Anticipating and Designing for Change: Wayfinding for Evolving Airports

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Overview

The way passengers use and interact with airports is changing. Airports are no longer simply a place to catch a flight; they are increasingly becoming a destination—a locale where individuals want to spend their time, a setting that offers everything in one place, from exciting retail and dining to engaging entertainment. These offerings contribute to an enhanced experience that isn’t solely focused on air travel. The ever-changing, dynamic field of airport planning and design is one that demands we look to the future. Early collaboration between owners, architects and consultants can contribute to the complete experience that airports of the future will provide. By acknowledging the socio-cultural and technological shifts affecting airports today, with a view towards the critical role that airports will play years from now, the following explores potential impacts as they relate to wayfinding—the ways individuals orient themselves in physical space and navigate from place to place—and branded environments. Moreover, the article explores how these considerations and strategies will empower a partnership in the planning and development of airport spaces.
Overarching Assumptions

In considering what airports will look like in the future our firm has made some overarching assumptions about the goals and priorities that will be central to airport design—in other words, the influencers of change.

In a broad context multi-use space is increasingly at the forefront of many development projects, and many airports—whether large or small—are already adapting and expanding their offerings. This cultural shift to a focus on the principles of hospitality is central to forward-looking airports. As a destination intended to meet all of one’s needs, future airports will increase their offerings for shopping, dining, entertainment, activities, fitness, relaxation and other amenities, along with accommodation. The increase and combination of these elements contribute to greater potential revenue generation and solidifies the airport as the place to be, rather than simply a departure or arrival point.

Another key motivation that continues to drive change is a focus on efficiency. As technology advances, airport operations are further able to hone methodologies and systems to improve the overall customer experience. Tied to this, technology will facilitate a greater focus on personalization for airports. Devices that can interact with signage—whether they be hand held devices, augmented reality or visual screens—will enable airports to offer a more personalized, as well as preference-based, experience.
Impact on Signage & Wayfinding, Strategy & Design
Given the assumption that airports will increasingly move towards a focus on hospitality, efficiency and personalization, there are several key areas we believe will directly impact signage and wayfinding from both strategy and design perspectives.

In each area—Technology, The Passenger Journey, and Airports as Destinations—we describe the changes we see coming, with a view to what is likely to remain unchanged, and how we plan to respond to the challenges or conditions that these changes represent.

Our Response

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1. Technology
Modern society has witnessed how rapidly advancements in technology occur, and the universality often encoded in technological change.

We anticipate that in the future, universal airport applications will provide a common experience to users no matter where they are in the world. A good example already in existence is the Uber app, which provides users with the same experience worldwide, regardless of location. This includes upfront travel costs and ETAs, an easily accessible car menu (UberX, UberPool), and personalized choices based on habit. Currently, geolocation services like Google Maps capture exterior spaces, however the technology is quickly being adapted to public interiors. In an airport environment we believe this technology will become a universal tool that provides mobile users with contextual or directional information in a familiar format. Given this context, universality presents a challenge for airports: specifically, how can their individual character be retained?

Personalization can happen through a variety of methods. Augmented reality can embed additional info onto a device for a richer experience. The Uber app is one that can be used worldwide and anticipates customer's needs.
Another anticipated change is biometric scanning. While used in a limited way today, in the future it might be commonplace for airport security. This is likely to affect the interior structure or layout of airports, the expediency of security processes, and ultimately a user's journey flow.

Further, there will undoubtedly be evolutions in industrial design that will have an impact on signage and display materials. These advancements may encompass everything from new lighting products; alternative methods of applying graphics; refinements to base materials such as aluminum, acrylic, or stainless steel; to changes in digital technology, for example screens that are thinner, smaller, faster. Any significant change is likely to influence signage design decisions.

In terms of what will remain unchanged, there will always be individuals who do not use mobile devices or who opt out of technology related services. Their wayfinding experience must also be taken into account.
Our Strategy

As a team we have considered several strategies to address these changes. The following are by no means exhaustive, however they represent some very practical and effective approaches that can be considered in the preliminary stages of airport design. Though the technology may change, the fundamental principles of any signage and wayfinding program will not: for a signage program to be successful all signs in the program need to be part of a holistic system that provides the right information at the right time.

