Arabian Institute For Training

Megaproject Management in Traffic Engineering

INTRODUCTION

- This Megaproject Management in Traffic Engineering training course will present the next step in solving challenges in megaprojects related to traffic and transportation planning and management of the mobility within the urban areas as well as between the urban areas.
- This will emphasize the unprecedented planning and engineering involved in megaprojects related to the traffic engineering, as they most often if not always encounter delays, cost overruns and even from time to time different technical failures, therefore underscoring the requirements for adequate planning, risk management and improvement through design in the traffic and transportation projects, as they are quite often dependent on the traffic flows and the behavior of the people that use the network.

This training course will highlight:

- The stakeholders in megaprojects related to traffic and transport
- Defining characteristics of megaprojects
- Mega-risks associated with megaprojects
- Time and money management in megaprojects
- Improvement while under construction
- Technical complexities of megaprojects related to traffic
- Overdesign or under-design issues in megaprojects
- Complex Dynamics of Traffic Management

OBJECTIVES

By the end of this training course, participants will be able to:

- Understand the issues related to the high number of stakeholders in megaprojects
- Use adequate techniques of time and money management in megaprojects
- Create a risk management adaptive planning approach for the megaprojects
- Evaluate complex dynamics of traffic management in a modern environment
- Plan and prioritize the traffic engineering activities in megaprojects
- Identify possible improvement options while the megaproject is ongoing
- Remove the problems of over or under design

TRAINING METHODOLOGY

- The participants will receive thorough training on the subjects covered by the course outline utilizing a variety of adult learning techniques tailor-made for the application in the traffic engineering discipline. The focus on actual case studies from Europe, Asia, US, and developing countries and solving of actual problems through the guided examples. The Instructor will use a theoretical basis, extended onto the practical examples of issues addressed in different projects, with the videos and tabletop exercises.

ORGANISATIONAL IMPACT

- The organizations will acquire a structured and effective method to understand the common pitfalls that have plagued most of the megaprojects, especially focusing on the overestimation of demand and underestimation of costs associated with traffic engineering megaprojects.
- Benefiting from the understanding of common issues in traffic engineering megaprojects
- Adopt an organized and planned way megaprojects management
- Improve the risk identification and risk management practices in traffic engineering megaprojects
- Improve its responses to under or over design issues
- Reduce costs through improvement while under construction
- Developing an innovation within the megaproject planning
- Reduce costs and time required for traffic engineering projects construction
- Improve the management of public funds in traffic engineering megaprojects

PERSONAL IMPACT

- All participants will gain a deep and solid understanding and practical experience in working on traffic engineering megaprojects, as the learning by doing approach to traffic engineering projects has proven itself to be quite costly and risky.

This training course will personally benefit the participants by providing:

- Learn how to prepare adequate designs and cost evaluations
- Develop an adequate conceptual design which can be adopted as the time progresses
- Learn the risks that are common to all megaprojects
- Use the modern institutional lessons on making transport infrastructure policy
- Planning and budgeting for extended schedules
- Recognize the proper way of ensuring the robustness of traffic engineering megaprojects
- The tie-in between existing infrastructure and planned infrastructure

WHO SHOULD ATTEND?

- This Megaproject Management in Traffic Engineering training course is beneficial for who is involved or can be involved in megaprojects related to road, rail, port, airport and other mobility infrastructure.

  This training course is a suitably wide range of professionals but will significantly benefit:

- Project Managers
- Highway and Road Engineers
- Traffic and Transportation Planners
- Incident Response Team Members
- Application Designers
- Law Enforcement Professionals
- IT Professionals

Course Outline

What are Megaprojects?

- Megaproject Definition
- Megaproject Framework
- Characteristics of Megaprojects
- Collaborative Partnerships in Megaprojects
- What can Constitute a Megaproject?

Traffic Management Complexity

- Standard Traffic Theories and their Failure in Real World Applications
- The New Paradigms
- Three-Phase Traffic Theory
- Empirical Nature of Traffic Breakdown
- Congested Pattern Control Approach
- Importance of Traffic Demand Planning in Megaprojects

Megaproject Risk Management

- Cost / Benefit Analysis of Wider Issues of Megaprojects
- Risk Management Framework for Megaprojects
- Risk Management Optimization

Megaproject Cost Management

- Megaproject Governance Framework – Incorporation of Multiple Governance Frameworks
- Scope Management of Megaprojects
- Triple Constraint
- The Megaproject Budget Process and Cost History
- Cost Centers and Cost Management Teams
- Strategies to Avoid Scope Creep and Cost Escalation
- Structured Change Process through the Time of Project Delivery

Dynamic Schedules in Megaprojects

- Impact of Design Development on Schedule
- Parallel Schedules
- Impact of Simultaneous Operations
- Scope Evolution and Scope Creep Planning
- Lessons from Different Megaprojects: EU, Asia, USA, Africa

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