

# Digital Tools to Enhance Customer Experience and Increase Airport Revenue

January 31, 2024  
11:00am-12:00pm



# Today's Learning Objectives

- (1) Employ digital marketing strategies to improve customer experience and drive increased airport revenue**
- (2) Understand select airport approaches to digital marketing**

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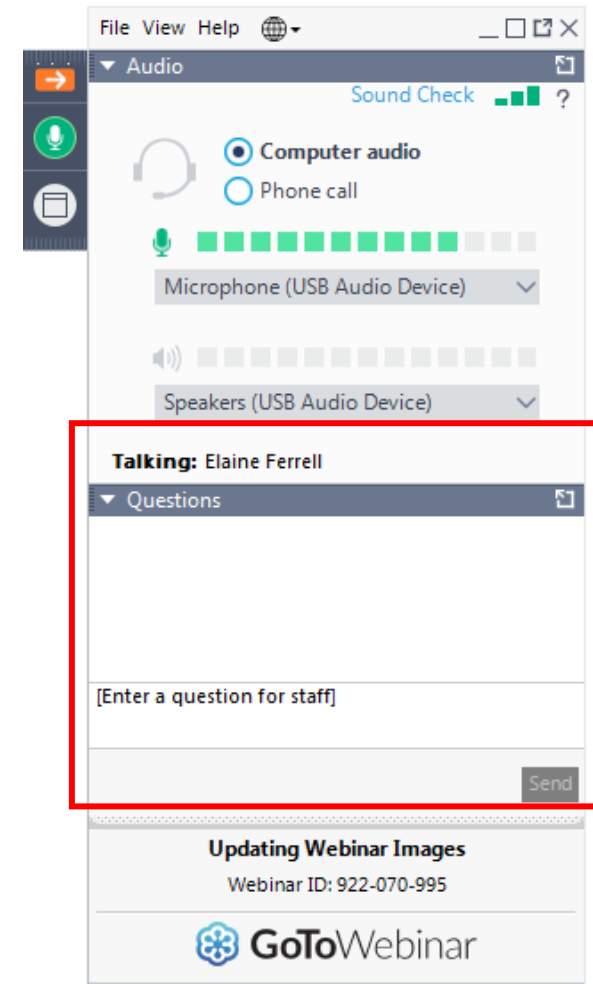
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Please type your questions into  
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We will read your questions out  
loud, and answer as many as  
time allows

**#TRBwebinar**



# Sonjia Murray

## Meehan Aviation Group

- Managing Director
- 30 years of experience as an aviation consultant in commercial aviation
- Sonjia earned a bachelor's degrees in economics and marketing at Babson College
- Sonjia participates actively with industry associations including ACI-NA, AAAE, NASAO, ACC and TRB activities





# Today's Speakers



**Zoe Lindemuth**

Meehan Aviation Group

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**Elizabeth Jaedicke**

Jaedicke Consulting

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## Digital Marketing to Enhance Customer Experience and Increase Airport Revenue

Meehan Aviation Group  
Jaedicke Consulting



# Zoe Lindemuth

## Deputy Project Manager

- Managing Director,  
Meehan Aviation Group
- Over 10 years of aviation  
consulting experience
- Specializes in air service  
development, activity  
forecasting and economic  
impact



# Elizabeth Jaedicke

## Senior Investigator

- Founder, Jaedicke Consulting
- 20 years as an advisor to airports
- Specializes in aviation activity forecasting

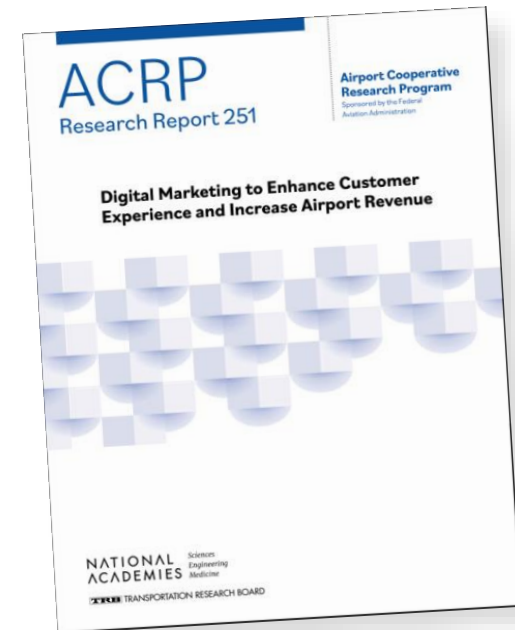


# ACRP Report 251 Oversight Panel

- Stephen P. Gordon, Oakland International Airport (retired), Chair
- Jenna Buckner, Ricondo & Associates
- Megan Davis, American Airlines
- Jeff Kadlec, Montana Department of Transportation
- Carlos E. Ruiz, Cincinnati/Northern Kentucky International Airport
- Mark A. Thorpe, Atmos Global Aviation Consulting
- David Duchow, FAA Liaison
- Robin Rudish-Laning, Airports Council International-North America Liaison
- Joseph Navarrete, ACRP Senior Program Officer

# Objective: Leveraging Big Data to Enhance the Customer Experience and Increase Non-Aeronautical Revenue

- ➔ Examine the use of digital technology and its role on increasing non-aeronautical revenue (NAR) while enhancing the customer experience
- ➔ Explore how leveraging new partnerships with existing stakeholders also enhances revenue streams
- ➔ Develop a guide for airports on the use of digital technology to increase non-aeronautical revenue and enhance customer satisfaction



# Top Findings

- ➔ The need to grow NAR was exacerbated by the revenue shortfall caused by Covid-19.
- ➔ Primary focus is improving the customer experience and a secondary focus of increasing revenue.
- ➔ Most U.S. airports are in various stages of digitalization with the most progress being made at large hubs
- ➔ To help start the digitalization process, all U.S. commercial airports have already invested in a website and have Wi-Fi available for passenger use. In addition, 15 percent have a mobile application.
- ➔ There are six stages of the passenger journey where an airport can digitally interact with a passenger that could lead to increased revenue and enhance the customer experience.

