

TC DOCUMENT
HAITI. TRANSPORT INFRASTRUCTURE DATA AND LABORATORY SERVICES IN HAITI (HA-T1158)

I. Basic Information for TC

▪ Country/Region:	Haiti
▪ TC Name:	Transport Infrastructure Data and Laboratory Services in Haiti
▪ TC Number:	HA-T1158
▪ Associated Loan:	HA-L1054 and HA-L1058
▪ Team Leader/Members:	Christian Dunkerley, team leader; Rosana Brandao, Reinaldo Fioravanti, Giovanna Mahfouz (INE/TSP); Michel Vallée, Olivia Désinor (TSP/CHA); Nelly Wheelock and Patricio Crausaz (FMP/CHA); Eloise Canfield (VPS/ESG); Taos Aliouat (LEG/SGO); and Shakirah Cossens González (SPD/SDV).
▪ Reference to Request:	From MEF 37079839 ; From MTPTEC 36791031 ;
▪ Date of TC Abstract:	April 11, 2012
▪ Donors providing funding:	Infrastructure Fund (InfraFund)
▪ Beneficiary:	Republic of Haiti
▪ Executing Agency and contact name	The <i>Unité Central d'Execution</i> (UCE) from the MTPTEC; Contact name: Gary Jean
▪ IDB Funding Requested:	US\$787,738
▪ Local counterpart funding, if any:	Not applicable.
▪ Disbursement period:	1 January 2013 – 31 December 2014
▪ Required start date:	1 January 2013
▪ Types of consultants (firm or individual consultants):	Firm
▪ Prepared by Unit:	INE/TSP
▪ Unit of Disbursement Responsibility:	CHA
▪ TC Included in Country Strategy (y/n):	Y
▪ TC included in CPD (y/n):	Y
▪ GCI-9 Sector Priority:	Infrastructure for competitiveness and social welfare

- II. Description of the Associated Loan/Guarantee.** This Technical Cooperation provides baseline data, collects transport indicators, and improves the technical capacity to carry out road laboratory tests to obtain essential data required to prepare, monitor, and evaluate transport projects in Haiti. Therefore, this technical cooperation supports all loan operations in execution involving transport infrastructure in Haiti. These are as follows:

Operation Code	Name
HA-L1054	Support for Transport Sector in Haiti (in execution)
HA-L1058	Support for Transport Sector in Haiti II (in preparation)

In addition, the outputs, training and equipment, from this TC would have a long time impact as they would assist in assessing the performance of previous and future operations supporting the transport sector in the country.

III. Objectives and Justification of the TC

This Technical Cooperation address a lack of essential data for planning and maintaining transport infrastructure in Haiti through:

- a) **Enable the collection of transport infrastructure data by the Ministry of Public Works, Transport, Energy and Communications (MTPTEC).** The Government of Haiti lacks essential equipment for the regular collection of transport indicators that can assist in monitoring the condition of transport networks and support planning and maintenance programs.
- b) **Undertake the production of essential statistics related to the transport sector.** Basic transport infrastructure information is only available for a very small proportion of the road network in Haiti. The lack of essential indicators, such as road condition and traffic volumes, hampers planning of key activities in the transport sector, including maintenance and project preparation.
- c) **Provide a basic pool of technically qualified local personnel for the collection of basic transport information.** Haiti suffers from a dearth of qualified technicians with expertise in the collection of road infrastructure data and undertaking laboratory tests for civil works. Thus the country has an urgent need to expand the pool of qualified staff in the public and private sector, expanding the supply in what is currently a very constrained market for infrastructure services.
- d) **Expand the supply of laboratory testing facilities in the country.** At present, a limited number of organizations are permitted to undertake most laboratory tests for civil works in Haiti. As the volume of civil works in the country has risen significantly in the last two years since the earthquake, this restriction has led to delays and additional costs.

These objectives also align this TC closely with the priority objective 'Transport' of the Country Strategy Haiti 2011-2015 (GN-2646), through the provision of goods and services supporting the planning, design, construction, supervision, and upkeep of transport infrastructure. This TC is fully aligned with the GCI-9 objective 'Infrastructure for competitiveness and social welfare', through the provision of data for planning and maintaining roads in the country. Also, given the transversal impact of transport as an cross-sector input, this TC has an indirect positive impact on the Strategy's priorities of: (i) Education, by improving the means of transport of students to schools; (ii) the Development of the Private Sector, by facilitating private sector investment; and (iii) Agriculture, by supporting transport activities that ensure low transport costs for production inputs and foodstuffs.

IV. Description of activities/components and budget

In order to support the transport infrastructure sector in Haiti, the consultants are expected to complete the following tasks:

- 1) **Acquisition of equipment for the collection of transport infrastructure data.** The Bank will finance this component, which mainly deals with the procurement of equipment (i.e. goods). This equipment would be employed for the collection of road usage and road quality

information, including roughness measurement equipment (i.e. bump integrators, MERLIN machines), handheld GPS units, laptops, video cameras, vehicles, laptops, software licenses, plotters, and automatic traffic counters.

- 2) **Training of technicians for the collection of transport information.** The Bank will finance this component, which falls under the category of consultancy services. This component deals with the collection of essential road transport information and road laboratory tests. These are duties traditionally carried out by and on behalf of institutions with responsibilities for the transport sector. In the case of Haiti, these procedures are not being performed efficiently due to institutional weaknesses reflected in a dearth of qualified personnel and unavailability of essential equipment. On the one hand, the scarce data being collected, for example, is mostly the effort of foreign consultancy teams, a situation that must change in order to build local capacity within the public and private sector in the medium to long term. A training program would be developed with a target audience that will include both the government and the private sector in order to have additional technicians and capacity within the market to serve the needs of the country in the future.

