

REQUEST FOR PROPOSALS

TECHNICAL ASSISTANCE FOR THE

IMPLEMENTATION OF INTELLIGENT TRANSPORTATION SYSTEM

TECHNOLOGIES

Submission Deadline: **4:00 PM**

LOCAL TIME – BOGOTÁ, COLOMBIA

OCTOBER 31, 2013

Submission Place: Vice Minister for Transport
Ministerio de Transporte
Avenida El Dorado C.A.N. entre Carreras 57 y 59
Bogotá, D.C.
Colombia

Phone: +57 1 3240800

SEALED PROPOSALS SHALL BE CLEARLY MARKED AND RECEIVED PRIOR TO THE TIME AND DATE SPECIFIED ABOVE. PROPOSALS RECEIVED AFTER SAID TIME AND DATE WILL NOT BE ACCEPTED OR CONSIDERED.

N.B.: Any and all questions pertaining to the RFP should be sent to:
RFPQuestions@ustda.gov

REQUEST FOR PROPOSALS

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Section 1: INTRODUCTION

The U.S. Trade and Development Agency (USTDA) has provided a grant in the amount of US\$479,000 to the Ministry of Transport of the Government of Colombia (the “Grantee”) in accordance with a grant agreement dated September 3, 2013 (the “Grant Agreement”). This Grant will fund Technical Assistance (“Technical Assistance”) on the implementation of intelligent transportation system (ITS) technologies project (“Project”) in Colombia (“Host Country”). The Technical Assistance will conduct analysis of ITS technologies and their applicability in Colombia and define two pilot programs using different ITS applications in the effort to facilitate their implementation by the Colombian government.

The Grant Agreement is attached at Annex 4 for reference. The Grantee is soliciting technical proposals from qualified U.S. firms to provide expert consulting services to perform the Technical Assistance.

1.1 BACKGROUND SUMMARY

Colombia is undergoing a transportation infrastructure boom driven by vastly improved security coupled with rapid economic growth and increased personal income, which have greatly raised mobility demand. Colombia is planning to make significant improvements to its transport sector capacity, with a goal to raise annual investments to US \$9 billion by 2014 (equivalent to 3 percent of GDP), of which approximately two-thirds is expected to come from the private sector through concessions. The fourth generation of road concessions, a process currently being managed by the Colombian National Infrastructure Agency (ANI), will involve 40 projects and the construction of 8,170 km of roadways, representing an estimated investment of US \$26 billion. To increase the capacity of existing transport networks in major cities and to finance the expansion of major inter-urban highways, Colombia is increasingly embracing ITS solutions, a number of which have been put into practice in Colombia in recent years. In Bogotá and other major cities (Colombia has five cities with a population greater than one million), there is now widespread use of smartcards and other ITS technologies for bus rapid transit, signalized intersections, and traffic control centers that rely on vehicle detection and CCTV technologies.

Bogotá and other large cities have instituted congestion management programs (i.e., time-restricted use of vehicles on certain days) and there is an increasing impetus for the implementation of a congestion charging scheme, starting in the capital. Such a program would rely on ITS technologies for vehicle identification used in levying fees as well as associated enforcement. In addition, the major toll roads being built are incorporating variable message signs. Several private operators have been evaluating toll collection systems and ANI’s standard concession contract now requires electronic toll collection. The Colombian government is also planning an Integrated Management Center for Intelligent Transport and Transit Control, which would enable emergency and incident response along highways.

Colombia has many projects under consideration to implement ITS technologies in a wide set of geographic areas and for different applications, including congestion management in urban areas, toll collection for private and public operated highways, public transportation operations, port and truck operations, highway and transport safety, user information services, electronic vehicle identification, etc. The MOT has prepared a draft Strategic Plan and Policy for ITS

Development, which considers several technology issues such as the adoption of standards to assure reliability, interoperability, open standards, and data security. The TA would provide analysis and recommendations to the Vice Minister of Transport (as well as the new inter-agency ITS coordination group to be chaired by the Vice Minister) to further define and implement the aforementioned policy and strategic plan, which will present the national government priorities for public investment in projects involving ITS technologies in the short, medium and long term.

Edited portions of a background Definitional Mission report are provided for reference in Annex 2.

1.2 OBJECTIVE

The objective of this Technical Assistance is to prepare a practical plan for the implementation of ITS technologies in the effort to increase efficiency for the monitoring and management of Colombia's highway and transport systems as well as facilitate the introduction of a congestion pricing policy in Bogotá and other major cities. The Terms of Reference (TOR) for this Technical Assistance are attached as Annex 5.

1.3 PROPOSALS TO BE SUBMITTED

Technical proposals are solicited from interested and qualified U.S. firms. The administrative and technical requirements as detailed throughout the Request for Proposals (RFP) will apply. Specific proposal format and content requirements are detailed in Section 3.

The amount for the contract has been established by a USTDA grant of US\$479,000. **The USTDA grant of US\$479,000 is a fixed amount. Accordingly, COST will not be a factor in the evaluation and therefore, cost proposals should not be submitted.** Upon detailed evaluation of technical proposals, the Grantee shall select one firm for contract negotiations.

1.4 CONTRACT FUNDED BY USTDA

In accordance with the terms and conditions of the Grant Agreement, USTDA has provided a grant in the amount of US\$479,000 to the Grantee. The funding provided under the Grant Agreement shall be used to fund the costs of the contract between the Grantee and the U.S. firm selected by the Grantee to perform the TOR. The contract must include certain USTDA Mandatory Contract Clauses relating to nationality, taxes, payment, reporting, and other matters. The USTDA nationality requirements and the USTDA Mandatory Contract Clauses are attached at Annexes 3 and 4, respectively, for reference.

Section 2: INSTRUCTIONS TO OFFERORS

2.1 PROJECT TITLE

The project is called Implementation of Intelligent Transportation System Technologies.

2.2 DEFINITIONS

Please note the following definitions of terms as used in this RFP.

The term "Request for Proposals" means this solicitation of a formal technical proposal, including qualifications statement.

The term "Offeror" means the U.S. firm, including any and all subcontractors, which responds to the RFP and submits a formal proposal and which may or may not be successful in being awarded this procurement.

2.3 DEFINITIONAL MISSION REPORT

USTDA sponsored a Definitional Mission to address technical, financial, sociopolitical, environmental and other aspects of the proposed project. Edited portions of the report are attached at Annex 2 for background information only. Please note that the TOR referenced in the report are included in this RFP as Annex 5.

2.4 EXAMINATION OF DOCUMENTS

Offerors should carefully examine this RFP. It will be assumed that Offerors have done such inspection and that through examinations, inquiries and investigation they have become familiarized with local conditions and the nature of problems to be solved during the execution of the Technical Assistance.

Offerors shall address all items as specified in this RFP. Failure to adhere to this format may disqualify an Offeror from further consideration.

Submission of a proposal shall constitute evidence that the Offeror has made all the above mentioned examinations and investigations, and is free of any uncertainty with respect to conditions which would affect the execution and completion of the Technical Assistance.

2.5 PROJECT FUNDING SOURCE

The Technical Assistance will be funded under a grant from USTDA. The total amount of the grant is not to exceed US\$479,000.

2.6 RESPONSIBILITY FOR COSTS

Offeror shall be fully responsible for all costs incurred in the development and submission of the proposal. Neither USTDA nor the Grantee assumes any obligation as a result of the issuance of this RFP, the preparation or submission of a proposal by an Offeror, the evaluation of proposals, final selection or negotiation of a contract.

2.7 TAXES

Offerors should note that in accordance with the USTDA Mandatory Contract Clauses, USTDA grant funds shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in the Host Country, except for taxes of a de minimis nature imposed on local lodging, food, transportation, or airport arrivals or departures. In accordance with the terms of the General Agreement for Economic, Technical and Related Assistance, signed in 1962 between the governments of the United States of America and the Republic of Colombia, USTDA Grant funds paid to the Contractor are exempt from Colombian taxation. Neither the Grantee nor the successful Offeror will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

2.8 CONFIDENTIALITY

The Grantee will preserve the confidentiality of any business proprietary or confidential information submitted by the Offeror, which is clearly designated as such by the Offeror, to the extent permitted by the laws of the Host Country.

2.9 ECONOMY OF PROPOSALS

Proposal documents should be prepared simply and economically, providing a comprehensive yet concise description of the Offeror's capabilities to satisfy the requirements of the RFP. Emphasis should be placed on completeness and clarity of content.

2.10 OFFEROR CERTIFICATIONS

The Offeror shall certify (a) that its proposal is genuine and is not made in the interest of, or on behalf of, any undisclosed person, firm, or corporation, and is not submitted in conformity with, and agreement of, any undisclosed group, association, organization, or corporation; (b) that it has not directly or indirectly induced or solicited any other Offeror to put in a false proposal; (c) that it has not solicited or induced any other person, firm, or corporation to refrain from submitting a proposal; and (d) that it has not sought by collusion to obtain for itself any advantage over any other Offeror or over the Grantee or USTDA or any employee thereof.

2.11 CONDITIONS REQUIRED FOR PARTICIPATION

Only U.S. firms are eligible to participate in this tender. However, U.S. firms may utilize subcontractors from the Host Country for up to 20 percent of the amount of the USTDA grant for specific services from the TOR identified in the subcontract. USTDA's nationality requirements, including definitions, are detailed in Annex 3.

2.12 LANGUAGE OF PROPOSAL

All proposal documents shall be prepared and submitted in English and Spanish, with the exception of the supplementary documents requested in response to Annex 6 below that may be submitted in their original language of issuance (i.e., English or Spanish).

2.13 PROPOSAL SUBMISSION REQUIREMENTS

The **Cover Letter** in the proposal must be addressed to:

Dr. Nicolás Estupiñan
Vice Minister for Transport
Ministerio de Transporte
Avenida El Dorado C.A.N. entre Carreras 57 y 59
Bogotá, D.C.
Colombia

Phone: +57 1 3240800

One original in English and Spanish and three (3) copies of your proposal in Spanish and two (2) copies in English must be received at the above address no later than 4:00 PM on OCTOBER 31, 2013.

Proposals may be either sent by mail, overnight courier, or hand-delivered. Whether the proposal is sent by mail, courier or hand-delivered, the Offeror shall be responsible for actual delivery of the proposal to the above address before the deadline. Any proposal received after the deadline will be returned unopened. The Grantee will promptly notify any Offeror if its proposal was received late.

Upon timely receipt, all proposals become the property of the Grantee.

2.14 PACKAGING

The original and each copy of the proposal must be sealed to ensure confidentiality of the information. The proposals should be individually wrapped and sealed, and labeled for content including the name of the project and designation of "original" or "copy number x." The

Neither USTDA nor the Grantee will be responsible for premature opening of proposals not properly wrapped, sealed and labeled.

2.15 OFFEROR'S AUTHORIZED NEGOTIATOR

The Offeror must provide the name, title, address, telephone number, e-mail address and fax number of the Offeror's authorized negotiator. The person cited shall be empowered to make binding commitments for the Offeror and its subcontractors, if any.

2.16 AUTHORIZED SIGNATURE

The proposal must contain the signature of a duly authorized officer or agent of the Offeror empowered with the right to bind the Offeror.

2.17 EFFECTIVE PERIOD OF PROPOSAL

The proposal shall be binding upon the Offeror for ninety (90) days after the proposal due date, and Offeror may withdraw or modify this proposal at any time prior to the due date upon written request, signed in the same manner and by the same person who signed the original proposal.

2.18 EXCEPTIONS

All Offerors agree by their response to this RFP announcement to abide by the procedures set forth herein. No exceptions shall be permitted.

2.19 OFFEROR QUALIFICATIONS

As provided in Section 3, Offerors shall submit evidence that they have relevant past experience and have previously delivered advisory, Technical Assistance and/or other services similar to those required in the TOR, as applicable.

2.20 RIGHT TO REJECT PROPOSALS

The Grantee reserves the right to reject any and all proposals.

2.21 PRIME CONTRACTOR RESPONSIBILITY

Offerors have the option of subcontracting parts of the services they propose. The Offeror's proposal must include a description of any anticipated subcontracting arrangements, including the name, address, and qualifications of any subcontractors. USTDA nationality provisions apply to the use of subcontractors and are set forth in detail in Annex 3. The successful Offeror shall cause appropriate provisions of its contract, including all of the applicable USTDA

Mandatory Contract Clauses, to be inserted in any subcontract funded or partially funded by USTDA grant funds.

2.22 AWARD

The Grantee shall make an award resulting from this RFP to the best qualified Offeror, on the basis of the evaluation factors set forth herein. The Grantee reserves the right to reject any and all proposals received.

2.23 COMPLETE SERVICES

The successful Offeror shall be required to (a) provide local transportation, office space and secretarial support required to perform the TOR; (b) provide and perform all necessary labor, supervision and services; and (c) in accordance with best technical and business practice, and in accordance with the requirements, stipulations, provisions and conditions of this RFP and the resultant contract, execute and complete the TOR to the satisfaction of the Grantee and USTDA.

2.24 INVOICING AND PAYMENT

Deliverables under the contract shall be delivered on a schedule to be agreed upon in a contract with the Grantee. The Contractor may submit invoices to the designated Grantee Project Director in accordance with a schedule to be negotiated and included in the contract. After the Grantee's approval of each invoice, the Grantee will forward the invoice to USTDA. If all of the requirements of USTDA's Mandatory Contract Clauses are met, USTDA shall make its respective disbursement of the grant funds directly to the U.S. firm in the United States. All payments by USTDA under the Grant Agreement will be made in U.S. currency. Detailed provisions with respect to invoicing and disbursement of grant funds are set forth in the USTDA Mandatory Contract Clauses attached in Annex 4.

Section 3: PROPOSAL FORMAT AND CONTENT

To expedite proposal review and evaluation, and to assure that each proposal receives the same orderly review, all proposals must follow the format described in this section.

Proposal sections and pages shall be appropriately numbered and the proposal shall include a Table of Contents. Offerors are encouraged to submit concise and clear responses to the RFP. Proposals shall contain all elements of information requested without exception. Instructions regarding the required scope and content are given in this section. The Grantee reserves the right to include any part of the selected proposal in the final contract.

The proposal shall consist of a technical proposal only. A cost proposal is NOT required because the amount for the contract has been established by a USTDA grant of US\$479,000, which is a fixed amount.

Offerors shall submit one (1) original in English and Spanish, three (3) copies of the proposal in Spanish and two (2) copies in English. Proposals received by fax or email cannot be accepted.

Each proposal must include the following:

- Transmittal Letter,
- Cover/Title Page,
- Table of Contents,
- Executive Summary,
- Firm Background Information,
- Completed U.S. Firm Information Form,
- Organizational Structure, Management Plan, and Key Personnel,
- Technical Approach and Work Plan, and
- Experience and Qualifications.

Detailed requirements and directions for the preparation of the proposal are presented below.

3.1 EXECUTIVE SUMMARY

An Executive Summary should be prepared describing the major elements of the proposal, including any conclusions, assumptions, and general recommendations the Offeror desires to make. Offerors are requested to make every effort to limit the length of the Executive Summary to no more than five (5) pages.

3.2 U.S. FIRM INFORMATION

A U.S. Firm Information Form in .pdf fillable format is attached at the end of this RFP in Annex 6. The Offeror must complete the U.S. Firm Information Form and include the completed U.S. Firm Information Form with its proposal.

3.3 ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY PERSONNEL

Describe the Offeror's proposed project organizational structure. Discuss how the project will be managed including the principal and key staff assignments for this Technical Assistance. Identify the Project Manager who will be the individual responsible for this project. The Project Manager shall have the responsibility and authority to act on behalf of the Offeror in all matters related to the Technical Assistance.

Provide a listing of personnel (including subcontractors) to be engaged in the project, including both U.S. and local subcontractors, with the following information for key staff: position in the project; pertinent experience, curriculum vitae; other relevant information. If subcontractors are to be used, the Offeror shall describe the organizational relationship, if any, between the Offeror and the subcontractor.

A manpower schedule and the level of effort for the project period, by activities and tasks, as detailed under the Technical Approach and Work Plan shall be submitted. A statement confirming the availability of the proposed project manager and key staff over the duration of the project must be included in the proposal.

3.4 TECHNICAL APPROACH AND WORK PLAN

Describe in detail the proposed Technical Approach and Work Plan (the "Work Plan"). Discuss the Offeror's methodology for completing the project requirements. Include a brief narrative of the Offeror's methodology for completing the tasks within each activity series. Begin with the information gathering phase and continue through delivery and approval of all required reports.

Prepare a detailed schedule of performance that describes all activities and tasks within the Work Plan, including periodic reporting or review points, incremental delivery dates, and other project milestones.

Based on the Work Plan, and previous project experience, describe any support that the Offeror will request of the Grantee, consistent with the Terms of Reference in the Grant Agreement. As applicable, detail the amount of staff time that will be requested of the Grantee or other participating agencies and any work space or facilities needed to complete the Technical Assistance.

3.5 EXPERIENCE AND QUALIFICATIONS

Provide a discussion of the Offeror's experience and qualifications that are relevant to the objectives and TOR for the Technical Assistance. If a subcontractor(s) is being used, similar information must be provided for the prime and each subcontractor firm proposed for the project. The Offeror shall provide information with respect to relevant experience and qualifications of key staff proposed. The Offeror shall include letters of commitment from the individuals proposed confirming their availability for contract performance.

As many as possible but not more than six (6) relevant and verifiable project references must be provided for each of the Offeror and any subcontractor, including the following information:

- Project name,
- Name and address of client (indicate if joint venture),
- Client contact person (name/ position/ current phone and fax numbers),
- Period of Contract,
- Description of services provided,
- Dollar amount of Contract, and
- Status and comments.

Offerors are strongly encouraged to include in their experience summary primarily those projects that are similar to the Technical Assistance as described in this RFP.

Section 4: AWARD CRITERIA

Individual proposals will be initially evaluated by a Procurement Selection Committee of representatives from the Grantee. The Committee will then conduct a final evaluation and completion of ranking of qualified Offerors. The Grantee will notify USTDA of the best qualified Offeror, and upon receipt of USTDA's no-objection letter, the Grantee shall promptly notify all Offerors of the award and negotiate a contract with the best qualified Offeror. If a satisfactory contract cannot be negotiated with the best qualified Offeror, negotiations will be formally terminated. Negotiations may then be undertaken with the second most qualified Offeror and so forth.