# Top Findings

- ➔ A goal of collecting digital data is to use the data collected to conduct personalized marketing campaigns.
- ➔ Airports in the U.S. are largely locally owned, which hinders the investment.
- ➔ The e-commerce platforms are a part of the process but have yet to gain traction.
- ➔ Partnerships:
  - The most logical digitalization partner for an airport is the airlines. Unfortunately, airline interest at this point appears limited
  - The most fruitful partner to date is a combination of technology companies and master concessionaire/developers

***The evolving e-commerce industry will require airports to digitalize– passenger needs and expectations are changing and airports are adjusting***

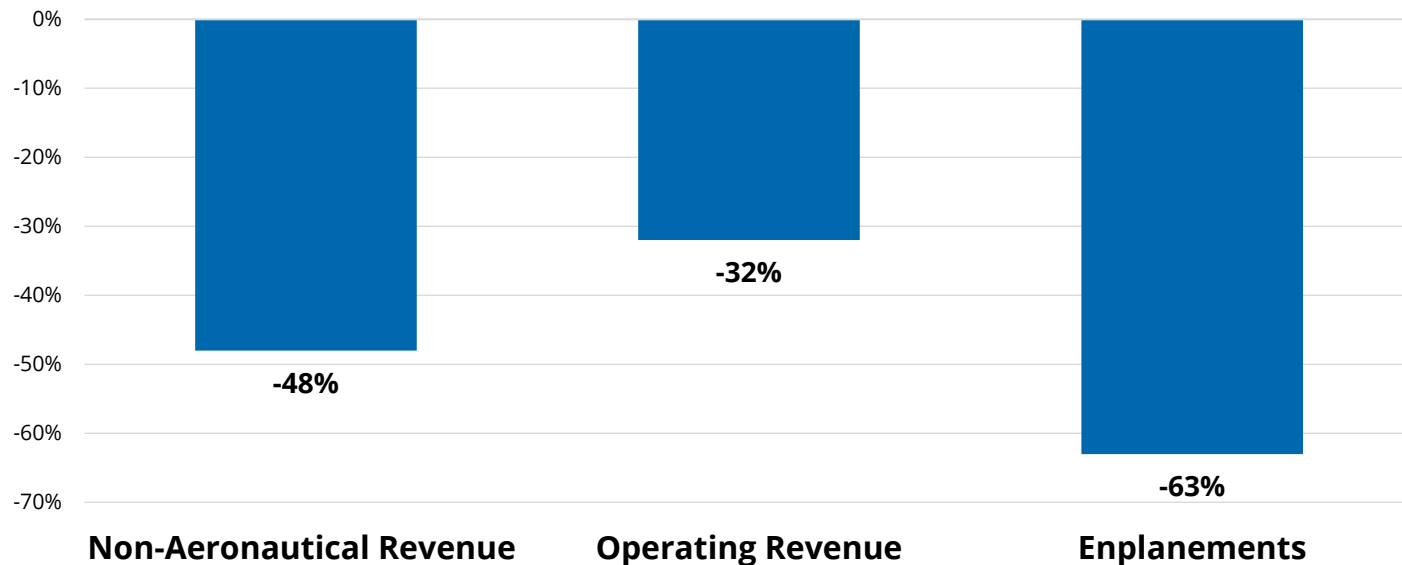
# Research Process: Interviewed 19 Airports and 11 Organizations





