Certified Courses

Professional Certificate

Road and Infrastructure Maintenance

INTRODUCTION

- This Road and Infrastructure Maintenance training course will help the participants to understand the need to adequately address road maintenance issues to enable the reduction of lifecycle costs of the road network and infrastructure. Traditionally, activity in the roads sub-sector has focused on the design and construction of new roads. Still, as the road networks have substantially completed in many countries, the focus is shifting to maintaining existing roads.
- Companies involved in road maintenance should, therefore, understand that road maintenance is a fundamentally different process from that of building new roads, as the construction activity usually involves projects with a defined start and finish, but maintenance is continuous.
- Engineering issues dominate design and construction; maintenance is essentially a management problem. The improvement of maintenance often involves institutional reform, human resource development, and changes to management practices before addressing technical issues, as these are the main elements of the road maintenance philosophy.

This training course will highlight:

- Lifecycle Cost of the Road Network
- Maintenance Management Planning and Execution
- Development of Maintenance Strategies
- Maintenance Prioritization
- Budgeting and Financial Issues related to Road Maintenance
- Implementation of Modern Tools and Technologies in Road Inventory Management
- Maintenance Sustainability

OBJECTIVES

- This Road and Infrastructure Maintenance training course focuses on providing the delegates with suitable knowledge of the issues happening in Road Maintenance and the solutions to the problems which the countries and institutions are facing.

At the end of this training course, participants will learn to:

- Understand the importance of Road Maintenance Management
- Plan and prioritize the road maintenance based on the multiple criteria decision making
- Create a Road Management Plan
- Identify possible improvement options for the present maintenance program
- Evaluate complex Road Maintenance Programs and Plans

TRAINING METHODOLOGY

- The participants to this course will receive detailed training on the subjects covered by the course outline utilizing a variety of adult learning techniques, with the focus on case studies and solving actual problems through the guided examples, which will be relevant to the particular stage of the country development. The instructor will use a theoretical basis, extended onto the practical examples of success and mistake stories, backed up with the videos and tabletop exercises.

ORGANISATIONAL IMPACT

- The organization will develop a structured and useful method to implement Road Maintenance Management solutions, manage to cut costs and improve their organization workflow through the proper Road Maintenance systems.

The participants in this training course will:

- Reduce Lifecycle Cost of the Road Network
- Developing an Innovation within the Maintenance Planning
- Benefiting from the understanding of common issues in Road Maintenance Plans, Programs and Management
- Adopt an organized and planned way Road Maintenance Management
- Reduce costs through improvement of Road Maintenance

PERSONAL IMPACT

- This Road and Infrastructure Maintenance training course will give the participants the knowledge they need to understand maintenance planning, design plans and programs as well as regulations. This will feature a series of exercises and analyses that will help participants remember and later apply their skills successfully.

The participants will gain or enhance their understanding by the following:

- Adopt an adequate plan for Road Maintenance
- Calculate the lifecycle cost of the road
- Learn the process of road and infrastructure Maintenance planning
- Understand the impact of Road and Infrastructure Maintenance on-road lifespan
- Address the traffic and environmental impact of the road lifecycle

WHO SHOULD ATTEND?

- This Road and Infrastructure Maintenance training course is designed for all decision-makers, engineers and other participants in Road and Infrastructure Maintenance sectors, as well as traffic and transport planning and organization within the political, technical, transport and environmental sectors.

This training course is suitable for a wide range of professionals but will greatly benefit:

- Project Managers
- Traffic Engineers
- Civil Engineers
- Highway and Road Engineers
- Consultants and Contractors in Maintenance process
- Researchers, Consultants and all Practitioners in traffic engineering, involving in management, analytics, optimization, project management and traffic optimization in Maintenance progress
- Engineers, Engineering Technologist and Project Managers working for Local Government, or State / Federal Agencies

Course Outline

Road Infrastructure as an Asset

- Introduction
- Purpose of Road Maintenance Activities
- Road Network Inventory
- Prevention of Road Deterioration
- Road Maintenance Management Activities

Monitoring and Actions

- Classification of Road
- Monitoring of Surface Condition
- Variables Used in Road Condition Monitoring
- Factors Affecting Lifetime of the Road
- Pavement Rehabilitation
- Pavement Recycling

Road Maintenance Project Management

- Maintenance Operations
- Road Surfaces
- Shoulders & Approaches
- Roadsides
- Bridges, Tunnels & Drainage Structures
- Traffic Controls & Safety Devices
- Control of Snow & Ice and Dune and Sand
- Road Maintenance and Construction
- Pavement Condition
- Pavement Resurfacing
- Work Zones
- Road Maintenance Program
- Road Maintenance Goals and Performance Measure

Road Maintenance Plan

- Road Improvement Project Plan
- Project Strategy and Project Proposal
- Deliverables
- Road Survey Overview
- Road Survey Preliminary Analysis
- Communication Plan
- Road Maintenance Quality Issues
- Preventive Road Maintenance
- Road Emergency Repairs
- Road Rehabilitation
- Road Reconstruction

Other Engineers' Tools in Service of Road Maintenance

- LIDAR Systems
- Road Inventory through Point Cloud Data Collection
- Traffic Data Collection and Big Data
- Road Safety Audit
- Road Design
- Intelligent Transportation System (ITS)

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