The selection of the Contractor will be based on the following criteria and their corresponding assigned weight:

- **Staff Technical Experience – ITS Technology Evaluation and Selection (20 points):** Team's experience (including detailed resumes showing language capabilities and specific experience) in ITS technology and applications, including equipment, systems, and software evaluation and selection for a variety of uses and applications in various modes. Staff expertise and qualifications should specifically demonstrate experience in evaluation functionality, interoperability, security and other criteria in planning and designing ITS systems and projects.
- **Staff Technical Experience – ITS Applications Planning and Design (20 points):** Team's experience (including detailed resumes showing language capabilities and specific project experience) in planning and design of ITS systems and projects (involving electronic toll collection, congestion and demand management, traffic engineering, highway and transport safety, traffic control and enforcement, cargo operations, public transportation fare collection and operations, electronic remote vehicle identification, and other similar applications, as well as technical specification development, procurement and cost estimating). Knowledge and familiarity with ITS systems options and capabilities must also be demonstrated. Experience in prior pilot and demonstration programs definition and evaluation is also desirable.
- **Staff Technical Experience – ITS Systems Integration and Operations (15 points):** Team's experience (including detailed resumes showing language capabilities and specific project integration, testing, and operations experience) in ITS systems and projects (including for electronic toll collection, congestion and demand management, traffic engineering, highway and transport safety, traffic control and enforcement, cargo operations, public transportation fare collection and operations, electronic remote vehicle identification, and other similar applications)
- **Staff Financial, Economic and Environment Analysis Experience (10 points):** Team's experience (including detailed resumes showing language capability and specific project experience) in financial, economic and environment analysis, project

financing, development of capital investment programs, and development impacts (preferably including specific experience for introducing ITS systems and applications in highway, public transportation, cargo, and similar situations). Specific experience with financing mechanisms for projects in Colombia and Latin American markets is desired.

- **Work Plan and Methodology (25 points):** Adequacy of the proposed work plan and suggested overall approach to address the Terms of Reference and the specific Technical Assistance objectives, including proposed approach for providing advisory services to the Vice Minister and MOT Coordinating Group in structuring pilot programs and choosing MOT priority applications for its technologies, as well as reasonableness of technical approach and staff utilization schedule. The specific methodology, the proposed team organization to achieve the Technical Assistance objectives, and the overall work plan to produce the products and provide the technical advisory services will be evaluated.
- **Firm's Relevant Experience in Colombia or Similar Markets (10 points):** Firm's prior experience in ITS systems analysis, evaluation, planning and design, integration, and financial feasibility studies for these types of technologies is required. Familiarity with transportation and ITS equipment, systems and operations capabilities and institutional framework in Colombia and similar international markets should be demonstrated.

Proposals that do not include all requested information may be considered non-responsive.

Price will not be a factor in contractor selection.

A N N E X 1

FEDERAL BUSINESS OPPORTUNITIES ANNOUNCEMENT

Vice Minister for Transport
Ministerio de Transporte
Avenida El Dorado C.A.N. entre Carreras 57 y 59
Bogotá, D.C.
Colombia

Technical Assistance for the Implementation of Intelligent Transportation System
Technologies in Colombia
USTDA Activity No. 2013-51029A

POC: Jennifer Van Renterghem, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009, Email: RFPQuestions@ustda.gov. Technical Assistance for the Implementation of Intelligent Transportation System Technologies ("Project") in Colombia. The Grantee invites submission of qualifications and proposal data (collectively referred to as the "Proposal") from interested U.S. firms that are qualified on the basis of experience and capability to provide Technical Assistance to conduct analysis of ITS technologies and their applicability in Colombia and define two pilot programs using different ITS applications in the effort to facilitate their implementation by the Colombian government.

The Technical Assistance to the Colombia Ministry of Transport for the Implementation of ITS Technologies will develop a practical plan for the implementation of ITS technologies to increase efficiency for the control and management of Colombia's highway and transport systems as well as facilitate the implementation of a congestion pricing policy in the city of Bogotá or other urban areas. Longer-term objectives of the introduction of ITS technologies are being pursued by the government of Colombia in order to improve highway and transport safety, increase compliance with government requirements, enhance security, generate increased revenues, and make maximum use of existing infrastructure. This Technical Assistance will identify short and medium-term milestones for the acquisition and implementation of ITS technologies.

The Grantee as well as major cities and public and private transport operators operating in the country are expected to utilize the recommendations from the Technical Assistance to make decisions regarding the acquisition and implementation of ITS technologies for the highway and transport systems throughout the country.

The final product of the Technical Assistance shall be a practical strategy for the acquisition and deployment of ITS technologies for the Grantee and other GOC agencies, including the definition of up to two specific pilot programs to be selected from a diverse set of potential ITS applications for the various highway and transport systems managed by the Grantee, INVIAS, other GOC agencies, and/or private operators in Colombia.

Wherever applicable, the Contractor for this Technical Assistance shall utilize a systems engineering approach and the principles as outlined in the U.S. DOT website at: http://ops.fhwa.dot.gov/int_its_deployment/sys_eng.htm. Use of a systems engineering

approach will ensure that all technology, equipment and systems decisions and acquisitions that are recommended for both longer term as well as for the pilot program(s) shall be compatible and consistent with other ongoing longer-term initiatives of the Grantee for electronic tolling and congestion management.

The Contractor shall also utilize, as applicable, the standards and protocols available from the NTCIP (National Transportation Communications for ITS Protocol) at its web site: <http://www.ntcip.org>. The NTCIP protocols reduce reliance on specific vendors and customized software as well as help achieve interoperability, two important objectives of the Colombian government.

The U.S. firm selected will be paid in U.S. dollars from a \$ 479,000 grant to the Grantee from the U.S. Trade and Development Agency (USTDA).

A detailed Request for Proposals (RFP), which includes requirements for the Proposal, the Terms of Reference, and portions of a background definitional mission/desk study report are available from USTDA, at 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901. To request the RFP in PDF format, please go to: <https://www.ustda.gov/businessopps/rfpform.asp>. Requests for a mailed hardcopy version of the RFP may also be faxed to the IRC, USTDA at 703-875-4009. In the fax, please include your firm's name, contact person, address, and telephone number. Some firms have found that RFP materials sent by U.S. mail do not reach them in time for preparation of an adequate response. Firms that want USTDA to use an overnight delivery service should include the name of the delivery service and your firm's account number in the request for the RFP. Firms that want to send a courier to USTDA to retrieve the RFP should allow one hour after faxing the request to USTDA before scheduling a pick-up. Please note that no telephone requests for the RFP will be honored. Please check your internal fax verification receipt. Because of the large number of RFP requests, USTDA cannot respond to requests for fax verification. Requests for RFPs received before 4:00 PM will be mailed the same day. Requests received after 4:00 PM will be mailed the following day. Please check with your courier and/or mail room before calling USTDA.

Only U.S. firms and individuals may bid on this USTDA financed activity. Interested firms, their subcontractors and employees of all participants must qualify under USTDA's nationality requirements as of the due date for submission of qualifications and proposals and, if selected to carry out the USTDA-financed activity, must continue to meet such requirements throughout the duration of the USTDA-financed activity. All goods and services to be provided by the selected firm shall have their nationality, source and origin in the U.S. or host country. The U.S. firm may use subcontractors from the host country for up to 20 percent of the USTDA grant amount. Details of USTDA's nationality requirements and mandatory contract clauses are also included in the RFP.

Interested U.S. firms should submit their Proposal in English and Spanish directly to the Grantee by 4:00 PM, October 31, 2013 at the above address. Evaluation criteria for the Proposal are included in the RFP. Price will not be a factor in contractor selection, and therefore, cost proposals should NOT be submitted. The Grantee reserves the right to reject

any and/or all Proposals. The Grantee also reserves the right to contract with the selected firm for subsequent work related to the project. The Grantee is not bound to pay for any costs associated with the preparation and submission of Proposals.

A N N E X 2

EXCERPTED VERSION OF DEFINITIONAL MISSION REPORT

PROJECT BACKGROUND AND OBJECTIVES

The Government of Colombia's National Development Plan (PND) 2010-2014 defined several growth engines to help reach sustainable development and economic competitiveness goals. Amongst the identified growth engines, the plan identified transport infrastructure as a key development strategy to increase local and regional connectivity and mobility, thereby increasing national competitiveness and business productivity, with emphasis on sectors with high economic growth potential.

The PND specifically calls for the implementation of Intelligent Transportation Systems (ITS) technologies, with the objective of making traffic and transportation movements more efficient, safe, comfortable and sustainable. The PND specifically calls on the Ministry of Transport (MOT) to provide technical assistance to design a better way to utilize the National Unique Register of Transport (RUNT). It also calls for the development of a National ITS Master Plan tailored to the characteristics of transport systems at the national, regional, and local levels, so as to establish a general framework for strategies and actions to implement ITS projects in a coordinated, harmonious, efficient and integrated manner. Further, to achieve that objective, the PND calls for the GOC to adopt technical standards and protocols related to the components of ITS projects in Colombia.

The objective of the Technical Assistance to the Ministry of Transport (the "Grantee") and other agencies of GOC for the Implementation of ITS Technologies ("Technical Assistance" or "TA") is to develop a practical plan for the implementation of ITS systems expected to increase efficiency for the control and management of Colombia's highway and transport systems as well as facilitate the implementation of a congestion pricing policy in the city of Bogotá or other urban areas. Longer-term objectives of the introduction of ITS technologies are being pursued by the GOC in order to improve highway and transport safety, increase compliance with government requirements, enhance security, generate increased revenues, and make maximum use of existing infrastructure. This Technical Assistance will identify short and medium-term milestones for the acquisition and implementation of ITS systems.

The Grantee as well as major cities and public and private transport operators operating in the country are expected to utilize the recommendations from the Technical Assistance to make decisions regarding the acquisition and implementation of ITS systems (*sistemas inteligentes de transporte*) for the highway and transport systems throughout the country.

RECOMMENDATION AND JUSTIFICATION

A USTDA grant is recommended to fund a Technical Assistance effort for the Colombia Ministry of Transport, estimated to last eight months. The Technical Assistance will conduct analysis of ITS Technologies and Applications, define two pilot programs utilizing different ITS applications in different settings in Colombia, and analyze their economic and financial feasibility.

The Technical Assistance for the implementation of ITS Technologies in Colombia is justified for the following main reasons:

- 1) *Export potential is very significant, both in the near-term, and particularly, longer-term.*

The estimates of U.S. exports indicate that the potential value of the exports (ranging between US \$85 to \$114 million) is much greater than the proposed level of funding assistance from USTDA. Further, the Colombian government proposes to use this Technical Assistance to define pilot programs that will be used by the MOT to help specify technologies that could then be widely used for many ITS applications throughout Colombia. The wide range of potential ITS applications can lead to a much larger value for U.S. exports longer-term. Further, U.S. companies are already working on ITS technologies in Colombia and have been involved in discussions with private users and public agencies regarding their involvement in some proposed pilot and demonstration programs. The U.S. DOT has also established an ongoing relationship with the GOC, including signing an MOU to collaborate on ITS projects and sharing U.S. experience and available technologies. Finally, U.S. companies have a strong interest in Colombia, because of the geographic proximity, the recent Trade Promotion Agreement, and the rapid economic growth in the country, factors that increase the attractiveness of the Colombia market to U.S. exporters. All of these factors increase the likelihood of the Technical Assistance's near-term success, and should result in greater exports as ITS technologies are more widely deployed in Colombia.

2) *Major infrastructure investments in ITS are being considered throughout Colombia*

The Draft ITS National Policy and Strategic Plan and other available national development policy documents, such as the National Development Plan 2010-2014, indicate that the GOC and other private and public agencies and private companies intend to make significant investments to implement a large number of ITS projects throughout Colombia. The technical areas proposed for the USTDA Technical Assistance are important goals and priorities for the national government, the municipalities, and private concessionaires throughout Colombia, as demonstrated by the involvement and participation of key national agencies, governments at all levels, private groups, and other interested parties in the process that has been underway to define and implement ITS standards and protocols. Colombia has many projects being considered to implement ITS technologies in many geographic areas and for different applications, including congestion management in urban areas, toll collection for private and public operated highways, public transportation operations, port and truck operations, highway and transport safety, user information services, electronic vehicle identification, etc. The National ITS Policy and Strategic Plan under development will be the mechanism to further define the priority projects to be implemented.

3) *Colombian Government commitment to ITS development and implementation.*

The Technical Assistance will be led directly by the Vice Minister of Transport, the person responsible within the Colombian Government for coordinating a National ITS Policy and Strategic Plan. The direct involvement of the Vice Minister of Transport in guiding the USTDA Technical Assistance reflects the government commitment to ITS development and will ensure that the recommendations and products help define practical pilot programs that address the country's needs and priorities and receive funding support. The Technical Assistance will provide analysis and recommendations to the Vice Minister (and the new ITS Coordinating Group being set up in the MOT) to further define and implement the National ITS Policy and Strategic Plan.

4) *Potential for U.S. firms participation as partners or suppliers in pilot programs.*

At least one of the major U.S. suppliers of ITS related equipment has expressed interest in participating and/or providing support to the pilot programs that will follow the Technical Assistance. The involvement of U.S. firms in addressing the Ministry's requirements and defining the priority projects for implementation through the pilot programs will help U.S. suppliers in marketing their products and services for the pilot programs.

5) *Foreign competition and support to US firms active in Colombian ITS market*

Foreign competitors, particularly Spanish and Swiss companies are actively involved in the Colombian ITS market. The involvement of USTDA through this Technical Assistance can help promote U.S. company involvement with the MOT as well as local and Project Sponsors from the private sector and further encourage use of U.S. sourced equipment and services in the future.

Project Description

BACKGROUND AND HISTORY

The Government of Colombia's National Development Plan (PND) 2010-2014 defined several growth engines to help reach sustainable development and economic competitiveness goals. Amongst the identified growth engines, the plan identified transport infrastructure as a key development strategy to increase local and regional connectivity and mobility, thereby increasing national competitiveness and business productivity, with emphasis on sectors with high economic growth potential.

The PND specifically calls for the implementation of Intelligent Transportation Systems (ITS) technologies, with the objective of making traffic and transportation movements more efficient, safe, comfortable and sustainable. The PND specifically calls on the Ministry of Transport (MOT) to provide technical assistance to design a better way to utilize the National Unique Register of Transport (RUNT). It also calls for the development of a National ITS Master Plan tailored to the characteristics of transport systems at the national, regional, and local levels, so as to establish a general framework for strategies and actions to implement ITS projects in a coordinated, harmonious, efficient and integrated manner. Further, to achieve that objective, the PND calls for the GOC to adopt technical standards and protocols related to the components of ITS projects in Colombia.

It is within this context that a group of consultant firms prepared four reports for the National Planning Department (Departamento Nacional de Planeación - DNP)¹ and additional work has been underway at the national level. In addition, municipalities, other agencies, and private operators, have also been pursuing implementation of ITS solutions to improve their transportation services.

More recently, the Vice Minister of Transport has been developing, in collaboration with the DNP, an ITS National Policy (Política Nacional de Sistemas Inteligentes de Transporte – SIT). This National Policy includes as a product an ITS National Strategic Plan (Plan Estratégico Nacional de Sistemas Inteligentes de Transporte – SIT) that will present the national government with high priority projects for public investment in ITS for near term implementation and others to be implemented over the medium term that require further in-depth assessment.

The National ITS Strategic Plan will articulate the highest priority projects to facilitate the introduction of ITS systems nationally, emphasizing the main areas

¹ The reports were developed by Cal y Mayor, Gannett Fleming, and ConSysTec. There have been several other studies: 1) a study prepared by Projekta, Ltda., regarding structuring a coordinating group as well as defining the regulatory framework, 2) various studies by Colombian firm GSD+ regarding a proposed program for national electronic vehicle identification system (SINIEV), including a review of standards, international experience, and benefits/costs of implementation. The SINIEV (National Electronic Vehicle Identification System) program proposes to use electronic tags to identify vehicles for various purposes.

where it is essential for the Government to take a leading role, while responding to user and local needs and allowing a continual and gradual introduction of the latest evolving technology.

THE COLOMBIA ECONOMY AND ITS TRANSPORTATION SYSTEM

Colombia is experiencing rapid economic growth and increased personal incomes, which have greatly increased transportation demand. To improve efficiency, some ITS solutions have been implemented in some locations, including electronic toll collection, advanced traffic management systems, and public transit technologies such as real time traveler information and transit signal priority. Ports and freight transport suppliers have also added ITS solutions to increase efficiency and security. The recent U.S.-Colombia Trade Promotion Agreement is also a catalyst for increased trade and interaction between the two countries.

The MOT is the national executive agency of the GOC responsible for national transport policy and regulation for the entire sector. The MOT oversees transport policy and regulations for all modes including highways, airports, public transport, and ports. The MOT includes two line units led by Vice Ministers, each responsible for the two main areas of responsibility: Infrastructure and Transport. In addition, there are several units responsible for staff functions. The Vice Minister for Transport is the responsible national government official for transport and transit operations. There are four major agencies that are also attached to the Ministry, as follows:

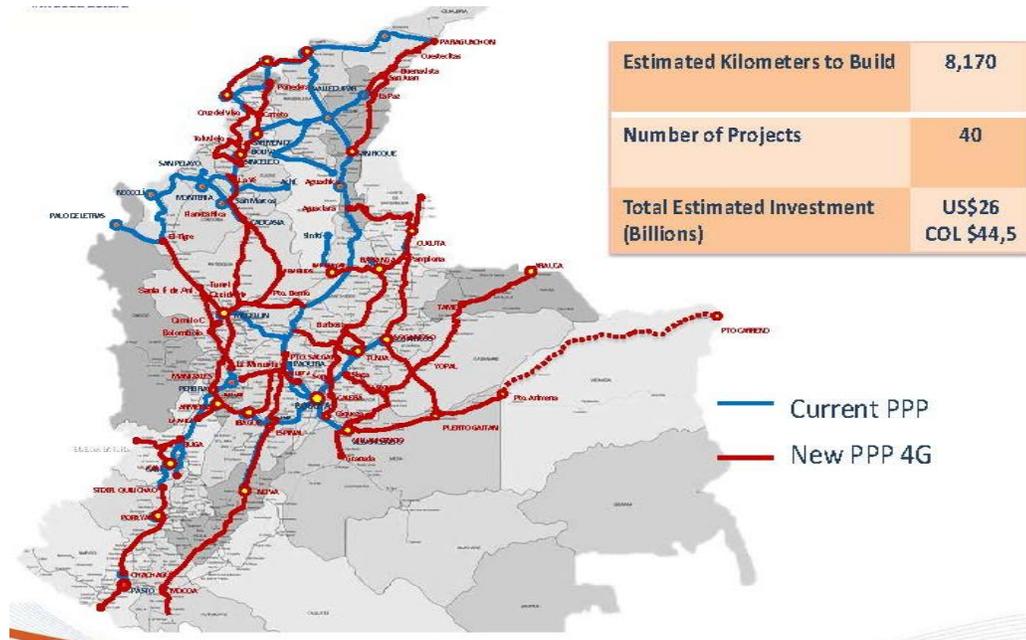
- *Instituto Nacional de Vías (INVÍAS)* – the highway agency,
- *Agencia Nacional de Infraestructura (ANI)* – the concessions agency
- *Unidad Administrativa Especial de Aeronáutica Civil (UAEAC or Aerocivil)* - the civil aviation agency, and
- *Superintendencia de Puertos y Transporte* - the Superintendency of Ports and Transport.

