

Transport Infrastructure Performance and Maintenance Training Course

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Overview

Transport Infrastructure Performance and Maintenance Training Course is a one-week intermediate course for transport asset, maintenance, inspection, operations, and public works functions who leave with a Transport Infrastructure Performance and Maintenance Plan. The course connects road, bridge, rail corridor, and associated-asset condition with service outcomes, deterioration, risk, lifecycle choices, work priorities, and resource allocation. Participants distinguish condition from performance and turn governed evidence into reviewable maintenance programs. Agile Leaders Training Center delivers this course on transport infrastructure performance and maintenance.

Who Should Attend

- Functions responsible for transport asset strategy, service outcomes, and lifecycle value
- Teams responsible for road, bridge, rail corridor, and associated-asset maintenance
- Groups responsible for inspections, condition evidence, inventories, and data quality
- Personnel responsible for network operations, work programming, and contractor performance
- Leaders responsible for maintenance priorities, resources, risk, and performance reporting

The course assumes participants already interpret inspection, inventory, maintenance, operational, or performance records and leaves out introductory maintenance methods, detailed structural design, construction project delivery, and equipment-specific repair procedures.

Departments and Industries

The course supports departments and industries that manage transport networks and associated public infrastructure.

- Road and bridge asset management and maintenance
- Rail infrastructure operations and corridor maintenance
- Public works, municipal engineering, and infrastructure services
- Transport authorities, network operators, and engineering consultancies
- Ports, airports, logistics estates, and intermodal facilities

Learning Objectives

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

- Build a governed transport asset condition register.
- Analyze condition evidence against service and performance outcomes.
- Apply deterioration, risk, and lifecycle criteria to intervention options.
- Prioritize maintenance needs across asset classes and corridors.
- Build annual work programs with traceable resource decisions.
- Evaluate performance results and revise maintenance priorities.

Course Agenda

Day 1: Frame Network Performance

- Transport Network and Asset Hierarchy Map
- PIARC Asset Management Strategy Line-of-Sight Canvas
- ISO 55001:2024 Decision-Making and Value Framework
- Condition, Performance, and Service Outcome Distinction Matrix
- Stakeholder Requirement and Network Objective Register

Day 2: Govern Condition Evidence

- Asset Inventory and Location Data Model
- Inspection Evidence and Condition Rating Protocol
- Road, Bridge, and Rail Data Quality Checklist
- Defect, Failure Mode, and Consequence Register
- Condition Survey Frequency and Update Decision Tree

Day 3: Measure Service and Risk

- Network Level of Service Framework
- Input, Output, Outcome, and Efficiency Measure Set
- Performance Indicator Definition and Validation Sheet
- Deterioration Trend and Intervention Trigger Model
- Asset Criticality, Risk, and Resilience Matrix

Day 4: Program Lifecycle Maintenance

- Preserve, Maintain, Rehabilitate, and Renew Options Comparator
- Lifecycle Cost, Risk, and Service Trade-Off Scorecard
- Cross-Asset Maintenance Prioritization Method
- Annual Maintenance Work Program and Resource Board
- Contractor Output and Service Performance Review Pack

Day 5: Practice Performance Management

- Suggested Exercise: Validate a Transport Asset Condition Register
- Suggested Exercise: Build Service Levels and Performance Measures
- Suggested Exercise: Rank Road, Bridge, and Rail Maintenance Needs
- Suggested Exercise: Review Results and Rebalance the Work Program
- Capstone Exercise: Build the Transport Infrastructure Performance and Maintenance Plan

Practical Exercises

The course uses suggested activities to turn transport asset evidence into traceable maintenance decisions.

- Suggested activity: reconcile inspection and inventory records for a road corridor and its structures.
- Suggested activity: define service outcomes and measures for a rail corridor or intermodal facility.
- Suggested activity: compare preservation, rehabilitation, and renewal options using lifecycle, risk, and service evidence.
- Suggested activity: allocate a constrained maintenance program across roads, bridges, rail assets, and associated systems.

FAQs

Who suits transport infrastructure performance and maintenance training, and what does it assume?

Transport infrastructure performance and maintenance training suits asset, maintenance, inspection, operations, engineering, and public works functions that already use inventory, condition, work, service, or performance records.

How does transport infrastructure maintenance differ from general maintenance planning?

Transport infrastructure maintenance connects network service outcomes, condition evidence, deterioration, criticality, lifecycle choices, and cross-asset priorities, while general maintenance planning usually focuses on work preparation and scheduling for individual equipment or facilities.

How are transport infrastructure condition and performance different?

Transport infrastructure condition describes an asset's physical state, while performance describes its ability to provide the required service; a condition change may not affect service immediately, so both require defined measures.

How are transport infrastructure maintenance priorities set?

Transport infrastructure maintenance priorities combine service impact, condition, deterioration, safety, criticality, risk, lifecycle value, deliverability, and resource constraints through documented criteria that can be reviewed across asset classes.

What supports reliable transport infrastructure performance indicators?

Reliable transport infrastructure performance indicators need a clear definition, responsible owner, source data, calculation rule, update frequency, target or threshold, validation check, and link to a service or asset-management objective.

Conclusion

Participants take back a Transport Infrastructure Performance and Maintenance Plan. The plan links asset hierarchy, condition evidence, service levels, indicators, deterioration, risk, lifecycle options, priorities, work programming, resources, and review actions. It changes scattered inspection and maintenance records into a governed basis for network decisions, performance reporting, and recurring program adjustment.

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