# The Pandemic Brought About the Near Collapse of Non-Aeronautical Revenues

## Revenue and Enplanement Decline at U.S. Airports Created by Covid-19 (CY 2020 as compared to CY 2019)

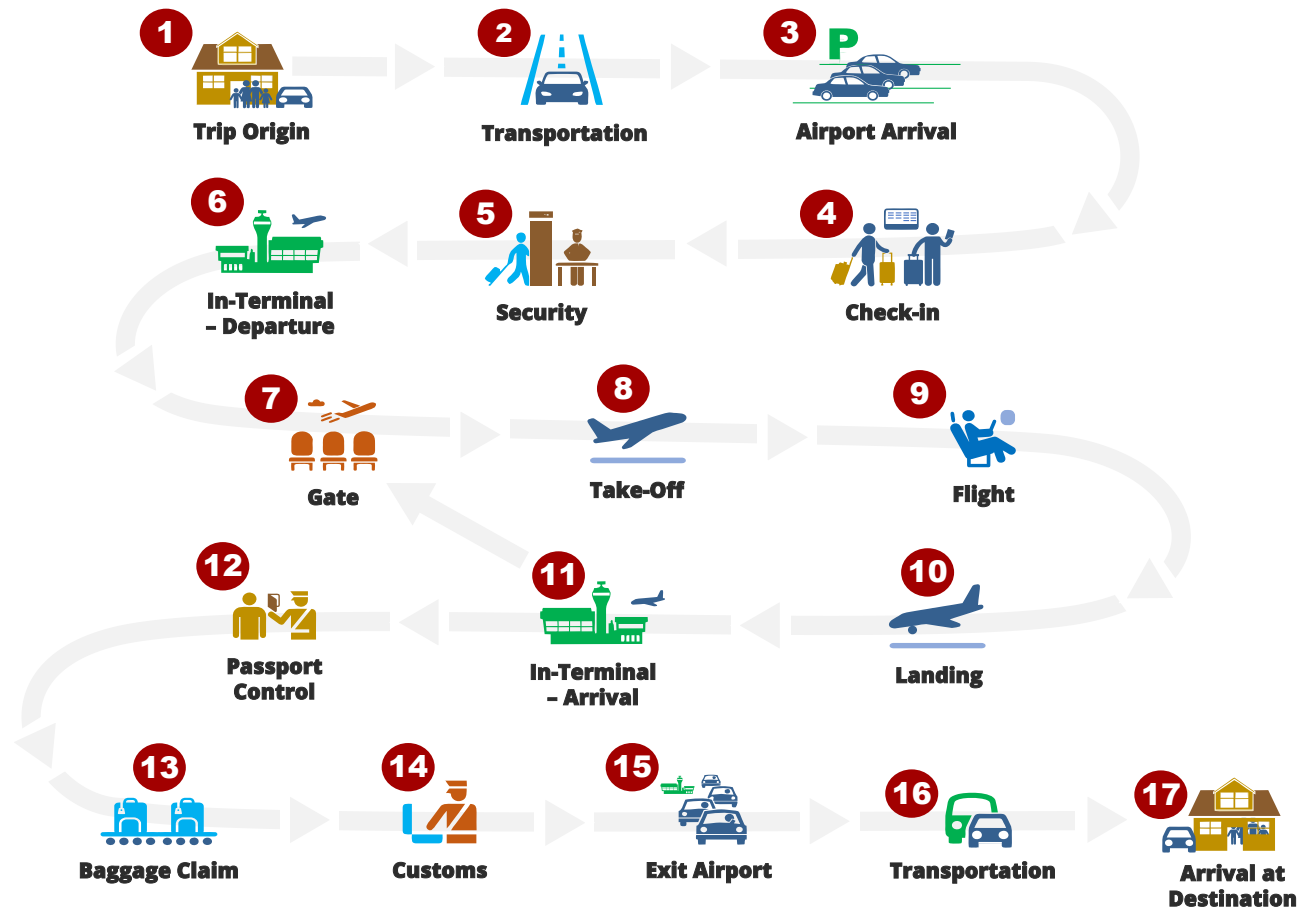


*The labor shortage in airport concessions has also accelerated the move towards digitalization at all size airports*

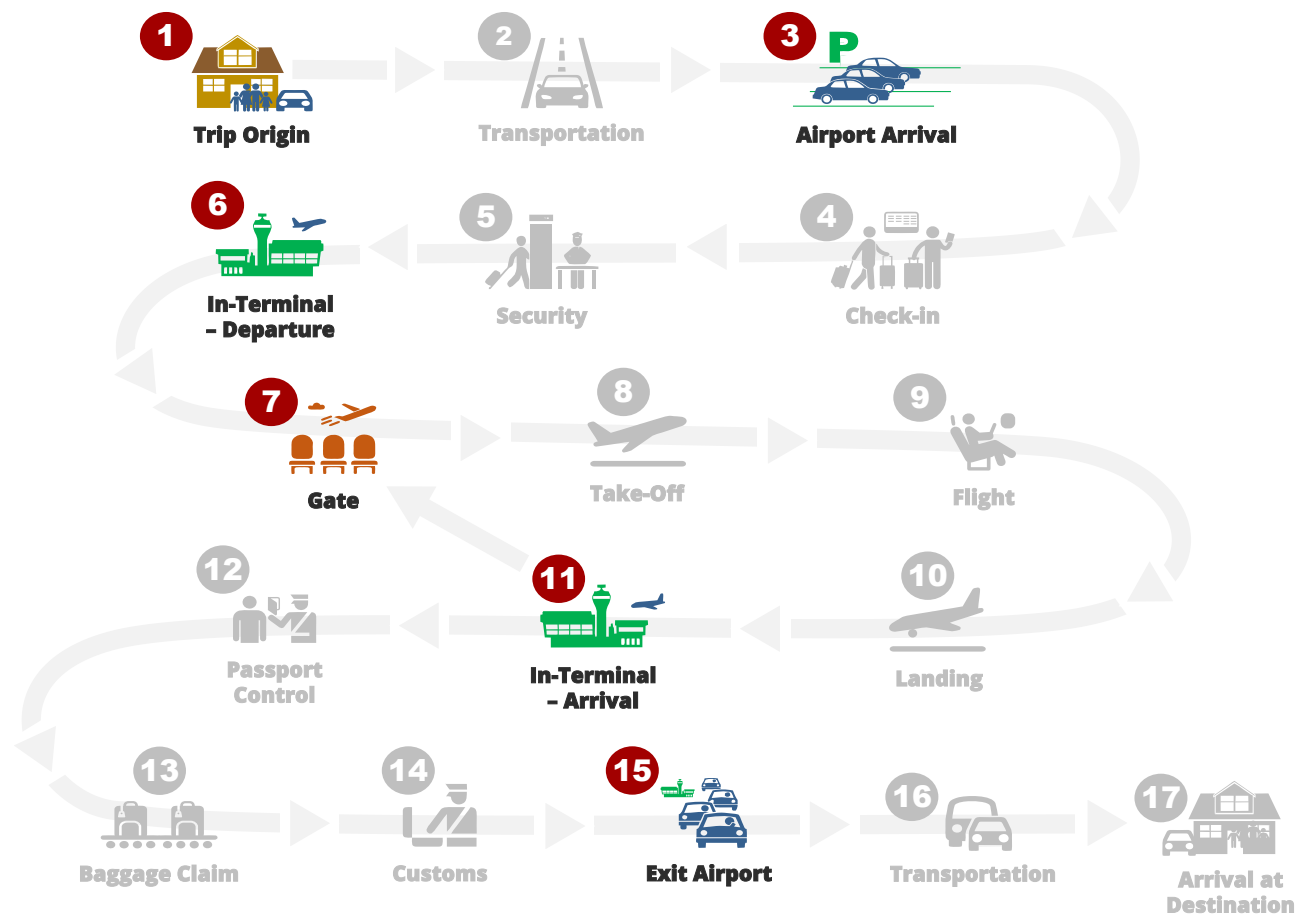
Source: FAA CATS Database Form 127; Only includes airports that have a Fiscal Year of December 31<sup>st</sup>. Analysis includes 11 large hub airports; 8 medium hub airports and 21 small hub airports.

