

WELCOME

TO THE RUNWAY SAFETY ACTION TEAM (RSAT) MEETING

Truckee NFCT - Air Traffic Manager - Larry Finney

TTAD Safety Manager - Stacey Justesen

TTAD General Manager - Robb Etnyre

TTAD Director of Aviation - Jeff Menasco



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**



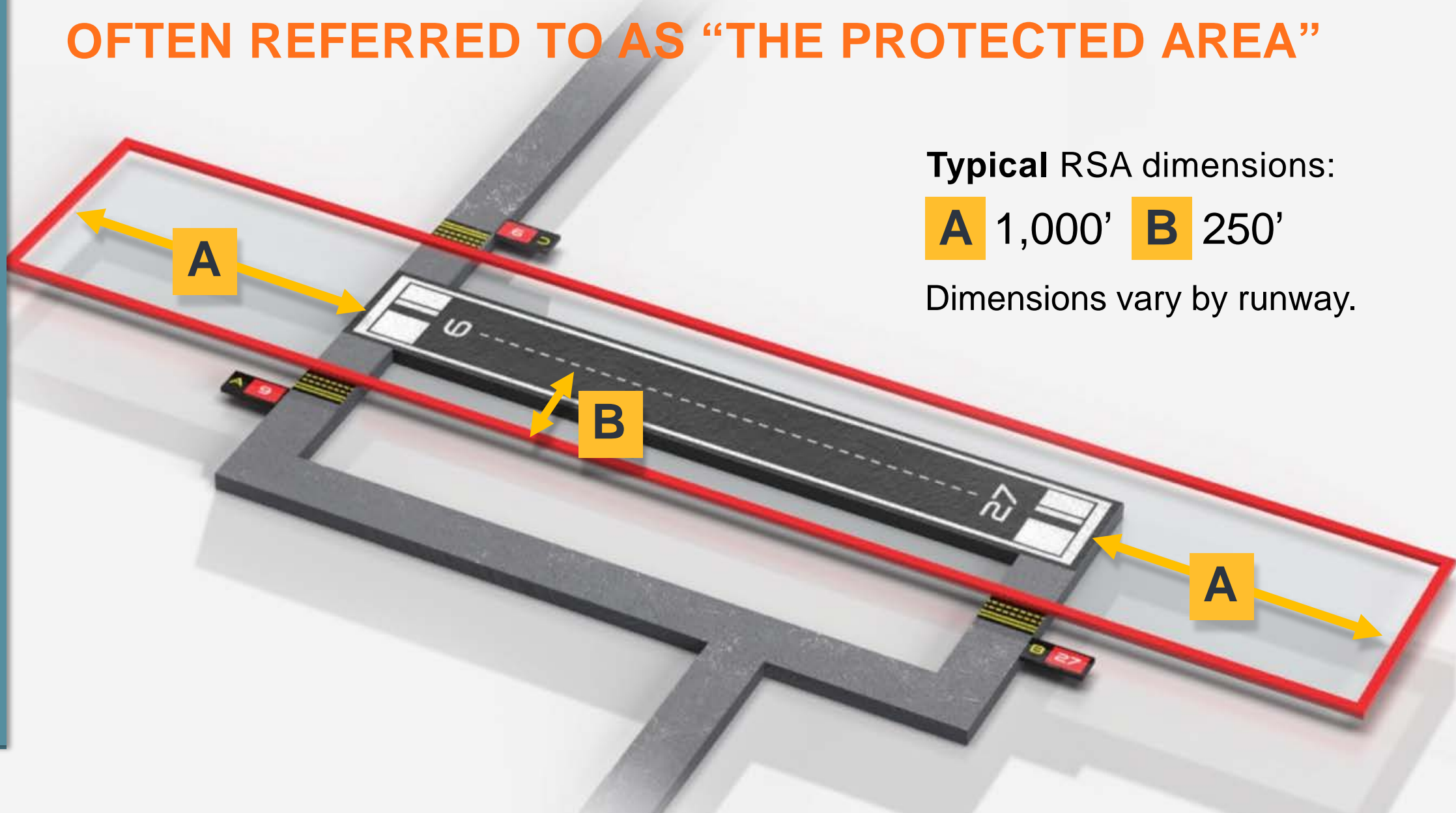
RUNWAY INCURSION (RI)

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'

