Traffic Impact Assessment (TIA) Training Course

Professional Development Training Course Outline

Category	Construction Institute	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

The Traffic Impact Assessment (TIA) Training Course is designed to equip professionals with advanced skills in traffic modelling, transportation planning, mobility management, road network analysis, and sustainable urban development. As cities experience rapid urbanization, smart city expansion, and increasing mobility challenges, professionals require practical expertise in evaluating the effects of new developments on existing transportation systems. This course provides in-depth knowledge of traffic forecasting, intersection analysis, trip generation, capacity assessment, traffic simulation tools, and data-driven transportation solutions aligned with global best practices.

Through real-world applications and industry case studies, participants will learn how to prepare effective Traffic Impact Assessment Reports, analyze transportation demand, evaluate infrastructure performance, and recommend mitigation strategies for residential, commercial, industrial, and mixed-use developments. The program integrates smart mobility concepts, intelligent transportation systems (ITS), sustainable transport planning, and GIS-based traffic analysis to support modern infrastructure decision-making and create safer, efficient, and resilient transportation networks.

Programme Curriculum

Traffic Impact Assessment (TIA) Training Course

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Course Objectives

By the end of this Traffic Impact Assessment Training Course, participants will be able to:

1. Understand the fundamentals and applications of Traffic Impact Assessment (TIA) in modern transportation planning.
2. Develop expertise in traffic engineering principles, transportation modelling, and network performance evaluation.
3. Apply advanced techniques for traffic data collection, analysis, and interpretation.
4. Conduct accurate trip generation, trip distribution, and traffic assignment studies.
5. Evaluate road capacity, intersection operations, and Level of Service (LOS) performance.
6. Prepare professional Traffic Impact Assessment Reports based on international standards.
7. Use traffic simulation and modelling approaches for predictive transportation analysis.
8. Analyze the impact of new developments using sustainable mobility planning strategies.
9. Apply GIS technology and spatial analysis in transportation studies.
10. Design effective traffic mitigation and congestion management solutions.
11. Understand the role of Smart Cities, Intelligent Transportation Systems (ITS), and connected mobility.
12. Improve decision-making through data analytics and evidence-based transport planning.
13. Develop practical solutions for future-ready urban mobility and infrastructure resilience.

Target Audience

1. Transportation Engineers and Highway Engineers
2. Traffic Planners and Urban Planners
3. Civil Engineers and Infrastructure Consultants
4. Government Transport Authorities and Municipal Officials
5. Real Estate Developers and Project Managers
6. Environmental Consultants and Sustainability Professionals
7. GIS Specialists and Transport Modelling Analysts
8. Architects, Urban Designers, and Smart City Professionals

Course Modules

Module 1: Introduction to Traffic Impact Assessment Fundamentals

- Overview of **Traffic Impact Assessment principles and methodologies**
- Role of TIA in **urban planning and infrastructure development**
- Transportation system components and traffic flow characteristics
- Regulatory frameworks and international TIA guidelines

- Steps involved in preparing a comprehensive TIA study
- **Case Study:** Traffic Impact Assessment for a large mixed-use urban development project evaluating future traffic demand and infrastructure requirements.

Module 2: Traffic Data Collection and Analysis Techniques

- Traffic surveys, counting methods, and field data collection
- Origin-Destination (O-D) surveys and travel behaviour analysis
- Peak hour traffic analysis and demand forecasting
- Traffic volume, speed, and congestion assessment
- Big data applications in modern transportation planning
- **Case Study:** Analysis of traffic patterns around a commercial district using real-time mobility data.

Module 3: Trip Generation and Travel Demand Forecasting

- Principles of trip generation analysis
- Land-use-based transportation forecasting
- Trip distribution and modal split analysis
- Future traffic growth prediction techniques
- Application of travel demand models
- **Case Study:** Forecasting traffic impacts of a new residential township development.

Module 4: Road Network Capacity and Intersection Analysis

- Highway and roadway capacity evaluation
- Intersection performance analysis
- Level of Service (LOS) assessment
- Signal timing and traffic optimization strategies
- Congestion identification and improvement planning
- **Case Study:** Intersection improvement study for reducing urban traffic delays and improving road safety.

Module 5: Traffic Simulation and Modelling Applications

- Introduction to traffic simulation concepts
- Microsimulation and macroscopic modelling approaches
- Traffic modelling software applications
- Scenario analysis and future mobility forecasting
- Simulation-based decision-making techniques
- **Case Study:** Using traffic simulation models to evaluate highway expansion alternatives.

Module 6: GIS, Smart Mobility, and Intelligent Transportation Systems

- GIS applications in transportation planning
- Spatial traffic analysis and mapping techniques
- Smart City mobility solutions
- Intelligent Transportation Systems (ITS)
- Connected and automated mobility concepts
- **Case Study:** GIS-based analysis for optimizing public transport accessibility in an urban area.

Module 7: Traffic Impact Mitigation and Sustainable Transport Planning

- Traffic management strategies

- Sustainable transportation solutions
- Public transport integration approaches
- Pedestrian and cyclist mobility planning
- Climate-friendly urban mobility solutions
- **Case Study:** Sustainable mobility plan development for a growing metropolitan city.

Module 8: Preparing Professional Traffic Impact Assessment Reports

- Structure and content of TIA reports
- Technical writing and presentation techniques
- Data visualization and reporting standards
- Review processes and stakeholder communication
- Professional recommendations and implementation strategies
- **Case Study:** Development of a complete Traffic Impact Assessment report for a major infrastructure project.

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

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