CONCEPT

Road and Highway Project Management: Pavement Delivery, Quality Testing and Handover

8 – 12 February 2027
Barcelona - Eixample district four-star



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Ref: 124_9790 **Date:** 8 – 12 February 2027 **Location:** Barcelona - Eixample district four-star **Fees:** 23500 SAR

Introduction:

Road and highway project management fails most often at the interfaces: utilities found late under the carriageway, paving started on an unproven subgrade, traffic diversions that stall production and variations agreed without cost records. Each gap adds cost and shortens pavement life. This Core Concept course equips owners' engineers, contractors' project managers and supervision consultants to run a road scheme from feasibility and design review through earthworks, paving, testing and handover. Participants work on a road corridor case and leave with a Road Project Delivery and Quality Control Plan for their own scheme.

Course Objectives:

- Review road design packages for alignment, pavement structure and drainage gaps before construction starts
- Sequence earthworks, subgrade, base and asphalt or concrete paving so that each layer is tested and accepted before the next is placed
- Plan temporary traffic management, utilities relocation and right-of-way release so they do not hold up the paving front
- Prepare a quality control testing plan with compaction and materials test frequencies, acceptance criteria and non-conformance handling
- Control road construction productivity, cost and variations using quantities, crew outputs and earned value on linear works
- Produce a Road Project Delivery and Quality Control Plan covering supervision, safety audit stages, handover and maintenance

Target Audience:

- Owner-side engineers who approve road designs, monitor contractors and certify completed works
- Contractor project and construction managers accountable for road programme, output and margin
- Supervision consultant resident engineers and inspectors who accept layers and witness testing
- Highway planning and cost managers who track quantities, productivity and variations
- Infrastructure programme managers who coordinate utilities, land and traffic interfaces on road corridors

Course Outline:

Day 1: Road Project Lifecycle and Corridor Context

- Road Project Lifecycle: Feasibility, Design, Tender, Construction and Handover Gates
- Design Review Checklist for Alignment, Cross-Sections and Drainage
- Right-of-Way Acquisition Status Mapping Along the Corridor
- Utilities Survey, Clash Register and Relocation Sequencing
- Road Scheme Baseline Assessment Using a Corridor Risk Register

Day 2: Pavement Types, Design Inputs and Layer Standards

- Flexible, Rigid and Composite Pavements: Selection Criteria for Managers
- Pavement Structure Layers: Subgrade, Subbase, Base Course and Wearing Course
- Design Inputs: Traffic Loading, Service Life and Subgrade Strength
- Asphalt Mix Design Approaches: Marshall Method and Superpave Overview
- Concrete Pavement Jointing Systems: JPCP, JRCP and CRCP

Day 3: Earthworks, Paving Sequence and Traffic Management

- Cut-and-Fill Balance and Mass-Haul Diagram for Earthworks Planning
- Subgrade Preparation, Layer Thickness and Moisture Control Procedure
- Hot Mix Asphalt Paving Train: Plant Output, Haul Cycle and Joint Placement
- Temporary Traffic Management Plan: Diversions, Phasing and Night Works
- Linear Scheduling and Time-Location Charts for Road Crews

Day 4: Quality Testing, Cost Control and Delivery Risks

- Quality Control Testing Plan: Proctor Reference Density and Field Density Checks
- Aggregate, Bitumen and Concrete Material Acceptance Testing Frequencies
- Non-Conformance Reports and Layer Rework Decisions
- Variation Valuation, Quantity Remeasurement and Earned Value on Linear Works
- Road Safety Audit Stages from Feasibility to Post-Opening

Day 5: Road Corridor Case and the Delivery Plan

- Dual Carriageway Case: Utilities, Diversion and Paving Clash Resolution
- Contractor Supervision Matrix and Layer Acceptance Records
- Handover Documentation, Snagging and As-Built Pavement Records
- Maintenance Planning: Defects Period Inspections and Pavement Condition Monitoring
- Road Project Delivery and Quality Control Plan Drafting and Peer Review

Skills You Will Gain:

- Road Design Review
- Pavement Layer Sequencing
- Earthworks Planning
- Construction Traffic Management
- Utilities and Right-of-Way Coordination
- Compaction and Materials Testing
- Linear Works Cost Control
- Road Handover Planning

Why Attend This Course:

- Return with a Road Project Delivery and Quality Control Plan built around your own road or highway scheme
- Stop paving from starting on unaccepted layers by setting clear test hold points and records
- Keep production moving by resolving utilities, land and traffic diversion constraints ahead of the paving front
- Compare road delivery practice with owners, contractors and consultants from urban, rural and expressway projects

Conclusion:

A road is only as durable as the least controlled layer beneath it and only as timely as its slowest interface. This course moves from the project lifecycle, design review and corridor constraints, through pavement types and design inputs, to earthworks, paving sequence, traffic management, testing, cost and variations. The final day applies that material to a dual carriageway case and produces a Road Project Delivery and Quality Control Plan that participants use to supervise contractors, accept works and plan maintenance after handover.