Highways in Colombia are managed through the National Roads Institute (INVÍAS). A separate entity called the *Agencia Nacional de Infraestructura* or ANI (National Infrastructure Agency), manages all concessions made by the central government in order to improve the national infrastructure. This model establishes that it is the concessionaire who is responsible for the construction and maintenance of highways, getting its return on investment from tolls. The security of the highways in Colombia is managed by the Highway Police, a unit of the Colombian National Police.

Colombia is planning to make significant improvements to its transport sector capacity, with a goal to raise annual investments to US \$9 billion by 2014 (equivalent to 3% of GDP), of which approximately two-thirds is expected to come from the private sector through concessions. The fourth generation of road concessions, a

process currently being managed by ANI, will involve 40 projects and the construction of 8,170 km of roadways, representing an estimated investment of US \$26 billion. Figure 1 illustrates the location of highways that have already been concessioned as well as those to be included in the fourth generation of concessions.

Figure 1: 4th Generation Road PPP



ITS DEVELOPMENTS

A number of ITS projects have been implemented in Colombia in recent years, and some are under discussion. In Bogotá and other cities, there is now a widespread use of smartcards and other ITS technologies for bus rapid transit (e.g. for the Transmilenio), signalized intersections, and traffic control centers that rely on vehicle-detection and CCTV technologies. The vehicle registration systems are now operated mainly by private companies that utilize the computerized records of the national RUNT system. Bogotá and other cities have also instituted congestion management programs, and there is increasing discussion and ongoing studies regarding the implementation of a system similar to the ones presently in operation in Singapore, London, and other cities. Such congestion management systems would rely on ITS technologies for vehicle identification and enforcement of congestion management policies.

In addition, the major highways and toll roads being built are incorporating variable message signs and are considering electronic toll collection. Several private operators have been evaluating toll collection systems and ANI's concessions for new facilities

require electronic toll collection.

A Center for Intelligent Transport and Transit Control (CICOTT) is also under consideration. The proposed Traffic Control Center is to be designed to enable emergency and incident management and response along the national highways.

TECHNICAL ASSISTANCE PROJECT DESCRIPTION AND OBJECTIVES

The objective of the Technical Assistance to the Ministry of Transport (the “Grantee”) and other agencies of GOC for the Implementation of ITS Technologies (“Technical Assistance” or “TA”) is to develop a practical plan for the implementation of ITS systems expected to increase efficiency for the control and management of Colombia’s highway and transport systems as well as facilitate the implementation of a congestion pricing policy in the city of Bogotá or other urban areas. Longer-term objectives of the introduction of ITS technologies are being pursued by the GOC in order to improve highway and transport safety, increase compliance with government requirements, enhance security, generate increased revenues, and make maximum use of existing infrastructure. This Technical Assistance will identify short and medium-term milestones for the acquisition and implementation of ITS systems.

The Grantee as well as major cities and public and private transport operators operating in the country are expected to utilize the recommendations from the Technical Assistance to make decisions regarding the acquisition and implementation of ITS systems (Sistemas Inteligentes de Transporte) for the highway and transport systems throughout the country.

As noted in the prior paragraphs, the GOC has been considering a strategic plan and policy for ITS development and appropriate project priorities. This document shall be made available to the selected U.S. contractor (“Contractor”). It is expected that the Technical Assistance will be conducted over a period of approximately eight months and the implementation plan shall recommend the various types of ITS technologies, including the necessary systems, equipment, certifications, implementation procedures, and required personnel training that should be considered for the long-term deployment of such ITS systems within Colombia’s highway and urban transport network, and more specifically those to be part of up to two pilot programs to be defined under this Technical Assistance.

A Steering Committee shall be set up by the Grantee to coordinate the Technical Assistance, to be chaired by the Grantee and include a limited set of other agencies and stakeholders deemed relevant to the TA such as ANI and INVIAS. When required, representatives of municipalities, private operators, or other relevant parties

will be invited to Steering Committee meetings and asked for input to the Contractor carrying out the work.¹

The Contractor shall evaluate the current electronic tolling, ITS infrastructure and technical aspects of the ITS equipment and systems being utilized within Colombia's public and private highway and transport systems, and determine if any of the existing ITS systems should be upgraded, enhanced, and/or replaced with modern ITS technologies as well as identify new ITS systems that are likely to improve Colombia's highway and transport systems operational efficiencies, safety and security. The potential for adoption of a compatible national standard for electronic tags to be used in all ITS systems in the country should be considered by examining the experience of such systems being used by multiple jurisdictions or highway/transport operators.

The final product of the Technical Assistance shall be a practical strategy for the acquisition and deployment of ITS systems for the Grantee and other GOC agencies, including the definition of up to two specific pilot programs for different ITS applications for the various highway and transport systems managed by the Grantee, INVIAS, other agencies, and/or private operators in Colombia.

Wherever applicable, the Contractor for this Technical Assistance shall utilize a systems engineering approach and the principles as outlined in the U.S. DOT website at: http://ops.fhwa.dot.gov/int_its_deployment/sys_eng.htm. Use of a systems engineering approach will ensure that all technology, equipment and systems decisions and acquisitions that are recommended for both longer term as well as for the pilot program(s) shall be compatible and consistent with other ongoing longer-term initiatives of the Grantee for electronic tolling and congestion management.

The Contractor shall also utilize, as applicable, the standards and protocols available from the NTCIP (National Transportation Communications for ITS Protocol) at its web site: <http://www.ntcip.org>. The NTCIP protocols reduce reliance on specific vendors and customized software as well as help achieve interoperability, two important objectives of the Colombian government.

¹ A new unit within the Vice-Minister's Office is presently being established - the ITS Coordinating Group. This ITS Coordinating Group will lead the development and implementation of ITS functions within the Ministry, facilitating project definition and funding as well as creating an ITS information management system. The Technical Assistance funded by USTDA to be carried out by the selected US Contractor will provide analysis and information supporting the ongoing efforts of the Vice-Minister and the new ITS Coordinating Group. It is anticipated that the ITS Coordinating Group activities within the Ministry will be guided and assisted by an Inter-institutional Commission on ITS Policy, which will include representatives from the following entities: (i) The Office of the President of the Republic, (ii), DNP, and (iii) the Ministry of Technology, Information, and Communications. Other entities will also be invited to participate after the Commission defines its work plan and its meeting schedule. The ITS Coordinating Group will also be the link between the GOC and the municipalities, regional governments, and ITS project developers.

Project Sponsor Capability and Commitment

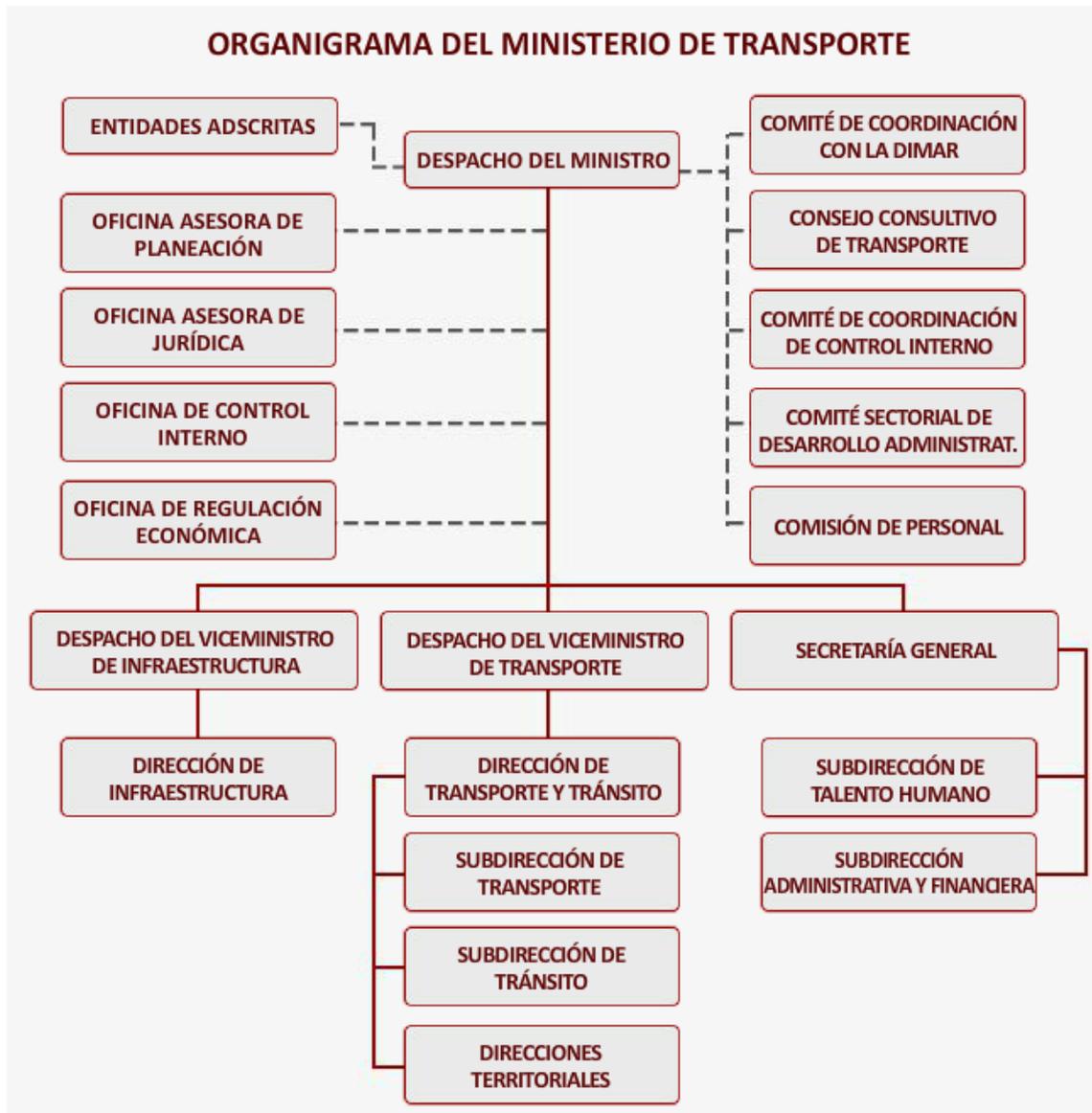
The Project Sponsor is the Ministry of Transport (*Ministerio de Transporte* or MOT), the national executive agency of the Government of Colombia (GOC) responsible for national transport policy and regulation for the entire sector. The Ministry oversees transport policy and regulations for all modes, including highways, airports, public transport, and ports.

Figure 2 shows the Ministry's Organization Chart, which includes two line units led by Vice Ministers, each responsible for the two main areas of responsibility: Infrastructure and Transport. In addition, there are several units responsible for staff functions. The Vice Minister for Transport is the national government official responsible for transport and transit operations. The Vice Minister of Transport will be the responsible official for this Technical Assistance, and in that capacity, the Vice-Minister will be providing guidance and direction to the U.S. Contractor selected to carry out the Terms of Reference.

As mentioned above, the Vice Minister of Transport is presently developing, in collaboration with the DNP, an ITS National Policy which includes as a product an ITS National Strategic Plan that will present the national government priorities for public investment in ITS projects for the near term (5 years), medium term (5 to 10 years), and longer term (over 10 years).

The Draft National Policy and Strategic Plan document will be made available to the U.S. contractor selected to carry out this Technical Assistance. A new unit within the Vice-Minister's Office is presently being established - the ITS Coordinating Group. This ITS Coordinating Group will lead the development and implementation of ITS functions within the Ministry, facilitating project definition and funding as well as creating an ITS information management system. The Technical Assistance funded by USTDA to be carried out by the selected U.S. Contractor will provide analysis and information supporting the ongoing efforts of the Vice-Minister and the new ITS Coordinating Group.

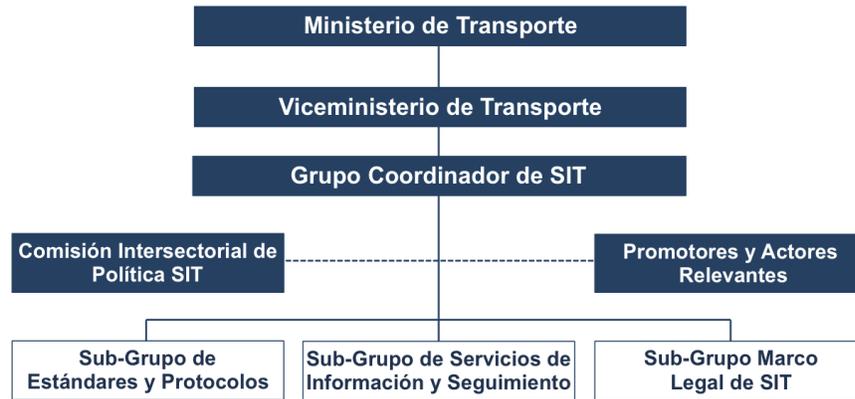
Figure 2: MOT Organization Chart



It is anticipated that the ITS Coordinating Group activities within the Ministry will be guided and assisted by an Inter-institutional Commission on ITS Policy. The lead person leading the Ministry's new Coordinating Group will also actively participate in the Commission, which will also include representatives from the following entities: (i) The Office of the President of the Republic, (ii), DNP, and (iii) the Ministry of Technology, Information, and Communications. Other entities will also be invited to participate after the Commission defines its work plan and its meeting schedule. The ITS Coordinating Group will also be the link between the GOC and the municipalities, regional governments, and ITS project developers.

Figure 3 shows the proposed institutional approach.

Figure 3: Proposed Approach for Colombia’s ITS National Institutional Framework



Source: Ministry of Transport

The ITS Coordinating Group will have three sub-groups: Standards and Protocols, Information Management Services, and Legal.

The sub-group on Standards and Protocols will facilitate the participation of experts and the needed institutional technical cooperation, coordinated by a representative from the national government. In this manner, the specific technical requirements from project developers and stakeholders will be considered and addressed. This sub-group of the ITS Coordination Group will then be responsible for defining and adopting Standards and Protocols that ensure high levels of inter-operability.

The sub-group on Information Management Services will work closely with the sub-group on Standards and Protocols to ensure that data interchange and storage takes place under the highest security standards and with respect for user privacy rights. It will also define the data storage mechanisms and relationships with the RUNT (Registro Único Nacional de Transporte), the National Transport Registry, which includes the data base of registered vehicles and licensed drivers, as well as other data collection, exchange and communications issues. Initially, the sub-group will deal with specific geographic areas and transport systems, but gradually working towards a real-time integrated system.

The Legal sub-group will have as its primary objective the in-depth study and legal support for the specific ITS projects to be implemented.

The institutional approach being structured by the GOC and being led by the Ministry of Transport at the highest levels demonstrates the government commitment as well

as the capability of the team being put together to direct the ITS Projects to be planned. Further, the direct involvement of the Vice Minister of Transport in providing guidance and direction to the USTDA Technical Assistance will ensure that the USTDA effort focuses on the priority issues and needs. The DM Consultant believes the MOT organization and in particular the Vice-Minister and the unit being created not only have the capability to manage and oversee the proposed study, but also will include a high-quality group of professionals with the technical expertise and the authority to implement the projects being pursued.

It is also clear from the Draft ITS National Policy and Strategic Plan and other available national development policy documents, such as the National Development Plan 2010-2014, that the GOC intends to make significant investments to implement a large number of ITS projects throughout Colombia. The technical areas proposed for the USTDA Technical Assistance are important goals and priorities for the national government, the municipalities, and private concessionaires throughout Colombia, as demonstrated by the involvement and participation of agencies, governments at all levels, private groups, and other interested parties in the process that has been underway to define and implement a National ITS Plan.

Implementation Financing

IMPLEMENTATION OF ITS PILOT PROGRAMS

The implementation of pilot programs to be defined as part of this TA is expected to be sponsored and financed by the Ministry of Transport and/or private toll road concessionaires. USTDA may also provide additional grant funding in support of these pilot programs, as a follow on to this technical assistance. Depending on scope and geographic location of pilot programs, municipalities or other private companies may also be involved in financing them.

IMPLEMENTATION OF ITS TECHNOLOGIES

It is anticipated that a number of ITS technologies will be implemented throughout Colombia as a result of this TA, in the short, medium and long term horizons. These projects are anticipated to be implemented by a variety of actors from both the public and private sector, and each will involve different sources of funding.

Studies being carried out to define the requirements of different projects are being funded by grants from multilateral institutions such as the Inter-American Development Bank, the World Bank, and in some cases by other entities interested in developing these types of projects.

Federal programs, such as the Electronic Vehicle Registration, are likely to be implemented by the Ministry of Transportation, while other programs (e.g. congestion management) may be implemented by local government agencies (municipalities or cities), possibly through a private operator. These government agencies may be able to finance such programs through loans from multilateral development banks (e.g., the Inter-American Development Bank). It is important to note that certain costs, such as the purchase of electronic vehicle tags, will be borne by the users, although it is possible that the Government may decide to subsidize this cost during the initial phase of implementation. Tolls and charges collected can also provide revenue streams to structure a project financing approach.

