

CITY OF HIGH POINT

AGENDA ITEM



Title: Schedule D Municipal Agreement with NCDOT for Traffic Signal Operations Reimbursements

From: Mark McDonald, Transportation Director

Meeting Date: January 17, 2017

Public Hearing: No

Advertising Date: NA

Advertised By: NA

Attachments: Schedule D Municipal Agreement

PURPOSE:

Consideration of a Municipal Agreement with the North Carolina Department of Transportation (NCDOT) for reimbursement of traffic signal system operational costs.

BACKGROUND:

NCDOT has presented the City with an updated reimbursement agreement for the operation and maintenance of the City's traffic signal system (Schedule D). This agreement applies to a portion of staff salaries, electronic communications hardware and system software upgrades, computer terminals and work stations used to monitor system operations, and the development of new timing plans. High Point's current system is comprised of 216 signalized intersections, including 36 owned by the City.

The last Schedule D revision occurred in 2010. The new schedule is very similar in content to previous agreements, and allows for periodic adjustments to reflect the addition of new signals and changing component costs, subject to funding availability. Its application will be retroactive to July 1, 2016, and is effective for one (1) year, but may be renewed annually by the City Manager for up to four (4) additional years (through June 2021) before a new agreement is required.

The base annual reimbursement is set at \$111,377. Cost recovery for specialty items (above the base amount) are pro-rated at a ratio equal to state-to-city intersections on the system (83% State and 17% City). Over the past six fiscal years (since the 2010 renewal) annual reimbursements have averaged \$120,712.

BUDGET IMPACT:

State funds received through this agreement are budgeted as General Fund revenue for Transportation operations.

RECOMMENDATION / ACTION REQUESTED:

Approval of the new Schedule D Municipal Agreement with NCDOT is recommended and authorize the appropriate city official to execute all necessary documents.

NORTH CAROLINA
GUILFORD COUNTY

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

DATE: 8/25/2016

NORTH CAROLINA DEPARTMENT OF
TRANSPORTATION

AND

WBS Element: 7.1041SM, 7.2041SM

CITY OF HIGH POINT

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 High Point 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 Minority Business Enterprises/Women Business Enterprises (MBE/WBE), or as required and defined 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 7/1/16 and ending 6/30/17. 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 6/30/21. 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 equivalents. These positions, as 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 equivalents 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 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 \$115,000, 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. 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. 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's 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 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 five (5) 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.

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 federal 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, 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. 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, Correction, Crime Control and Public Safety, Cultural Resources, Environment and Natural Resources, Health and Human Services, Juvenile Justice and Delinquency Prevention, Revenue, Transportation, and the Office of the Governor).

- I. 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.
- J. 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.

9. IRAN DIVESTMENT ACT

Pursuant to G.S. 147-86.59, any person identified as engaging in investment activities in Iran, determined by appearing on the Final Divestment List created by the State Treasurer pursuant to G.S. 147-86.58, is ineligible to contract with the State of North Carolina or any political subdivision of the State. The Iran Divestment Act of 2015, G.S. 147-86.55 *et seq.* requires that each vendor, prior to contracting with the State, certify that the contracting party meets the requirements of the Iran Divestment Act. The State Treasurer's Final Divestment List can be found on the State Treasurer's website at the address www.nctreasurer.com/iran and will be updated every 180 days.

- By execution of this AGREEMENT each Party certifies that neither it nor its Agents or Contactors/Subcontractors 1) are on the Final Divestment List of entities that the State Treasurer has determined engages in investment activities in Iran; 2) shall not utilize on any contract with the State agency any subcontractor that is identified on the Final Divestment List; and 3) that the undersigned are authorized by the Parties to make this Certification.
- During the term of this AGREEMENT, should the Parties receive information that a person is in violation of the Act as stated above, the Department will offer the person an opportunity to respond and the Department will take action as appropriate and provided for by law, rule, or contract. Should this Act be voided by NC General Statute, this AGREEMENT will remain valid; however this certification will no longer be required.

IN WITNESS WHEREOF, this Agreement has been executed by the Department and the Municipality by authority duly given.

ATTEST:

CITY OF HIGH POINT

BY: _____

BY: _____

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.

