



**USAID** | **KOSOVO**  
NGA POPULLI AMERIKAN  
OD AMERIČKOG NARODA

# USAID KOSOVO PRIVATE ENTERPRISE PROGRAM (KPEP)

## Kosovo Road Design Training

**ROMA STEVENS**

USAID KPEP STTA Construction Advisor, Texas Transportation Institute

Implemented by  
Booz Allen Hamilton

Contract No. EEM-I-07-00007-00  
Task Order No. TO #2

JUNE 2012

### **DISCLAIMER**

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government

# Kosovo Road Design Training

---

Kosovo Private Enterprise Program project (title of the project).  
Contract No. No. EEM-I-07-00007-00, TO #2

This report submitted by Booz Allen Hamilton / June, 2012

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

# CONTENTS

PURPOSE of ASSIGNMENT	1
BACKGROUND	1
EXECUTIVE SUMMARY	2
FIELD ACTIVITIES TO ACHIEVE PURPOSE	3
RESULTS	3
TASK FINDINGS	4
CONCLUSIONS and RECOMMENDATIONS	5
ANNEXES	

# PURPOSE OF ASSIGNMENT

The purpose of this task was to help develop a sustainable teaching program at the University of Prishtina in the areas of Road Design. It is expected that the Road Design program at the University of Prishtina will provide a platform to fulfill the industry need for road design engineers knowledgeable in and capable of applying international standards, guidelines, and practices for road design in Kosovo. This task was conducted to provide training to students enrolled in Master of Road Design degree program at the University of Prishtina in the areas of Geometric Road Design. This report summarizes the activities completed, findings of the training effort, and recommendations for any future training/technology transfer efforts.

The primary objective of this training was to improve the technical skills of the first batch of Road Design degree program enrollees who will be working in road planning and construction firms in Kosovo with a focus on designing and building quality roads based on international standards, guidelines and practices. An additional objective of the training was to develop opportunities for University of Prishtina faculty to teach this course with in-house resources, thus providing a sustainable solution for future training needs. The complete training task consisted of five days of teaching in a classroom setting. Next section of this report provides a summary of training activities.

# BACKGROUND

In July 2010, KPEP in collaboration with Texas transportation Institute conducted a needs assessment task for road construction companies in Kosovo. Findings of this task suggested the following:

- Lack of official adopted and/or widely used design standards and construction specifications for road infrastructure in Kosovo. Task team recommended efforts should be made to increase awareness and promote the need for formal and uniform adoption of road design standards and construction activities.
- Technical assistance is needed to address parts of the “project management gap”. Specific areas of concern under this need were cost estimation and bid preparation, works planning and scheduling, cost and resource management, construction site safety, and quality assurance and quality control (QA/QC).
- Use of standardized contract forms and contract management procedures and practices is very limited and needs to be improved.

To address some of the technical concerns identified above, a training was developed to provide road design professionals with a good solid understanding of the road design fundamentals, use of uniform design standards and guidelines, as well as the importance of overall project planning. This training was conducted in the spring of 2011 for the road design professionals working in private and public sector. A finding and recommendation of this training was to a repeat of the training effort and develop a permanent and sustainable platform for the skill development of future road design professionals.

# EXECUTIVE SUMMARY

Road design training was conducted to improve the technical skills of the design professionals working in road planning and construction firms in Kosovo with a focus on designing and building quality roads based on international standards, guidelines and practices. Course materials for the training were developed to provide participants with a good understanding of the road design fundamentals, importance of using uniform design standards, and various steps of project planning process. The complete training task consisted of approximately 30 hours of training in one week in a classroom setting.

The training material focused on geometric design of roadways. The training stressed on the importance of project planning and provided participants with roadway project planning process. The course material provided examples using AASHTO standards and UK design standards for road design. The participants will complete a road design project including design of horizontal and vertical alignment, developing cross-sections, and determining the quantities of earthwork. Sixteen participants successfully attended 30 contact hours over 5 days period and are currently engaged in completing the project work in order to receive their completion grade in the subject of Road Design from the University of Prishtina.

In an effort to develop in-house skills for continuation of this training effort, Dr. Kabashi, Dean of Civil Engineering at University of Prishtina asked Mr. Esat Gashi, a teaching assistant at the University of Prishtina, to be present and to help with the teaching during this year's training effort. As a result of this exercise, it is possible that future training in the subject of Geometric Design may be conducted by University of Prishtina faculty with supervision and support from Texas Transportation Institute, as a next step towards developing satisfactory in-house skills for the training.