Leveraging Digital Kiosks

In the future, digital airport kiosks could be leveraged to do more from a wayfinding perspective. Using geo location technology, combined with customized or personalized information, kiosks could become wayfinding elements in and of themselves. For example, kiosks could provide relevant airport directional information specific to an individual’s flight when that person checks in. As physical structures within an airport space, kiosks could also become landmarks that create pause by referencing local culture, or creatively supporting an airport's brand.

The kiosks developed for Westfield at JFK combine wayfinding with flight information and shopping opportunities.
As mobile devices connect with the airport network mesh, dynamic elements can begin to communicate with users in the vicinity. When critical information is not required, kiosks could provide sense of place or other imagery.

Connectivity Between Devices

With the rise of the Internet of Things—a concept defined by connectivity, wherein any device with a power switch can be connected to the Internet, creating countless interconnections—it’s possible that this type of technology could be encoded into wayfinding signage. Whether signage components are static or digital, large or small, technology that allows devices to recognize one another could prove advantageous where it supports the program as a whole. For example, a haptic notification—which relies on touch or vibrations—might inform a visually impaired passenger of the correct path as they pass by a directional sign with a Beacon installed. Alternatively, this technology could provide customized audio to a passenger’s personal device when they reach a certain area of the airport, minimizing public messages in the terminal.

Preserving Traditional Wayfinding

Static signage in the airport environment will remain a key component of wayfinding. These types of signs will continue to be opportunities to highlight what makes a particular airport unique and to act as airport brand touch points. As physical reinforcements, they are also essential for the utility and function of the space since they apply to all types of users: done well they can contribute to a positive user experience and brand impression.

Customizing Information in Real Time

Utilizing technology to provide passengers with customized real-time information, will contribute to a more personalized travel experience. Customization could take the form of flight tracking information, destination weather conditions, secondary language messaging based on inbound and outbound flights, or engaging content relative to a passenger’s current or intended destination—with contextual content aligned with current flight data. Using large-scale screens for maximum visibility and placing them in appropriate, captivating locations, this customized information could offer peace of mind to passengers and reduce travel anxiety. At Gerald R. Ford International Airport (Grand Rapids, MI) this strategy was applied to two key areas, at the primary security line and adjacent to the airport food and beverage area. In both instances, passengers are reassured of travel times and entertained by variable content.
2. The Passenger Journey
As part of the evolution of airports, the sequence of events for passenger travel is likely to change.

For example, the typical order—check-in, bag drop, security check, and then aircraft boarding—could transition to security screening being done immediately upon entry to the airport complex. Alternatively, screening could be done immediately prior to boarding the airplane. This process could be streamlined for all users: passengers, tourists, and airport community members alike.

In fact, one of the things that leading airports are already rethinking is baggage handling, and the use of remote bag drop offs. This directly affects how and when a person checks in. Yet another change to a passenger’s journey will likely be seen in the operational flexibility of different airport areas. The increased presence of, and planning for, swing conditions (flexible spaces) means more airport areas will serve multiple functions. Similarly, where or how passengers queue for flights will be impacted by these kinds of fundamental changes within the airport environment.
Our Strategy

The Promise of Digital Technology

Given that the norms as we know them are expected to look quite different in the future, our aim will be to take into account the collective impacts to the passenger journey as it relates to wayfinding. One solution could be leveraging digital displays for their versatility, familiarity to users, and future affordability. We anticipate that consideration will need to be made for how these displays will function as both wayfinding elements, and opportunities to support the airport’s brand. Further, whenever used for wayfinding, these digital screens function as part of a cohesive, uniform system that aids navigation. At the same time, how and where tenant brands (airlines, retailers, support services) can be displayed utilizing digital technology, will need further thought.

