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North American, Central American and Caribbean Office (NACC)
Oficina para Norteamérica, Centroamérica y Caribe (NACC)

Workshop on Runway Safety Team (RST)

Runway incursion Mitigation (RIM)

Mexico City, Mexico, 23 to 26 May 2023

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FAA
Office of Airports

Agenda

- ***Problematic Taxiway Geometry (PTG)***
- **Videos**
- **RIM Program Stats**
- **FAA Role in RIM**
- **Case Studies/Success Stories**

Runway Incursion Mitigation and Prevention

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Background - PTG History

- What are Runway Incursions (RIs)?
  - ICAO Definition: "Any occurrence at an aerodrome involving the incorrect presence of an aircraft vehicle or person on the protected area of a surface designated for the landing and take off of aircraft"
  - RIM focuses on PDs and V/PDs
- How can ARP help?
  - *Problematic Taxiway Geometry (PTG)* Study, DOT/FAA/TC-18/2
  - Link on the ARP RIM page: https://www.faa.gov/airports/special_programs/rim/
- What are PTGs?
  - Geo-located R/W-T/W intersections
  - GeoCodes * 19 Taxiway Elements * AC 150/5300-13A and -B

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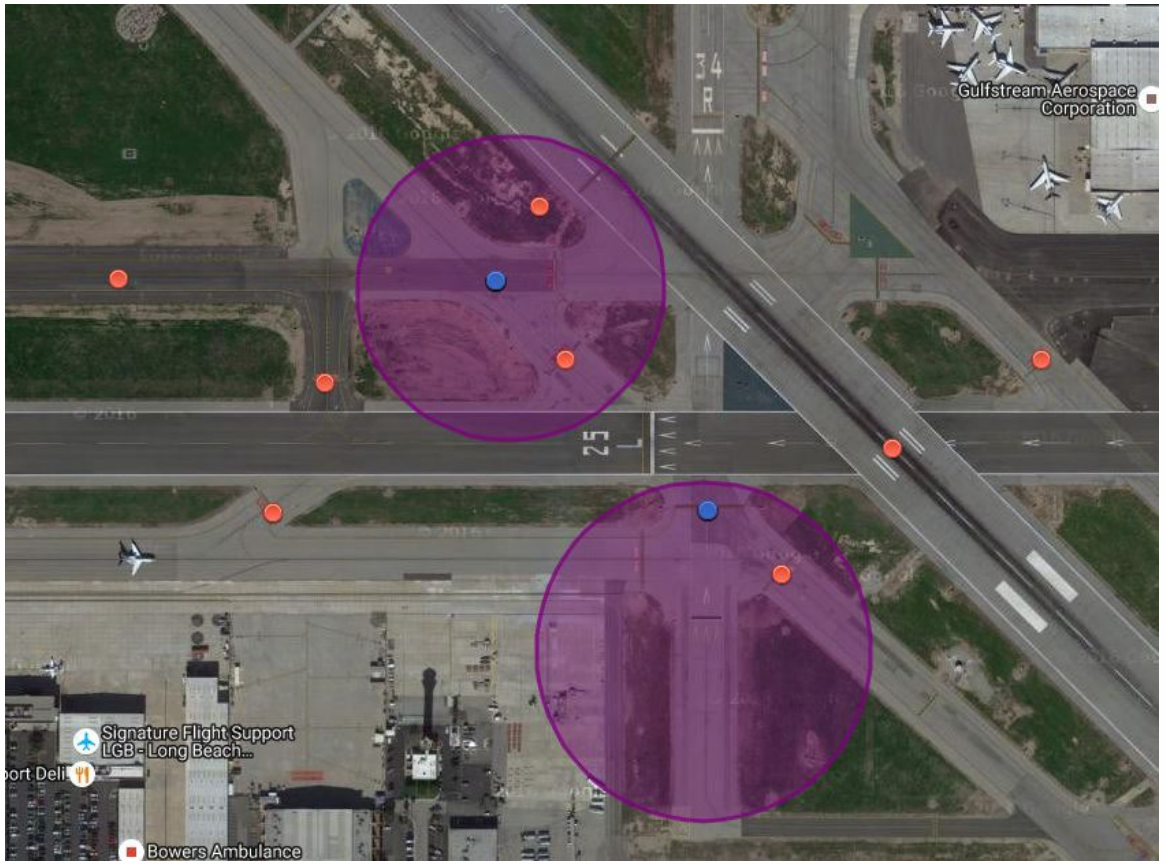
Runway Incursion Mitigation (RIM) Program

