

## 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 (with a focus on open-loop payment)** between 6-8 November 2023 with Regional Training Center, New Jersey Transit. The course will be 3 days included classroom base sessions and international case studies.

Ticketing is the key for public transit agencies to collect fare from the passengers. Nowadays, the increasing use of technology supports the need of various fare types, payment methods 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 keeping up with available options such as closed-loop vs open-loop, card-centric vs system-centric, prepaid vs post-paid, account-based ticketing, open payment, SIM-centric mobile ticketing, etc.

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

The course will

- introduce the principle of open-loop payment and help participants take the first steps to outline a concept for their transit agency.

### 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 in interactive workshops designed to guide you through the basic steps for the development of your open-loop payment concept

### 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, 6<sup>th</sup> November 2023**

### **09:00 Welcome & Introduction to the course**

Expectation Analysis

**Jaspal Singh, Head of NAM, UITP  
New Jersey Transport**

### **9:45 Session 1: Ticketing and Tariff structures (45 min)**

**Jaspal Singh, Head of NAM, UITP**

- 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)

### **10:15 Session 2: Electronic ticketing: solutions, technologies & usage (30 min)**

**Andrea Soehnchen, Consultant TransFortis**

This session will discuss general trends and developments in ticketing in public transport. It will outline

- The impact of innovation and digitalisation on ticketing and fare management
- The development of ticket media
- The importance of interoperability

Worldwide examples will be highlighted along with UITP initiatives and publications to find more detailed information.

11:00

Break

11:30

**Session 3: Ticketing in Transport: Data and Innovation****Rikesh Shah, Mobility Innovation Expert, Innovate Today**

- Case study of TfL, London (Card & Open Loop)
- Account-based ticketing
- Data- ownership and exploration
- Integration with MaaS
- Nudge behaviour

13:00

Lunch

14:00

**Session 4: Best practices for contactless ticketing system (45 min)****Manfred Troll, Business Architect and Global Sales ABT, Scheidt & Bachmann**

Fundamentally, a modern Fare Collection System operates on an Account Based digital backbone and supports a large variety of contactless media.

- Why is this and what are the reasons that Account Based systems have outperformed the very well established traditional contactless ticketing systems?
- What does this practically mean for an agency's current operations?
- Which aspects must an agency consider when migrating the current ticketing environment?

Join this session to discuss the significant challenges, opportunities and the relevant migration aspects.

15:30

Break

16:00

**Session 5: Fare Management and Pricing****Jaspal Singh, Head of NAM, UITP**

- Introduction to Pricing
- The pricing system: Definition, Objectives, Principles
- Fare policy & structures
- Pricing theory
- Pricing of alternative modes of transport (best practices)
- Pricing for non-public transport modes: a comparative analysis
- Communication and marketing of pricing

17:00

End of Day 1

Day 2, Tuesday, 7<sup>th</sup> November 2023

**09:00      Session 6: Open loop payment - Introduction (45 min)**

**Andrea Soehnchen, Consultant, TransFortis**

The session will give an introduction to open-loop payment and outline related activities and support available within UITP. It will focus on:

- A general introduction to open-loop payment in public transit
- Basic terminology and stakeholders involved
- Introduction of the Urban Mobility Open-Loop Payment Forum

Participants will be invited to highlight their expectations for the training day and share ambitions and challenges of their organisations with open-loop implementation.

**09:45      Session 7: Open-loop payment – outline and potential benefits (45 min)**

**Andrea Soehnchen, Consultant, TransFortis**

**Josh Martiesian, Head of Urban Mobility North America, Visa**

Open-loop payment brings new roles and responsibilities for partners involved in ticketing and fare management. The session will highlight:

- Roles and responsibilities within the open-loop payments flow
- Interoperability, standards, certifications and recommended practices
- Risk management – roles and responsibilities

10:30      Break

**11:00      Session 8: The technical perspective (45 min)**

**Anne Dowling, Principal Solutions Architect, Cubic**

Implementing open-loop payment has substantial impact on various ticketing system components. This session will outline:

- The high-level system architecture, relevant technical requirements and needed certifications
- Options and good practices for the integration of open-loop payment into existing systems,
- Basics for tariff engine configuration

**11:45      Session 9: Open-loop payment facilitating inclusive transport**

**Josh Martiesian, Head of Urban Mobility North America, Visa**

This session will look into the motivation and the lessons learned from the implementation of open-loop payments in Monterey – Salinas, California.

