WELCOME

TO THE RUNWAY SAFETY ACTION TEAM (RSAT) MEETING

Air Traffic Manager
James Luna-Hill

Airport Manager
Jennifer Skoglund

FAA Safety Team Program Mgr.
Robert Ticknor

RSAT MEETING

PURPOSE

- Open Discussion
- Surface risks
- Risk mitigations
- Best practices
- Safety resources

TAKEAWAYS

- Local safety trend awareness
- Safety resource availability
- Action Item identification
- Runway Safety Action Plan (RSAP) update

WHAT ARE WE DISCUSSING TODAY?

MOVEMENT AREAS

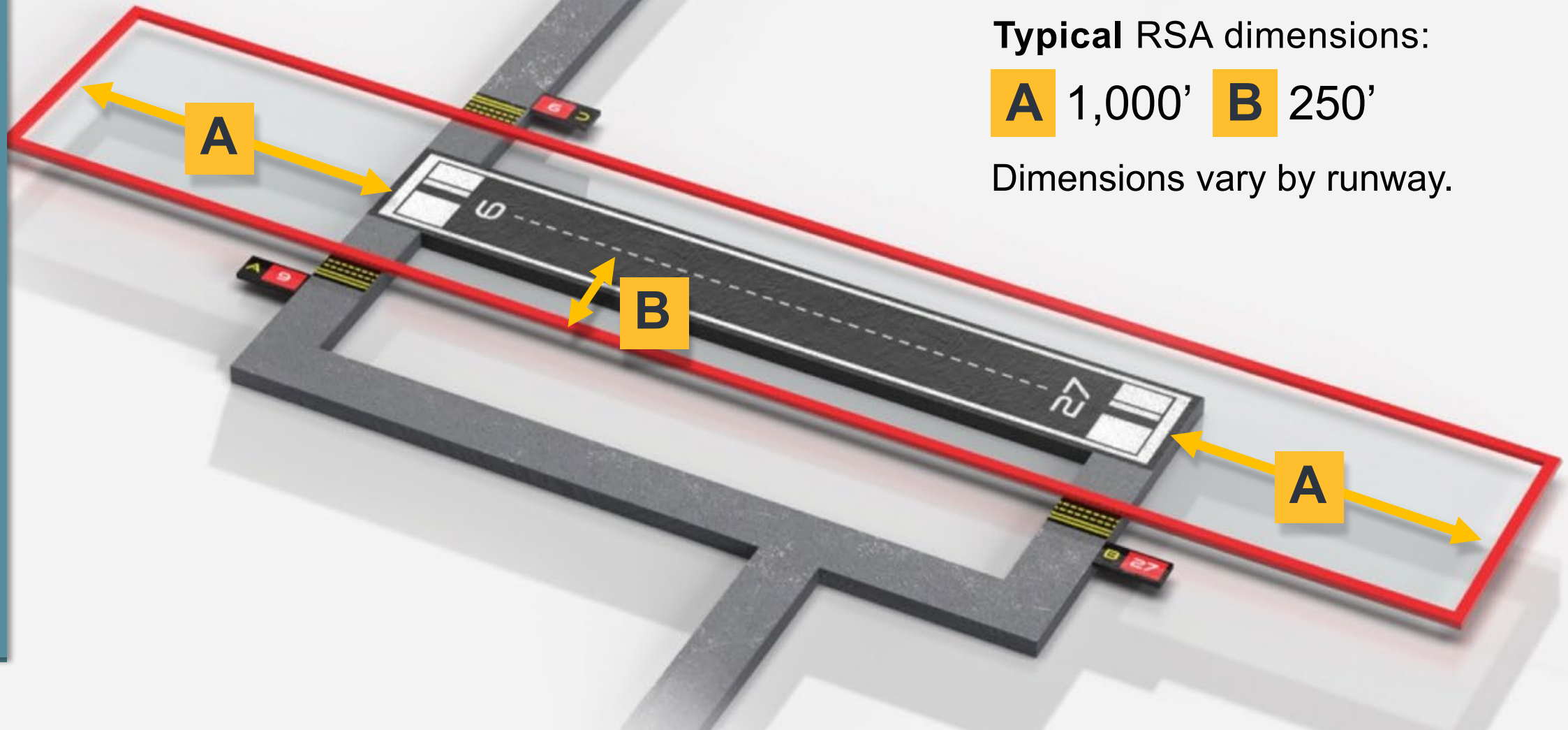
- Runways
- Taxiways
- Any area on the airfield where operations require ATC permission

RUNWAY INCURSION (RI)

Incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft

RUNWAY SAFETY AREA (RSA)

OFTEN REFERRED TO AS “THE PROTECTED AREA”



Typical RSA dimensions:

A 1,000’ **B** 250’

Dimensions vary by runway.

LOCAL
RUNWAY SAFETY AREA (RSA)

Dimensions of Runway Safety Area (RSA)
250 ft. from Runway Centerline
1,000 ft. from Runway Threshold Ends

Note: Runway 2-20: 150 ft. Width
RSA outside Runway Edge = 175 ft.

Note: Restriction for Runway Threshold Ends within the RSA

Cleared of persons and equipment during air carrier/aircraft operations.

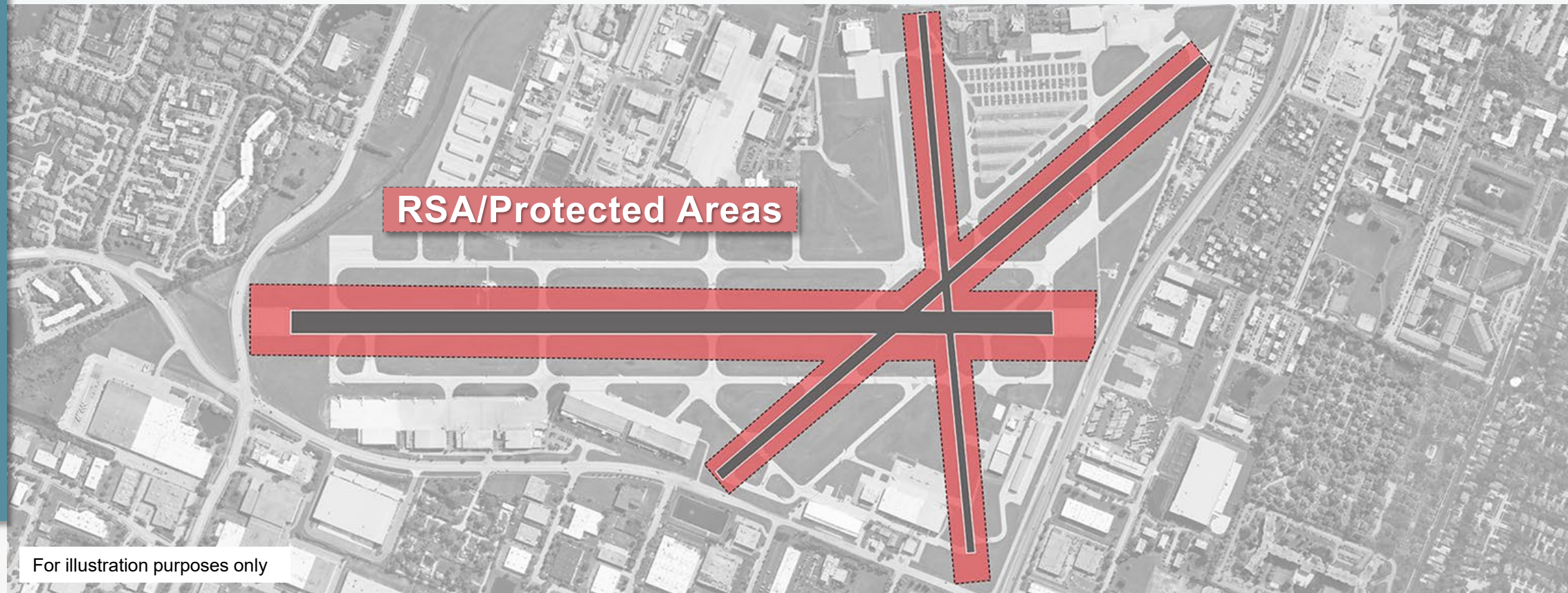
Cleared of persons and equipment during air carrier operations.

Available to persons & equipment during non air-carrier operations.