- RIM, est. June 2015, determines which runway/taxiway intersections have increased occurrences of RIs.
- The RIM program uses:
  - Runway Incursion data
  - GIS geo-referencing*, and*
  - Risk-based Decision Making
- Locations Determined by:
  - 3 or more RIs in a Calendar Year
  - Average of 1+ RIs/year (last 10 years)
  - Validation of locations, RIs, & geometry
- Generates public RIM Inventory



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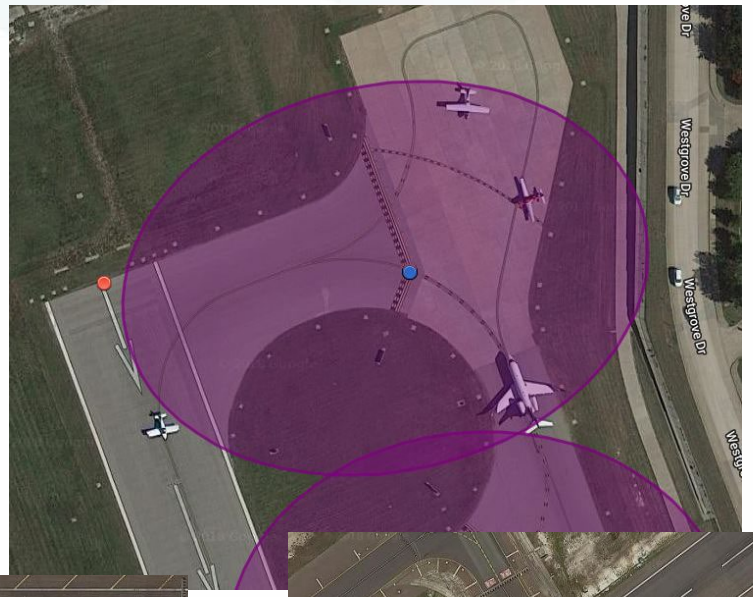
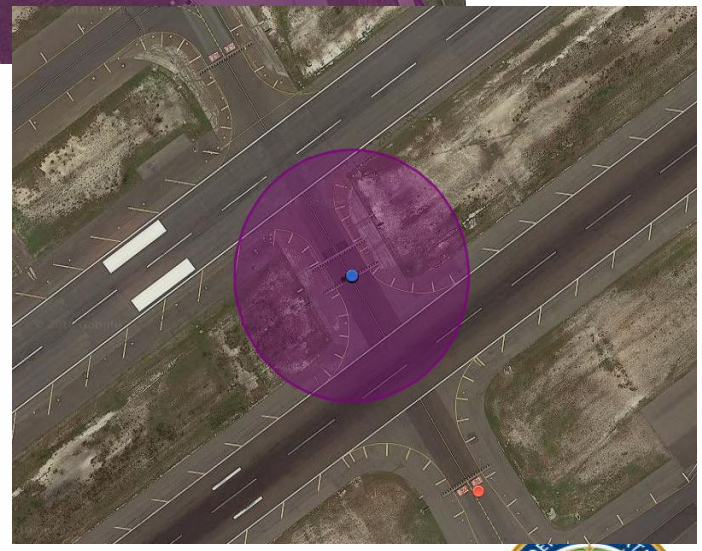
Background - PTG History

