

New overhead directional signs provide wayfinding information for arriving and departing passengers. Terminal labels on the bottom gray panels let visitors know which terminal each bridge accesses. LED lighting improves visibility, even in low-light areas.



Sign Standardization Enhances Wayfinding at Philadelphia Int'l

By Jennifer Bradley



factsfigures

- Project:** Signage Overhaul
- Location:** Philadelphia Int'l Airport
- Signs Updated/Replaced:** 5,000+
- Terminals Affected:** 6
- Total Cost:** \$4.4 million total
- Construction Costs:** \$3.3 million
- Consulting, Professional Services:** \$1.1 million
- Timeline:** 2012-2015
- Wayfinding, Planning & Environmental Graphic Design:** Gresham, Smith and Partners
- Electrical Design:** Arora Engineers
- Graphic Design:** Jones Worley
- Sign Fabrication:** Architectural Graphics
- Installation:** Rockport Construction Co.
- Lights/LED Fixtures:** LSI Industries

When it comes to the art and science of signage, connecting with 95% of your audience is like grabbing the brass ring, explains Mike McCartney, engineering manager at Philadelphia International Airport (PHL).



Mike McCartney

With that goal in mind, PHL undertook a major sign standardization project designed to drastically improve wayfinding for the 30+ million passengers who pass through its facilities each year. The \$4.4 million project took more than two years, spanned six of PHL's seven terminals, added nearly 2,000 new signs and replaced or updated more than 3,000 others. In addition, refinements to the design, placement, lighting and message consistency of signage led to noticeable improvements throughout the airport.

Officials hired Gresham, Smith and Partners (GS&P) to create a new uniform standard for the airport's signs, design the overall project and administer the construction process. With the work complete, PHL officials, airport visitors and the project team like what they see.

Jim Harding, director of Environmental Graphics at GS&P and principal in charge of the project, says that PHL's new signs help passengers immediately know where they are. "It's a beautiful system," Harding reflects.



Jim Harding

Changes that may seem small, such as increasing the size of lettering by 1 inch, made a huge difference in the physical presence of the signs and how people read, react and respond to them, he explains.

Looking Back to Move Ahead

Although the recently completed project began in 2012, the team drew on a background study GS&P performed in 2007. The firm's research cited inconsistent signage as PHL's biggest wayfinding issue and provided specific examples, such as signs using five different names for the regional train system that serves the airport. Other wayfinding prompts used "ticketing" and "departures" interchangeably to reference the same area.

A general desire to incorporate more pictograms for the airport's growing base of international travelers who don't speak English also propelled the project forward, recalls McCartney.

GS&P personnel working on the revamp note that the signage inconsistencies found at PHL are typical at large, complex airports. With seven terminals and 126 gates, PHL ranks as the 20th busiest airport in the world.

"It's understandable how they got there over time," says Jim Alderman, senior project designer with Environmental Graphics at GS&P and project manager/senior designer for the PHL project. "Each of the terminals had renovation projects going on at one time or another, so you could walk from one end of the airport to another and experience three or four totally different sign systems."



Jim Alderman

Like many airports, PHL had a history of simply adding more signs, he explains. Eventually, the signs accumulate and create visual clutter that actually complicates wayfinding. McCartney refers to the common kneejerk reaction as sign-a-holic syndrome. "This is where wayfinding complaints are addressed



New freestanding signs along curbs near baggage claim areas identify zone assignments for various ground transportation services. A single-post design and ample clearance allow pedestrians to walk underneath. Previous double-post signs blocked more of the sidewalk.

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New overhead directional signs in baggage claim areas direct passengers to ground transportation options outside.

by adding yet another sign,” he explains. “Eventually, you’re so saturated with signs that you lose the messaging on any of them.”

Renovations had also eliminated the line-of-sight to some signs, and limited space hampered the effectiveness of others — creating a proven disconnect that lowers passengers’ confidence levels, notes Alderman.

McCartney agrees that PHL’s signage issues developed gradually over years. “At no one time did anyone take a holistic approach and look at the whole airport in terms of signage structure,” he reflects. “In one terminal, the signs were maroon and white, and in another, black, white and red. It was a hodgepodge of formats and styles.”

Stepping back to examine the airport’s history with signage helped the team chart a course forward.

Beyond common sign problems that plague many airports, PHL also has a unique challenge: Its baggage claim area is located down a long and winding path, across the street from the terminals and ticketing areas. “It’s not what passengers would normally expect,” says Alderman. “The signage and wayfinding have to coax them along.”

Facilitating Flow

Alderman and Harding both emphasize the importance of studying passenger flow when redesigning an airport’s signage program.

“It all begins with origination and destination,” explains Harding. “You also have to factor the flow into the specific needs of each different type of passenger: departing, arriving or connecting.”

