

UITP & NJ Training Program: Rail Operation and Maintenance

2-4 October 2023, New Jersey, NYC, USA

UITP Academy is launching the training program on **Rail Operation and Maintenance** between 2-4 October 2023 with Regional Training Center, New Jersey Transit.

Maintenance has always been a significant cost driver, the “invisible” guarantee for reliability and quality of service. Assets deteriorate over time and if you do not maintain, you will deteriorate your service, loose quality, loose customers and in the end lose your assets. From the principles of asset management and maintenance to a detailed understanding of the maintenance of various assets, and from lifecycle costs and planning to obsolescence management, this training program will provide you with a comprehensive overview of the topic through a unique methodological approach illustrated by international best practice and on-the-ground operational experience.

Nevertheless, times are also changing in this area and technology is evolving maintenance organisation can be shifted from preventive based on time or intervals to predictive based on real maintenance needs and real conditions of equipment. Modern smart equipment is bringing about a paradigm shift through their ability to inform precisely about assets' technical status in real time. Condition-based maintenance can increase cost efficiency but requires a profound reshaping of maintenance organisation and processes. Furthermore, real-time data, big data and digitalisation are improving the way maintenance can be predicted and optimised.

Hence beyond providing you with the classic, yet essential maintenance and asset management principles and best practice, this course will also give you the opportunity to discuss the implications of new technologies and the use of industry-like measures to make your training program ever more efficient.

Learning Objectives

- Understand the key elements of public transport **operations planning and execution**
- Explain the fundamentals of **asset management**, and apply its principles to **facility and fleet maintenance** planning
- Apply **life cycle planning** and **costing** for all public transport assets
- Develop and implement a **predictive maintenance program** for facilities and fleets
- **Estimate and schedule** facility and fleet maintenance programs
- Prepare a **transit asset management** plan and annual work plans
- Develop and justify **budgets** and **staffing** plans
- **Measure and evaluate** existing maintenance and asset management programs
- Assess the benefits and disadvantages of **outsourcing and in-house maintenance**
- Integrate **human capital** in asset management planning
- Manage **human resources** in maintenance
- Learn about the implications of **big data and digitalization** for maintenance and asset management

Methodology

- Get inspired by our trainers, understand the main concepts and learn from successful best practice
- Participate in interactive plenary sessions with introductions by course leaders, presentations by trainers and open discussions with participants
- Challenge your practical knowledge on maintenance and asset 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

Target audience

- Incumbent and new managers, supervisors, and coordinators from the following areas and departments: Maintenance, Fleet, Facilities, Operations, Planning, Finance
- Staff from public transport operators, authorities or the industry
- Professionals interested in obtaining a wider and international perspective on maintenance and asset management and eager to learn more from best practice worldwide
- The course welcomes junior and senior professionals worldwide.

Inspiring trainers & guest speakers

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.

Day 1, Monday, 2nd October 2023

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

Expectation Analysis

Jaspal Singh, Head of NAM, UITP
New Jersey Transport

09:30 **Session 1: Basic Operation Concepts**

- Network and lines
- Headway and frequency
- Speed and travel time

11:00 Break

11:30 Session 2: Operation Planning

- What are PT determinants and how they affect operation planning and execution?
- Route and Network Planning
- Timetables - Level of Services (Los)
- Planning of operations – Personnel and vehicles
- Organisation and chain of command

12:30 Lunch

13:30 Case Study - Key strategies and innovations for improving rail flexibility & efficiency

Rail operators face increasing challenges in delivering high-quality passenger rail services: from infrastructure constraints to rolling stock availability to workforce efficiency.

- Context and operational constraints: infrastructure, rolling stock, workforce
- Innovative strategies and solutions: integrated planning, dynamic resource management, optimization
- International and multimodal experience in operating passenger rail

15:00 Break

15:30 Session 3: Operations Execution

- Organisation and chain of command
- Specific issues for operation of rail systems
- Quality of service
- Degraded modes / Incident Management
- Fare evasion
- Some opex considerations
- From planning to execution - EAM supporting tools

17:30 End of Day 1

Day 2, Tuesday 3rd October 2023

09:00

Session 4: Asset management and maintenance principles

- Asset management principles: managing and maintaining fleet, buildings, systems, and people assets
- Asset typology, management & life cycle
- Role of maintenance in Operation
- Maintenance principles, levels, planning and programs (preventive, corrective, predictive)
- Organisation of maintenance
- From planning to execution - EAM supporting tools

10:30

Break

11:00

Session 5: Maintenance of moving assets

- Main concepts: Corrective, preventive, predictive
- Maintenance intervals and activities
- Computer maintenance software and logbooks
- Train recruiting
- Staff and organisation
- Staff organization
- Depot and workshop design
- KPIs

12:30

Lunch

13:30

Session 6: Maintenance of fixed assets

- Track servicing, inspection and repair
- Power supply
- Stations
- Structures
- Control Command
- Organisation Challenges

15:00

Break

- 15:30** **Session 7: Outsourcing vs. In house**
- Responsibility distribution models
 - In-house, Outsourcing Degrees and Trade-offs
 - Outsourcing maintenance, evaluation and evolution
- 16:30** **Case Study – NAM**
- 17:30 End of Day 2

Day 3, Wednesday, 4th October 2023

- 09:00** **Host City Case Study – Shop floor management, Depot Management**
- 10:00** **Conclusion and certificates**
- 10:30** **Host City Technical Visit – Metro and LighRail**
- 15:00 End of training program

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