- 3) **Collection of baseline information for the transport sector.** The Bank will finance this component, which falls under the category of consultancy services. A survey of road data for the primary network would be carried out that can include among other statistics traffic counts, origin destination surveys, and road condition indicators such as road roughness. All data points will be geo-referenced. This will be shared organizations building infrastructure visualization tools for Haiti. This component would also include the collection of any other essential information deemed relevant for the transport sector).

- 4) **Expand the supply of infrastructure laboratory testing services.** The Bank will finance this component, which falls under the category of consultancy services. Through training and the acquisition of laboratory equipment, more public and private parties can enter what is currently a very restricted market for infrastructure laboratory analysis. By increasing market choice through expanding the supply of suitably trained technicians, costs would be lower while competition would bring about shorter turn-over times for infrastructure testing results.

Indicative Product Matrix

Product Indicators	Base Level (2012)	Target Level (2014)
Component 1 - Acquisition of equipment for the collection of transport infrastructure data		
Building up technical capacity at the Government of Haiti - Equipment for the collection of road roughness at the MTPTEC (i.e. bump integrators)	0 units	2 units
Building up technical capacity at the Government of Haiti - GIS stations for the consolidation of transport datasets at the MTPTEC	0 units	2 units
Component 2 - Training of technicians for the collection of transport information		

Product Indicators	Base Level (2012)	Target Level (2014)
Training courses (classroom and field classes) on collecting transport infrastructure data	0	1
Component 3 - Collection of baseline information for the transport sector		
Number of traffic count datasets for the primary road network, expressed as Annual Average Daily Traffic (AADT), uploaded to the internet	0 datasets	1 dataset
Number of road roughness datasets for the primary road network, uploaded to the internet	0 datasets	1 dataset
Number of origin destination freight traffic datasets for the primary road network, uploaded to the internet	0 datasets	1 dataset
Component 4 - Expand the supply of infrastructure laboratory testing services		
Report with recommendations for expanding the supply of laboratory testing services for civil works	0 reports	1 report

Indicative Result Matrix

Result Indicators	Base Level (2012)	Target Level (2016)
Component 2 - Training of technicians for the collection of transport information		
Number of prepared technicians for the collection of transport infrastructure data	0	40
Number of ministries with the capacity to collect traffic counts, road roughness measurements, and origin destination surveys.	0	1
Component 3 - Collection of baseline information for the transport sector		
Usage of the transport baseline datasets- Number of times that datasets are downloaded from the internet within one year of being uploaded.	0	100
Component 4 - Expand the supply of infrastructure laboratory testing services		
Number of providers of infrastructure laboratory testing services in Haiti	1	3

Here is the total amount of funding need to achieve the expected outputs by main component. There is no local counterpart.

Indicative Budget

Activity/Component	Description	IDB/Fund Funding	Counterpart Funding	Total Funding
1. Acquisition of equipment for the collection of transport infrastructure data	Equipment essential for the collection of transport infrastructure data would be purchased and delivered to the MTPTEC.	140,900	0	140,900
2. Training of technicians for the collection of transport information	Development of technical manuals and training material. Training sessions on transport sector data collection.	119,048	0	119,048
3. Collection of baseline information for the	Comprehensive survey of road infrastructure information.	471,070	0	471,070

Activity/Component	Description	IDB/Fund Funding	Counterpart Funding	Total Funding
transport sector	Traffic counts. Digitalization and cross-reference of data.			
4. Expand the supply of infrastructure laboratory testing services	Provision of consultancy services to investigate if other organizations are allowed to undertake infrastructure laboratory tests in Haiti.	26,720	0	26,720
5. Audit	Audit of the program	10,000	0	10,000
6. Monitoring and Evaluation	Monitoring and evaluation of the program	20,000	0	20,000
Total		787,738	0	787,738

V. Executing agency and execution structure (estimated length: 1 page)

The UCE will execute this TC. This unit has the capacity to liaise with relevant stakeholders, prepare Terms of Reference, steer the process of acquisitions, monitor the performance of consultants, and carry out management tasks. Michel Vallée (CHA/TSP) and Olivia Desinor (CHA/TSP) would also assist with monitoring and supervision of this TC. The costs of supervising this TC are expected to be approximately US\$15,000 mainly in staff costs, that would be covered from TSP budget. An evaluation of the performance of training and the collection of transport infrastructure data would be provided by the consultants, and supervised by the Executing Agency.

In terms of monitoring and evaluation, the UCE will present reports each semester stating the main outputs produced in the TC, listing all activities and resources employed. Within 60 days of the last disbursement of this TC, the UCE will present a project completion report, which will include an evaluation of the outputs and performance of the TC. Also the UCE will present its annual audited financial reports every year within 60 days following the end of the fiscal year of the UCE. In addition, the UCE should also present its annual audited financial reports within 60 days following the last disbursement of this TC.

VI. Major issues

The UCE will execute this TC. However, given the limited resources of the GoH and the weakness of institutions in the country, concerns have been raised about the sustainability of investments in equipment and training, and whether the GoH would have the resources to continue funding the collection of transport infrastructure data in the future once the TC comes to an end. These are valid concerns that in the medium term are being addressed by providing training of staff and equipment purchased under this TC to the GoH upon the completion of this TC. The UCE is a body within the MTPTEC which is fully funded and thus would have the resources to continue this essential data collection.