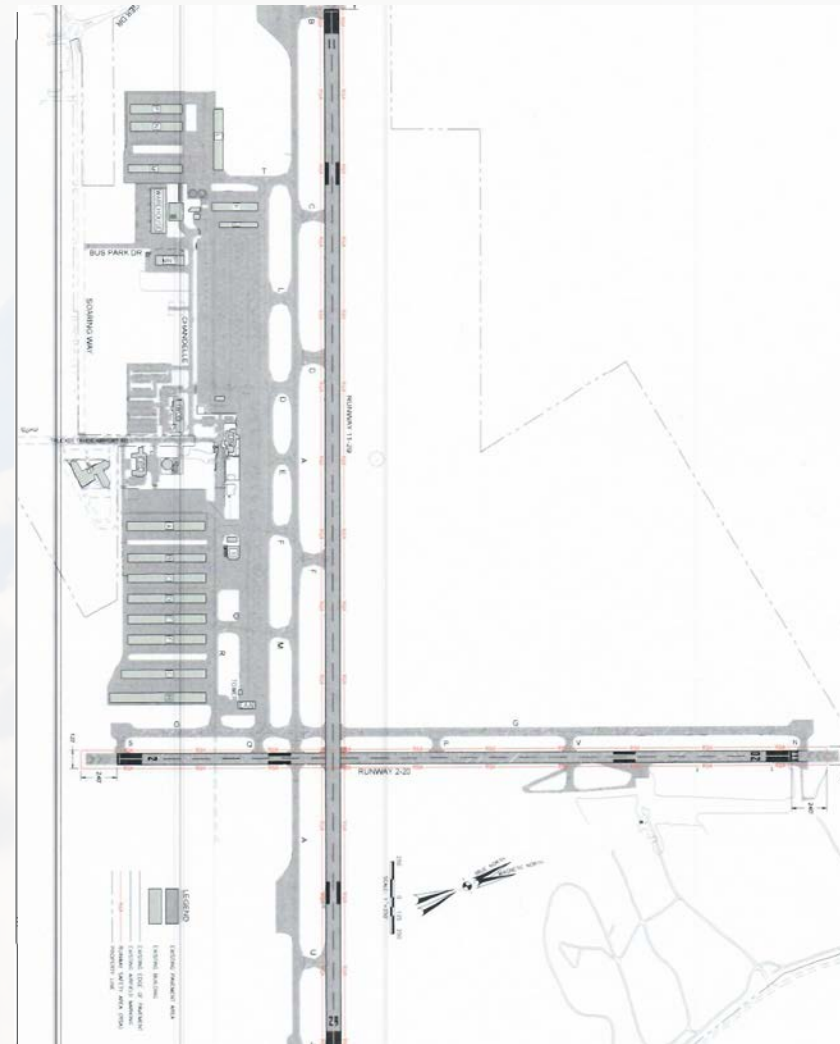
Dimensions vary by runway.

LOCAL

RUNWAY SAFETY AREA (RSA)

Discuss the specific RSA dimensions for each runway at your airport

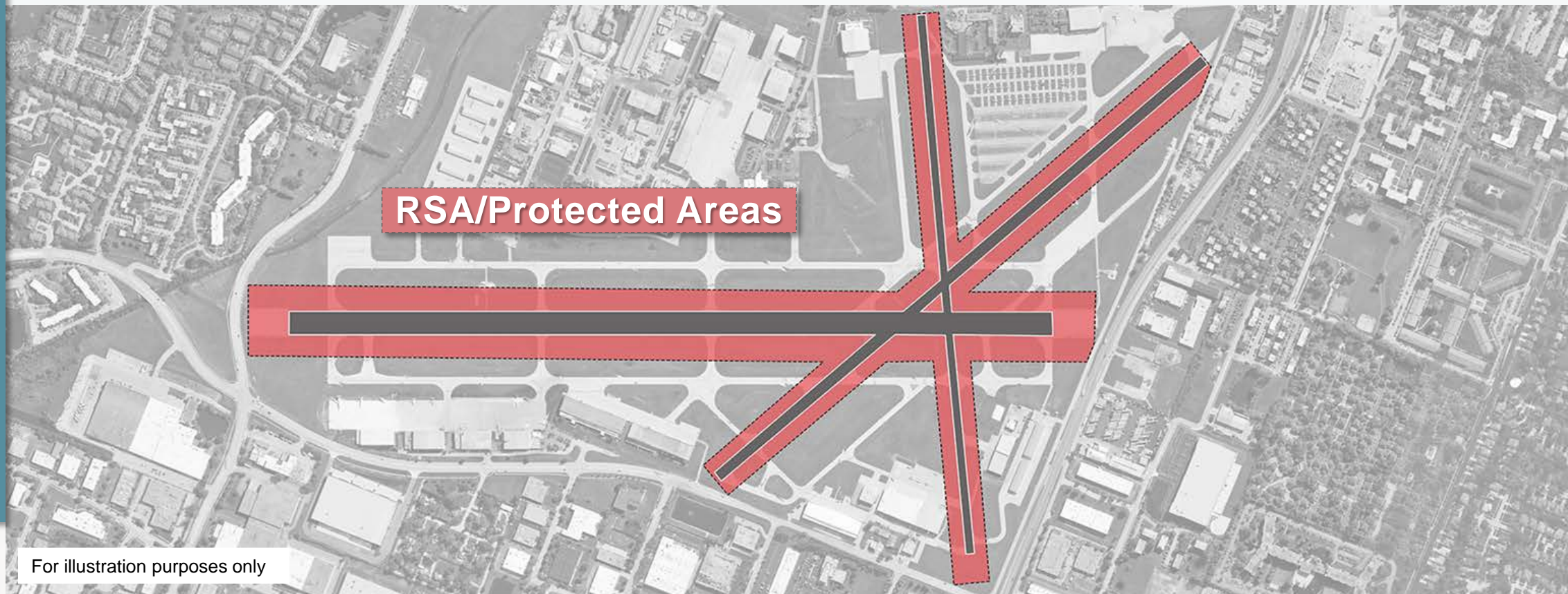
- Runway 11/29 RSA 150' wide or 75' either side of CL or 25' from edge of runway
- Runway 11/29 Blast pad/Overrun RSA 300' from end of runway
- Runway 2/20 RSA 120' wide or 60' either side of CL or 22 ½' from edge of runway
- Runway 2/20 Blast pad/Overrun 240' from end of runway



