

IN MOTION

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Miami International Airport does it again!



MIAMI – Miami International Airport (MIA) opened their second and final lane of the Satellite E Automated People Mover (APM) System, now known as the e-Train, to passenger service on Feb. 15, 2017. The dual-lane shuttle system is designed to accommodate 5,628 passengers per hour per direction (pphpd). The original Satellite E APM System went into service in 1980 as one of the first airport APM systems in the US. Replacement of the original Satellite E APM System began the first quarter of 2014 with the first lane of the dual-lane shuttle opening in June 2016. Leitner-Poma of America (LPOA) provided the primary system replacement components that included vehicles, train control and cable-propulsion systems. LPOA is under contract for the operations and maintenance of the system.

The Airport is also substantially complete with their renovation of the train stations at the Main Terminal and the Satellite Terminal, as well as, other renovations at the Satellite Terminal to support their growing needs.

The opening of the Satellite E APM System marks the return to service of Miami Airport's third APM system. The Satellite E APM System joins the airside North Terminal Skytrain, servicing Terminal D Gates D1 through D60; and the landside MIA Mover, which connects the Airport to the Miami Intermodal Center.

Lea+Elliott has proudly served as the APM System Consultant, overseeing the planning, procurement,

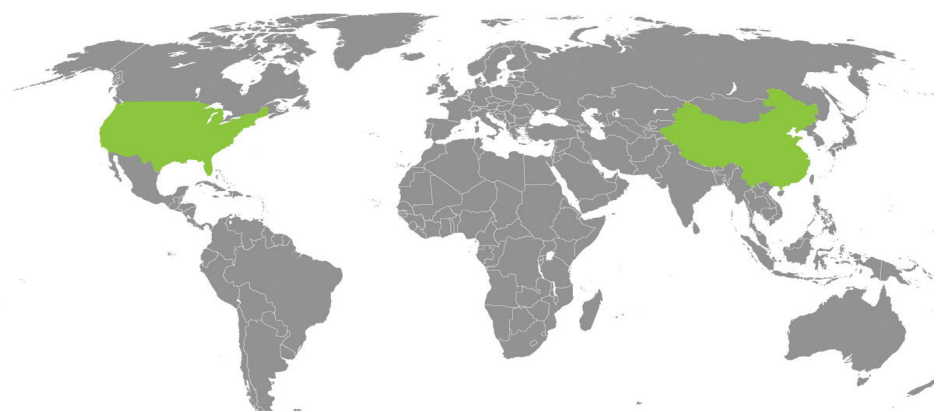


The new MIA e-Train
Images courtesy of Leitner-Poma of America

design and construction management, and operations & maintenance oversight for all three APM systems.



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Shenzhen Satellite Concourse and APM Design Competition

CHINA - Lea+Elliott was a member of the winning multi-disciplinary team for the new Shenzhen Bao'an International Airport Satellite Concourse Design Competition in 2016. Lea+Elliott provided APM expertise as a subconsultant to a three-party joint venture consisting of the Guangdong Province Architectural Design and Research Institute as the lead local terminal planners and architects, Landrum & Brown as the aviation planners, and AEDAS as the architects.

While the design competition focused on the Satellite Concourse, the competition also included the design of a new underground APM system connecting the existing Terminal 3 with the future Satellite Concourse and the planned future Terminal 4. During the six-month effort, Lea+Elliott coordinated with the architect and facility designers to develop an APM system that integrates into the existing Terminal 3 facilities as well as the future Satellite Concourse and Terminal 4 buildings. The final system is a pinched-loop tunnel system with three triple-platform stations and an offline maintenance facility.



Shenzhen Bao'an Airport's Satellite Concourse and Terminal 3
Image courtesy of Guangdong Province Architectural Design and Research Institute

Phase 2 underway for Dulles Silver Line Extension

DULLES – Construction is currently underway on all six stations, the aerial and at-grade guideways, the new yard and the wayside traction power, communications and train control buildings for Phase 2 of the Washington Metropolitan Area Transit Authority's (WMATA) Silver Line extension to Dulles Airport and beyond. Phase 1 of the project, which opened for service in 2014, brought the line out to Wiehle Avenue in Reston. Phase 2, which was awarded in 2013, will take the line through Dulles Airport and out to a final station in Ashburn. Phase 2 completion is anticipated for 2019.

Lea+Elliott is providing support for property acquisition; environmental and LEED engineering; cost estimating; FTA

The future is here

Driverless, automated transportation solutions are evolving at such a rapid pace that we can anticipate that the technology will impact most transit options in the not-too-distant future.



Additional exploration is necessary to determine system priorities and infrastructure needs; but given the amount of technology emerging in the autonomous vehicle market—and the demand to identify and test solutions—we are certain that this technology will continue to improve and gain traction for both personal and group transport.

We, at Lea+Elliott, are no strangers to this discussion. Our team has been working with driverless systems for decades, designing automated people mover systems at airports worldwide as well as automated and self-propelled systems for cities and communities and even properties such as Las Vegas hotels and Hawaiian resorts. We have also been deeply enmeshed in the Honolulu Rail Transit Project, a 20-mile, 21-station, elevated train that is under construction. It will be one of the largest driverless rail systems in the world when completed.

