

Air Transportation Centers of Excellence for General Aviation



April 11, 2003
FAA William J. Hughes Technical Center
Atlantic City International Airport, NJ

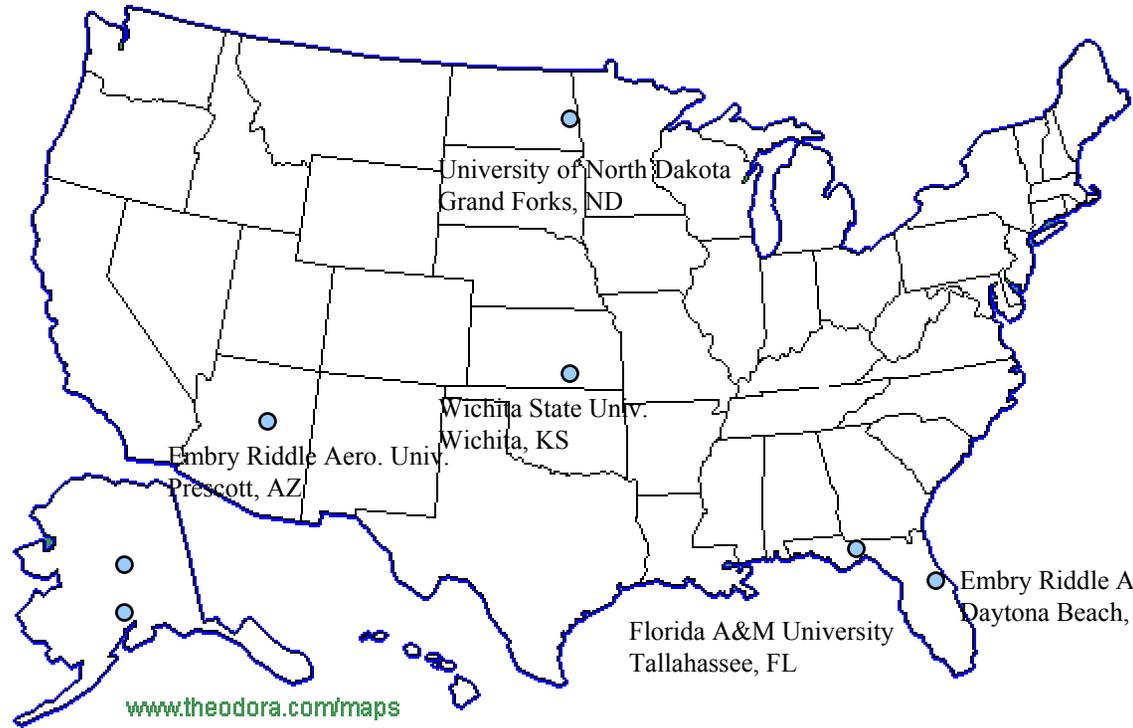
Peter L. Sparacino, PE
FAA COE-GA Program Manager

COE Members



- University of Alaska
 - Anchorage
 - Fairbanks
- Florida A & M University
- University of North Dakota
- Wichita State University
- Embry-Riddle Aeronautical University (**Lead/Prime**)
 - Daytona Beach
 - Prescott

Geographic Locations



Univ. of Alaska
Anchorage, AK
Fairbanks, AK

www.theodora.com/maps

**Center of Excellence in
General Aviation**

University of North Dakota
Grand Forks, ND

Wichita State Univ.
Wichita, KS

Embry Riddle Aero. Univ.
Prescott, AZ

Florida A&M University
Tallahassee, FL

Embry Riddle Aero. Univ.
Daytona Beach, FL

Advisory Group Members



- National Business Aviation Association (NBAA)
- General Aviation Manufacturers Association (GAMA)
- Aircraft Owners and Pilots Association (AOPA)
- Experimental Aircraft Association (EAA)
- State Aviation Directors:
 - Florida
 - Arizona
 - Alaska
 - Kansas
 - North Dakota

Business Support Includes



- Raytheon
- Lancair
- Bombardier
- **Cirrus**
- Cessna
- **Boeing**
- Goodrich
- Vector
- Frasca
- **Elite Air Center**
- **Eclipse Aviation**
- Aero Shell
- Hartzell
- SMA
- HandySoft
- Jeppesen
- Alaska Science and Technology
- Alaska Airmen's Assoc.
- Galena
- **Engineered Arresting Systems Corp. (ESCO)**