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)



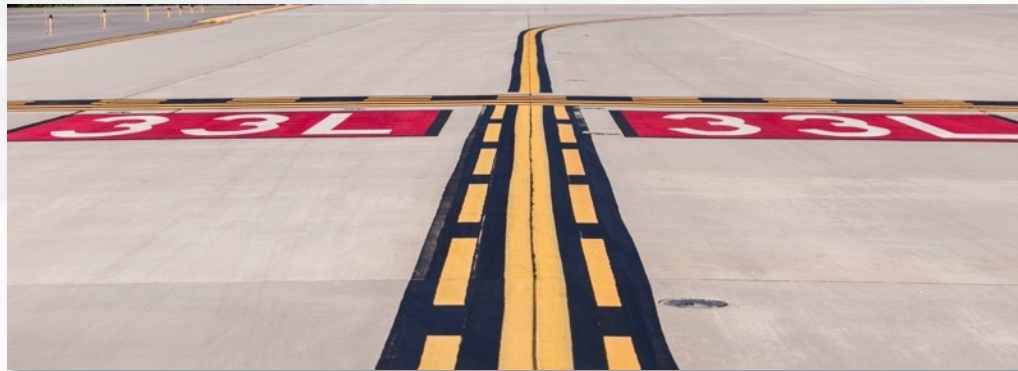
For illustration purposes only

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

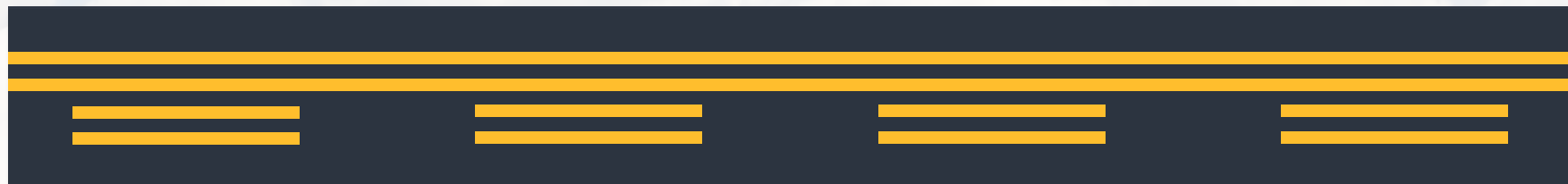
- Authorization is required to enter or cross the RSA/ Protected Area
- Crossing this line without authorization is the most common type of **Runway Incursion (RI)**



