

Advertised: **FEBRUARY 01, 2017**

Traffic Systems Operations Unit

REQUEST for LETTERS of INTEREST (RFLOI)

2017 Traffic Operations & Incident Management

TITLE: **2017 Traffic Operations & Incident Management**

USING AGENCY: North Carolina Department of Transportation
Traffic Systems Operations Unit

ISSUE DATE: **FEBRUARY 01, 2017**

SUBMITTAL DEADLINE: **MARCH 02, 2017**

ISSUING AGENCY: North Carolina Department of Transportation
Technical Services Division
Professional Services Management Unit

SYNOPSIS

SUBCONSULTANTS ARE PERMITTED UNDER THIS CONTRACT.

The primary and/or subconsultant firm(s) (*if Subconsultants are allowed under this RFLOI*) shall be pre-qualified to perform ALL of the work codes listed below for the Traffic Systems Operations Unit. Work Codes required are:

- **00462 - Traffic Operations**
- **00463 - Incident Management**
- **00495 - Traffic Operations and Incident Management**

WORK CODES for each primary and/or subconsultant firm(s) (*if Subconsultants are allowed under this RFLOI*) SHALL be listed on the respective RS-2 FORMS (see section 'SUBMISSION ORGANIZATION AND INFORMATION REQUIREMENTS').

This RFLOI is to solicit responses (LETTERS of INTEREST, or LOIs) from qualified firms to provide professional consulting services to:

The purpose of this project is to effectively staff, operate, and manage the Statewide Traffic Operations Center (STOC) and the four regional Transportation Management Centers (TMCs): Triangle, Triad and NC Turnpike Authority (located in Raleigh); and the Metrolina (located in Charlotte). This includes a strong and proactive project management approach as well as effective management of the day-to-day operations within the defined facilities. In addition, this contract may include the maturation and management of the Traffic Incident Management (TIM) Program. The selected Firm/Team will develop and maintain a system for contracting TMC operators and TIM staff to achieve the contract requirements stated in Attachment A. It is expected that the selected Firm/Team will implement a consistent methodology of performing these functions such that the following benefits are achieved:

- Increased Efficiency – gained by applying consistent traffic methodologies that allow for efficient training and integration of new systems, tools, and procedures.**
- Improved Performance – realized through the application of consistent procedures that are fully understood and performed consistently across the state.**
- Enhanced Security – obtained by applying a consistent set of operating procedures that limit threats and vulnerabilities.**
- Redundancy – gained through consistent deployment of systems and operating procedures such that responsibilities may be achieved by a back-up center should an emergency or outage be experienced.**

A Project Coordinator from NCDOT will work alongside the selected Firm/Team to align the project with the goals and standards of NCDOT. The selected Firm/Team is encouraged to provide leadership and innovation throughout the life of the project with limited direction and only high level oversight from NCDOT.

Except as provided below any firm wishing to be considered must be properly registered with the Office of the Secretary of State and with the North Carolina Board of Examiners for Engineers and Surveyors. Any firm proposing to use corporate subsidiaries or subcontractors must include a statement that these companies are properly registered with the North Carolina Board of Examiners for Engineers and Surveyors and/or the NC Board for Licensing of Geologists. The Engineers performing the work and in responsible charge of the work must be registered Professional Engineers in the State of North Carolina and must have a good ethical and professional standing. It will be the responsibility of the selected private firm to verify the registration of any corporate subsidiary or subcontractor prior to submitting a Letter of Interest. Firms which are not providing engineering services need not be registered with the North Carolina Board of Examiners for Engineers and Surveyors. Some of the services being solicited may not require a license. It is the responsibility of each firm to adhere to all laws of the State of North Carolina.

The firm must have the financial ability to undertake the work and assume the liability. The selected firm(s) will be required to furnish proof of Professional Liability insurance coverage in the minimum amount of \$1,000,000.00. The firm(s) must have an adequate accounting system to identify costs chargeable to the project.

SCOPE OF WORK

The North Carolina Department of Transportation (NCDOT) is soliciting proposals for the services of a firm/team for the following contract scope of work:

See "**Attachment A: Traffic Operations & Incident Management RFLOI Scope of Work**".

PROPOSED CONTRACT TIME: The initial contract will be for a **THREE (3) year period with the option of ONE (1) @ TWO (2) year extension.**

PROPOSED CONTRACT PAYMENT TYPE: **LUMP SUM charges, billed against a Contract Maximum Amount.**

SUBMITTAL REQUIREMENTS

All LOIs are limited to **TWENTY-THREE (EXCLUSIVE of Appendices, Resumes, and Organizational Charts) (23)** pages (RS-2 forms are not included in the page count) inclusive of the cover sheet, and shall be typed on 8-1/2" x 11" sheets, single-spaced, one-sided.

LOIs containing more than **TWENTY-THREE (EXCLUSIVE of Appendices, Resumes, and Organizational Charts) (23)** pages will not be considered.

WORK CODES for each primary and/or subconsultant firm(s) (*if Subconsultants are allowed under this RFLOI*) SHALL be listed on the respective RS-2 FORMS (see section 'SUBMISSION ORGANIZATION AND INFORMATION REQUIREMENTS').

ONLY ELECTRONIC LOIs WILL BE ACCEPTED.

LOIs should be submitted in .pdf format using software such as Adobe, CutePDF PDF Writer, DocuDesk deskPDF, etc.

One copy of the LOI should be sent as a .pdf file, **through NCDOT's FTS System**, to: psmu-411@ncdot.gov. **The FTS system will send you an electronic receipt when your LOI is uploaded to NCDOT's FTS system.** Paper copies are not required. The subject line should contain the Firm's Name, and "**LOI for 2017 Traffic Operations & Incident Management**".

If an interested firm does not have an FTS account they should send a request through regular e-mail to psmu-411@ncdot.gov. A response will be sent via the FTS system that will provide a login username, password, and login procedures.

LOIs SHALL be received electronically no later than 12:00 P.M., MARCH 02, 2017.

LOIs received after this deadline will not be considered.

Firms submitting LOIs are encouraged to carefully check them for conformance to the requirements stated above (and any other requirements in this Advertisement). If LOIs are submitted late, exceed the maximum number of pages, are sent by any means other than NCDOT's FTS system, or are sent to any address other than psmu-411@ncdot.gov they will be disqualified.

The Department reserves the right to reject all LOIs and not proceed with procurement.

The Department reserves the right to waive any technicality in LOIs, or notify the Firm(s) of such technicality and allow the Firm(s) up to two (2) business days to rectify the technicality.

SELECTION PROCESS

Following is a general description of the selection process:

- The NCDOT Selection Committee will review all qualifying LOI submittals.
- For Limited Services Contracts (On-Call type contracts), the NCDOT Selection Committee MAY, at the Department's discretion, choose any number of firms to provide the services being solicited.
- For Project-Specific Contracts (non On-Call type contracts), the Selection Committee MAY, at the Department's discretion, shortlist a minimum of three (3) firms to be interviewed. IF APPLICABLE, dates of shortlisting and dates for interviews are shown in the section SUBMISSION SCHEDULE AND KEY DATES at the end of this RFLOI.
- In order to be considered for selection, consultants must submit a complete response to this RFLOI prior to the specified deadlines. Failure to submit all information in a timely manner will result in disqualification.

SMALL PROFESSIONAL SERVICE FIRM (SPSF) PARTICIPATION

The Department encourages the use of Small Professional Services Firms (SPSF). Small businesses determined to be eligible for participation in the SPSF program are those meeting size standards defined by Small Business Administration (SBA) regulations, 13 CFR Part 121 in Sector 54 under the North American Industrial Classification System (NAICS). The SPSF program is a race, ethnicity, and gender neutral program designed to increase the availability of contracting opportunities for small businesses on federal, state or locally funded contracts. SPSF participation is not contingent upon the funding source.

The Firm, at the time the Letter of Interest is submitted, shall submit a listing of all known SPSF firms that will participate in the performance of the identified work. The participation shall be submitted on the Department's Subconsultant Form RS-2. RS-2 forms may be accessed on the Department's website at [NCDOT Electronic Forms](#).

The SPSF must be qualified with the Department to perform the work for which they are listed.

Real-time information about firms doing business with the Department and firms that are SPSF certified through the Contractual Services Unit is available in the Directory of Transportation Firms. The Directory can be accessed on the Department's website at [Directory of Firms](#) -- Complete listing of certified and prequalified firms.

The listing of an individual firm in the Department's directory shall not be construed as an endorsement of the firm.

PREQUALIFICATION

The Department maintains on file the qualifications and key personnel for each approved discipline, as well as any required samples of work. Each year on the anniversary date of the company, the firm shall renew their prequalified disciplines. If your firm has not renewed its application as required by your anniversary date or if your firm is not currently prequalified, please submit an application to the Department **prior to submittal of your LOI**. An application may be accessed on the Department's website at [Prequalifying Private Consulting Firms](#) -- Learn how to become Prequalified as a Private Consulting Firm with NCDOT. Having this data on file with the Department eliminates the need to resubmit this data with each letter of interest.

Even though specific DBE/MBE/WBE goals are not required for this project, the Department of Transportation is committed to providing opportunity for small and disadvantaged businesses to perform on its contracts through established Department goals. The Firm, subconsultant and subfirm shall not discriminate on the basis of race, religion, color, national origin, age, disability or sex in the performance of this contract.

SELECTION CRITERIA

All prequalified firms who submit responsive letters of interest will be considered.

