Cost-Benefit Analysis for Road Safety Treatments Training Course

Professional Development Training Course Outline

Category	Traffic Management & Road Safety	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Road safety is a critical component of sustainable urban mobility, directly influencing public health, economic efficiency, and societal well-being. Understanding the economic implications of road safety interventions requires a comprehensive framework to evaluate the costs and benefits of various treatments. Cost-Benefit Analysis for Road Safety Treatments Training Course equips professionals with advanced analytical tools, practical methodologies, and data-driven strategies to assess, prioritize, and implement safety interventions effectively. Participants will gain insights into the economic, social, and environmental impacts of road safety projects, enabling informed decision-making that maximizes value and minimizes risk.

Leveraging case studies, real-world datasets, and contemporary risk assessment models, this course offers a hands-on approach to quantify the benefits of road safety treatments against their costs. From intersection improvements to pedestrian safety measures, participants will explore evidence-based techniques to optimize investments, enhance policy effectiveness, and meet international road safety standards. By integrating cost-effectiveness analysis, risk reduction modeling, and safety performance evaluation, this program empowers transport engineers, policymakers, and urban planners to make strategic decisions that save lives, reduce injuries, and promote sustainable transportation systems.

Programme Curriculum

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5 days

Course Objectives

1. Master the principles of Cost-Benefit Analysis (CBA) in the context of road safety.
2. Apply economic evaluation techniques to prioritize road safety projects.
3. Understand traffic crash data analysis for cost and risk assessment.
4. Quantify social and economic costs of accidents.
5. Evaluate road safety treatments using evidence-based approaches.
6. Integrate risk assessment models for injury and fatality reduction.
7. Conduct sensitivity analysis for uncertain safety outcomes.
8. Optimize budget allocation for road safety interventions.
9. Compare engineering, enforcement, and education strategies for cost-effectiveness.
10. Analyze road user behavior and safety interventions impacts.
11. Incorporate sustainable and smart mobility solutions in road safety planning.
12. Develop policy briefs and recommendations using CBA findings.
13. Utilize software and tools for CBA modeling in real-world scenarios.

Target Audience

1. Traffic engineers
2. Transport planners
3. Road safety auditors
4. Urban mobility specialists
5. Highway authorities
6. Policy makers in transport departments
7. Road safety consultants
8. Research scholars in transportation economics

Course Modules

Module 1: Introduction to Cost-Benefit Analysis

- Fundamentals of CBA in road safety
- Key economic concepts and metrics

- Scope of CBA for traffic interventions
- Cost categories: direct, indirect, and intangible
- Case study: Evaluating a city-wide pedestrian crossing program

Module 2: Road Safety Data Collection and Analysis

- Crash data sources and quality assessment
- Traffic volume and exposure analysis
- Accident severity and frequency metrics
- Data cleaning and preprocessing
- Case study: Analyzing intersection crash hotspots

Module 3: Valuation of Accident Costs

- Direct vs indirect accident costs
- Valuation of injuries and fatalities
- Property damage and emergency response costs
- Productivity and societal impact costs
- Case study: Cost analysis of motorcycle accident reduction strategies

Module 4: Economic Evaluation Techniques

- Net Present Value (NPV) and Benefit-Cost Ratio (BCR)
- Internal Rate of Return (IRR) for road projects
- Sensitivity and scenario analysis
- Risk-adjusted economic modeling
- Case study: Cost-benefit analysis of a roundabout installation

Module 5: Road Safety Treatment Options

- Engineering interventions
- Enforcement strategies
- Education campaigns and public awareness
- Technological solutions
- Case study: Evaluating traffic calming measures in urban neighborhoods

Module 6: Prioritization and Decision-Making

- Multi-criteria decision-making (MCDM) in road safety
- Ranking interventions using economic and safety impact
- Incorporating stakeholder preferences
- Integration with urban planning priorities
- Case study: Prioritizing high-risk road segments

Module 7: Implementation and Monitoring

- Project planning and cost tracking
- Performance measurement frameworks
- Monitoring accident reduction outcomes
- Feedback loops and adaptive interventions
- Case study: Post-implementation evaluation of a pedestrian safety project

Module 8: Advanced Topics and Emerging Trends

- Smart mobility and connected vehicles
- AI and predictive analytics for road safety
- Sustainability and green transport initiatives
- Global best practices in CBA
- Case study: AI-based crash prediction and cost analysis in metropolitan roads

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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