Approved by the local governing body of the City of High Point as attested to by the signature of Clerk

_____ of said governing body on _____ (Date)

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 High Point

DEPARTMENT OF TRANSPORTATION

BY: _____
(CHIEF ENGINEER)

DATE: _____

PRESENTED TO BOARD OF TRANSPORTATION ITEM O: _____

APPENDIX I

MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE D – CITY OF HIGH POINT

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.

MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE D – CITY OF HIGH POINT

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**.

APPENDIX I

MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE D – CITY OF HIGH POINT

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**.

APPENDIX I

MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE D – CITY OF HIGH POINT

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.

APPENDIX I

MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE D – CITY OF HIGH POINT

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.

APPENDIX II

TRAFFIC SIGNALS LIST – SCHEDULE D – HIGH POINT

SIGNAL LOCATION	CITY	STATE ID
Ashland St./Balfour Dr. & Main		08-0504
Archdale Rd. & Balfour Dr.		08-0505
Main St. & I-85 SB Ramp		08-0515
Main St. & I-85 NB Ramp		08-0516
Aldridge Rd/Renola Rd & Main		08-0646
Comanche/Tarheel Dr. & Main		08-0592
Baker/Petty & Main		08-0402
Archdale Rd. & Hwy 62 (Liberty/Trindale)		08-0134
Hwy 62 (Liberty/Trindale) & Main		08-0135
Archdale Rd. & Main		07-0208
Main & Fairfield		07-0734
Brentwood & Fairfield		07-0869
Brentwood & Springfield	HP0120	
Baker & Fairfield		07-0813
College & Main		07-0804
Main & Nathan Hunt		07-0805
Farley & Main		07-0198
Surrett Dr. & Farley/Finch		07-2171
Main & Plaza Ln.		07-1290
Fairfield & Plaza Ln.		07-1291
Main & Ward		07-0797
Elm & Ward	HP0202	
Green & Ward		07-0799
Kearns & Main		07-0801
Centennial & Main		07-1005
Main & Market Center		07-0803
Grimes & Hamilton	HP0209	
Grimes & Main		07-0794
Elm & Grimes	HP0211	
Elm & Taylor	HP0212	
Green & Hamilton		07-0789
Hamilton & Russell		07-0998
Russell & Wrenn		07-1000
Main & Russell		07-0288
Elm & Russell		07-0997
College/Market Center & Surrett		07-0947
Elm & Surrett	HP0226	
Elm & Market Center		07-0948

Green & Market Center		07-0949
Green & Trinity		07-0809
Green & I-85 Business/US 29-70 SB Ramp		07-0414
Green & I-85 Business/US 29-70 NB Ramp		07-0416
Fairfield & Uwharrie		07-0200
Fairfield & Surrett		07-0738
Surrett & Corporation/Eden Terrace		08-0707
Surrett & Sealy		08-0303
Blandwood & Prospect	HP0309	
Eugene & Prospect	HP0310	
Prospect & Ward	HP0311	
English & Ward		07-0777
Chestnut & Rotary	HP0317	
Country Club & Westchester		07-0736
Lexington & Westchester		07-0756
Chestnut & Westchester		07-0774
Phillips & Westchester		07-1374
Coventry & Westchester		07-0735
Ward & Westchester		07-0105
Burton & Westchester		07-0778
Market Center Dr. & Old Thomasville Rd.		07-0944
English & Market Center Dr.		07-0779
English & South Rd.		07-0946
Kivett & Lindsay		07-0994
Chestnut & English		07-0773
English & West Point		07-0776
Green & Wrenn		07-0788
Green & Main		07-0787
Elm & Green		07-0791
Green & Grimes		07-0792
Green & Taylor		07-0795
Centennial & Green		07-0995
Centennial & Russell		07-0996
Park & Russell		07-0999
Green & Park		07-0587
College & Russell		07-1178
College & Wise		07-1177
College & Kearns		07-1176
College & Green		07-1179
Brentwood & Green		07-1483
Green & US 311 Ramp SB		07-2002
Green & US 311 Ramp NB		07-2003
Brentwood & Nathan Hunt	HP0427	