In selecting a firm/team, the selection committee will take into consideration qualification information including such factors as:

1. **10%** = Business Reputation -- see "Attachment A" for more information.
2. **40%** = Project Management -- see "Attachment A" for more information.
3. **10%** = Project Facilitation -- see "Attachment A" for more information.
4. **40%** = TMC Control Room Responsibilities -- see "Attachment A" for more information.
5. **N/A%** = N/A.

After reviewing qualifications, if firms are equal on the evaluation review, then those qualified firms with proposed SPSF participation will be given priority consideration.

SUBMISSION ORGANIZATION AND INFORMATION REQUIREMENTS

The LOI should be addressed to **Mr. Robert J. Stroup, PE -- State Professional Services Engineer** and must include the name, address, telephone number, and e-mail address of the prime consultant's contact person for this RFLOI.

The LOI must also include the information outlined below:

See "Attachment A: Traffic Operations & Incident Management RFLOI Scope of Work".

Note: If a project team or subconsultant encounters personnel changes, or any other changes of significance dealing with the company, NCDOT should be notified immediately.

APPENDICES-

CONSULTANT CERTIFICATION Form RS-2

Completed Form RS-2 forms SHALL be submitted with the firm's letter of interest. This section is limited to the number of pages required to provide the requested information.

Submit Form RS-2 forms for the following:

- **Prime Consultant firm**
 - Prime Consultant Form RS-2 Rev 1/14/08; and
- **ANY/ALL Subconsultant firms** (**If Subconsultants are allowed under this RFLOI**) to be, or anticipated to be, utilized by your firm.
 - Subconsultant Form RS-2 Rev 1/15/08.
 - In the event the firm has no subconsultant, it is required that this be indicated on the Subconsultant Form RS-2 by entering the word "None" or the number "ZERO" and signing the form.

Complete and sign each Form RS-2 (instructions are listed on the form).

The required forms are available on the Department's website at:

<https://apps.dot.state.nc.us/quickfind/forms/Default.aspx> .

[Prime Consultant Form RS-2](#)

[Subconsultant Form RS-2](#)

All submissions, correspondence, and questions concerning this RFLOI should be directed to **Robert J. Stroup, PE** at rstroup@ncdot.gov. However, the LOI itself must be submitted to 'psmu-411@ncdot.gov' via NCDOT's FTS System.

IF APPLICABLE, questions may be submitted electronically only, to the contact above. Responses will be issued in the form of an addendum available to all interested parties. Interested parties should also send a request, by email only, to the person listed above to be placed on a public correspondence list to ensure future updates regarding the RFP or other project information can be conveyed. Questions must be submitted to the person listed above no later than **FEBRUARY 15, 2017**. The last addendum will be issued no later than **FEBRUARY 22, 2017 (ONLY IF NEEDED)**.

NOTE: To adhere to the Timeframe, a Notice to Proceed is expected to be issued shortly after (a) firm(s)/team(s) is/are selected. All firm(s)/team(s) submitting a LETTER OF INTEREST should make sure that their rates and overheads are current and have been audited by NCDOT.

SUBMISSION SCHEDULE AND KEY DATES

RFLOI Release – **FEBRUARY 01, 2017**

Deadline for Questions – **FEBRUARY 15, 2017**

Issue Final Addendum – **FEBRUARY 22, 2017 (ONLY IF NEEDED)**.

Deadline for LOI Submission – **MARCH 02, 2017**

Shortlist Announced * - **TBD (if the Department chooses this option)**.

Interviews - the week of **TBD (if the Department chooses this option)**.

Firm Selection and Notification ** - **TBD**.

Anticipated Notice to Proceed – **TBD**.

* Notification will **ONLY** be sent to shortlisted firms.

** Notification will **ONLY** be sent to selected firms.



**STATE OF NORTH CAROLINA
Transportation Mobility & Safety Branch
Traffic Systems Operations Unit**

**Attachment A:
Traffic Operations & Incident Management
RFLOI Scope of Work**

1 PURPOSE AND BACKGROUND

1.1 PROJECT INTRODUCTION

The North Carolina Department of Transportation (NCDOT) is one of the largest government agencies in the state. NCDOT manages and supports multi-modal transportation infrastructure and roadway traffic operations across the state. NCDOT receives both state and federal funding for its wide variety of projects and services. The agency is led by several governing entities: the Secretary of Transportation, the NCDOT Board of Transportation, and NCDOT Executive Leadership, which includes 14 staff members who manage various major areas of NCDOT's traffic operations.

The Traffic Systems Operations Unit (TSOU) and the North Carolina Turnpike Authority (NCTA) both operate within the organization of the NCDOT and will play an active role in the facilitation of the NCDOT Traffic Operations and Incident Management contract. The TSOU is responsible for the operations and management of the Statewide Transportation Operations Center (STOC), utilizing incident management, intelligent transportation systems (ITS), traveler information strategies, and signal system timing to support mobility and safety on the statewide roadway network. The NCTA uses similar incident management, ITS, and traveler information strategies as well as toll system and facility monitoring and maintenance coordination to maintain safe and efficient traffic operations on toll facilities in North Carolina. The Triangle and Triad regional TMCs have been strategically co-located within the STOC to operate cooperatively in an effort to gain fiscal and operational efficiency. The Metrolina Regional TMC (MRTMC) will continue to operate from its existing location while also serving as back-up and redundant operations to the STOC.

The language within this scope of work utilizes 'NCDOT' to collectively represent relevant project stakeholders. It is expected that the Consultant will understand and work to address the specific needs of the identified key project stakeholders. Specifically, state level, regional level, and toll facility traffic operations include unique characteristics and perspectives that will need to be solicited, considered, and addressed.

A critical component of NCDOT's transportation management is providing for large planned and unplanned events, such as major construction projects or state mandated evacuations. NCDOT accomplishes this with a keen focus on continuously evolving and looking for opportunities to enhance statewide traffic operations. NCDOT currently is managing a major planned infrastructure project, the Fortify I-40/440 Rebuild Project in Wake County. Proactive traffic operations coordination and collaboration with the Fortify project team is vital to the successful implementation of traffic operations and management within the vicinity of the project during construction. Similarly, during major natural disasters and events with significant regional impacts, appropriate evacuation and response plans are necessary for safe and efficient transportation management.

1.2 TRANSPORTATION MANAGEMENT CENTER OVERVIEW

Transportation Management Centers (TMCs) are the hub of all major NCDOT roadway traffic operations. In order for NCDOT to meet its goal of providing high-quality, efficient transportation facilities to the people of North Carolina, it is essential that traffic be effectively monitored and managed throughout the state. A critical component of the day-to-day traffic monitoring and management throughout the state is a strong incident management program. North Carolina's traffic operations currently is accomplished through a series of systems operated from two physical locations, the STOC located at the NC National Guard's Joint Force Headquarters in Raleigh, and the MRTMC, located in Charlotte. These facilities cover a range of operational functions including statewide; regional – Triangle, Triad, Metrolina, Asheville, Haywood County, Wilmington and the NCTA.

1.2.1 STATEWIDE OPERATIONS MANAGEMENT

The NCDOT's Statewide Transportation Operations Center (STOC) is a traffic and incident management facility that operates 24 hours a day, 7 days a week (24/7), and 365 days a year. The STOC's primary statewide function is to serve as a coordination hub for transportation officials and emergency

responders when major incidents and/or events impact travel in multiple regions or across state lines. When these incidents occur, personnel in each affected region initiate response measures focused primarily on local impacts. The STOC engages personnel from each region and facilitates the exchange of information between all involved so that their responses are consistent and fully address the incident's multi-regional impact.

The STOC plays a critical role in the continuity of the Department's operations by serving as two major regions' (Triangle and Triad) primary TMC; by augmenting the response capabilities of regions without a Regional Transportation Management Center (RTMC); by supporting those that do by serving as the command center when MRTMC is offline, not staffed, or unexpected events exceed their current manpower.

The STOC enhances the Department's traveler information services by providing 24/7/365 quality assurance and user support for the Traveler Information Management System (TIMS) and NC 511 system. The STOC provides further support to the traveling public by assisting citizens calling the NCDOT Customer Service Center (CSC). By providing these services and by supporting interoperable traffic operations, the STOC offers the opportunity to do more with fewer resources while also contributing to North Carolina's continued economic growth which depends on the safety and reliability of the state's transportation network.

In the STOC facility, NCDOT's traffic management staff are co-located with the operations/communications centers of other partners including NC State Highway Patrol, NC Emergency Management, the NCTA, and NC National Guard Joint Operations Center.

1.2.2 REGIONAL TRAFFIC OPERATIONS MANAGEMENT

The Triangle RTMC and Triad RTMC are operated and managed from within the same control room as the STOC and utilize the same support systems mentioned above. The RTMCs are linked to various transportation and incident management partners including local municipal Transportation Operations Centers (TOC), emergency responders, and media partners for more efficient incident management and communication of real-time information to motorists via ITS infrastructure, Incident Management Assistance Patrol (IMAP), advanced traveler information system (ATIS), and media providers. The Triangle TMC also controls the reversible lane system on Edwards Mill Road near the PNC Arena in Raleigh.