We are accustomed worldwide to being shuttled between airport terminals by vehicles that seem to drive themselves, and we have learned to assume that they are safe and will function as designed; but our comfort level decreases when we start thinking about our personal vehicles. We are not so complacent with the idea that a car we are in might make decisions for us while humans are piloting cars and SUVs and pick-up trucks right beside us. This doesn't even begin to raise individual angst when compared to the concept of one driver managing a fleet of semi-trucks barreling semi-autonomously down the interstate at 75 mph. That technology is being tested today; and a recent Los Angeles Times feature claimed in its headline that "robots could replace 1.7 million American truckers in the next decade."

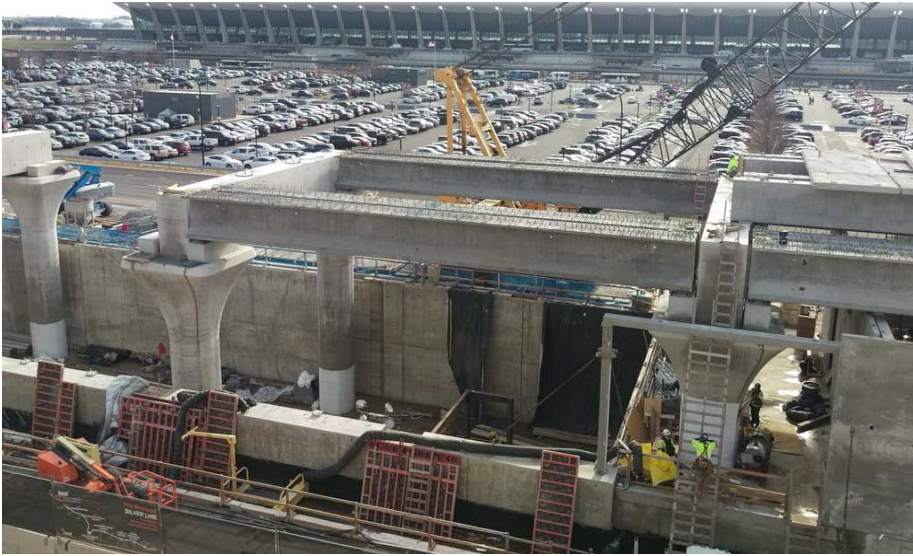
While this all might have seemed like Star Wars dreams at the turn of the 20th century, it has gone from "maybe" to "possibly" to "definitely" in the transportation industry. Our team at Lea+Elliott knows that because we have been there, working through the bugs of autonomy with our clients, studying the pros and cons of human error vs. machine error, and exploring the "what-ifs" of the future. We know the outcomes because we have been in the midst of the fray since the beginning of the autonomous vehicle dream.

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liaison; and system engineering for track, traction power, communications and automatic train control. Although the project is funded and managed by the Metropolitan Washington Airports Authority (MWAA), the ultimate owner of the line will be WMATA. Lea+Elliott staff play a key role in maintaining a balance between the needs and wants of WMATA and the requirements of the Airports Authority's contract resolving issues and keeping the project moving forward. Lea+Elliott has been a part of the Airports Authority's Project Management team since April 2006.



Dulles Airport Station under construction
Image courtesy of MWAA



Aerial Guideway
Image courtesy of MWAA



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As a result, we are getting more and more questions from our transportation clients and performing more and more studies to determine the feasibility of unique transportation projects that embrace the technology.

What do you need to know about automated vehicles? How could a greater understanding of the technologies have a positive impact on your firm and its future? I hope you will reach out to us with your questions and let us give you the benefit of our understanding. We are heading into a "brave new world" and when we explore the right questions, we can go armed with knowledge—and that's good because, after all, knowledge is power.



Jack Norton



EasyMile



NAVYA

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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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Meet Larry Coleman



MIAMI - **Larry Coleman**, like many Lea+Elliott employees, came into the firm after serving as a Lea+Elliott client. He joined us 10 years ago, after working on the Miami International Airport MIA Mover where he was the project manager for Bechtel. “I liked working with the Lea+Elliott team because they were very professional, the people were trustworthy, and they got things done—and done well,” he says.

Larry’s decades of experience in airport planning and developing project strategies, coupled with his procurement expertise, gives him a unique perspective and distinctive skills. For example, he has led and/or participated in the preparation of system plans, techno-economic viability evaluations, and review of program delivery strategies for airport APM projects in Miami, Newark, Fort Lauderdale, Orlando, Tampa, and Los Angeles.

“Usually, when we start an APM project, I work on the front end of it,” Larry explains. “I dig in and try to define the needs of the owner from a transportation perspective: How do people need to move through the airport? Are there congestion issues? Will a people mover fit within their current plans? What is their vision for the future? I look at the big picture and then work through the details to help each client define their need and determine what is the best solution for their specific situation.”

As Larry thinks back on his decades in the industry, he points to the MIA Mover as particularly interesting because it went through so many iterations. “In the beginning, the then-present airport management had a particular vision for the APM system and then that group changed, so the priorities and direction changed too,” he says. “Then 9/11 happened and, for a while, the whole project was put on hold as America dealt with the ‘new normal’ in air travel. Today it’s a fully functioning, well designed, exceptionally efficient system. It is gratifying to have taken it from concept to completion despite the many challenges along the way.” One major lesson learned is to make sure that each plan is flexible and can be adapted to accommodate alternative future development scenarios.

The greatest reward in his work is the ability to solve complex problems. Larry finds great pleasure in developing airport transportation solutions based on the unique character of each facility. Defining the project, exploring the options, and developing creative solutions keeps him challenged and inspired.

“I see myself as an honest broker,” he adds. “If I say I’ll do something, I’ll do it. If I make a commitment, I stand behind it. I think clients understand that about me and I like that.”