AIRFIELD MOVEMENT AREAS

RSA / PROTECTED AREA

- ATC authorization is required to enter the **RSA/Protected Area**
- When on this surface without authorization, you have committed a Runway Incursion (RI)



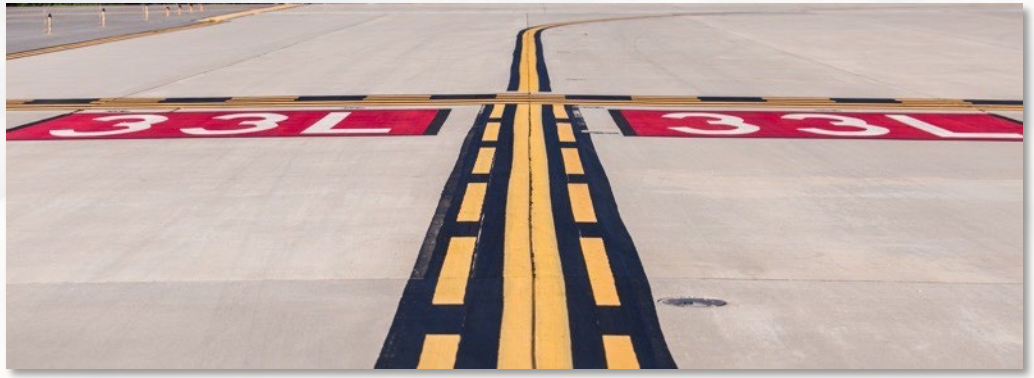
For illustration purposes only

SIGNAGE & MARKINGS

Both signs and surface-painted markings indicate surface designations to aid in situational awareness

Standard sign colors are:

- Red/White denotes a warning
- Yellow/Black are directional



APPROACHING THE HOLD SHORT LINE

You will meet the double solid lines first

- Authorization is required to enter or cross the RSA/ Protected Area
- Crossing this line without authorization is the most common type of **Runway Incursion** (RI)

CLEARING THE HOLD SHORT LINE

You meet the double dashed lines first

- You are **EXPECTED** to get past this line if nothing is impeding forward movement. Until you fully clear this line, you are still in the ‘runway environment’ which may cause a loss of separation, go-around or another type of RI

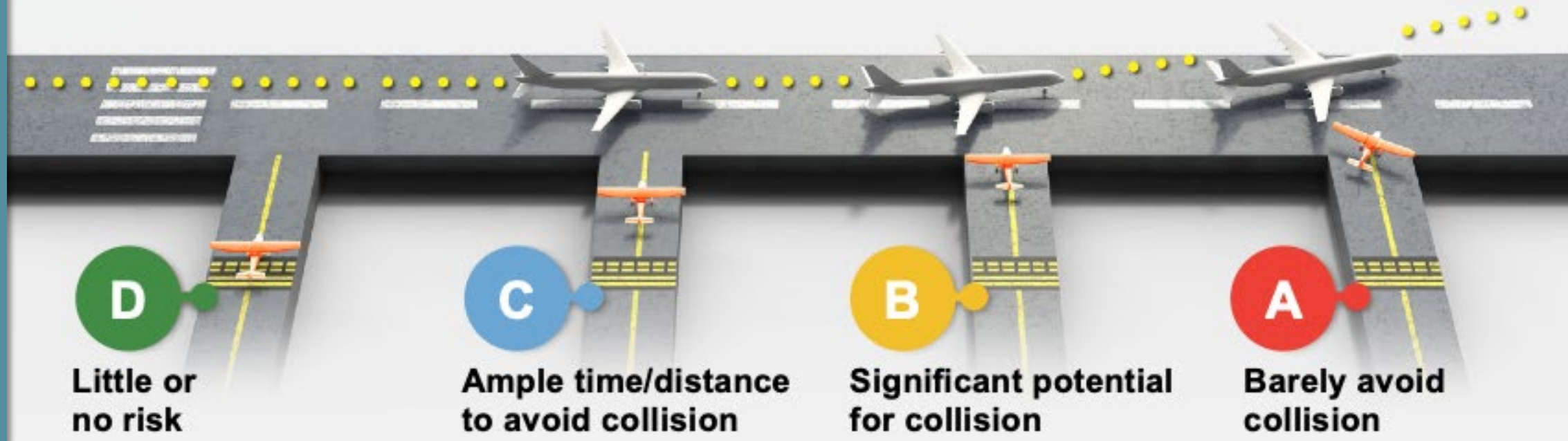
CLASSIFICATIONS OF RUNWAY INCURSIONS

Runway Incursions are classified into various types, based on attributed actions:

- **Operational Incidents (OI)** are attributed to Air Traffic Control action or inaction
- **Pilot Deviations (PD)** are attributed to pilots operating an aircraft under its own power
- **Vehicle or Pedestrian Deviations (V/PD)** are attributed to a vehicle driver or non-pilot operating an aircraft under its own power, a vehicle driver towing an aircraft, or a pedestrian
- **Others (OTH)** are events not clearly attributed as determined above. This can include events caused by equipment failure or other factors

RUNWAY INCURSION

SEVERITY CATEGORIES



- A category **D** event involves no other aircraft or vehicle
- Events in categories **C**, **B**, and **A**, increase the risk of collision, respectively, based on proximity and closure rate/speed of event participants/targets

RUNWAY INCURSIONS

FY2023 | BY THE NUMBERS

54.5M take-offs & landings occurred in the NAS. Of which:

1,757 were Runway Incursions

- **61%** PD (Pilot)
- **19%** OI (Controller)
- **18%** VPD (Vehicle/pedestrian)
- **2%** OTH (Other)

LOCAL SURFACE EVENT REVIEW

RUNWAY INCURSIONS (RI)

Add local RI events on the following slides to review and discuss:

- What went wrong?
- Is this a recurring trend?
- What are lessons learned?
- What local mitigations have been or could be implemented?

LOCAL SURFACE EVENT REVIEW

RUNWAY INCURSION

ALW-M-2023/05/20-0001

N625SP entered Runway 20 without ATC authorization. N625SP/C172 (Student Pilot) was instructed to taxi to Runway 20. The pilot readback was correct. N625SP entered Runway 20 without clearance. No other traffic was involved.

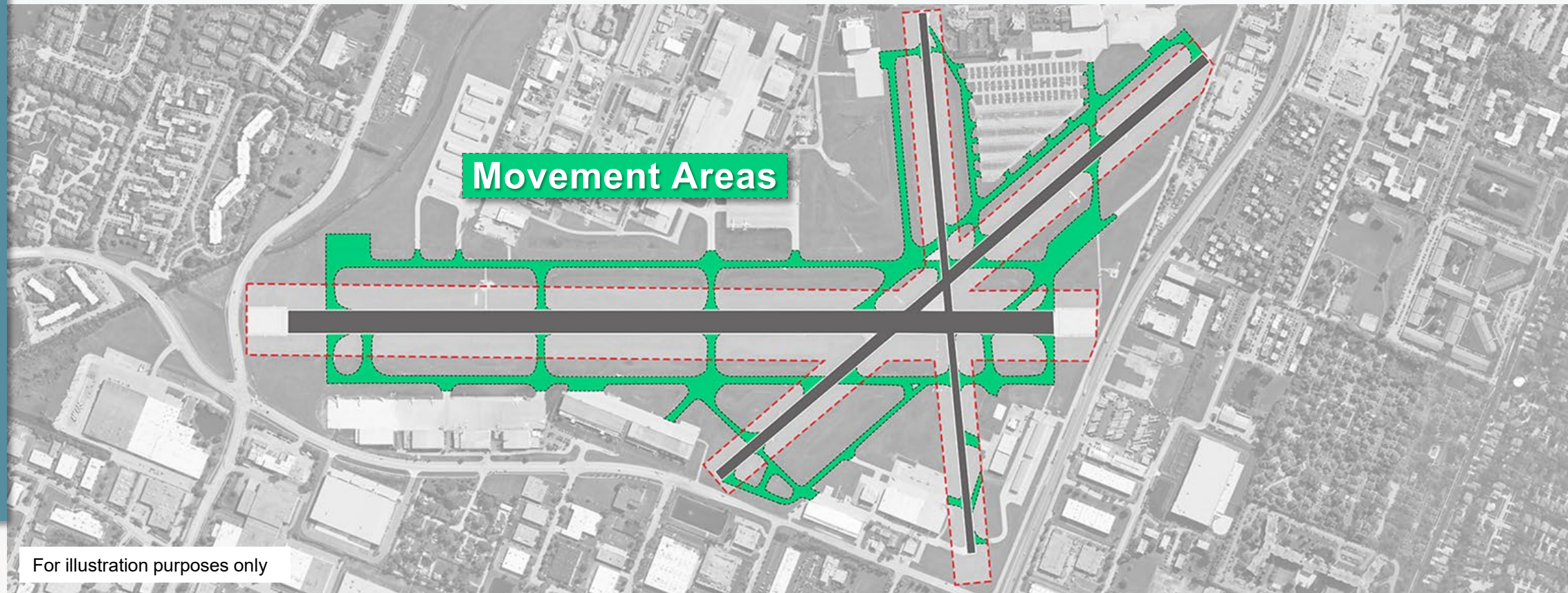
SURFACE INCIDENT (SI)

An unauthorized movement of an aircraft, vehicle or pedestrian within the designated movement area, but outside of the RSA

AIRFIELD MOVEMENT AREAS

THE MOVEMENT AREA

- ATC authorization is required to enter the **Movement Areas**
- When on this surface, but outside the RSA/Protected Area, without authorization, you have committed a Surface Incident (SI)