Samples of PTG:





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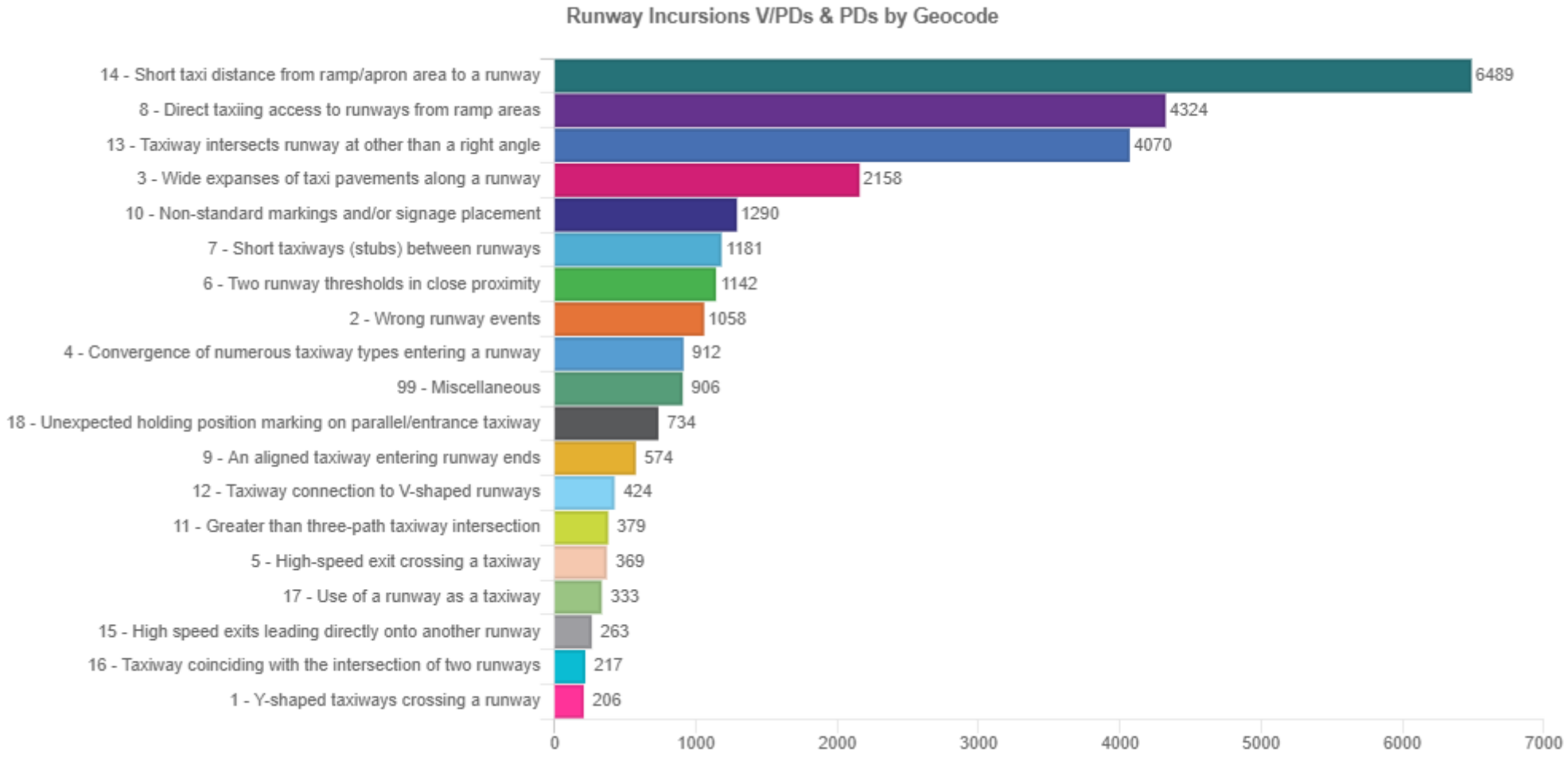
Background - PTG History



