Quick Bio

» Aviation Planner at RS&H
» Based in Tampa, FL
» Experience at large, international airports and small general aviation airports
» Master’s in Urban and Regional Planning from the University of Florida
Quick Poll Question

How familiar are you with airports?

Airports..
Why Should We Care?
Why Should We Care About Airports?

“Look for yesterday’s busiest train terminals and you will find today's great urban centers.

Look for today’s busiest airports and you will find the great urban centers of tomorrow.”

- John D. Kasarda
The Aerotropolis

Key Transportation Infrastructure

» Transportation infrastructure is backbone of all cities
» Airports are integral to a region’s transportation network
» Gateway to the world
» Airports also generate economic impact

Source: 2014 Florida Statewide Aviation Economic Impact Study Executive Summary
FL Statewide Aviation Economic Impact

Distribution of $144.0 Billion in Annual Economic Impact by Category

- AIRPORTS: $36.3 billion
- AVIATION: $67.2 billion
- CONSTRUCTION: $2.2 billion
- MILITARY: $15.8 billion
- AIR CARGO: $10.3 billion
- AVIATION EDUCATION: $983 million
- AVIATION BUSINESS: $13.6 billion
- FEDERAL AVIATION ADMINISTRATION (FAA): $427 million

Source: 2014 Florida Statewide Aviation Economic Impact Study Executive Summary

Regional Access to Airports
Basic Airport Layout

Why is Efficient Access Important?
» Efficient access to support movement of goods and people
» Victoria Transport Policy Institute defines accessibility
  
  "...the ease of reaching goods, services, activities, and destinations, which together are called opportunities."

» Landside accessibility can impact airport utilization
  – Efficient airport access supports airport competitiveness in regions with multiple airports
Congested Airport Roads

Transit Access

» Attaining high transit ridership is challenging

» Encourage use of existing service/infrastructure
Other Solutions

» TNCs
  – Gaining traction in FL but not long ago Uber and Lyft were not welcome at airports
  – Florida has passed new legislation that takes power away from local governments in regulating TNCs (this also applies to airports)

» Driverless vehicles

Is there an Ideal Solution?

» Clear, easy, and efficient access to the airport
  – As consumers, we have options
  – Many people don’t always consider that there are options in air travel; however, there are
  – One area where the wait time and consumer is especially sensitive to efficiency is general aviation, especially corporate aviation

» Efficient access supports all kinds of businesses
What is the Aerotropolis Concept?

» Urban form and economic development model whose layout is centered on an airport
  – Center is dubbed the “Airport City”
  – Termed by Dr. John Kasarda, UNC at Chapel Hill
» More people are traveling by air than ever before
» Automobile access to airports is generally convenient
» Airports are can be difficult to access by public transit
Aerotropolis Concept

» Functional form
  – Largely non-spatially defined and usually unobservable
  – Consists of firms and frequent air travelers who may be widely dispersed throughout a metropolitan region

» Spatial form
  – Consists of physically observable development on and around the airport and along its connecting surface transportation corridors

» Time, cost, and convenience are primary planning metrics
  – It is not how far, but how fast aerotropolis firms can connect to their suppliers, customers, and enterprise partners locally, nationally, and globally

Source: Aerotropolis.com
Challenges to Efficient Access

Who Should Lead the Way?

» Thoughtful coordination is required
  – Who’s responsibility is it?
  – Limited by political boundary, jurisdiction, and purview
» Regional agencies like MPOs exist for this reason
» Ideally, plans are coordinated
  – Airport Master Plan
  – City/County Comprehensive Plans
  – LRTP
  – State Aviation Plan
» Intergovernmental coordination is messy
  – Regulatory hurdles are challenging (much like anything in government)
Airport Owner/Operator

Airport Stakeholders are Many

» Airlines
  – At many airports, airlines have veto-power in the approval of capital improvement projects

» Other stakeholders include
  – The public (traveling public and the community at large)
  – On- and off-airport businesses
  – Local and State government
  – Federal government (e.g., FAA, TSA, CBP, military)
Master Plan Process

“An airport master plan is a comprehensive study of an airport and usually describes the short-, medium-, and long-term development plans to meet future aviation demand.”