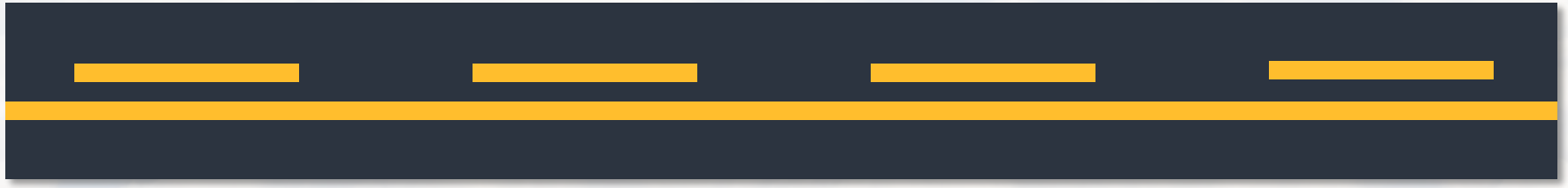
For illustration purposes only

MOVEMENT/NON-MOVEMENT

HOLD LINE

You will meet the single solid line first

- Usually found on apron surfaces and taxiway entrances
- Authorization is required when entering the movement area
- Crossing this line without authorization is a Surface Incident (SI)



SURFACE INCIDENTS

FY2023 | BY THE NUMBERS

567 surface incidents occurred in the NAS. Of which:

3 aircraft departed from a taxiway

16 aircraft aligned with and landed on a taxiway

51% PD | **7%** OI | **28%** VPD | **14%** OTH

LOCAL SURFACE EVENT REVIEW

SURFACE INCIDENTS (SI)

Add local SI events on the following slides for discussion

- What went wrong?
- Is this a recurring trend?
- What are lessons learned?
- What local mitigations have been or could be implemented?

LOCAL SURFACE EVENT REVIEW

SURFACE INCIDENT

ALW-M-2023/09/04-0001

LC/GC/CIC combined. N758WB initially called 8 miles south of ALW and was given left traffic for rwy 20 and to report mid-field downwind. Arrow N36024 called for taxi and was given instruction to rwy 20. Skyhawk N2XC also called for taxi and was given rwy 20. Controller scanned downwind for the incoming Cessna, turned and scanned the runway and saw Skyhawk N758WB on taxiway Alpha 2 turning north onto taxiway Alpha north bound. Controller gave brasher warning as the Skyhawk exited Taxiway Alpha via Bravo to the ramp. Pilot called the tower, apologized and gave information.

RUNWAY EXCURSION (RE)

A veer off or overrun from the runway surface during take-off or landing

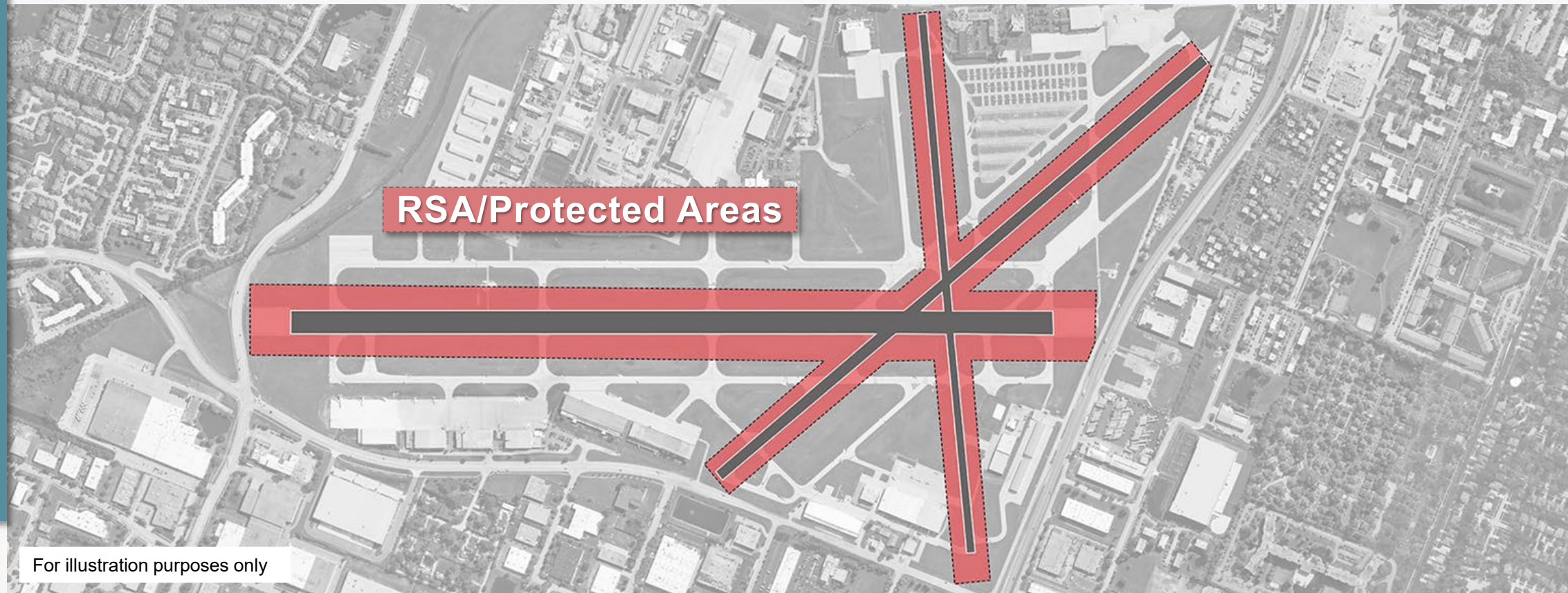
Contributing factors may include:

- Unstable Approaches
- Cross Wind Component
- Tailwind
- Mechanical
- Runway Conditions

AIRFIELD MOVEMENT AREAS

RSA / PROTECTED AREA

Aircraft unintentionally leaving the designated or paved runway surface experience a Runway Excursion (RE)



For illustration purposes only

RUNWAY EXCURSIONS

FY2023 | BY THE NUMBERS

492 REs occurred in the NAS.
Of which:

457 general aviation aircraft

27 commercial aircraft

4 military aircraft

Main contributing factors:
Aircraft problems, loss of control, and unstable approaches

LOCAL SURFACE EVENT REVIEW

RUNWAY EXCURSIONS (RE)

Add local RE events on the following slides for discussion

- What went wrong?
- Is this a recurring trend?
- What are lessons learned?
- What local mitigations have been or could be implemented?

EMAS (Engineered Material Arresting System)

SINCE 1996 | BY THE NUMBERS

19 runway excursions have been stopped safely by EMAS, protecting **421** crew and passengers

118 EMAS MAX beds are installed at **70** airports across the NAS as of 2022

70 knots or less

The speed at which standard EMAS is designed to stop the most demanding, regular-use aircraft

EMAS info

4 greenEMAS® beds are installed at MDW

WSO
WRONG SURFACE OPERATIONS

WSOs involve landing on or taking off from a taxiway, wrong runway, or landing at a wrong airport. Risk factors include:

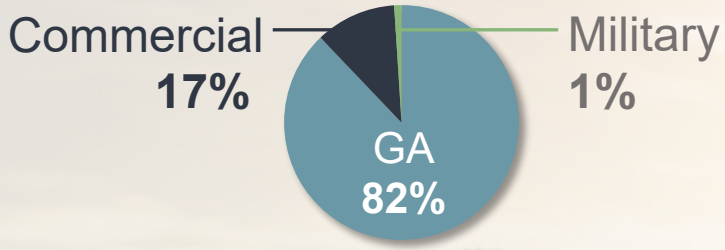
- Parallel runways, particularly offset thresholds, or irregular spacing
- Closely aligned runway ends
- Parallel taxiways
- Close airports with similar configurations

WRONG SURFACE OPERATIONS

FY2023 | BY THE NUMBERS

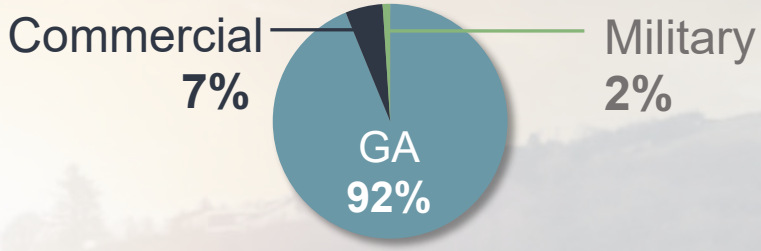
WSO by Operator Type *

Arrivals



WSO by Operator Type

Departures



WSO Daytime Events

WSOs Involving Other Aircraft

WSO by Surface Type

	Arrivals	Departures
Wrong Runway	53	18
Taxiway	16	3
Other Surface	3	0
Wrong Airport	8	2

* Numbers shown here may not equal 100% due to rounding

WSO

WRONG SURFACE OPERATIONS

Know before you go:

- Be familiar with the airport diagram and keep a copy for reference
- Find a satellite airport image for a realistic view of what to expect
- Confirm your compass heading matches your assigned runway
- See something, say something

Wrong Surface Landings

Wrong Airport Landings

Wrong Direction Intersection Takeoffs

LOCAL SURFACE EVENT REVIEW

WRONG SURFACE OPERATIONS

Discuss local WSO events

- What went wrong?
- Is this a recurring trend?
- What are lessons learned?
- What local mitigations have been or could be implemented?