The Metrolina RTMC is located at 2327 Tipton Drive in Charlotte. It co-locates personnel from NCDOT and NC Highway Patrol. The Metrolina RTMC manages traffic operations for the greater Charlotte area, including Mecklenburg, Cabarrus, Stanly, Union, Anson, Alexander, Iredell, Catawba, Lincoln, Cleveland, and Gaston Counties. Staging areas for response and mobilization in the event of major emergencies are located here. The Metrolina TMC may provide back-up support for the STOC or may be the center for a major special event such as the Democratic National Convention; therefore, consistency in deployment, operational, and management methodologies are critical to successful and seamless traffic operations during an emergency, staff shortage, or system outages. The importance of continuous coordination between these two facilities is heightened due to this relationship.

1.2.3 TOLL FACILITY TRAFFIC OPERATIONS MANAGEMENT

The NCTA TMC was created in 2011 and is managed from within the same control room as the STOC. NCTA is responsible for the development, planning, construction, traffic operations, maintenance, and management of tollway projects statewide, including the prominent Triangle Expressway in Wake and Durham counties. The NCTA's management responsibilities related to operating a toll facility include specific reporting, toll system monitoring, toll facility monitoring, enhanced system image review, toll system and facility maintenance coordination activities that are unique from other NC statewide or regional TMC's responsibilities. In addition, because NCTA operates a toll facility, there are documentation and data storage responsibilities to which NCTA must adhere.

The NCTA's Customer Service Center (CSC), located 9 miles away in Morrisville, provides back-up support for the NCTA TMC. Therefore, continuous coordination with the NCTA Customer Service Center is critical to successful and seamless traffic operations during an emergency or outage. The

requirements of this scope of work does not include operations of the CSC, but requires close coordination and consistency of operations strategies.

2 PROPOSAL CONTENT & EVALUATION PROCESS

2.1 PROPOSAL CONTENTS

Consultants shall populate all attachments as described herein that require the Consultant to provide information and include an authorized signature where requested. Consultant responses shall include the following items and attachments should be arranged in the following order:

- a) Cover Sheet
- b) Title Page: Include the company name, address, phone number, e-mail address, and authorized representative along with the Proposal Number.
- c) Requirements 1-16
 - Requirement 1: Industry Experience
 - Requirement 2: Traffic Operations and Project Management Approach and Philosophy
 - Requirement 3: Administration Staffing Approach
 - Requirement 4: Interoperability Approach
 - Requirement 5: Communications Approach
 - Requirement 6: Quality Control Approach
 - Requirement 7: Performance Requirement Recommended Approach
 - Requirement 8: ATMS Technical Resource
 - Requirement 9: Project Technical Support Approach
 - Requirement 10: Primary TMC Function Examples (three examples total)
 - Requirement 11: Toll Facility Traffic Operations Example
 - Requirement 12: Traffic Operations and Incident Management Tools Experience
 - Requirement 13: Control Room Coverage Approach
 - Requirement 14: TIM Program Approach – Existing
 - Requirement 15: TIM Program Approach – Expanded
 - Requirement 16: Transition Plan
- d) Appendices:
 - APPENDIX A: PROPOSED STAFFING ESTIMATE FORM
 - APPENDIX B: REFERENCE REQUEST FORM

2.2 PROPOSAL EVALUATION PROCESS

NCDOT shall review all Consultant responses to confirm that they meet the specifications and requirements of the Scope of Work. NCDOT reserves the right to waive any minor informality or technicality in proposals received.

Based on the evaluation methodology described below, the evaluators may request oral presentations or discussion with any or all Consultants for the purpose of clarification or to reinforce the materials presented in any part of the proposal. Consultants are cautioned, however, that the evaluators are not required to request presentations or other clarification—and often do not; therefore, all proposals should be complete and reflect the most favorable terms available from the Consultant.

Proposals will generally be evaluated according to completeness, content, and experience with similar projects and the ability of the Consultant and its staff. Specific evaluation criteria are listed in Table 1: Technical Evaluation, below.

All qualified proposals will be evaluated and award made based on the criteria and methodology described to result in an award most advantageous to the State. Consultants are required to

demonstrate an understanding of tasks and responsibilities defined within each requirement identified throughout this scope of work and each requirement shall be addressed as requested. The evaluation committee will review the scope of work responses; failure to address any of the requirements can be deemed non-compliant and may be cause for proposal exclusion.

NCDOT will form an Evaluation Committee with the necessary business and technical expertise to assess the Consultants abilities, strengths, and weaknesses based on the individual responses. The Evaluation Committee will evaluate and score each response objectively with the use of an evaluation matrix to guide the weight of each identified service area. The service areas and associated weighted value is presented below in **Table 1** such that the Consultants have a clear understanding of NCDOT's priorities and method of evaluation.

Table 1: Technical Evaluation

Service Area	Requirement	Focus Area	Weight
Business Reputation	1	Industry Experience	10
	Appendix B	References	
Project Management	2	Traffic Operations and Management Approach and Philosophy	40
	3	Administration Staffing Approach	
	4	Interoperability Approach	
	5	Communications Approach	
Project Facilitation	6	Quality Control Approach	10
	7	Performance Measurement Recommended Approach	
	8	ATMS Technical Resource	
	9	Project Technical Support Approach	
TMC Control Room Responsibilities	10	Key TMC Function Examples:	40
		Example 1	
		Example 2	
		Choice Example	
	11	Toll Facility Traffic Operations	
	12	Traffic Operations and Incident Management Tools Experience	
	13	Control Room Coverage Approach	
	14	TIM Program Approach - Existing	
	15	TIM Program Approach - Expanded	
16	Transition Plan		
Raw Technical Proposal Score Total:			100

3 SCOPE OF WORK

The following section describes the scope of work for the Traffic Operations and Incident Management contract being solicited with this scope of work. The scope is segmented into three distinct sections: Project Administration, Project Facilitation, and TMC Control Room Operations. The scope of work and the associated requirements are defined within each subsection. In-state travel will be required in order to meet the defined requirements. All travel requires NCDOT's prior approval and will be reimbursed to the Consultant at the in-state rates found using the web address below:

<https://connect.ncdot.gov/business/consultants/Roadway/Maximum%20Allowable%20Non-Salary%20Direct%20Costs.pdf>

3.1 INDUSTRY EXPERIENCE

In its Proposal, Consultant shall demonstrate experience with public and/or private sector clients with similar or greater size and complexity to the State of North Carolina. Consultant shall provide information as to the qualifications and experience of all executive, managerial, legal, and professional personnel to be assigned to this project, including resumes citing experience with similar projects and the responsibilities to be assigned to each person.

Requirement 1 – Industry Experience: This requirement consist of two parts. Part A should consist of an introduction that should demonstrate the consultant's overall qualifications to fulfill the requirements of the scope of work and should contain the following elements of information:

- Expression of firm's interest in the work;
- Statement of whether firm is on register;
- Date of most recent private engineering firm qualification;
- Statement regarding firm's(') possible conflict of interest for the work; and
- Summation of information contained in the letter of interest.

For Part B of this requirement, the Consultant shall provide a brief statement describing their experience within the industry specific to traffic operations, incident management and toll facility operations. This statement shall include the length of time that the company has been established within the industry; their experience within the industry; and their relationship and project experience with NCDOT. Consultants shall provide the total number of active projects within the industry currently and how many State agencies the Consultant has worked for in the past. In addition, the Consultant shall provide an example of how they have successfully accomplished a transition of a large project similar to this. This requirement statement shall be limited to two standard pages (8.5" x 11").

3.2 PROJECT ADMINISTRATION

NCDOT intends to select a partner who will be independent and provide leadership, innovation, and quality. The project largely shall be managed by the Awarded Consultant with only high level guidance and direction from NCDOT. The Awarded Consultant shall provide personnel to efficiently and effectively administer and manage all requirements as defined within the presented scope. Administration responsibilities are to be accomplished as the Awarded Consultant deems appropriate and as approved by NCDOT. It is understood that staff may be able to accomplish their administrative responsibilities without being fully dedicated to working on-site. The following subsections describe the responsibilities and tasks associated with managing this contract and appropriate staffing levels deemed necessary to effectively operate the management centers.

Requirement 2 – Traffic Operations and Management Approach and Philosophy: Consultants shall provide a summary of their overall approach and philosophy pertaining to project delivery for traffic operations and incident management. This statement shall include the approach that the Consultant intends to take to successfully provide project direction, project management, and TMC

operations management as described in this section. This statement shall be limited to approximately two standard pages (8.5" x 11").

3.2.1 PROJECT DIRECTION

Project direction shall require the involvement and dedication of staff that is capable of making informed decisions and has the authority to act on the behalf of the Consultant. Project direction will require regular communication and coordination with NCDOT and the project team. It is expected that the project will be directed with senior knowledge and experience. The Project Director will hold the ultimate responsibility for the successful implementation of the project. It is expected that this person(s) will be available when necessary and maintain a full understanding of project status, outstanding issues, policies and procedures.

3.2.2 PROJECT MANAGEMENT

Project management shall include the day-to-day administration of the project and management of project staff. The Project Manager shall champion the project with limited direction from NCDOT, and must therefore take ownership of the project, actively anticipating and responding to problems and formulating innovative solutions. The Project Manager shall provide strong leadership, agility, flexibility, and initiative, partnering with NCDOT to implement these solutions for efficient and effective traffic operations.

The Project Manager shall be the primary liaison between the Project Director and the project team. The Project Manager must be able to communicate effectively and bring a depth of knowledge that shall guide NCDOT not only to maintain, but also to improve current practices and systems.

