

**NEW MEXICO DEPARTMENT
OF TRANSPORTATION**

REQUEST FOR PROPOSALS

FOR

RFP 08-16

**TERMINI: SW INTELLIGENT TRANS PLANNING, ENGINEERING AND
IMPLEMENTATION SERVICES**

PROJECT NUMBER: CQX-7601(16)

CONTROL NUMBER: 4087

***Submit Proposals no later than April 9, 2008
@ 2:00 P.M. local prevailing time***

**NEW MEXICO DEPARTMENT
OF TRANSPORTATION**

REQUEST FOR PROPOSAL

Control Number :	4087
Project Number:	CQX-7601(16)
Type of Work:	INTELLIGENT TRANSPORTATION SYSTEMS PLANNING, ENGINEERING, OPERATIONAL SUPPORT AND IMPLEMENTATION SUPPORT SERVICES
Posted Route:	STATEWIDE
Begin Mile Post:	TBD
Termini:	TBD
Project Length:	WILL VARY
Department District:	STATEWIDE
County:	STATEWIDE
Project Development Engr.:	Tony Abbo Charles Remkes Terry Doyle Priscilla Benavides

Note:

The Department may award to multiple consultants under this RFP to provide Intelligent Transportation Systems engineering, planning and implementation services to address needs.

1. Description of Services:

This Contract is to provide Intelligent Transportation Systems engineering support and other engineering services to aid in the areas of Intelligent Transportation Systems Planning, Design, Project Management, Operations Support, Implementation, Central Control System Support, Infrastructure Support & Design, and other unanticipated Intelligent Transportation System needs statewide. The Consultant/Engineer shall provide services for any number of the activities listed under Scope of Services upon the request of the Department. Once a need is identified, the Department will issue to the Consultant/Engineer a written project assignment detailing the services required. Upon receiving the Department's request for services, the Consultant/Engineer shall promptly provide the Department with an estimate of man-hours and corresponding fee proposal required to do the work. Each project will be negotiated on a project by project basis. The Consultant/Engineer may also be required to do some of the work in phases.

THIS CONTRACT WILL BE FOR ON CALL INTELLIGENT TRANSPORTATION SYSTEMS PLANNING, ENGINEERING, OPERATIONAL SUPPORT AND IMPLEMENTATION SUPPORT AND OTHER MISCELLANEOUS SERVICES, STATEWIDE.

2. Scope of Services:

The following is a description of the Scope of Services for Intelligent Transportation Systems Planning, Engineering Design, Project Management, Support & Implementation, and Central Systems Support. The Consultant/Engineer may be required to provide specific skill set staffing at the Department Traffic Management Center on a regular schedule (i.e. 2-3 days per week) while performing work under this Contract (office space will be available for the contractor). When required, this work shall include, but not be limited to the following (exact scope shall be negotiated on a project by project basis):

A. Intelligent Transportation Systems Planning

Intelligent Transportation Systems Planning will generally involve use of the approved Intelligent Transportation Systems Architectures in New Mexico and adjacent states to ensure Statewide Intelligent Transportation Planning, Standard Operations and planned projects are consistent with the goals and objectives contained in the Architectures. The Consultant/Engineer must be thoroughly familiar with the federal regulation governing Intelligent Transportation Systems programs and transportation planning at the state and metropolitan levels. Further, the Consultant/Engineer must be thoroughly familiar with the National Transportation Communications for Intelligent Transportation Systems Protocol standards, data communication systems, real time traffic analysis (including the rationale behind traffic algorithm development). Intelligent Transportation Systems Planning services may include, but are not limited to, the following:

1. Intelligent Transportation Systems Architecture Maintenance
2. Development of Concept of Operations and Standard Operating Procedures for Intelligent Transportation Systems related program areas (Traffic Management, Incident Management, Operations Center, Advanced Traveler Information Systems, Road Weather Information Systems, Transit Performance and Scheduling, etc.)
3. Process Flow Charting
4. System Requirements Identification (Central Control Systems, Incident Management Systems, Dispatch Systems, Systems Integration, etc.)

