As airports become increasingly complex environments to navigate, guests need more help from wayfinding aids. Detroit Metropolitan Airport (DTW) is doing its part to relieve travelers' stress by installing digital LG directories throughout its two terminals.

At a cost of approximately $2 million, the airport recently replaced 27 paper directories (8 single-sided; 19 double-sided) with 23 digital directories (3 single-sided; 20 double-sided) within its McNamara Terminal. During three more phases, DTW will replace print directories in its North Terminal and add interactive kiosks throughout both terminals.

Wayne County Airport Authority has three primary goals for the multi-year directory project: improve travelers' experience at DTW; update information while complementing the terminals' architecture and aesthetics; and make it faster and easier to change directory content.

The previous paper directories in McNamara consisted of static, backlit printed maps. To change them, crews had to open the glass case of each directory, and then mask or change information with pieces of tape.

"It literally took tens of man-hours to make a directory change," informs DTW's Program Manager Staci Saker. "Now, it takes about 15 to 20 minutes to plot it out on a map and push it into production."

The new showpiece of the project is a doubled-sided dynamic directory that is centrally located on the secure side of McNamara Terminal. When a passenger scans a boarding pass with the directory's 2D barcode reader, the unit displays the route to his or her gate and calculates how much time it will take to walk and ride there. The directory's 98-inch display is said to be the world's largest traveler wayfinding monitor with an integrated barcode reader.

McNamara's 22 other new directories display information statically and feature 84-inch ultra-high-definition 4K commercial monitors that are designed to run nonstop for up to five years. All of the monitor frames and cabinetry were custom built.

"Our new digital directories are one more way our airport team continually strives to better serve our customers," says Thomas Naughton, the airport authority's chief executive officer. "These new displays not only help our travelers get to where they are going efficiently, they also help create better awareness of all the other amenities our airport has to offer."

THOMAS NAUGHTON

DETROIT METRO • WILLOW RUN
WAYNE COUNTY AIRPORT AUTHORITY

FACTS&FIGURES

Project: Digital Directories

Location: Detroit Metropolitan Airport, McNamara Terminal

Prime Tenant: Delta Air Lines

Approx. Cost: $2 million (phase one)

Project Scope: Replacing 27 paper directories with 23 digital directories

New Equipment: 84-inch ultra-high-definition monitors in 22 locations; centerpiece unit includes 98-inch display with integrated boarding pass scanner

Display Manufacturer: LG

General Contractor & Prime Consultant: Arora Engineers

Ergonomic Planning: Gresham, Smith & Partners

Display Cabinetry: Harmon Sign

Graphic Design: Illium Associates

Software Implementation: Art of Contex

Technology Deployment Services: Infax

Temporary Directories: Creative Graphic Solutions

Electrical: Centerline Electric

Power Supply: Meanwell

LED Lighting: Sloan

Aluminum Extrusion for Cabinets: SignComp

Terrazzo Floor Patching: Michielutti Bros.

Of Note: 98-inch 4K monitor is said to be largest single wayfinding display with integrated boarding pass scanner in the world

Future Phases: New digital directories in North Terminal; installation of interactive kiosks in both terminals

-Tech Digital Directories

BY ROBERT NORDSTROM

Getting It Right the First Time

The project was more complex than merely swapping out directory displays, emphasizes Saker. Rather than taking a broad pull-and-replace approach, the airport authority required an initial ergonomics study during its initial request for proposals to help determine how and where travelers interact with the DTW's directories.

"We wanted to make sure we got it right the first time, which has been our message to our board and constituents from day one," explains Saker. "Initially, we thought we would just go in and replace all of our existing directories where they stood. Then we realized that might not be the smartest approach. We needed to provide information and tools at the right location, at the right time and via the appropriate vehicle, so travelers could make decisions specific to their location and situation within the airport."

The ergonomics study that was eventually conducted established the baseline and foundation for the multi-phase program that will eventually be used throughout both of DTW's terminals.

The airport authority hired Arora Engineers as general contractor and prime consultant for the project. Jason Shevrin, vice president of the company, reflects about DTW's strategy: "A lot of times we see digital signage, whether at an airport or other transportation hub, and think that it's a

JASON SHEVRIN

quick and easy fix — all you have to do is buy a display, hang it and show something on it. But it's really important to look at the environment through the customers' eyes as opposed to the stakeholders'. DTW approached this project in a smart and methodical way."