LOCAL SURFACE EVENT REVIEW

SURFACE INCIDENT

ALW-M-2023/07/15-0001

While scanning the surface area in preparation for SKW3624 to depart runway 20, the LC controller spotted an aircraft 1 mile South-West of the field maneuvering to land opposite direction on runway 02. Comm's were attempted to no avail. The glider landed, exited the runway and taxied to the FBO without ATC authorization. The CIC contacted the FBO to have the pilot call us. The pilot stated that his Garmin and Flight tracking system shows him that there is no operational tower at Walla Walla, He apologized and gave us his information. No delay for SKW3624 departure.

ARRIVAL ALERT NOTICE (AAN)

AANs address Wrong Surface

Where Aircraft lines up to or lands on a:

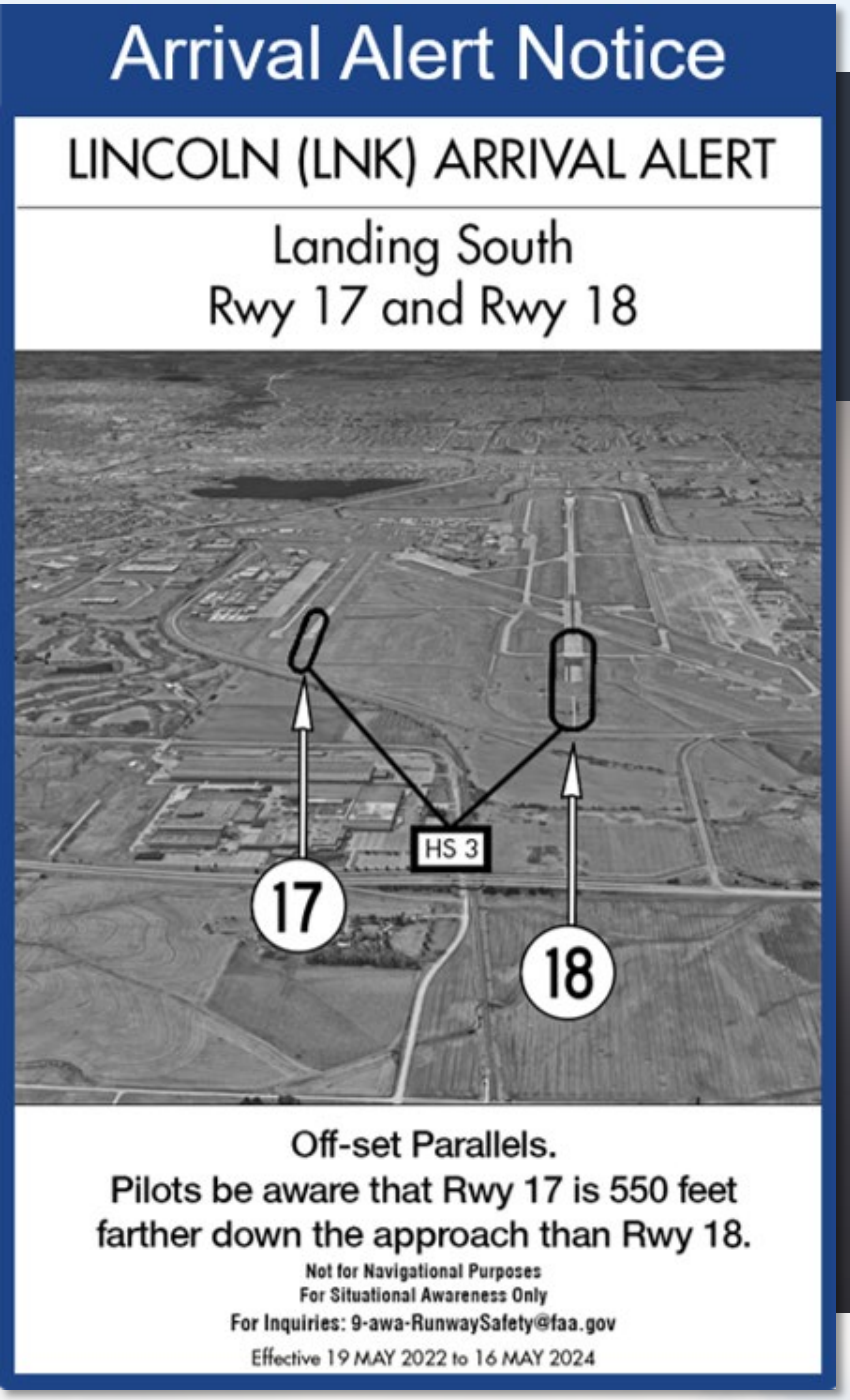
- Taxiway or
- Incorrect runway or airport

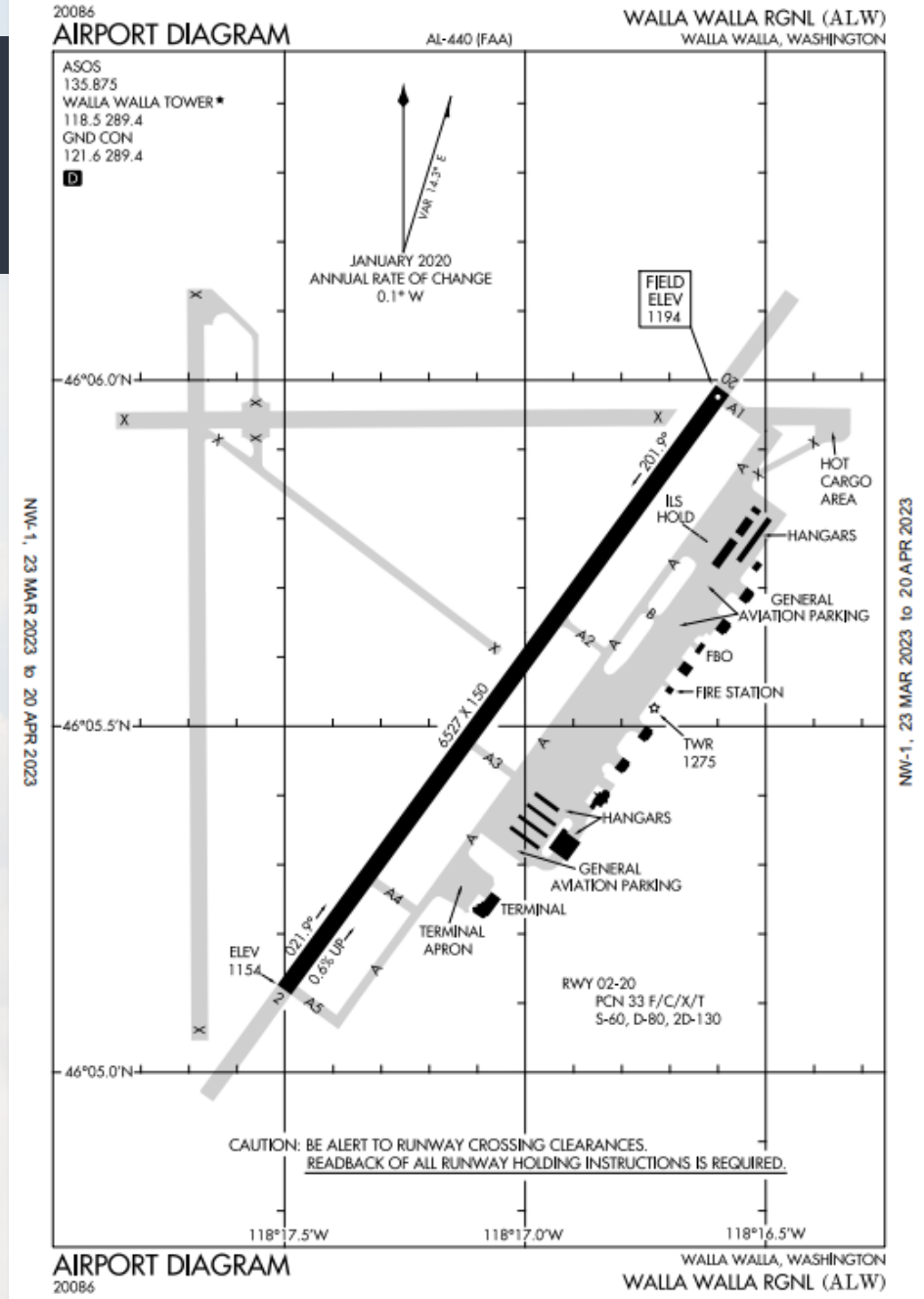
ARRIVAL ALERT NOTICE (AAN)

AAN VIDEO

FROM THE FLIGHT DECK

HAZARDS AND HOT SPOTS





ALW

AIRPORT DIAGRAM

ALW

HOT SPOT

None at ALW.