*The reduction of NAR coupled with the need for Capital Improvement Projects created a pressing need for new revenue sources*

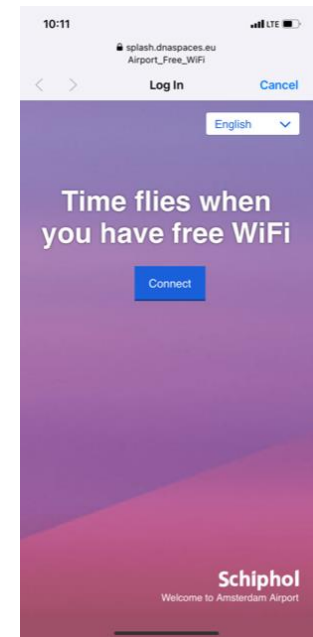
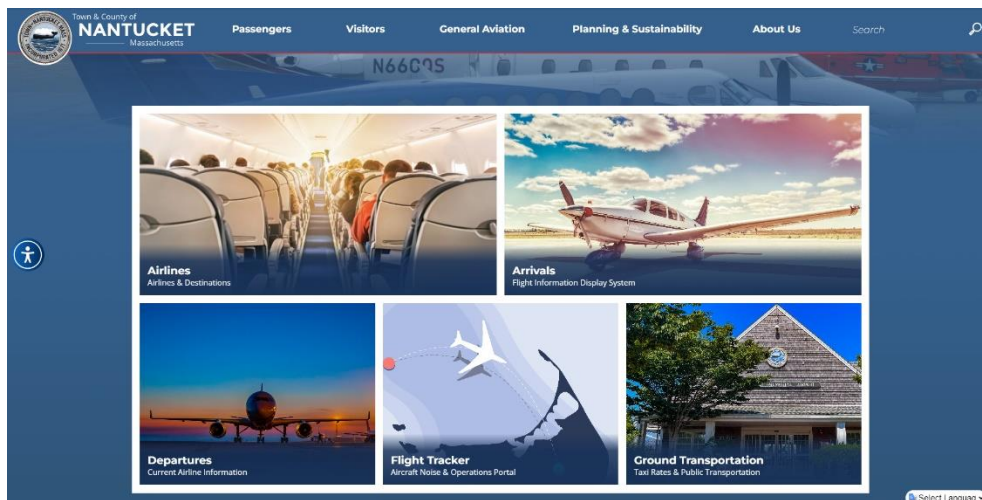
# Mapping the customer journey is used to understand the customer's tasks and needs at each stage



# Six of the stages present opportunities for airports to enhance the customer experience and increase Non-Aeronautical Revenue



# There are three main digital touchpoints: the website, the mobile app, and in-terminal Wi-Fi

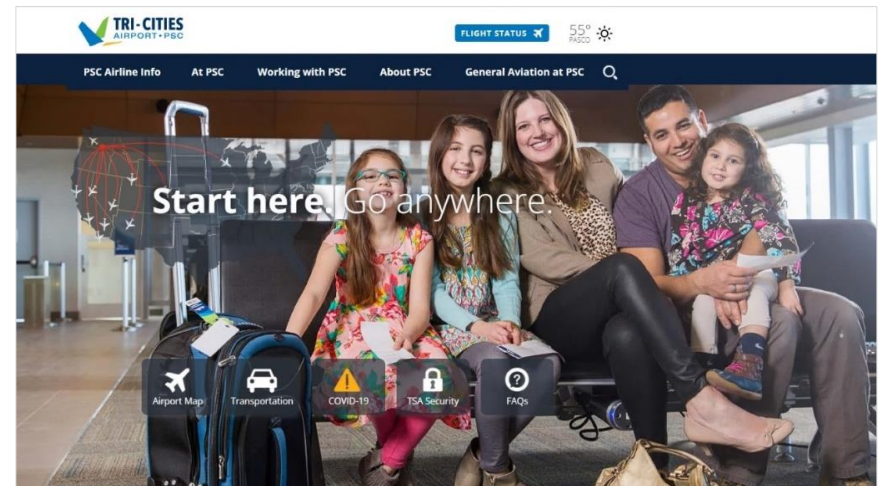


Source: Pittsburgh International Airport mobile application, accessed January 18, 2024. Nantucket Memorial Airport website, accessed January 18, 2024. Amsterdam Schiphol Airport wifi homepage, accessed on August 4, 2022.

