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COURSE BROCHURE

AI in Urban Planning Training Course for City and Municipal Planners

21 – 25 February 2027
Manama

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Registered in the United Kingdom and Saudi Arabia

AI in Urban Planning Training Course for City and Municipal Planners

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AI in Urban Planning is a 1-week training course for city planners, municipal officials and smart-city project leads that ends with a city AI use-case brief ready for a planning committee. Cities now hold more mobility, land-use and sensor records than planners can read by hand, and machine learning turns those records into forecasts that shape zoning, transit and housing choices. Jupiter Prime Training runs this AI in Urban Planning course for planning professionals.

Why AI in Urban Planning Matters Now

Three forces shape AI in urban planning today: rapid growth of geospatial and sensor feeds from transport networks and utilities, residents who expect transparent and fair planning outcomes, and municipal budgets that demand evidence before capital is committed. A city that applies machine learning well can test a zoning or transit scenario before it is built; one that applies it badly can lock historic inequities into its land-use maps. The course rests on ISO/IEC 42001, the AI management system standard, and the NIST AI Risk Management Framework NIST AI RMF for judging model risk in public decisions.

Who Gains Most from AI in Urban Planning

- Professionals responsible for land-use plans, zoning proposals and development control decisions
- Staff who forecast travel demand and plan transit corridors, parking and road capacity
- Officials who commission geospatial platforms, sensor networks and city digital twins
- Managers who brief elected councils and committees on growth and infrastructure scenarios
- Specialists who handle resident consultation, equity reviews and environmental assessments

A municipal planning department gains most when its land-use, transport and GIS staff attend together and leave with one shared vocabulary for scoping and judging AI models.

AI in Urban Planning Capabilities

Participants move from spotting where a model fits a planning question to defending its output before a committee and the public.

- Assess which planning questions suit machine learning, simulation or simple rules — the scoping decision
- Specify the geospatial, mobility and census inputs a planning model needs — GIS and data owners
- Weigh forecast accuracy against transparency and spatial fairness — elected councils and residents
- Test land-use and transport scenarios inside a city digital twin — capital investment boards
- Apply risk controls from ISO/IEC 42001 and NIST AI RMF to municipal models — audit and legal staff
- Communicate model limits and uncertainty in plain language — planning committees and community groups

Key AI in Urban Planning Terms

- Digital twin — a live virtual model of a city or district that mirrors assets and flows so planners can test changes before building them.
- Land-use model — a model that predicts how housing, jobs and services will locate across zones under different policies.
- Travel demand forecasting — estimating future trips by mode, route and time to size roads, transit and parking.
- Geospatial machine learning — algorithms that learn patterns from mapped data such as parcels, imagery and street networks.
- Spatial bias — systematic error that makes a model favour or disadvantage particular neighbourhoods or groups.
- Scenario planning — comparing several plausible futures side by side so a city chooses policies that hold up under each.

AI in Urban Planning Day by Day

Day 1: The City as a Data System

- Urban Data Landscape Mapping — Where Planning Evidence Already Exists
- Machine Learning, Simulation and Rules — Matching Method to Planning Question
- Smart-City Use Case Inventory — Which Problems Deserve a Model
- Stakeholder Map of Residents, Councils and Utilities — Who Is Affected
- Public-Sector AI Ethics Principles — Limits on Automated Planning Choices

Day 2: Geospatial Intelligence for Land Use

- GIS Layers, Parcels and Satellite Imagery — Inputs for Land-Use Models
- Land-Use Change Prediction — Zoning and Density Proposals
- Remote Sensing Classification — Monitoring Informal Growth and Green Cover
- Housing Demand Models — Allocating Sites for New Neighbourhoods
- Spatial Bias Checks — Fair Treatment of Districts and Communities

Day 3: Mobility Forecasting and Transit Planning

- Travel Demand Forecasting With Machine Learning — Corridor and Mode Choices
- Mobile and Smart-Card Trip Records — Origin-Destination Matrices
- Traffic Signal and Congestion Prediction — Road Capacity Investment
- Accessibility Scoring to Jobs and Services — Equity of Transit Coverage
- Parking and Kerbside Demand Models — Pricing and Space Allocation

Day 4: Digital Twins and Model Assurance

- City Digital Twin Architecture — Scope, Sensors and Update Frequency
- Scenario Testing for Flood, Heat and Growth — Resilience Investment
- ISO/IEC 42001 Controls for Municipal Models — Accountability and Records
- NIST AI RMF Map, Measure, Manage — Planning Model Risk Register
- Explaining Uncertainty to Committees — Confidence in Recommended Options

Day 5: Practising the City AI Use-Case Brief

- Use-Case Scoring Matrix From Day 1 — Selecting One Priority Project
- Data and Model Specification From Days 2 and 3 — Feasibility Check
- Risk Register From Day 4 — Safeguards and Human Sign-Off Points
- Resident Consultation Plan — Communicating Model-Informed Proposals
- City AI Use-Case Brief — Committee-Ready Project Recommendation

Applying AI in Urban Planning After the Course

- Run a use-case scoring session with land-use, transport and GIS colleagues to rank three candidate planning models by value, data readiness and spatial bias risk.
- Draft a model risk register for one existing traffic or land-use model, using NIST AI RMF functions to record owners, limits and review points.

AI in Urban Planning Questions FAQ

What is AI in urban planning and why does it matter now?

AI in urban planning is the use of machine learning, geospatial models and digital twins to forecast land use, travel and growth. It matters now because cities hold far more sensor and mobility records than staff can read, and councils expect evidence before approving costly infrastructure.

Which roles gain most from AI in urban planning training?

Land-use planners, transport modellers, GIS staff and smart-city project leads gain most. Officials who brief councils also benefit, because they learn to question model outputs, explain uncertainty and spot spatial bias before a recommendation reaches a vote.

How does AI in urban planning differ from a general AI for business course?

It focuses on spatial and public-sector questions rather than commercial use cases. You work with parcels, travel matrices and city digital twins, and judge models by fairness across neighbourhoods and public accountability, not by revenue or customer metrics.

What do you bring back from AI in urban planning training?

You bring back a city AI use-case brief for one priority planning project. It covers the question, data sources, model choice, risk safeguards and consultation steps, and it can go straight to a planning committee or project board.

AI in Urban Planning: The Way Forward

The city AI use-case brief gives a planning department its first evidence-based decision: which project to model first and under what safeguards. Planning managers, GIS leads and committee clerks use it to secure data access and sign-off. After the first model runs, revisit the spatial bias checks and accessibility scores, since early forecasts often reveal neighbourhoods the original data underserved.