It is anticipated that private concessionaires will be responsible for the implementation of a variety of ITS technologies along the concessioned roadway network. For example, in the case of electronic tolling, the Ministry of Transport will regulate the standards to be adopted while the concessionaire will be responsible for making any investments required to comply with those standards. These concessionaires will likely finance such improvements through the internally generated funds, available lines of credit and supplemented by private financing from equipment manufacturers or commercial loans obtained from local or international

private banks. Possibly, the International Finance Corporation (IFC) or Inter-American Development Bank (IDB) private sector windows could also be involved.

Furthermore, given that the projects would likely involve the procurement of equipment and services from U.S. suppliers, the federal and municipal governments as well as private concessionaires may also be eligible for financing products available from the U.S. Export-Import Bank (Ex-Im Bank) including direct loans or loan guarantees for U.S. content.

U.S. Export Potential

Given that the proposed Technical Assistance will cover a broad array of Intelligent Transportation Systems (ITS) technologies that are under consideration for gradual implementation over many years and that the locations for pilot programs and the recommended solutions to be implemented are still to be determined, Ascendant has prepared an estimate of export potential over the next 5-10 years, assuming implementation of two pilot programs and some follow-up in other areas elsewhere in Colombia after the pilot programs are completed. A longer estimate of export potential is also presented, although the pace of the proposed electronic toll collection and vehicle identification program and the approach to the gradual introduction of ITS technologies in Colombia are highly uncertain at this time. Accordingly, Ascendant has developed indicative estimates of the potential value of U.S. exports in the next 5-10 years that could be associated with this activity based on different sources of information that have been obtained through this DM. Ascendant's estimates include investments to be made by various organizations in Colombia, both public and private, in accordance with guidelines and requirements being considered by Colombia's Ministry of Transport.

COLOMBIA'S PLANS FOR INVESTMENT IN ITS

In Article 84 of Law 1450 of the National Development Plan (PND) enacted in 2011, the Government of Colombia called for the implementation of Intelligent Transportation Systems (ITS) including the development of policies to promote and define the system requirements for the different stakeholders in this sector.

The budget established in the 2011-14 PND for investment in the area of Infrastructure for Competitiveness, under which the ITS program falls, is 18.6 trillion pesos (US \$9.7 billion).¹ The implementation of ITS technologies is just one element among many others to be covered within this line item in the investment program. A specific amount that has been set aside for ITS investments was not provided in the PND.

The Ministry of Transportation, together with the National Department of Planning (DNP) is in the process of preparing a draft policy that will serve as the basis for a National Strategic Plan for ITS and include a series of proposed projects to be implemented over the short (1-5 years), medium (5-10 years) and long term (10+ years) horizons. These projects are likely to include the following ITS technologies:

- real-time traffic counting systems
- electronic toll collection

¹ <https://www.dnp.gov.co/PND/PND20102014.aspx>

- electronic vehicle detection
- regional and area wide traffic monitoring systems
- parking management and operations along streets
- traffic signal systems
- highway safety (accident reduction systems and emergency management) systems
- fleet management and control system for the SETP Program (Strategic Public Transport Systems)
- electronic fare collection in public transport systems
- cargo clearance national register
- cargo logistics information systems
- cargo equipment management systems
- electronic vehicle identification systems, and
- intelligent transportation control center

At this time, the Government does not have cost estimates for the implementation of the ITS Strategic Plan.

For 2014, the MOT is awaiting approval from the DNP for budget funding that has been requested for technical studies required to implement an electronic toll collection (*recaudo electrónico vehicular*) program.

URBAN TOLL SYSTEM IN BOGOTÁ

A recent study prepared by IKONS ATN for the Corporación Andina de Fomento (CAF) presented a proposal for a Traffic Management and Electronic Tolling System for the urban network in Bogotá. This study estimated that the investment required for the implementation of the system (technology only, not including infrastructure) was approximately US \$170.1 million, including costs for development of the operations center, fare collection points, and a Customer Service Center that would interface between different concessionaires, banks, and the RUNT.¹

A separate study of toll systems by Cal & Mayor y Asociados and Alejandro Atuesta y Asociados for the National Planning Department (DNP) considered policy measures to reduce congestion in the central areas of Colombian cities by instituting charges for the use of the urban infrastructure. These charges would apply to passenger vehicles, long distance public transportation vehicles as well as trucks. This study presents the justification for such congestion charges as well as guidelines for structuring congestion pricing systems in urban areas.

¹ Information on this study was obtained from a report prepared by GSD+ in March 2013 that reviewed the IKONS ATN study prepared for CAF.

The City of Bogotá engaged CPG Consultants of Singapore to conduct a study of Bogotá Travel Demand Management Strategies and Action Plan, which was completed in January 2013. This study specifically considered approaches to congestion management in Singapore and other cities. It notes that the cost to install 37 gantries and related equipment, build a Control Centre, and acquire the in-vehicle units for installation in the existing vehicle fleet in Singapore in 1998 was S\$ 197 million (equivalent to US \$116 million). The study recommended steps to decide on such a congestion management program in Bogotá, including the types of electronic technologies that would be required. The city of Bogotá is pursuing follow-up steps based on the recommendations of the CPG Study but no estimates of total ITS requirements specific to the Bogotá program are available at this time.

ELECTRONIC TOLL COLLECTION AND VEHICLE IDENTIFICATION PROGRAM

The Government of Colombia is in the process of studying various aspects relating to the implementation of a nationwide electronic vehicle identification and toll collection system. Such a system would offer an improved process for planning, control, regulation and policing of the transport sector. The system also will offer automated solutions for generation of statistics regarding traffic activity and facilitate the collection of tolls and congestion charges where needed.

Approximate unit cost values for different components of the program have been obtained from 3M, a U.S. supplier familiar with the program. Ascendant utilized this information, combined with data obtained regarding the automotive fleet and toll road inventory in Colombia to obtain a general estimate of the implementation cost of the program and its use in the toll system in Colombia, as presented in Figure 4. .

It is anticipated that some U.S. companies will be competitive in supplying the related technologies needed for the implementation of the pilot programs. A list of these companies is provided below in Section 0. A portion of the costs for the development of the control centers will be related to the construction of the actual facilities, which will be accomplished by local contractors. The estimated investment cost for development of control centers was based on similar facilities recently developed in the USA and Brazil.

The export potential for U.S. suppliers that is connected with this program is estimated to be approximately US \$100 million, assuming that the U.S. content is approximately two-thirds of the estimated total costs, as presented in Figure 4 on the following page.

Figure 4: Estimated Costs for Implementation of the Electronic Toll Collection and Vehicle Identification Systems and Related Programs in Colombia (2014-2020)

Item	Unit Cost (USD)	No. of Units	Total (US\$ millions)
Transponders (18000-6c type)	\$2.00	3,600,000 ¹	\$7,200,000
Antennas			
Highways concessioned by ANI	\$5,000	114	\$568,000
Public Toll Highways	\$5,000	233	\$1,167,341
Gantries			
Highways concessioned by ANI	\$5,000	57	\$284,000
Public Toll Highways	\$5,000	117	\$583,671
Cameras			
Highways concessioned by ANI	\$18,750	454	\$8,520,000
Public Toll Highways	\$18,750	934	\$17,510,115
Fare Collector Machines			
Highways concessioned by ANI	\$20,000	57	\$1,136,000
Public Toll Highways	\$20,000	117	\$2,334,682
Communications switch			
Highways concessioned by ANI	\$13,000	80	\$1,033,760
Public Toll Highways	\$13,000	700	\$9,105,260
Work Stations			
Highways concessioned by ANI	\$2,000	114	\$227,200
Public Toll Highways	\$2,000	233	\$466,936
Cabling			
Highways concessioned by ANI	\$20,000	80	\$1,590,400
Public Toll Highways	\$20,000	700	\$14,008,092
Servers			
Highways concessioned by ANI	\$20,000	23	\$454,400
Public Toll Highways	\$20,000	584	\$11,673,410
Mobile devices			
Highways concessioned by ANI	\$2,000	284	\$568,000
Highways concessioned by ANI	\$2,000	584	\$1,167,341

¹ Assumes that half of the national vehicle fleet will purchase tags by 2020.

Item	Unit Cost (USD)	No. of Units	Total (US\$ millions)
Control Centers	\$14,000,000	5	\$70,000,000
		Total	\$149,598,608

OTHER ITS TECHNOLOGIES

It is important to note that the export potential could exceed this amount substantially over the long term, as the electronic toll collection and vehicle identification systems and ITS-related programs will be implemented gradually over many years and the above estimates only cover potential U.S. exports over the next 5 to 10 years. Further, this estimate could even be exceeded in the next 5 years, given that the estimate does not include other potential applications of ITS systems under consideration in Colombia (such as congestion pricing) nor of the additional investments in other technologies that will be considered in the pilot program(s) in the proposed TA, some of which are not included in the above program estimate of export potential in the above table, such as:

- Variable Message Signs (VMS)
- CCTV
- Incident Management Systems
- Emergency Telephone Systems
- Counting and Classification Systems
- Enforcement Systems
- Public Transportation ITS Systems
- Environmental Monitoring Systems
- Weigh-In-Motion Systems (WIM)

At this stage it is difficult to estimate the potential value that the procurement of these types of complementary systems will be, as project requirements must be further defined. However, Colombia's interest in these technologies does offer significant potential for high-value U.S. exports to Colombia. For example, depending upon the type of technology that is selected, WIM systems can have an installed cost that ranges from US \$10,000 to \$52,000 per lane. If WIM technology were to be installed at 50 locations nationwide, assuming a minimum of two lanes at each location, the potential costs associated with the procurement and installation of WIM technology could range from US \$1 to \$5.2 million, with U.S. export potential ranging from \$660,000 to \$3.4 million.

Similarly, VMS have unit costs that range from US \$10,000 to \$70,000, depending upon the functional requirements and technology selected. The purchase of 100 VMS thus represents a potential sale for U.S. suppliers ranging from US \$1 to \$7 million.

ESTIMATE OF U.S. EXPORT POTENTIAL

Considering the points reviewed above, the range of potential investments in ITS technologies in Colombia is likely to be at least US \$170 million in the next 5-10 years, representing a potential for U.S. exports in the range of US \$85 to \$114 million, assuming that approximately one-half to two-thirds of the investment costs will be for the purchase of equipment, software, services and ITS technology that is manufactured and supplied by U.S. companies.

POTENTIAL U.S. SUPPLIERS

As illustrated in Figure 5, there are a number of U.S. companies that provide equipment, technology and/or services in the field of Intelligent Transportation Solutions that will likely be interested in upcoming procurements in Colombia in this sector. Additional information regarding discussions held with some of these companies regarding their outlook for the Colombia ITS market has been provided in Annex 2.

Figure 5: Potential U.S. Suppliers of ITS Technologies

<i>Equipment / Service</i>	<i>U.S. Providers</i>
Electronic vehicle registration (RFID system: tags, antennas, readers and a host platform)	3M / Sirit / PIPS Technology, TransCore
Dynamic/variable message signs and related software	ADDCO, Daktronics, Skyline Products
Electronic tolling and collection systems	Affiliated Computer Services (Xerox), 3M/PIPS Technology
Advanced traffic management system / detection systems / vehicle and pedestrian signals / arterial systems masters / control and traffic sensing / traffic counting systems	Econolite / Safetran / Aegis ITS, Global Traffic Technologies (3M), IBM, Intelight-ITS, SenSource, TransCore, Clever Devices
Video detection and sensor systems / intelligent video / CCTV / vehicle detection	FLIR Systems (Traficon), Honeywell, Image Sensing Systems, 3M / PIPS Technology, Moog Videoalarm, Motorola, Sensys Networks
Automated license plate recognition software (ALPR)	3M / PIPS Technology, Image Sensing Systems, INEX/ZAMIR Technologies, Motorola
Weigh-in-motion (WIM) scales	IntercompCo, Fairbanks Scales, Inc.
Radar traffic sensors	Wavetronix, Image Sensing Systems
Data management and other ITS software	Intelight-ITS, Southwest Research Institute, SQL Stream, TrafficCast, TransCore, Clever

Traffic management systems engineering and integration	Devices, Intelligent Devices AECOM, DELCAN, Iteris, SAIC, Unisys, Econolite, Safetran, Aegis ITS, Honeywell, Kimley Horn and Associates, Unisys, Raytheon, SAIC, Transdyn, TransCore, Transportation Management Services
Planning / engineering/ design	AECOM, DELCAN, Iteris, SAIC, Unisys, Econolite, Safetran, Aegis ITS, Honeywell, Kimley Horn and Associates, Cambridge Systematics, RK&K, SAIC, Transdyn, TransSystems, Vanasse Hangen Brustlin, CDM Smith, Wiley Engineering, Transcore, IBI Group

Foreign Competition and Market Entry Issues

Foreign firms, mostly European, are competing to provide many of the types of products listed in the Export Potential section above. Some foreign companies that are active in the ITS industry include:

- ABB Group (Switzerland)
- Axiomtek Co., Ltd. (Taiwan)
- Clearview Traffic Group Ltd (UK)
- Dialight (UK)
- HTS Hi-Tech Solutions Ltd (Israel)
- Indra (Spain)
- International Road Dynamics, Inc. (Canada)
- Jenoptik AG (Germany)
- Kapsch TrafficCom AG (Austria)
- Mettler Toledo (Switzerland)
- Siemens (Germany)
- Swarco AG (Austria)
- TDC Systems Ltd (UK)
- Thales (France)

In some cases, these companies may also have access to complementary funding from their respective governments or export promotion programs similar to USTDA.

Notwithstanding, the high quality and advanced technology of U.S. products and services, as well as the recently implemented bilateral free trade agreement, will make it possible for U.S. firms to compete in these markets. Further, the selection of equipment suppliers may also be affected by financing terms and the local service available to maintain and repair equipment, as well as what the warranty covers.

Currency exchange can also affect competitiveness for U.S. products and services. The relationship with other currencies used by main competitors for the business, such as the Euro, can also affect bid results. These currency exchange factors will vary over time.

There are several technology issues that the GOC is considering in its ITS National Draft Policy and Strategic Plan, such as the adoption of standards to ensure reliability, interoperability (so that users can use the same tag on all the toll facilities or other services that rely on ITS technologies with only one tag in their vehicle), open standards (so that many companies can supply the equipment), and data security. The type of technology and tag adopted is of particular importance to U.S. suppliers because of how it will affect the competitiveness of U.S. firms.

There are two main types of technologies in use around the world for electronic vehicle identification applications, which can be generally referred to as the passive tag and the active tag technologies. A tag is defined as active if a battery is placed inside the tag or the tag is connected to an external power source, while a tag is defined as passive if it has no battery or power. In the U.S., most applications use the passive tag technologies, which were adopted as Standard ISO-19000-6C, and U.S. firms are generally more competitive in the supply of these tags and related technology.

The GOC has made numerous studies leading to adoption of a standard. Prior analysis led to a recommendation to adopt the passive tag standard. The final decision regarding adoption of a standard is still pending. It is intended to proceed under the REV program.

Because of market entry and various legal and regulatory issues, most U.S. firms competing in the Colombian market need to associate and establish relationships with Colombian companies. This is similar to the approach most firms use when entering a market in most countries. Equipment manufacturers and companies that manufacture products in Colombia often also have licensing agreements or relationships with U.S. firms, which provide the opportunity for U.S. firms to expand their market reach.

According to the Ministry of Transport, any ITS studies or projects that they will be responsible for will be competed under a public bidding process and advertised on the Government's procurement website: www.contratos.gov.co.

Development Impact

The likely development impacts from the proposed activity have been assessed from two perspectives, Primary Development Benefits and Alternatives, considering the definitions established for USTDA support.

PRIMARY DEVELOPMENT BENEFITS

TDA considers primary development benefits in four categories, i.e. Infrastructure, Human Capacity Building, Technology Transfer and Productivity Improvements, and Market Oriented Reforms. Until the project is defined in more detail, it is difficult to identify the likely developmental impacts that will be associated with the Study; however, Ascendant has outlined anticipated developmental impacts that could be tied to the Project.

Infrastructure

The objective of this Technical Assistance for the Implementation of ITS Technologies is to develop a practical plan for the implementation of ITS systems expected to increase efficiency for the control and management of Colombia's and transport systems as well as facilitate the implementation of a congestion pricing policy in the city of Bogotá or other urban areas. Longer term objectives of the introduction of ITS technologies are being pursued by the GOC in order to improve safety, increase compliance with government requirements, enhance security, generate increased revenues, and make maximum use of existing infrastructure.

The implementation of the recommended Pilot Programs and longer term programs is expected to offer significant infrastructure benefits in terms of a reduction in congestion along the highway and urban road network as well as improved safety and efficiency of transport operations.

Given the importance of the transportation sector to the overall economy, reductions in travel time for commercial and cargo vehicles should have a positive impact for a number of industry sectors which are dependent on the efficient and safe transportation of goods.

Human Capacity Building

It can be anticipated that the introduction of new equipment and technologies within Colombia's transportation network will promote the creation of more skilled jobs. Although training will not be carried out through this TA, the new technologies and equipment that will be implemented as a result of this study will require job training for its operation as well as maintenance and repair specialists training.

Technology Transfer and Productivity Improvement

The implementation of Intelligent Transportation Systems offers significant developmental benefits in the area of technology transfer and productivity improvement. Some of the technologies that will be studied as part of this TA include:

- Closed Circuit Television (CCTV) systems
- Automatic Vehicle Location (AVL)
- Variable Message Signs (VMS)
- Incident Management Systems
- Emergency Telephone Systems
- Vehicle Detection Systems
- Counting and Classification Systems
- Optical Character Recognition Systems (OCR)
- Enforcement Systems
- Automatic License/Number Plate Recognition Systems (ALPR/ANPR)
- Vehicle Identity Recognition Systems (VIR)
- Public Transportation ITS Systems
- Vehicle Traffic Counting Systems
- Environmental Monitoring Systems
- Traffic Management or ITS Control Center equipment, software and systems
- Electronic Toll Collection, including variable electronic tolling systems
- Vehicle Weighing Solutions, including Weigh-In-Motion Systems (WIM)
- Tunnel Lighting and Ventilation Systems
- Self-sufficient or partially self-sufficient power generation (such as wind or photovoltaic generation).