Another concern is whether equipment would receive proper maintenance. For this reason, the budget of this TC has included resources for medium term contracts for maintenance and calibration of devices employed for data collection. This would preserve equipment and ensure good quality of information. In the same way, the UCE would also have resources for this essential task.

VII. Exceptions to Bank policy

No exceptions to Bank policy have been identified.


VIII. Environmental and Social Strategy

This TC is classified as a Category C project. The equipment acquisition, training, and baseline information collection to be financed by this operation are not expected to produce significant environmental and social impacts. No construction activities will be financed with resources from this TC thus the environmental impacts will be limited to minimal solid waste. There are potential health and safety risks in the execution of this TC due to road traffic and the use of vehicles. These health and safety risks can be mitigated by use of reflective safety gear, experience in the area, and strong logistical support.

Required Annexes:

- Request from the client: Letter from the Ministry of Public Works, Transport, Energy and Communications (MTPTEC) dated 13 Feb 2012 (IDBdocs reference [36791031](#)). Request from the MEF has also been received (IDBdocs reference [37079839](#))
- Terms of Reference (ToR) for activities/components to be procured
 - ToR for Components 1, 2 and 3 (IDBdocs reference [36904735](#))
 - ToR for Component 4 (IDBdocs reference [36904745](#))
- Simplified Procurement Plan (IDBdocs reference [37084845](#))
- Detailed Budget [36904794](#)

**MINISTÈRE
DES TRAVAUX PUBLICS
TRANSPORTS
ET COMMUNICATIONS**


**REPUBLIQUE D'HAÏTI
REPIBLIK DAYITI**

REÇU 14 FEV. 2012
**MINISTÈ
TRAVO PIBLIK
TRANSPO
AK KOMINIKASYON**

Palais des Ministères

Palè dè Ministè

Réf

Le..... 13 FEV. 2012

No 051050

Monsieur Eduardo ALMEIDA
Représentant de la Banque Interamericaine de
Développement en Haïti

En ses Bureaux.-

Objet. : Demande d'Assistance Technique.

Monsieur le Représentant,

Le Laboratoire National du Batiment des Travaux Publics du Ministère est pour le moment l'unique institution d'Etat qui intervient dans le contrôle de qualité lors de la réalisation des grands travaux routiers ou de batiments dans le pays.

Vu la quantité de chantiers en exécution actuellement pour lesquels la présence du laboratoire s'avère nécessaire et avec la reconstruction du pays à partir de nouvelles normes le contrôle est de plus en plus obligatoire.

Tenant compte de cette nouvelle situation, le Ministère sollicite de la Banque une coopération technique pour mieux renforcer les structures de cette Institution de recherches et de contrôle de qualité de façon qu'elle puisse remplir adéquatement le rôle qui lui est dévolu par la loi.

Le Ministère vous prie d'agréer, **Monsieur le Représentant**, l'expression de ses salutations distinguées.


Jacques ROUSSEAU, Ing.
Ministre





**MINISTERE
DES TRAVAUX PUBLICS
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ET COMMUNICATIONS**

**REPUBLIQUE D'HAÏTI
REPIBLIK DAYITI**

REÇU 14 FEV. 2012

**MINISTRE
TRAVO PIBLIK
TRANSPO
AK KOMINIKASYON**

Palais des Ministères

Palè dè Ministè

Réf

Le 13 FEV. 2012

No 000000

**Monsieur Eduardo ALMEIDA
Représentant de la Banque Interaméricaine de
Développement en Haïti
En ses Bureaux.-**

Objet : Demande d'Assistance Technique.

Monsieur le Représentant,

Le Ministère des Travaux Publics Transports Communications et de l'Energie vous présente ses compliments et profite de l'opportunité pour vous informer que l'inventaire général du réseau routier haïtien a été réalisé depuis 1984.

Au cours des 25 dernières années beaucoup d'interventions majeures et importantes ont été réalisées sur l'ensemble du réseau et principalement sur les routes primaires et secondaires avec les fonds des grands bailleurs tels que la BID, l'UE et l'IDA et aussi la création de nouvelles percées sur les routes tertiaires (routes communales) avec le Centre National des Equipements et les Organisations Internationales non Gouvernementales (ONGs)

Actuellement il s'avère nécessaire pour le Ministère de connaître l'étendue et l'état global de son réseau routier national pour une meilleure prise en charge de la planification des travaux de construction, de réhabilitation et d'entretien.

Dans cette optique il sollicite de la BID une coopération technique pour la mise à jour dudit inventaire.

Espérant une réponse favorable à cette requête, le Ministère vous prie d'agréer, **Monsieur le Représentant**, l'expression de ses salutations distinguées.


**Jacques ROUSSEAU, Ing.
Ministre**

MINISTÈRE
DE L'ÉCONOMIE ET DES FINANCES

Le Ministre

No.DEE/BID/BM 475-août 12

Port-au-Prince, le 28 AUG 2012

Monsieur Eduardo Marques **ALMEIDA**
Représentant Résident
Banque Interaméricaine de Développement (BID)
En ses bureaux.

