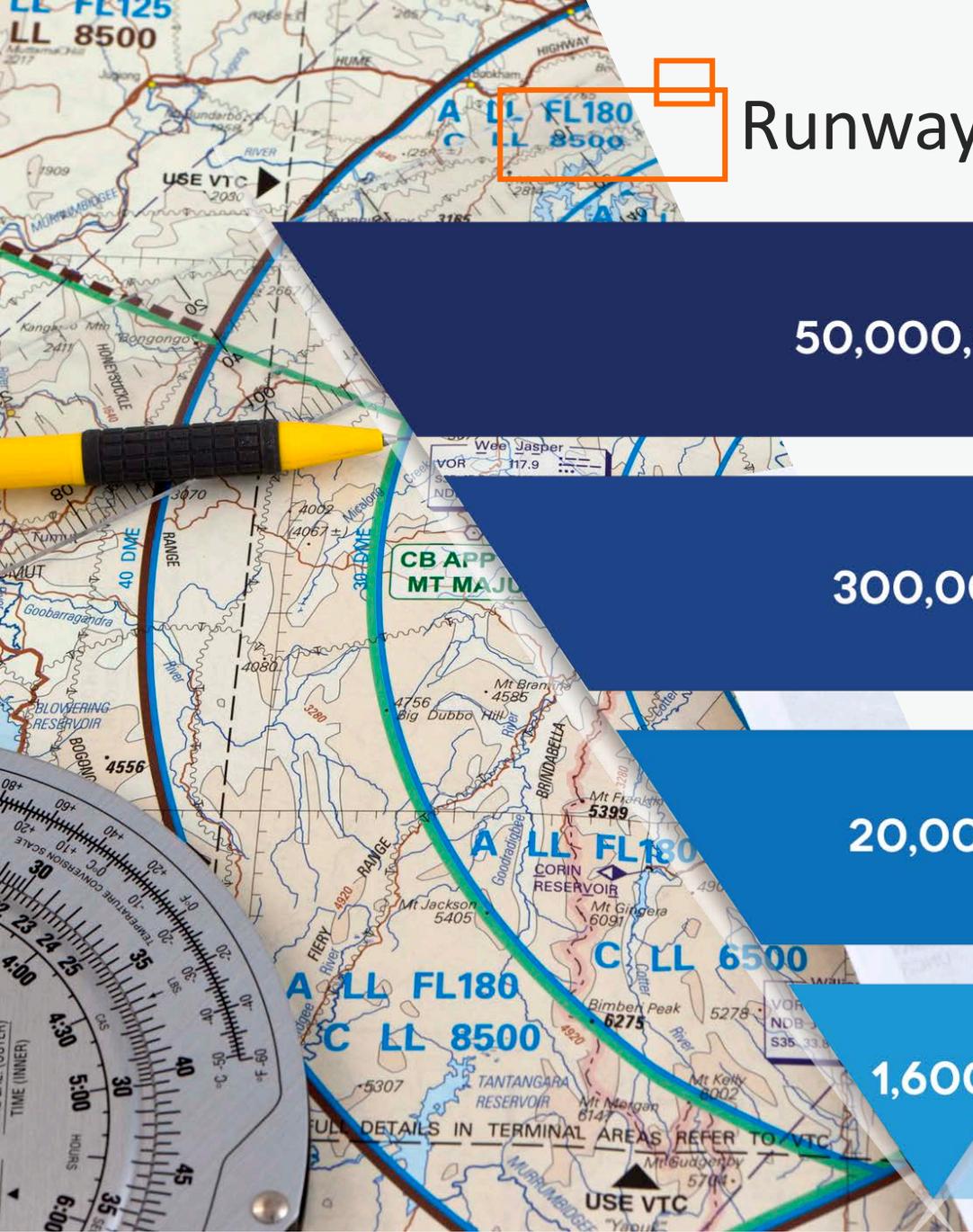




NTSB Runway Incursion Forum

Air Traffic Control

September 19 – 20, 2017



Runway Incursions by the Numbers

50,000,000

Takeoff and Landings

300,000

MOR/EORs Reviewed

20,000

Runway Safety MORs Reviewed

1,600

Runway Incursions

Historical Data

A General Aviation Aircraft
was Involved in 80% of
These Incidents

Over a 10-Year Timespan

- 66% of Runway Incursions were Pilot Deviations (PD)
- 19% Vehicle/Pedestrian Deviations (VPD)
- 15 % Operational Incidents (OI) Related to Air Traffic Controllers



Highest Ranking Causal Factors to RI's

- ATC Cleared Aircraft to Land/Depart on an Occupied Runway
- Pilot Failed to Hold Short of Runway as Instructed
- Driver entered runway without Authorization
 - Driver failed to Hold Short of Runway



Contributing Factors to RI's

- ATC Misjudge the Rate of Closure
 - Optimistic Expectations
- Pilot Deviation - Communication
- Vehicle/Pedestrian Deviation - Loss Situational Awareness

Manage Risk

Risk is Managed By:

- Collaboratively working with industry partners to develop and deploy runway safety solutions.
- Infrastructure such as multiple parallel runways allowing separate runways for arrivals and departures.
- Proactive SMS process to collect data, assess the data, develop mitigations and then measure the effectiveness.





Manage Risk Cont.

The Risk is Managed By:

- Procedures for ATC, Pilots, and Vehicle Drivers
- Technology (AMASS, ASDE-X, RWSLs, EMASS, RSA)
- Initial Training / Recurrent Training

The risk of a runway incursion is always present when an more than one aircraft is approaching, landing, departing, crossing a runway.



Controller Assumes

Controller Cognitive Bias

Pilot is Experienced and Proficient



Pilot Understands the Layout of the Airport



Accurate and Complete Communication Between Pilot and Controller





Phraseology

Use Proper
Phraseology in
All Readbacks



Readbacks

Controllers Expect
Readbacks on All
Clearances



Hold Short Instructions

Full Readbacks are Required
for All Hold Short Instructions.
Acknowledgment is Required
for All Runway Crossings



Questions/Mistakes

Missing or Incomplete
Readbacks Lead to
Questions and
Sometimes Mistakes

Hearback Readback

A full readback allows the controller to ensure that the pilot received the clearance as intended. Sometimes this is the only opportunity to catch and correct a mistake or misunderstanding.





Safety Works When People Work Together

Bridget Gee

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