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Background - PTG History

6,648 Geo-located points (PTG locations)

- More than 45% associated with at least 1 RI

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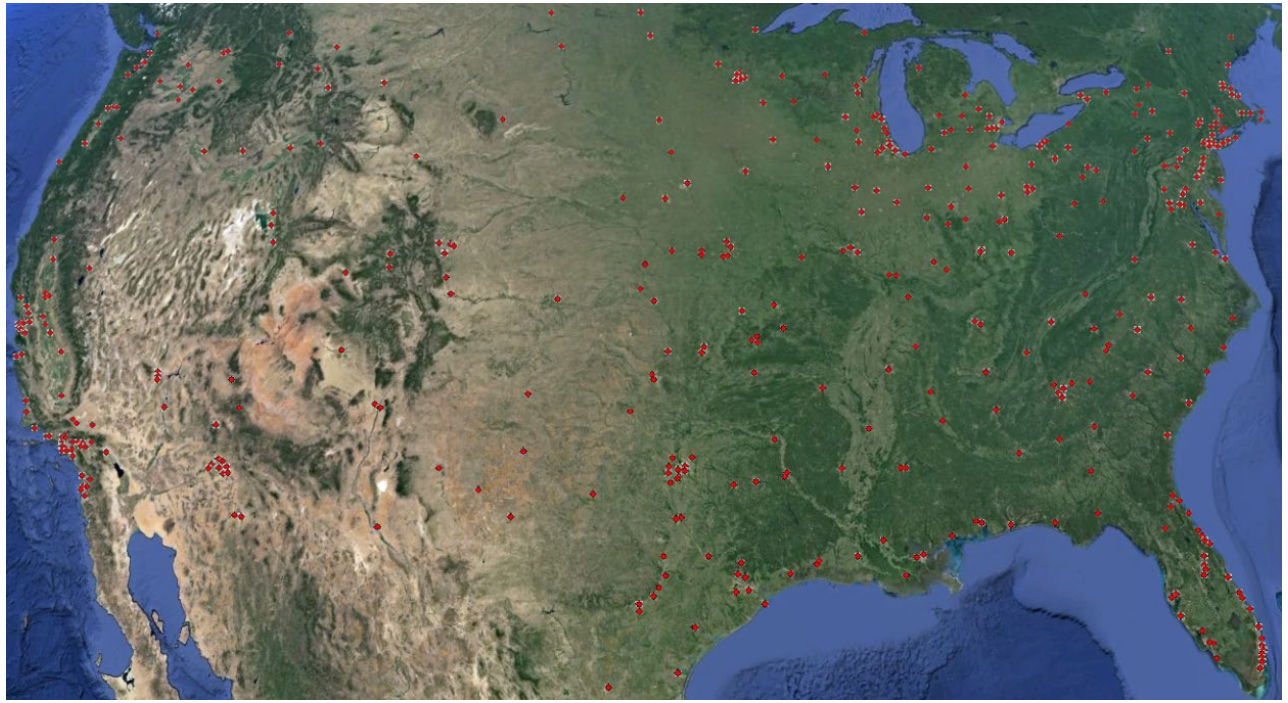
Background - PTG History

16,000+ Runway Incursions Events Geo-referenced

- Data mining effort collected 12+ years (FY2007 - CY2022) of RI data from towered airports.
- V/PDs and PDs



RIM FAA Roles/Responsibilities

ALL ARP – Mitigation Strategies

- Geometry Improvements
- Signage, Marking, Lighting
- Procedures
- Technology (ATAP, RIPSA?, etc.)
- Pilot Education may help

RIM FAA Roles/Responsibilities

- Data Integration, Analysis, Evaluation
- Internal & External Communications
- Ensure Business Goals are met
- National Coordination
  - ARP
  - FAA LOBs
- SMEs for Mitigation Solutions
- RDM Tool Direction, Management