5. Corridor level Intelligent Transportation Systems deployment and management planning (including requirements identification for devices, systems and algorithms to actively manage transportation with Intelligent Transportation Systems)
6. Urban Interstate and Arterial Street network level Intelligent Transportation Systems deployment and management planning (including requirements identification for devices, systems and algorithms to actively manage an integrated transportation network with Intelligent Transportation Systems)
7. Statewide and Urban Area Intelligent Transportation Systems Deployment Planning (including requirements identification for devices, systems and algorithms to actively manage an integrated transportation network with Intelligent Transportation Systems)
8. Preparation of white papers, project scoping reports, system requirements, funding applications, inter-agency agreements, etc.
9. Organizing and running agency/public meetings
10. Development of statewide and urban Intelligent Transportation systems communications plans (including inter-jurisdictional connections)

B. Intelligent Transportation Systems Engineering and Design

1. Preliminary Design

Preliminary design will generally involve survey and mapping by others, but may be done utilizing as-built plans and/or ortho photography as determined appropriate by the Department. Preliminary design shall be consistent with plans development at a 50% completion stage and may include project specific cost estimates if requested by the Department. Preliminary design services may include, but are not limited to the following:

- a. Layouts for Intelligent Transportation Systems field devices
- b. Plan and profile plans for communications infrastructure, field device locations, electrical connections, etc.
- c. preliminary traffic control plans
- d. preliminary communications plans
- e. preliminary Intelligent Transportation Field device cabinet details
- f. preliminary structure design
- g. preliminary pavement designs
- h. Preliminary foundation plans for Intelligent Transportation Systems field devices, such as camera poles, dynamic message sign structures, traffic sensors, etc.

- i. performing FHWA required Systems Engineering for Intelligent Transportation Systems projects, completing the required documentation and obtaining FHWA approval
- j. General computer aided design (CAD) for minor projects in support of Intelligent Transportation Systems Operations, camera installations, dynamic message sign installations, etc.
- k. Monumentation Surveying
- l. Boundary Survey and Deeds
- m. Communications Survey (wireless evaluations)
- n. Location Survey
- o. Subsurface Utility Exploration (SUE)

2. Final Design

The Consultant/Engineer may be required to prepare a Final Satisfactorily Completed Plans Submittal. The design plans may include as appropriate: cover sheet, title sheet, typical sections, quantity sheets, general notes, plan and profile sheets, structure placement sheets, Intelligent Transportation System Field Device placement sheets, Intelligent Transportation System Field Device cabinet details, Traffic Management Center Communication and processing details, special details, traffic control, detour plans, grading plans, incorporation of standard plans and those prepared by other, final detail estimate and proposal, special provisions as required and other plans as may be required.

Final plans may be full or partial, as requested in writing by the Department. An example of full, final plans development under the Contract would be the completion of plans for corridor level Intelligent Transportation System Deployments including traffic sensors, cameras, dynamic message signs, road weather information stations, communications infrastructure, connection details for field device, traffic management center connection details, etc. Examples of partial, final design include but are not limited to the following:

- a. Development of standard details for Intelligent Transportation Field Devices including foundations, structures, dynamic message signs, cameras, traffic sensors, road weather information stations, cabinet details, etc.
- b. Plan and profile design and plans Intelligent transportation systems communication infrastructure and field devices.
- c. Outside plant, fiber optics network design and detailing, including details on pull-boxes, vaults, housings, co-location housings, conduit, dry blocking, etc.
- d. traffic control plans
- e. signing and pavement marking plans

- f. Structure Design
- g. Environmental Document
- h. R/W maps
- i. ISA, PSI, and DSI
- j. Development of acceptance testing criteria and procedures for Intelligent Transportation System Field Devices and communication infrastructure

The Department's Highway Design formatting guidelines should be used in the preparation of plans. Plans shall be developed in accordance with the Department Design Manual, Drainage Manual, current version of the AASHTO green book, current version of the MUTCD, and other state and federal guidelines as applicable.

C. Project Management

Project Management will generally involve the consultant assisting in Department Project Oversight of the Project Development process. This will likely involve the directing of Intelligent Transportation Systems consultant work through final design. Additionally, Project Management will include leading strategic Intelligent Transportation System deployment working groups comprised of diverse stakeholders from multiple jurisdictions within New Mexico and outside the state. Further, the consultant may be asked to provide specific skill set staffing at the Department Traffic Management Center on a regular schedule, as defined by specific work order.