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



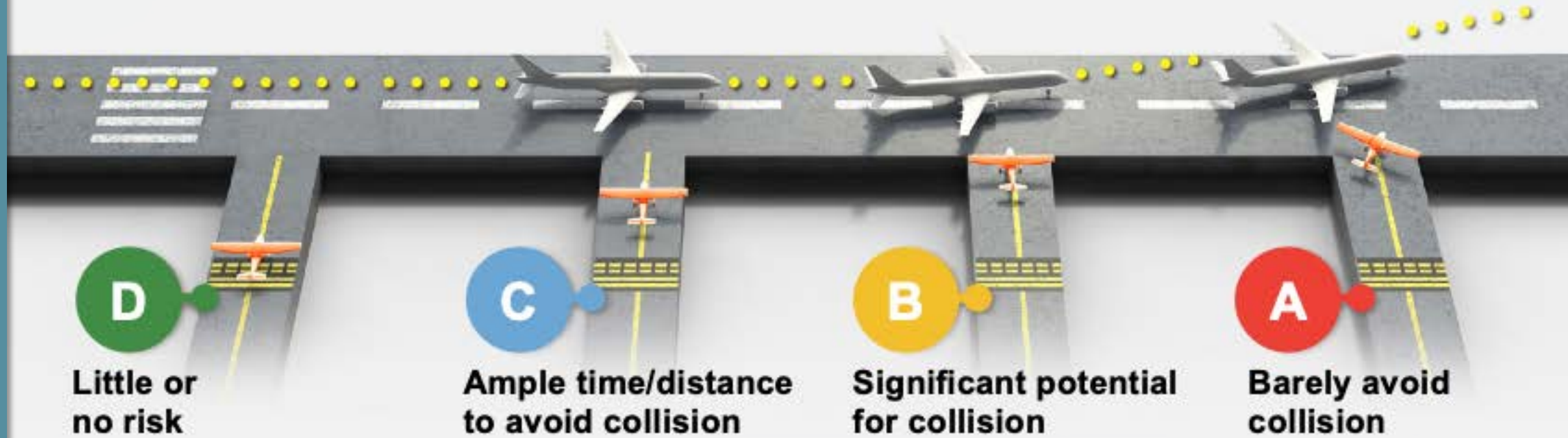
CLASSIFICATIONS OF RUNWAY INCURSIONS

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 INCURSION



One reported events in 2023



SURFACE INCIDENT (SI)



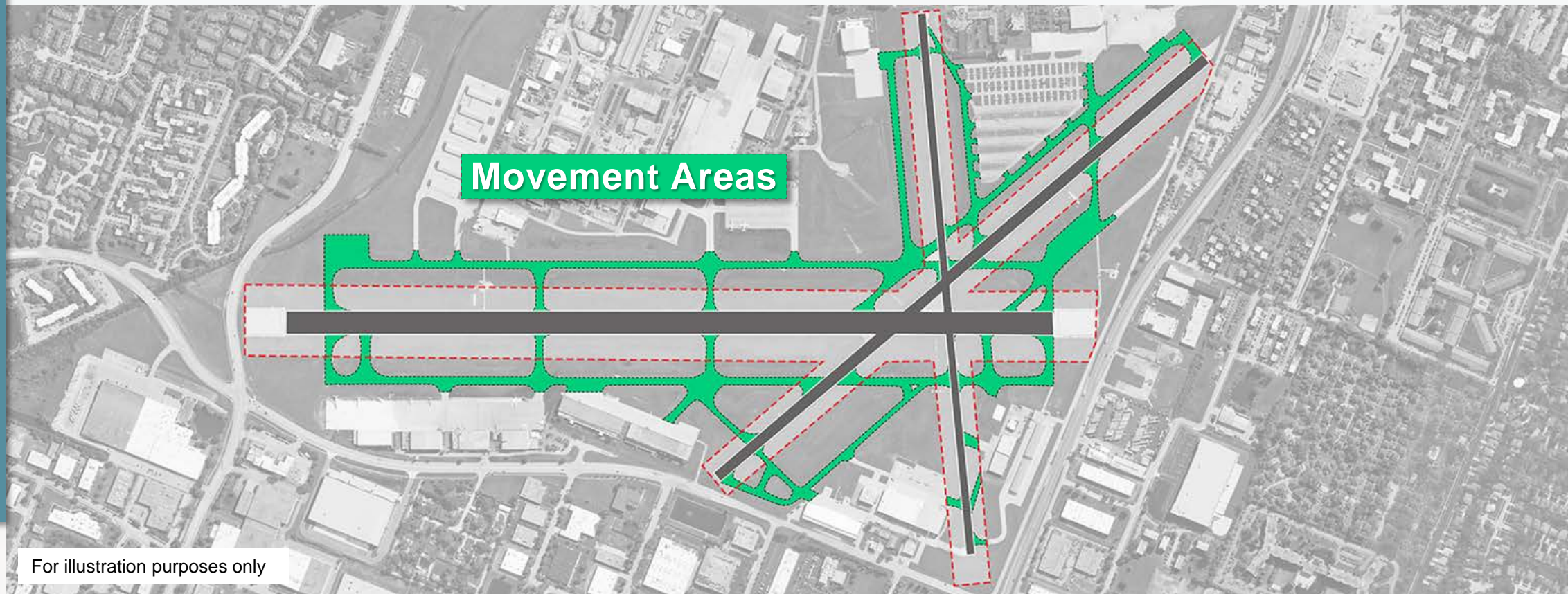
An unauthorized movement of an aircraft, vehicle or pedestrian within the designated movement area, but **outside of the RSA**