RIM FAA Roles/Responsibilities

Regional/ADO Project/Program Managers

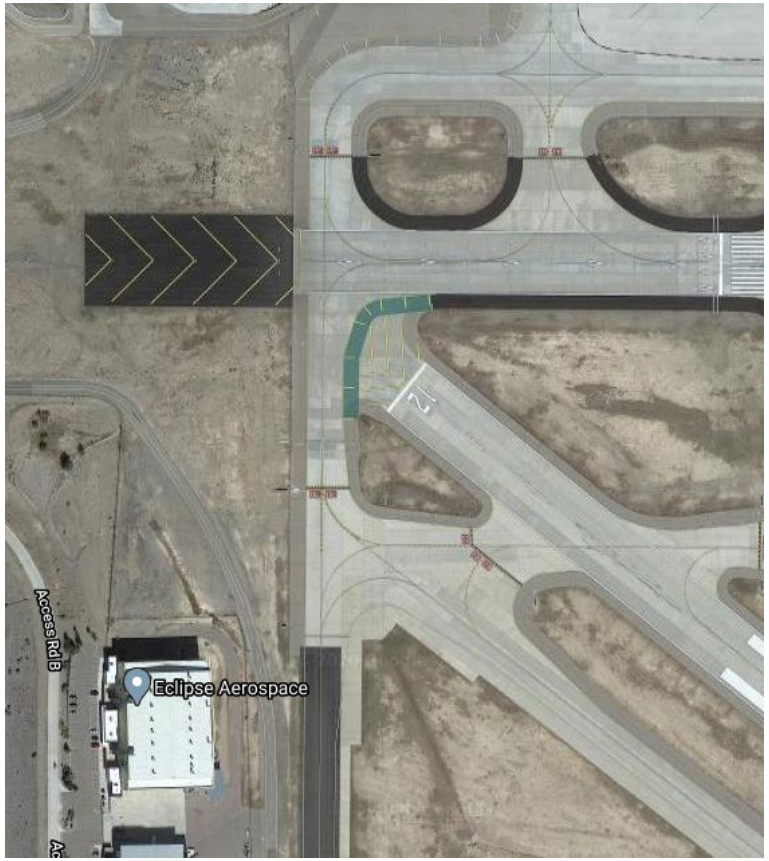
- ***Annual*** **(May – July) potential RIM location validations**
- **Update RIM info into RDM Tool***
- **Coordinate with Airport Sponsors**
  - **Assist in mitigation development**
  - **ACIPs, long term planning**
- **Coordinate with FAA LOBs**
  - **Procedures**
  - **Facilitate mitigation implementation**
- **Flag RIM projects in SOAR**
- **Look for other opportunities to mitigate**

