Finding a Way

Airports use technology to direct passengers

BY JODI RICHARDS

↻ Opportunities to create personalized experiences

↻ Improved efficiencies

Airport wayfinding is now on the threshold of a new era driven by digital, interactive technology.

But with the advent of smartphone apps, developed specifically for airports, and mobile websites, are the wayfinding "you are here" maps still needed?

Airports, likes Boston Logan International Airport, endeavor to meet the needs of both the passenger that has a mobile phone and the knowledge to use it for wayfinding and the passenger that does not, "without leaving anyone disenfranchised," said Colleen Hamilton, principal with Art of Context, whose firm provided the programming behind Boston's new interactive wayfinding displays.

The aviation industry is in a "sweet spot" when it comes to wayfinding technology. "We're at that convergence point in technology where it makes sense to move forward with something like this," said Samuel Ingalls, assistant director, information systems at Las Vegas McCarran International Airport. "It's not prohibitively expensive, it's not prohibitively technically difficult to either install or upgrade when needed. It is technology that works well and can really bring efficiencies to the airport environment and enhance the customer experience."

This spring, Logan rolled out a new digital wayfinding program that provides passengers access to real-time information, including airport maps, said Francis Anglin, Boston's chief information officer. Anglin calls the program a "huge effort" and a "multi-million project over three to five years."

Passengers touch the screen or use the boarding pass scanner to initiate wayfinding, Anglin explained. With the opening of Terminal B, Boston will have this technology in six locations. According to Bob Haverty, manager, passenger information systems for Massachusetts Port Authority, there are plans for multiple locations in each of Logan's four terminals.

As passengers come through security and have their boarding pass in hand, they can scan it and see an animated path on how to get to their gate and the amenities along the way, Hamilton said.

Integration of a boarding pass reader attracts passengers who may not be comfortable using digital wayfinding technology, said Jason Shevrin, special systems department head at Arora Engineers, the manufacturer of the boards. "Somebody who would be hesitant to touch it, they're drawn in because they scan the boarding pass and the display generates the experience without you really having to do anything," he said.

Dynamic signage allows an airport to present multiple layers of information on a single display, explained Shevrin. And, in the case of Boston, interactive displays allow passengers to generate their own experience, he added.

Creating a personalized experience and location based-services will come more into play at airports, as "consumerization" continues, Shevrin said "That is that consumers will expect the devices and services they have at home to be available everywhere."

Digital wayfinding certainly still has a place in airports, despite the increase in the prevalence of mobile devices, agree Hamilton and Shevrin. "I don't think that dynamic or interactive wayfinding at the airport is going to go away," Shevrin said. "As people use technology, they're going to gain trust for it. But I do think the ability to use your mobile device to do everything you want to do at the airport has to come into play at some point."

Arora is focusing its research on location-based services offered through mobile apps or enhanced websites. "I think that's really important," he said. "An airport can use its WiFi to determine where exactly in the building you are so long as you're logged into their WiFi." In that case, once a traveler has logged into the airport's system, the airport knows the traveler's location and can suggest wayfinding options.

Critical to Boston's program are its newly updated terminal maps. Shevrin and Hamilton said there must be consistency between maps on an airport's website, printed at the airport, on the interactive and dynamic signage and on mobile apps.

A traveler using the new interactive wayfinding map at Boston Logan.

In addition to consistent maps, Boston also made that information available to third-party developers and publishes a public feed of concession information so aggregators can use the content. "Airports should be willing to share their maps so everyone has the same information," Shevrin said.

Looking ahead, Hamilton said Boston is exploring the possibility of integrating quick response (QR) codes with the wayfinding displays so that travelers can view menus and take them with them on their smartphones or see taxi and baggage claim wait times, for example. Another possibility would allow travelers to scan a barcode or enter a phone number to be texted directions or a QR code that puts directions directly on a phone. Linking the wayfinding with social media is also a possibility, Haverty said.

McCarran's dynamic approach

While McCarran International has been reaping the benefits of digital signage since 1997 with the installation of common use equipment, according to Ingalls, the airport's new Terminal 3 showcases some of the most industry-leading uses for digital wayfinding technology.

Opened in mid-2012, Terminal 3 features 1,200 dynamic signs, comprised of LED and LCD technology. Throughout McCarran, travelers will find 30 interactive directories, which provide flight information, restaurant locations and menus, and restroom locations. The dynamic nature of the displays makes it easier and faster to keep it updated as locations of concessions or air carriers change, Ingalls said.

Gate information displays provide passengers with information on upgrades, standby lists and meal service to ease some of the demand on airline personnel. "Front to back, it's a comprehensive signage package," Ingalls says.

McCarran has worked with Google so that customers have the ability through the Google Map app to find their way through the terminal, within 1 meter accuracy. Ingalls explained that the program triangulates off of the airport's wireless

system. It is not currently linked to other airport information, such as restaurant menus, but Ingalls says it does set a foundation for that functionality in the future.

CBP works to accommodate traffic growth

Growth in international traffic has led United States Customs & Border Protection, through its Business Transformation Initiative, to look at improving throughput and efficiency in international arrivals halls. In a partnership with the Chicago Department of Aviation, CBP has analyzed wayfinding at Chicago O'Hare and is implementing dynamic digital signage to enhance existing static signs, explained ACI-NA's Matthew Cornelius, managing director for air policy and staff liaison with the Facilitation Committee.

"ACI-NA has worked closely with CBP to help support its efforts to do anything to lessen the wait times and increase the throughput of passengers in our members' international arrivals hall," Cornelius says. At the same time that international traffic is growing, the federal budget has constrained CBP staffing and resources, creating a recipe for long wait times.

Mobile app technology

For those travelers who carry their wayfinding devices with them in the form of a mobile phone, there are applications available for download.

Launched in 2009, GateGuru is a mobile app with facility information for more than 200 U.S. and international airports, and its flight tracking portion has data for more than 15,000 airports, according to Dan Gellert, co-founder and CEO of GateGuru.

Users can find flight status information as well as airport-specific details such as weather and amenities and airport tips. Information in the app's database comes directly from airports as well as app users.

Ensuring information in the app is accurate and up-to-date is crucial for success of the app, as

well as the satisfaction of the traveler, said Gellert. "When things aren't accurate, that's probably a user that was going to buy something that is not going to buy anything." GateGuru views airports as valuable partners, Gellert said, and works with them to create an accurate, useful product for app customers.

Dallas-Fort Worth International is one airport with its own mobile app.

Launched in January 2013, the airport's interest in developing the app was to provide passengers up-to-date information in a real-time format, said Sharon McCloskey, vice president of marketing. The on-going $2.5 billion construction program means frequent changes in parking and concessions thus creating its own app made sense, McCloskey said. Surveys have found that 81 percent of DFW's passengers carry a smartphone and a third of use mobile apps when traveling.

The app has been downloaded more than 75,000 times, McCloskey noted. Because of growing international traffic, Dallas Fort-Worth's mobile app is also available in Spanish, Portuguese, Chinese and Korean. A new version, which will be rolled out this summer, will included weather updates and alerts, hours of operation and menu listings for concessionaires and voice search functions. ∎

THE BOTTOM LINE: *Airport wayfinding in the era of digital technology has the potential enhance the consumer experience and increase efficiency. Options are varied and best practices continue to evolve.*

Additional Resources

San Francisco International is currently reevaluating its mobile app presence and its digital wayfinding is in a state of transition.

The My TSA mobile app from the Transportation Security Administration provides travelers easy access to some of the most frequently requested security information. Passengers can also post security wait times and see what other travelers are experiencing at U.S. airports.