Monsieur le Représentant,

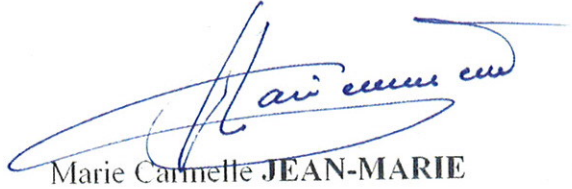
Le Gouvernement Haïtien (GH) recherche des services de consultation d'ingénierie de fourniture de biens et de formation technique visant à améliorer les compétences des responsables gouvernementaux, des employés du secteur privé et du milieu universitaire dans la collecte, la classification et l'analyse des données sur les infrastructures de transport. A cet effet, le GH apprécierait que la BID appuie avec une coopération technique ses efforts ainsi que ceux des autres organismes multilatéraux afin de fournir des informations essentielles aux interventions de planification du réseau routier haïtien pour le court terme, moyen et long terme, et d'améliorer l'état des infrastructures du pays.

Dans un premier temps, cette coopération devrait se concentrer sur la fourniture d'équipements, la formation et la collecte des indicateurs essentiels sur les infrastructures routières, tel que calcul de flux de circulation et mesure de rugosité du réseau primaire. Ces informations pourraient être utilisées pour mieux planifier les investissements dans le secteur routier comme l'entretien, la réhabilitation ou la reconstruction de travaux de génie civil essentiels au maintien des actifs afin d'en assurer leur pérennité.

De plus, actuellement, un nombre limité d'organisations sont autorisées à effectuer des tests de laboratoire pour les travaux de génie civil en Haïti. Comme le volume des travaux de constructions nouvelles dans le pays a augmenté de façon significative depuis le tremblement de terre, cette restriction a entraîné des retards et des coûts supplémentaires dans les travaux de construction. Pour cette raison, la coopération technique devrait fournir également des services de conseil pour faire le diagnostic de la situation et évaluer les possibilités d'élargir l'offre de services de laboratoire d'essai et de matériaux dans le pays. Cette assistance technique devrait aider à l'identification de la capacité actuelle du secteur public, de l'opportunité pour le secteur privé de fournir des services de laboratoire supplémentaires et à la définition des qualifications requises aux autres fournisseurs pour leur entrée sur le marché tout en soumettant leurs résultats

de laboratoire à l'approbation du Ministère des Travaux Publics, Transports, Énergie, et la Communication (MTPTEC).

Le Gouvernement Haïtien saisit l'occasion pour vous renouveler, **Monsieur le Représentant**, l'expression de sa haute considération.



Marie Cannelle JEAN-MARIE

TERMS OF REFERENCE

Component 1, 2, and 3 – Training of Transport Infrastructure Technicians on Data Collection, and Collection of Baseline Information for the Transport Sector

1. INTRODUCTION

The Government of Haiti (GoH) wishes to commission training services to improve the technical skills of government officials, private sector employees, and university academics and students in the collection, classification and analysis of transport infrastructure data. This information would assist in the efforts of the GoH and multilateral lending agencies by providing essential information for planning interventions in Haiti for the short, medium and long term and improve the reconstruction efforts of the country.

The core of this assignment would concentrate on the provision of equipment, training and the collection of essential road infrastructure indicators, such as traffic counts and road roughness. This information can be used to prioritize investment in the sector, including planning of essential civil works for maintenance and reconstruction.

2. BACKGROUND

Haiti has 9 million inhabitants, 76% of which live below the poverty line, making it the poorest country in the Americas. The country has an acute lack of infrastructure as a result of weak institutions and a chronic lack of resources, and in addition it has often been affected by natural disasters, such as the earthquake on the 12th of January of 2010. This destroyed a significant amount of the essential public infrastructure of Port-au-Prince and surrounding areas, causing close to 300,000 fatalities and damages for almost US\$8.000 million. During the effort for the reconstruction of the country, the availability of transport infrastructure data is crucial to identify priorities and carry out essential interventions.

However, Haiti suffers from a lack of essential transport infrastructure information, as this is only available for a very small proportion of the road network in Haiti. The lack of essential indicators, such as road condition and traffic volumes, hampers planning of key activities in the transport sector, including maintenance and project preparation. One key reason for this lack of transport statistics is a very limited number of qualified technicians with the expertise in the collection of road infrastructure data. This would be addressed through training of additional technicians in the country.

3. OBJECTIVES

The objective of this assignment is to improve the strategic planning of the transport sector through the provision of equipment, technical training, and the collection of baseline information of essential information in Haiti that would include at least the following dataset:

- Traffic counts on the primary road network;
- Origin destination surveys for the primary road network;

- International Roughness Index (a road quality indicator, also known as IRI) for the primary road network;

4. ACTIVITIES TO BE COMPLETED / METHODOLOGY

The main activities of this technical cooperation would be as follows:

Activity 1: Acquisition of equipment employed in data collection.

Equipment to be purchased under this assignment would include among others road roughness measurement equipment; handheld Global Positioning Systems (GPS); Information Technology (IT) equipment such as computers, software, printers, and a plotter; video cameras; and vehicles. Once the assignment is completed the equipment would be handed over to the MTPTEC. Appendix 1 list the minimum set of equipment that should be provided.

Activity 2: Installation and calibration of equipment for the collection of transport infrastructure data.

This would include at least the installation and calibration of road roughness equipment, (i.e. bump integrators), and high quality Geographical Positioning Systems (GPS) Units installed in vehicles identified for this purpose. Suitable semi-automatic and manual procedures for data recording should be tested, in order to identify the most appropriate methods for Haiti.

Activity 3: Production of training materials

This involves the development of manuals and training materials in French suitable for the Haitian context. The training materials should include theory, practise, and various exercises in the classroom and on the field on data collection and analysis. In addition, training sessions of this assignment would be video-recorded, edited, and uploaded to the internet to be used for on-line training in the future. The training material to produce would cover at least the following subjects: origin destination surveys, traffic counts, and road roughness collection.

