

## Miami's Metrorail Extension to MIA Nears Completion



Image courtesy of MDT

An exciting trend in the rapid transit world is to provide direct access to airports through the extension of existing rapid transit systems.

Miami-Dade Transit (MDT) is not only a leader in this growing trend, but is very close to making it a reality for Miami-Dade residents and millions of passengers traveling to and from Miami International Airport (MIA). On May 1, 2009, a ground breaking ceremony was held for the AirportLink (formerly named MIC-Earlington Heights Connector). Now, 27 months later, the AirportLink project is roughly 90% complete and on target for its April 2012 scheduled opening.

AirportLink is an elevated, 2.4-mile, double-track, third-rail system that connects at the existing Earlington Heights Metrorail station and ends at the new Miami International Airport station, located at the Miami Intermodal Center (MIC). The MIC is a large

transportation hub located next to the Airport that allows passengers to transfer between the various transportation systems at one location.

Upon opening, AirportLink will allow passengers from all 22 Metrorail stations (Palmetto Station to Dadeland South) connectivity to the Airport via the new MIA Mover automated people mover (APM). The MIA Mover, which is scheduled to open September 9, 2011, will provide a quick and direct link to the Airport.

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**Interesting fact:**  
AirportLink elevates to nearly 60 feet in some areas along the guideway.

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# Miami Metrorail Extension

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During the initial design phase, Lea+Elliott, as system consultant to MDT, provided the preliminary design for the AirportLink's operating system, comprised of vehicles, traction power distribution, train control, and communications. Lea+Elliott's role, during this phase, also included development of contract specifications for the operating system equipment, as well as planning and facility design support related to the systems for URS (prime consultant for AirportLink).

For the current implementation phase, Lea+Elliott provides oversight of the Contractor-provided traction power distribution and train control systems. Oversight work includes design reviews, factory acceptance testing, and installed operating systems equipment testing and interface support. "During the construction phase of the AirportLink project, Lea+Elliott has served as a primary lead overseeing the systems design-build component on behalf of the URS design team under our post design services contract with MDT," Genevieve Cavé-Hunt, URS's project manager for the AirportLink said.

Surinder Sahota, MDT chief, transit construction division, is overseeing this \$535 million project and continues to concentrate his efforts and focus to ensure that this project is completed successfully and on schedule. Sahota stated that, "This is a vital project that will greatly benefit not only our local residents, but also our visitors. At Miami-Dade Transit, we are working closely with our construction partners to ensure that the project is completed on time and on budget." The AirportLink will play a key role in transporting visitors and residents to and from MIA in a fast, efficient and cost effective manner.

**Lea+Elliott Manager of Engineering Projects Gregory Love** is currently serving as the firm's project manager for the AirportLink project. "With the motto of this project being 'in the spirit of partnering', Mr. Love has provided exceptional devotion and leadership to the project towards ensuring a successful outcome," Cavé-Hunt said.



Rendering of the Miami International Airport station - platform level  
Image courtesy of MDT



Installation of the Miami International Airport station - platform level equipment (windscreen with bench, signage supports, elevator, etc.)  
Image courtesy of MDT



Rendering of Miami International Airport station - plaza level bus bay area  
Image courtesy of MDT



# Major Rail Extension to Dulles International Airport

The Metropolitan Washington Airports Authority (MWAA) is constructing a 23-mile, 11-station extension of the existing Metrorail system to Washington Dulles International Airport (IAD) and beyond into Loudoun County. The extension — one of the largest active construction projects in the United States — will serve Virginia's two biggest employment centers and provide a one-seat ride from IAD to downtown Washington D.C. When complete, the system will be operated by the Washington Metropolitan Area Transit Authority (WMATA).



Junction of the Project with the Existing Metrorail Orange Line  
Image courtesy of MWAA

## Project Phases

The project is being built in two phases, each about 11.5 miles long. Phase 1, which is set to be complete in 2013, includes the purchase of 64 railcars and the construction of five new stations at a cost of \$2.7 billion. MWAA's design-build contractor for Phase 1 is Dulles Transit Partners, LLC (DTP). Completion of the preliminary engineering, revised cost estimate and preparation of the design-build solicitation for Phase 2 is expected from MWAA's consultant, Dulles Rail Consultants (DRC), in 2011. Completion of the entire project is planned by 2017.