A location on an aerodrome movement area:

- With a history or potential risk of collision or RI
- Where heightened attention by pilots and drivers is necessary

RUNWAY INCURSION MITIGATION (RIM)

RIM LOCATIONS

Airfield locations where multiple Runway Incursions (RIs) occur.

RI data triggers examination of runway/ taxiway intersections where 3 or more RIs occurred in 1 year or an average of 1 per year in the last 10 years. The FAA, airports, and industry develop mitigation projects to address RIs at these locations.

126
identified for mitigation

18
work currently in progress

91
corrected to date

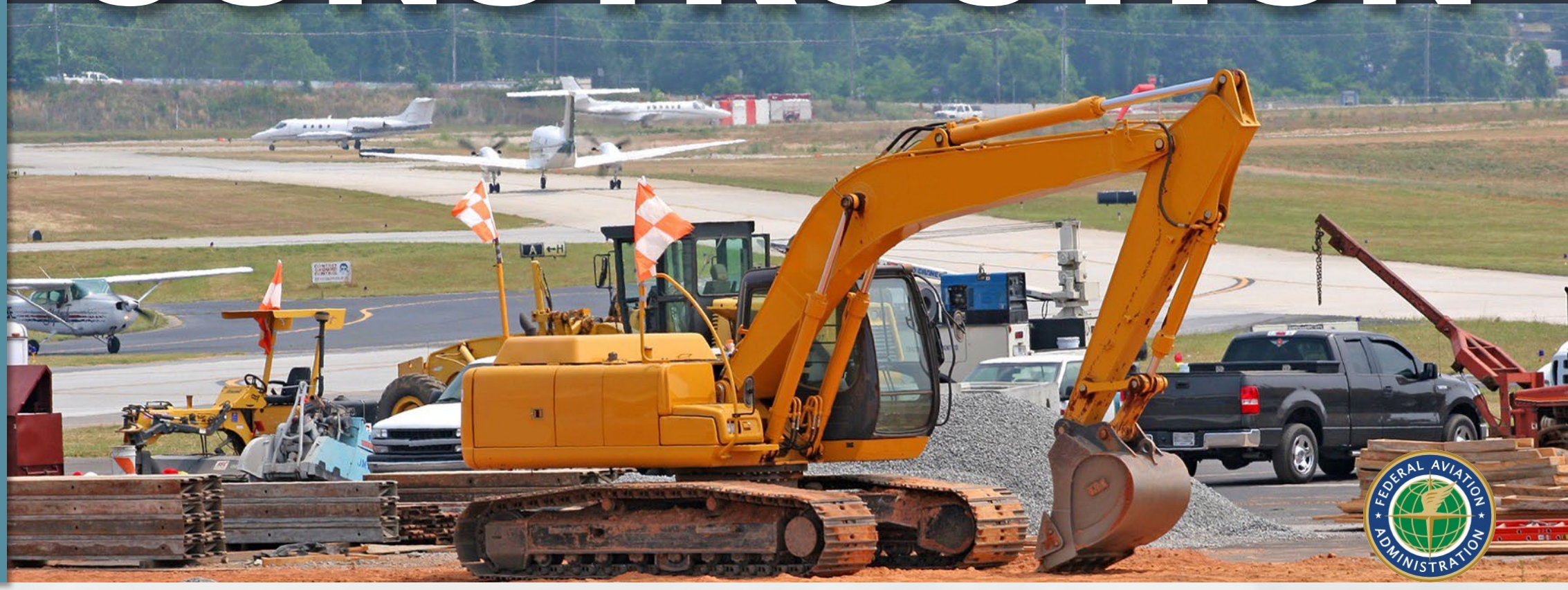
As of 2/2/2023

Active RIM locations

RIM Video

AIRPORT

CONSTRUCTION



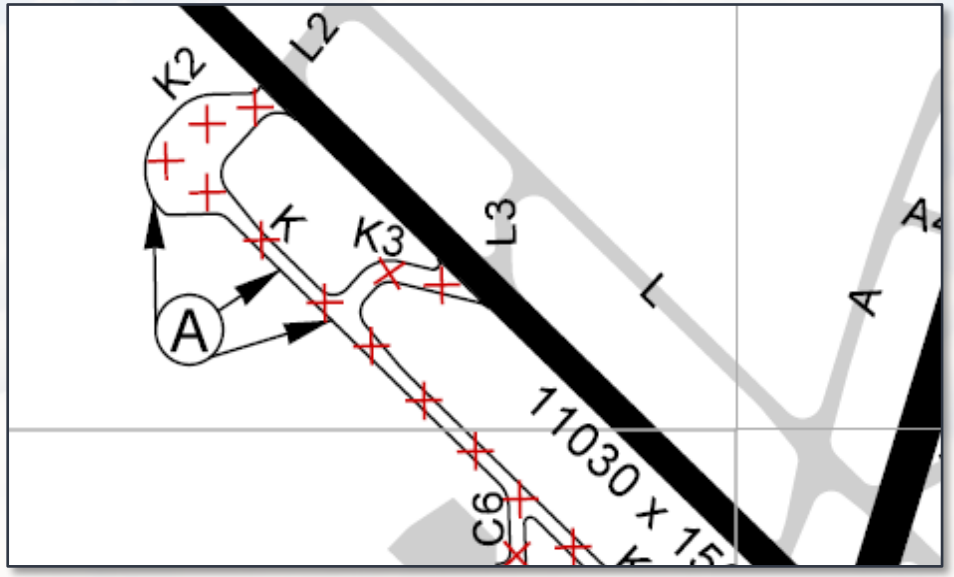
AIRPORT CONSTRUCTION
AWARENESS

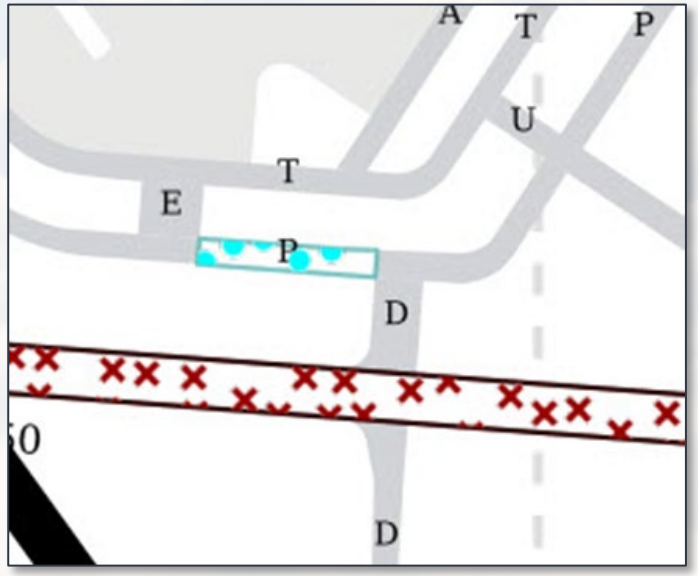
NOTAMS are notices filed to alert airfield users of potential hazards or airfield conditions.

- NOTAMs are added or changed by the Airport Operator and should be coordinated with ATC.
- Early construction coordination must also include the ACAC and is verified during External Compliance Verification (ECV) inspections.
- NOTAMs can be further used to produce Construction Notice Diagrams known as CNDs.

AIRPORT CONSTRUCTION AWARENESS (Cont.)

Generally, runway and taxiway closures and restrictions >24 hours are depicted and updated daily based on coordination and issued NOTAMs.





KEY:

- ✘ Closures
- Temporary restriction

AIRPORT CONSTRUCTION AWARENESS (Cont.)

Construction Notice Diagrams (CND) give airport users a visual depiction of the surface closures or restrictions on the airfield.

- CNDs **do not** replace traditional Airport Diagrams or NOTAMs and are found separately for pre-flight planning purposes.
- CNDs are updated **daily** as needed based on coordinated surface closures, restrictions and issued NOTAMs.