Activity 4: Training Sessions

This would include the following tasks:

-A rapid survey of staff and their technical level at different organizations of the Government of the Republic of Haiti (MTPTEC) that are involved in any capacity with the planning, construction, and maintenance of transport infrastructure. Starting by identifying essential roles required in the transport infrastructure sector, this task would identify the responsible individuals in charge of various roles currently being carried out in the country, their level of preparation, their experience, their age profile including years before retirement, and whether there are suitable technical staff ready to replace them. This would

identify gaps that would need to be filled in the medium to long term, and assist in the process of identifying future training requirements.

- Identification of suitable recipients of training, which can include government officials, private sector employees, academics, and university students.

- Undertake tests and examinations at the beginning and at the end of the TC to determine the level of success of the training program. Technical qualifications would be awarded to those individuals that achieve a reasonable good level of understanding and accuracy in the collection of transport infrastructure data.

Activity 5: Traffic counts for all primary roads in the country.

The traffic counts would be carried out for a period of 7 days and 12 hours per day on all major primary roads in the country, and every two months for a period of one year (6 times a year for each location if deemed necessary). The data collection would aim to capture the seasonality of traffic. The team would develop suitable expansion factors and estimate the Annual Average Daily Traffic (AADT) for each major road link. Geo-referenced records of the location of traffic counts and photographs will be collected for future reference. As much as possible, the consultants should aim to collect traffic counts at locations that have been employed in the past for such purpose, and present the new data with the old one, so that users of this information are able to determine growth trends if required.

Activity 6: Origin destination surveys of freight traffic.

Origin destination surveys of freight traffic will be carried out along the primary network so as to be able to build origin destination matrices of cargo. The origin destination surveys will be carried out for a period of 7 days and 12 hours per day on all major primary roads, and would include a sample of all freight traffic. These surveys will be carried out once every two months for a period of one year. Traffic counts (that do not necessarily have to be the same as those carried out under Activity 1) will have to be carried out in parallel to make sure that the sample can be expanded to represent freight traffic on the network. All survey locations will be geo-referenced and photographed for future reference. An annual origin destination matrix of freight traffic, disaggregated by type of cargo, should be produced.

The consultants should also collect all traffic counts that have been carried out by different international organizations, consulting and construction firms in the country in the last five years. If these were available they would be collected and added to the new datasets and reports, so that traffic growth rates can be estimated.

Activity 7: Measurement of the road roughness for the primary road network.

The International Roughness Index (IRI) will be measured for the totality of the primary network and geo-referenced, with a level of resolution suitable to identify suitable maintenance activities at a micro level. In addition, whenever possible road conditions should be recorded by video in parallel to IRI measurements and geo-referenced. The consultants should ensure that the data collected are compatible and can be incorporated

into any road infrastructure datasets from the MTPTEC and the *Centre National d'Information Geo-Spatiale* (CNIGS) from the Government of Haiti.

5. OUTPUTS / DELIVERABLES

The main deliverables of this technical cooperation would involve the following:

- **Equipment:** The equipment outlined under heading 4 would be delivered to the UCE. Equipment required for the training sessions would be installed and calibrated, including the purchase, in consultation and agreement with the UCE, of suitable cost-effective maintenance and calibration contracts for equipment for duration of at least 24 months. Once the assignment is completed the equipment would be handed over to the MTPTEC.
- **Technical training:** The training would target 2 engineers and 2 technicians in each of the 10 departments in Haiti, and 10 staff from the MTPTEC and LNBTP. In addition, the training would also cover 6 lecturers and 4 students. That makes it a total audience of 60 people.
- **Training materials and technical manuals, in French.** This would cover at least all the technical subjects outlined under heading 4, including electronic copies in PDF and also 100 hard copies for distribution among training recipients plus 30 copies for the MTPTEC. In addition, most key training sessions would be video recorded, edited, and uploaded to internet sites identified by the MTPTEC.
- **Award of technical qualifications.** This would be given to those students that achieve good understanding and can competently demonstrate practical skills in data collection as taught during the course.
- **Assessment Report.** The last report to be presented would include an assessment of the success of the training program, and would be based on surveys and testing carried out before and at the end of training sessions, including attendance records and the names of individuals that achieved the technical qualification.
- **Datasets of:**
 - i. Annual Average Daily Traffic (AADT) for all main road segments of the primary road network in Haiti (report stating the methodology for data collection and datasets);
 - ii. Origin destination surveys for freight traffic that capture most cargo flows along the primary road network in the country. This would include an estimation of an origin destination matrix of inter-urban traffic (report explaining the methodology for data collection and datasets).
 - iii. Geo-referenced datasets of road roughness for primary road network in Haiti (report explaining the methodology for data collection and datasets);
 - iv. Origin destination of freight traffic. This would include an estimation of an origin destination matrix of inter-urban traffic (report explaining the methodology for data collection and datasets).

6. CONSULTANCY SPECIFICATIONS

6.1 *Type of Consultancy*

The type of consultancy would be International Public Tender.

6.2 *Financing*

The cost of the consultancy will be fixed price and include the consultant's remuneration as well as the costs of all incidentals associated with the conduct of the consultancy.

6.3 *Duration*

The duration of the assignment would be 15 months from the time of signature of the contract.

6.4 *Location*

Training materials can be produced at the consultants' home country. The training sessions would be carried out in Haiti, with the classroom sessions at a suitable location in Port au Prince, while practical sessions can be undertaken at suitable locations along the road network close to Port au Prince.