With construction currently underway for Phase 1, Lea+Elliott is providing support to MWAA on oversight of systems design and interface, real estate acquisition, permitting and environmental compliance; as well as directly supporting interface activities with the Federal Transit Administration (FTA), and New Starts reporting and monitoring requirements.

## Construction is Nearing the Half-Way Point

Design, real estate acquisition and utility relocation are essentially complete. Stations and guideway all along the Phase 1 alignment are under construction with work being done on superstructure piers, platform walls, station columns, and mezzanine framing. Work also continues on construction of retaining walls and drainage; placement and compaction of the sub-ballast in preparation for installation of ballast ties and rail; and construction of the cut and cover lead tunnel to the existing service yard. The segmental aerial construction and rail installation continues on the inbound and outbound trackway. Concrete arch construction is ongoing in the New Austrian Tunneling Method (NATM) tunnel, and construction of the safety walkway in the outbound NATM tunnel has been completed. The switches and turnouts at the junction with the existing Orange Line track way are complete, and construction of the

ballasted track adjacent to the existing Orange Line is underway. The preparation of sites for wayside facilities is progressing, and the first Traction Power Substation has been installed. Factory Acceptance Testing (FAT) for traction power equipment began in June and will begin for Automatic Train Control (ATC) in September. In addition, the full impact of the earthquake and tsunami in Japan on the railcar procurement schedule is under evaluation.

## WMATA Station at Dulles International Airport

U.S. Transportation Secretary Ray LaHood recently brokered discussions among the partners on a plan to shave roughly \$1 billion off the \$3.5 billion estimated price for Phase 2. Cost-cutting measures include building a less expensive above-ground station that is farther from the airport terminal.

The MWAA Board and both Fairfax and Loudoun counties signed a conditional agreement in which the counties would assume the cost of a rail station and five parking garages in their jurisdictions as long as they get sufficient financing, including federal loans. The details of the final agreement are currently under discussion.

For more information contact **Michele Jacobson**, Lea+Elliott's project manager, at [mjacobson@leaelliott.com](mailto:mjacobson@leaelliott.com).



# IN PROGRESS

## Lea+Elliott on Winning Team for Incheon Design Competition

SEOUL – Lea+Elliott is pleased to have participated in the Incheon International Airport Passenger Terminal 2 – Design Competition held by South Korea’s Incheon International Airport Corporation (IIAC), as the Intra Airport Transit (IAT) specialist on the winning Heerim Architects & Planners team. Lea+Elliott’s role included providing technical expertise for the planning, preliminary analysis and integration of internal APM systems within the planned Terminal 2 to optimize passenger convenience, as well as providing technical expertise for the extension of the existing IAT system to the new International Passenger Terminal 2.



Aerial perspective rendering of Terminal 2  
Image courtesy of Heerim Architects & Planners

## The King Rides APM During University Inauguration

RIYADH – On 15 May 2011, the Custodian of the Two Holy Mosques King Abdullah inaugurated the Princess Nora bint Abdulrahman University (PNU) in the Saudi Capital, Riyadh. On arrival on the university campus, King Abdullah was escorted by Riyadh Gov. Prince Salman and the Finance Minister Ibrahim Al-Assaf as the three boarded a PNU APM vehicle for a tour of the sprawling campus. The inaugural ceremony was attended by several members of the royal family, high-ranking Saudi officials, foreign diplomats and a large number of invited guests.



Custodian of the Two Holy Mosques, King Abdullah, is greeted as he boarded a PNU APM vehicle.  
Photo courtesy of Arab News, Published May 16, 2011

### First Sky Train Car Arrives at PHX

PHOENIX – Back in the mid 1980s, Lea+Elliott participated in a preliminary planning study for a transit system that would provide a connection for passengers throughout Phoenix Sky Harbor International Airport (PHX). Now, over 25 years later, this vision is becoming a reality. The first PHX Sky Train™ car was unveiled on Aug. 16, 2011. This event marks a major milestone for a project that began as a few lines on paper more than two decades ago.

The first phase of the PHX Sky Train™ will open in 2013 and will move passengers between the regional light rail system, the Airport's East Economy Parking and Terminal 4. Stage 1A will expand the PHX Sky Train™ to serve all terminals. The final stage of the PHX Sky Train™ system is planned to open in 2020 and will extend to the Sky Harbor Rental Car Center.