3.2.3 TMC OPERATIONS MANAGEMENT

TMC operations management shall include the day-to-day administration of TMC control room activities. The TMC Operations Manager shall be responsible for control room personnel staffing, providing technical guidance, and resolving personnel conflicts. In addition, the TMC Operations Manager shall be responsible for hiring and training TMC operators. The TMC Operations Manager shall be engaged in supporting project development and maturation and the TMC Operations Manager's experiences and knowledge shall be solicited to recommend operational improvements to enhance system and/or project performance. The TMC Operations Manager shall coordinate with the Project Manager regularly to communicate operations project status and recommendations. The TMC Operations Manager shall liaison with NCDOT management as necessary during critical events and/or incidents.

Requirement 3 – Administration Staffing Approach: Consultants shall review all contract administrative responsibilities and provide an administration staffing approach. The administration staffing approach shall describe the method that the Consultant intends to implement to achieve all of the administrative responsibilities within the contract. Consultants shall provide an organizational-chart to visually represent the intended methodology of accomplishing the following contract responsibilities: Project Direction, Project Management, and TMC Operations Management. Additional positions shall be included as the Consultant deems necessary. Resumes shall be provided for technical resources that are identified on the organizational-chart. Consultants are not required to submit resumes for operations level staff. This statement shall be limited to two standard pages excluding charts and resumes (8.5" x 11").

3.3 PROJECT FACILITATION

Project facilitation requires focused coordination and collaboration to ensure quality and efficiency is maintained throughout the life of the contract. Performance shall be measured and used to guide the focus and priorities of the project team. The Awarded Consultant shall develop a **Project Management Plan** within ten weeks after notice to proceed (NTP). The Project Management Plan shall provide the recommended comprehensive strategy for project management and execution.

Each of the strategies outlined in the following subsections shall be included in the plan. The Project Management Plan shall be a living document and shall be updated with pertinent departmental or project changes as needed. In addition, the plan shall be updated annually by the Awarded Consultant to integrate refinements and adjustments identified for improving project management. Initial development of the **Project Management Plan** will be paid for as an independent lump sum task under the contract; it is assumed that subsequent revisions and annual updates will be completed as part of the project management role and responsibilities.

3.3.1 COORDINATION AND COLLABORATION

Coordination and collaboration is crucial to the success of traffic operations. The Awarded Consultant shall work with a number of various agencies, departments, and stakeholders throughout the State. The Awarded Consultant must have a thorough understanding of the key partners that are required to deliver effective traffic operations.

Interoperability Strategy – As part of the contract delivery, the Project Management Plan shall include an Interoperability Strategy that is focused on internal and external partners required to support traffic operations. The Interoperability Strategy shall define the recommended methods of coordination and collaboration with key agencies, departments, regional and statewide stakeholders and existing traffic operations systems; and shall identify stakeholders that are specific to toll operations.

Requirement 4 – Interoperability Approach: Consultants shall provide an interoperability approach that briefly describes the proposed general method to efficiently coordinate with key agencies, departments, and existing systems. Key stakeholders shall be clearly identified. The Consultant shall demonstrate an understanding of current NCDOT operations, practices, partners, and stakeholders. This statement shall be limited to one standard page (8.5" x 11").

Communications Strategy – As part of the contract delivery, the Project Management Plan shall include a Communications Strategy that is specific to internal project team communications. The Communications Strategy shall clearly define the appropriate methods of correspondence and communication for the key NCDOT and successful Consultant project team members.

Requirement 5 – Communications Approach: Consultants shall provide a communications approach that describes the proposed general methods of communication that will take place between the NCDOT and the Awarded Consultant team members. The communications approach shall describe how communications will be accomplished specific to contractual items versus daily traffic management duties. Key internal project team stakeholders shall be clearly identified. This statement shall be limited to one standard page (8.5" x 11").

3.3.2 QUALITY CONTROL

Quality contract delivery is paramount to NCDOT and is vital to the successful accomplishment of the NCDOT mission and goals.

Quality Control Strategy – As part of the contract delivery, the Project Management Plan shall include a Quality Control Strategy. The Quality Control Strategy shall describe the anticipated policies and procedures that will be followed throughout the project to ensure precise, accurate, and complete work. The Awarded Consultant will be empowered to proactively recommend and implement quality control improvements throughout the life of the contract. The Awarded Consultant shall be held accountable for adherence to the plan.

Requirement 6 – Quality Control Approach: Consultants shall provide a quality control approach that describes how quality will be maintained throughout the life of the project. This statement shall address all aspects of the project and provide specific examples of procedures or policies that may be recommended for use. This statement shall be limited to one standard page (8.5" x 11").

3.3.3 PERFORMANCE REQUIREMENTS

NCDOT is committed to monitoring system and project performance. NCDOT conducted a Statewide Performance Measures Summit in 2012 with over 70 stakeholders representing incident management and traffic operations from across the state. The primary purpose was to identify key short and long-term performance measures on which NCDOT should focus. The workshop focused on several performance measures and the data that was available to support measuring the baseline and progress towards goals. Significant attention has been given to the available measures of performance as they relate to traffic operations and responsibilities within the influence of the operations center control room. In addition, with the implementation of the new statewide Advanced Traffic Management System (ATMS) software, it is expected that more data will become available to support the implementation of these and other performance measures. To support this task, additional details resulting from the workshop will be provided to the Awarded Consultant within one month from NTP.

The Awarded Consultant shall lead the operations center control room performance measures process with input and support from NCDOT. The Awarded Consultant shall be responsible for the measures of performance specific to control room activities and shall support measures of performance not fully within their control. The Awarded Consultant shall build upon the foundational conversations conducted during the workshop and develop performance goals and measurement methodologies for priority focus areas. The Awarded Consultant shall work with NCTA to understand the reporting requirements specific to tollway operations and shall incorporate those reporting requirements in with the other TMC reports deemed necessary. In addition, the Awarded Consultant shall function as a technical resource during the procurement of the ATMS, offering recommendations for data sets, reporting functions, and other requirements to support the performance measurement program. It is important to note that NCDOT will make the final decision on what final focus areas the Awarded Consultant shall be responsible for monitoring, measuring, and reporting on throughout the project. The following methods of measuring performance are provided as an example of the level of requirement that NCDOT requires:

- Minimum number of camera tours per hour
- Incident notification within a maximum time of verification
- Minimum percentage of proactive incident detection in the control room
- Maximum time for deployment of automated response plans
- Maximum time for deployment of manual response plans
- Maximum time for deployment of proper traffic control
- Minimum percentage of device uptime/availability
- Measurement of customer satisfaction
- Maximum time between first awareness of an incident and restoration of the roadway to “normal” conditions per level of severity of the incident
- Verification of adherence to training schedule
- Verification of adherence to staffing plan

The Awarded Consultant shall lead an Operations Center **Control Room Performance Measurement Workshop**, specific to control room operations, within 6 weeks of NTP. This workshop shall facilitate a conversation with NCDOT and the Awarded Consultant to develop performance measures that shall guide the focus and methodology for determining the success of the project.

Performance Measurement Strategy – As part of the contract delivery, the Project Management Plan shall include a Performance Measurement Strategy with auditable reporting methods. The Performance Measurement Strategy shall be based on the goals, objectives, and methodologies established at the Operations Center Control Room Performance Measurement Workshop and the Awarded Consultant shall be accountable for their performance with respect to contract requirements.

The Performance Measurement Strategy shall establish the schedule of reporting performance measures. NCDOT will review the auditable performance reports with regularity. If it is determined that a measure of performance is unacceptable, the Awarded Consultant shall submit a Recovery Plan identifying the reason for unacceptable performance and detailing the solution and timeframe to resolve the issue within one week of identifying the problem. If the Awarded Consultant fails to adhere to the Recovery Plan, NCDOT will consider this a violation of the contract and will respond in the best interest of NCDOT.

In addition, the Awarded Consultant shall meet with NCDOT quarterly to review and refine performance measures monitoring and reporting, performance against goals, and the possible need to refine goals. The quarterly meeting shall review performance against goals (established in the Operations Center Control Room Performance Measures Workshop) and determine if revisions are needed such as revised goals, revised data sources, revised data formats, or revised reports. The Awarded Consultant will be empowered to continually recommend improvement strategies or innovative solutions.

Continuous Improvement and Innovation Strategy – As part of the contract delivery, the Project Management Plan shall include a Continuous Improvement and Innovation Strategy that incorporates decisions from the quarterly performance meetings. In addition, the Awarded Consultant shall recommend enhancements, innovations, and emerging technologies that can improve traffic operations. The Continuous Improvement and Innovation Strategy shall be developed and presented to NCDOT annually, however, it is expected that the Awarded Consultant shall regularly provide innovative solutions and encourage NCDOT to consider expectations with respect to changes in technology.

Requirement 7 – Performance Measurement Recommended Approach: Consultants shall provide a performance measurement recommended approach that generally describes how operations center control room performance will be measured. This also may include an example of how the Consultant has accomplished performance measurement on similar projects. This statement shall be limited to two standard pages (8.5" x 11").

3.3.4 ATMS TECHNICAL RESOURCE

The Awarded Consultant shall be involved as a stakeholder during pertinent traffic operations departmental changes. NCDOT currently is in the process of procuring a next generation ATMS software solution for implementation statewide. The function and efficiency of the ATMS is critical to the successful operations and management of this project. The Awarded Consultant shall participate as a stakeholder during the deployment and integration of the selected ATMS and shall demonstrate knowledge and experience with multiple ATMS software solutions. The ATMS Technical Resource shall provide input and guidance from a traffic operations perspective on a semi-regular basis by reviewing stakeholder materials and participating in stakeholder meetings. It is not expected that this position will require full dedication to project or be responsible for preparing deliverables.