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

Truckee-Tahoe Airport

Movement Area

- Runways
- Taxiways



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)



Truckee-Tahoe Airport

- Main Ramp
- South Ramp
- West Ramp
- East Ramp
- Jet Ramp
- “Taxiway Q”
- “Taxiway R”
- Fuel Island
- All Hangar Rows

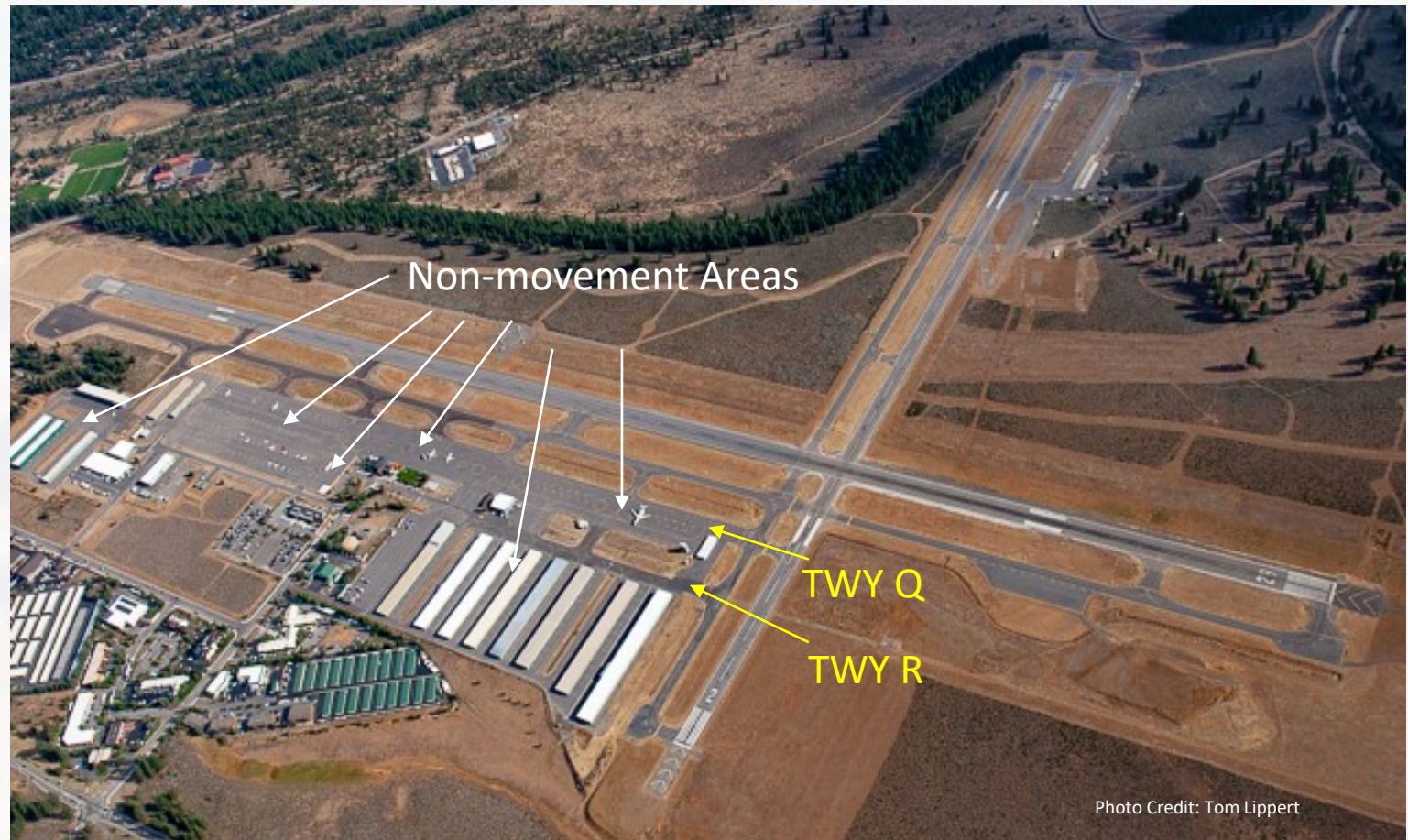


Photo Credit: Tom Lippert



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

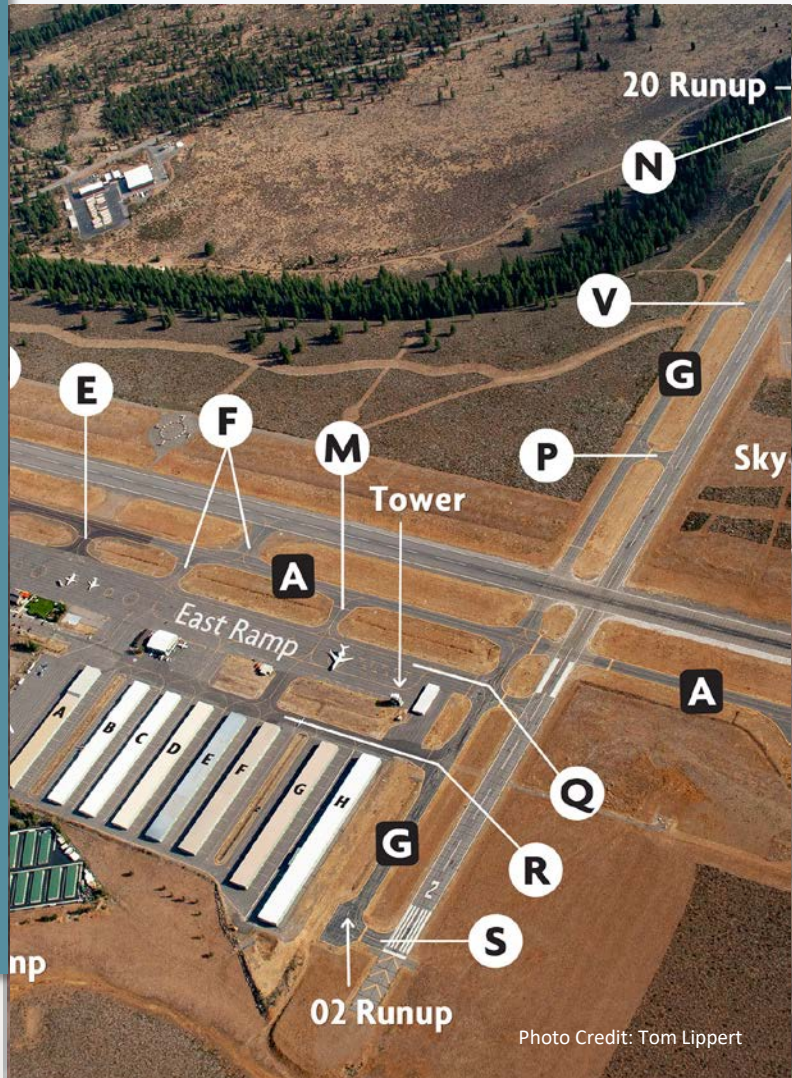
28% VPD

14% OTH



LOCAL SURFACE EVENT REVIEW

SURFACE INCIDENT



