INFRASTRUCTURE ASSET MANAGEMENT



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TRAINING CENTER

GENTEX Training Center LLC | Orlando - FL, USA
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Introduction

Infrastructure Asset Management Training Course equips engineers, finance professionals and asset owners to manage long-life infrastructure with evidence and discipline. Participants learn how to build an asset register, assess condition and criticality, and forecast deterioration across roads, water networks, power assets and public buildings. The programme covers life cycle costing, whole-life cost modelling, renewal planning and capital prioritisation within budget constraints. Furthermore, it aligns asset plans with service levels, risk appetite and regulatory expectations. As a result, delegates can justify investment and maintenance decisions with defensible data. Gentex Training Center delivers the programme through asset data workshops and renewal planning case work.

Infrastructure Asset Management Course Objectives

- Explain asset management principles and their application to infrastructure networks.
- Build and maintain an asset register with condition, criticality and valuation data.
- Apply asset valuation approaches including depreciated replacement cost.
- Assess asset condition, defect severity and remaining useful life.
- Apply deterioration modelling and prediction techniques to asset classes.
- Perform life cycle costing and whole-life cost analysis for renewal options.
- Prioritise capital and maintenance investment using risk-based scoring.
- Develop renewal, maintenance and disposal strategies aligned to service levels.
- Apply ISO 55001 asset management system requirements and maturity assessment.
- Prepare asset management plans and reports for boards and regulators.

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Course Methodology

The course combines practical briefings with hands-on asset data workshops and renewal planning case studies. Participants analyse condition data, build life cycle cost comparisons and prepare a prioritised investment plan. In addition, structured peer review and group discussion reinforce each technique, and every day closes with an applied asset management task.

Who Should Take This Course

- Asset managers and asset engineers in public infrastructure.
- Municipal, utility and transport authority professionals.
- Finance and capital planning staff responsible for asset portfolios.
- Maintenance, operations and reliability managers.
- Project managers involved in renewal and upgrade programmes.
- Consultants, auditors and advisers serving infrastructure owners.

Infrastructure Asset Management Course Outlines

Day 1: Asset Management Principles and Frameworks

- Asset management concepts, objectives and value definition.
- ISO 55001 asset management system and its key elements.
- Asset management policy, strategy, objectives and plans.
- Asset hierarchies, registers and data requirements.
- Criticality analysis and asset criticality classification.
- Roles, responsibilities and asset management governance.
- Workshop: designing an asset hierarchy and register for a network.

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Day 2: Condition Assessment and Deterioration Modelling

- Condition assessment methods: visual, testing and sensor-based monitoring.
- Condition grading scales and defect severity classification.
- Data collection, inspection cycles and data quality control.
- Deterioration curves and prediction models for different asset classes.
- Risk of failure, consequence assessment and likelihood scoring.
- Remaining useful life estimation and confidence levels.
- Workshop: building a deterioration model from inspection data.

Day 3: Valuation, Life Cycle Costing and Financial Planning

- Asset valuation: historical cost, fair value and depreciated replacement cost.
- Componentisation and depreciation under IPSAS and IFRS frameworks.
- Life cycle costing across acquisition, operation, maintenance and disposal.
- Whole-life cost comparison of renewal versus replacement options.
- Discounting, inflation and sensitivity in long-term cost models.
- Budgeting and long-term financial planning for asset portfolios.
- Workshop: comparing renewal and replacement on whole-life cost.

Day 4: Investment Prioritisation and Risk-Based Decision Making

- Capital planning frameworks and multi-year investment programmes.

- Risk-based prioritisation scoring and ranking methods.
- Cost-benefit analysis and level of service trade-offs.
- Options analysis, build-versus-maintain and deferral decisions.
- Resilience, climate and asset failure consequence considerations.
- Funding constraints, affordability and phasing strategies.
- Workshop: prioritising a capital programme under budget constraints.

Day 5: Asset Management Plans, Performance and Reporting

- Service level agreements, performance measures and key indicators.
- Maintenance strategies: preventive, predictive and condition-based.
- Asset management plan structure and content.
- Reporting to boards, regulators, auditors and the public.
- Asset management maturity assessment and improvement roadmap.
- Data systems, GIS and asset management software requirements.
- Workshop: presenting an asset management plan before a review panel.

Conclusion

By successfully completing Infrastructure Asset Management Training Course, participants will have acquired the knowledge to manage infrastructure assets across their full life cycle with confidence. They will understand asset registers, condition assessment, deterioration modelling, valuation, life cycle costing and risk-based prioritisation, and they will know how to prepare plans that justify investment decisions. As a result, delegates deliver better service and value from long-life assets. Gentex Training Center builds the programme around current asset management practice.

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FAQs for the Infrastructure Asset Management course

Q1 What is the "Infrastructure Asset Management" course about?

It explains how long-life infrastructure is managed from acquisition through renewal to disposal. You cover asset registers, condition assessment, deterioration modelling, valuation, life cycle costing and risk-based investment prioritisation, with practical data exercises.

Q2 What are the key benefits of the "Infrastructure Asset Management" course?

You gain the evidence to justify maintenance and renewal spending instead of relying on judgement alone. You also improve asset data quality, strengthen long-term financial planning, reduce unplanned failures, and prepare plans that regulators, boards and auditors accept.

Q3 What skills will I gain from the "Infrastructure Asset Management" course?

You will gain asset register and data management, condition assessment and deterioration modelling, asset valuation and life cycle costing, and risk-based investment prioritisation and asset planning.

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Q4 What tools, methods, or standards are covered in the "Infrastructure Asset Management" course?

The course covers the ISO 55001 asset management system, asset registers and hierarchies, condition grading and remaining useful life estimation, deterioration modelling, depreciated replacement cost valuation, componentisation and depreciation under IPSAS and IFRS, whole-life cost analysis, risk-based prioritisation scoring, and asset management maturity assessment.

Q5 How is the "Infrastructure Asset Management" course applied in real-world practice?

Graduates apply it to build and maintain asset registers, interpret inspection and condition data, model deterioration across asset classes, compare renewal and replacement options on whole-life cost, prioritise capital programmes within budget limits, and prepare asset management plans for boards, regulators and auditors.