# 100% of U.S. hub airports have a website; however, they show different levels of info

## Airport websites typically include the following five basic areas of website content

- Ground transportation or parking information (100%)
- Real-time flight arrival/departure information (99%)
- Amenities available at airport (e.g., dining, shopping, and services) (97%)
- Airport terminal map (87%)
- Security information (e.g., location of security checkpoints or a list of items not allowed in carry-on bags) (87%)



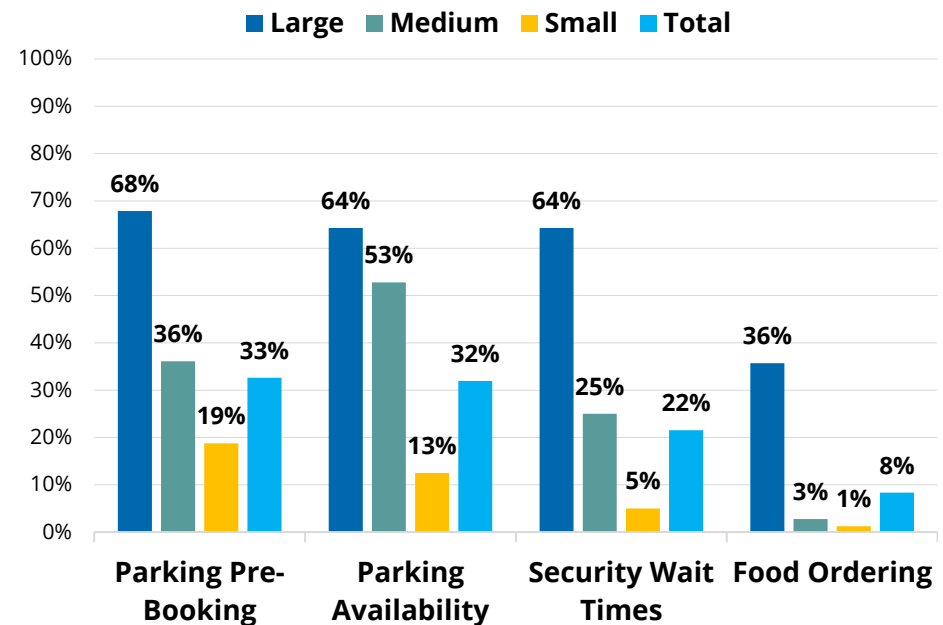
Source: Tri-Cities Airport website. Accessed April 5, 2022.  
<https://www.flytricity.com/>.

# Having a website is standard; airports use them both to inform passengers and to act as a sales channel



- ➔ Survey of 144 U.S. airport websites
- ➔ Basic content areas:
  - Ground transportation/Parking
  - Flight arrival/departure info
  - Airport amenities/Terminal map
  - Security info
- ➔ Extended content areas
  - Parking pre-booking or availability
  - Security Wait Times
  - Food Ordering
  - Passenger Survey

Availability of Extended Content on Airport Websites



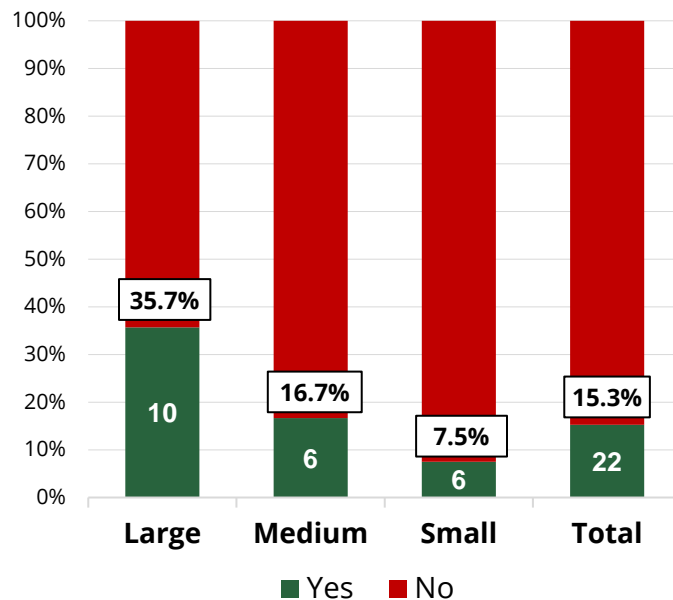
Source: Jaedicke Consulting review of U.S. airport websites, March 2022.