No Reported Events in 2023!



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)



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

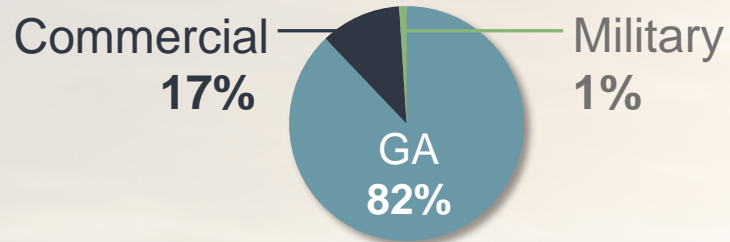


WRONG SURFACE OPERATIONS

FY2023 | BY THE NUMBERS

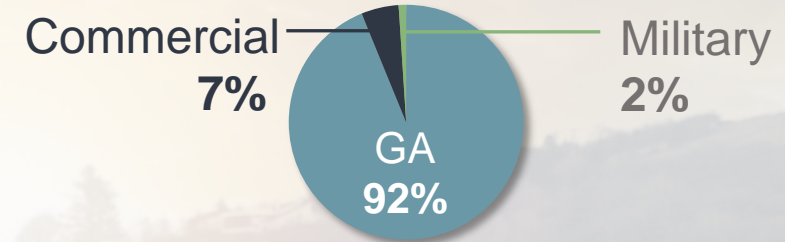
WSO by Operator Type *

Arrivals



WSO by Operator Type

Departures



WSO Daytime Events



WSO by Surface Type

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

WSOs Involving Other Aircraft



* 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?



