

Enhancing Elevator & Escalator Training at NYCT

Sally Librera

VP, Subway Operations Support

MTA NYC Transit

June 2014



Elevators & Escalators at NYCT: 2014 Facts and Figures

- **355 employees**
- **\$51M operating budget**
- **Elevator Equipment**
 - 39 Traction Elevators
 - 216 Hydraulic Elevators
 - Manufacturers: OTIS, Motion Control Engineering, Automation Controls & Communications Technology, Elevator Systems Inc.
- **Escalator Equipment**
 - 181 Escalators
 - Manufacturers: Shindler, Kone, Fujitec, O & K



Escalator availability¹: **95.5%**

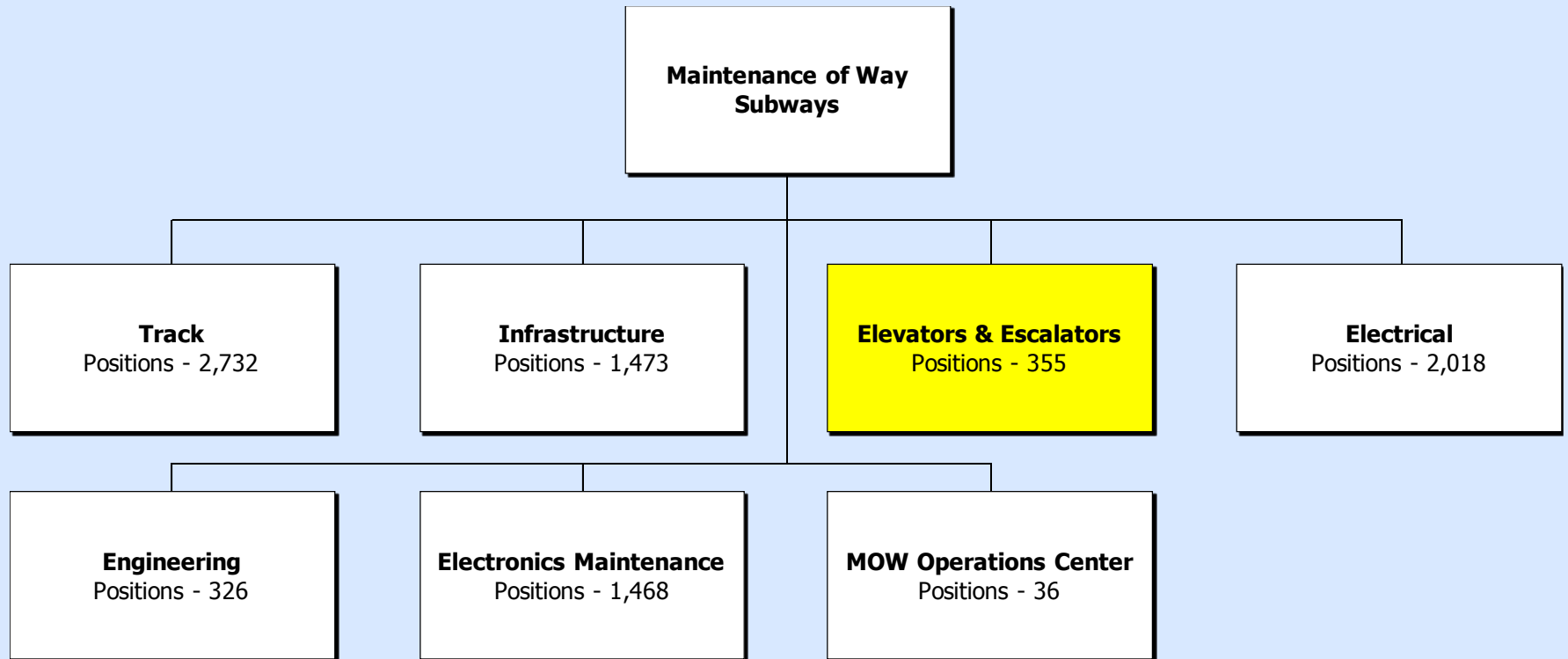
Elevator availability¹: **96.7%**

**Availability > Goal
10 straight quarters**



Elevators & Escalators at NYCT

Elevators and Escalators is a Subdivision with Maintenance of Way at NYCT



2008





NY Giants – Superbowl Champions



Brooklyn Bridge turned 125





NY Yankees played final game in Yankee Stadium
Yankees 7, Orioles 3

Image: NY Daily News

Challenges at NYCT: 2008 Snapshot

High Need for E&E Skill Development

- High vacancies for Elevator & Escalator maintainers
- Rigorous technical requirements – employees expected to maintain Elevators and Escalators
- Transit wages lower than private industry – not poised to attract highly skilled workforce
- Apprentices hired on for E&E positions with basic electrical training, no experience
- 1 in 6 elevators & escalators were out of service for over a month during the previous year



Formalized Skill Development Programs Lacking

- A single 3-week course which focused on safety, procedures and rules & regulations
- 1 E&E instructor responsible for training and course development



****Need for enhanced E&E Training programs**



2008 Snapshot: Apprentice Program

Labor Source & Qualifications:


- Vocational HS Graduates
- Incumbent employees, upon completing 6 months of commercial technical training

E&E Apprentice Program:

- Formalized training classes same as E&E maintainer
- On the job rotations

Program Length: 3 years

Success Rate: Marginal



Apprentice program **lacked strong curriculum and structure** to support inexperienced maintainers



Step 1: Intensified In-house E&E Courseware Development

In-house efforts:

- Added instructor resources focused on growing programs and developing curriculum
- Developed NYCT-specific courses focusing on technical skill development, and NYCT procedures