AIRPORT CONSTRUCTION

CNDs

Per Order 7210.3, early construction/ coordination with ACAC is required by the Air Traffic Manager (ATM)

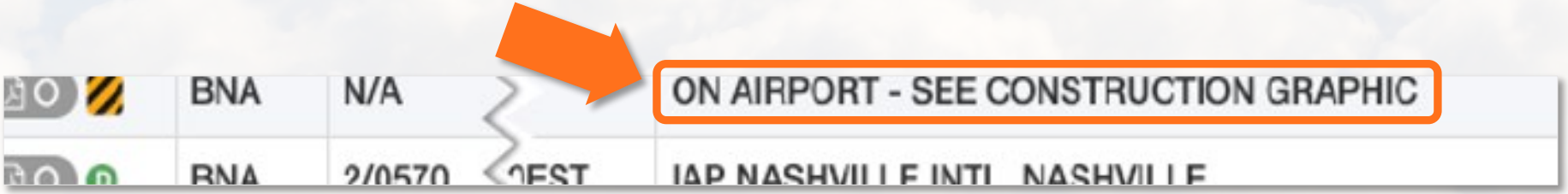
- CNDs must currently be created **manually** each time a new construction project is coordinated with the ACAC.
- Each project **update** must also be coordinated with ACAC to properly reflect varying construction surface closures on your CND.
- Applicable surface closures will remain on the CND until project completion.

AIRPORT CONSTRUCTION

NEW AUTOMATED CNDs

FAA is transitioning to a new Automated CND process using NOTAM Manager to streamline coordination.

- This construction symbol , along with "ON AIRPORT – SEE CONSTRUCTION GRAPHIC" are **found at the top of each NOTAM Search** when applicable.
- Click here in the NOTAM Search to download the current CND.



AIRPORT CONSTRUCTION
BEST PRACTICES

- **Coordinate** construction plans early among the Airport Operator, ATCT and ACAC.
- **Email ACAC** at: ConstructionCouncil@faa.gov.
- **Provide** briefings & training for controllers and tenants.
- **Meet** with your Local Safety Council (LSC) to discuss alternate procedures/taxi routes.
- **Coordinate** with Quality Control Group (QCG) for Safety Management System (SMS) requirements.
- **Use resources** & checklists found on Runway Safety Webpage under the Runway Construction Section.
- **Set up** an after-action review to determine what worked and what did not.
- **Use NOTAM Manager** when available at your airport for Automated CNDs.

AIRPORT CONSTRUCTION AWARENESS (Cont.)

Best practices & Checklists

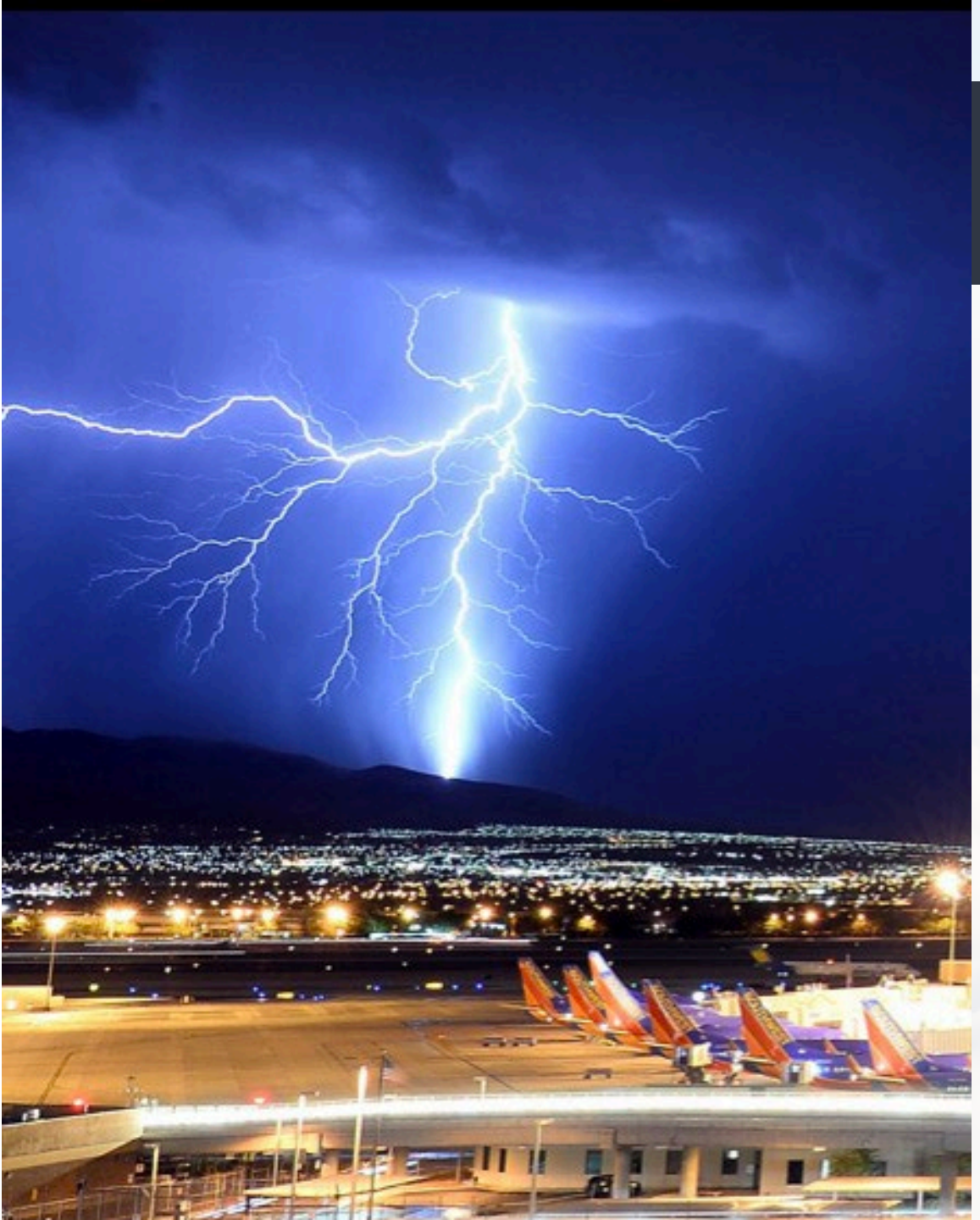
Airport Construction Diagrams

ACAC Mailbox

LOCAL PLANNED
CONSTRUCTION

A brief overview of any construction projects planned for the upcoming year.

- Runway 2/20 Drainage and Electrical Improvements.



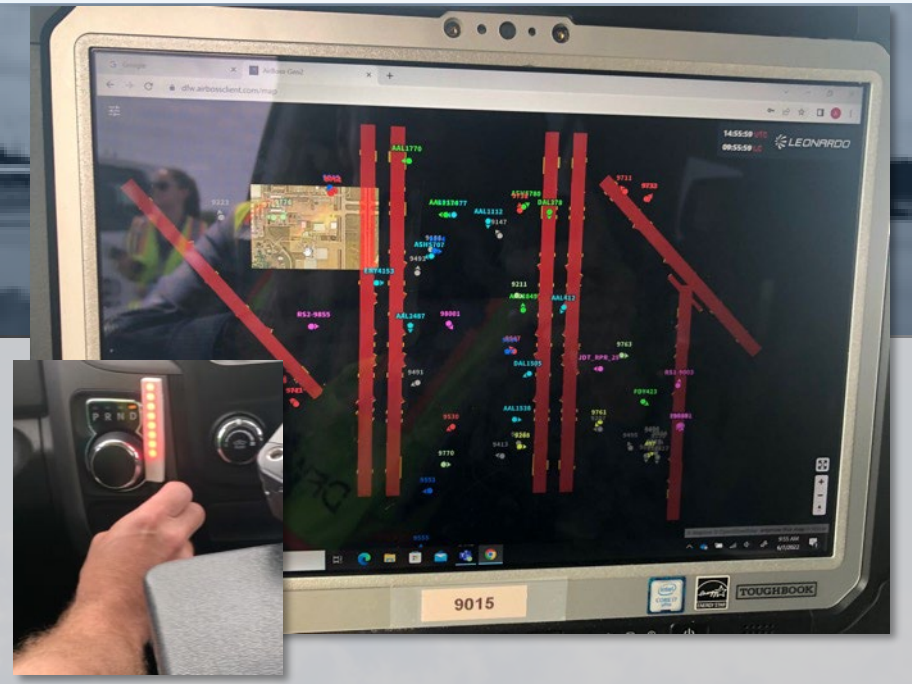
LOCAL AREA
WEATHER TRENDS

The following are weather conditions specific to this airport:

- Thunderstorms
- Snow
- Fog
- Visibility from the Tower

TRAINING AND OPERATIONS

AIRFIELD DRIVERS



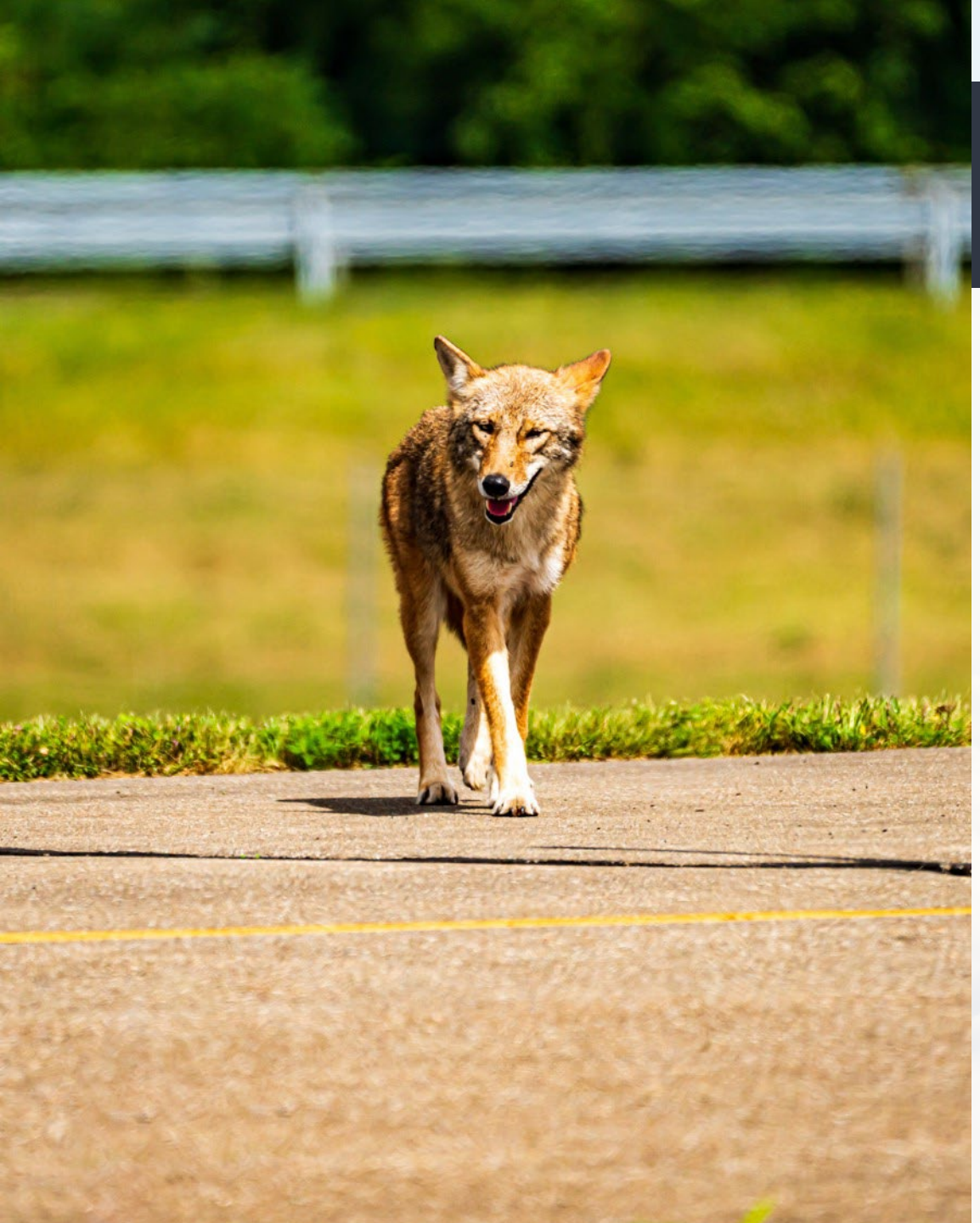
Review of driver policies, procedures, and training

- Who can drive on the airfield?
- How is training conducted and by whom?
- What happens when there is an RI, SI, etc.?
- Who do you contact if someone accesses the airfield without permission?
- Discuss vehicle equipment or electronic tracking devices that offer improved situational awareness
- **February 22 @ 9 AM, GVO Class**

Situational Awareness

Phraseology

Winter Ops



LOCAL AREA
WILDLIFE HAZARDS

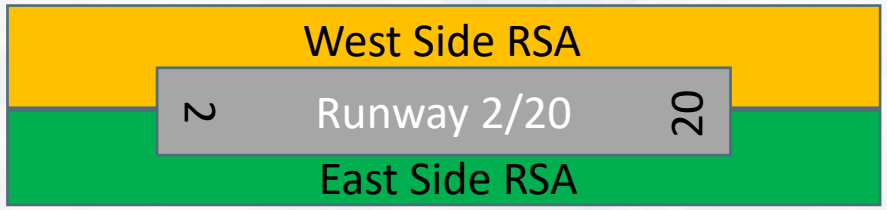
The following are wildlife hazards specific to this airport:

- Geese
- Ducks
- Starlings
- Hawks
- Deer
- Coyotes

LETTERS OF AGREEMENT

SURFACE OPERATIONS

- Maintain two-way radio communication with FCT on frequency 118.5 MHz while operating in the RSA.
- Remain off the runway at all times unless specifically approved onto the runway. A clearance to enter the RSA is NOT a clearance to enter the runway.



LOCAL UPCOMING
SPECIAL EVENTS

The following are events scheduled at this airport:

- None currently.

LOCAL RUNWAY SAFETY

BEST PRACTICES

Enter best practices at *your* facility for discussion

- Standardized phraseology and control instruction readback:
  - “On Runway 2/20.” “East/West Side Safety Area/RSA.”
  - “Off Runway 2/20 at (location).” (*close loop on same frequency issued.*)
- Accurate position reports from locally based aircraft; ALW has no RADAR.
- Call inbound 10-15 miles out per the AIM; exceptions noted.
- Tower utilizes RID+TMB to mitigate an incident.

LOCAL USER CONCERNS

REPORTED ISSUES

Enter reported issues from local pilots, stakeholders, tenants, Pilot-Controller Forums, etc. for discussion

- Bad position reports by transient aircraft or student pilots.
- Can’t only use callsign to acknowledge, must include roger/wilco, etc.
- Don’t use the word “Clear/cleared” unless it’s with a clearance.
- Summer uptick in aircraft traffic.
- Don’t block Bravo Taxiway on ramp.
- If unsure of ATC instruction, ask for explanation.

OUTREACH

PILOT SAFETY

AWARENESS VIDEOS

From the Flight Deck: Hazards and Hot Spots

- Over 100 specific airport and single-topic safety videos are available.
- Also available on the FAA YouTube Channel.

SINGLE TOPIC

COMPLEX GEOMETRY

From the Flight Deck: Complex Airfield Geometry

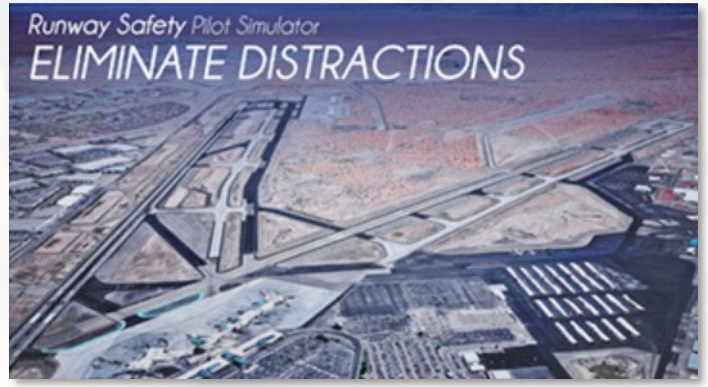
7 Videos on airfield geometry that frequently lead to runway incursions:

- Direct Access to Runways From Ramp Areas
- Taxiway Intersecting a Runway at Other Than Right Angle
- Short Distance from Ramp/ Apron to a Runway
- Wide Expanses of Taxiway Pavement Along Runway
- Short Distance Between Parallel Runways
- Runway Thresholds in Close Proximity
- Hold Short Lines in Unexpected Places