12:30      *Lunch Break*

- 13:30**      **Session 10: The coolness of open-loop payment**  
**Mark Langmead, Director Revenue & Compass Operations, Translink Surrey, BC**  
This session will explore the journey of ticketing innovation, open-loop implementation and integration in Vancouver and provide insight how clever customer outreach can help to make ticketing a cool thing.
- 15:00      *Break*
- 15:30**      **Session 11: Open-loop in Salt Lake City**  
**Dan Harmuth, Rocky Mountain University, former IT Director, Utah Transit Authority**  
The session will explore the experience made by UTA in updating their account-based ticketing system and implement open-loop payment.
- 17:00      End of Day 2

### Day 3, Wednesday, 8<sup>th</sup> November 2023

- 09:00**      **Session 12: Defining your open-loop project (60 min)**  
**Andrea Soehnchen, Consultant, TransFortis**  
**Anne Dowling, Principal Solutions Architect, Cubic**  
The session will introduce an implementation roadmap for open-loop payment and outline the initial steps transit agencies should take to prepare. It will cover:
- Defining your strategic vision
  - Outlining your project concept
  - Clarifying your needs and expectations for procurement
- 10:00      *Break*

**10:30 Intercative workshop sessions 3x 45**

In 3 workshop sessions participants will have the chance to layout the first steps for their own open-loop payment implementation.

**Session A – How to estimate the potential for open-loop payment?**

- Chosing the best model
- Converting existing tickets into open-loop offers
- Estimating your target audience

**Session B - How to outline your migration strategy?**

- Replacement / upgrade policy for equipment
- Options to integrate open-loop payment into existing ticketing systems
- Open-loop impact on businesses process

12:00 *Lunch*

**13:00 Session C – How to launch open-loop succefully?**

- How to get your staff ready?
- How to communicate
- How to make sure that nobody is left behind?

**13:45 Wrap-up and final questions**

**14:15 Closure by UITP/NJ Transit**

14:30 *End of Program*

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

### **TRAINER PROFILES:**

#### **Andrea SOEHNCHEN, Consultant - TRANSFORTIS**



*Andrea is a graduated Civil Engineer, specialised in infrastructure and transport planning. She joined UITP in 2001 as a European Project Manager and built up UITP's security related activities in the wake of the bombings in Madrid and Moscow. She then worked some years for Securitas, a leading private security company, as Strategic Development Director in charge of the public transport segment.*

*As latest venture Andrea founded TransFortis, a consultancy aiming to help organisations develop sound innovation and business strategies enabling them to adapt to changes and disruptions of their business context.*

*In this capacity Andrea is now also supporting UITP as Manager of the Urban Mobility Open Payment Forum, as well as expert and trainer in the context of security, crisis management and innovation.*

#### **Anne DOWLING, Principle Solutions Architect at Cubic**



*Anne is a Solutions Architect at Cubic Transportation Systems with over 15 years of transport industry experience across 25 countries, including Chile, Japan, Saudi Arabia, and the US. With extensive experience in transport technology project delivery, system design, and operational optimization, Anne is focused on using technology to improve passenger experiences and enable efficiencies for transport authorities and operators. She is also a PhD Candidate at University College London researching connected mobility policy and operational compliance.*

#### **Jaspal SINGH, Head of UITP North America**



*Jaspal Singh, based in Toronto, Canada, is an urban mobility expert. He has more than 13 years of experience in management consultancy and working with Startups. He is currently working as Head of North America Office. Prior to this he was working as Head of UITP India Office since 2013.*

*He is also the founder of consultancy firm -- Valoriser Consultants, Inc. which is engaged with companies in the areas of new mobility, cleantech, startups, electric mobility, and ITS. Previously, he was working with a public transit authority, reforming the urban transport system in India.*

*He has received several awards for his contribution in the field of public transport and social work, as well as, has been widely quoted in publications.*

*He is pursuing his Master of Management and Innovation (MMIE) at Queen's University and has received his Master's in Business Administration specialized in International Business.*

**Rikesh SHAH, Mobility Innovation Expert, Innovate Today**



*Recognised as a thought leader on public innovation, Rikesh works as an open data, open innovation and future of mobility expert at PA Consulting, in global consulting delivering end-to-end innovation.*

*Previously Rikesh led Transport for London's award-winning innovation team to create new value for London by working with start-ups, corporates, academia, accelerators and venture capitalists. He was responsible for creating TfL's first Innovation Hub which has delivered some pioneering projects on areas such as air quality, road safety, active travel, enhancing customer experiences to retail and property development. The Hub set out the organisation's key challenges and problem statements, bringing in the best innovators from across the world, piloting and scaling innovative solutions with the potential to*