D. OPERATIONS SUPPORT & IMPLEMENTATION

Operations Support & Implementation will generally involve the Consultant/Engineer assisting the Department with carrying out acceptance testing of Intelligent Transportation System Devices and Infrastructure. Additionally, the Consultant/Engineer may be asked to provide specific skill set staffing at the Department Traffic Management Center on a regular schedule, as defined by specific work order, to assist in establishing standard operating procedures for existing system and when implementing new systems. This will help refine procedures and train Department staff. Examples of operations support and implementation include, but are not limited to, the following:

1. Management of acceptance testing for Intelligent Transportation Systems Devices and Infrastructure

2. Development and refinement of Traffic Management Center operating procedures (including on the job training of Department staff)
3. Development and implementation of urban and statewide performance measures for Intelligent Transportation Systems operations (including the development of tracking systems and reports that evaluate and quantify the benefits of each program (Traffic Management, Incident Management, Advanced Traveler Information, etc.)
4. Development and refinement of the statewide Advanced Traveler Information System operations and operating procedures (including on the job training of Department and other agency staff, traffic mapping)
5. Review and suggest improvements/refinements of the urban and statewide deployed Intelligent transportation systems network to improve the transportation management abilities of the system. (includes working with vendors to test new systems in the Department Intelligent Transportation System environment, analyzing information being collected and used on both a corridor and network level to determine the level of accuracy being generated by central system algorithms, and making recommendation on improving the accuracy, etc.)
6. Development of on-call and price agreement procurement documents for the installation, maintenance and tracking of outside plant fiber optics installation, dynamic message sign installations, camera installations, etc.
7. System diagnostics and the development and implementation of remedial action plans.
8. Development, implementation and operations of web-based applications used directly in the support of ITS activities.

E. CENTRAL SYSTEMS SUPPORT

Central Systems Support will involve the Consultant/Engineer developing system requirement for central Intelligent Transportation Systems controls (Transportation Management, Incident Management, Advanced Traveler Information Systems, etc.) Additionally, the Consultant/Engineer will be required to develop algorithms for integrating real time information into Intelligent Transportation Systems operations and scripting those functionalities into the Department Central Systems (Currently 360 Surveillance's Chameleon ITS package). Examples of central systems support include, but are not limited to, the following:

1. Developing system requirements and scopes of work for Central Systems incorporating standard operation principles. (Transportation Management, Incident Management, Advanced Traveler Information Systems, Road Weather Information Systems, etc.)
2. Developing System integration requirements and scopes of work to integrate systems (Transportation Management, Incident Management,

Emergency Operations, Dispatch, Congestion Management Process, Advanced Traveler Information Systems, Road Weather Information Systems, Maintenance Support Systems, etc.)

3. Developing Data Warehousing structure, system requirements and scopes of work, including integration with other systems
4. Management of System procurement contracts, including development and management of acceptance testing, project management, development and management of quality control and quality assurance procedures, project management, etc.
5. Customization of central systems through utilization of scripting languages (Currently 360 Surveillance's Chameleon ITS)
6. Traveler information website content support (including data parsing and streaming video)
7. Infrastructure assessment and testing to identify problems and to make recommendations on maintaining a stable communications foundation for Intelligent Transportation Systems

3. The District may or may not furnish the following to the Consultant:

The District may or may not provide:

- A Project Engineer/Other Department Personnel to serve as an engineering liaison for the project.
- Review of Traffic Control
- Aerial photos
- Survey and mapping
- As built or as let plans
- Existing signal timing and phasing
- Foundation design
- As-built Intelligent Transportation Systems communication plans
- Survey Information
- Other relevant, project-specific information as the Department has available

The Department will not provide an extensive detail check of any final plans. Therefore, any errors and/or omissions in the final design and plans will be the full responsibility of the Consultant/Engineer.

4. Coordination

The Consultant/Engineer will be responsible for all coordination necessary to accomplish the work required by the Contract. This responsibility shall include coordination with the public, property owners, Federal, State, City, County, Schools, RPOs, MPOs, and other agencies having jurisdiction or interest in the project. This will include obtaining approvals and/or concurrence on all work that is to be completed by the Consultant/Engineer including work completed by sub-contractors working under this Contract.

This responsibility shall also include obtaining all initial informal (verbal) approvals. For any required formal (written) approvals, the Consultant/Engineer will provide the Department with all required data and draft letters of transmittal. In the event the Consultant/Engineer is not successful in obtaining informal approvals, the Consultant/Engineer shall promptly notify the District in writing, and the District will assist in resolving the matter.

In addition, the Consultant/Engineer shall be responsible for:

- Making distribution of plans and documents.
- Preparing written reports of findings with recommendations
- Providing written inspection reports
- scheduling and documenting required meetings

5. General:

All work accomplished under this Contract shall be in accordance with the AASHTO "A Policy on the Geometric Design of Highway and Streets", current edition; FHWA Policy, the current edition of the MUTCD, The Department Location Study Procedures, New Mexico Criminal and Traffic Law Manual, the Roadside Design Guide and the Highway Capacity Manual, other Department and FHWA Manuals, Standards, and Guidelines, as appropriate, and Department Standard Specifications and Standard Procedures.