Brentwood & Business I-85/US29-70 SB Ramp		07-1363
Brentwood & Business I-85/US 29-70 NB Ramp		07-0379
English & Hamilton		07-1002
Fred Alexander & Wrenn	HP0526	
English & Wrenn		07-1004
English & Main		07-0770
Elm & English		07-0771
English & Lindsay		07-0772
Centennial & Commerce	HP0501	
Commerce & Hamilton	HP0502	
High & Wrenn	HP0503	
High & Main		07-0785
Commerce & Wrenn	HP0509	
Commerce & Main		07-0786
Commerce & Elm	HP0511	
Elm & High	HP0512	
Broad & Elm	HP0513	
Centennial & Kivett		07-0783
Hamilton & Kivett		07-0782
Kivett & Wrenn		07-0781
Kivett & Main		07-0780
Hayden & Kivett		07-0993
Elm & Kivett		07-0402
College & Montlieu		07-0766
Lexington/Greensboro Rd & Montlieu		07-0760
Deep River & Greensboro Rd.		07-0457
Greensboro Rd. & US 311 Ramp SB		07-1593
Greensboro Rd. & US 311 Ramp NB		07-1592
Enterprise & Greensboro Rd.		07-1272
Greensboro Rd. & Penny		07-1323
Main & Scientific		07-1461
Main & Oakdale		07-1437
Main & Dillion/Ragsdale		07-1268
Dillion & Rail Road Crossing		07-2127
Guilford & Main		07-0197
Hamilton & Richardson	HP0601	
Richardson & Wrenn	HP0602	
Hamilton & Westwood	HP0609	
Westwood & Wrenn	HP0610	
Main & Westwood		07-0768
Church & Main		07-0769
Church & Elm	HP0613	
Elm & Westwood	HP0614	

Lindsay & Westwood	HP0615	
College & Leonard		07-0586
College & Kivett		07-0915
Hoskin/Oneka & Kivett		07-0550
Gordon & Hoskin	HP0708	
Brentwood & Kivett		07-1482
Kivett & US 311/I-74 Ramp SB		07-2005
Kivett & US 311/I-74 Ramp NB		07-2004
Kivett & Pendleton		07-1467
Kivett & Scientific		07-0856
Kivett & Triangle Lake		07-2052
Kivett & Harvey		07-1283
Kivett & Business I-85 SB Ramp		07-1578
Kivett & Business I-85 NB Ramp		07-1579
I-85 Bus NB Ramp & US 311 NB Ramp		07-2089
I-85 Bus NB Ramp & US 311 SB Ramp		07-2012
I-85 Bus SB Ramp & US 311 SB Ramp		07-2010
I-85 Bus SB Ramp & US 311 NB Ramp		07-2009
Main & Montlieu		07-0763
Lexington & Main		07-0757
Johnson & Oakview	HP0803	
Johnson & I-74/US 311 NB Ramp		07-1735
Johnson & I-74/US 311 SB Ramp		07-1265
Hartley & West Mall		07-1745
Eastchester & North Mall		07-1748
Centennial & Lexington		07-0758
Farriss & Main		07-0761
Eastchester & Main		07-0753
Eastchester & Johnson		07-0737
Hartley & Johnson		07-1744
Eastchester & Hartley		07-1447
Beaucrest & Centennial	HP0814	
Centennial & College		07-1923
Hamilton & Montlieu	HP0816	
Main & Parkway		07-0762
Main & State		07-0755
Johnson & Parris	HP0819	
East Mall & Hartley		07-1746
Centennial & Eastchester		07-0754
College & Lexington		07-0916
Lexington & McGuinn		07-0759
Centennial & Montlieu	HP0824	
Elm & Ray	HP0825	

Elm & Sunset	HP0826	
Johnson & Parkway	HP0828	
Johnson & Lexington		07-0814
Hamilton & Lexington		07-1001
Lexington & Rotary		07-0815
Main & Parris		07-0216
Main & Old Winston		07-0752
Hartley & Main		07-1455
Bellevue/Bue & Main		07-0894
Oakview & Old Winston	HP0905	
Main & US 311		07-0893
Main & Old Plank Rd		07-1736
US 311 & Old Plank		07-1477
Hartley & Old Winston		07-1989
Main & Westover		07-2057
Penny & Wendover		07-0892
Premier & Wendover/Windstream Way		07-1857
Tarrant & Wendover		07-1441
Morris Farm & Wendover		07-1834
Piedmont Parkway & Wendover		07-1737
Guilford College & Wendover Ramp EB		07-1889
Guilford College & Wendover Ramp WB		07-1890
Guilford College & Hill Top/Piedmont Parkway		07-1217
Eastchester & US 311 NB Ramp		07-1623
Eastchester & Cypress Court/Gordon		07-1425
Eastchester & Penny		07-1527
Eastchester & Premier		07-1856
Eastchester & Willard Dairy/Mendenhall Parkway		07-1420
Eastchester & Clinard Farm/Piedmont Parkway		07-1525
Eastchester & Regency		07-1603
Eastchester & Gallimore Dairy		07-1438
Eastchester & Lassiter		07-1980
Eastchester & US 311 SB Ramp		07-1624
Eastchester & Hickswood		07-1937
Eastchester & Wendover		07-0493
Wendover & Samet		07-1999
Piedmont Parkway & Morris Farm		07-2069
Piedmont Parkway & Tarrant		07-1920
Eastchester & Deep River		07-2101
Penny & Samet		07-1981
Braddock & Skeet Club		07-2053
Barrow & Skeet Club		07-1473
Barrow & Southwest School		07-1879