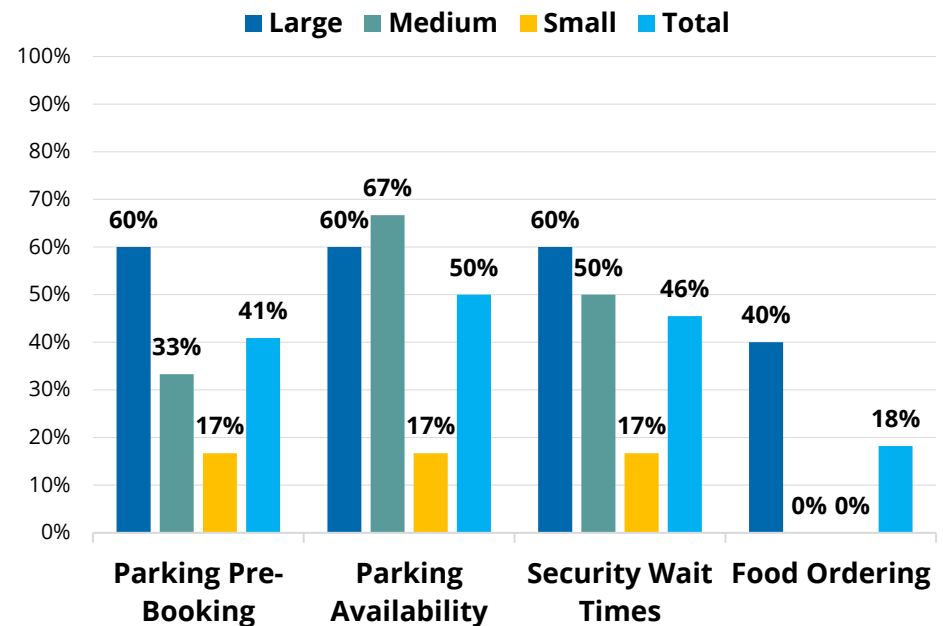
# Only 15% of U.S. airports currently have a mobile app



## Existence of Airport Apps by Hub Size



## Availability of Features in Airport Apps

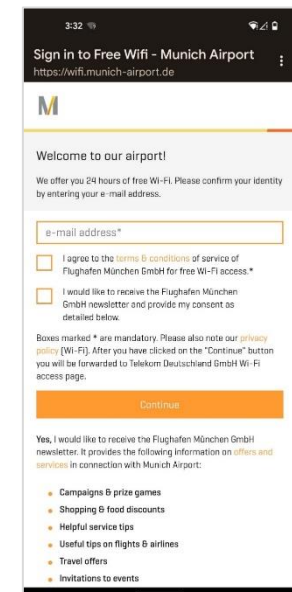
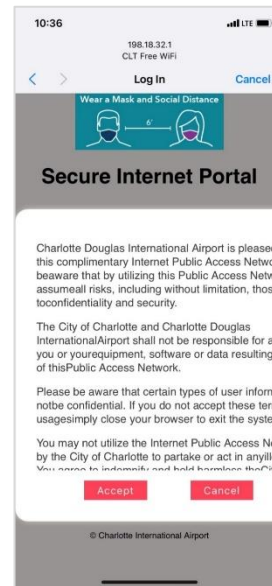


Source: Jaedicke Consulting review of U.S. airport websites, March 2022.

# Like websites, Wi-Fi has become standard in airports; it can be used to gather data and market to passengers

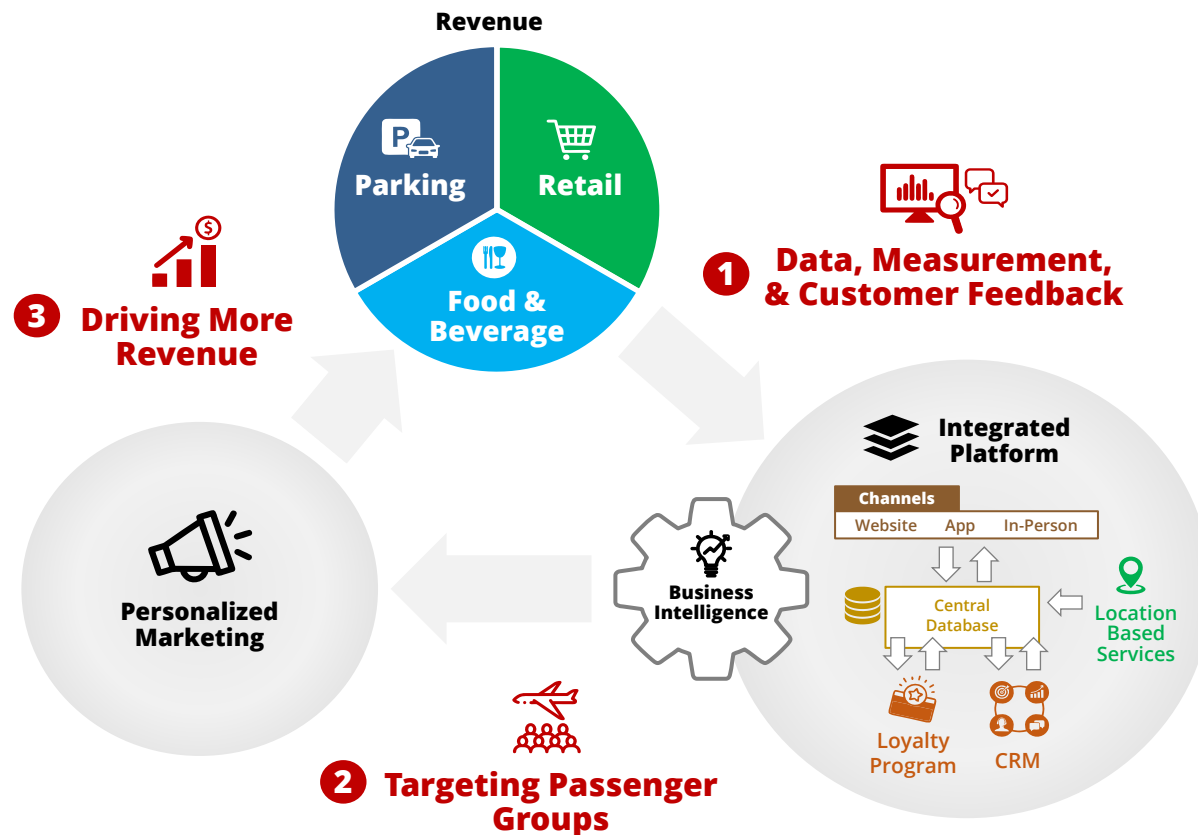


- ➔ Passenger access to the internet from personal devices enhances their experience
- ➔ Some airports collect data via their Wi-Fi network:
  - E-mail address
  - Survey questions
- ➔ Tracking
- ➔ Proximity marketing



Source: mobile applications from Charlotte Douglas International Airport, Boston Logan International Airport, and Munich International Airport. Accessed in March-April 2022.