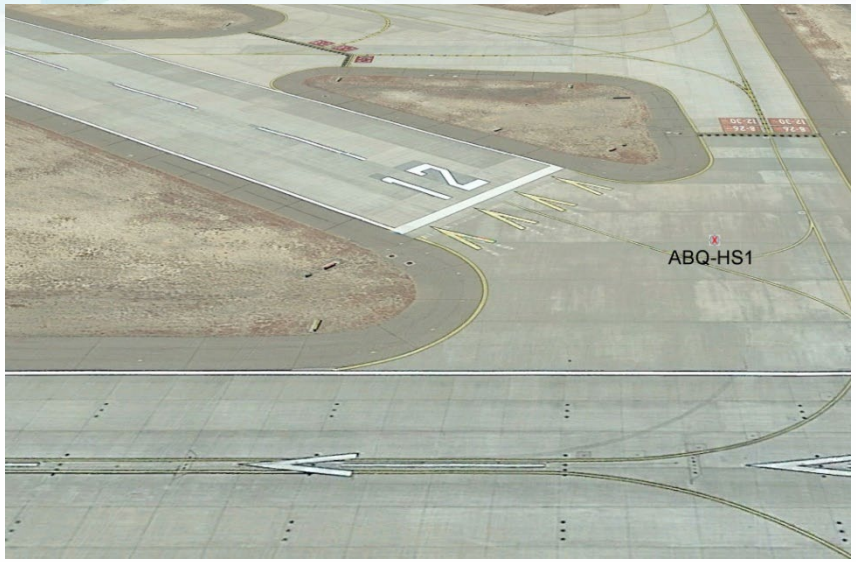
***Quarterly, or As Necessary**

Successes

Albuquerque International

- 11 RIs from 2010 – 2015
- Wrong Runway Events





FY 2018 Mitigated

- Decoupled Runway Ends
- Cont'd monitoring
- 1 Runway Incursion since, but no wrong runway events

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Successes

- **Terre Haute International**
  - 8 RIs in 2016, 11 Total

- **FY 2018 Mitigated**
  - Realigned taxiways
  - Cont'd monitoring
  - 0 Incursions post-mitigation

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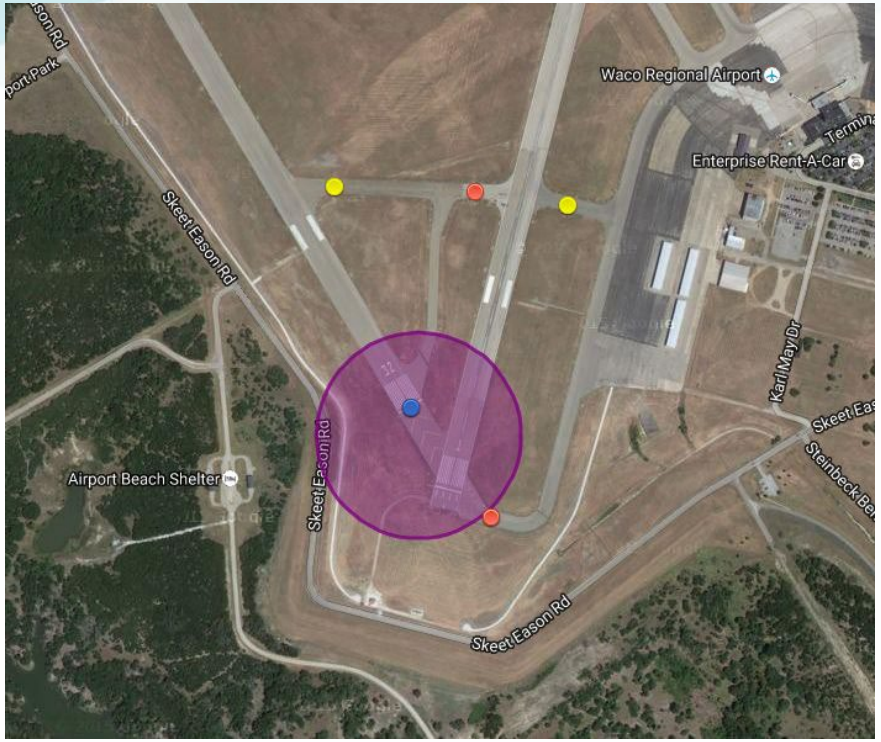
Successes

Waco Regional, ACT-HS1

- 3 RIs in 2015



FY 2016 Mitigated

- Realigned taxiways
- Cont'd monitoring
- 0 Incursions post-mitigation

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Successes

Bowman Field (Louisville)