Barrow & Willard Dairy		07-2116
Johnson & Skeet Club		07-0935
Johnson & Old Mill		HP1024
Wendover & Gisbourne		07-0105
Boundary & College (Flasher)		07-1275
Westchester & Wickliff (Flasher)		07-1276
Green & Lindsay (Flasher)		07-1277
TOTAL NUMBER OF CITY SIGNALS		37
TOTAL NUMBER OF STATE SIGNALS		180
TOTAL NUMBER OF ALL SIGNALS		217
<u>PRO-RATA SHARE</u> SCHEDULE D	DIVIDE NUMBER OF STATE SIGNALS BY THE TOTAL NUMBER OF ALL SIGNALS	83%

APPENDIX III

SCHEDULE D - CCTV CAMERA LIST – CITY OF HIGHPOINT

<u>CCTV LOCATION</u>	<u>CCTV ID #</u>
College & Kivett	02
Kivett & US 311/I-74	03
Lexington & Westchester	04
Market Center & English	06
Market Center & Green	08
Main & Bus. I-85/29-70	10
Green & US 311/I-74	11
Main & Fairfield	12
US 311 & I-85 (Archdale)	14
US 311/I-74 & US 29-70	15
US 311/I-74 & Jackson Lake Rd	16
US 311/I-74 & I-85 NB	17
US 311/I-74 & I-85 SB	18
Commerce & Wrenn (Street Level)	23
Commerce & Hamilton	24
Commerce & Hamilton (Street Level)	25
Commerce & Wrenn	26
Mendenhall Station Terminal	27
Green & Wrenn	28
Commerce & Elm	30
Main & High	32
English & Hamilton (Street Level)	33
Main & Lexington	34
Main & Eastchester	36
Main & Hartley	37
US 311 & Old Plank	38
Johnson & US 311/I-74	39
Eastchester & Johnson	40
Eastchester & Gallimore Dairy	41
Hartley & West Mall	42
Wendover & Guilford College	43
Eastchester & North Mall	44
Eastchester & US 311/I-74	45
Eastchester & Wendover	46
Eastchester & Piedmont Parkway	47
Greensboro Rd & Guilford (Jamestown)	48
US 311/I-74 & Greensboro Rd.	49
TOTAL NUMBER OF CCTV CAMERAS:	37

APPENDIX IV

SCHEDULE D - DETECTOR LIST – CITY OF HIGH POINT

DETECTOR LOCATION	STATE ID
SB C MAIN & BALFOUR	01001
SB I MAIN & BALFOUR	01002
NB C MAIN & BALFOUR	01003
NB I MAIN & BALFOUR	01004
SB I MAIN & ALDRIDGE	01005
SB M MAIN & ALDRIDGE	01006
SB C MAIN & ALDRIDGE	01007
NB I MAIN & ALDRIDGE	01008
NB M MAIN & ALDRIDGE	01009
NB C MAIN & ALDRIDGE	01010
NB I MAIN & BAKER	01011
NB C MAIN & BAKER	01012
NB ARCHDALE RD. & HWY 62	01013
EB ARCHDALE RD. & HWY 62	01014
WB ARCHDALE RD. & HWY 62	01015
WB MAIN & HWY 62	01016
SB C MAIN & HWY 62	01017
SB I MAIN & HWY 62	01018
NB C MAIN & HWY 62	01019
NB I MAIN & HWY 62	01020
SB C MAIN & FAIRFIELD	01021
SB I MAIN & FAIRFIELD	01022
NB I MAIN & FAIRFIELD	01023
NB C MAIN & FAIRFIELD	01024
WB I BRENTWOOD & FAIRFIELD	01025
WB C BRENTWOOD & FAIRFIELD	01026
EB I BRENTWOOD & FAIRFIELD	01027
EB C BRENTWOOD & FAIRFIELD	01028
NB I BRENTWOOD & SPRINGFIELD	01029
NB C BRENTWOOD & SPRINGFIELD	01030
SB I BRENTWOOD & SPRINGFIELD	01031
SB C BRENTWOOD & SPRINGFIELD	01032
EB L MAIN & COLLEGE	01033
EB M MAIN & COLLEGE	01034
EB R MAIN & COLLEGE	01035
NB C MAIN & NATHAN HUNT	01036