Data collection and analysis would be carried out in Haiti, in close liaison with the MTPTEC, the *Centre National d'Information Geo-Spatiale* (CNIGS), and the Bank.

6.5 *Reporting Schedule*

The final outputs / deliverables of the study shall be presented (15) months after the commencement date of the contract.

6.6 *Payments*

The payments will be done according to the following schedule:

- 30% against a receipt from the UCE accepting delivery of equipment
- 20% upon delivery of the training assessment reports.
- 30% on delivery and approval of road roughness datasets and traffic counts; and
- 20% on delivery and approval of origin destination freight datasets and report;

6.7 *Expertise Required*

The key experts required from the Consultant's team, and their minimum qualifications and experience are as follows:

- Key Expert No. 1: **Project Director - Senior Civil Engineer**
 - Experience: fifteen (15) years in constructing and/or maintaining transport infrastructure, including the collection of transport infrastructure data.
- Key Expert No. 2: **Civil Engineers**

- Experience: five (5) years in constructing and/or maintaining transport infrastructure, including the collection of transport infrastructure data.
- Key Expert No. 3: **GIS specialist**
 - Experience: five (5) years in collecting and managing GIS datasets.
- Assistants: **Civil Engineering technicians and administrative personnel**
 - A local team of at least 10 employees would be required in Haiti to handle the logistics of the assignment and assist during training sessions.

Knowledge of French would be an advantage. In case that either of the candidates for these roles do not have these language skills, they would be required to obtain translators for the training sessions and the production of training materials, and cover their costs from their budget.

The Consultant must specify the qualifications and experience of the main experts recommended for the assignment, providing a curriculum vitae detailing the relevant experience and qualifications. Members of the consultancy team must have working experience in developing countries.

6.8 Coordination and Facilities

The consultants would report and send all deliverables to Michel Vallée (Email: valleem@iadb.org, Tel +509 2812 5007) and Olivia Desinor (odesinor@iadb.org, Tel +509 2812 5058) at the Inter-American Development Bank. In addition, the consultants will provide deliverables and inform of all developments to Gary Jean from the *Unite Central d'Execution* from the *Ministere des Travaux Publics, Transport, Energy, et Communications* (MTPTEC) (Email garijan@gmail.com, Tel +509 34463165).

Appendix 1. Minimum Set of Equipment to be Provided.

Component 1: Acquisition of equipment for the collection of transport infrastructure data	Quantity
Vehicles to install equipment	
4x4 vehicle	1
Semi-automatic (data collection)	
Roughness measurement equipment	2
Video cameras	4
Handheld GPS	4
Laptops	4
Spare parts for measuring equipment	1
Service (calibration/maintenance) agreem.	2
Manual (20 - continuous data collection)	
Merlin Machines	10
Handheld GPS	9
Laptops	5
Video cameras	4
Subtotal	
Traffic counting equipment	
Automatic traffic counters	10
Office provision	
CAD stations	2
GIS software licenses (including technical support)	2
Plotters	2
Printers	2
Stationary	1
Power backup system	1
Other office/IT equipment	1
Office Supplies	1
Air conditioner	1

TERMS OF REFERENCE

Component 4 – Expand the Supply of Infrastructure Laboratory Testing Services

1. INTRODUCTION

Currently a limited number of organizations are permitted to undertake most laboratory tests for civil works in Haiti. As the volume of new construction in the country has risen significantly in the last two years since the earthquake, this restriction has led to delays and additional costs. For this reason the Government of Haiti (GoH) wishes to commission consultancy services to assess opportunities to expand the supply of infrastructure laboratory testing services in the country.

The core of this assignment would concentrate on identifying the capacity of the public and private sector to provide additional laboratory services and defining the tasks that would be required so that other providers can enter this market and in this manner their laboratory results can be accepted by the *Ministere des Travaux Publics, Transport, Energy, et Communications* (MTPTEC).

2. BACKGROUND

Haiti has 9 million inhabitants, 76% of which live below the poverty line, making it the poorest country in the Americas. The country has an acute lack of infrastructure as a result of weak institutions and chronic lack of resources, and in addition it has often been affected by natural disasters, such as the earthquake on the 12th of January of 2010. This destroyed a significant amount of the essential public infrastructure of Port-au-Prince and surrounding areas, causing close to 300,000 fatalities and damages for almost US\$8.000 million. During the effort for the reconstruction of the country, the availability of laboratory testing services is crucial to ensure high quality construction able to resist earthquakes in the future.

However, Haiti suffers from a limited supply of laboratory facilities for civil works, resulting in excessive costs and delays to obtain standard test results. This technical cooperation would aim to expand the availability of laboratory testing facilities for civil works in the country.

3. OBJECTIVES

The assignment would have the objective of expanding the supply of laboratory testing facilities in the country through the following activities:

- Identifying the political, technical, social and administrative causes of this lack of supply in the market for laboratory testing services;
- Proposing different solutions to address the lack of laboratory testing services, assessing their feasibility, advantages, disadvantages and costs;

- For proposed solutions, describe the tasks required to implement them, and propose a program and resources required for implementation that would bring about the changes proposed in this technical cooperation.

4. ACTIVITIES TO BE COMPLETED / METHODOLOGY

The main activities of this technical cooperation would involve the following activities:

Activity 1: Diagnostics of the shortage of laboratory testing services in Haiti.

The consultant would undertake an inter-disciplinary diagnostics behind the shortage of civil engineering testing services in Haiti. This would include a series of interviews and discussions with public and private stakeholders at civil engineering firms, the Ministry of Public Works, and the *Laboratoire National du Bâtiment et des Travaux Publics d'Haïti* (LNBTP).

