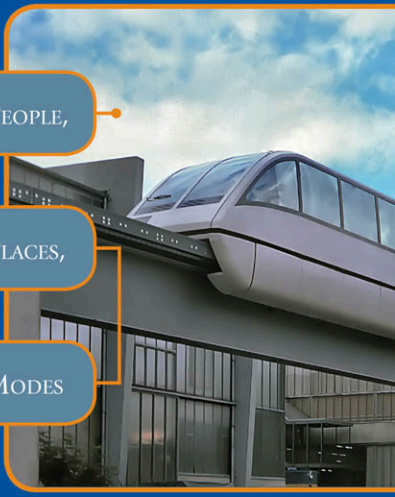
Automated People Movers 2009



Connecting People,

Connecting Places,

Connecting Modes

Proceedings of the 12th International Conference

ASCE

Edited by
Robert Griebenow, P.E.

T&DI
TRANSPORTATION AND DEVELOPMENT INSTITUTE

AUTOMATED PEOPLE MOVERS 2009

Connecting People, Connecting Places, Connecting Modes

PROCEEDINGS OF THE TWELFTH INTERNATIONAL CONFERENCE

May 31–June 3, 2009
Atlanta, Georgia

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Preface

APM 2009 is the 12th in the series of international automated people mover conferences and continues the tradition of transit professionals meeting together to share the latest technology, projects and planning of automated transit.

The conference theme, “Connecting People, Connecting Places, Connecting Modes – APMs” reflects the conference’s focus on APMs and driverless transit systems as connectors for people, places and modes in cities, airports and private developments. Around the world automation in transit is accepted as safer and less costly that manual operation. Full automation has been applied to a wide range of transit technologies, from rapid transit systems to small circulator systems. APMs have matured, and this conference has recorded the experience and lessons learned from recent projects and developing technologies.

Special recognition goes to the organizers of the first APM conference: Murthy V.A. Bondada, Conference Chair, and Edward S. Neumann, Program Chair, who through their creative and persistent efforts on the APM Committee crystallized the first conference in 1985. Now every two years, this conference brings together the planners, inventors, designers, suppliers, builders, owners and operators of automated transit systems to share their experiences, technologies and innovative ideas. Past conferences, held around the globe, have built an international fraternity of profession and friendship.

APM 1985 – Miami Florida
APM 1989 – Miami, Florida
APM 1991 – Yokohama, Japan
APM 1993 – Irving, Texas
APM 1996 – Paris, France
APM 1997 – Las Vegas, Nevada
APM 1999 – Copenhagen, Denmark
APM 2001 – San Francisco, California
APM 2003 – Singapore
APM 2005 – Orlando, Florida
APM 2007 – Vienna, Austria

The editor acknowledges the significant efforts of the many authors who through their papers have created the record in these APM proceedings in both time and place.

Robert Griebenow

Acknowledgments

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Landside APM Planning at Seattle-Tacoma International Airport

Dave Tomber[1], Harley Moore[2], and Bob Griebenow[3]

[1]Aviation Planning Manager, Port of Seattle, Seattle-Tacoma International Airport, P.O. Box 68727, Seattle, WA 98168-0727; PH (206) 444-4368; FAX (206) 431-4496; email: tomber.d@portseattle.org
[2] Senior Principal, Lea+Elliott, 785 Market Street, 12th Floor, San Francisco, CA 94103, PH (415) 908-6450, FAX (415) 908-6451, email: hlmoore@leaelliott.com
[3] Vice President, Berger ABAM, 33301 9th Ave S, Suite 300, Federal Way, WA 98003-2600, PH (206) 431-2323, FAX (206) 431-2250, email: bob.griebenow@abam.com

ABSTRACT

Increasingly, large-hub airports in the United States (U.S.) are developing rental car facilities remote from their terminals in a facility that consolidates the operation of all rental car companies. In many U.S. large-hub airports, the percentage of passengers using rental cars is a significant percentage of overall traffic. At Seattle-Tacoma International Airport (SEA), almost 20% of all passengers use rental cars, creating a need for a transportation system that can move large volumes of people and baggage in peak periods with reliable frequencies and both reliable and minimal transit times. This paper is a case study for a landside automated people-mover (APM) system at SEA. It explores issues related to the feasibility of installing an APM system at SEA between the main terminal and a future consolidated rental car facility remote from the terminal. It analyzes the trade-offs between busing and different APM systems.

BACKGROUND

Seattle-Tacoma International Airport (SEA) served 32 million passengers in 2008. Forecasts indicate that this passenger activity could grow to almost 60 million annual passengers over the next 20 years. SEA is predominantly an origin-destination airport: in 2008 about 80% of the passengers started or ended their journey at SEA. This high concentration of origin-destination activity places heavy demands on landside facilities, such as airport roadways, curbsides, parking, and various ground transportation modes.

Increasingly, large-hub airports in the United States (U.S.) are developing rental car facilities remote from their terminals in a facility that consolidates the operations of all rental car companies. SEA began construction of a remote consolidated rental car (CONRAC) facility in 2008. The CONRAC site is located approximately 1 mile north of the existing terminal. An APM guideway connecting the existing terminal to the remote CONRAC needed to be planned to cross over a regional light rail system, also under construction in 2008 and scheduled to be completed by early 2010. A further planning constraint is that envelope of the APM vehicle height needs to be under airspace navigational ceilings determined by the Federal Aviation Administration (FAA) for interaction with arrival and departure aircraft flows from nearby King County Airport.