NB I MAIN & NATHAN HUNT	01037
SB I MAIN & NATHAN HUNT	01038
SB C MAIN & NATHAN HUNT	01039
EB C FAIRFIELD & PLAZA	01040
EB I FAIRFIELD & PLAZA	01041
WB I FAIRFIELD & PLAZA	01042
WB C FAIRFIELD 7 PLAZA	01043
NB I MAIN & WARD	02001
NB C MAIN & WARD	02002
WB I ELM & WARD	02003
WB C ELM & WARD	02004
SB I GREEN & WARD	02005
SB C GREEN & WARD	02006
WB GREEN & WARD	02007
EB GREEN & WARD	02008
SB C MAIN & CENTENNIAL	02009
SB I MAIN & CENTENNIAL	02010
WB L MAIN & MARKET CTR	02011
WB M MAIN & MARKET CTR	02012
WB R MAIN & MARKET CTR	02013
NB I MAIN & MARKET CTR	02014
NB C MAIN & MARKET CTR	02015
SB I MAIN & GRIMES	02016
SB C MAIN & GRIMES	02017
NB I ELM & TAYLOR	02018
NB C ELM & TAYLOR	02019
NB L HAMILTON & RUSSELL	02020
NB M L HAMILTON & RUSSELL	02021
NB R L HAMILTON & RUSSELL	02022
NB I MAIN & RUSSELL	02023
NB C MAIN & RUSSELL	02024
EB L MAIN & RUSSELL	02025
EB R MAIN & RUSSELL	02026
EB L COLLEGE & SURRETT	02027
EB M COLLEGE & SURRETT	02028
EB R COLLEGE & SURRETT	02029
WB I ELM & MARKET CTR	02030
WB C ELM & MARKET CTR	02031
SB I GREEN & MARKET CTR	02032
SB C GREEN & MARKET CTR	02033
WB I GREEN & MARKET CTR	02034

WB C GREEN & MARKET CTR	02035
EB I GREEN & MARKET CTR	02036
EB C GREEN & MARKET CTR	02037
NB I GREEN & MARKET CTR	02038
NB C GREEN & MARKET CTR	02039
WB I GREEN & BUS85 SB RAMP	03001
WB C GREEN & BUS85 SB RAMP	03002
EM I GREEN & BUS85 NB RAMP	03003
EB C GREEN & BUS85 NB RAMP	03004
WB I FAIRFIELD & SURRETT	03005
WB C FAIRFIELD & SURRETT	03006
EB I FAIRFIELD & SURRETT	03007
EB C FAIRFIELD & SURRETT	03008
NB BLANDWOOD & PROSPECT	03009
WB WARD & PROSPECT	03010
SB WARD & PROSPECT	03011
EB ENGLISH & WARD	03012
WB CHESTNUT & ROTARY	03013
NB I WESTCHESTER & C.CLB	03014
NB C WESTCHESTER & C.CLB	03015
NB I WESTCHESTER & LEX	03016
NB C WESTCHESTER & LEX	03017
SB C WESTCHESTER & LEX	03018
SB I WESTCHESTER & LEX	03019
SB C WESTCHESTER & CEST	03020
SB I WESTCHESTER & CHEST	03021
EB C WESTCHESTER & CHEST	03022
EB I WESTCHESTER & CHEST	03023
NB C WESTCHESTER & PHIL	03024
NB I WESTCHESTER & PHILL	03025
SB I WESTCHESTER & WARD	03026
SB C WESTCHESTER & WARD	03027
NB I WESTCHESTER & BURTN	03028
NB C WESTCHESTER & BURTN	03029
WB I M.CENTER & O T-VILL	03030
WB C M.CENTER & O T-VILL	03031
EB C M.CENTER & O T-VILL	03032
EB I M.CENTER & O T-VILL	03033
WB I ENGLISH & M.CENTER	03034
WB C ENGLISH & M.CENTER	03035
EB I ENGLISH & M.CENTER	03036