Requirement 8 – ATMS Technical Resource: The Consultant shall provide a description of experience with ATMS software packages on past projects. In addition, the Consultant shall provide previous examples of involvement and explain how it will be available as a resource as described in Section 5.2.4. This statement shall be limited to one standard page (8.5" x 11").

3.3.5 PROJECT TECHNICAL SUPPORT

TMC support personnel shall accomplish specialized traffic operations responsibilities such as training, traffic engineering, data analysis, and technical advisory. The Awarded Consultant shall provide qualified personnel to accomplish the requirements and responsibilities defined herein. NCDOT anticipates that at a minimum, the following responsibilities will be required:

- **Traffic Operations Training** – NCDOT currently utilizes a traffic operations training program to educate and train individuals responsible for the operations and management of traffic through systems housed at NCDOT TMCs. Responsibilities include:
 - Administering the traffic operations training program,
 - Performing training at the on-set of employment,
 - Performing continuing education on a regularly scheduled basis or as a method of ensuring quality control,
 - Performing training when major systems change or procedures are altered, and
 - Modifying training materials and procedures as technology evolves or requirements shift.

- **Traffic Engineering** – TMC Operations depend on the application of traffic engineering expertise to develop strategies for traffic operations throughout the state. Traffic engineering responsibilities include:
 - Providing guidance and coordination during severe/major events, construction, and maintenance operations,
 - Planning, coordinating and implementing detour and alternate routes, and
 - Applying traffic engineering experience to recommend operational improvements through the use of existing or recommended ITS deployments (requires a civil engineering degree with traffic engineering experience).

- **Traffic Operations Specialist** – Effective communication of control room operations policies and procedures are critical to the successful operations of a TMC. Traffic operations specialist responsibilities include:
 - Communicating control room operations and strategies during various meetings and collaboration efforts,
 - Being a resource for control room operations questions and activities,
 - Coordinating with Traffic Engineer and Operations Manager to develop and maintain response plans, and
 - Applying traffic operations experience to recommend improvements to existing or development of new policies and procedures.
 - Creating presentations, developing training materials, or any special assignment related to incident management or traffic operations.

- **Data Analysis** – NCDOT utilizes key pieces of data to regularly monitor and analyze system performance. Data analysis responsibilities include:
 - Compiling and organizing data as necessary to analyze, develop reports, or assess system gaps for more effective and efficient traffic operations, and
 - Providing data for performance measure reporting.
 - Interpreting data, analyzing results using statistical techniques and provide ongoing reports.
 - Developing and implementing data collection systems and other strategies that optimize statistical efficiency and data quality.
 - Acquiring data from primary or secondary data sources and maintain databases/data systems.
 - Identifying, analyzing, and interpreting trends or patterns in complex data sets.
 - Filtering and “cleaning” data, and review of computer reports, printouts, and performance indicators to locate and correct code problems.
 - Working closely with management to prioritize business and information needs.
 - Locating and defining new process improvement opportunities.

- **Technical ITS Specialist** – NCDOT strives to maintain a thorough understanding of available ITS technology and current best practices. Technical resources are regularly relied upon to provide:
 - Support to special projects with expertise in specific subject matters,
 - Innovative or next generation experience to enhance or improve current operational strategies and systems, or
 - Advanced expertise for a specific technology, deployment, or system.

Responsibilities are to be accomplished as the Awarded Consultant deems appropriate and as approved by NCDOT. It is anticipated that one staff member may be capable of managing more than one set of defined responsibilities. In addition, the Awarded Consultant is encouraged to include additional positions as necessary.

Requirement 9 – Project Technical Support Approach: Consultants shall review all contract responsibilities and provide a project technical support approach. The project technical support approach shall clearly describe the method that the Consultant intends to implement to achieve all of the project technical support responsibilities as described above. This statement shall be limited to two standard pages (8.5" x 11").

3.4 TMC CONTROL ROOM RESPONSIBILITIES

This section briefly describes the current functions in place to manage, operate, and maintain TMC control room operations. The Awarded Consultant shall maintain current NCDOT procedures and policies to facilitate traffic operations from statewide, regional and NCTA TMCs. The Awarded Consultant shall provide 24/7 coverage within the TMC Control Room by ensuring the following positions have backups when personnel are on leave or out of the office: TMC Operators – Levels 1, 2, and 3 and TMC Supervisors. All other positions do not require 24/7 coverage, but do require NCDOT’s prior approval for paid time off (PTO). PTO will be approved during non-peak times and as long as there are adequate staffing levels that allow the Consultant to meet the defined requirements. The Awarded Consultant will be provided with the STOC Standing Operations Procedures (SOP) Manual upon contract award and shall implement SOPs as described. The Awarded Consultant shall provide recommendations for SOP improvements through the Continuous Improvement and Innovation Strategy chapter of the **Project Management Plan** as described in **Section 3.3**.

3.4.1 TMC PRIMARY FUNCTIONS AND SERVICES

The Awarded Consultant shall continue the operations and management of the current primary TMC functions and services. As previously mentioned, the Awarded Consultant shall act on behalf of NCDOT to manage the statewide, regional and NCTA TMC functions from the current JFHQ location and shall manage the Metrolina Regional TMC from its existing location. The Awarded Consultant shall provide the following TMC primary functions and services on behalf of NCDOT:

Table 2: TMC Primary Functions and Services

Primary Function	Operational Responsibility		
	Statewide	Regional	NCTA
Coordination for Major Incidents:			
Serve as a communication and coordination hub for interregional and multi-state incidents by interfacing with neighboring states, federal agencies, NCDOT field forces, and local responders to establish and initiate a consistent and coordinated response across the affected areas.	X		

Manage and coordinate the Special Alert response process which focuses on rapid and frequent communication with response partners and the creation of highly visible and easily accessible traveler information on the Traveler Information Management System (TIMS) and 511 which helps the traveling public to safely navigate through or around the affected areas.	X	X	X
Manage regional and statewide response to Amber and Silver Alerts by serving as the Department's primary point of contact with the North Carolina Center for Missing Persons (NCCMP). Generate high-visibility messages on Dynamic Message Signs (DMS) and easily accessible messages on 511, and communicate alert activation status to Divisions and RTMCs.	X		
Notify the NC Trucking Association of major incidents and unplanned road closures in order to establish and communicate viable detours/alternate routes for commercial motor vehicles.	X	X	X
Communicate with transportation management agencies in other states in order to coordinate response efforts for incidents affecting travel in North Carolina and its neighbors.	X		
Support the sharing of incident information across state lines by participating in the Southern Traffic Incident eXchange (STIX) program.	X		
Notify the Federal Highway Administration (FHWA) of incidents meeting special criteria for federal involvement such as crashes involving school buses, resulting in the injury or death of public officials, or where travel on a route or area will be affected for 8 or more hours.	X		
Coordination during Emergency Operations & Adverse Weather:	Statewide	Regional	NCTA
Serve as the primary source of road condition information for NCEM, NCSHP, NC National Guard, and other state and federal agencies during state Emergency Operation Center (EOC) activations for major events such as hurricanes, snow storms, or other declared disasters.	X		
Produce and distribute the STOC Road Closure Report to NCEM, NC National Guard, and NCDOT Disaster Recovery during major adverse weather events in order to provide a regularly updated list of roadways affected by the adverse weather and to help responders prioritize their recovery efforts.	X		
Record and document road closure information within TIMS during major emergency events and major adverse weather events.	X	X	X
Continuously monitor the National Weather Service's (NWS) website and alert notifications to identify Watches or Warnings for adverse weather and, based on the alert type, coordinate regional or statewide response efforts including activation of DMS messages for adverse weather.	X	X	X
Support DOT field personnel during adverse weather operations by entering road closure information into TIMS and regularly updating County Adverse Weather Road Statuses.	X	X	X
Regional TMC and Rural Division Support:	Statewide	Regional	NCTA
Proactively detect and verify unplanned traffic incidents by using traffic cameras, traffic congestion sensors, law enforcement dispatch feeds and radio traffic, and news media reports.	X	X	X
Provide dispatch and radio monitoring services for Incident Management Assistance Patrol (IMAP) Units operating in rural Divisions without RTMC coverage.	X		
Support rural Divisions without RTMC coverage by monitoring travel conditions in their areas, detecting and verifying traffic incidents, and notifying local personnel to initiate a response.	X		
Assist ITS maintenance personnel by regularly testing regional devices such as traffic cameras and DMS, reporting device malfunctions, and by producing and delivering daily/monthly device performance reports.	X	X	X