All of these technologies are anticipated to offer productivity enhancements, in terms of improved management and control of Colombia's highway and transport systems and maximizing the use of existing infrastructure. ITS technologies offer a variety of benefits that can be considered productivity enhancements including the reduction in roadway congestion, improved travel times, reduction in operating costs and improved data collection and analysis.

Market-Oriented Reforms

The Study, as proposed in Section **Error! Reference source not found.**, does include a review of institutional, legal and regulatory issues where the Contractor shall review institutional, legal, and regulatory issues pertaining to the implementation of ITS technologies and applications and determine if there are any significant issues that could represent a barrier for system or equipment implementation and operation.

However, this assessment is not expected to lead to further market-oriented reforms in the transport sector in Colombia, where there is already significant participation by the private sector in the development, operation and maintenance of roadways.

Impact on the Environment

The implementation of Intelligent Transportation Systems (ITS) technologies in Colombia's transportation network is not anticipated to present any adverse environmental impacts. By implementing technologies that will alleviate congestion along the national highway and transport systems, the Project is expected to offer environmental benefits in terms of a reduction in emissions from personal and commercial vehicles that otherwise would be idling or have increased trip times due to traffic congestion, as well as reduction in energy consumption. Additionally, ITS technologies offer improvements to road safety, which can offer a positive impact in terms of reduction in traffic accidents, injuries and fatalities.

Furthermore, one of the technologies to be studied as part of the implementation plan includes environmental monitoring equipment, which will facilitate the active monitoring of air quality and noise pollution along major roadways in Colombia to ensure that operations are compliant with local environmental standards.

The proposed TORs do include a task where the Contractor will conduct a preliminary review of environmental impacts associated with the implementation of the pilot programs to be defined, referencing local requirements and those of multi-lateral lending agencies. The Contractor will also briefly discuss the extent to which potential negative impacts, if any, can be mitigated, and develop plans for full environmental impact assessment or other studies in anticipation of the pilot programs moving forward to the implementation stage, if necessary. The Contractor will also identify the necessary environmental approvals required for the implementation of any recommended ITS technology, facility or systems.

Impact on U.S. Labor

There is no reason to believe that this project would have any negative impact on U.S. jobs. Specifically, based on what is presently known about the scope, it appears that:

- The proposed Technical Assistance and investments likely to be recommended as a result do not provide financial incentives to any U.S. firm to relocate to Colombia.
- The proposed Study and the implementation of investments likely to be recommended as a result would not be expected to induce or support the violation of any internationally-recognized workers' rights in Colombia.
- The proposed investments do not provide direct assistance for expanding the production of any commodity for exports.

On the contrary, the implementation of the pilot programs to be defined in the proposed activity, as well as follow on implementation of ITS technologies

throughout the country, represents an opportunity for U.S. suppliers of goods and services in the ITS sector, and thus a positive impact on U.S. exports and labor.

Justification

The Technical Assistance for the implementation of ITS Technologies in Colombia is justified for the following main reasons:

- 1) *Export potential is very significant, both in the near-term, and particularly, longer-term.*

The estimates of U.S. exports indicate that the potential value of the exports is much greater than the proposed level of funding assistance from USTDA. Further, the Colombian government proposes to use this Technical Assistance to define pilot programs that will be used by the MOT to help specify technologies that could then be widely used for many ITS applications throughout Colombia. The wide range of potential ITS applications can lead to a much larger value for U.S. exports longer-term. Further, U.S. companies are already working on ITS technologies in Colombia and have been involved in discussions with private users and public agencies regarding their involvement in some proposed pilot and demonstration programs. The U.S. DOT has also established an ongoing relationship with the GOC, including signing an MOU to collaborate on ITS projects and sharing U.S. experience and available technologies. Finally, U.S. companies have a strong presence in Colombia, because of the geographic proximity, the recent Trade Promotion Agreement, and the rapid economic growth in the country, factors that increase the attractiveness of the Colombia market to U.S. exporters. All of these factors increase the likelihood of the Technical Assistance's near-term success, and should result in greater exports as ITS technologies are more widely deployed in Colombia.

- 2) *Major infrastructure investments in ITS are being planned throughout Colombia*

The Draft ITS National Policy and Strategic Plan and other available national development policy documents, such as the National Development Plan 2010-2014, indicate that the GOC and other private and public agencies and private companies intend to make significant investments to implement a large number of ITS projects throughout Colombia. The technical areas proposed for the USTDA Technical Assistance are important goals and priorities for the national government, the municipalities, and private concessionaires throughout Colombia, as demonstrated by the involvement and participation of key national agencies, governments at all levels, private groups, and other interested parties in the process that has been underway to define and implement ITS standards and protocols. Colombia has many projects being considered to implement ITS technologies in many geographic areas and for different applications, including congestion management in urban areas, toll collection for private and public operated highways, public transportation operations, port and truck operations,

highway and transport safety, user information services, electronic vehicle identification, etc. The National ITS Policy and Strategic Plan under development will be the mechanism to further define the priority projects to be implemented.

3) *Colombian Government commitment to ITS development and implementation.*

The Technical Assistance will be led directly by the Vice Minister of Transport, the person responsible within the Colombian Government for coordinating a National ITS Policy and Strategic Plan. The direct involvement of the Vice Minister of Transport in guiding the USTDA Technical Assistance reflects the government commitment to ITS development and will ensure that the recommendations and products help define practical pilot programs that address the country's needs and priorities and receive funding support. The Technical Assistance will provide analysis and recommendations to the Vice Minister (and the new ITS Coordinating Group being set up in the MOT) to further define and implement the National ITS Policy and Strategic Plan.

4) *Potential for U.S. firms participation as partners or suppliers in pilot programs.*

At least one of the major U.S. suppliers of ITS related equipment has expressed interest in participating and/or providing support to the pilot programs that will follow the Technical Assistance. The involvement of U.S. firms in addressing the Ministry's requirements and defining the priority projects for implementation through the pilot programs will help U.S. suppliers in marketing their products and services for the pilot programs.

5) *Foreign competition and support to US firms active in Colombian ITS market.*

Foreign competitors, particularly Spanish and Swiss companies are actively involved in the Colombian ITS market. The involvement of USTDA through this Technical Assistance can help promote U.S. company involvement with the MOT as well as local and Project Sponsors from the private sector and further encourage use of U.S. sourced equipment and services in the future.

A N N E X 3

NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS



**U.S. TRADE AND DEVELOPMENT AGENCY
Arlington, VA 22209-2131**

NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS

The purpose of USTDA's nationality, source, and origin requirements is to assure the maximum practicable participation of American contractors, technology, equipment and materials in the prefeasibility, feasibility, and implementation stages of a project.

USTDA STANDARD RULE (GRANT AGREEMENT STANDARD LANGUAGE):

Except as USTDA may otherwise agree, each of the following provisions shall apply to the delivery of goods and services funded by USTDA under this Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from host country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for implementation of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in host country are not subject to the above restrictions. USTDA will make available further details concerning these standards of eligibility upon request.

NATIONALITY:

1) Rule

Except as USTDA may otherwise agree, the Contractor for USTDA funded activities must be either a U.S. firm or a U.S. individual. Prime contractors may utilize U.S.

subcontractors without limitation, but the use of host country subcontractors is limited to 20% of the USTDA grant amount.

2) Application

Accordingly, only a U.S. firm or U.S. individual may submit proposals on USTDA funded activities. Although those proposals may include subcontracting arrangements with host country firms or individuals for up to 20% of the USTDA grant amount, they may not include subcontracts with third country entities. U.S. firms submitting proposals must ensure that the professional services funded by the USTDA grant, to the extent not subcontracted to host country entities, are supplied by employees of the firm or employees of U.S. subcontractor firms who are U.S. individuals.

Interested U.S. firms and consultants who submit proposals must meet USTDA nationality requirements as of the due date for the submission of proposals and, if selected, must continue to meet such requirements throughout the duration of the USTDA-financed activity. These nationality provisions apply to whatever portion of the Terms of Reference is funded with the USTDA grant.

3) Definitions

A "U.S. individual" is (a) a U.S. citizen, or (b) a non-U.S. citizen lawfully admitted for permanent residence in the U.S. (a green card holder).

A "U.S. firm" is a privately owned firm which is incorporated in the U.S., with its principal place of business in the U.S., and which is either (a) more than 50% owned by U.S. individuals, or (b) has been incorporated in the U.S. for more than three (3) years prior to the issuance date of the request for proposals; has performed similar services in the U.S. for that three (3) year period; employs U.S. citizens in more than half of its permanent full-time positions in the U.S.; and has the existing capability in the U.S. to perform the work in question.

A partnership, organized in the U.S. with its principal place of business in the U.S., may also qualify as a "U.S. firm" as would a joint venture organized or incorporated in the United States consisting entirely of U.S. firms and/or U.S. individuals.

A nonprofit organization, such as an educational institution, foundation, or association may also qualify as a "U.S. firm" if it is incorporated in the United States and managed by a governing body, a majority of whose members are U.S. individuals.

SOURCE AND ORIGIN:

1) Rule

In addition to the nationality requirement stated above, any goods (e.g., equipment and materials) and services related to their shipment (e.g., international transportation and insurance) funded under the USTDA Grant Agreement must have their source and origin in the United States, unless USTDA otherwise agrees. However, necessary purchases of goods and project support services which are unavailable from a U.S. source (e.g., local food, housing and transportation) are eligible without specific USTDA approval.

2) Application

Accordingly, the prime contractor must be able to demonstrate that all goods and services purchased in the host country to carry out the Terms of Reference for a USTDA Grant Agreement that were not of U.S. source and origin were unavailable in the United States.

3) Definitions

“Source” means the country from which shipment is made.

"Origin" means the place of production, through manufacturing, assembly or otherwise.

Questions regarding these nationality, source and origin requirements may be addressed to the USTDA Office of General Counsel.

ANNEX 4

GRANT AGREEMENT

This Grant Agreement is entered into between the Government of the United States of America, acting through the U.S. Trade and Development Agency ("USTDA") and the Ministry of Transport of the Government of Colombia ("Grantee"), with the participation of the Agencia Presidencial de Cooperación Internacional of the Government of Colombia, in its role as coordinator for international cooperation in Colombia as established in Decree No. 4152 of 2011. USTDA agrees to provide the Grantee under the terms of this Grant Agreement US\$479,000 ("USTDA Grant") to fund the cost of goods and services required for a technical assistance ("TA") on the proposed implementation of intelligent transportation system (ITS) technologies ("Project") in Colombia ("Host Country").

1. USTDA Funding

The funding to be provided under this Grant Agreement shall be used to fund the costs of a contract between the Grantee and the U.S. firm selected by the Grantee ("Contractor") under which the Contractor will perform the TA ("Contract"). Payment to the Contractor will be made directly by USTDA on behalf of the Grantee with the USTDA Grant funds provided under this Grant Agreement.

2. Terms of Reference

The Terms of Reference for the TA ("Terms of Reference") are attached as Annex I and are hereby made a part of this Grant Agreement. The TA will examine the technical, financial, environmental, and other critical aspects of the proposed Project. The Terms of Reference for the TA shall also be included in the Contract.

3. Standards of Conduct

USTDA and the Grantee recognize the existence of standards of conduct for public officials and commercial entities in their respective countries. Therefore, USTDA, the Grantee, and the Contractor shall not directly or indirectly provide, offer or promise to provide money or anything of value to any public official in violation of any United States or Host Country laws relating to corruption or bribery.

4. Grantee Responsibilities

The Grantee shall undertake its best efforts to provide reasonable support for the Contractor, such as office space and secretarial support.

5. Contract Matters and USTDA's Rights as Financier

(A) Grantee Competitive Selection Procedures

Selection of the U.S. Contractor for this fixed price TA shall be carried out by the Grantee through a competitive process based wholly on technical merits rather than cost, according to such contracting procedures for the competitive selection of contractors with advance notice of the procurement published online by USTDA through *Federal Business Opportunities* (www.fbo.gov). Upon request, the Grantee will submit these contracting procedures and related documents to USTDA for information and/or approval. The Contractor evaluation criteria will be specified in the Request for Proposals (RFP) announced by USTDA through *Federal Business Opportunities*.

Proposals will be submitted directly to the Grantee. Following its selection of the U.S. Contractor, the Grantee will provide USTDA with a signed selection memorandum. USTDA will then conduct an appropriate due diligence review of the selected U.S. company based on the background information submitted as an annex to the proposal. Assuming there are no findings that preclude the selected U.S. company from serving as the Contractor, USTDA will then provide the Grantee with a "no-objection" letter approving the selection.

(B) USTDA's Right to Approve Contractor Selection

The Grantee shall notify USTDA at the address of record set forth in Article 16 below upon selection of the Contractor to perform the TA. USTDA then shall notify the Grantee whether or not USTDA approves the Grantee's Contractor selection. Upon USTDA approval of the Grantee's Contractor selection, the Grantee shall notify in writing the U.S. firms that submitted unsuccessful proposals to perform the TA that they were not selected. The Grantee and the Contractor then shall enter into a contract for performance of the TA.

(C) USTDA's Right to Approve Contract Between Grantee and Contractor

(1) Contract

The Grantee and the Contractor shall enter into a contract for performance of the TA. The Grantee (or the Contractor on the Grantee's behalf) shall transmit to USTDA, at the address set forth in Article 16 below, a photocopy of an English language version of the signed contract or a final negotiated draft version of the contract. USTDA then shall notify the Grantee and the Contractor whether or not USTDA approves the contract.

(2) Amendments and Assignments

The Grantee or the Contractor may submit any proposed amendment to the contract, including any proposed amendment to any annex thereto, or any proposed assignment of the contract, to USTDA at the address set forth in Article 16 below. USTDA then shall notify the Grantee and the Contractor whether or not USTDA approves the proposed amendment or assignment.

(D) USTDA Not a Party to the Contract

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of the contract and any amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of funding the TA and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility or liability to such parties. Any approval or failure to approve by USTDA shall not bar the Grantee or USTDA from asserting any right they might have against the Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Grantee or USTDA.

(E) Grant Agreement Controlling

Regardless of USTDA approval, the rights and obligations of any party to the contract or any subcontract thereunder must be consistent with this Grant Agreement. In the event of any inconsistency between the Grant Agreement and the contract or any subcontract funded by the Grant Agreement, the Grant Agreement shall control.

6. Disbursement Procedures

(A) USTDA Approval of Contract Required

USTDA will make disbursements of Grant funds directly to the Contractor only after USTDA approves the Grantee's contract with the Contractor.

(B) Contractor Invoice Requirements

The Grantee should request disbursement of funds by USTDA to the Contractor for performance of the TA by submitting invoices (to be understood in Spanish as a *cuenta de cobro*) in accordance with the procedures set forth in the USTDA Mandatory Clauses in Annex II.

7. Effective Date

The effective date of this Grant Agreement ("Effective Date") shall be the date of signature by both parties or, if the parties sign on different dates, the date of the last signature.

8. TA Schedule

(A) TA Completion Date

The completion date for the TA, which is September 30, 2014, is the date by which the parties estimate that the TA will have been completed.

(B) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (i) no USTDA funds may be disbursed under this Grant Agreement for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (ii) no USTDA funds may be disbursed more than four (4) years after the Effective Date of the Grant Agreement.

9. USTDA Mandatory Contract Clauses

All contracts funded under this Grant Agreement shall include the USTDA Mandatory Contract Clauses set forth in Annex II to this Grant Agreement. All subcontracts funded or partially funded with USTDA Grant funds shall include the USTDA Mandatory Contract Clauses, except for clauses B(1), G, H, I, and J.

10. Use of U.S. Carriers

(A) Air

Transportation by air of persons or property funded under this Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(B) Marine

Transportation by sea of property funded under this Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

11. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and professional services funded by USTDA under this Grant Agreement:

- (a) the Contractor must be a U.S. firm;
- (b) the Contractor may use U.S. subcontractors without limitation;
- (c) employees of U.S. Contractor or U.S. subcontractor firms shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the United States, except as provided pursuant to subpart (d) below;
- (d) up to twenty percent (20%) of the USTDA Grant amount may be used to pay for services performed by (i) Host Country subcontractors, and/or (ii) Host Country nationals who are employees of the Contractor;
- (e) a Host Country subcontractor may only be used for specific services from the Terms of Reference identified in the subcontract;
- (f) subcontractors from countries other than the United States or Host Country may not be used;
- (g) goods purchased for performance of the TA and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and
- (h) goods and services incidental to TA support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions.

USTDA will make available further details concerning these provisions upon request.

12. Taxes

USTDA funds provided under this Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country, except for taxes of a de minimis nature imposed on local lodging, food, transportation, or airport arrivals or departures. In accordance with the terms of the General Agreement for Economic, Technical and Related Assistance, signed in 1962 between the governments of the United States of America and the Republic of Colombia, USTDA Grant funds paid to the Contractor are exempt from Colombian taxation. Neither the Grantee nor the Contractor will seek reimbursement from USTDA for taxes, tariffs, duties, fees or other levies, except for taxes of a de minimis nature referenced above.

13. USTDA Project Evaluation

The parties will cooperate to assure that the purposes of the Grant Agreement are accomplished. For five (5) years following receipt by USTDA of the Final Report, the Grantee agrees to respond to any reasonable inquiries from USTDA about the status of the Project. Inquiries will include, but not be limited to, whether the Final Report recommendations have been or will be used to implement the Project, anticipated Project implementation timeline, and likely source of financing. In addition, the Grantee agrees to notify USTDA any time the Grantee selects a new primary contact person for this Project during the five-year period referenced above.

14. Recordkeeping and Audit

The Grantee agrees to maintain books, records, and other documents relating to the TA and this Grant Agreement adequate to demonstrate implementation of its responsibilities under this Grant Agreement, including the selection of contractors, receipt and approval of contract deliverables, and approval or disapproval of Contractor invoices for payment by USTDA. Such books, records, and other documents shall be separately maintained for three (3) years after the date of the final disbursement by USTDA. The Grantee shall afford USTDA or its authorized representatives the opportunity at reasonable times to review books, records, and other documents relating to the TA and the Grant Agreement.

15. Representation of Parties

For all purposes relevant to this Grant Agreement, the Government of the United States of America will be represented by the U. S. Ambassador to Host Country or USTDA and Grantee will be represented by its Minister. The parties hereto may, by written notice, designate additional representatives for all purposes under this Grant Agreement.

