Information on ACRP

- www.TRB.org/ACRP
- Regular news and updates on:
  - Upcoming and ongoing research projects
  - New publications
  - Success stories
  - Announcements
  - Webinars
- Find ACRP on Facebook and LinkedIn
Upcoming ACRP Webinars

- May 24 – Legal Aspects of Airport Programs
- June 9 – Transporting Passengers to, and Through, Airport Facilities
- July 13 – Unmanned Aircraft Systems

You can register for and learn more about upcoming 2016 webinars by visiting: http://www.trb.org/ACRP/ACRPwebinars.aspx
Opportunities to Get Involved!

- ACRP’s Champion program is a new initiative!
- Designed to help early- to mid-career, young professionals grow and excel within the airport industry.
- Airport industry executives sponsor promising young professionals within their organizations to become ACRP Champions.
- Visit ACRP’s website to learn more.
Additional ACRP Publications Available on this Topic

- **ACRP Report 82** – Preparing Peak Period and Operational Profiles—Guidebook
- **ACRP Report 138** Preventive Maintenance at General Aviation Airports Volume 1: Primer
- **ACRP Report 143** – Guidebook for Air Cargo Facility Planning and Development
- **ACRP Synthesis 20** – Airport Terminal Facility Activation Techniques

You can learn more about these publications by visiting [www.trb.org/publications](http://www.trb.org/publications)
Today’s Speakers

Moderated by Tom Mahoney, MassDOT, Aeronautics

1) Report 113: Guidebook on General Aviation Facility Planning
   • Doug Sander and Rusty Chapman, Delta Airport Consultants, Inc.
ACRP Report 113: Guidebook on General Aviation Facility Planning

Doug Sander, P.E., C.M.
Rusty Chapman, P.E., C.M.

Delta Airport Consultants, Inc.
Our Team

**Delta Airport Consultants, Inc.** - Douglas E. Sander - Principal Investigator
Robert (“Rusty”) B. Chapman

**Mead & Hunt, Inc.** – Stephanie A.D. Ward

**Marr Arnold Planning, LLC** – Summer Marr and Sarah Arnold
ACRP Report 113 Oversight Panel

Kenneth L. Penney, Jr., KLJ (Panel Chairman)
Michael S. Hines, Metropolitan Washington Airports Authority
Richard T. Lanman, Auburn-Lewiston Municipal Airport
David B. Lucas, AV Ports
Thomas F. Mahoney, Massachusetts DOT
Sara D. McCook, United Airlines
Douglas R. Anderson, FAA Liaison
Bill Dunn, AOPA Liaison
Christine Gerencher, TRB Liaison

Joseph D. Navarrete, ACRP Senior Program Officer
ACRP Report 113: Guidebook on General Aviation Facility Planning

- Multiple audiences
- All types of airports
- Overview of general aviation (GA) and the various factors that influence the planning of GA facilities
- Basic understanding of the airport planning process and context of general aviation planning within other airport owner’s plans
- Basic principles of GA facility planning, the types of facilities, and how to evaluate an overall GA facilities plan.
- Presents each type of GA facility and key planning considerations for each
- References
- Published 2014
The Research Problem

Develop practical guidance for the planning of airport facilities designed to accommodate general aviation aircraft.
The Research Process

- Literature Review
- Airport Visits
- Consultant discussions
- Panel input
## Airports Visited

<table>
<thead>
<tr>
<th>Airport</th>
<th>Location</th>
<th>Type</th>
<th>FAA ASSET Classification</th>
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</thead>
<tbody>
<tr>
<td>Dulles International</td>
<td>VA</td>
<td>AC – large hub</td>
<td>N/A</td>
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<tr>
<td>Raleigh-Durham International</td>
<td>NC</td>
<td>AC – medium hub</td>
<td>N/A</td>
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<tr>
<td>Chattanooga Metropolitan</td>
<td>TN</td>
<td>AC – small hub</td>
<td>N/A</td>
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<tr>
<td>Napa County</td>
<td>CA</td>
<td>GA</td>
<td>National</td>
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<tr>
<td>Opa-Locka Executive</td>
<td>FL</td>
<td>GA</td>
<td>National</td>
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<tr>
<td>Centennial</td>
<td>CO</td>
<td>GA</td>
<td>National</td>
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<td>Waukesha County</td>
<td>WI</td>
<td>GA</td>
<td>National</td>
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<td>Cavern City Air Terminal</td>
<td>NM</td>
<td>CS</td>
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<td>Burlington</td>
<td>NC</td>
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<td>W.K. Kellogg</td>
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<td>Mecklenburg-Brunswick</td>
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<td>New Ulm Municipal</td>
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<td>Paulding Northwest Atlanta</td>
<td>GA</td>
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<tr>
<td>Gallia-Meigs</td>
<td>OH</td>
<td>GA</td>
<td>Basic</td>
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</tbody>
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Observations from Research