In 2012, Bombardier (the operating system contractor) will begin testing the PHX Sky Train™ system. Visitors to the Airport will begin to see trains traveling along the guideway. Shipment of the first 18 cars began in August. The cars will be assembled into two- and three-car trains, and the system will run on an electrically powered, dedicated guideway.

Upon completion of the entire system, the PHX Sky Train™ system will be approximately five miles long and have six passenger stations. The system will serve a total daily ridership of 96,000 passengers and will operate 24 hours a day with peak headways of less than three minutes.

Lea+Elliott is contracted with the City of Phoenix as the system designer. Lea+Elliott's responsibilities have included planning, system definition, leading the procurement effort, drafting the system specifications contract, negotiations, construction oversight, manufacturing oversight, and testing and commissioning the system. Lea+Elliott has been an integral part of the Phoenix Sky Harbor International Airport's capital program planning since 1999.

### Newark AirTrain On-Call Support Services

NEWARK – Lea+Elliott is under contract with the Port Authority of New York and New Jersey (PANYNJ) to provide as-needed oversight support services for the daily operation and maintenance services, and capital asset overhaul programs for AirTrain Newark. AirTrain Newark serves Newark International Airport's terminal buildings, on-site parking facilities, and the Northeast Corridor RailLink Station, which connects to the New Jersey Transit and Amtrak trains. Lea+Elliott is providing as-needed contractual, management, and technical services to ensure the Design-Build-Operate and Maintain (DBOM) contractor is operating and maintaining the system in compliance with the safety, performance, operation, maintenance, quality, and training requirements. In addition to supporting the oversight of daily O&M services, Lea+Elliott recently completed a comprehensive condition assessment study of the vehicle, train control, and communication systems, and is currently supporting the procurement of the next O&M contract. For the capital asset



*"The Phoenix Sky Train™ will forever be known in Phoenix as one of the greatest, most forward-thinking projects of our time,"* said Phoenix aviation director, Danny Murphy. *"It will serve our customers well into the future."*  
Photo courtesy of the City of Phoenix



AirTrain Newark

overhaul programs, Lea+Elliott is providing engineering oversight support for the replacement of the automated train supervision system and availability tool, and elements of the communication, SCADA, and power distribution systems.



# Conference Round Up

## APM-ATS 11 Conference Unites the Automated Transit Industry

PARIS – The 13th International APM-ATS Conference, held May 22-25 in Paris, France, brought together the automated transit industry to share the vision from people movers (PRTs and “standard” APMs) to fully automated urban mass transit. The conference program included many presentations in plenary and panel discussions. Several Lea+Elliott members participated in the conference:

- **Jack Norton** presented on the PHX Sky Train and moderated one of the sessions on Airports.
- **Steve Perliss** led a Procurement Workshop on APMs including PRT and moderated the session on Activity Centers.
- **Harley Moore** participated in a roundtable conference on the “State of the Art and Insights to the future” and was a moderator on an Airports session. Harley also presented on the BART-Oakland Airport Connector project.
- **Sanjeev Shah** gave presentations on the MIA Mover, Miami Airport, Doha West Bay APM, and Procurement Planning. He also served as a moderator for the Driverless Metro Applications session.
- **Kamel Mokhtech** presented on the Doha West Bay APM and moderated a session on System Improvements.

Conference proceedings will be available in mid-September.

Planning is well underway for the 14th International APM-ATS Conference in Phoenix, Arizona. We hope to see you there!



Opening session of APM-ATS 11

## Transportation & Infrastructure Summit

DALLAS/FORT WORTH – The City of Irving and the Greater Irving-Las Colinas Chamber of Commerce hosted this year’s 14th Annual Transportation and Infrastructure Summit. The Summit featured a prestigious group of state, national and international dignitaries whose contributions have helped develop potential responses to meet the challenges and opportunities for the future of transportation in the United States and around the globe.

**Lea+Elliott Senior Associate Scott Kutchins** was a panelist speaker during the Seamless Connectivity session. This session included discussions of ideas on using high-speed rail corridors to connect large hub airports in mega-regions in order to alleviate airspace congestion, and stimulate aviation growth.

The Summit strives to educate policy makers from all levels of government about current transportation issues throughout the world. The Summit’s goal is to allow the nation’s transportation and public policy leaders, private sector leaders, and trade associations and groups to learn, share dialogue, advocate and network with the nation’s transportation and public policy leaders.