Focusing on the Experiential

Landmark creation as part of the passenger journey will similarly help define airport spaces, assisting with navigation while emphasizing airport brand attributes. With hospitality as a primary concern of future airports, the aim will be to create wayfinding and signage programs that are increasingly experiential, rather than simply directional or informative. An example of this is the media installation at LAX. A series of digital screens throughout the site—differently sized and positioned—use a broad range of images, videos, and real time data, injecting excitement into a passenger’s travel experience. As multi-functional elements, these landmarks are also important nodes in the wayfinding system, meeting places, and intriguing points of interest.
Vancouver International users a series of aboriginal art pieces that provide a memorable and identifiable series of landmarks.
Improving Navigation with Early Input

By being involved in the early stages of airport design, signage and wayfinding consultants are able to provide overarching strategies that can enhance navigation, anticipate areas of improvement, explore opportunities, and establish visual standards that will help improve a user’s overall airport experience. With a holistic perspective grounded in the customer experience, wayfinders are able to explore and adapt methodologies and systems that offer the solution best suited to the customer in a given airport environment. For instance, at Calgary International Airport, early involvement in planning influenced a gate-naming scheme that ensured a logical and effective order was applied to the 24 new gates and two concourses. This early planning further impacted strategies to ease congestion and lead to more intuitive navigation.

The passenger flow, pinch-points and key decision points were studied in the early Conceptual Design Phase of the Calgary Int’l Airport. With consideration for gate numbering systems and the reorganization of the Pier letter system, Calgary is well equipped to accommodate their current and any future expansions.
3. Airports as Destinations
The overall size of airports is expanding; as this happens the growth of the airport vicinity likewise increases.

We anticipate this trend will continue with the proliferation of airline travel. Together with the physical expansion of airports will be an increase in services available to passengers, tourists and individuals of the airport community. Airports could quickly become cultural and social destinations in their own right. Take New York City’s Grand Central Terminal as a current example; it offers shopping, dining, a market and events in addition to being a major transit hub. In this changing context, the challenge for many airports will be achieving the appropriate mix of air travel and alternative services, while simultaneously creating differentiation from other airports.

What’s more, airports are evolving into multi-model transit hubs, wherein flying is just one of many modes of transportation. As public transit, ride-hailing, ridesharing, and driverless cars increase so too does the convenience and affordability of connecting between locales. With alternative modes of transportation becoming more readily available, it’s likely abundant airport parking will be less necessary, and in turn, occupy less space. This anticipated evolution in parking could create opportunities for repurposing these spaces for other means.

In many ways, airports are becoming cities unto themselves. The surrounding infrastructure of a number of airports—roadways, buildings, plazas, and residences—are synthesizing into a larger, interconnected airport city.

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The Greater Toronto Airports Authority is planning a multi-modal transit centre at the airport. The centre will connect with a number of transit lines including the local LRT, High Speed Rail and regional transit. The local area will also be developed with a mix of hotels, commercial, office and shopping.
Our Strategy

Layering of Information

In response to a multi-purpose, multi-use airport environment it may be necessary to introduce distinctions into the signage program. This could mean creating a dual wayfinding system where one aspect focuses on navigation for aviation or modes of transit, and the other is intended for hospitality and urban spaces. This could mean developing multiple sets of signage products ("layering" signage) to support both functions or environments. This approach would need to be done in a way that each set would complement the other and operate as part of a holistic system. The signage approach for Marina Bay Sands Integrated Resort provides a concrete example of this strategy. In this instance, unique signage solutions were developed to match two very different areas: urban, sleek signage designs for the high end shopping mall, and minimalist, modern signage for the conference facilities.

Perhaps even the signage system can be a “dual” system. Where there is a typical airport system, in combination with a more urban or cultural wayfinding system to guide passengers with different levels of time and leisure constraints. This system for Marina Bay Sands in Singapore treats retail wayfinding in an urban context.
Creating Differentiation Through Placemaking

According to well-known French anthropologist Marc Augé, places are defined as “relational, historical and concerned with identity.” In contrast, Augé submits, “a space which cannot be defined as relational, historical and concerned with identity will be a non-place.” For airports, it is essential that the physical environment be utilized to emphasize an airport’s unique positioning or brand, and that elements that can give a space character or ‘soul’ are introduced. This kind of placemaking is key in creating differentiation and positively influencing a user’s experience. Certainly, there are existing airports that have employed various means in a successful manner to create a true sense of place.