Provide assistance to RTMC by monitoring travel conditions in and around their coverage area and by notifying RTMC personnel of recently detected traffic incidents in order to reduce or eliminate overlooked incidents.	X		X
Thoroughly document incident details and response activities and compile the resulting data to evaluate performance, build and refine emergency response plans, and support After Action Reviews (AARs).	X	X	X
Support local news media broadcasts of regular traffic reports by verifying reported traffic incidents and by providing visuals of travel conditions through CCTV cameras.	X	X	X
Assist traffic control efforts at the PNC Arena in Raleigh by coordinating with event planners and through management of the Reversible Lane System (RLS).	X	X	
Utilize DMS to display traveler information and to support traffic control and congestion management by warning motorists of closures and hazardous conditions, displaying travel times, and providing detour/alternate route instructions.	X	X	X
Consistently track ongoing and upcoming planned events including roadwork and special events and work with DOT communications, maintenance, and incident management as well as with external partners and planners to coordinate event response.	X	X	X
After-Hours Support:	Statewide	Regional	NCTA
Perform all functions & services described in the above section for Regional TMC & Rural Division Support as well as the items described below:	X		
Support rural Divisions and RTMCs by augmenting local response efforts by providing continuity of operations for their regions when they are offline or not staffed.	X		
Provide reliable, 24/7 access to the Department for all internal/external partners including law enforcement, emergency response agencies, and media outlets in order to receive incident reports or requests for DOT assistance.	X		
Utilize traffic cameras, traffic congestion sensors, dispatch feeds and radio traffic from law enforcement, news media reports, as well as STOC-specific resources including 511 call volumes, and reports from partnering agencies, other states and 511 callers to monitor travel conditions and detect traffic incidents across the state.	X	X	X
Proactively verify detected and reported incidents by gathering critical incident information from local emergency responders and by seeking out further confirming evidence of an incident.	X	X	X
Accurately receive and expeditiously relay verified incident reports to appropriate after-hours response personnel in order to support proper decision making and rapid response.	X		X
Manage DMS when rural Divisions are offline or not staffed by activating DMS to display traveler information and travel times, warn motorists of closures and hazardous conditions, and to provide detour/alternate route instructions.	X		
TIMS and 511 Support:	Statewide	Regional	NCTA
Produce enhanced traveler information for incidents of regional or statewide significance which is accessible to the public online via the Department's TIMS website and over the phone via the NC 511 Highway Helpline which allows callers to request information for specific routes, counties, or cities and also provides customized messages recorded by STOC Operators for major incidents/events.	X		
Provide real-time quality control for all traveler information in TIMS and 511 to assure that the systems are functioning properly and that information is accurate, up to date, and appropriate.	X		

Provide 24/7 assistance to all TIMS users across the state, most notably by entering incidents into the system for users responding in the field but also by performing STOC-specific functions such as adding new users, maintaining and repairing regional traffic cameras images, and modifying TIMS incidents appropriately.	X		
Notify TIMS users across the state of planned and unplanned system outages and offer to manage incident data entry while the system is offline and once service returns.	X		
Update and publish TIMS Spatial Publication maps to provide a graphical representation of the data captured in TIMS.	X		
Work with DOT Web Services and Communications personnel to plan, develop, test, and implement new TIMS features and functionality.	X		
Work with the Department to plan, develop, test, and implement new ATMS features and functionality.	X		
NCTA Traffic Operations Support:	Statewide	Regional	NCTA
Utilize traffic cameras, traffic congestion sensors, dispatch feeds and radio traffic from law enforcement, news media reports, as well as STOC-specific resources including 511 call volumes, and reports from partnering agencies, other states and 511 callers to monitor travel conditions and detect traffic incidents along toll facility.			X
Assist ITS maintenance personnel by regularly testing toll facility ITS devices such as traffic cameras and DMS, reporting device malfunctions, and by producing and delivering daily/monthly device performance reports specific to toll facility system and hardware devices. Utilize Maintenance Online Management System (MOMS), NCTA's computerized maintenance management system, to start the process of having toll Consultant address any issues that are encountered.			X
Perform periodic QA tasks associated with MVD's. This includes running reports to verify accuracy of MVD data vs. historical norms and manual traffic counts to verify MVD's are performing as expected following maintenance work.			X
Mandatory CCTV camera tours of NCTA facilities every 30 minutes. This includes identifying congestion or incidents associated with congestion but also checking for damaged assets (downed signs, damaged guardrail, or other damaged assets). Depending on the issue, the Operator will update TIMS or MOMS.			X
Coordinate with ITS maintenance personnel to request scheduled and unscheduled toll facility system and ITS hardware maintenance. Monitor the work zone in question and support the maintenance personnel with appropriate DMS messaging.			X
NCTA Toll System Support:	Statewide	Regional	NCTA
Minimum of once-per-shift check of the Critical Monitoring System for each NCTA toll facility. The CMS provides a host of real-time information on every toll gantry facility, including temperature, humidity, UPS status carbon monoxide levels, propane tank fuel levels, etc. Any anomalies shall be reported immediately to the responsible toll Consultant to be addressed.			X
Proactively monitor activity at toll system structures on NCTA toll facilities via security camera system. Access points to vaults and cabinets shall be checked and any suspicious activity shall be reported immediately to law enforcement.			X

Monitor software application dedicated to dynamic toll pricing on NCTA managed lane facilities, verifying toll rates are displayed correctly every 15 minutes. Review failures in pricing system and follow failure procedures which could include manually displaying toll rates. Check status of detectors on managed lane facilities and immediately report any issues to the designated maintenance resource.			X
Coordinate daily switch of traffic flow for reversible lane facilities ensuring that all gates and messaging are appropriately configured for the proper direction. Assist with preparation of reports related to managed lane facilities.			X
Perform daily QA tasks associated with ETCS verification. These include checking lane identification accuracy (Locate and report vehicles only once and in only one lane 99.95%), read/write/identification for vehicle speeds and read/write/identification for all weather conditions. This data is compiled and then included in NCTA's Key Performance Indicators report that is distributed to key stakeholders every month.			X
Perform daily QA tasks associated with automatic vehicle detection, Vehicle presence detection, properly separated vehicles and AVC accuracy (in regard to proper vehicle classification). This data is compiled and then included in NCTA's Key Performance Indicators report that is distributed to key stakeholders every month.			X
Perform daily QA tasks associated with video processing for the purpose of verifying Optical Character Recognition (OCR) rates. This entails taking a random selection of transactions to verify that license plate number, license plate type (registration) and/or stacked characters were processed correctly by the system. This data is compiled and then included in NCTA's Key Performance Indicators report that is distributed to key stakeholders every month.			X
Perform image review to check toll transactions that were not resolved by the OCR process and need a manual review. This includes verifying and entering the correct license number and type for the transaction for the purpose of the customer being properly billed.			X
Monitor non-routine maintenance activity for the purpose of verifying toll Consultant's response and repair requirements are being met for both toll and ITS infrastructure.			X
Serve as initial point of contact for toll Consultant's facility maintenance technician. Start process of getting appropriate response to any asset issues the technician encounters.			X
Monitor asset management maintenance activity for the purpose of verifying which assets are in need of repair and when those repairs occur. This involves tracking the repair of assets on toll facilities such as roadway lighting and guardrail			X
NCDOT Customer Service Center (CSC) and NC 511 Highway Helpline Support:	Statewide	Regional	NCTA
Positively promote the NCDOT and its services by providing members of the general public with prompt, reliable access to the Department and by offering earnest, honest, and effective assistance when they call the CSC (877-DOT-4YOU).	X		
Provide 24/7 assistance to callers through the NC 511 Highway Helpline by receiving reports of traffic incidents or requests for emergency assistance and by providing real-time traveler information customized to the caller's request.	X		
Review, transcribe, and compile user feedback of the NC 511 Highway Helpline on a daily basis to support continuous improvement of 511.	X		

Redirect other agency's customers such as the NC Department of Motor Vehicles (DMV) or NCSHP by thoroughly assessing caller needs, redirecting them to appropriate agency and/or offering guidance on the caller's next best course of action.	X		
Act as a liaison between callers and the Department by receiving and relaying requests for assistance to the appropriate DOT personnel and by providing status updates to callers.	X		
Coordinate with other state agencies or programs including the NC Department of Commerce to process state transportation map orders, NC Welcome Centers to relay facility complaints, and the NCDOT Office of Beautification Programs to report littering motorists.	X		
Work with the call center located at the Wake County Women's Correctional Center to handle significantly high CSC call volumes during major incidents or adverse weather.	X		
Thoroughly document calls in the Customer Service Database in order to log daily activities and capture data related to the overall volume and type of calls received at the CSC.	X		
Maintain and update SOP's for the CSC as needed.	X		
When the primary functions and responsibilities of the control room are being met, there may be the need for available operators to perform other duties to assist the Department. It is anticipated that these tasks will be performed from the control room during down-time. These tasks will be assigned by the Department as needed.	X	X	X
Program Performance Monitoring:	Statewide	Regional	NCTA
Monitor, assimilate, organize, review, and disseminate regular auditable reporting of performance measures.	X	X	X
Verification of adherence to control room training schedule.	X	X	X
Verification of adherence to control room staffing schedule.	X	X	X
Hold quarterly performance meetings to review contract performance and recommend continuous improvement strategies as necessary.	X	X	X

Requirement 10 – Primary TMC Function Examples: Consultants shall provide two examples from past experience that demonstrate the primary TMC functions and services defined above in Table 2. Consultants shall present examples that provide a comprehensive view of the breadth of their experience. In addition, Consultants shall provide one additional example of their choosing (may or may not be identified above) that illustrates how they have provided exceptional service, whether it was provided through effort, innovation, or value added engineering. Three examples shall be provided in total; each describing how the function was accomplished, the Client associated with the example provided, and any relevant additional details that connects the provided example to supporting NCDOT's operational goals. The Client for each example shall be identified as a reference as described in 4.7 REFERENCES. This statement shall be limited to two standard pages (8.5" x 11").

