Geofencing and Speed Zoning for Autonomous Vehicle (AV) Cities 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

In the rapidly evolving landscape of smart cities and autonomous vehicles (AVs), precision in geofencing and speed zoning has become crucial to ensuring urban mobility safety, traffic efficiency, and regulatory compliance. Leveraging AI-driven traffic management, IoT-enabled sensors, and real-time data analytics, cities can create dynamic zones that control vehicle behavior, enhance pedestrian safety, and optimize traffic flow. Geofencing and Speed Zoning for Autonomous Vehicle (AV) Cities Training Course equips urban planners, AV developers, and traffic safety professionals with actionable strategies to implement next-generation geofencing and speed zoning solutions tailored for smart mobility ecosystems.

Participants will gain hands-on expertise in designing context-aware geofencing systems, integrating autonomous vehicle navigation data, and enforcing adaptive speed limits in complex urban environments. Through a combination of case studies, interactive simulations, and industry best practices, learners will explore how connected vehicle technologies, machine learning algorithms, and GIS-based mapping can transform urban traffic management. By the end of the course, attendees will be equipped to drive innovative AV policies, enhance road safety, and contribute to the future of intelligent transportation systems (ITS).

Programme Curriculum

Geofencing and Speed Zoning for Autonomous Vehicle (AV) Cities Training Course

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Course Duration

5 days

Course Objectives

By the end of this course, participants will be able to:

1. Understand the fundamentals of geofencing technologies in AV cities.
2. Analyze the impact of speed zoning on urban traffic safety.
3. Implement IoT-based traffic control systems for autonomous vehicles.
4. Design context-aware geofenced zones for AV navigation.
5. Integrate real-time vehicle telemetry for dynamic speed regulation.
6. Apply AI and machine learning algorithms in speed zone optimization.
7. Develop risk assessment models for urban AV deployment.
8. Evaluate legal and regulatory frameworks for geofencing.
9. Monitor traffic compliance through connected vehicle systems.
10. Use GIS and spatial analytics for precision urban planning.
11. Conduct data-driven case studies for AV geofencing scenarios.
12. Optimize pedestrian and cyclist safety in AV zones.
13. Implement future-ready smart city mobility strategies.

Target Audience

1. Urban planners and smart city developers
2. Autonomous vehicle engineers and developers
3. Traffic management authorities and regulators
4. Transport policy makers
5. IoT and AI solution architects
6. GIS and spatial data analysts
7. Safety and risk assessment professionals
8. Researchers in intelligent transportation systems (ITS)

Course Modules

Module 1: Introduction to Geofencing and Speed Zoning in AV Cities

- Overview of autonomous vehicle navigation systems
- Principles of geofencing and dynamic speed zoning
- Importance of urban traffic safety and compliance

- Case Study: Singapore AV pilot geofencing zones
- Trends in smart city mobility solutions

Module 2: IoT and Sensor Integration for Traffic Control

- Role of **IoT-enabled traffic sensors**
- Vehicle-to-infrastructure (V2I) communication
- Data collection and **real-time monitoring**
- Case Study: **Barcelona smart traffic IoT implementation**
- Challenges and solutions in **sensor integration**

Module 3: AI and Machine Learning for Speed Zoning

- Predictive analytics for **urban traffic management**
- Adaptive speed limits using **ML algorithms**
- Data modeling for **vehicle behavior prediction**
- Case Study: **Toronto AI-based speed regulation system**
- Tools for **machine learning in mobility planning**

Module 4: GIS and Spatial Analytics for Geofencing

- Mapping urban zones using GIS technology
- Integration with AV navigation systems
- Spatial analytics for safety and traffic flow
- Case Study: New York City smart geofencing maps
- Best practices in data-driven urban planning

Module 5: Regulatory Frameworks and Legal Compliance

- National and international AV regulations
- Policies for **geofencing enforcement**
- Compliance monitoring for **dynamic speed zones**
- Case Study: **EU regulations for AV corridors**
- Risk mitigation strategies in **urban mobility**

Module 6: Safety and Risk Assessment in AV Cities

- Pedestrian and cyclist safety strategies
- Risk modeling for **urban traffic zones**
- Simulation techniques for **incident prevention**
- Case Study: **Stockholm Vision Zero traffic safety model**
- Continuous improvement using **data-driven insights**

Module 7: Implementation Strategies and Best Practices

- Deployment planning for smart geofencing
- Monitoring and evaluation of speed zoning effectiveness
- Integration with existing traffic infrastructure
- Case Study: San Francisco AV deployment strategies
- Lessons learned and scalable solutions

Module 8: Future Trends in AV Mobility and Geofencing

- Connected and autonomous vehicle ecosystems
- AI-driven **predictive urban mobility**
- Smart city digital twins for traffic optimization
- Case Study: **Dubai autonomous mobility roadmap**
- Emerging technologies and **future-ready solutions**

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

Ready to enroll or request a customized program? Book online or contact us:

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