EB C ENGLISH & M.CENTER	03037
EB C ENGLISH & SOUTH	03038
EB I ENGLISH & SOUTH	03039
NB I KIVETT & LINDSAY	04001
NB C KIVETT & LINDSAY	04002
WB C ENGLISH & WESTPOINT	04003
WB I ENGLISH & WESTPOINT	04004
EB C ENGLISH WESTPOINT	04005
EB I ENGLISH & WESTPOINT	04006
SB C ELM & GREEN	04010
SB I ELM & GREEN	04011
WB I GREEN & GRIMES	04012
WB C GREEN & GRIMES	04013
EB I GREEN & GRIMES	04014
EB C GREEN & GRIMES	04015
WB L GREEN & PARK	04016
WB ML GREEN & PARK	04017
WB MR GREEN & PARK	04018
WB R GREEN & PARK	04019
SB I COLLEGE & RUSSELL	04020
SB C COLLEGE & RUSSELL	04021
NB I COLLEGE & GREEN	04022
NB C COLLEGE & GREEN	04023
EB I COLLEGE & GREEN	04024
EB C COLLEGE & GREEN	04025
SB I GREEN & BRENTWOOD	04026
SB C GREEN & BRENTWOOD	04027
WB I GREEN & BRENTWOOD	04028
WB C GREEN & BRENTWOOD	04029
NB C BRENTWOOD & N. HUNT	04030
NB I BRENTWOOD & N. HUNT	04031
WB L GREEN & WRENN	04032
WB ML GREEN & WRENN	04033
WB MR GREEN & WRENN	04034
WB R GREEN & WRENN	04035
NB L ENGLISH & HAMILTON	05001
NB M ENGLISH & HAMILTON	05002
NB R ENGLISH & HAMILTON	05003
WB L ENGLISH & WRENN	05004
WB M ENGLISH & WRENN	05005
WB R ENGLISH & WRENN	05006

WB L ELM & ENGLISH	05007
WB M ELM & ENGLISH	05008
WB R ELM & ENGLISH	05009
NB C CENTENNIAL & COMMER	05010
NB I CENTENNIAL & COMMER	05011
NB I MAIN & COMMERCE	05012
NB C MAIN & COMMERCE	05013
SB I MAIN & COMMERCE	05014
SB C MAIN & COMMERCE	05015
NB I ELM & COMMERCE	05016
NB C ELM & COMMERCE	05017
SB I CENTENNIAL & KIVETT	05018
SB C CENTENNIAL & KIVETT	05019
EB L CENTENNIAL & KIVETT	05020
EB M CENTENNIAL & KIVETT	05021
EB R CENTENNIAL & KIVETT	05022
WB L KIVETT & HAMILTON	05023
WB M KIVETT & HAMILTON	05024
WB R KIVETT & HAMILTON	05025
SB L KIVETT & WRENN	05026
SB M KIVETT & WRENN	05027
SB R KIVETT & WRENN	05028
SB I MAIN & KIVETT	05029
SB C MAIN & KIVETT	05030
EB L ELM & KIVETT	05031
EB M ELM & KIVETT	05032
EB R ELM & KIVETT	05033
SB I ELM & KIVETT	05034
SB C ELM & KIVETT	05035
EB COLLEGE & MONTLIEU	06001
WB COLLEGE & MONTLIEU	06002
NB I COLLEGE & MONTLIEU	06003
NB C COLLEGE & MONTLIEU	06004
SB I COLLEGE & MONTLIEU	06005
SB C COLLEGE & MONTLIEU	06006
WB LEXINGTON & MONTLIEU	06007
SB LEXINGTON & MONTLIEU	06008
EB I LEXINGTON & MONTLIEU	06009
EB C LEXINGTON & MONTLIEU	06010
WB I G-BORO & DEEP RIVER	06011
WB C G-BORO & DEEP RIVER	06012