Activity 2: Investigate and propose solutions to address the shortage of laboratory testing services for civil works in Haiti.

Solutions to the shortage of laboratory testing services would be proposed, assessing their feasibility within the Haitian context, including: an identification of different stakeholders and their roles in the laboratory testing services market; advantages and disadvantages of different solutions; and an assessment of the costs and benefits of reform when compared against the existing situation. Possible solutions to be examined among others are the certification of additional centers for laboratory tests and outsourcing of testing services. Sustainability of proposed solutions should be a key consideration during their analysis, considering the Haitian context.

Activity 3: Identify the activities required that would bring about an increase in the supply of laboratory testing services for civil works in Haiti, and prepare programs and the required budgets to implement them.

After identifying the different activities needed to increase the supply of laboratory testing services, the consultant will also describe in detail a recommended program for implementation, including the stages of the process, staff requirements and funding, and actions required by different parties within the GoH.

5. OUTPUTS / DELIVERABLES

The main deliverables of this assignment would be a final report, to be submitted at the end of the assignment.

6. CONSULTANCY SPECIFICATIONS

6.1 Type of Consultancy

The type of consultancy would be Individual International Consultant.

6.2 Financing

The cost of the consultancy will be fixed price and include the consultant's remuneration as well as the costs of all incidentals associated with the conduct of the consultancy.

6.3 Duration

The duration of the assignment would be three (3) months from the time of signature of the contract.

6.4 Location

Data collection, interviews with relevant stakeholders, and analysis would be carried out in Haiti, in close liaison with the MTPTEC, its executing agency the UCE, and the Bank.

6.5 Reporting Schedule

The final outputs / deliverables of the study shall be presented three (3) months after the commencement date of the contract.

6.6 Payments

The payments will be done according to the following schedule:

- 30% for mobilization;
- 70% on delivery and approval of the final report.

6.7 Expertise Required

The individual consultant would have a degree in civil engineering, with experience of at least five (years) in construction and/or supervision of laboratory tests for civil works. Knowledge and experience of institutional strengthening and reform would be an advantage but it is not essential.

In addition, knowledge of French would be necessary to undertake stakeholder interviews. In case that the consultant does not have these language skills, he/she would be required to obtain translators for their work and cover their costs from their budget.

6.8 Coordination and Facilities

The consultants would report and send all deliverables to Michel Vallee (Email: valleem@iadb.org, Tel +509 2812 5007) and Olivia Desinor (odesinor@iadb.org, Tel +509 2812 5058) at the Inter-American Development Bank. In addition, the consultants will provide deliverables and inform of all developments to Gary Jean from the *Unite Central d'Execution* from the *Ministere des Travaux Publics, Transport, Energy, et Communications* (MTPTEC) (Email garijan@gmail.com, Tel +509 34463165).

PROCUREMENT PLAN FOR NON-REIMBURSABLE TECHNICAL COOPERATIONS										
Country: Haiti					Executing agency: Unité Central de Execution (UCE) - MTPTEC				Public or private sector: Public Sector	
Project number: HA-T1158					Title of Project: Transport Infrastructure Data and Laboratory Services in Haiti					
Period covered by the plan: 01/01/2013 - 31/12/2014										
Threshold for ex post review of procurements: NA				Goods and services (in US\$):		785,738		Consulting services(in US\$):		785,738
Item No.	Ref. AWP	Description (1)	Estimated contract cost (US\$)	Procurement Method (2)	Review of procurement (ex-ante or ex-post) (3)	Source of financing and percentage		Estimated date of the procurement notice or start of the contract	Technical review by the PTL (4)	Comments
						IDB/MIF %	Local/other %			
		Consulting Services								
1		Components 1, 2, and 3 - Training of technicians for the collection of transport information, and collection of baseling information for the transport sector	731,018	QCBS	ex-ante	100%	0%	30/05/2013	NA	This consulting services contract includes components 1, 2, and 3.
2		Component 4: Expand the supply of infrastructure laboratory services - national consultant	2,000	NICQ	ex-ante	100%	0%	1/5/2013	NA	
3		Component 4: Expand the supply of infrastructure laboratory services - international consultant	22,720	IICQ	ex-ante	100%	0%	1/5/2013	NA	
4		Audit	10,000	LCS	ex-ante	100%	0%	1/5/2013	NA	
5		Monitoring and evaluation	20,000	CQS	ex-ante	100%	0%	1/5/2013	NA	
Total			0	Prepared by:			Date: 2 September 2012			
(1) Grouping together of similar procurement is recommended, such as computer hardware, publications, travel, etc. If there are a number of similar individual contracts to be executed at different times, they can be grouped together under a single heading, with an explanation in the comments column indicating the average individual amount and the period during which the contract would be executed. For example: an export promotion project that includes travel to participate in fairs would have an item called "airfare for fairs", an estimated total value od US\$5,000, and an explanation in the Comments column: "This is for approximately four different airfares to participate in fairs in the region in years X and X1".										
(2) <u>Goods and works</u> : CB: Competitive bidding; PC: Price comparison; DC: Direct contracting.										
(2) <u>Consulting firms</u> : CQS: Selection Based on the Consultants' Qualifications; QCBS: Quality and cost-based selection; LCS: Least Cost Selection; FBS: Selection nder a Fixed Budget; SSS: Single Source Selection; QBS: Quality Based selection.										
(2) <u>Individual consultants</u> : IICQ: International Individual Consultant Selection Based on Qualifications; SSS: Single Source Selection; NICQ: National Individual Consultant Selection based on Qualifications										
(3) <u>Ex ante/ex post review</u> : In general, depending on the institutional capacity and level of risk associated with the procurement, ex post review is the standard modality. Ex ante review can be specified for critical or complex process.										
(4) <u>Technical review</u> : The PTL will use this column to define those procurement he/she considers "critical"or "complex"that require ex ante review of the terms of reference, technical specifications, reports, outputs, or other items.										