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



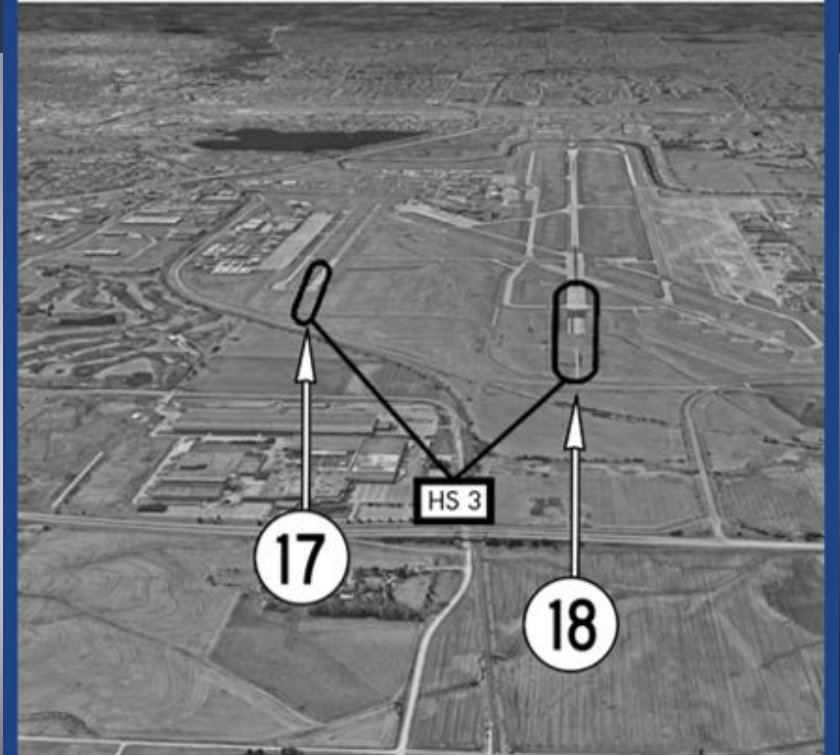
FROM THE FLIGHT DECK

HAZARDS AND HOT SPOTS

Arrival Alert Notice

LINCOLN (LNK) ARRIVAL ALERT

Landing South
Rwy 17 and Rwy 18



Off-set Parallels.

Pilots be aware that Rwy 17 is 550 feet farther down the approach than Rwy 18.

Not for Navigational Purposes
For Situational Awareness Only

For Inquiries: 9-awa-RunwaySafety@faa.gov

Effective 19 MAY 2022 to 16 MAY 2024

WSO at Airports frequently served by TRK operators

Reno-Tahoe Airport KRNO and Reid-Hillview Airport KRHV



LOCAL

ARRIVAL ALERT NOTICE (AAN)

RENO/TAHOE INTL (RNO) ARRIVAL ALERT

Landing North
RWY 34L and RWY 34R and TWY B

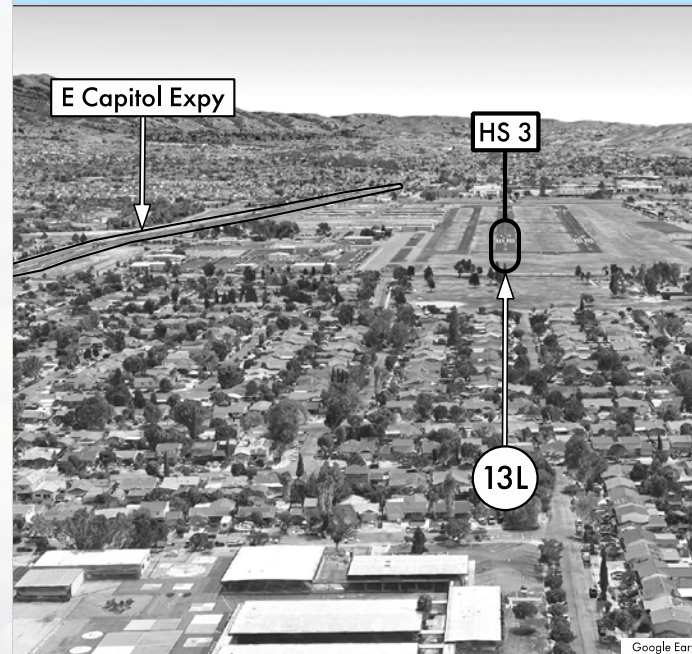


Pilots confuse TWY B and RWYS 34L/R.

