Fe</b>	<b>06-7080</b>
<b>Bragg @ I-295EB</b>	<b>06-7081</b>
<b>Santa Fe @ AAF N</b>	<b>06-7082</b>
<b>Santa Fe @ AAF S</b>	<b>06-7083</b>
<b>Skibo @ Lake Valley</b>	<b>06-7086</b>
<b>Skibo @ Yadkin-McPherson Church</b>	<b>06-7087</b>
<b>TOTAL NUMBER OF CCTV CAMERAS:</b>	<b>44</b>





**MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE D**

**POSITION QUALIFICATIONS CITY OF FAYETTEVILLE**

**TRAFFIC SIGNAL SYSTEMS OPERATIONS MANAGER, OR EQUIVALENT**

**EDUCATION AND EXPERIENCE**

- Graduation from a four-year college or university with a major in Civil Engineering or equivalent or a minimum of 6 years of progressive transportation engineering experience; or an equivalent combination of training and directly related experience in traffic signal operations.
- Operations experience and knowledge of ITS concepts, data communications, and computerized traffic signal systems equipment.
- Excellent planning and organizational skills. Excellent oral and written communications skills including the ability to make public presentations.
- Working knowledge of the principles and practices of traffic signal timing and microcomputer applications of traffic signal optimization software (e.g., Synchro 3.2, PASSER-II, PASSER IV, TRANSYT 7F, NETSIM).
- Working knowledge of AUTOCAD or MICROSTATION and PC-BASED programs including: MS Office (Word, Excel, Access, PowerPoint), GIS, and various software programs for traffic optimization and traffic analysis.
- Regular NC driver's license required.

**ESSENTIAL DUTIES**

- Oversees the activities of the computerized traffic signal system operation to ensure that all required functions, activities and tasks are performed in an effective, efficient and timely manner.
- Directly manages employees in a Transportation Management Center. Is responsible for the overall direction, coordination, and evaluation of the unit.

**MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE D**

**POSITION QUALIFICATIONS**

**TRAFFIC SIGNAL SYSTEMS OPERATIONS MANAGER, OR EQUIVALENT**

**ESSENTIAL DUTIES (CONT'D)**

- Supervises staff in accordance with the organization's policies and applicable laws. Responsibilities include interviewing, hiring, and training employees; planning, assigning, and directing work; appraising performance; rewarding and disciplining employees; addressing complaints and resolving problems.
- Works with supervisor to manage staffing and work assignments. Supervises traffic signal staff by assigning tasks and reviewing work on a routine basis and provides ongoing guidance and feedback.
- Provides oversight for field investigations, collection and analysis of traffic data and Measures of Effectiveness (MOEs), computes traffic parameters to refine signal timing programs for optimum systems timing efficiency and develops time-space diagrams. Ensures new signal timing plans created by changes in traffic flow patterns, land-use and population are implemented.
- Responds to the complaints and concerns of the community regarding traffic signal design and intersection safety and efficiency.
- Reviews traffic signal designs for impact on general traffic flow and provides recommendations.

**MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE D**

**POSITION QUALIFICATIONS**

**TRAFFIC SIGNAL SYSTEMS OPERATIONS ENGINEER, OR EQUIVALENT**

**EDUCATION AND EXPERIENCE**

- Graduation from a four-year college or university with a major in Civil Engineering and a minimum of 3 years of progressive transportation engineering experience; or an equivalent combination of training and directly related experience in traffic signal operations.
- Operations experience and knowledge of ITS concepts, data communications, and computerized traffic signal systems equipment.
- Outstanding planning and organizational skills. Excellent oral and written communications skills including the ability to make public presentations.
- Working knowledge of the principles and practices of traffic signal timing and microcomputer applications of traffic signal optimization software (e.g., Synchro 3.2, PASSER-II, PASSER IV, TRANSYT 7F, NETSIM).
- Working knowledge of AUTOCAD or MICROSTATION and PC-BASED programs including: MS Office (Word, Excel, Access, PowerPoint), GIS, and various software programs for traffic optimization and traffic analysis.
- Regular NC driver's license required.

**ESSENTIAL DUTIES**

- Plans, organizes, and directs the activities of the computerized traffic signal system operation to ensure that all required functions, activities and tasks are performed in an effective, efficient and timely manner.
- Performs field investigations, collects and analyzes traffic data and Measures of Effectiveness (MOEs), computes traffic parameters to refine signal timing programs for optimum systems timing efficiency and develops time-space diagrams. Develops and implements new signal timing plans created by changes in traffic flow patterns, land-use and population.

**MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE D**

**POSITION QUALIFICATIONS**

**TRAFFIC SIGNAL SYSTEMS OPERATIONS ENGINEER, OR EQUIVALENT**

**ESSENTIAL DUTIES (CONT'D)**

- Prepares and installs timing plans (traffic responsive and time-of-day/day-of-week) for all corridors; prepares and implements special event timing plans; and prepares temporary timing plans for failed detector locations.
- Maintains system databases and modifies as necessary to allow for expansion; reviews and evaluates all signalized intersections for phasing optimization; provides system data for and assists with various traffic studies and analysis projects regarding the computerized traffic signal system.
- Provides assistance to the transportation operations staff in diagnostic and operational activities.
- Interacts with and uses the features of the signal system control software to develop and modify timing plans using PC-based timing plan software.
- Manages the traffic signal system operational functions including: operation of the graphics monitoring databases; performing periodic schedule data backup; assures the periodic image and graphic backups are accomplished and safely stored.
- Coordinates with the Department on roadway construction projects, which affect the traffic operations in the computerized traffic signal system. Develops and implements temporary timing plan strategies for construction work zones, alternate routes, and incident diversion routes.
- Maintains daily control logs, event logs, timing plan ledgers and daily summary reports.

**MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE D**

**POSITION QUALIFICATIONS**

**TRAFFIC SIGNAL SYSTEMS SPECIALIST, OR EQUIVALENT**

**EDUCATION AND EXPERIENCE:**

- Graduation from a two-year college or university and a minimum of 1 year of experience in traffic signal operations; or an equivalent combination of education and experience directly related to traffic signal operations.
- Knowledge of traffic signal system operations, Intelligent Transportation Systems (ITS) devices, data communications and computerized traffic signal systems equipment.
- Working knowledge of the principles and practices of traffic signal timing and microcomputer applications of traffic signal optimization software (e.g., MIST software system).
- Thorough knowledge of; ability to pay attention to detail and respond to changes in conditions; ability to coordinate work with others.
- Excellent planning and organizational skills. Excellent oral and written communications skills. Ability to maintain records.
- Working knowledge of AUTOCAD or MICROSTATION and PC-BASED programs including MS Office (Word, Excel, Access, Powerpoint); GIS and various software programs for traffic optimization and traffic analysis.
- Regular NC driver's license required.

**ESSENTIAL DUTIES:**

- Monitors the operations of the computerized traffic signal system operation on a daily basis to ensure that all required functions are performed in an effective, efficient and timely manner.

**MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE D**

**POSITION QUALIFICATIONS**

**TRAFFIC SIGNAL SYSTEMS SPECIALIST, OR EQUIVALENT**

**ESSENTIAL DUTIES (CONT'D)**

- Installs new or revised timing plans (traffic responsive and time-of-day/day-of-week) for corridors; implements special event timing plans and prepares temporary timing plans for failed detector locations through the use of Traffic System software.
- Monitors real time traffic operations through video sources to report incidents and special event information to the appropriate agencies (NCDOT, NC State Highway Patrol, Emergency Management, etc.) and the local Police and Fire departments.
- Performs traffic signal system operational functions including: maintaining the graphics monitoring databases; performing periodic schedule data backup; assures the periodic image and graphic backups are accomplished and safely stored. Coordinates signal repair work with operations staff.
- Coordinates with local TV stations and webmasters assuring periodic image and graphic are displayed and provided.
- Maintains daily control logs, event logs, timing plan ledgers and daily summary reports.

MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE D

COMPENSATION

ITEM	UNIT	ANNUAL RATE	PERCENT (%) UTILIZATION	QUANTITY	PRO-RATA PERCENT (Appendix II)	PRO-RATED COST
<b>FIXED ANNUAL COSTS REIMBURSEMENT SCHEDULE</b>						
System Operations Engineer	LS	\$123,860.22	75%	1	86%	\$79,889.85
System Operation Technician	LS	\$84,474.96	50%	1	86%	\$36,324.23
		\$				\$
<b>PER ITEM REIMBURSEMENT SCHEDULE</b>						
CENTRACS	LS	\$19,565.00	100%	1	86	\$16,825.90
SYNCHRO	LS	\$1,059.30	100%	1	86	\$911.00
		\$				\$
		\$				\$
		\$				\$
		\$				\$
<b><u>TOTAL ANNUAL COST</u></b>						<b>\$133,950.98</b>
<b>PER INCIDENT REIMBURSEMENT SCHEDULE</b>						
Per Incident Reimbursements shall consist of all costs associated with repairs and/or replacement of any equipment, software and supplies used to maintain operation of CITY OF FAYETTEVILLE Computerized Traffic Signal System at a pro rata share of 86%. This includes equipment or software such as, but not limited to: Central Computer Hardware & Software (KVM switch, servers, workstations, laptops, printers, UPSs, traffic management and communication software, etc.); Maintenance Equipment (test equipment, display boards and monitors, laptop, etc.), Communications cable and equipment (core switch, routing switches, media converters, GPS clock sync equipment, fiber modems, phone lines, dialup modems, serial multiport equipment, fiber interconnect centers, fiber patch panels, hub cabinets, ethernet cables, fiber materials and equipment, network management software, etc.); CCTV Equipment (camera assemblies and cabinets, encoders, decoders, master distribution amplifier, matrix bays, multiplexor, CCTV intelligent keyboards, DVR, switches, monitors, etc.); Office supplies (fax machine, printer repair and supplies, paper, pens, pencils and miscellaneous supplies).						\$ TBD As Needed

Note: Items included on this Schedule may be added or deleted to those above by written request, signed by a Municipal Representative. The letter should be sent in quadruplicate to the Division Engineer accompanied by four copies of the revised Schedule. If the Division Engineer approves the new schedule, he will sign all copies as APPROVED; then forwards one copy of the letter and Schedule to the DOT Controller, the LPMO Contract Officer, the Municipality, and retains one for Division file. The new Schedule will then become effective at the beginning of the next cycle for reimbursement. The Department of Transportation reserves the right to verify that all listed operations functions are being properly performed. If it is determined that any authorized operations function is not being performed, the reimbursement will be reduced accordingly.

ATTEST

\_\_\_\_\_  
CLERK

\_\_\_\_\_  
MUNICIPAL REPRESENTATIVE

\_\_\_\_\_  
DEPARTMENT OF TRANSPORTATION  
DIVISION ENGINEER