16. Addresses of Record for Parties

Any notice, request, document, or other communication submitted by either party to the other under the Grant Agreement shall be in writing or through an electronic medium that produces a tangible record of the transmission, such as a facsimile or e-mail message, and will be deemed duly given or sent when delivered to such party at the following:

To: Vice Minister for Transport
Ministerio de Transporte
Avenida El Dorado C.A.N. entre Carreras 57 y 59
Bogotá, D.C.
Colombia

Phone: +57 1 3240800 Ext. 1524

Fax: +57 1 4287054

E-Mail: viceministro@mintransporte.gov.co and nestupinan@mintransporte.gov.co

To: Country Manager for Colombia
U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357

Fax: (703) 875-4009

E-Mail: grantnotices@ustda.gov and lac@ustda.gov and
jflewelling@ustda.gov

All such communications shall be in English or Spanish, unless the parties otherwise agree in writing. In the event that such communications are in more than one language, the English language version shall govern. In addition, the Grantee shall provide the Commercial or Economic Section of the U.S. Embassy in Host Country with a copy of each communication sent to USTDA.

Any communication relating to this Grant Agreement shall include the following fiscal data:

Appropriation No.: 1113/141001

Activity No.: 2013-51029A

Reservation No.: 2013263

Grant No.: GH201351263

17. Implementation Letters

To assist the Grantee in the implementation of the TA, USTDA may, from time to time, issue implementation letters that will provide additional information about matters covered by this Grant Agreement. USTDA may also issue implementation letters to (i) extend the estimated completion date set forth in Article 8(A) above, or (ii) change the fiscal data set forth in Article 16 above. The parties may also use jointly agreed upon implementation letters to confirm and record their mutual understanding of matters covered by this Grant Agreement.

18. Grant Agreement Amendments

Either party may submit to the other party at any time a proposed amendment to the Grant Agreement. A Grant Agreement amendment shall be effective only if it has been signed by both parties.

19. Termination Clause

Either party may terminate this Grant Agreement by giving the other party written notice thereof. The termination of the Grant Agreement will end any obligations of the parties to provide financial or other resources for the TA, except for payments that may be made pursuant to Clause I of the USTDA Mandatory Contract Clauses set forth in Annex II to this Grant Agreement. This article and Articles 5, 12, 13, 14, and 21 of the Grant Agreement shall survive termination of the Grant Agreement.

20. Non-waiver of Rights and Remedies

No delay in exercising any right or remedy accruing to either party in connection with the Grant Agreement shall be construed as a waiver of such right or remedy.

21. U.S. Technology and Equipment

By funding this TA, USTDA seeks to promote the Project objectives of the Host Country through the use of U.S. technology, goods, and services. In recognition of this purpose, the Grantee agrees that it will allow U.S. suppliers to compete in the procurement of technology, goods and services needed for Project implementation with other international providers.

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IN WITNESS WHEREOF, the U.S. Trade and Development Agency and the Ministry of Transport of the Government of Colombia, with the participation of the Agencia Presidencial de Cooperación Internacional of the Government of Colombia, in its role as coordinator for international cooperation in Colombia as established in Decree No. 4152 of 2011, each acting through its duly authorized representative, have caused this Grant Agreement to be signed in their names and delivered as of the day and year written below. If this Grant Agreement is signed in both English and Spanish, both versions shall have legal validity; however, in the case of any dispute, the English language version shall govern.

For the U.S. Trade and
Development Agency

By: *Janet J. Zg*

Date: *September 23, 2013*

For the Ministry of Transport of
Colombia

By: *[Signature]*

Date: *12 9 AGO. 2013*

de

For the Agencia Presidencial de
Cooperación Internacional de Colombia

By: *[Signature]*

Date: *30/ agosto / 2013*

Annex I -- Terms of Reference

Annex II -- USTDA Mandatory Clauses

Annex II

USTDA Mandatory Contract Clauses

A. USTDA Mandatory Clauses Controlling

The parties to this Contract acknowledge that this Contract is funded in whole or in part by the U.S. Trade and Development Agency ("USTDA") under the Grant Agreement between the Government of the United States of America acting through USTDA and the Ministry of Transport of the Government of Colombia ("Client"), dated _____ ("Grant Agreement"). The Client has selected _____ ("Contractor") to perform the feasibility study ("TA") for the implementation of intelligent transportation system (ITS) technologies project ("Project") in Colombia ("Host Country"). The Client and the Contractor are the parties to this Contract, and they hereinafter are referred to collectively as the "Contract Parties." Notwithstanding any other provisions of this Contract, the following USTDA Mandatory Contract Clauses shall govern. All subcontracts entered into by Contractor funded or partially funded with USTDA Grant funds shall include these USTDA Mandatory Contract Clauses, except for clauses B(1), G, H, I, and J. In addition, in the event of any inconsistency between the Grant Agreement and the Contract or any subcontract thereunder, the Grant Agreement shall be controlling.

B. USTDA as Financier

(1) USTDA Approval of Contract

This Contract, and any amendment thereto, including any amendment to any annex thereto, and any proposed assignment of this Contract, must be approved by USTDA in writing in order to be effective with respect to the expenditure of USTDA Grant funds. USTDA will not authorize the disbursement of USTDA Grant funds until the Contract conforms to modifications required by USTDA during the Contract review process and the Contract has been formally approved by USTDA. To make this review in a timely fashion, USTDA must receive from either the Client or the Contractor an English language version of a final negotiated draft Contract or a signed Contract to the attention of the General Counsel's office at USTDA's address listed in Clause N below.

(2) USTDA Not a Party to the Contract

It is understood by the Contract Parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of this Contract and amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The Contract Parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and

that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of financing the TA and shall not be construed as making USTDA a party to the Contract. The Contract Parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the Contract Parties or the parties to any subcontract, jointly or separately; and in consideration of USTDA's role as financier, the Contract Parties further agree that USTDA's rights may be exercised without thereby incurring any responsibility or liability, in contract, tort, or otherwise, to the Contract Parties or the parties to any subcontract. Any approval or failure to approve by USTDA shall not bar the Client or USTDA from asserting any right they might have against the Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Client or USTDA.

C. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and professional services funded by USTDA under the Grant Agreement:

- (a) the Contractor must be a U.S. firm;
- (b) the Contractor may use U.S. subcontractors without limitation;
- (c) employees of U.S. Contractor or U.S. subcontractor firms shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the United States, except as provided pursuant to subpart (d) below;
- (d) up to twenty percent (20%) of the USTDA Grant amount may be used to pay for services performed by (i) Host Country subcontractors, and/or (ii) Host Country nationals who are employees of the Contractor;
- (e) a Host Country subcontractor may only be used for specific services from the Terms of Reference identified in the subcontract;
- (f) subcontractors from countries other than the United States or Host Country may not be used;
- (g) goods purchased for performance of the TA and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and
- (h) goods and services incidental to TA support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions.

USTDA will make available further details concerning these provisions upon request.

D. Recordkeeping and Audit

The Contractor and subcontractors funded under the Grant Agreement shall maintain, in accordance with generally accepted accounting procedures, books, records, and other documents, sufficient to reflect properly all transactions under or in connection with the Contract. These books, records, and other documents shall clearly identify and track the use and expenditure of USTDA funds, separately from other funding sources. Such books, records, and documents shall be maintained during the period of performance of work provided for by this Contract, and for a period of three (3) years after final disbursement by USTDA. The Contractor and subcontractors shall afford USTDA, or its authorized representatives, the opportunity at reasonable times for inspection and audit of such books, records, and other documentation.

E. U.S. Carriers

(1) Air

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(2) Marine

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

F. Workman's Compensation Insurance

The Contractor shall provide adequate Workman's Compensation Insurance coverage for work performed under this Contract.

G. Reporting Requirements

The Contractor shall advise USTDA by letter as to the status of the Project on March 1st annually for a period of two (2) years after completion of the TA. In addition, if at any time the Contractor receives follow-on work from the Client, the Contractor shall so notify USTDA and designate the Contractor's contact point including name, telephone, fax number, and e-mail address. Since this information may be made publicly available by USTDA, any information which is confidential shall be designated as such by the Contractor and provided separately to USTDA. USTDA will maintain the confidentiality of such information in accordance with applicable law.

H. Disbursement Procedures

(1) USTDA Approval of Contract

Disbursement of Grant funds will be made only after USTDA approval of this Contract.

(2) Payment Schedule Requirements

A payment schedule for disbursement of Grant funds to the Contractor shall be included in this Contract. Such payment schedule must conform to the following USTDA requirements: (1) up to twenty percent (20%) of the total USTDA Grant amount may be used as a mobilization payment; (2) all other payments, with the exception of the final payment, shall be based upon Contract performance milestones; and (3) the final payment may be no less than fifteen percent (15%) of the total USTDA Grant amount, payable upon approval by USTDA of a Final Report that has been (i) prepared and submitted in accordance with the requirements set forth in Clause J below, and (ii) approved in writing by the Client in the manner provided for by Clause H(3)(b)(iii) below. Invoicing procedures for all payments are described below. The term "invoice" in English shall be understood in Spanish as a *cuenta de cobro*.

(3) Contractor Invoice Requirements

USTDA will make all disbursements of USTDA Grant funds directly to the Contractor. The Contractor must provide USTDA with an ACH Vendor Enrollment Form (available from USTDA) with the first invoice. The Client shall request disbursement of funds by USTDA to the Contractor for performance of the Contract by submitting the following to USTDA:

(a) Contractor's Invoice

The Contractor's invoice (to be understood in Spanish as a *cuenta de cobro*) shall include reference to an item listed in the Contract payment schedule, the requested payment amount, and an appropriate certification by the Contractor, as follows:

(i) For a mobilization payment (if any):

"As a condition for this mobilization payment, the Contractor certifies that it will perform all work in accordance with the terms of its Contract with the Client. To the extent that the Contractor does not comply with the terms and conditions of the Contract, including the USTDA Mandatory Contract Clauses contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA. "

(ii) For Contract performance milestone payments:

"The Contractor has performed the work described in this invoice in accordance with the terms of its Contract with the Client and is entitled to payment thereunder. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA Mandatory Contract Clauses contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(iii) For final payment:

"The Contractor has performed the work described in this invoice in accordance with the terms of its Contract with the Client and is entitled to payment thereunder. Specifically, the Contractor has submitted the Final Report to the Client, as required by the Contract, and received the Client's approval of the Final Report. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA Mandatory Contract Clauses contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(b) Client's Approval of the Contractor's Invoice

(i) The invoice (to be understood in Spanish as a *cuenta de cobro*) for a mobilization payment must be approved in writing by the Client.

(ii) For Contract performance milestone payments, the following certification by the Client must be provided on the invoice (to be understood in Spanish as a *cuenta de cobro*) or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement."

(iii) For final payment, the following certification by the Client must be provided on the invoice (to be understood in Spanish as a *cuenta de cobro*) or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement. The Final Report submitted by the Contractor has been reviewed and approved by the Client. "

(c) USTDA Address for Disbursement Requests

Requests for disbursement shall be submitted to the attention of the Finance Department at USTDA's address listed in Clause N below, or by e-mail to invoices@ustda.gov.

I. Termination

(1) Method of Termination

Either Contract Party may terminate this Contract upon giving written notice to the other party and USTDA. This notice shall be effective after either 30 days, or any other period set forth elsewhere in this Contract. Furthermore, this Contract shall terminate immediately upon notification of USTDA's termination of the Grant Agreement or the term of availability of any funds thereunder.

(2) Ramifications of Termination

In the event that this Contract is terminated prior to completion, the Contractor will be eligible, subject to USTDA approval, for payment for the value of the work performed pursuant to the terms of this Contract. Likewise, in the event of such termination, USTDA is entitled to receive from the Contractor all USTDA Grant funds previously disbursed to the Contractor (including but not limited to mobilization payments) which exceed the value of the work performed pursuant to the terms of this Contract. USTDA shall be responsible for managing the process of determining the value of the work performed and shall require the Contractor to make any appropriate refunds to USTDA.

(3) Survivability

Clauses B, D, G, H, I, and O of the USTDA Mandatory Contract Clauses shall survive the termination of this Contract.

J. USTDA Final Report

(1) Definition

"Final Report" shall mean the Final Report described in the attached Annex I Terms of Reference or, if no such "Final Report" is described therein, "Final Report" shall mean a substantive and comprehensive report of work performed in accordance with the attached Annex I Terms of Reference, including any documents delivered to the Client.

(2) Final Report Submission Requirements

The Contractor shall provide the following to USTDA:

- (a)** One (1) complete hard copy of the Final Report for USTDA's records. This version shall have been approved by the Client in writing and must be in the English language. It is the responsibility of the Contractor to ensure that confidential information, if any, contained in this version be clearly marked. USTDA will maintain the confidentiality of such information in accordance with applicable law.

and

(b) One (1) hard copy of the Final Report suitable for public distribution ("Public Version"). The Public Version shall have been approved by the Client in writing and must be in the English language. As this version will be available for public distribution, it must not contain any confidential information. If the report in (a) above contains no confidential information, it may be used as the Public Version. In any event, the Public Version must be informative and contain sufficient Project detail to be useful to prospective equipment and service providers.

and

(c) Two (2) CD-ROMs, each containing a complete copy of the Public Version of the Final Report. The electronic files on the CD-ROMs shall be submitted in a commonly accessible read-only format. As these CD-ROMs will be available for public distribution, they must not contain any confidential information. It is the responsibility of the Contractor to ensure that no confidential information is contained on the CD-ROMs.

The Contractor shall also provide one (1) hard copy of the Public Version of the Final Report to the Commercial or Economic Section of the U.S. Embassy in Host Country for informational purposes.

(3) Final Report Presentation

All Final Reports submitted to USTDA must be paginated and include the following:

(a) The front cover of every Final Report shall contain the name of the Client, the name of the Contractor who prepared the report, a report title, USTDA's logo, and USTDA's address. If the complete version of the Final Report contains confidential information, the Contractor shall be responsible for labeling the front cover of that version of the Final Report with the term "Confidential Version." The Contractor shall be responsible for labeling the front cover of the Public Version of the Final Report with the term "Public Version." The front cover of every Final Report shall also contain the following disclaimer:

"This report was funded by the U.S. Trade and Development Agency (USTDA), an agency of the U.S. Government. The opinions, findings, conclusions or recommendations expressed in this document are those of the author(s) and do not necessarily represent the official position or policies of USTDA. USTDA makes no representation about, nor does it accept responsibility for, the accuracy or completeness of the information contained in this report."

(b) The inside front cover of every Final Report shall contain USTDA's logo, USTDA's address, and USTDA's mission statement. Camera-ready copy of USTDA Final Report specifications will be available from USTDA upon request.

(c) The Contractor shall affix to the front of the CD-ROM a label identifying the Host Country, USTDA Activity Number, the name of the Client, the name of the Contractor who prepared the report, a report title, and the following language:

“The Contractor certifies that this CD-ROM contains the Public Version of the Final Report and that all contents are suitable for public distribution.”

(d) The Contractor and any subcontractors that perform work pursuant to the Grant Agreement must be clearly identified in the Final Report. Business name, point of contact, address, telephone and fax numbers, and e-mail address shall be included for Contractor and each subcontractor.

(e) The Final Report, while aiming at optimum specifications and characteristics for the Project, shall identify the availability of prospective U.S. sources of supply. Business name, point of contact, address, telephone and fax numbers, and e-mail address shall be included for each commercial source.

(f) The Final Report shall be accompanied by a letter or other notation by the Client which states that the Client approves the Final Report. A certification by the Client to this effect provided on or with the invoice for final payment will meet this requirement.

(g) The Client, USTDA, and the Commercial and/or Economic Section(s) of the U.S. Embassy in Host Country shall have irrevocable, worldwide, royalty-free, non-exclusive rights to use and distribute the Final Report.

K. Modifications

All changes, modifications, assignments or amendments to this Contract, including the appendices, shall be made only by written agreement by the Contract Parties hereto, subject to written USTDA approval.

L. TA Schedule

(1) TA Completion Date

The completion date for the TA, which is September 30, 2014, is the date by which the Contract Parties estimate that the TA will have been completed.

(2) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this Contract for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) no USTDA funds may be disbursed more than four (4) years after the Effective Date of the Grant Agreement.

M. Business Practices

The Contract Parties recognize the existence of standards of conduct for public officials and commercial entities in their respective countries. Therefore, the Contract Parties shall fully comply with all United States and Host Country laws relating to corruption or bribery. For example, the Contractor and its subcontractors shall fully comply with the requirements of the Foreign Corrupt Practices Act, as amended (15 U.S.C. §§ 78dd-1 et seq.). Each Contract Party agrees that it shall require that any agent or representative hired to represent it in connection with the TA will comply with this paragraph and all laws which apply to activities and obligations of that Contract Party, including, but not limited to, those laws and obligations referenced above.

N. USTDA Address and Fiscal Data

Any communication with USTDA regarding this Contract shall be sent to the following address and include the fiscal data listed below:

U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357

Fax: (703) 875-4009

Fiscal Data:

Appropriation No.: 1113/141001

Activity No.: 2013-51029A

Reservation No.: 2013263

Grant No.: GH201351263

O. Taxes

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country, except for taxes of a de minimis nature imposed on local lodging, food, transportation, or airport arrivals or departures. In accordance with the terms of the General Agreement for Economic, Technical and Related Assistance, signed in 1962 between the governments of the United States of America and the Republic of Colombia, USTDA Grant funds paid to the Contractor are exempt from Colombian taxation. Neither the Client nor the Contractor will seek reimbursement from USTDA for taxes, tariffs, duties, fees or other levies, except for taxes of a de minimis nature referenced above.

P. Export Licensing

The Contractor and all subcontractors are responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.

Q. Contact Persons

The Client designates the following person as the contact person for matters concerning this Contract:

Name:

Title:

Phone:

Fax:

E-Mail:

The Contractor designates the following person as the contact person for matters concerning this Contract:

Name:

Title:

Phone:

Fax:

E-Mail:

If anyone designated by a Contract Party as a contact person ceases service as a contact person at any point during the ten-year period following the date of signing of this Contract, the Contract Party that had designated that contact person shall provide USTDA and the other Contract Party with the name and contact information of a replacement contact person.

R. Liability

This Contract may include a clause that limits the liability of the Contract Parties, provided that such a clause does not (i) disclaim liability for special, incidental, general, or punitive damages, or (ii) limit the total amount of damages recoverable to an amount less than the total amount disbursed to the Contractor pursuant to this Contract.

