Road Safety Engineering 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

Road safety has become a critical global priority due to increasing urbanization, rapid motorization, smart mobility transformation, and the growing demand for safer transportation systems. Road Safety Engineering Training Course is designed to equip professionals with advanced knowledge of Safe System Approach, Vision Zero, traffic safety management, accident prevention, intelligent transport systems (ITS), and data-driven road safety solutions. This comprehensive program focuses on developing practical skills in road crash analysis, highway safety engineering, traffic risk assessment, sustainable mobility planning, and evidence-based safety interventions aligned with international best practices.

The course provides participants with the latest tools and techniques required to design, evaluate, and implement effective road safety strategies, infrastructure improvements, traffic management solutions, and behavioral safety programs. Through real-world case studies, industry practices, and engineering applications, participants will gain expertise in reducing road fatalities, improving transportation efficiency, and creating safer road networks. The program supports professionals in achieving excellence in modern transportation engineering, smart cities, resilient infrastructure, and sustainable road safety development.

Programme Curriculum

Road Safety Engineering Training Course

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Course Duration

5 days

Course Objectives

1. Develop advanced understanding of Road Safety Engineering principles and global safety frameworks.
2. Apply the Safe System Approach and Vision Zero strategies for reducing road fatalities.
3. Master techniques for road crash investigation and accident reconstruction.
4. Perform effective traffic safety audits and risk assessments.
5. Understand black spot identification and hazard mitigation techniques.
6. Implement data-driven road safety analytics and predictive safety models.
7. Design safer highways using modern geometric design and engineering controls.
8. Apply Intelligent Transport Systems (ITS) for smart traffic safety management.
9. Improve knowledge of pedestrian, cyclist, and vulnerable road user safety.
10. Develop expertise in traffic calming, speed management, and urban mobility solutions.
11. Understand international road safety standards, policies, and regulations.
12. Use innovative technologies including AI, GIS, automation, and digital road safety platforms.
13. Develop professional capabilities for implementing sustainable and zero-fatality transportation systems.

Target Audience

1. Road Safety Engineers and Transportation Engineers
2. Highway Design and Infrastructure Professionals
3. Traffic Management Specialists
4. Government Transport Authorities and Road Agencies
5. Urban Planners and Smart City Professionals
6. Police, Enforcement, and Road Safety Officers
7. Construction and Infrastructure Project Managers
8. Consultants, Researchers, and Academic Professionals

Course Modules

Module 1: Fundamentals of Road Safety Engineering

- Evolution of global **road safety management systems**
- Principles of **Safe System Approach and Vision Zero**
- Road safety challenges in developing and developed economies
- Role of engineering, enforcement, and education in safety improvement
- **Case Study:** Sweden’s Vision Zero strategy and global road safety impact

Module 2: Road Crash Investigation and Analysis

- Accident investigation methodologies and reporting systems
- Crash data collection, classification, and analysis techniques
- Accident reconstruction principles and contributing factors
- Human factors and behavioral risk assessment
- **Case Study:** Highway crash investigation and black spot improvement project

Module 3: Traffic Safety Audit and Risk Assessment

- Road safety audit procedures and implementation stages
- Hazard identification and risk evaluation methods
- Safety inspection techniques for existing roads
- Application of international audit guidelines
- **Case Study:** Safety audit improvements on major urban corridors

Module 4: Highway Safety Engineering and Design

- Safe geometric road design principles
- Intersection safety improvement strategies
- Roadside safety and barrier design
- Pavement safety, skid resistance, and visibility enhancement
- **Case Study:** Highway redesign project reducing severe crashes

Module 5: Urban Road Safety and Vulnerable Users

- Pedestrian and cyclist safety engineering
- Safe school zones and community mobility planning
- Traffic calming and speed reduction strategies
- Inclusive transport design for vulnerable users
- **Case Study:** Urban pedestrian safety transformation program

Module 6: Intelligent Transport Systems (ITS) and Digital Safety

- Smart traffic management technologies
- AI-based crash prediction and monitoring systems
- GIS applications in road safety planning
- Connected vehicles and smart mobility solutions
- **Case Study:** Smart city ITS implementation for congestion and crash reduction

Module 7: Road Safety Management, Policy, and Sustainability

- National road safety strategies and action plans
- Performance-based safety management systems
- Sustainable transportation and climate-resilient roads
- Stakeholder coordination and governance models
- **Case Study:** National road safety framework implementation

Module 8: Advanced Road Safety Applications and Future Trends

- Big data analytics for transportation safety
- Autonomous vehicles and future mobility risks
- Digital twins for infrastructure safety planning
- Emerging technologies in accident prevention

- **Case Study:** AI-powered predictive road safety management system

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

Start Date	End Date	Location	Price
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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