# FIELD ACTIVITIES TO ACHIEVE PURPOSE

Road design training was consisted of Geometric Design of Highways completed over a period of five days in a classroom setting. Training participants were enrollees of the Road Design Master Degree program at the University of Prishtina. Sixteen participants attended the training which was held at Department of Civil Engineering, University of Prishtina, Prishtina. Following paragraphs describe the training content and certification. TTI staff, Ms Roma Stevens delivered the training and was the instructor for this course during the previous training and was selected to deliver this training based on her area of expertise. Table 1 shows contact information of instructors who delivered the training.

Table 1. Contact Details of Training Instructor

Instructor	Course	Title	Agency	Email
Roma Stevens	Geometric Design	Assistant Research Engineer	TTI	r-stevens@ttimail.tamu.edu

In an effort to develop in-house skills for continuation of this training effort, Dr. Kabashi, Dean of Civil Engineering at University of Prishtina asked Mr. Esat Gashi, a teaching assistant at the University of Prishtina, to be present and to help with the teaching during this year's training effort. Mr. Esat Gashi was a participant in the last year's training and works as a road design consultant (part-time) with private companies in Kosovo. During this year's training, he assisted Ms. Stevens by keeping attendance records, preparing some exercise problems for the participants, and preparing and administering the example design project required for course completion certificate. In addition, Mr. Gashi delivered a two hour lecture class using Ms. Stevens' training material. As a result of this exercise, it is possible that future training in the subject of Geometric Design may be conducted by University of Prishtina faculty with supervision and support from Texas Transportation Institute, as a next step towards developing satisfactory in-house skills for the training.

Training material focused on geometric design of roadways and transportation planning principles. The course material provided examples for roadway design using AASHTO standards and UK design standards and used field trips to demonstrate certain concepts such as intersection design. An exercise design project requiring participants to design horizontal alignment, vertical alignment, cross-sections, and earthwork quantities will provide a thorough understanding of applying the design steps as well as coordinating different components of geometric design of a roadway and make it work as a whole. Sixteen participants successfully completed the training which consisted of 30 contact hours over five days.

**Training Certification** - The training course is a required component of the Road Design Master Degree Program at the University of Prishtina. A satisfactory completion grade for the training course is part of the requirements to be fulfilled by the students in order to get the diploma certificate in Road Design from University of Prishtina. The course content and contact hours were designed as per university requirements. Participants successfully completing the training (who meet the attendance, completion of example design project, and passing score in the exam at the end of the semester) will receive a completion confirmation for this course. An electronic copy of the training material was provided to each of the training participants.

**Participants** – A list of participants who successfully completed the training course is presented in Table 2.

Table 2. List of Participants

<b>Name</b>	<b>Training Course</b>
Besart Ibrahim	Completed
Syzana Pllana	Completed
Drita Hasanaj	Completed
Zejnepe Morina	Completed
Lavdim Ramaj	Completed
Gezim Loshaj	Completed
Arton Qorri	Completed
Ermal Beqiraj	Completed
Burim Hasanaj	Completed
Valzim Mziu	Completed
Agim Krasniqi	Completed
Agan Ramadani	Completed
Visar Rexhepi	Completed
Lavdit Sherifi	Completed
Osman Kajtazi	Completed
Veprim Aslani	Completed

# TASK FINDINGS

Training course provided participants the opportunity to learn principles of geometric design of roadways while applying international standards, guidelines and policies. This being a first batch of engineers who are receiving formal education and training in the areas of road-design, there was huge interest and enthusiasm among students and university staff for this training course.

Instructor had fruitful discussions with participants during, after and in-between lectures that suggested that the training course is useful to the participants and will stress the need for quality design and construction of roads. The training course also provided participants with not only understanding of quality design and construction fundamentals, but also made participants familiar with available resources for future reference.

In addition to the topics specified in the training outline, instructor stressed the importance of public involvement in transportation planning process as well as the use of good solid engineering judgment and documentation during design and decision making stages.

Participant attendance and feedback and evaluation forms from the participants indicated training objectives were met for over 90% of the participants. Participants continued interest in completing the example design project also suggested good delivery of the material by instructor and equally good understanding by the participants.

Mr. Esat Gashi was a great help to Ms. Stevens during this training effort providing both technical and general support during training sessions, translating help for certain technical terms as needed to help improve participant understanding, and administering the currently on-going example design project.

# CONCLUSIONS AND RECOMMENDATIONS

Based on the discussions during training delivery, instructors found training course to be very useful for the participants. Project team feels this training was a success in achieving its goals and recommend that University of Prishtina staff work with TTI to continue future training for this course and other road design courses, and to develop satisfactory in-house skills for the long-term success of the Road Design Master Degree Program at the University of Prishtina.

# ANNEXES

**Syllabus**  
**Course materials**