S. Arbitration

If the Contract Parties submit any dispute arising under this Contract for arbitration, the scope of any such arbitration shall be limited to the Contract Parties' rights and/or obligations under this Contract and may not extend to any right or obligation of USTDA. The arbitrator(s) shall not arbitrate issues directly affecting the rights or obligations of USTDA.

ANNEX 5

Annex I

Terms of Reference

Purpose and Background

The objective of the technical assistance with the Ministry of Transport (“Grantee”) and other agencies of the Government of Colombia (GOC) for the implementation of intelligent transportation system (ITS) technologies (“Technical Assistance” or “TA”) is to develop a practical plan for the implementation of intelligent transportation systems (*sistemas inteligentes de transporte*), expected to increase efficiency for the control and management of Colombia’s highway and transport systems as well as facilitate the introduction of a congestion pricing policy in the city of Bogotá or other urban areas. Longer term objectives of the implementation of ITS technologies are to improve highway and transport safety, increase compliance with government requirements, enhance security, generate increased revenues, and make maximum use of existing infrastructure. This TA will identify short and medium-term milestones for the acquisition and implementation of ITS technologies.

The Grantee, major cities, and public and private transport operators in the country are expected to utilize the recommendations from the TA to make decisions regarding the acquisition and implementation of ITS technologies (for the highway and transport systems throughout the country. The GOC has been considering a strategic plan and policy for ITS development and appropriate project priorities (“Strategic Plan and Policy for ITS Development”). The Strategic Plan and Policy for ITS Development shall be made available to the selected U.S. contractor (“Contractor”). It is expected that the Technical Assistance will be conducted over a period of approximately eight months and the implementation plan shall recommend the various types of ITS technologies (e.g., the necessary systems, equipment, certifications, implementation procedures, and required personnel training) that should be considered for the long-term deployment of such ITS technologies within Colombia’s highway and urban transport network and more specifically those to be part of up to two pilot programs to be defined under this TA.

A steering committee (“Steering Committee”) shall be set up by the Grantee to coordinate the Technical Assistance, shall be chaired by the Grantee, and shall include a limited set of other agencies and stakeholders deemed relevant to the TA such as the National Infrastructure Agency (“ANI”) and the National Road Institute (“INVIAS”). When required, representatives of municipalities, private operators, or other relevant parties will be invited to Steering Committee meetings and asked to provide input to the Contractor.

The Contractor shall evaluate the current electronic tolling, ITS infrastructure and technical aspects of the ITS equipment and technologies being utilized within Colombia’s

highway and transport systems, including highways and transport systems that have been concessioned to the private sector, and determine if any of the existing ITS technologies should be upgraded, enhanced, and/or replaced with modern ITS technologies. The Contractor shall also identify new ITS technologies that are likely to improve Colombia's highway and transport operational efficiencies, safety and security. The Contractor shall consider the potential adoption of a compatible national standard for electronic tags to be used in all applicable systems in the country by examining the experience of multiple jurisdictions or highway/transport operators using such technologies.

The final product of the TA will be a practical strategy for the acquisition and deployment of ITS technologies for the Grantee and other GOC agencies such as ANI and INVIAS. The strategy will include the definition of up to two specific pilot programs using different ITS applications for the various highways and transport systems managed by the Grantee, INVIAS, other agencies, and/or private operators in Colombia.

Wherever applicable, the Contractor for this TA shall utilize a systems engineering approach and the principles as outlined on the U.S. Department of Transportation's (USDOT) website at: http://ops.fhwa.dot.gov/int_its_deployment/sys_eng.htm. Use of a systems engineering approach will ensure that all technology, equipment and systems decisions and acquisitions that are recommended for both longer term as well as for the pilot program(s) shall be compatible and consistent with other ongoing longer-term initiatives of the Grantee for electronic tolling and congestion management.

The Contractor shall also utilize, as applicable, the standards and protocols available from the National Transportation Communications for ITS Protocol ("NTCIP"), found at its web site: <http://www.ntcip.org>. The NTCIP protocols reduce reliance on specific vendors and customized software as well as help achieve interoperability, two important objectives of the Colombian government.

Task 1: Inception Meeting and Review of Colombia's ITS Infrastructure

The main objectives of this task are to hold an inception meeting ("Inception Meeting") with the Grantee and to review previous documentation developed in connection with (i) the implementation of electronic tolling, (ii) congestion pricing and ITS technologies, (iii) the overall national approach to ITS, and (iv) the information on the existing and planned ITS, electronic tolling, congestion management, and other ITS infrastructure within Colombia's road network.

Subtask 1a. Inception Meeting

Upon notice of award, the Contractor shall coordinate with the Grantee to schedule an Inception Meeting to be held at the Grantee's offices in Bogotá. At the Inception

Meeting, the Contractor shall present and review the Technical Assistance objectives, scope and schedule of activities, timing for key deliverables and presentations, and data required to perform the Technical Assistance. The Contractor shall develop a timeline to be utilized as a guide in the execution of the TA, including the venue and frequency of meetings, which shall be agreed upon and documented during the Inception Meeting.

The Grantee shall ensure the participation of officials from their organization who will be involved in the monitoring, guiding and review of results of the TA as well as representatives from other relevant organizations (e.g. INVIAS, ANI, private sector operators, etc.).

The Contractor shall coordinate all efforts necessary to conduct the Inception Meeting in Colombia for the Technical Assistance.

Subtask 1b. Review and Analyze Available Data

The Contractor shall review previous documentation developed in connection with the implementation of ITS technologies by the Grantee, including, but not limited to:

- the electronic toll collection program and the status of the *Recaudo Electrónico Vehicular* (REV) proposals under consideration;
- priority issues that require further study for ITS implementation such as open protocols and interoperable systems, electronic tolling, security of information under various systems and technologies, institutional and legal issues;
- prior congestion management and REV implementation studies;
- recent available data on traffic congestion and traffic forecasts;
- latest highway and transport infrastructure improvement plans and concession program;
- ITS, congestion pricing and electronic tolling investment plans;
- status of studies through joint efforts between *Colciencias* (the Colombian Administrative Department of Science, Technology and Innovation) and the Grantee to define research and innovative projects for ITS development;
- data storage mechanisms and electronic interchange with the RUNT, the National Unique Transport Registry, which includes the database of registered vehicles and licensed drivers, as well as other data collection, exchange and communications issues; and
- other relevant documentation regarding the implementation of ITS technologies and applications within Colombia’s highway and transport systems.

At least five business days prior to commencing travel to Colombia for the Inception Meeting, the Contractor shall provide the Grantee with a list of data required for the completion of the Technical Assistance.

Data provided by the Grantee will likely be in Spanish and it shall be the Contractor's responsibility to translate the information for its use, as necessary.

Task 2: Technical Analysis of ITS Technologies and Applications

Tolls, incidents, traffic congestion, and weather are major contributors to creating delays along highways and transport systems within urban corridors and also in other transport operations. There are new developments in ITS technology that can alleviate congestion, improve operations, safety and security such as automation, information systems, and other technologies and applications uniquely tailored to address transport-related operations. At the same time, there are a number of applications and software programs that address and support highway and transport operators in maintaining an efficient and systematic flow of traffic along highways. The Contractor shall consider the technologies and applications that may be relevant to improving the management and operation of highways and transport systems within Colombia. One or two locations shall be selected by the Grantee for purposes of the defining one or two pilot program(s), in accordance with the priorities in the Strategic Plan and Policy for ITS Development.

Some of the technologies that shall be evaluated include, but are not limited to:

- Closed Circuit Television (CCTV) systems;
- Automatic Vehicle Location (AVL);
- Variable Message Signs (VMS);
- Incident Management Systems;
- Emergency Telephone Systems;
- Vehicle Detection Systems;
- Counting and Classification Systems;
- Optical Character Recognition Systems (OCR);
- Enforcement Systems;
- Automatic License/Number Plate Recognition Systems (ALPR/ANPR);
- Vehicle Identity Recognition Systems (VIR);
- Public Transportation ITS Technologies;
- Vehicle Traffic Counting Systems;
- Environmental Monitoring Systems;
- Traffic Management equipment, software and systems;
- Equipment, software and systems for the planned intelligent transit and transport control center;
- Electronic Toll Collection, including variable electronic tolling systems;
- Vehicle Weighing Solutions, including Weigh-In-Motion Systems (WIM);
- Tunnel Lighting and Ventilation Systems; and

- Self-sufficient or partially self-sufficient power generation (such as wind or photovoltaic generation).

The evaluation of the technologies listed above shall include prior similar reviews that the GOC has previously conducted as part of its studies on the implementation of ITS technologies, congestion management, and electronic tolling initiatives. The Contractor shall utilize a systems engineering approach for this task and the applicable principles as outlined in the USDOT web site at:

http://ops.fhwa.dot.gov/int_its_deployment/sys_eng.htm.

The Contractor shall identify and recommend the use of ITS technologies (i.e., those not currently in major use by public and private sector operators) that would further aid the Grantee in the safe and efficient operation of its highways and transport systems in Colombia. The Contractor shall focus its technical assessment and analysis on proven technologies and ITS applications that are available in the market/industry at the time of the TA. In particular, the Contractor shall focus on technologies that are being considered by the GOC and are being marketed in Colombia by U.S. suppliers of ITS and related equipment and technologies. The Contractor's analysis shall take into account the GOC's anticipated REV system. The Contractor shall also consider a framework for the development of an intelligent transit and transport control center and how the systems and technologies for such a control center could be defined in a manner that is consistent with the requirements for the ITS pilot program(s) in addition to the GOC long-term strategic plan and policy for ITS. The Contractor shall discuss and analyze its recommendations with the key Colombian entities (to be specified by the Grantee) responsible for the development of an intelligent transit and transport control center in Colombia that utilizes ITS technologies.

Further, for discussion with the Grantee and other GOC agencies, the Contractor shall identify (i) locations in the United States where the recommended technologies/applications have been implemented successfully, (ii) any associated technology dependence requirements, required regulatory approvals, acquisition and installation costs, required training for implementation, and (iii) potential benefits associated with the recommended technologies and applications.

The Contractor shall also specifically:

- a) Review the short, medium and long-term objectives of the Grantee as they relate to the development of ITS technologies within the Colombian road network.
- b) Conduct a technical analysis of the existing ITS technologies and supplementary equipment and identify potential measures for modernization, upgrades, and/or replacement.

- c) Conduct a technical analysis of existing communication systems for the highway and transport's management systems in order to identify potential upgrades and/or replacements that could lead to operational enhancements of the highway and transport systems.
- d) Conduct an assessment of existing traffic monitoring systems (i.e. CCTV) for highways, interchanges, toll plazas, other transport systems and other critical spaces.
- e) Identify potential technologies and their applications to (i) improve the operational efficiency and safety of highway and transport systems with the purpose to reduce delays, improve vehicle detection accuracy and (ii) recommend viable ITS technologies to increase toll collection revenues, operational efficiency, highway and transport safety, and improve accountability and accuracy in highway and transport operations and management.
- f) Conduct a comprehensive review of the various ITS technologies and applications that are found to be needed by the Grantee, INVÍAS and/or private operators to improve the operations and management of its highways and transport systems. Identify the ITS technologies' functional requirements for those technologies that are recommended for implementation for up to two pilot programs, including elements of hardware, software, procedures, and approvals that will allow use of electronic vehicle tags nationwide by any vehicle with tags in support of various ITS applications under consideration. Further, this review shall also define a framework for the development of a control center for the program.
- g) Provide information as to the ITS technology requirements including:
 - rough order of magnitude costs;
 - operation;
 - certification;
 - installation;
 - maintenance; and
 - personnel requirements.
- h) Define personnel needs for operation and maintenance as well as training requirements for the recommended ITS technologies and applications.
- i) Identify other supplementary electronic and/or IT equipment and system requirements that may be necessary for the successful implementation of the recommended ITS technologies, including those related to the control center for the program.
- j) Analyze the needs to fully integrate the use of the new ITS technologies with other existing ITS technologies.
- k) Evaluate the technical capabilities of existing computer, communications, and highway and transport management systems at highway, vehicle and transport management centers in Colombia with the purpose of determining if the existing systems and technologies are capable of being integrated with the newly recommended ITS technologies proposed for implementation.

- l) Address key objectives established by the Grantee which include: (i) interoperability amongst systems, including ones that are currently in use and ones that have been proposed, (ii) acquisition of systems with open protocols, and (iii) compliance with requirements for security of information collected and stored through these systems. The Contractor shall also utilize, as applicable, the standards and protocols available from the NTCIP. The NTCIP protocols reduce reliance on specific vendors and customized software and also help achieve interoperability, which are two important objectives of the Colombian government.
- m) Develop recommendations for future system integration with the recommended ITS technologies.

Deliverable: Upon completion of Task 2, the Contractor shall prepare and submit a written interim report on the results of Tasks 1 and 2 in Spanish and English.

Task 3: Economic and Financial Analysis

The Contractor shall review the various financing alternatives for the acquisition and implementation of the recommended ITS technologies. The Contractor shall develop estimates of projected annual cost savings and potential revenues that are likely to result from the implementation of the recommended ITS technologies. In addition, the Contractor shall develop the appropriate benefit-cost analysis for those technologies likely to improve highway and transport systems operation, management, and revenue. The Grantee shall provide any available draft or completed benefit-cost analysis of the REV, congestion management programs, or other ITS initiatives in Colombia to the Contractor as a basis for the work under this task.

As applicable, the Contractor shall also evaluate the revenue streams generated from certain highway and transport operations, which are chosen by the Grantee under alternative scenarios as defined for the pilot program(s). Each pilot program will be implemented in one or two specific urban areas or corridors. Each pilot program will also utilize a specific application, such as:

- real-time traffic counting systems (*aforos vehiculares en tiempo real*)
- electronic toll collection (*recaudo electrónico vehicular*)
- electronic vehicle detection (*detección electrónica vehicular*)
- regional and area-wide traffic monitoring systems (*monitoreo del tráfico vehicular a nivel urbano e inter-urbano*)
- parking management and operations along streets (*administración y operación del estacionamiento en vía*)
- traffic signal system (*sistema de semaforización*)

- highway and transport safety: accident reduction systems and emergency management systems (*seguridad vial: sistema de reducción del número de accidentes y sistema de gestión de emergencias*)
- fleet management and control system for the SETP program (*sistema de gestión y control de flota en Sistemas Estratégicos de Transporte Público - SETP*)
- electronic fare collection in public transport systems (*recaudo electrónico centralizado en sistemas de transporte público*)
- national cargo clearance register (*Registro Nacional de Despacho de Carga - RNDC*)
- cargo logistics information system (*sistema de información logística para la gestión de carga y operación de flotas de vehículos comerciales*)
- cargo equipment management systems (*sistema de gerenciamiento de equipo para la gestión de carga y operación de flotas de vehículos comerciales*)
- electronic vehicle identification systems (*sistema de identificación electrónica vehicular*)
- intelligent transit and transport control center (*centro inteligente de control de tránsito y transporte*).

The Grantee shall select the specific geographical area and applications for up to two such pilot programs and notify the Contractor of its selection(s).

After discussions with the Grantee and other GOC agencies and/or private operators, the Contractor shall determine the specific sources of revenue that are likely to be utilized for the acquisition and implementation of the recommended ITS technologies. The Contractor shall propose annual capital improvement/investment plans including sources of funding expected to be used for the ITS improvements as part of the pilot program(s).

The Contractor shall investigate all sources of funding from potential financial institutions (e.g. U.S. Export-Import Bank and local financing institutions), including multilateral financial lending institutions (e.g. Inter-American Development Bank and International Finance Corporation) and private and commercial sources for the possibility of financing the acquisition and implementation of the ITS technologies. The financial analysis shall review costs, including operation and maintenance, training, certifications, regulatory approvals, permits, and method of procurement for the recommended ITS technologies.

The Contractor shall conduct an economic analysis that will include the identification of cost savings that may be achieved by implementing the recommended ITS technologies. The analysis will include potential savings to public and private operators, highway and transport users; operational savings; user savings in terms of highways and transport systems delay reduction; improved safety; social benefits; and potential positive impacts to the environment. This analysis will be first conducted in the GOC selected pilot

program locations, and then extrapolated to develop a nationwide estimate based on reasonable available data (such as historical traffic/congestion, potential mileage subject to electronic tolling, potential mileage or corridor area subject to variable messaging systems, freeway management systems, or other recommended technologies).

Based on the results from the financial and economic analysis, the Contractor shall formulate an overall financial plan for the Grantee to use as a guide to actualize the acquisition and implementation of the ITS technologies for the pilot program locations in a reasonable timeframe.

Deliverable: Upon the completion of Task 3, the Contractor shall prepare and submit a second written interim report in English and Spanish that presents the approach, analysis, findings and recommendations of this task.

Task 4: Review Institutional, Legal, and Regulatory Issues

The Contractor shall review institutional, legal, and regulatory issues pertaining to the implementation of ITS technologies and applications and determine if there are any significant issues that could be an impediment for system or equipment implementation and operation.

The Contractor shall review local, state and national laws and highway/transport regulations that may have an impact on the application of the recommended technologies, including applicable standards and regulations. To the extent available, the Contractor shall use prior analysis from the electronic tolling, congestion management studies, electronic vehicle identification system, or other ITS technologies and applications in its review.

The Contractor shall recommend appropriate institutional coordination mechanisms amongst all GOC agencies, local and regional agencies, other stakeholders, including labor, private highway and transport operators, equipment and system suppliers, etc. The institutional coordination mechanisms may include a GOC policy level group, a technical committee, and/or other mechanisms to provide an efficient and timely review of policy and technical issues. The institutional coordination process should also include appropriate public/customer relations and educational programs, so as to facilitate prompt and fair resolution of issues as they arise.

The Contractor shall also review the procurement methods of public and privately operated road networks and identify any issues that may affect the acquisition or implementation of the recommended ITS technologies.

Task 5: Preliminary Environmental Analysis

The Contractor shall conduct a preliminary review of environmental impacts associated with the implementation of the pilot program(s) to be defined, with reference to local requirements and the requirements of multi-lateral lending agencies (such as the World Bank). This review shall identify potential negative impacts of the pilot program(s). The Contractor shall briefly discuss the extent to which potential negative impacts can be mitigated and develop plans for full environmental impact assessment or other studies in anticipation of the pilot program(s) moving forward to the implementation stage, if necessary. The Contractor shall identify the necessary environmental approvals required for the implementation of any recommended ITS technology, facility or applications.

