Contents

History and Planning

A Light Rail, Group Rapid Transit, Personal Rapid Transit Comparison..........................1
Peter J. Muller and Ingmar J. Andreasson

The Conceptual Art of Moving People through Decentralized Mobility Districts...............12
Clement Solomon

An Innovative Transportation Solution for the City of Canoas, Brazil.............................24
D. Abs, D. Mori, and S. Castaneda

From PRT to Autonomous Taxis—A Modelling Perspective........................................31
Ingmar Andreasson

History of the Tampa Harbour Island People Mover ......................................................36
William J. Sproule and Lawrence L. Smith

Engineering

Control Strategy for Pneumatic Braking of the Aeromovel System................................45
E. A. Perondi, D. Abs, and S. Castaneda

Automated Condition-Based Monitoring of Automated People Movers..........................57
Stanley Fong, Ali Ashasi-Sorkhabi, Guru Prakash, Sriram Narasimhan, and Mike Riseborough

Increasing Operational Service Levels Using Preventative Maintenance
Optimization Strategies......................................................................................................68
Sean Best and Michael Riseborough

Fitness-for-Service Assessment of Automated People Mover Cars ................................75
P. J. Murtagh, Robert S. Vecchio, and Daniel J. McFadden

Models for Onboard Train Diagnostics Data to Improve Condition-Based
Maintenance .......................................................................................................................85
Sven Scholz and Richard Lommock

Urban Maglev Operation and Maintenance—Increasing Efficiency by
Applying Lean Production Principles.................................................................................94
M. Heinz, B. Zamzow, S. Bögl, K. Sommer, and K. Roeber

Implementing an Integral Management System for the Moscow Sheremetyevo
International Airport APM .............................................................................................101
J. Winter and I. Sesma

© ASCE
Implementation and Operations

Computer Security for Automated Transportation Systems........................................110
Jefferson H. Davis and Winston Baijnath

Straddle Monorail—Implementation Challenges..........................................................116
Matthew Tsang and Eddie He

Contract Issues in Consultant Contracts—What You Don’t Know CAN Hurt You ..................125
Stephen A. Grimmer

Procurement Models for Automated People Mover Systems ......................................134
Phillip Ravotti and Brian Adams

In-Service Replacement of APM Systems......................................................................138
Bruno C. Barros, Brian K. Adams, and John Heath

New and Emerging Technologies

A Next Generation Urban Maglev System—Benefits of Product Lifecycle Management Systems as a Basis for Design and Production Processes .........................142
T. Praeger, K. Roeber, B. Zamzow, and S. Boegl

The Internet of Things, Big Data, and the Connected Transportation System ..............150
Rich Lommock

“CBTC.valid”—A New Method to Validate Complex Train Control Architectures ..............160
Joerg Schuette

A COTS High Availability and High Performance Train Control System for a Fully Automated Maglev People Mover .................................................................169
B. Immken, C. Bardos, B. Zamzow, and S. Bögl

A Novel Automated Urban Maglev Transport System—Actual Design and Operational Data Compared with Legacy Systems ..................................................176
B. Zamzow, P. Mnich, E. Fritz, and S. Bögl