Requirement 11 – Toll Facility Traffic Operations Example: Consultants shall provide a traffic operations approach specific to toll facility needs and requirements. Consultants shall provide examples of toll facility traffic operations and management if available. This statement shall be limited to one standard page (8.5" x 11").

Requirement 12 – Traffic Operations and Incident Management Tools Experience: Consultants shall provide a brief statement describing their experience with available software tools necessary to support operations. This statement shall include the breadth of their experience with various software packages and how the software was used to support various systems. This statement shall be limited to half of one standard page (8.5" x 11") per software.

3.4.2 CONTROL ROOM COVERAGE REQUIREMENTS

The Awarded Consultant shall provide personnel to efficiently and effectively manage all coverage requirements as defined within this section. The TMC Operators shall be responsible for the day-to-day functions and services as previously described. It is expected that Operators will be professional and provided with the appropriate training, encouragement, and support to be successful and satisfied with their working environment.

The Awarded Consultant shall develop a control room staffing strategy that provides the minimum staffing requirements needed to achieve effective operations. Operator responsibilities can vary widely based on the day-to-day needs and particular shift they are working. Operators are classified as Level 1, 2, or 3 based on their skill, training, and knowledge base:

1. TMC Operator – Level 1: Entry level TMC Operator – Provides entry level traffic management functions and can serve in the CSC role.
2. TMC Operator – Level 2: Intermediate-level TMC Operator – Provides Level 1 functions with more advanced level traffic management skills and the ability to perform NCTA functions and services.
3. TMC Operator – Level 3: Advanced level TMC Operator – Level 2 with the skill set to provide Statewide and Regional level functions and services. Can mentor and oversee Level 1 and 2 TMC Operators with special projects and mentor level 1 and 2 operators.

The TMC Control Room Supervisors shall be responsible for day-to-day control room personnel scheduling; managing personnel grievances and concerns; identifying personnel accomplishments and providing encouragement; providing recommendations for advancement; providing day-to-day technical guidance, and being the first point of contact during emergency operations when the TMC Operations Manager is not available. The TMC Control Room Supervisors shall liaison with the TMC Operations Manager and/or NCDOT management as necessary during critical events and/or incidents.

The Awarded Consultant shall develop a control room staffing schedule which provides supervisor oversight at no more than 6 operators per supervisor per shift.

The following provides general guidelines for assuring that TMC Operator coverage is available to sufficiently meet operational demands and defines the regular hours during the week in which control room activity historically is at its highest.

General Guidelines:

- Primary Coverage Responsibility – Operators are responsible for supporting the coverage levels established by their TMC Control Room Supervisor/TMC Operations Manager especially in the coordination of their work breaks.
- IMAP Support – until all IMAP Units have ended their tour of duty, at least 1 Operator per region must be in the control room in order to monitor and support the active unit(s).
- Customer Service Center Coverage – the CSC must be attended to by a dedicated Operator during normal, weekday business hours (8:00 am EST to 5:00 pm EST). During emergency operations alternative arrangements may be made with the approval of NCDOT to shift the CSC responsibilities so that Operators may focus on STOC functions.

Weekday Peak Period Coverage:

Heaviest traffic congestion and incident activity typically is expected during the period from Monday through Friday. This largely is due to the high volume of commuters travelling to and from work during two distinct travel times in the morning and evening peaks.

- Morning Peak – 6:00 am EST to 9:00 am EST
- Evening Peak – 4:00 pm to 7:30 pm

- Operator Coverage – All Operators shall be in-place, focused on the performance of their operational duties and shall refrain from taking breaks until the morning/evening peak hour period concludes. Minimum peak hour floor coverage shall be as follows:
 - 1 Statewide Traffic Management Operator
 - 1 Statewide Dispatcher
 - 2 Regional Dispatchers
 - 2 Regional Traffic Management Operators
 - 1 CSC Representatives
 - 2 NCTA Operators
 - 2 Shift Supervisors
 - 1 Operations Manager

- TMC Control Room Supervisor Coverage – Supervisors shall be in the control room, monitoring and assisting the Operators throughout the morning/evening peak hour periods. Supervisors shall be in the control room during any times outside of these periods once congestion begins to build and/or as major events occur. Supervisors shall refrain from taking breaks, working on projects, or attending meetings until morning/evening congestion recedes or until the last significant incident has concluded.
 - TMC Control Room Supervisors shall not leave the control room during these peak hours unless it is in order to perform traffic operations related tasks and only at the direction of the TMC Operations Manager or Project Manager.
 - TMC Control Room Supervisors shall return to the control room floor whenever visitors or otherwise non-traffic operations personnel are present in the control room.

Off Peak Period (weekends and overnight) Coverage:

Traffic volumes typically decrease on the weekends and during the overnight period as compared to the work week. At least 1 Operator shall be in the STOC control room at all times. However, certain times should be expected to be heavier than normal and Operators shall be in-place to assure that any events are effectively managed.

- Friday Night Construction – 8:00 pm EST to 12:00 am EST
 - Weekend construction typically begins at 8:00 pm on Friday evening and requires a high level of effort since Operators must monitor known work zones for crews entering the roadway, place messages on appropriate DMS, generate TIMS entries, etc.
 - Operator Coverage – As construction response tasks are put in-place or removed, all Operators scheduled for duty must be in the control room assisting their team until all tasks are completed and all known construction has been addressed.
- Weekend Special Events – 2 hours before and after event.
 - Weekend special events typically impact traffic towards the beginning of the event as well as at its conclusion. Regular events that have a fairly predictable frequency are sports events and concerts.
 - Operator Coverage – For the 2 hours before the event begins as well as the 2 hours following the event's conclusion, all Operators scheduled for duty must be in the control room, assisting their team, until all tasks are completed and all event-related traffic has dispersed.
- Customer Service Center Coverage – critical CSC responsibilities must be met during off peak periods. It is expected that an Operator will be able to cover control room responsibilities as well as critical CSC responsibilities.

Off Peak Period (weekends and overnight) Emergency Coverage:

Traffic volumes typically decrease on the weekends and during the overnight period as compared to the work week. However, it is critical that proper coverage be provided during emergency events. Consultants shall consider staffing resource requirements to support additional emergency coverage throughout the life of the contract. NCDOT expects to pay a consistent rate for

operations with the understanding that the Consultant will absorb the costs for staffing needs in emergency conditions within their proposed rates.

- Weekend Emergency Events – Weather Related.
 - Although weather related emergency events cannot be predicted with complete accuracy, the Awarded Consultant shall monitor and anticipate the need for greater Control Room Coverage based on critical weather related events.
 - The Awarded Consultant shall coordinate with the appropriate NCDOT staff prior to the anticipated weather event to communicate emergency coverage approach and schedule.
- Weekend Emergency Events – Unforeseen.
 - Unforeseen emergency events of large scale shall require immediate action and implementation of emergency plans by the Awarded Consultant.
 - The Awarded Consultant shall coordinate with the appropriate NCDOT staff immediately upon verifying the emergency event to communicate emergency coverage approach and schedule.
- Operator Coverage – All Operators shall be in-place, focused on the performance of their operational duties and shall coordinate taking breaks until the emergency event has concluded. The TMC Control Room Supervisor shall anticipate the need for breaks, including longer breaks for sleep, during emergency events. Breaks shall be rotated such that operational responsibilities are met.
- TMC Control Room Supervisor Coverage – Supervisors must be in the control room, monitoring and assisting the Operators throughout the emergency event. Supervisors shall refrain from working on projects or attending non-critical meetings until the emergency event has concluded. Supervisors shall anticipate their needs and plan in advance for their own necessary breaks for sleep; this may include calling in additional supervisory coverage.
 - TMC Control Room Supervisors shall not leave the control room during these peak hours unless it is to perform traffic operations related tasks and only at the direction of the TMC Operations Manager or Project Manager.
 - TMC Control Room Supervisors shall return to the control room floor whenever visitors or otherwise non-traffic operations personnel are present in the control room.
 - TMC Control Room Supervisors shall remain in coordination with the appropriate NCDOT staff during the entire duration of the event. In addition, the Supervisor shall provide a brief emergency event summary to NCDOT staff upon the conclusion of the emergency event.
- IMAP dispatch protocol for emergency events shall be adhered to at all times.
- Customer Service Center Coverage – it is anticipated that critical CSC responsibilities will be heightened during an emergency event. Critical CSC responsibilities must be met during emergency events. It is expected that while an Operator may be able to cover control room responsibilities as well as critical CSC responsibilities during off peak periods, it may not be the case during all emergency events. The Awarded Consultant shall assess the emergency event and provide appropriate CSC coverage as needed.

Requirement 13 – Control Room Coverage Approach: Consultants shall provide a TMC control room coverage and staffing approach which will include how scheduling will be accomplished (i.e. merit, seniority, etc. based), how absences and heightened needs will be accommodated, and how schedule grievances will be handled. Staff retention and career growth shall be briefly addressed. In addition, Consultants shall briefly describe the health, safety and security mechanisms that will be in place to ensure a healthy, safe, secure working environment. This statement shall be limited to one standard page (8.5" x 11").

3.4.3 TRAFFIC INCIDENT MANAGEMENT (TIM) PROGRAM SERVICES

NCDOT currently has a basic Traffic Incident Management (TIM) Program in place. A successful TIM Program requires vigilant statewide coordination; focused on consensus building,

communication, and collaboration. The Awarded Consultant shall demonstrate strong knowledge of the benefits and resource requirements to facilitate and coordinate the TIM Program.

