

UITP & NJ Training Program: Ticketing and Fare Management

6-8 November 2023, New Jersey, NYC, USA

UITP Academy is launching the training program on **Ticketing and Fare Management** between 6-8 November 2023 with Regional Training Center, New Jersey Transit. The course will be 3 days included classroom base sessions, international case studies and technical visit.

Ticketing is the key for public transport operators or authority to collect fare from the passengers. Nowadays, the increasing use of technology supports the need of various fare types, payment method transforming from classic paper tickets to contactless cards and smart phones, while opening up endless opportunities for data collection and analysis. The challenge starts with trying to understand about closed-loop vs open-loop, card-centric vs system-centric, prepaid vs post-paid, account-based ticketing, open payment, SIM-centric mobile ticketing, Secure Element, HCE, interoperability, multiservice, beacons, NFC, QR code...and so on.

With the aim to improve operational efficiency and adapt to new challenges on fare management and ticketing, **the course aims at:**

- Understand, analyze and discuss available **ticketing systems and fare management trends**
- Giving a worldwide overview of **practices and solutions** in ticketing
- Lay the basis of **tariff structures, pricing and fare policy**, essential to the design of a ticketing solution
- Detailing the different **technologies and solutions** on the market
- Discuss the opportunities created by **account based and mobile ticketing** and learn from practice on their implementation
- Discuss implications for **Mobility as a Service (MaaS)**

Methodology

- Getting inspired by trainers, understanding the main aspects of ticketing and fare management systems
- Participate to interactive plenary sessions with introduction by course leaders, presentation by the trainer and open discussion with participants
- Challenge your practical knowledge on ticketing and fare management
- Address the topic from an international perspective, enriched by different cultural approaches and points of views
- Participate to practical exercises and case studies
- Benefit from a unique exchange of knowledge and experience between professionals
- Exchange experiences and discuss key topics during workshops in smaller groups

Target audience

- Staff from public transport operators or authorities responsible for the ticketing systems
- Staff from the industry worldwide involved in the market uptake in this area: ITS companies, app-developers, software compilers.
- Professionals from operations, engineering, finance departments.
- Professionals interested in obtaining a wider and international perspective on ticketing and fare management and eager to learn more from best practice worldwide

Inspiring trainers

All UITP trainers are top level transport and mobility professionals with extensive experience in public transport and operations from different regions of the world. In addition, UITP invites guest speakers to illustrate specific solutions, practices and case studies.

All sessions will take place at 09:00 AM New Jersey Time

Day 1, Monday, 6th November 2023

09:00 **Welcome & Introduction to the course**
Expectation Analysis

Jaspal Singh, Head of NAM, UITP
New Jersey Transport

09:40 **Session 1A: Ticketing and Tariff structures (30 min)**

- Fundamental objectives of fare collection
- Tariff structures, product range, fare levels, payment media
- Strategic issues, regulatory and Institutional frameworks
- Cost Coverage Ratio, Compensation and concessionary fares, Subvention, Funding Alternatives
- Setting Fare Principles, Price Setting, Affordability, Equity, Fare Elasticity
- Fare Adjustment Mechanisms, Fare Adjustment Formula
- Ticket & Fare integration, Revenue Distribution
- Fare Products, Fare capping, Frequency-based discounts, Mileage service, Sales channels incentives, Time-of-day pricing, Minus ride system
- Fare avoidance and fare evasion (Can be a separate session covering different types of fare avoidance and evasion, and strategies to control them; psychology of fare evasion; revenue control mechanisms)

10:10 **Session 1B: Pricing and Fare policy**

- Fundamental objectives of fare collection
- Tariff structures, product range, fare levels, payment media
- Strategic issues, regulatory and Institutional frameworks
- Cost Coverage Ratio, Compensation and concessionary fares, Subvention, Funding Alternatives
- Setting Fare Principles, Price Setting, Affordability, Equity, Fare Elasticity
- Fare Adjustment Mechanisms, Fare Adjustment Formula
- Ticket & Fare integration, Revenue Distribution
- Fare Products, Fare capping, Frequency-based discounts, Mileage service, Sales channels incentives, Time-of-day pricing, Minus ride system

