2016 ACC
Airports Technical Workshop
August 10-11, 2016
New Criteria-Legacy Airfields

- Current geometry established through decades of airfield enhancements.
- No such thing as perfectly safe.
- Balancing safety, operational efficiency and capacity is essential.
- Safety Risk Analyses a key tool in striking that balance.
- More than just hotspots, geometry and dimensional standards often come into play.
Key RIM Considerations

Combine safety and operational efficiency into alternatives
  Stakeholders are key for input
Where needed simulate airfield operations
  Quantify improvements
    Do they make it better? How much so?
    What are the impacts to operations?
    How much does it cost?
  Forecast and proposed changes, not just current conditions
Present information to stakeholders to demonstrate validity
  Visual (animations) and analytic (details/data)
RIM involves often significant negotiation with key stakeholders
Sample RIM Objectives – Set Parameters Early

- Promote an airfield geometry that reduces potential for aircraft and vehicular incursions & potential human error.
- Maintain the capability of the Airport to meet existing and future operational demand/capacity.
- Minimize the environmental impact of actions to mitigate runway incursion potential.
- Maintain the financial feasibility of recommended actions and the Airport as a whole.
- Promote the highest and best use of the airfield system.
- Conform to FAA airfield facility design standards/criteria to the extent possible.
- Maintain and if possible improve the efficiency of airfield operations.
Stakeholder Coordination and Participation

- Robust coordination process
  - Essential to the success of efforts to date
- Transparent process
  - Engagement – early and often;
  - Identify/establish stakeholder working groups;
  - Conduct interviews to understand key drivers;
- Accommodate the array of Stakeholders
  - Airport is a central stakeholder;
  - Varied FAA Business line perspectives;
  - Fully involve airport operations
  - Full array of airfield users
  - ATCT/NATCA central to success
  - Equal voice for all other stakeholders
New Criteria - Legacy Airfields

- Direct runway access from Apron
- Wide Expanse of Pavement
- Non-standard Blast Pad
- High Energy Runway Crossing
- Runway Magnetic Headings Update
- Fillet improvements throughout the airfield
- Minimum 700' Separation between Runways
- Taxiway Y to Taxiway Z Separation for ADG V
- Runway to Taxiway Separation 350' instead of 400'
- No Separation between Taxiway Z and parking Aprons
- Round out Taxiway
- Non-standard angle at Intersection
- This tie-down area apron, consider separation from the adjacent taxiway
- If Runway 11-29 reopens, Direct Access to Ramp from Runway
- Runway 11-29 Disposition
Definition of Incidents

Runway incursions/Surface Incidents by Category 2001-2012

- Gen Av.
- Op. Error
- Corporate
- Commercial
- Pedestrian
- Vehicle

![Bar chart showing runway incursions/surface incidents by category from 2001 to 2012.](chart.png)
Risk Assessment: SW Focus Area

Runway & Surface Incidents – 2001-2012
Taxiway B Runway 7R/25L, 16R/34L & Taxiway F vicinity
Risk Assessment: SE Focus Area

Runway & Surface Incidents – 2001-2012
Runway 12/30-7R/25L & 16L/34R Intersection vicinity
Risk Assessment: NW Focus Area

Runway & Surface Incidents 2001-2012
Runway 7L, 12 & 16R Threshold Vicinity
LGB – Airfield Geometry Study

• Identified three main Focus Areas encompassing six specific hot spots, complex geometry and majority of incidents.
• Hot Spot 7 related to the overall complex airfield geometry.
• Identified existing design standard deviations.
• Addressed new airfield design priorities from FAA.
Risk Assessment: NW Focus Area

- Five Intersections
- Two “Hot Spots”
- 104 Possible movements
- 38 of 104 movements within primary taxi flow

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<th>LIKELIHOOD</th>
<th>SEVERITY</th>
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<td>5 - Minimal</td>
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<td>A - Frequent</td>
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<td>E - Extremely Improbable</td>
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**Likelihood**

- A - Frequent
- B - Probable
- C - Remote
- D - Extremely Remote
- E - Extremely Improbable

**Severity**

- 5 - Minimal
- 4 - Minor
- 3 - Major
- 2 - Hazardous
- 1 - Catastrophic
Risk Assessment: SW Focus Area

- Six Intersections
- Two “Hot Spots”
- 60 Possible movements
- 37 of 60 movements within primary taxi flow
Risk Assessment: SE Focus Area

- Seven Intersections
- Two “Hot Spots”
- 126 Possible movements
- 56 of 126 movements within primary taxi flow
LGB – Geometry Study Preferred Alternative 3A

- New partial parallel to Runway 12/30 from Taxiway K to A
- Close 16R/34L
- Close Taxiway B north of Taxiway K, remove pavement
- Realign Taxiway K across Runway 12/30

(E) NW Focus Area  (F) NW Focus Area
LGB – Geometry Study Preferred Alternative 3A

- Closure of 16L/34R
- Shorten 7R/25L
- Realign Taxiway J
- Realign Taxiway F and Taxiway D intersection
- New Run-up pads along Taxiway J & F/D

(E) SE Focus Area

(F) SE Focus Area
LGB – Geometry Study
Preferred Alternative 3A
Questions?

Thank you

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