Scott Kutchins, Lea+Elliott senior associate, was a panelist speaker on seamless connectivity during the Summit. Photo courtesy of the City of Irving

## President's Column

### APTA Rail Conference

BOSTON – This year's APTA Rail Conference was held June 12-15 at the Boston Marriott Copley Place Hotel in Boston. Conference attendees had a myriad of technical sessions to attend, such as crash worthiness, tunnel ventilation, train control, fare collection, and noise and vibration control. Sessions on Public-Private Partnerships, high speed rail and capital funding were some of the better attended. Sustainability remains one of the hottest topics with five sessions devoted fully or partially to the subject.

**Lea+Elliott Principal Steve Perliss** moderated the Honolulu Automated Light Metro session with panelists Toru Hamayasu, City and County of Honolulu DOT deputy director; Terrance Ware, City and County of Honolulu DOT TOD administrator; and Lee Zink, area manager and project principal for the Kiewit Infrastructure West Company. The group explained how the long process of implementing the high-capacity, fixed guideway, automated light metro across Oahu was accomplished, from the application of the Federal New Starts process to lessons learned for others to follow.

The 2012 APTA Rail Conference will be held in Dallas, Texas, June 3-6, 2012. For more information, visit [www.APTA.com](http://www.APTA.com).



### The Tricky World of Non-Exclusive Agreements



Specialty consultants like Lea+Elliott are sometimes asked by architecture and engineering (AE) firms to be part of their design team for airport and/or terminal design proposals or competitions. Due to the unique nature of our expertise, multiple AE firms may ask for our involvement in any one project. Additionally, we will proactively contact certain firms who participate in airport and/or terminal design to let them know that we are available to support their team. The result being that we frequently negotiate non-exclusive consultant agreements because it is necessary from a business development perspective.

From the airport client's perspective, it is advantageous for specialty consultants to participate on multiple teams, as it strengthens the competitiveness amongst the different teams, and increases the probability that the winning team will have the best specialty consultants.

From the AE firm's perspective, on the other hand, the prospect of a non-exclusive agreement is a risky proposition. AE firms worry that competitive information could be leaked, ideas could be stolen, and accidental slips could alert competitors to proprietary information. Breaches like these could compromise the uniqueness of their design and their chances of winning.

Non-exclusive relationships can indeed be tricky; but Lea+Elliott is so accustomed to the process that we know we have a solid, reliable, trusted system in place. We go to great lengths to ensure complete confidentiality—not only to comply with the agreements, but to protect our corporate reputation. Our staff is adept at interacting confidentially with multiple teams, at ensuring that information is not accidentally shared, and working on one team's design without letting knowledge of other designs influence what they're working on.

Witness the recent design competition for the second passenger terminal at Incheon International Airport, the largest airport in South Korea: Lea+Elliott served on five teams, including the winning team and three teams awarded with honorable mention. All of the teams were informed at the beginning that we were on multiple teams, without revealing which ones or even how many. Yes, it can be a delicate venture; but when employees are properly trained and good processes are in place, we know our integrity will remain respected and appreciated by our many partner firms.

Jack Norton

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## About Lea+Elliott

Lea+Elliott is a transportation consulting firm offering a broad range of planning, engineering, program management, and construction management services for clients worldwide. These services are provided to public transit authorities, airports and private sector owners for new transit systems and the refurbishment of existing systems. We have expertise in all modes of transit, including high-speed and intercity rail, rapid transit, commuter rail, light rail, automated guideway transit, personal rapid transit, and conventional and advanced technology buses. The firm is especially well known for its creative structuring of procurements for a wide range of delivery options that include DBOM and P3.

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## New Principal



Lea+Elliott is pleased to announce that **Rod Falvey, P.E.** has been appointed **Principal**. Rod is located in our Orlando office and has over 28 years of experience in system design and interface support services for APM and rail transit projects around the world. He is one of Lea+Elliott's top operating system specialists. Rod has played key roles on numerous complex transportation construction projects during the planning, procurement, design, and implementation stages. Rod is currently a member of the ANSI/ASCE/T&DI Automated People Mover Standards Committee and active on the NFPA 130 Fixed Guideway Transit and Passenger Rail Systems Committee.