In early spring 2015, Arora subcontractor Gresham, Smith & Partners initiated a study designed to maximize the effectiveness, ease of use, efficiency and safety of the airport's new directories. After months of research, the team created detailed circulation diagrams that analyzed movements of various passengers (departing, arriving, connecting) and relevant content for various locations. Based on its analysis, the consultant recommended locations and orientations for DTW's new digital displays.

"Whether it be wayfinding or interactive, our goal was to identify the information and technology that would enhance the customer's experience," Shevrin explains. The team also showed airport personnel where they would "get the most bang for their buck," he adds.

As with most large airport initiatives, numerous factions were consulted and opinions varied accordingly. The airport's technology services group, business development department and facilities team all weighed in on the plan, as did representatives from Delta Air Lines, McNamara Terminal's primary tenant and hub carrier.

"There were hurdles to overcome, but we worked collaboratively with all the stakeholders to determine what should go where," Shevrin recalls.

Manik Arora, president and chief executive officer of Arora Engineers, highlights the teamwork that occurred and the results it facilitated: "I'm proud of the collaboration among our team, the airport authority and Delta

MANIK ARORA

Air Lines to execute a one-of-a-kind design/build/maintain project. The airport now has a high-tech solution to a challenging wayfinding problem, not to mention the largest digital directory screen of its kind to integrate with a 2D barcode reader."

Tight Deadline

Airport officials were determined to complete the first phase of display updates before last year's Thanksgiving holiday rush. While preliminary research and lengthy discussions with stakeholders proved to be time and money well spent, they also delayed the start of construction. Beginning in October 2015, crews, in effect, had less than two months to complete the project.

Before construction began, electricians disconnected the power supply. In the non-

The airport's new digital directories are much easier to update than its previous paper versions.

An ergonomics study helped optimize the content and placement of DTW's new directories.

public baggage makeup area, they were able to complete this preliminary step during the day.

Each directory location typically required three nights to finish, and contractors simultaneously worked on four directory locations. Planners scheduled work to ensure that no two adjacent directories were out of service at the same time. Before beginning at each location, Arora workers constructed a secure plywood barrier around the work site and hung temporary digital directories on the barriers. Then, they removed the existing directories inside the barriers and installed the new digital directories, cabinetry and refurbished support structures.

Harmon Sign supplied custom aluminum extrusion cabinetry with routed LED backlit signage for the new monitors. "We felt that the existing support structures would need to be totally refinished to meet owner expectations," explains Harmon Account Executive Dave Brink. "We lobbied and, hats off to the Arora team, won approval to transport the structures to our plant, where we could repaint them in our spray booth and make them look like new."

DAVE BRINK

Shevrin highlights tight coordination of subcontractors, constant onsite support and flexibility to change the schedule in progress as vital elements of the project. "We completed the work on the exact due date for completion," he reports. "We couldn't have done it without the team we put together."

Just the Beginning

With phase one completed, DTW is proceeding with the installation of interactive kiosk directories throughout the McNamara Terminal. The new touch-screen units will help travelers navigate their way

through various airport services and options. Whether they are looking for flight information or trying to locate a club, restroom or specific food and beverage offering, guests will be able to find it on the new directories.

Immediate plans include four kiosks to enhance the customer service desks located before and after the security checkpoint. The ergonomics study identified 20 possible locations throughout both terminals, but the airport has not determined how many kiosks will ultimately be installed.

With kiosk installations in the McNamara Terminal scheduled to wrap up later this year, additional projects in the North Terminal are being evaluated. Installation of new directories will take priority, followed by kiosks. Initial plans anticipate work to occur in 2017 and beyond.

DTW officials view the ongoing directory and kiosk program as a platform to serve customers in other unique ways. "This is step one," explains Saker. "The research, design, artwork — all of that will be built out into our website as we focus on using new technologies to improve our customers' experience. For the interactive piece, we're looking at including information in eight languages. We want to eventually connect with customers through mobile apps and back to our website. We want all of this to have a consistent look and feel, and of course with accurate content."

Given the rapid pace of technological change, Shevrin encourages airports to remain open to innovations. "That means knowing what customers are doing at home as well as at the airport," he explains. "What do they expect once they get to the airport based on what they are doing at home? As consultants, that's an important question for us to ask and answer. For airports, it's important to align their technologies and services accordingly."