# Using collected data to conduct personalized marketing is the ultimate strategy for increasing NAR



Developing  
a Customer  
Focused Strategy

# Digital marketing and leveraging technology at airports to drive NAR is already happening

Among the places an airport collects data includes:



Tracking  
phone  
movement



LiDAR  
technology,  
cameras,  
3D sensors

Interaction with  
customers digitally  
using website, wi-fi  
sign up, kiosks,  
mobile apps, QR  
codes in-terminal



E-commerce platforms  
(FetchyFox,  
Servy/Grab,  
MAG, etc.)



Online food and  
beverage orders (e-  
commerce platform,  
airport app, apps like  
Grab, AtYourGate, etc.)



Social Media Sites  
that offer airport  
services and  
retail/F&B  
promotions

# Airports are using digital technology to reach passengers along the journey to increase three airport non-aeronautical revenue streams



Parking



Food & Beverage



Retail

# Parking has traditionally been a lucrative source of NAR; airports are now using technology to leverage it even more



- ➔ Parking management software
- ➔ Data collected:
  - Passenger data
  - Parking transaction data
- ➔ Targeted marketing
- ➔ Upselling
- ➔ Ancillary services
- ➔ Loyalty programs

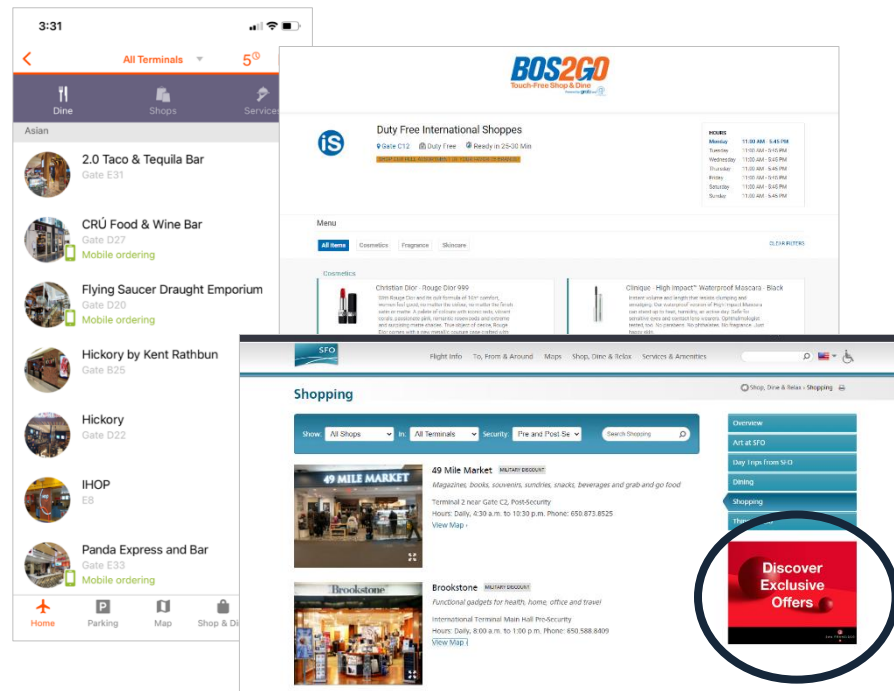
A screenshot of a parking reservation website. The top section shows 'Reservation Dates' with a 'From' field (05/17/2022), a 'To' field (05/18/2022), and a 'Lot' field (Premium Garage Row 1G). Below this is a 'Contact Information' section with fields for 'First Name', 'Last Name', 'Phone Number', and 'Email Address'. A checkbox option is present: 'I would like to receive e-mail notifications concerning parking from ABM Parking Services.' Below the contact section is a 'Create Password' section with 'Password' and 'Confirm Password' fields. Further down is an 'Address' section with 'Street Address', 'City', 'State', 'Car Make', 'Car Model', and 'License Plate Number' fields. To the right of the contact section is a 'Travel Extras' section. It features a progress bar with five steps: 1. Select Travel Dates, 2. Select Parking, 3. Travel Extras, 4. Your Dates, and 5. Confirmation. The 'Travel Extras' section includes a 'Book Now' button, a 'ProntoWash' section with a car wash image and text, an 'E-Laundry' section with a laundry image and text, and a 'Booking Summary' section showing 'Empty' at 12:00 PM on 04/14/2022, 'Full' at 1:00 PM on 04/21/2022, 'Parking Lot' as Long Term Parking, and a 'Total' of \$134.00. A 'Continue' button is at the bottom right of the booking summary.

Source: websites for Will Rogers World Airport website and San Francisco International Airport. Accessed in March-April 2022.