Deliverable: The Contractor shall prepare and submit a third written interim report in English and Spanish covering the results of Tasks 4 and 5 as outlined above.

Task 6: Development of ITS Technologies Specifications and Cost Estimates

The Contractor shall develop a cost estimate for the acquisition of ITS technologies for each defined pilot program and shall prepare technical and performance specifications for the recommended technologies and applications. In carrying out this task, the Contractor shall utilize a systems engineering approach and the applicable principles as outlined at: http://ops.fhwa.dot.gov/int_its_deployment/sys_eng.htm. The Contractor shall develop technical/performance specifications for any other component or supplementary system/equipment required as part of the recommended ITS technology/equipment implementation.

The Contractor shall also utilize, as applicable, the standards and protocols available from the NTCIP. The NTCIP protocols reduce reliance on specific vendors and customized software as well as help achieve interoperability, which are two important objectives of the Colombian government.

The Contractor shall identify any interoperability issues between the recommended ITS technologies and existing systems. If applicable, the Contractor shall make recommendations applicable to overcoming interoperability or open protocol issues as necessary.

The Contractor shall take into account applicable standards, regulations, and recommendations from Colombian department level and national agencies.

For each of the recommended ITS technologies, the Contractor shall (i) examine the improvements to the management of highway and transport systems that are expected to be realized by implementation of such technology, (ii) assess its potential effect on

highways and transport operations and management, (iii) explore implementation/installation considerations that would need to be addressed, and (iv) identify the potential risks involved.

Task 7: Analyze the Marketplace for U.S. Sources of Supply

During this task, the Contractor shall analyze the marketplace for U.S. based sources of supply and include a list of manufacturers and suppliers, equipment types, technologies and performance capabilities for the recommended ITS technologies and systems.

The Contractor shall develop a comprehensive list of U.S. manufacturers and suppliers for those ITS technologies and applications that are ultimately recommended for implementation by the Grantee, INVIAS and/or private operators. The list of U.S. suppliers shall include company name, names of key contact persons, addresses, telephone and fax numbers, email address, and a general description of products and services that may be procured from each company. The list shall be prepared after contact with the potential suppliers to determine their interest in competing in the Colombia marketplace, whether they have representatives in Colombia, and their level of prior experience in responding to procurements for similar equipment, systems and technologies in the highway and transport ITS sector.

Further, the Contractor shall develop a one-page project brief for each potential procurement that briefly describes the equipment to be acquired, the procurement process to be followed, the contacts for the Grantee's (or other GOC agencies or private operators) procurement department as well as the export financing available to U.S. exporters. This project brief should be included as an appendix to the Final Report (as defined below) to help the Grantee promote interest in the equipment procurements and will also be made available and/or distributed by USTDA and the U.S. Department of Commerce to interested U.S. exporters. The Contractor shall also develop a summary of the procurement process for equipment, including any necessary steps to register or prequalify U.S. companies with the procurement department.

In addition, the Contractor shall assemble brochures, technical booklets, specifications, and other relevant info provided by U.S. suppliers regarding the type of equipment to be acquired. These materials should be referenced in the Final Report and should be provided as an annex to the Final Report.

Task 8: Development of an Implementation Plan

The Contractor shall formulate the specific activities necessary for a practical implementation plan of the recommended pilot program(s) for the Grantee and other participants in the pilot program(s). The necessary steps and actions to be taken in

connection with the various requirements such as institutional, legal, financial and technical aspects shall be defined as part of the implementation plans. The actual implementation plan shall be very specific and shall detail step-by-step the actions necessary to be taken by the public and private sector operators in the acquisition and implementation of the recommended ITS technologies.

For the recommended pilot program(s) covering ITS applications in different geographical areas and settings (urban and intercity, with or without high percentage of trucks, etc.), the Contractor shall be responsible for the following:

- a) Develop a timeline, execution schedule, and process outline for the Grantee, INVIAS, and/or appropriate local, regional, or private operators to complete the implementation of the recommended pilot program(s), whether as turn-key or phased public private partnership projects.
- b) Formulate a systematic action plan that details the actions necessary for the acquisition and implementation of ITS technologies for the pilot program(s), including the implication for longer-term implementation nationwide, in accordance with the Technical Assistance objectives.
- c) Provide a list of local companies (with all available contact information and background data) that may be able to partner with U.S. firms in order to facilitate the export of the ITS technologies recommended for implementation.
- d) Evaluate the most effective and efficient approach to long-term ITS technology deployment and systems implementation. The Contractor shall specify if a “phased” implementation approach would be beneficial to government agencies, highway and transport operators as well as the operator of the intelligent transit and transport control center, and shall prioritize the implementation of the various recommended ITS technologies and applications.
- e) Prepare a report that summarizes the Technical Assistance findings and recommendations for incorporation in the Final Report. The Final Report shall identify the potential cumulative benefits expected from the implementation of the recommended technologies as it directly relates to highway and transport operational and management improvements for operators, corridors, and urban areas.

Deliverable: The fourth written draft interim report shall be submitted in Spanish at the end of Task 8, presenting the analysis, findings and recommendations of Tasks 6, 7 and 8. The Grantee shall provide substantive feedback on this interim report within ten (10) business days so that the Contractor may promptly proceed with the remainder of the TA. The Contractor shall incorporate the Grantee’s feedback into the interim report and produce a final version of such report. The final version of this interim report shall be produced in both English and Spanish.

Task 9: Developmental Impact Analysis

The Contractor shall review and analyze the potential developmental impacts associated with the implementation of recommended ITS technologies in Colombia. The Contractor shall focus on the following two categories of development impacts that are most relevant to USTDA: (i) human capacity building and (ii) technology transfer and productivity gains. The analysis shall not only consider the near-term impact(s) but also, any additional long-term developmental benefits from the projects, as appropriate.

The USTDA categories of development impacts that the Contractor must evaluate are described below. The Contractor shall specifically address the anticipated development impacts associated with the pilot program(s) to be defined in this TA. The development impact factors are intended to provide the Project's decision-makers and other interested parties with a comprehensive view of the Projects' potential effects as well as to provide information for USTDA program evaluation needs.

Infrastructure

USTDA defines an infrastructure benefit as one that "contributes to the improvement and security of the physical, financial, and social infrastructure of the developing world." The main object of the pilot program(s) being considered is to improve the efficiency and safety of Colombia's existing highway and transport systems. . The Contractor shall consider such potential impacts and develop a summary statement for each of the pilot program(s) under consideration. The Contractor shall also consider how the implementation of ITS technologies will reduce congestion within cities and enable more rapid connectivity between major cities and economic zones across Colombia.

Human Capacity Building

USTDA-funded activities often generate training and new job opportunities for the local area that result from either the construction of the projects or the operation and/or deployment of new equipment and facilities. Such activities build human capacity by helping workers learn new skills and/or become more gainfully employed. USTDA considers an activity to have human capacity building impact "if ten or more [permanent] jobs are created and/or ten or more people receive significant training."

The projects that result from this Technical Assistance are expected to create permanent jobs once the equipment and/or systems being considered are operational. The Contractor shall develop estimates of the expected job creation that will result from each of the projects under consideration. Such estimates shall include positions needed to implement, manage, and operate the proposed projects. Further, the Contractor shall note

the number of people who are expected to receive training and shall describe the training program required.

Technology Transfer & Productivity Improvement

As defined by USTDA, the technology transfer and productivity improvement category includes "the introduction of advanced technologies or licenses that improve processes and/or systems, resulting in greater economic productivity or more efficient use of resources."

For this Project, new technology will be considered to improve the productivity and efficiency of highway and transport networks in Colombia. Procurement of modern technologies and services will extend the capacity of existing roadways to mitigate congestion and improve fuel efficiency. All of the ITS technologies under consideration are anticipated to provide productivity enhancements in terms of improved management and control of Colombia's highway and transport systems and to obtain the greatest benefit from existing infrastructure. Expected productivity enhancements include the reduction in roadway congestion, improved travel times, reduction in operating costs, and improved data collection and analysis.

The Contractor shall describe the technologies and equipment to be implemented and summarize the efficiencies and improvements that result from such implementation.

Market-Oriented Reforms

USTDA defines market-oriented reform benefits as changes that encourage more transparent regulatory systems and institutions, support the privatization of state-owned enterprises, promote greater competition in non-competitive economic sectors, lower non-tariff barriers to trade, strengthen intellectual property rights, or modernize international trade systems and regulations. Since many highways, transport systems or vehicle administration programs are already managed and operated by private entities, this category is not considered relevant for this Technical Assistance.

Environment

Other

In addition to the above four major areas of development impacts, the Contractor shall consider, as applicable, any other significant development impacts and incorporate them into the development impact assessment.

Task 10: Final Report

The Contractor shall prepare and deliver to the Grantee and USTDA a substantive and comprehensive final report in English and Spanish of all work performed under these Terms of Reference (“Final Report”). The Final Report shall be organized according to the above tasks, and shall include all deliverables and documents that have been provided to the Grantee. The Final Report shall be prepared in accordance with Clause J of Annex II of the Grant Agreement.

ANNEX 6



USTDA-Funded Feasibility Study, Technical Assistance, or Training Grant

U.S. Firm Information Form

This form is designed to enable the U.S. Trade and Development Agency ("USTDA") to obtain information about entities and individuals proposed for participation in USTDA-funded activities. Information in this form is used to conduct screening of entities and individuals to ensure compliance with legislative and executive branch prohibitions on providing support or resources to, or engaging in transactions with, certain individuals or entities with which USTDA must comply.

USTDA Activity Number [To be completed by USTDA]

Activity Type [To be completed by USTDA]	Feasibility Study	Technical Assistance	Other (specify)
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Activity Title [To be completed by USTDA]

Full Legal Name of U.S. Firm

Business Address (street address only)

Telephone		Fax		Website	
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Year Established (include any predecessor company(s) and year(s) established, if appropriate).
Please attach additional pages as necessary.

Type of Ownership	Publicly Traded Company
	Private Company
	Other (please specify)

Please provide a list of directors and principal officers as detailed in Attachment A. Attached? (Not Applicable for U.S. Publicly Traded Company)	Yes
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If Private Company or Other (if applicable), provide a list of shareholders and the percentage of their ownership. In addition, for each shareholder that owns 15% or more shares in U.S. Firm, please complete Attachment B.

Is the U.S. Firm a wholly-owned or partially owned subsidiary?	Yes
	No

If so, please provide the name of the U.S. Firm's parent company(ies). In addition, for any parent identified, please complete Attachment B.

Is the U.S. Firm proposing to subcontract some of the proposed work to another firm?	Yes
	No

If yes, U.S. Firm shall complete Attachment C for each subcontractor. Attached?	Yes
	Not applicable

Project Manager

Name	Surname	
	Given Name	

Address

Telephone

Fax

Email

Negotiation Prerequisites

Discuss any current or anticipated commitments which may impact the ability of the U.S. Firm or its subcontractors to complete the Activity as proposed and reflect such impact within the project schedule.

Identify any specific information which is needed from the Grantee before commencing negotiations.

U.S. Firm may attach additional sheets, as necessary.

U.S. Firm's Representations

U.S. Firm shall certify to the following (or provide an explanation as to why any representation cannot be made):

1. U.S. Firm is a [check one] Corporation LLC Partnership Sole Proprietor Other: .
 duly organized, validly existing and in good standing under the laws of the State of: .
 The U.S. Firm has all the requisite corporate power and authority to conduct its business as presently conducted, to submit this proposal, and if selected, to execute and deliver a contract to the Grantee for the performance of the USTDA Activity. The U.S. Firm is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment or ineligible for the award of contracts by any federal or state governmental agency or authority.
2. The U.S. Firm has included herewith, a copy of its Articles of Incorporation (or equivalent charter or document issued by a designated authority in accordance with applicable laws that provides information and authentication regarding the legal status of an entity) and a Certificate of Good Standing (or equivalent document) issued within 1 month of the date of signature below by the State of: .
 The U.S. Firm commits to notify USTDA and the Grantee if it becomes aware of any change in its status in the state in which it is incorporated. USTDA retains the right to request an updated certificate of good standing. **(U.S. publicly traded companies need not include Articles of Incorporation or Good Standing Certificate)**
3. Neither the U.S. Firm nor any of its principal officers have, within the ten-year period preceding the submission of this proposal, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.
4. Neither the U.S. Firm, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 3 above.
5. There are no federal or state tax liens pending against the assets, property or business of the U.S. Firm. The U.S. Firm, has not, within the three-year period preceding the submission of this proposal, been notified of any delinquent federal or state taxes in an amount that exceeds US\$3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.
6. The U.S. Firm has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself of its debts under any bankruptcy, insolvency or other similar law. The U.S. Firm has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.
7. The U.S. Firm certifies that it complies with USTDA Nationality, Source, and Origin Requirements and shall continue to comply with such requirements throughout the duration of the USTDA-funded activity. The U.S. Firm commits to notify USTDA and the Grantee if it becomes aware of any change which might affect U.S. Firm's ability to meet the USTDA Nationality, Source, and Origin Requirements.

The U.S. Firm shall notify USTDA if any of the representations are no longer true and correct.

U.S. Firm certifies that the information provided in this form is true and correct. U.S. Firm understands and agrees that the U.S. Government may rely on the accuracy of this information in processing a request to participate in a USTDA-funded activity. If at any time USTDA has reason to believe that any person or entity has willfully and knowingly provided incorrect information or made false statements, USTDA may take action under applicable law. The undersigned represents and warrants that he/she has the requisite power and authority to sign on behalf of the U.S. Firm.

Name		Signature	
Title			
Organization		Date	



ATTACHMENT B

USTDA-Funded Feasibility Study, Technical Assistance, or Training Grant

U.S. Firm Information Form – Shareholder(s) and Parent Company(ies)

If applicable, U.S. Firm provided a list of shareholders and the percentage of their ownership. This form shall be completed for each shareholder that owns 15% or more shares in U.S. Firm, as well as any parent corporation of the U.S. Firm (“Shareholder”). In addition, this form shall be completed for each shareholder identified in Attachment B that owns 15% or more shares in any Shareholder, as well as any parent identified in Attachment B.

USTDA Activity Number [To be completed by USTDA]	
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Activity Title [To be completed by USTDA]	
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Full Legal Name of U.S. Firm	
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Full Legal Name of Shareholder	
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Business Address of Shareholder (street address only)	
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Telephone number	Fax Number	
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Year Established (include any predecessor company(s) and year(s) established, if appropriate). Please attach additional pages as necessary.	
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Country of Shareholder’s Principal Place of Business	
--	--

Please provide a list of directors and principal officers as detailed in Attachment A. Attached?	Yes
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Type of Ownership	Publicly Traded Company
	Private Company
	Other

If applicable, provide a list of shareholders and the percentage of their ownership. In addition, for each shareholder that owns 15% or more shares in Shareholder, please complete Attachment B.	
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Is the Shareholder a wholly-owned or partially owned subsidiary?	Yes
	No

If so, please provide the name of the Shareholder’s parent(s). In addition, for any parent identified, please complete Attachment B.	
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Shareholder may attach additional sheets, as necessary.



ATTACHMENT C

USTDA-Funded Feasibility Study, Technical Assistance, or Training Grant

Subcontractor Information Form

This form is designed to enable the U.S. Trade and Development Agency ("USTDA") to obtain information about entities and individuals proposed for participation in USTDA-funded activities. Information in this form is used to conduct screening of entities and individuals to ensure compliance with legislative and executive branch prohibitions on providing support or resources to, or engaging in transactions with, certain individuals or entities with which USTDA must comply.

USTDA Activity Number [*To be completed by USTDA*]

Activity Title [*To be completed by USTDA*]

Full Legal Name of Prime Contractor U.S. Firm ("U.S. Firm")

Full Legal Name of Subcontractor

Business Address of Subcontractor (street address only)

Telephone Number

Fax Number

Year Established (include any predecessor company(s) and year(s) established, if appropriate). Please attach additional pages as necessary.

Subcontractor Point of Contact

Name	Surname	
	Given Name	

Address

Telephone

Fax

Email

Subcontractor's Representations

Subcontractor shall provide the following (or any explanation as to why any representation cannot be made), made as of the date of the proposal:

1. Subcontractor is a <i>[check one]</i>	<input type="checkbox"/> Corporation	<input type="checkbox"/> LLC	<input type="checkbox"/> Partnership	<input type="checkbox"/> Sole Proprietor	<input type="checkbox"/> Other
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duly organized, validly existing and in good standing under the laws of: .

The subcontractor has all the requisite corporate power and authority to conduct its business as presently conducted, to participate in this proposal, and if the U.S. Firm is selected, to execute and deliver a subcontract to the U.S. Firm for the performance of the USTDA Activity and to perform the USTDA Activity. The subcontractor is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment or ineligible for the award of contracts by any federal or state governmental agency or authority.

2. Neither the subcontractor nor any of its principal officers have, within the ten-year period preceding the submission of the Offeror's proposal, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.

3. Neither the subcontractor, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 2 above.

4. There are no federal or state tax liens pending against the assets, property or business of the subcontractor. The subcontractor, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds \$3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.

5. The subcontractor has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The subcontractor has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

6. The Subcontractor certifies that it complies with the USTDA Nationality, Source, and Origin Requirements and shall continue to comply with such requirements throughout the duration of the USTDA-funded activity. The Subcontractor commits to notify USTDA, the Contractor, and the Grantee if it becomes aware of any change which might affect U.S. Firm's ability to meet the USTDA Nationality, Source, and Origin Requirements.

The selected Subcontractor shall notify the U.S. Firm, Grantee and USTDA if any of the representations included in its proposal are no longer true and correct.

Subcontractor certifies that the information provided in this form is true and correct. Subcontractor understands and agrees that the U.S. Government may rely on the accuracy of this information in processing a request to participate in a USTDA-funded activity. If at any time USTDA has reason to believe that any person or entity has willfully and knowingly provided incorrect information or made false statements, USTDA may take action under applicable law. The undersigned represents and warrants that he/she has the requisite power and authority to sign on behalf of the Subcontractor.

Name	<input type="text"/>	Signature	<input type="text"/>
Title	<input type="text"/>		
Organization	<input type="text"/>	Date	<input type="text"/>