*commercialise, as well as establishing the right culture in the company focusing on agility and design thinking to work with market innovators by doing things better, quicker or cheaper.*

*Rikesh was also responsible for TfL's world leading open data programme which has 17,000 registered users, 700 apps powered by TfL data used by 42% of Londoners which an independent review stated that it's worth to London is £130m per annum. He also was actively involved during the 2012 Olympic Games and TfL's response to COVID-19.*

*Most recently, Rikesh has been recognised in the Top 100 Asian Stars in UK Tech in 2019 - 2021, being named one of the top five for sustainability in 2019. He was also recognised in the Top 100 Influencers for the Drum Digirati in 2018.*

*Rikesh sits on the London Transport Museum Board as a Non-Executive Director, as well as a Civic Innovation Director (Non-Executive Director) at Cities Today, the global public innovation think tank. He has also been an Ambassador for London Tech Week since 2020.*

*In academia, he Co-Chairs the Institute of Civil Engineering Data and Digital Advisory Board as well as Guest Lecturing on Open Innovation at the Royal College of Arts, Harvard University and the University of Oxford.*

*Rikesh also served on the Mayor of London's Smart London Board from 2016 to 2023.*



***Manfred Troll, Business Architect and Global Sales ABT at Scheidt & Bachmann***



*Manfred is a senior leader with a long track record of multiple disciplines and geographies starting from software development across product line management into business development and sales. Manfred holds a Diploma in Computer Sciences and has a solid technical as well as commercial experience gained in military technology environment, the whole bandwidth of petrol downstream solutions up to transportation ticketing systems specialized into account-based ticketing. Manfred joined Scheidt & Bachmann in 2006 and is focusing on concept and functional design of the Scheidt & Bachmann account-based ticketing solutions.*

***Dan Harmuth, Rocky Mountain University, former IT Director, Utah Transit Authority***



*Dan Harmuth is currently the CIO for Rocky Mountain University (3 months) and has recently worked as the Chief Operations Officer for the State of Utah's IT Division. Before that, Dan was with the Utah Transit Agency (UTA) as the IT Director for 5 years (2017-2021). Dan has over 28 years IT experience in fortune 500 companies, local government, transit, and healthcare organizations. Dan has an MBA & Masters in IT from the University of Maryland University College, and is also PMP, Lean Six-Sigma Green Belt, CDPSE, and Agile Scrum Master certified. As IT Director for UTA he was the Senior IT Leader with over 75 IT staff that covered Network and Servers, Cloud Services, Application Development and Support, Helpdesk, TQM, INFOSEC team, Radio & Microwave Systems, PMO, Bus & Rail On-Board Technologies, and others. While at UTA, Dan orchestrated development of a custom Electronic Fares Collection system that saved UTA over \$1m per year, implemented a POC for Traffic Signal Prioritization (TSP), and finished a custom development project of the CAD/AVL/MDC system for UTA's Commuter Rail, Light Rail, and Bus fleets, developed a Cyber-Security program, and built out the commuter WiFi that provided over 100mbs to patrons on the commuter rail from end-to-end.*

*Dan is an Adjunct Faculty at Utah Valley University and instructs Information Management in the MBA program, which includes cyber-security among the many technology topics. Dan is also a retired Colonel who served for 30 years in the U.S. Army both active and reserves and was deployed 4 times to theaters of war, commanded Transportation Battalions, worked in the FEMA Region IX (Oakland, CA) Ops-Center, COOP coordinator for U.S. TRANSCOM, and Host Nation Support coordinator for US Forces Korea.*

**Mark Langmead, Director Revenue & Compass Operations, Translink Surrey, BC**



*Mark Langmead, CPHR is Director, Revenue & Compass Operations with TransLink in Vancouver, Canada. Mark is responsible for revenue, fare collection, payment technology, and the overall customer experience with payments and the Compass smart card program in the Metro Vancouver Region. Mark oversaw the introduction of contactless payments on an integrated transit network that carries over 500 million passengers annually. Mark is responsible for the development and implementation of long-term strategic plans and the introduction of new fare products and features to increase ridership, revenue, and improve the overall customer experience.*

*Mark led the introduction of contactless credit card, debit card, and smartphone payments on trains, buses, accessible services, and ferries as well as wearable payment technologies. Currently, Mark is leading a Mobility as a Service (MaaS) pilot program to integrate car share, bike share and transit payments in Vancouver, as well as the transition to an account-based revenue collection system.*