Existing TIM Program

The Awarded Consultant shall be responsible for maintaining the existing support necessary to operate and maintain the current TIM Program. The Awarded Consultant shall provide two (2) statewide TIM Specialists that will be responsible for statewide coordination between NCDOT, law enforcements agencies, emergency response personnel, and towing and recovery. At a minimum, TIM Specialists shall be responsible for conducting IMAP and Strategic Highway Research Program 2 (SHRP2) Training. Should it be possible for NCDOT to secure further funding to expand the existing TIM Program, these TIM Specialists will be expected to be part of the overall TIM Program team.

Requirement 14 – TIM Program Approach – Existing: Consultants shall provide a TIM Program approach that describes how the current TIM program will be managed; including relevant resources, methods for Regional coordination, and required NCDOT resources to support the program. This statement shall be limited to one standard page (8.5” x 11”).

TIM Program Expansion

The Awarded Consultant shall expand, develop, and refine the current TIM Program. It is anticipated that NCDOT will expand the current TIM Program beginning in year 2 of this contract. The expanded Program will incorporate the following four major tasks.

1. **Statewide TIM Program Development.** The primary purpose of the TIM Program at the statewide level is to oversee the application of incident management experience and expertise to guide statewide traffic operations strategies and process improvements that enhance incident management operational procedures. The program should foster collaboration with other statewide traffic operation programs and developments to provide incident management recommendations and guidance. It shall provide a means for the TIM Program Manager to coordinate feedback from the regional level and recommend operational improvements. The Awarded Consultant will be required to provide, at a minimum, the following Statewide TIM Program services:
 - Develop mission, goals, and objectives for a North Carolina TIM Program
 - Promote interoperability, consistency, reliability, and efficiency across the state
 - Build consensus; coordinating and preparing multi-agency deliverables
 - Identify potential challenges and demonstrate successful solutions in the areas of:
 - Heavy Towing Program,
 - Incident Management Assistance Patrols (IMAP),
 - Traffic Operations Performance Measures,
 - ATMS software integration as it pertains to Program goals and objectives,
 - Statewide and Regional TIM Strategic Plan as defined in FHWA guidance and 2010 Traffic Incident Management Handbook, and
 - Traffic operations and incident management program support.
 - Further develop and implement TIM Program policy and procedures based on national best practices and federal recommendations.
 - Organize and lead a statewide TIM coalition (Lt. Colonel, State Fire Marshall level) focused on statewide TIM initiatives such as:
 - Developing and implementing guidelines for *After Action Reviews* Policy
 - Peer coordination with the existing statewide TIM Specialist on Standard Operating Procedures, Certification Program, and TIM activities.
2. **Regional TIM Program Development.** The primary purpose of the TIM Program at a regional level is to provide a communications channel for the incident management field staff and garner statewide level support for the field staff. The regional efforts should develop

strong relationships with field staff and use their experience to identify needs and gaps in NC's incident management approach. This includes collaboration with all regional incident management stakeholders, including, but not limited to: Regional Traffic Engineer, Regional ITS Engineer, IMAP, and first responders. In addition, the regional efforts will provide training and experience that will allow for consistent implementation of incident management strategies across the state. The Awarded Consultant shall provide, at a minimum, the following Regional TIM Program services:

- Develop and/or participate in Regional TIM Teams
- Support, coordinate, advise, and partner with existing regional incident management engineers that report to the Division office
- Review and document existing TIM practices and conditions and institutional relationships
- Create clear communication strategies to identify potential challenges and build consensus for statewide TIM standards, policies, procedures, and agreements between agencies
- Implement consistent construction guidelines for traffic incident management plans
- Identify other areas that should be included for the TIM program at a regional level
- Create and/or foster local TIM agreement(s)
- Plan, coordinate, and facilitate regional TIM Coalition (Captain or Chief Level) focused on regional TIM initiatives

3. **TIM Training and Outreach.** The Awarded Consultant shall be responsible for training and educational outreach for the TIM Program. At a minimum, the Awarded Consultant shall provide the following services:

- Lead the Strategic Highway Research Program (SHRP 2) L 12 Training Implementation effort for NCDOT in coordination with partner agencies
- Lead the NCDOT Certification Program and SHRP 2 L12 (Train the Trainer for Regional TIM Coordinators and backup trainer for other needs across the state)
- Lead the IMAP/TMC Training Program
- Identify any additional training that may improve the TIM Program at the regional or statewide level

4. **General TIM Consultant Services.** The Awarded Consultant shall provide ongoing TIM Program general technical assistance, advice, and guidance relating to statewide and regional incident management initiatives. Experience working with the State of North Carolina on various TIM issues is preferred.

Requirement 15 – TIM Program Approach - Expanded: Consultants shall provide a TIM Program expansion approach that identifies program objectives and describes how the TIM program will be implemented and managed; including relevant resources, methods for Regional coordination, and required NCDOT resources to support the program. Consultants shall organize their approach based on the four TIM Program elements identified above and provide their approach to the services as appropriate. This statement shall be limited to two standard pages (8.5" x 11").

3.4.4 PROPOSED STAFFING

The consultant shall utilize Appendix A: Proposed Staffing Estimate Form to show their proposed staffing levels for all key positions that are required and anticipated/proposed for this contract. Also within this table the contractor shall demonstrate their anticipated growth needs, if any, of these positions over the duration of the project.

3.4.5 TMC OPERATIONS TRANSITION

It is critical that the Awarded Consultant shall transition responsibility of current TMC operations and management from the existing contract holder such that no interruption or loss in quality of traffic operations and management is realized.

Requirement 16 – Transition Plan: Consultants shall provide a transition plan that describes the recommended method of transition of responsibility from the current contract holder. This statement shall be specific with clearly defined expectations of time of element transition. This statement shall be limited to one standard page (8.5" x 11"). In addition, a schedule shall be provided detailing the full process of transition from NTP until project establishment.

4 CONTRACT ADMINISTRATION

4.1 PROJECT MANAGER AND CUSTOMER SERVICE

The Consultant shall designate and make available to the State a project manager as described in **Section 3.2.2**. The project manager shall be the State's point of contact for contract related issues and issues concerning performance, progress review, scheduling and service.

NCDOT shall designate a Contract Administrator, project manager or such other agent, who will be responsible for monitoring the contractor's performance. All official and binding communications by NCDOT shall only come through the Contract Administrator, and the Consultant shall direct all communications concerning the contract to the Contract Administrator.

4.2 POST AWARD MANAGEMENT REVIEW MEETINGS

The Consultant, at the request of the State, shall meet weekly with the NCDOT for Project Review meetings. The purpose of these meetings will be to review project progress reports, discuss Consultant and State performance, address outstanding issues, review problem resolution, provide direction, evaluate continuous improvement and cost saving ideas, and discuss any other pertinent topics.

4.3 DISPUTE RESOLUTION

The parties agree that it is in their mutual interest to resolve disputes informally. A claim by the Consultant shall be submitted in writing to the State's Contract Lead for resolution. A claim by the State shall be submitted in writing to the Consultant's Project Manager for resolution. The Parties shall negotiate in good faith and use all reasonable efforts to resolve such dispute(s). During the time the Parties are attempting to resolve any dispute, each shall proceed diligently to perform their respective duties and responsibilities under this Contract. If a dispute cannot be resolved between the Parties within thirty (30) days after delivery of notice, either Party may elect to exercise any other remedies available under this Contract, or at law. This term shall not constitute an agreement by either party to mediate or arbitrate any dispute.

4.4 CONTRACT CHANGES

Contract changes, if any, over the life of the contract shall be implemented by contract amendments agreed to in writing by the State and Consultant.

4.5 CONTRACT CLOSE-OUT PROCEDURES

The Consultant shall develop a transition plan that details the close-out or transition of ownership of all open action items, the transfer of assets to the agency or Consultant assuming responsibility upon the end of the contract, and all other logistical responsibilities managed by the Consultants. This transition plan shall be approved by the NCDOT Contract Administrator six months before the end of the contract term.

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5 APPENDIX A: PROPOSED STAFFING ESTIMATE FORM

STAFFING PROPOSAL

Line Item	Units	Initial 3 Year Contract Number of Positions Projected			2 Year Extension Option Number of Positions Projected	
		2017	2018	2019	2020	2021
Project Director	EACH					
Project Manager	EACH					
TMC Operations Manager	EACH					
ATMS Technical Resource	EACH					
Traffic Operations Trainer	EACH					
Traffic Engineer	EACH					
Assistant Traffic Engineer	EACH					
Traffic Operations Specialist	EACH					
Data Analyst	EACH					
Technical ITS Specialist	EACH					
TIM Program Manager	EACH					
TIM Specialist	EACH					
TMC Operator - Level 1	EACH					
TMC Operator - Level 2	EACH					
TMC Operator - Level 3	EACH					
TMC Supervisor	EACH					
Contractor should list other proposed positions as needed and mark through any that are listed that are not anticipated to be utilized on this project.						

6 APPENDIX B: REFERENCE REQUEST FORM

Consultants shall provide four references for consideration. Three of these references shall align with the project examples requested in Requirement 1. References shall be included for projects completed within the last five (5) years and similar in nature to this contract.

Attachment B: Reference Request Form

Project Name	Brief Description of Work	Completion Date (Month/ Year)	Project Budget	Reference Name and Title	Email Address / Phone Number