- 5 RIs from 2009 - 2012

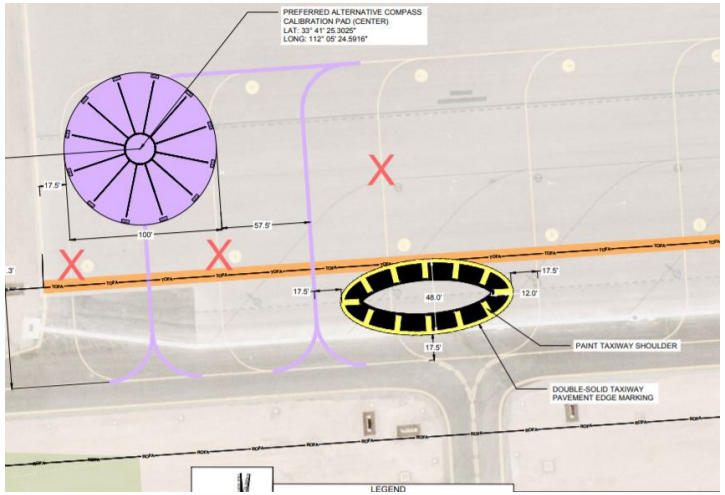
FY 2019 Mitigated

- Green island eliminates direct access
- Cont'd monitoring

Successes

Phoenix Deer Valley

- 12 RIs in 2010 - 2018



FY 2019 Mitigated

- Pavement marking eliminated direct access
- Cont'd monitoring

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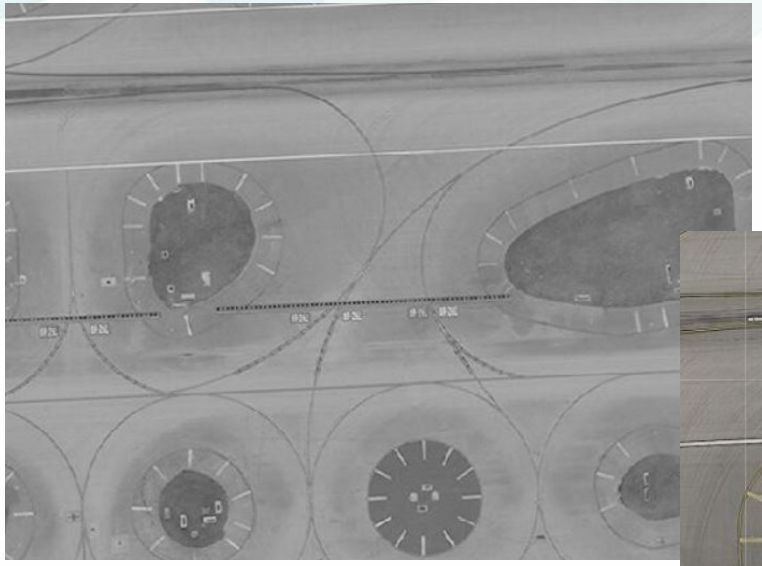
Successes



Miami International Hot Spot 2

- 3 RIs in 2008, 5 Total

FY 2019 Mitigated

- Realigned taxiway to eliminate direct access
- Cont'd monitoring

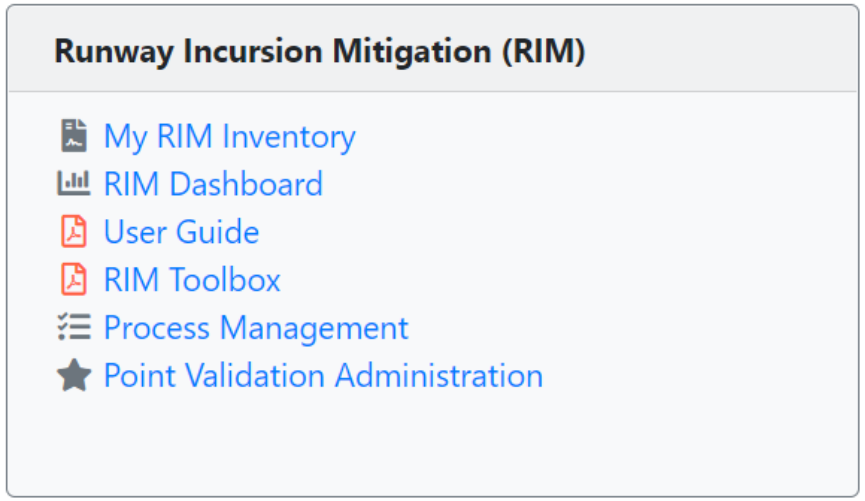
RIM - Current Status

RIM Quick-Hit Statistics:

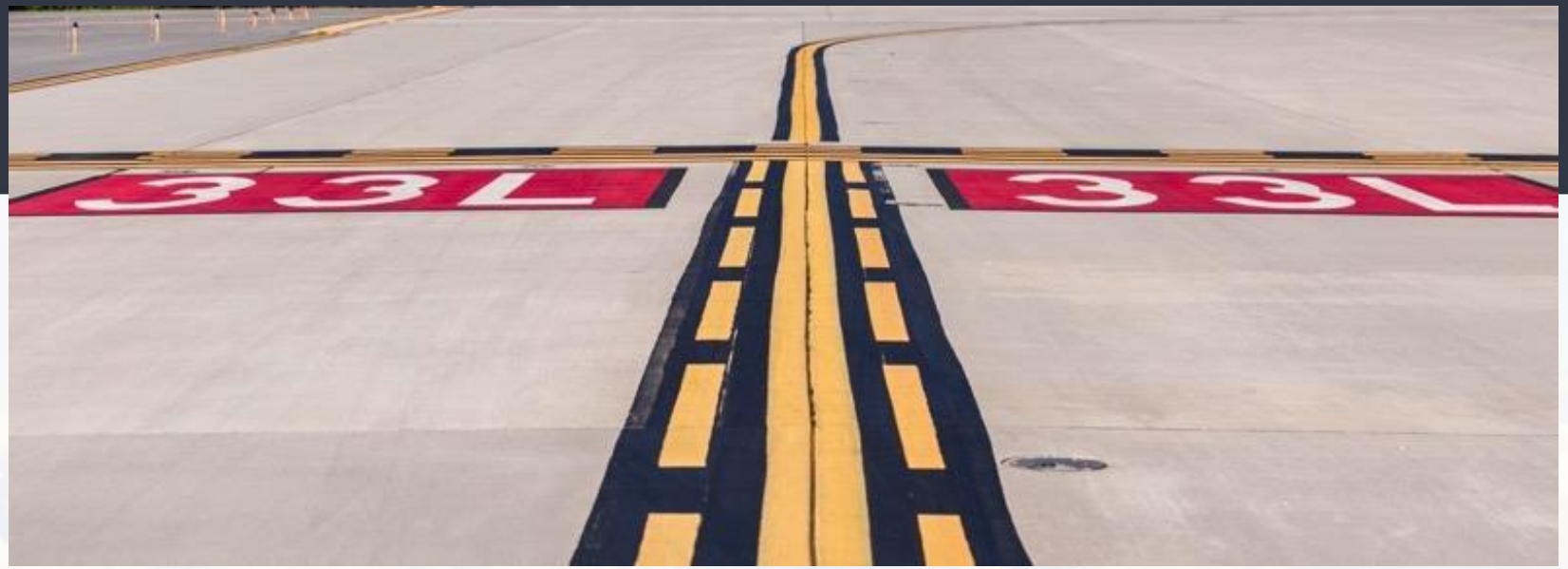
- 522 towered airports
- 123 RIM locations in current inventory
  - https://www.faa.gov/airports/engineering/incursions_excursions/rim
- 79 airports w/ at least 1 RIM location
- 100+ RIM locations associated w/ new project
- Mitigations reduce RIs an ***average of 78%***
- 93 RIM Locations *mitigated*

RIM Data Management Tool

- **FAA Internal GUI for RIM Program management**
- **Industry with limited read-only access**
- ***Airport Data and Information Portal (ADIP)***
- **https://adip.faa.gov/agis/public**



THANK YOU



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