# Digital technology has made recent inroads in food & beverage programs at US airports; less so in retail



- ➔ E-commerce platforms
- ➔ Increased revenue
  - Stimulating purchases
  - Boosting the size of transactions
  - Delivery fees
- ➔ Data collected:
  - Transactional data



Source: Dallas/Ft. Worth International Airport mobile app. Boston Logan International Airport website. San Francisco International Airport website. Accessed in March-April 2022.



# Potential Airport Partnerships to Accelerate Digitalization Effort



**AIRLINES**



**MASTER DEVELOPER/  
CONCESSIONAIRE**



**TECHNOLOGY  
VENDOR**



**TNCs**



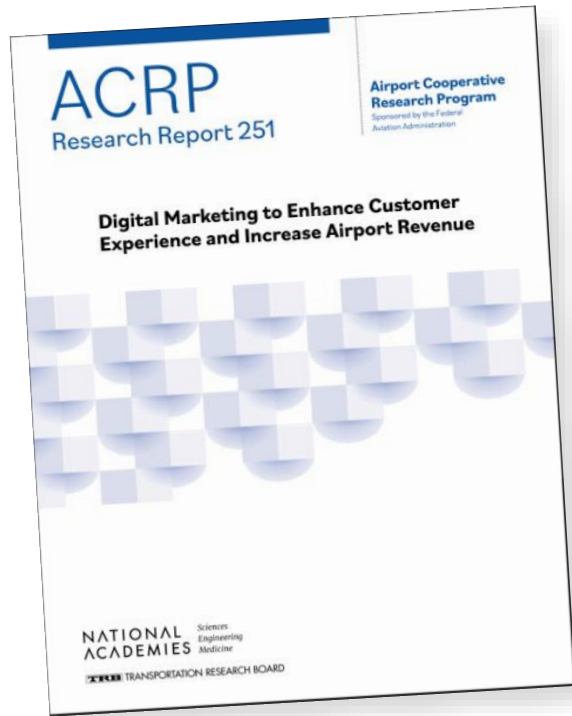
**CAR RENTAL  
COMPANIES**

# Challenges Faced by U.S. Airports

1. Insufficient Resources
2. Lack of Awareness
3. Fragmented Digital Systems
4. Difficulty Developing Meaningful Partnerships
5. Limits to Collection of Data
6. Lack of Common Point-of-Sale (POS)
7. Value of Digitalization
8. Partner's Fear of Sharing Data with Airports
9. Staffing

***Where are we now?***

# THANK YOU! FOR ADDITIONAL INFORMATION



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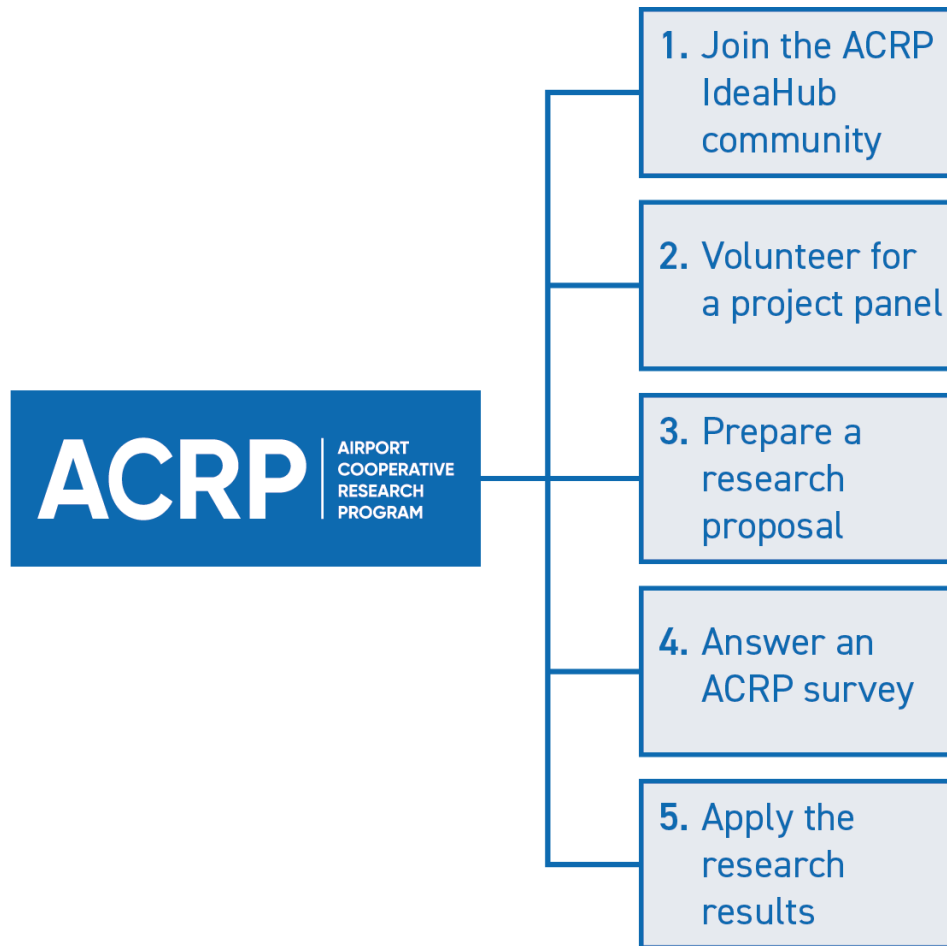
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Research Report 166: *Interpreting the Results of Airport Water Monitoring*

Research Report 174: *Green Stormwater Infrastructure—Volume 1: Primer and Volume 2: Guidebook*

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