Capabilities

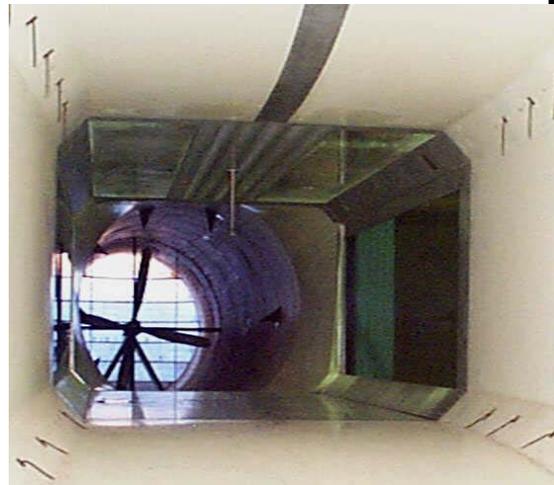


- **Teaming** ability to work on multiple projects in multiple areas using a **synergistic** approach to simple and complex problems relating to the GA environment
- Resources
 - **Facilities**
 - **People**
 - **Matching Funds**

Facilities



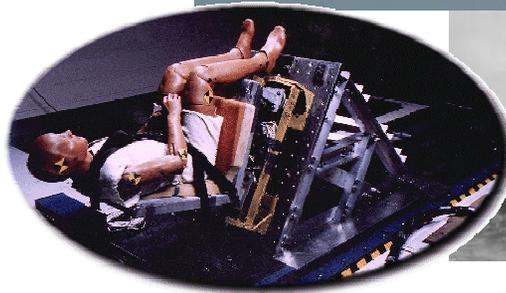
- Wind Tunnels
 - Wichita State
 - ERAU
- Non-Destructive Testing



Facilities



- Flight Test Aircraft
- Crash Towers
- Fire Analysis



Facilities



- Over 300 GA Aircraft
 - UND
 - ERAU



Facilities



- Simulation
 - Aircraft
 - Single
 - Multi
 - Jet



Facilities



– ATC Tower

- UND
- Alaska



Facilities



- Computer Science
 - CAD
- Business Administration
 - Systems Analysis
 - Airport Management
- Human Factors
 - Advanced Displays



Team People



- Faculty
 - Aeronautical Engineers
 - Civil Engineers
 - Aeronautical Science
 - Computer Science
 - Business Administration
 - Meteorology
 - Maintenance
 - Graduate Students
- Pilots
 - ATP
 - Flight Instructors
 - Multi-Engine
 - Commercial
 - Instrument
 - Private