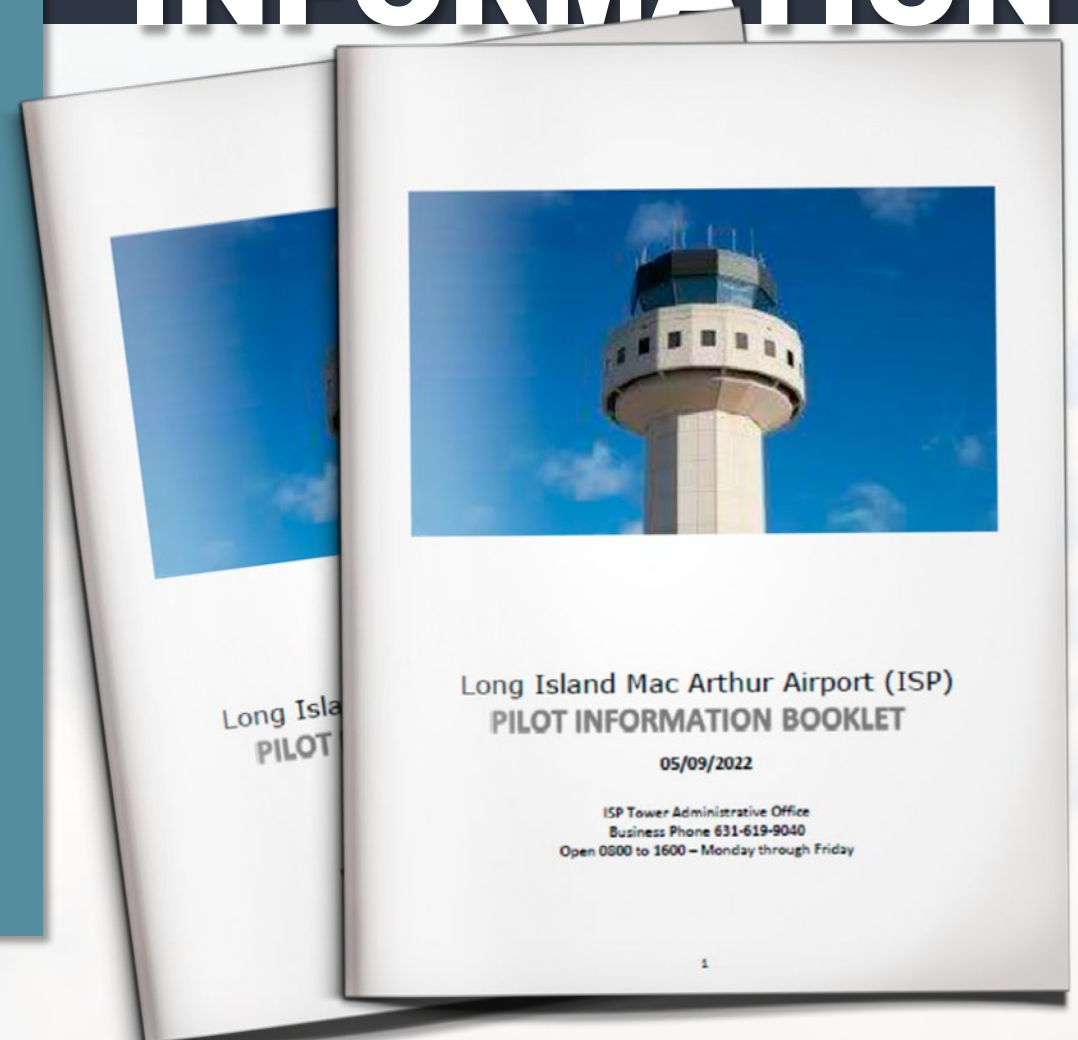
RUNWAY SAFETY

PILOT SIMULATOR

An interactive safety simulator based on actual surface events



PILOT
INFORMATION BOOKLETS



Available at these facilities:

- ISP
- FTW
- BED
- POU
- LNK
- TEB
- BFI
- MKC

Future facilities can be found at:
Primary link: www.faa.gov/XXX

(Replace XXX with 3-letter airport ID)

NATIONAL FAA SAFETY TEAM (FAASTeam)

Develops standardized safety interventions for General Aviation, and may support other safety initiatives such as:

UAS, NextGen, Runway Safety, The General Aviation Joint Steering Committee (GAJSC) Safety Enhancements

FAASTeam responds to localized safety issues through:

- Accident/incident reports involving airmen from the area
- Hazards identified by FAA Inspectors at local Flight Standards District Offices
- Information from the local aviation community
- Local Pilot Controller Forums

FAASTeam

OUTREACH

A FAASTeam Member is anyone who promotes aviation safety and becomes part of the shift in safety culture

To become a member:

- Sign-up – https://www.faasafety.gov/
- Participate in our new WINGS Program (Pilots)
- Participate in the new automated AMT Awards Program (Mechanics)
- Attend live FAASTeam webinars or events in your area

NEXT UP

PLANNED PILOT-CONTROLLER FORUM

When: None ATT. Feel free to stop by Tower to talk/discuss issues.

Location:
ALWT

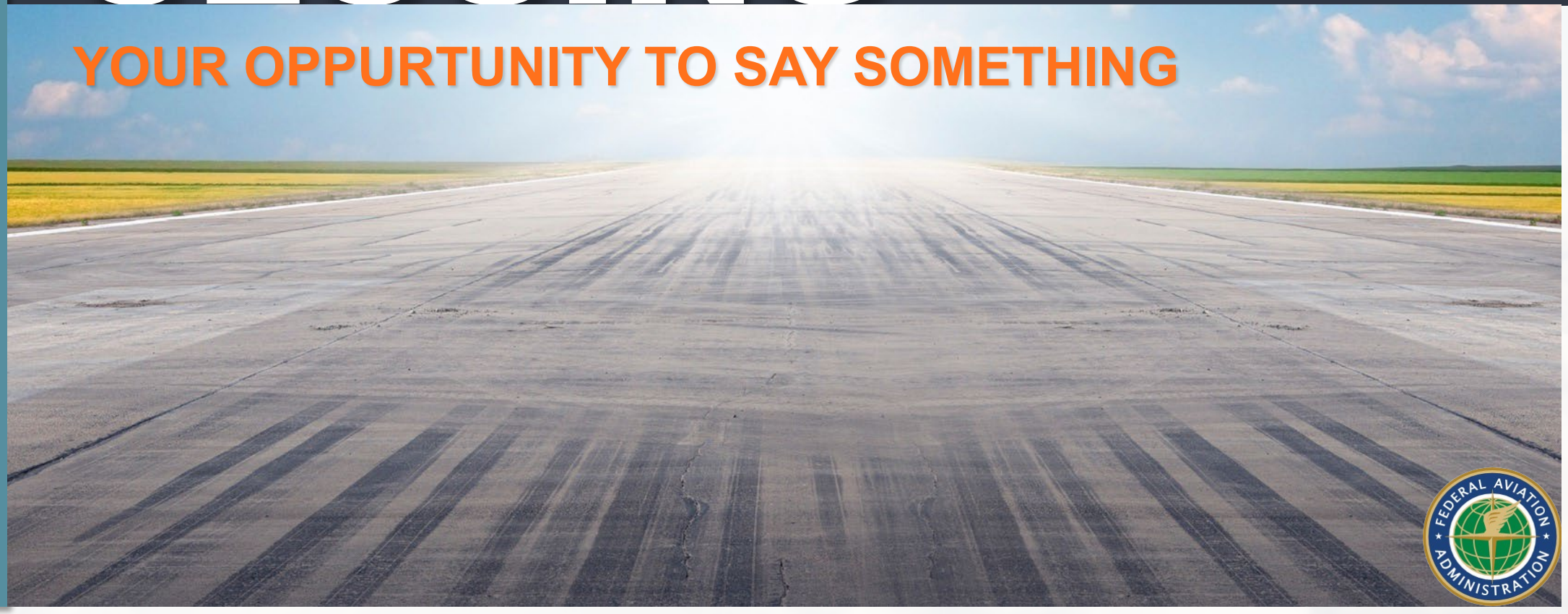
NEXT RSAT

When: Around the same time in 2025

Location:
Terminal Conference Room.

CLOSING

YOUR OPPURTUNITY TO SAY SOMETHING



QR CODES

FROM THE FLIGHT DECK VIDEOS:

FAA

YouTube

Complex Geometry

AIRFIELD DRIVERS:

Situational Awareness

Phraseology

Winter Ops

CONSTRUCTION:

Checklist

CND

ACAC mailbox

FAA WEBSITES/LINKS:

Airport Diagram

Pilot Simulator

AAN

NOTAMs

EMAS

FAAST

Hot Spot Description

RIM video

LINKS

FROM THE FLIGHT DECK VIDEOS:

FAA: https://www.faa.gov/airports/runway_safety/videos/

YouTube: https://www.youtube.com/watch?v=FCfONL2r7C4

Complex Geometry: https://youtube.com/playlist?list=PL5vHkqHi51DQj1Qy-tAstk19DdXdjwk5Y

AIRFIELD DRIVERS:

Situational Awareness: https://youtube.com/watch?v=gTc-SZi9nk8&feature=share

Phraseology: https://www.youtube.com/watch?v=lLHsgz3aWZY

Winter Ops: https://youtube.com/watch?v=FNgAN1tHJUE&feature=share

CONSTRUCTION:

Checklist: https://www.faa.gov/airports/runway_safety/runway_Construction/

CND: https://www.faa.gov/air_traffic/flight_info/aeronav/aero_data/Apt_Constr_Notices/

ACAC mailbox: 9-AJA-ConstructionCouncil@faa.gov

FAA WEBSITES/LINKS:

Airport Diagram: https://www.faa.gov/airports/runway_safety/diagrams/

Pilot Simulator: http://faarunwaysafetysimulator.com/

AAN: https://www.faa.gov/airports/runway_safety/hotspots/aan

NOTAMs: https://notams.aim.faa.gov/notamSearch/disclaimer.html

EMAS: https://www.faa.gov/airports/engineering/incursions_excursions/emas

FAAST: https://www.faasafety.gov/

Hot Spot Description: https://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/dtpp/search/

RIM Video: https://youtu.be/v4oC6MFrkrY

THANK YOU

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