



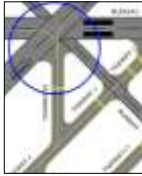
Case Studies - Airfield Geometry and Runway Incursion Mitigation


2016 Airports Conference
March 22, 2016



Recent FAA Historical Focus


- FAA has identified that airfield geometry is a primary contributing factor to runway incursions
- AC 150/5300-13A – *Airport Design*
 - Deliberate Taxi Movements
 - Increase Situational Awareness








Recent FAA Historical Focus


- Runway Incursion Mitigation (RIM) Program
 - Address risks at specific locations with incursion history
 - Release of RIM List
 - 3 incursions per year or 6 total
 - FAA phone calls
 - RIM grant issuance





Potential Approaches & Case Studies

- What does this FAA focus on geometry mean to sponsors?
- Potential approaches to RIM and airfield geometry programs
 - Project by project
 - Airfield wide
 - Event driven
- Common attributes and lessons learned



Project By Project Approach


- St. Louis Lambert International (STL), St. Louis, Missouri
- Ronald Reagan Washington National (DCA), Washington D.C.







Airfield Wide Approach

- **General Mitchell International Airport, Milwaukee, Wisconsin**
- Proactive and successful history of runway incursion reduction actions
- Ongoing comprehensive 13A compliance study as part of ALP Update
- Identification of 13A non-compliant geometry







Airfield Wide Approach

General Mitchell International Airport, Milwaukee, Wisconsin

- FAA SRM structure
- Micro- and macro-level alternative evaluation
- Significant stakeholder engagement program
- Proposed development program in coordination with FAA





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Airfield Wide Approach

Midway International Airport, Chicago, Illinois

- Constrained, high activity environment
- Ongoing comprehensive 13A compliance study requested by FAA within ALP Update
- Identification of 13A non-compliant geometry (70+ locations)
- Working with airlines to review airfield efficiency





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Airfield Wide Approach

Midway International Airport, Chicago, Illinois

- Formulation of next steps with FAA and stakeholders
- Significant challenges
 - Approach to move forward
 - Balancing competing interests
 - Capacity and efficiency versus 13A goals



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Airfield Wide Approach

Blue Grass Airport, Lexington, Kentucky

- Master Plan Update project ongoing when 13A is released.
- Advent of 13A led to a compliance analysis of taxiway infrastructure
- Identification of taxiway geometric deficiencies





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Airfield Wide Approach

Blue Grass Airport, Lexington, Kentucky

- Leveraging 13A criteria, a taxiway reconfiguration program was developed (TSEP)
- Program also included relocation of existing SRE and ARFF Buildings
- Close coordination with FAA ADO, ATCT, Airport staff and users





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Event Driven Approach

Quad City International Airport, Moline, Illinois

- Significant spike in runway incursions
- Formation of RSUG
- Immediate outreach, education and procedural changes
- Subsequent fast-track runway incursion study



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Event Driven Approach

Quad City International Airport, Moline, Illinois

- Overall data driven approach
- Focused on proximity of the bullseye to an exit taxiway and the opening of new pavements
- Implementation of "long-term" temporary taxiway closure
- No bullseye runway incursions since closure

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Event Driven Approach

Joplin Regional Airport, Joplin, Missouri

- History of runway incursions, including lining up on wrong runway or taxiway
- History of RSAT solutions
- Six node intersection with wide expanse of pavement and runway direct access
- Master Plan Update used as the vehicle for solution development

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Event Driven Approach

Joplin Regional Airport, Joplin, Missouri

- Extensive analysis of runway and taxiway operational modifications
- Strong support from Sponsor and multiple FAA business lines
- Firm opposition to evaluation of and eventual closure of Runway 5/23
- Significant discretionary commitment towards fast track project implementation

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Common Attributes & Lessons Learned

- Be proactive
 - There are many different vehicles for this process
 - Use them to ensure that the Airport leads the way
 - Use defined planning processes to balance competing interests
- Be deliberate and let the data drive the analysis
 - Taking a reactionary approach may overlook less visible factors
 - Runway incursions at hot-spots are complex and not always attributable to one singular issue
- Engage project stakeholders
 - Involve ATCT staff and airport users for additional perspectives and creative incursion mitigation solutions
 - Work with your local FAA ADO and Region throughout the process

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Questions?

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