

TRENDS IN AIRPORT EXPANSION AND RENOVATION

Customer-centric focus driving change-up at American airports

With the average age of the American airport now at 40 years, more than a few airports are experiencing something akin to a mid-life crisis. Most are ill equipped to handle an ever-increasing number of travelers. Few offer seamless transportation to and from the facility. None anticipated the need for (and impact of) heightened security post-9/11.

Many airports have not been upgraded in years. But today, government investment in airports is on the uptick, and public-private partnerships – collaborative efforts used to finance, build and operate projects – offer developers an attractive new option.

Today, airports of all sizes are undergoing expansion and renovation; countless others are in the planning stages. None of it comes a minute too soon: According to the Airports Council International-North America, U.S. airports need \$128 billion in improvements in the next five years just to keep pace with current passenger and airline demands.

Factor in changes in mission to include retail and the airport becoming part of the destination, rather than just a portal, the needs and the numbers grow exponentially.

What's on tap? An exciting blend of visionary design and advanced technology. New check-in areas, larger security checkpoints, more space for concessions and upgrades to lighting and flooring. Robotics for luggage handling. Wayfinding apps. Biometrics to reduce wait times.

At every step, the goal is an improved and expanded customer experience. From self-driving cars that improve airport access to self-service check-in to a seamless network of elevators, escalators and moving walks, the focus is on fast, efficient movement through increasingly complex facilities.

Moving more people, more efficiently

“Certainly the world changed with 9/11,” says Dan Brooks, Director, KONE New Construction Corporate Sales. “Airports reacted quickly to make dramatic changes, but those changes were shoehorned into existing airport configurations, and they came at the expense of convenience for employees and travelers alike.”

Traffic flows were altered and bottlenecks became common – and the number of travelers continued to grow. These sacrifices, in the name of security, made sense. Today, we don't have to choose. We can be safe, secure and efficient.

Designers today recognize it's not just about moving more people through the facility. The goal is to make it more efficient for them to move through. Some of the largest airports in the U.S. have lost passengers – their customers – as these airports are outdated and difficult to navigate through. Through modernization and restoration, the airport becomes more efficient and the customer experience is greatly improved.



KEY TRENDS IN THE AIRPORT OF TOMORROW

- Improved customer experience
- Easy and efficient to navigate
- Safe, seamless and smart vertical transportation
- Maximized equipment uptime

How can we make it better?

Inconvenience, delays, congestion: For today's traveler, the traditional airport offers little to look forward to. In most cases, the best we can hope for is that the flight is on time.

In response, designers are taking a more customer-centric tack. Increasingly, they're asking how the customer experience can be improved. Given the sprawl of most airports, safe, streamlined movement through the facility is an essential starting point. Many airports are investing in modernization programs, replacing escalators that are older than most of the people using them.

Few airports would consider a program of complete truss removal, which is costly and requires extensive demolition. More importantly, it creates significant disruption for travelers – everything the airport is trying to avoid. KONE EcoMod™, an innovative modernization solution, offers a solid alternative. Installed with minimal disruption, this solution allows airport operations to continue safely and without interruption.

"KONE EcoMod™ has been very successful, because we can replace one unit at a time and keep the others in the same group moving," says Kevin Wigley, Regional Escalator Sales Manager for KONE. "When you retain the truss, the construction footprint is smaller, and that is so important at an airport, where every square foot is valuable and disruption needs to be minimized."

The solution's robust nature also contributes to its success. Not all escalators are created equal. KONE EcoMod™ is constructed to meet the industry's public transportation standard, one that is designed to support loads considerably heavier than those at, say, shopping malls.

Lower lifetime operation costs

Efficiency and safety are also improved with modernized equipment. Take the sleep mode/standby option now available on KONE escalators. "Airports are typically 24/7 facilities," Kevin notes. "If an escalator is used only sporadically during the night, you wouldn't turn it on and off – but you can conserve energy and preserve useful life with the standby option."



About the authors: **Dan Brooks** is Director of Corporate Sales, KONE Americas, specializing in major projects. He holds extensive knowledge in the elevator and escalator business, with particular expertise in high-rise buildings and complex elevator systems. With more than 20 years, industry experience, Dan is well versed in vertical transportation systems in today's smart buildings.

In standby option, the escalator speed is slowed. Sensors mounted at both ends of the escalator sense approaching traffic, returning the unit to full speed before passengers step on. Depending on individual escalator usage, the standby option can deliver energy savings of up to 30 percent.

Safety is also a concern with aging equipment in legacy infrastructures. As codes and technology evolve, new user protections become available. "At airports you have people in an unfamiliar environment trying to keep an eye on the kids while they're wrangling a lot of baggage," Kevin says. "Safety is critically important."

Innovative design features maximize equipment uptime. The standard lube-free chain used in KONE EcoMod™ escalators reduces maintenance lubrication needs by up to 70 percent, and reduces "out of operation" time associated with routine escalator clean-downs. With increased passenger numbers, the overnight service window is shrinking. "If you minimize the duration of one of the longest escalator service tasks – lubrication – that really provides more flexibility to schedule escalator maintenance tasks during time slots that are best suited for the facility," Kevin says.

A smart approach to maximizing equipment uptime

KONE's 24/7 Connected Services uses IBM Watson™ and other advanced technologies to bring intelligent services to elevators and escalators. With predictive maintenance, you'll see less equipment downtime, fewer faults and deeply detailed information on maintenance work. Heat sensors, people counters and safety sensors take monitoring to the next level.

In asset management planning, IBM Watson™ analytics take the guesswork out of long-term decision-making. Issues needing attention are identified as early indicators, allowing time to establish budgets and act before there's a problem. Planning like that makes safety a priority and streamlines people flow – and that's a trend worth tracking.

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Regional Escalator Sales Manager **Kevin Wigley** has been active in KONE Modernization for more than 25 years. Launching his industry experience with six months' training as an elevator installation apprentice, he has subsequent experience in design, sales, estimating, scheduling and project management of more than 100 escalator projects.

ABOUT KONE

At KONE, our mission is to improve the flow of urban life. As a global leader in the elevator and escalator industry, KONE provides elevators, escalators and automatic building doors, as well as solutions for maintenance and modernization to add value to buildings throughout their life cycle. Through more effective People Flow®, we make people's journeys safe, convenient and reliable, in taller, smarter buildings. In 2018, KONE had annual net sales of EUR 9.1 billion, and at the end of the year over 57,000 employees. KONE class B shares are listed on the Nasdaq Helsinki Ltd. in Finland. For more information, see www.kone.us.