- Orderly vs. non-orderly growth
- Unconstrained vs. shoe-horned development
- Community vision and strategic plans
- Surplus property challenges
- Airport management models
- Stormwater management; snow storage
- FBO vs. Airport terminal
- Utilities
- Aircraft parking layouts and efficiency
- Airport revenue issues
- Aircraft mix
- Grant compliance
The Guidebook

Chapter 1 Introduction
Chapter 2 General Aviation – Overview
Chapter 3 Airport Planning – General
Chapter 4 GA Facility Planning – General
Chapter 5 GA Facility Planning by Type
Appendix A Abbreviations and Terms
Appendix B Tie-down Parking Areas
Appendix C Determining the Number of Aircraft Parking Positions
Appendix D References
Chapter 1. Introduction

• Purpose and audience(s)
• Organization
• Using the Guidebook
Chapter 2. General Aviation Overview

- GA Operations and Activities
- GA Aircraft
- Airport Types
- GA Services and and Facilities
Chapter 3. Airport Planning - General

- Strategic Planning
- Airport Master Planning
- Airport Layout Plans
- Environmental Planning
Chapter 4. GA Facility Planning - General

- Basic Principles
- Key Governing Documents
- Planning Considerations
- Grant Assurances
- Financing
- Facility Planning – Process and Key Drivers
# Chapter 4. GA Facility Planning - General

<table>
<thead>
<tr>
<th>Basic Principles</th>
<th>Planning Considerations</th>
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<tbody>
<tr>
<td>- Safety</td>
<td>- Engineering</td>
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<tr>
<td>- Efficiency</td>
<td>- Community</td>
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<tr>
<td>- Economics</td>
<td>- Airport traffic flow</td>
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<tr>
<td>- Expansion</td>
<td>- O&amp;M</td>
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<tr>
<td>- Balance</td>
<td>- Wildlife hazards</td>
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<tr>
<td>- Consistency</td>
<td>- Aviation trends</td>
</tr>
<tr>
<td></td>
<td>- Other</td>
</tr>
</tbody>
</table>
Chapter 5. GA Facility Planning by Type

• Aircraft Aprons
• Helicopter Parking Area
• Hangars by Type
• Fuel Farm Facility
• Aircraft Wash Facility
• GA Terminal Building
• FBO Building
• Airport Admin Building
• MES Building
• Automobile Parking and Access
Aircraft Aprons

- Key questions
- Location
- Types
- Size/layout
- Plan evaluation
Characteristics of a Well-planned Apron

- Expandable
- Full circulation
- Nearby auto parking
- Good drainage
- Aircraft Group flexibility
- Other
Aircraft Aprons

HAWKER 400  LEARJET 60  CITATION MUSTANG  KING AIR 100
Hangars

- Key questions
- Location
- Types
- Size/layout
- Plan evaluation
Characteristics of a Well-planned Hangar Layout

- Maximizes development space
- No impact on taxilanes/taxiways
- Considers stormwater
- Room for expansion
- Does not interfere with other facilities
- Other
Fuel Farm Facilities

- Key questions
- Location
- Types
- Size/layout
- Plan evaluation
Characteristics of a Well-planned Fueling Facility

- Room for expansion
- Right size tanks and containment
- Considers truck requirements
- Inside security fence
- No interference with other facilities
- Other
GA Terminal Buildings

- Key questions
- Location
- Types
- Size/layout
- Plan evaluation
Characteristics of a Well-planned GA Terminal Building

- Meets user needs
- Room for expansion
- Considers the community
- Circulation
- Properly located relative to other facilities
- Considers utilities
- Other
Facility Relationships

- Aircraft Aprons
- Helicopter Parking Area
- Hangars by Type
- Fuel Farm Facility
- Aircraft Wash Facility
- GA Terminal Building
- FBO Building
- Airport Admin Building
- MES Building
- Automobile Parking and Access
For additional information:

ACRP Report 113: Guidebook on General Aviation Facility

http://www.trb.org/ACRP/Blurbs/171315.aspx

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