Municipal Roadway Pavement Design and Construction Practice Course

7 – 11 December 2026
Addis Ababa

AGILE LEADERS
Training Center

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Ref: 545_223763 **Date:** 7 – 11 December 2026 **Location:** Addis Ababa **Fees:** 6000 Euro

Overview

Municipal Roadway Pavement Design and Construction Practice Course is a one-week intermediate course for municipal road engineers, pavement designers, construction supervisors, public works teams, and consultants who leave with a Municipal Pavement Design and Construction Plan. Participants connect traffic, subgrade, pavement structure, materials, drainage, construction controls, field checks, and defect evidence. The course turns project inputs into traceable design and acceptance decisions. Agile Leaders Training Center presents municipal roadway pavement practice through design-to-handover evidence.

Who Should Attend

- Teams responsible for municipal roadway pavement design and technical review
- Personnel who supervise pavement materials, placement, compaction, and field controls
- Functions that investigate subgrade, traffic loading, drainage, and pavement distress
- Staff who coordinate public works delivery, inspection, acceptance, and handover
- Consultants who prepare pavement alternatives and construction recommendations

The course assumes participants can read roadway drawings, material reports, and field records, and it leaves out geometric highway alignment, bridge design, general asset maintenance, and software-only drafting.

Departments and Industries

The course supports departments and industries that design, construct, inspect, or accept municipal roadway pavements.

- Municipal engineering, public works, and infrastructure delivery
- Road design consultancies and construction supervision services
- Asphalt production, aggregates, testing laboratories, and contractors
- Utilities, industrial estates, logistics parks, and property development
- Transportation agencies, campuses, healthcare estates, and public facilities

Learning Objectives

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

- Analyze traffic, climate, subgrade, and drainage inputs for pavement decisions
- Compare flexible and rigid pavement structure alternatives
- Evaluate aggregate, asphalt, concrete, and layer material requirements
- Build construction control and inspection checkpoints
- Diagnose pavement defects from field and test evidence
- Prioritize acceptance actions and compile a pavement delivery plan

Course Agenda

Day 1: Pavement Design Basis

- Municipal Roadway Context and Design Scope Map
- Traffic Loading and Equivalent Axle Assessment
- Subgrade Investigation and Strength Classification Sheet
- Climate, Moisture, and Drainage Input Register
- Pavement Design Criteria and Constraint Brief

Day 2: Pavement Structure Selection

- Flexible Pavement Layer Configuration Method
- Rigid Pavement Slab and Support System Method
- Mechanistic-Empirical Response and Distress Logic
- Pavement Alternative Comparison Matrix
- Drainage Interface and Edge Detail Checklist

Day 3: Materials and Mix Controls

- Aggregate Source and Gradation Control Plan
- Asphalt Binder and Mixture Selection Worksheet
- Concrete Pavement Material Requirement Sheet
- Base, Subbase, and Stabilization Decision Guide
- Material Sampling and Test Schedule

Day 4: Construction and Acceptance

- Pavement Construction Sequence and Hold-Point Plan
- Subgrade and Layer Compaction Control Chart
- Asphalt Production, Placement, and Density Checklist
- Concrete Placement, Jointing, and Curing Checklist
- Defect, Nonconformance, and Acceptance Decision Log

Day 5: Municipal Pavement Practice

- Exercise: Interpret Traffic and Subgrade Evidence
- Exercise: Compare Flexible and Rigid Pavement Options
- Exercise: Build Material and Construction Controls
- Exercise: Diagnose Defects and Decide Acceptance Actions
- Capstone Exercise: Municipal Pavement Design and Construction Plan

Practical Exercises

The course uses suggested activities to turn design inputs and construction evidence into a traceable pavement delivery decision.

- Suggested activity: organize traffic, subgrade, moisture, and drainage evidence in a design-basis register.
- Suggested activity: compare pavement alternatives against performance, constructability, materials, and interface criteria.
- Suggested activity: prepare inspection hold points, sampling requirements, compaction checks, and acceptance records.
- Suggested activity: assemble the selected structure, controls, defect responses, and handover evidence into a Municipal Pavement Design and Construction Plan.

FAQs

Who suits the municipal roadway pavement design course and what does it assume?

It suits professionals responsible for pavement design, construction, inspection, or acceptance and assumes they can interpret roadway drawings, material reports, laboratory results, and field records.

How does municipal roadway pavement design differ from geometric road design?

Municipal roadway pavement design selects and verifies the load-carrying layers, materials, drainage interfaces, and construction controls, while geometric road design addresses alignment, cross-section geometry, sight distance, and intersection layout.

What inputs support a municipal pavement structure decision?

Pavement structure decisions use traffic loading, subgrade strength, climate and moisture exposure, drainage conditions, material properties, constructability, distress risk, available test evidence, and project constraints.

How are municipal pavement construction defects evaluated?

Defects are evaluated by locating the symptom, tracing possible material or process causes, reviewing test and inspection evidence, defining the affected extent, and recording an acceptance, repair, or investigation decision.

How are flexible and rigid municipal pavement options compared?

Flexible and rigid options are compared through structural response, material availability, drainage needs, jointing, construction sequence, quality controls, expected distress modes, access constraints, and handover requirements.

Conclusion

Participants take back a Municipal Pavement Design and Construction Plan containing the design basis, selected structure, material controls, inspection points, defect decisions, and acceptance evidence. It links municipal roadway pavement choices to site and construction information. The plan supports consistent technical review and handover without replacing project-specific engineering approval.