SAFEGUARD POLICY FILTER REPORT

PROJECT DETAILS	IDB Sector	TRANSPORT-TRANSPORT NETWORKS CONNECTIVITY
	Type of Operation	Technical Cooperation
	Additional Operation Details	
	Investment Checklist	Generic Checklist
	Team Leader	Dunkerley, Christian Eduardo (CDUNKERLEY@iadb.org)
	Project Title	Technical Training, Road Maps & Road Safety Manuals
	Project Number	HA-T1158
	Safeguard Screening Assessor(s)	Canfield, Mary Eloise (ELOISEC@iadb.org)
	Assessment Date	2012-07-10
	Additional Comments	

SAFEGUARD POLICY FILTER RESULTS	Type of Operation	Technical Cooperation	
	Safeguard Policy Items Identified (Yes)	Activities to be financed in the project area are located within a geographical area or sector exposed to natural hazards (Type 1 Disaster Risk Scenario).	(B.01) Disaster Risk Management Policy– OP-704
		The Bank will make available to the public the relevant Project documents.	(B.01) Access to Information Policy– OP-102
		The operation is in compliance with environmental, specific women's rights, gender, and indigenous laws and regulations of the country where the operation is being implemented (including national obligations established under ratified Multilateral Environmental Agreements).	(B.02)
		The operation (including associated facilities) is screened and classified according to their potential environmental impacts.	(B.03)
		The Borrower/Executing Agency exhibits weak institutional capacity for managing environmental and social issues.	(B.04)
		The Bank will monitor the executing agency/borrower's compliance with all safeguard requirements stipulated in the loan agreement and project operating or credit regulations.	(B.07)
		Suitable safeguard provisions for procurement of goods and services in Bank financed projects may be incorporated into project-specific loan agreements, operating regulations and bidding documents, as appropriate, to ensure environmentally responsible procurement.	(B.17)

	Potential Safeguard Policy Items(?)	No potential issues identified	
	Recommended Action:	<p>Operation has triggered 1 or more Policy Directives; please refer to appropriate Directive(s). Complete Project Classification Tool. Submit Safeguard Policy Filter Report, PP (or equivalent) and Safeguard Screening Form to ESR.</p> <p>The project triggered the Disaster Risk Management policy (OP-704).</p> <p>A Disaster Risk Assessment (DRA), is required, as established under Directive A-2 of the DRM Policy OP-704). Please contact a Natural Disaster Specialist in VPS/ESG or INE/RND for guidance.</p>	
	Additional Comments:		

ASSESSOR DETAILS	Name of person who completed screening:	Canfield, Mary Eloise (ELOISEC@iadb.org)
	Title:	
	Date:	2012-07-10

SAFEGUARD SCREENING FORM

PROJECT DETAILS	IDB Sector	TRANSPORT-TRANSPORT NETWORKS CONNECTIVITY
	Type of Operation	Technical Cooperation
	Additional Operation Details	
	Country	HAITI
	Project Status	
	Investment Checklist	Generic Checklist
	Team Leader	Dunkerley, Christian Eduardo (CDUNKERLEY@iadb.org)
	Project Title	Technical Training, Road Maps & Road Safety Manuals
	Project Number	HA-T1158
	Safeguard Screening Assessor(s)	Canfield, Mary Eloise (ELOISEC@iadb.org)
	Assessment Date	2012-07-10
	Additional Comments	

PROJECT CLASSIFICATION SUMMARY	Project Category: C	Override Rating:	Override Justification:
	Conditions/ Recommendations	Comments:	
		<p>No environmental assessment studies or consultations are required for Category "C" operations.</p> <p>Some Category "C" operations may require specific safeguard or monitoring requirements (Policy Directive B.3). Where relevant, these operations will establish safeguard, or monitoring requirements to address environmental and other risks (social, disaster, cultural, health and safety etc.).</p> <p>The Project Team must send the PP (or equivalent) containing the Environmental and Social Strategy (the requirements for an ESS are described in the Environment Policy Guideline: Directive B.3) as well as the Safeguard Policy Filter and Safeguard Screening Form Reports.</p>	

SUMMARY OF IMPACTS/RISKS AND POTENTIAL SOLUTIONS	Identified Impacts/Risks	Potential Solutions
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DISASTER SUMMARY	<p>Details</p> <p>The Project should include the necessary measures to reduce disaster risk to acceptable levels as determined by the Bank on the basis of generally accepted standards and practices. Alternative prevention and mitigation measures that decrease vulnerability must be analyzed and included in project design and implementation as applicable. These measures should include safety and contingency planning to protect human health and economic assets. Expert opinion and adherence to international standards should be sought, where reasonably necessary.</p>	<p>Actions</p> <p>A Disaster Risk Assessment (DRA), is required, as established under Directive A-2 of the DRM Policy OP-704). Please contact a Natural Disaster Specialist in VPS/ESG or INE/RND for guidance.</p>
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ASSESSOR DETAILS	Name of person who completed screening:	Canfield, Mary Eloise (ELOISEC@iadb.org)
	Title:	
	Date:	2012-07-10