At the Köln Bonn Airport in (Cologne) Germany the colourful, playful, and pictographic fusion of the airport’s brand is applied in surprising and unique ways to generate a sense of excitement and fun in the airport environment.

At Singapore’s Changi Airport, a series of lush gardens surround a central waterfall feature that at once pays tribute to the local landscape—Singapore is known as a “Garden City”—while creating a number of engaging attractions for visitors.

Calgary International Airport (Canada) creates differentiation through the use of interpretive or experiential installations. ‘Themeworks’ is an installation program that displays selected works of local artists. All of the works respond to provincial themes, enlivening the airport environment, serving as landmarks, and providing special moments for visitors to the space.

As airports compete with one another to attract visitors, developing a distinct and memorable experience while relieving some of the anxiety associated with air travel, will be increasingly important to airport planning.
Köln Bonn Airport (Germany), injects excitement into the airport environment using their airport brand. The identity is a dynamic element applicable to multiple touch points.
Airports as Transit Hubs

With airports transitioning to transit hubs, another important objective will be ensuring a seamless journey for users as they interact with multiple transit providers. This means developing a strategy for how brands can maintain their identity as they intersect with one another. For example, at Union Station (Toronto) the TTC, Union Pearson Express (UP Express), GO Transit, and VIA Rail all have a unique identity that includes a distinct visual language. However, within the Station itself the emphasis is on providing clear wayfinding for users to access all of the transit providers. In this case, the logos are applied to a grid system that gives equal presence to each transit service.

Another strategy for streamlining a user’s airport experience could be the use of universal nomenclature. Simply put, where airport specific language for modal connections such as buses, trains, or taxis, is the same regardless of the transit provider.

Providing a seamless journey from the first mile to the last mile is the basic precept of Integrated Mobility, which is the common goal of most future-focused transit services. Through early airport planning, rigorous consideration and analysis of user flows, and a willingness to adapt signage systems to anticipate and accommodate users’ needs, it is possible to tailor wayfinding to the benefit of all airport users.

‘Themeworks’ at Calgary International Airport adds vitality to the airport environment while speaking to the culture of the province.
Final Thoughts

Airports are evolving. The airport we know today will be much different in the future, with hospitality, efficiency and personalization playing a larger role in how individuals use and interact with airport spaces. As we bear witness to changes already in occurrence, we anticipate the ways in which technology, the passenger journey, and airports as destinations will affect wayfinding and branded environments. Moreover, that anticipating and adapting for change will go a long way towards making the airport experience the best in can be for all users. In other words, connecting people to place in an inspiring and powerful way.
Process

In arriving at these ideas we conducted a series of group sessions with thought leaders from our internal team—individuals with significant experience in the airport sector, those with their finger on the pulse of technology, and those forward-thinkers who are always anticipating the next best thing. This paper presents a snapshot of those sessions, with key thoughts drawn out and organized in a way that can be clearly understood.

Caveat

While there are many variables that have not been addressed in this paper, we understand that changing needs will necessitate adaptations in process. Entro is positioned to respond to these changes and look forward to being part of the evolving airport.
Entro’s work is about connecting people to place. With a legacy and portfolio dating back 50 years, Entro’s work is a testament to how graphics can be used to enhance spaces, provide clarity, and profoundly effect the way we connect with places in everyday life. In our practice, we call on design to fuel a dialogue between users and the spaces they inhabit—from hospitals and transit hubs to museums and educational campuses.

With over 25 years in the aviation industry, Entro has long been involved in enhancing the passenger journey through environmental graphic design at such prominent airports as Changhi Airport, Chhatrapati Shivaji International, Toronto Pearson International, Calgary International, and Vancouver International among many others. Entro has presented on topics surrounding the improvement of overall airport experiences and efficiencies and specifically on wayfinding and signage at Airport Passenger Terminal World, Society for Experiential Design Airport Symposium, Smart Airports, Alliance Aviators, and Passenger Terminal Expo.