Crosswalk Design and Pedestrian Countdown Signals 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

Modern urban mobility depends heavily on safe, intuitive, and well-engineered pedestrian environments. Crosswalk design, paired with Pedestrian Countdown Signals (PCS), plays a critical role in reducing pedestrian risk, guiding foot traffic, and improving the overall walkability of cities. With rising emphasis on smart mobility, Vision Zero strategies, and sustainable transportation, municipalities and engineers are increasingly prioritizing data-driven crosswalk enhancements that protect vulnerable road users.

As cities evolve, transportation professionals must understand not only the engineering principles behind high-visibility crosswalks and signal timing, but also how design choices affect human behavior. Crosswalk Design and Pedestrian Countdown Signals Training Course equips participants with practical tools, technology insights, real-world case studies, and best practices for implementing innovative pedestrian safety infrastructure, leveraging smart sensors, AI-supported traffic control, and universal design standards.

Programme Curriculum

Crosswalk Design and Pedestrian Countdown Signals Training Course

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Course Objectives

1. Understand the fundamentals of high-visibility crosswalk engineering.
2. Apply Vision Zero pedestrian-safety frameworks to road-design decisions.
3. Evaluate Pedestrian Countdown Signal timing using data-driven models.
4. Integrate smart mobility technologies for improved pedestrian experience.
5. Assess the impact of traffic-calming strategies on pedestrian risk reduction.
6. Implement universal design principles that enhance accessibility.
7. Analyze AI-powered traffic control systems supporting pedestrian flow.
8. Examine complete streets policies as they relate to crosswalk planning.
9. Improve compliance with FHWA and MUTCD crosswalk standards.
10. Identify low-cost tactical urbanism upgrades for quick safety improvements.
11. Conduct safety audits using modern pedestrian-behavior analytics.
12. Develop equity-centered crosswalk solutions for underserved communities.
13. Measure outcomes using real-time pedestrian mobility metrics.

Target Audience

1. Transportation Engineers
2. Urban Planners
3. Municipal Traffic Officials
4. Road Safety Auditors
5. Smart-City Technology Developers
6. Civil Engineering Students
7. Pedestrian & Bike Advocacy Groups
8. Public-Works and Infrastructure Managers

Course Modules

Module 1: Fundamentals of Crosswalk Safety Design

- Types of marked and unmarked crosswalks
- Visibility and contrast techniques
- ADA requirements and universal access
- Yielding behavior models
- Liability and compliance considerations
  Case Study: New York City's use of **high-visibility ladder-style crosswalks** to reduce pedestrian crashes.

Module 2: Pedestrian Countdown Signal (PCS) Function & Timing

- PCS operational principles

- Flashing Don’t Walk parameters
- Signal timing optimization
- Age- and ability-adjusted walking speed considerations
- Integration with adaptive signal systems

  Case Study: San Francisco’s PCS upgrade program lowering crash rates at signalized intersections.

Module 3: Smart Mobility Technologies for Crosswalks

- AI-driven pedestrian detection systems
- Push-button vs. automated activation
- Sensor-based real-time analytics
- Connected vehicle (V2X) alerts
- Integration with smart-city infrastructure

  Case Study: Toronto’s deployment of **AI pedestrian sensors** to predict and prevent near misses.

Module 4: Traffic-Calming Strategies for Safer Crossings

- Curb extensions and bulb-outs
- Raised crosswalk designs
- Road narrowing and lane reconfiguration
- Reflective and illuminated pavement markings
- Speed-management tools

  Case Study: Portland’s use of **raised crosswalks** around schools to reduce speeding.

Module 5: Complete Streets & Policy Integration

- Understanding Complete Streets legislation
- Linking crosswalks to multimodal networks
- Sidewalk connectivity planning
- Community engagement strategies
- Funding and policy alignment

  Case Study: Chicago’s citywide **Complete Streets redesign** emphasizing pedestrian priority.

Module 6: Equity & Accessibility in Crosswalk Design

- Serving older adults and people with disabilities
- Language-neutral signal design
- Inclusive urban-design frameworks
- Crosswalk upgrades in underserved areas
- Data-driven equity mapping

  Case Study: Los Angeles’ equity-focused pedestrian improvement program in high-injury neighborhoods.

Module 7: Tactical Urbanism & Low-Cost Improvements

- Temporary pedestrian-refuge islands
- Paint-and-post intersections
- Community-driven design trials
- Quick-build curb extensions
- Evaluation and feedback loops

  Case Study: Miami’s quick-build **paint-and-post safety pilot**, reducing conflicts in dense pedestrian

zones.

Module 8: Evaluation, Metrics & Implementation

- Pre- and post-installation safety studies
- Pedestrian flow and delay measurements
- Crash-reduction analysis frameworks
- Maintenance and lifecycle planning
- Performance dashboards and reporting
  Case Study: Seattle's **pedestrian performance dashboard** tracking real-time crosswalk safety data.

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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