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ASIANA	OZ885	HONG KONG	11:25 AM	154	ON TIME
DELTA	DL151	TOKYO NARITA	11:30 AM	150	SCHEDULED
UNITED	UA101	PUDONG	11:30 AM	150	ON TIME
AMERICAN	AA101	SEOUL INCHON	11:30 AM	156	SCHEDULED
DELTA	DL151	TOKYO NARITA	11:35 AM	119	SCHEDULED
AMERICAN	AA101	SANTIAGO	12:45 PM	123A	SCHEDULED
AMERICAN	AA101	SINGAPORE	2:15 PM	130	SCHEDULED
AMERICAN	AA101	KUALA LUMPUR	2:40 PM	152	SCHEDULED
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Long-term GS&P research has found that connecting passengers typically struggle the most with wayfinding. “Usually, there’s not a whole lot to tell them where they are as they exit the jet bridge,” he comments. “We try to put ourselves in the shoes of each passenger — to understand what it is they need to know, at the right place, at the right time, to make the right decision.”

Passengers who know an airport’s flow patterns are less stressed and enjoy their travel experience more; and passenger ease translates directly into concession sales, says Alderman. “If people are confident about where they are, where they need to be next and how to get there, they are much more likely to relax along the way, buy a coffee and spend some time in the newsstand,” he explains.

Research shows that happy customers spend up to 40% more than unhappy ones; and effective wayfinding helps keep airport customers happy, reasons Harding.

McCartney knows firsthand how frustrating ineffective signage is for passengers — and for airport staffers who field complaints about it. “You want to decrease the amount of people just standing around looking where to go,” he says.



New signage is externally illuminated using adjustable, ultra-thin LED fixtures placed and directed to minimize light spillage. Sign faces have a matte finish to minimize glare.

But passenger flow changes over time, especially as renovations occur and operations evolve, Harding advises. Unfortunately, airports often adjust signs in the small, immediately affected area, often creating inconsistency and confusion elsewhere.

Instead of reflexively adjusting or adding signs in individual areas, Alderman encourages airports to consider the “spider web ripple effect” that every change has. “You have to back up and see the bigger view of things to see how extensive that ripple is in order to stop the gaps in the wayfinding,” he advises.

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New elevator directories in the garage are designed to show the relationship between garage levels and terminal levels, which do not correspond one-to-one.

Design & Installation

Harding says that PHL's updated signage program successfully addresses the three Cs of wayfinding: connectivity, continuity and consistency.

The new design scheme was patterned after existing signs that have been well received in the airport's newer areas, Terminal F and International Terminal A-West, notes McCartney. There are, however, subtle differences. The text on the new signs is slightly larger, the grid is rigorously deployed and better lighting improves readability, details Alderman. The fixtures also are slimmer and less obtrusive, he adds.

The task of resolving glare issues by repositioning individual signs fell to Philadelphia-based Rockport Construction Co. Working alongside the project electrician, Rockport's four-man crews hung signs throughout the two-story building from May 2014 into January 2015. The large fixtures — some up to 21 feet long — were particularly challenging, especially when they had to be anchored into older ceilings with utilities strung throughout, recalls contractor John Rutecki. "The overall project looks really nice," he remarks. "The old signs were past their prime."

Chris Reid, architectural project manager at Architectural Graphics, fabricated PHL's new signs. Having completed many similar projects in the past, brightness and clarity were Reid's initial concerns. "I wanted to make sure we could get them to illuminate properly through the designs," he explains.

Using energy-efficient slim-line LED fixtures was a key component of the project, says McCartney, explaining that their improved technology makes the signs visible from farther away and really "makes the text pop." Cost, sustainability, maintenance and performance benefits drove the decision to replace fluorescent units with LEDs early in the design process, notes Alderman.

Like lighting, standardization was an important topic throughout the project. Recurring locations such as restrooms, information booths and curbside ground transportation zones are now marked with uniform signage. In addition, the garage area has a new directory design, with terminal levels listed on one side and parking levels on the other. Previously, visitors had been confused about level changes between the two areas, Harding explains. Having new signs in the terminals, baggage claim areas and elevators that service the parking garage supports the wayfinding progression, he notes.

McCartney knew that the team approach to design, fabrication and installation had succeeded when compliments began rolling in as crews hung the first few signs. One employee described the changes as a "breath of fresh air." A member of the senior management team said that the new signs make the concourse look 25 years younger.


"You can see these signs from afar," reports McCartney. "So people are no longer congregating in little pockets at decision points, looking where to go. The signs actually direct them, and call out to visitors various points where they can meet their family members after they exit the secure side of the airport."

Long-Term Benefits

At the outset of the project, GS&P performed an inventory of PHL's existing interior signs and entered the data into a geographic information system (GIS) platform that geo-referenced the signs on a scaled data map. Designers used the valuable findings to identify inconsistent messaging and optimize sign placement. Going forward, the database will help airport officials manage the new system GS&P put in place.

"The GIS database was something we considered a success," says Harding. "The airport has thousands of pieces of information to manage. How can they logistically and realistically keep up with that? It can be crazy."

In addition, the scaled data map will eventually become a part of the airport's asset management system, notes McCartney. The airport also plans to leverage its new wealth of asset information by developing an interactive wayfinding map to further improve customer service within the terminals.

Given the recent improvements at PHL, Harding encourages other airport officials to assess their signage. "It's important an airport values its wayfinding system," he says. "It requires maintenance as do the HVAC, lighting or communications systems." 

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