- Fare avoidance and fare evasion (Can be a separate session covering different types of fare avoidance and evasion, and strategies to control them; psychology of fare evasion; revenue control mechanisms)

11:00 *Break*

11:30 Session 2A: Electronic ticketing: solutions, technologies & usage (45 min)

- From paper ticketing to E-ticketing
- The technology: How does it work?
- Automated Fare Collection Systems, Smart Card Systems
- Advantages and disadvantages
- Open or closed systems
- Examples of check-in systems and check-in/check-out systems
- NFC, EMV, ID-based ticketing
- Account Based Ticketing, blockchain, mobile
- Interoperability / cross country / exchange rate etc.
- Ticketing Alliances
- Examples worldwide, including Octopus in Hong Kong (suggest this to be a separate session including covering Japanese Suica and Korean T-Money)

12:15 Session 2B: Case Study

Within urban mobility options, demand responsive transport offers a space-efficient flexible service. Looking at it from a public transport point of view, different

13:00 Lunch

14:00 Session 3: Benefit of open-payments in Public Transportation (90 min)

Solutions can be applicable for different infrastructure and size of agencies, which are presented with some case studies all around the globe.

15:30 Break

16:00 Session 4A: Interoperability and International Ticketing Alliance (45 min)

The development of interoperable smart ticketing is supported by several initiatives at national, European and international levels. This session will provide a short overview of the proposed solutions followed by a discussion on the main challenges.

16:45 Session 4B: Best practices for contactless ticketing system (45 min)

Fundamentally, a modern DRT system operates on a digital backbone and relies heavily on IoT sensors, high-speed communication and super-fast processing of data. Unlike traditional public transport operations where decision making is largely manual, DRT operations runs mostly on rule-based algorithms or on machine-learning tools. What are these tools and how they could be leveraged in creating an efficient DRT system? Analytics is also essential in review, monitoring and regulatory control. The KPI frameworks and data repository management will be discussed.

17:15 End of Day 1

Day 2, Tuesday, 7th November 2023**09:00 Session 5A: Mobile ticketing (90 min)**

- Technologies packed in to an average mobile phone and its computational capabilities
- Introduction to SMS, NFC, be-in/be-out, BLE beacons, Li-fi, QR code
- Can mobile ticketing provide legacy leap solution to public transport ticketing?
- Pros and cons of adopting mobile ticketing
- Real examples from around the world

10:30 Break

11:00 Session 6A: Equitable revenue sharing with Mobility as a Service (MaaS) models (45 min)

- Investment and ownership models for opex and capex of ticketing systems
- Public-private-partnership models which are offering paradigm shift
- Ticketing as a service (TaaS) or Software as a service (SaaS) models that can transform the industry
- Revenue sharing models in a multi-stakeholder scenario
- Unlocking Mobility as a Service (MaaS)

11:45 Session 6B: Case Study on Contactless Ticketing (45 min)

12:30 *Lunch Break*

13:30 Session 7: Account-based ticketing: Concept and Migration Scenarios (90 min)

- Concept of Account-based Ticketing
- Advantages of account-based ticketing (system/infrastructure design; operational advantage and customer service advantages)
- ABT as a way to enhance revenue yield from customers while providing more fulfilment to their lifestyle (a Customer relationship management CRM tool)
- Current practices around the world
- Migrating from a traditional ticketing to ABT

15:00 *Break*

15:30 Presentations of exercise (90 min)

17:00 End of Day 2

Day 3, Wednesday,**09:00 Session 9: Fare Management**

- Introduction to Pricing
- The pricing system: Definition, Objectives, Principles
- Fare policy & structures

10:30 *Break*

11:00 Session 10: Pricing

- Pricing theory
- Pricing of alternative modes of transport (best practices)
- Pricing for non-public transport modes: a comparative analysis
- Communication and marketing of pricing

12:00 Wrap Up & Closure by UITP/NJ

12:30 *Lunch Break*

13:30 Technical Visit

17:00 *End of Program*

**UITP reserves the right to make amendments to the programme or any related activity at its discretion*