EB G-BORO & PENNY	06013
WB G-BORO & PENNY	06014
EB MAIN & SCIENTIFIC	06015
WB MAIN & SCIENTIFIC	06016
WB MAIN & RAGSDALE	06017
EB MAIN & RAGSDALE	06018
EB MAIN & GUILFORD	06019
WB MAIN & GUILFORD	06020
SB L WRENN & WESTWOOD	06021
SB R WRENN & WESTWOOD	06022
SB I MAIN & WESTWOOD	06023
SB C MAIN & WESTWOOD	06024
NB I MAIN & WESTWOOD	06025
NB C MAIN & WESTWOOD	06026
NB I MAIN & CHURCH	06027
NB C MAIN & CHURCH	06028
SB I ELM & WESTWOOD	06029
SB C ELM & WESTWOOD	06030
SB LINDSAY & WESTWOOD	06031
WB C COLLEGE & KIVETT	07001
WB I COLLEGE & KIVETT	07002
SB I COLLEGE & KIVETT	07003
SB C COLLEGE & KIVETT	07004
EB C KIVETT & HOSKINS	07005
EB I KIVETT & HOSKINS	07006
WB C KIVETT & BRENTWOOD	07007
WB I KIVETT & BRENTWOOD	07008
SB I MAIN & MONTLIEU	08001
SB C MAIN & MONTLIEU	08002
NB C MAIN & LEXINGTON	08003
NB I MAIN & LEXINGTON	08004
NB C OAKVIEW & JOHNSON	08005
NB I OAKVIEW & JOHNSON	08006
SB C OAKVIEW & JOHNSON	08007
SB I OAKVIEW & JOHNSON	08008
WB I HARTLEY & W.MALL	08009
WB C HARTLEY & W.MALL	08010
NB I EASTCHESTER & N.MAL	08011
NB C EASTCHESTER & N.MAL	08012
WB I LEXINGTON & CENTENN	08013
WB C LEXINGTON & CENTENN	08014

NB I LEXINGTON & CENTENN	08015
NB C LEXINGTON & CENTENN	08016
SB I LEXINGTON & CENTENN	08017
SB C LEXINGTON & CENTENN	08018
SB I MAIN & FARRISS	08019
SB C MAIN & FARRISS	08020
EB I MAIN & EASTCHESTER	08021
EB C MAIN & EASTCHESTER	08022
NB L MAIN & EASTCHESTER	08023
NB M MAIN & EASTCHESTER	08024
NB R MAIN & EASTCHESTER	08025
SB I MAIN & EASTCHESTER	08026
SB C MAIN & EASTCHESTER	08027
EB I MAIN & EASTCHESTER	08028
WB C MAIN & EASTCHESTER	08029
NB I EASTCHESTER & JOHNS	08030
NB C EASTCHESTER & JOHNS	08031
SB I EASTCHESTER & JOHNS	08032
SB C EASTCHESTER & JOHNS	08033
EB I EASTCHESTER & JOHNS	08034
EB C EASTCHESTER & JOHNS	08035
WB I EASTCHESTER & JOHNS	08036
WB C EASTCHESTER & JOHNS	08037
NB I JOHNSON & HARTLEY	08038
NB C JOHNSON & HARTLEY	08039
SB I JOHNSON & HARTLEY	08040
SB C JOHNSON & HARTLEY	08041
EB I JOHNSON & HARTLEY	08042
EB C JOHNSON & HARTLEY	08043
EB C HAMILTON & MONTLIEU	08044
EB I HAMILTON & MONTLIEU	08045
SB C HAMILTON & MONTLIEU	08046
SB I HAMILTON & MONTLIEU	08047
NB C HAMILTON & MONTLIEU	08048
NB I HAMILTON & MONTLIEU	08049
NB I MAIN & PARKWAY	08050
NB C MAIN & PARKWAY	08051
EB R HARTLEY & E. MALL	08052
EB MR HARTLEY & E. MALL	08053
EB ML HARTLEY & E. MALL	08054
EB L HARTLEY & E. MALL	08055