- Expanded use of NYCT Escalator Learning Annex



Recognized Need for External Curriculum Development Resources

We were not alone



Step 2: E&E Training Consortium

- **Objectives:** Develop comprehensive training for Elevator & Escalator maintainers
- **Drivers:**
 - High need
 - Costs of development could be shared among properties
 - Transportation Learning Center facilitated
 - FTA match
 - Labor-management partnership
- **Agencies shared:**
 - Resources
 - Subject matter expertise
 - Existing training materials



E&E Training Consortium: Curriculum Development Approach



Consortium Deliverables

- **100 series** provides **basic electromechanical skills**: Introductory and Basic Courses

Examples:

- Electrical Fundamentals
- Tools and Material Handling
- Mechanical Theory and Application

- **200 series** covers **elevator and escalator equipment skills**. Courses for employees with electromechanical background and limited E&E experience

Examples:

- Handrail Installation and Maintenance
- Step Installation and Maintenance
- Elevator Mechanical Drive System

- **300 series** for **advanced E&E equipment maintenance** are designed for skilled workers.

Examples:

- Input Output Control Equipment
- Electrical Electronic Systems
- Advanced Electrical Printreading



NYCT E&E Training Today

- Actively offering 11 courses at introductory and intermediate level
- New employee training: 504 training hours, phased within year 1
- Induction training includes 3 courses from Consortium program
 - Step Installation & Maintenance
 - Handrail Installation & Maintenance
 - Hydraulic Elevators
- Developed 8 courses specifically tailored to the maintenance environment of NYCT
- In 2013, Elevator & Escalator training delivered to 161 participants, totaling 3,052 training hours



Next Steps –Transition to Training Track model

2014

- **Add 3 Consortium courses** to active course rotation
 - Escalator Electrical Systems
 - Elevator Electrical Systems
 - Principles of Troubleshooting
- Expand new hire training to 16 courses
 - 3 Consortium courses added in 2014 + 2 NYCT-developed courses

2015

- **Curriculum Tracks**
 - Assessment process for E&E maintainers to identify level of technical skills
 - Courses grouped into training tracks corresponding with level of technical skills
- **Apprentice Program:** Integrate Consortium materials and structure OJT to formalize existing Apprenticeship Program