- FAA Advisory Circular 50/5070-6B

Poor Perception of Airports

» Airports often viewed as nuisance
  – Noise
  – Odors/fumes
  – Traffic

» Airports have been pushed to the exurbs due to noise and encroachment of incompatible land uses
  – Accessing airports has become more difficult

» Can be difficult to obtain public support for airport development
Other Challenges

» Funding challenges for more infrastructure
  – Who funds it?
  – Competition with other airports (at federal, state, and local level)

» Airport security
  – Moving the screening point beyond the terminal building?

Passenger Terminal Access Planning
Basic Airport Layout

» Generally, airports consist of three primary areas
  – Airside | Landside | Building (e.g., passenger terminal)

Terminal Landside Elements
Planning Process

» Evaluating the aviation demand
  – Forecasting for commercial passenger traffic
» Average day peak month demand (design day)
» Demand during the peak period (design hour)
  – Passenger departures
  – Passenger arrivals
» Multiple peaks may exist throughout the day
Planning Considerations

» Mode splits
  – Private vehicle
    • Drop-off/pickup and/or parking
    • Rental car
  – Commercial vehicle
    • Taxi/limousine
    • Transportation Network Company (TNCs)
    • Hotel/courtesy shuttle
    • Charter bus
  – Public transit
    • Bus
    • Train

Planning Considerations

» Clear and concise wayfinding is key

» Complex decision making
  – Multiple routes
  – Large number of merge/diverge points
  – Several decisions in short distances

» Infrequent users
  – Many drivers visit only once or few times per year
  – Lower speeds
  – Slower reaction times
Landside Optimization

» Lengthening of distance between decision points
» Wayfinding and signage improvements
» Acceleration and deceleration lanes
» Sight distance improvement
» Driveway consolidation
» Conflict removal

Landside Optimization

» Curb discipline (active curb policing)
» Providing vehicle hold areas to reduce recirculating traffic
  – Cell phone lots
» TNC and rideshare hold lots
» Capacity improvements—additional travel lanes, widen shoulders, curb frontage
» Vehicle segregation with separate curbs
» Roadway geometry changes
» Grade separation
DFW Airport Access

Orlando International Airport Access
Atlanta International Airport Access

Source: Google Earth Imagery

LAX LAMP

Source: Google Earth Imagery; connectinglax.com
Tampa International CONRAC and APM

Air Cargo Access Planning
Air Cargo Is Essential

» Time Sensitive
» High Value
» Perishable

Air Cargo Facilities Overview
Air Cargo Facilities Overview

Source: ACRP Report 143

Air Cargo Facilities Overview

Source: ACI-NA Air Cargo Guide
Air Cargo Facilities Overview

FedEx Facility at LAX

Source: ACI NA Air Cargo Guide

Source: Google Earth Imagery
General Aviation Access Planning

What is General Aviation?

- Business Operations
- Recreational Operations
- Flight Training
- Special Operations (e.g., research flights, surveillance, agricultural spraying, emergency response, fire suppression)

Source: ACRP Report 113
Basic FBO Facility Layout

Tampa Executive Airport

Source: Google Earth Imagery, Google Street View Imagery
Wrap Up

Takeaways

» A healthy local and regional economy is dependent on an efficient transportation network
» Enhanced airport landside access benefits everyone
» Intergovernmental coordination is messy
» Infrastructure is important...very important
» Small scale enhancements are also important
  – Signage and wayfinding, for example
The Future of Airport Landside Access?

» High Speed Rail Access
» Growth of TNCs
  – Replacement of taxis?
» Personal Rapid Transit
  – Morgantown, WV
  – London Heathrow Airport

Source: ARUP.com
Source: PRTconsulting.com
Source: govtech.com

Thank You for Your Attention!

Comments? Questions?