SB I EASTCHESTER & CENT	08056
SB C EASTCHESTER & CENT	08057
WB I EASTCHESTER & CENT	08058
WB C EASTCHESTER & CENT	08059
EB I EASTCHESTER & CENT	08060
EB C EASTCHESTER & CENT	08061
NB I EASTCHESTER & CENT	08062
NB C EASTCHESTER & CENT	08063
SB I CENTENNIAL & MONTLI	08064
SB C CENTENNIAL & MONTLI	08065
NB I CENTENNIAL & MONTLI	08066
NB C CENTENNIAL & MONTLI	08067
EB C ELM & PARKWAY	08068
EB I ELM & PARKWAY	08069
WB JOHNSON & PARKWAY	08070
EB L JOHNSON & PARKWAY	08071
EB R JOHNSON & PARKWAY	08072
SB L JOHNSON & LEXINGTON	08073
SB R JOHNOSN & LEXINGTON	08074
EB HAMILTON & LEXINTON	08075
WB I HAMILTON & LEXINGTON	08076
WB C HAMILTON & LEXINGTON	08077
NB L HAMILTON & LEXINGTON	08078
NB R HAMILTON & LEXINGTON	08079
EB LEXINGTON & ROTARY	08080
SB I MAIN & PARRIS	09001
SB C MAIN & PARRIS	09002
NB I MAIN & OLD WINSTON	09003
NB C MAIN & OLD WINSTON	09004
NB L MAIN & HARTLEY	09005
NB M MAIN & HARTLEY	09006
NB R MAIN & HARTLEY	09007
EB I HARTLEY & OLD WINSTON	09008
EB C HARTLEY & OLD WINSTON	09009
SB I MAIN & HARTLEY	09010
SB C MAIN & HARTLEY	09011
NB C MAIN & 311	09012
NB I MAIN & 311	09013
SB C MAIN & 311	09014
SB I MAIN & 311	09015
EB I WENDOVER & PENNY	10001

EB C WENDOVER & PENNY	10002
WB L WENDOVER & PENNY	10003
WB M WENDOVER & PENNY	10004
WB R WENDOVER & PENNY	10005
NB I EASTCHESTER & GORDO	10006
NB C EASTCHESTER & GORDO	10007
NB I EASTCHESTER & PENNY	10008
NB C EASTCHESTER & PENNY	10009
SB C EASTCHESTER & PPARK	10010
SB I EASTCHESTER & PPARK	10011
NB C EASTCHESTER & PPARK	10012
NB I EASTCHESTER & PPARK	10013
SB I EASTCHESTER & GALLI	10014
SB C EASTCHESTER & GALLI	10015
SB I EASTCHESTER & LASSI	10016
SB C EASTCHESTER & LASSI	10017
NB I EASTCHESTER & LASSI	10018
NB C EASTCHESTER & LASSI	10019
SB I EASTCHESTER & 311 S	10020
SB C EASTCHESTER & 311 S	10021
SB C EASTCHESTER & WEND	10022
TOTAL NUMBER OF DETECTORS:	344

APPENDIX V

MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE D – CITY OF HIGH POINT POSITION QUALIFICATIONS

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.

APPENDIX V

MUNICIPAL OPERATIONS AGREEMENT – SCHEDULE D – CITY OF HIGH POINT

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 – CITY OF HIGH POINT
POSITION QUALIFICATIONS**

TRAFFIC SYSTEMS OPERATIONS ENGINEER

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.

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 – CITY OF HIGH POINT
POSITION QUALIFICATIONS**

TRAFFIC SIGNAL SYSTEMS SPECIALIST

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.
- 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.

ESSENTIAL DUTIES (CONT'D)

- 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.

APPENDIX VI

MUNICIPAL OPERATIONS COMPENSATION – SCHEDULE D – HIGH POINT

ITEM	UNIT	ANNUAL RATE	PERCENT (%) UTILIZATION	QUANTITY	PRO-RATA PERCENT (Appendix II)	PRO-RATED COST
FIXED ANNUAL COSTS REIMBURSEMENT SCHEDULE						
Signal Systems Operations Engineer	LS	\$ 93,599.75	100%	1	83%	\$ 77,687.79
Signal Systems Specialist	LS	\$ 73,392.55	50%	1	83%	\$ 30,457.91
Systems Detector	EA	\$ 6.60	100%	172	83%	\$ 942.22
R x R Right of Way	EA	\$ 393.93	100%	7	83%	\$ 2,288.73
PER ITEM REIMBURSEMENT SCHEDULE						
PER INCIDENT REIMBURSEMENT SCHEDULE						
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 High Point Computerized Traffic Signal System at a pro rata share of 83%. 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
TOTAL						\$111,376.65

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.

L.S. ATTEST

CITY OF HIGH POINT

CLERK _____

MUNICIPAL REPRESENTATIVE _____

DATE _____

DATE _____

NCDOT DIVISION ENGINEER _____