What We Bring to the Table

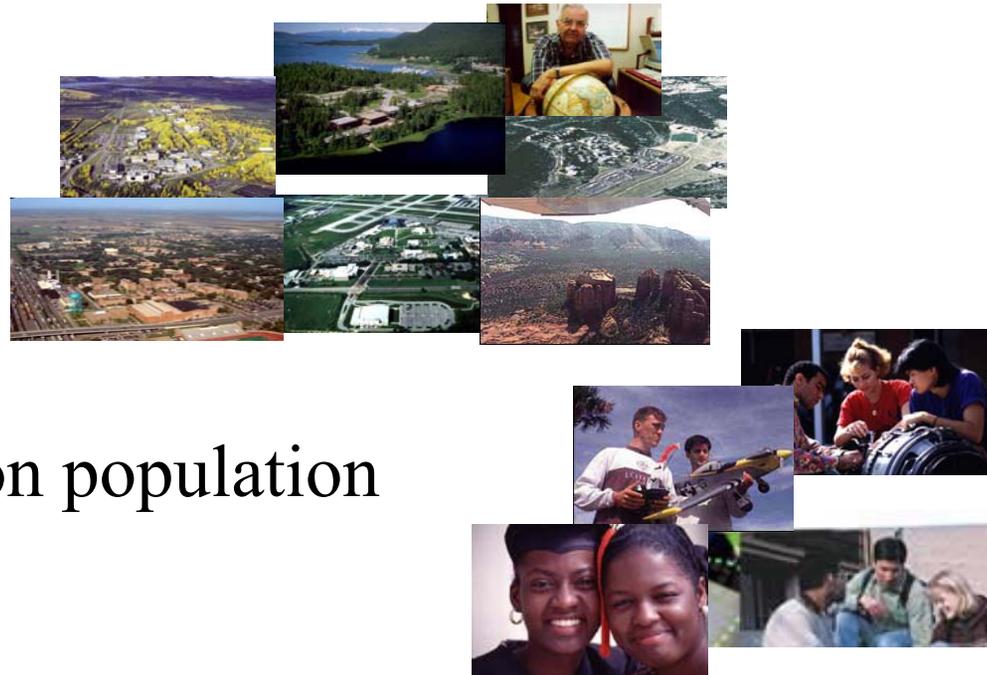
- Teaming and Partnership Experience





What We Bring to the Table

- Multiple “experts” on any given project
 - Different levels of expertise
- Experience
- Diversity
 - Geographic
 - Cultural
- Future aviation population



Completed Projects



- Terminal Operations Safety Research Project – Landing and Hold Short Operations “LASHO” (AFS)
- Enhancement of NIAR Component Head Injury Criteria Tester For General Aviation Aircraft Seat Certification
- **CGAR Strategic Plan for Self Sufficiency**
- **Taxiway Centerline Deviation Study (AAS)**
- **Security Assessment for General Aviation**



Security Assessment for General Aviation



- Report format
 - Survey of General Aviation Landscape: General Aviation Airports, Fixed Base Operators
 - Review of Applicable Literature
 - Security concerns of the Professional Associations that deal with General Aviation;
 - Study of Security Technology Applicable to General Aviation
 - Discussion of Strategies and recommendations

Outreach



- Aviation Safety Education and Research at Florida A&M University
- **Florida A&M University Summer Camp**
- **To Establish a Special Emphasis Outreach Program at the University of Alaska**



Current Projects - Technical

- Ethanol as a Fuel for General Aviation (ANE)
- Investigation of Comparative Emissions of 100LL Gasoline and AGE85 Ethanol Fuels (ANE)
- **Evaluation of Gravel Runway Surface Conditions and Their Effects on Aircraft Performance During Winter Operations (AAS)**





Current Projects - Technical



- **General Aviation Aircraft: In-Flight Load Data Collection and Analysis Project (ACE)**
- Measurements of Icing Conditions in Western Atlantic Stratocumulus (ANM)
- Assessment of EMAS in Arctic Environment (AAS)
- A Framework for Revalidation of Airport Standards (AAS)

Current Projects - Technical



- Development and Implementation of a Data Based Capacity Prediction Tool to Facilitate Increased Airport Throughput (ASD)
- **Joint Training Standards Development – FAA Industry Standards Program (AFS)**
- Development and Calibration of Model for Analysis of Safety of 14CFR137 Agricultural Aircraft Operations (AFS)

Future Projects



- Visual Guidance
 - **LED Threshold Lights**
 - Halogen Light Bar
- GA/Vertical Flight Program Accident Study
- Rotorcraft Issues Around NYC
- National Airman e-Mail System
- Multi Segment Runway Safety DVD
- System Safety Training DVD

Future Projects



- P-Pamphlet Update
- Central Aviation Education Products Facilities
- **Bird Dispersion Using Lasers**
- UAF Outreach Efforts
- **FAMU Outreach Efforts**
- ADSB Equipment Evaluation
- Runway Edge Reflector – Laser
- Weather

Research for Others



- California Department of Transportation (Caltrans)
- National Association of State Aviation Officials (NASAO)
- United Nations (UN)
- Small Aircraft Transportation System (SATS), NASA
- General Aviation Manufacturers Association (GAMA)
- Canadian Government

Information Dissemination



- **Oshkosh Air Show**
- Sun 'n Fun Air Show
- Regionally at each school
- Conferences
- Center meetings rotated
 - WSU – Fall 2002
 - **UAA – Spring 2003**
 - ERAU – Fall 2003

FAA CENTERS OF EXCELLENCE



*Resources to advance the technological future
of the nation's aviation community*



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