The Department may provide review of Consultant/Engineer work for conformity with Department procedures and contract terms only. Review by the Department does not include detailed review or checking of design components and related details or the accuracy with which such is depicted. Department acceptance of the Consultant/Engineer's work product, plans, studies, etc. does not constitute Department approval.

Although every effort has been made to fully describe the scope of services it is anticipated that changes may be required during the course of the project to accommodate input from the public, other agencies and/or from within the

Department. The changes to the scope of work that may be required to provide a complete project shall be negotiated and authorized by an Amendment to the Contract as they are identified.

Material prepared under this Contract shall be bound and labeled on the spine of the document as well as on the cover. Each item shall be bound with project identification, including control number if applicable, project name, and route location, clearly printed on the spine of the report.

Consultant/Engineer must submit a brief description of their understanding of the project described in this Request for Proposal.

Consultant/Engineer needs to describe their approach to each of the Tasks/Topics described in Section 2.

Consultant/Engineer must submit a statement of relevant individual/firm/joint venture experience, including experience of subcontractors, that thoroughly describes how the Consultant/Engineer(s) supplied expertise for similar work as described in Section 2.

Consultant/Engineer should include in their proposal documentation describing the extent of their experience and expertise as they relate to Section 2.

Consultant/Engineer must submit resumes of all proposed professional staff members and subcontractors who will be performing services under the Contract. Experience narratives shall be attached that describe the specific relevant experience of the staff members in relation to the role that member will perform for this Contract. This information shall be used in evaluating the Consultant's Proposal.

6. Term:

The project schedules, lump sum fees, insurance certificates and completion dates shall be determined on a project by project basis and dependent upon the urgency of that task.

7. Project Staffing Information:

Staff	Number on Staff
Principal Engineer	
Project Manager	

Project Engineer	
Technician	
Draftsman	
Surveyor	
Systems Engineer	
Database Developer	
Software Engineer	

8. COMPENSATION

It is the intent of the Department to negotiate a Lump Sum Price based on labor, direct costs, indirect costs and fee for each task assigned under this Contract on a project by project basis.

9. CONSULTANT/ENGINEER'S RESPONSIBILITIES

The Consultant/Engineer has total responsibility for the accuracy, completeness and correctness of the plans and related data prepared under the terms of this Contract and shall check all material accordingly. The plans, reports and recommendations of the Consultant/Engineer will be reviewed by the Department for conformity with Department procedures and contract terms. Review by the Department does not include detailed review or checking of design components and related details or the accuracy with which such designs are depicted on the Plans. The Consultant/Engineer shall not deviate from standard geometric design without the express written approval of the Department.

10. ACCURACY OF WORK

Acceptance of the work by the Department and contract termination does not constitute Department approval and will not relieve the Consultant/Engineer of the responsibility for subsequent corrections of any errors and omissions and the clarification of any ambiguities. The Consultant/Engineer shall make all necessary revisions or corrections resulting from errors and/or omissions on the part of the Engineer without additional compensation. If these errors and/or omissions are discovered during the construction of the project they shall be corrected under Phase III services without additional compensation.

11. INDEMNIFICATION - PROFESSIONAL LIABILITY.

To the fullest extent permitted by law and subject to the provisions of Section 56-7-1 NMSA 1978 (1996 repl.), the Consultant/Engineer shall defend, indemnify, and hold harmless the Department, acting through its agents, representatives, and employees, from and against claims, damages, losses and expenses (including but not limited to attorney's fees, court costs and the cost of appellate proceedings), arising out of or resulting from the Engineer's professional negligent acts, errors, mistakes or omissions. The Consultant/Engineer's duty to defend, hold harmless and indemnify the Department shall arise in any connection with any claim, damage, loss or expense that is attributable to or caused by any negligent act, error or omission of the Consultant/Engineer or anyone directly or indirectly employed by the Consultant/Engineer or anyone for whose acts they may be liable.

This agreement to indemnify shall not extend to liability, claims, damages, losses or expenses, including attorney fees, arising out of: (1) the preparation or approval of maps, drawings, reports, surveys, change orders, designs or specifications by the Department, or the agents or employees of the Department; or (2) the giving of or failure to give directions or instructions by the Department, where such giving or failure to give directions or instructions is the primary cause of bodily injury to persons or damages to property. For purposes herein the Consultant/Engineer is not considered an agent of the Department.