Not for Navigational Purposes
For Situational Awareness Only
For Inquiries: 9-awa-RunwaySafety@faa.gov
Effective 19 MAY 2022 to 16 MAY 2024

REID-HILLVIEW OF SANTA CLARA COUNTY (RHV) ARRIVAL ALERT

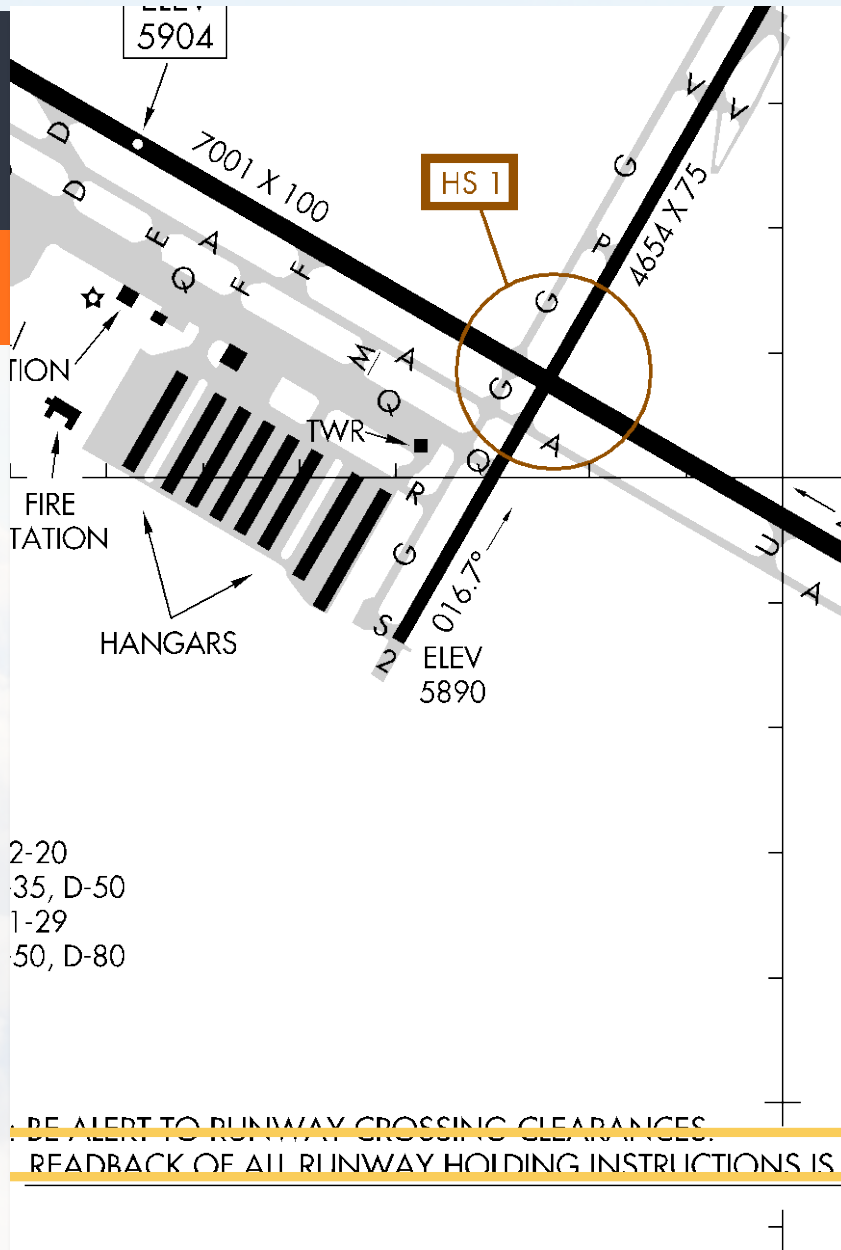
Landing Southeast
RWY 13L and TWY Y



Pilots sometimes confuse TWY Y
or E Capitol Expy for RWY 13L.

Not for Navigational Purposes
For Situational Awareness Only
For Inquiries: 9-awa-RunwaySafety@faa.gov
Effective 19 MAY 2022 to 16 MAY 2024





TRK

HOT SPOT

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



Active RIM locations



RIM Video



AIRPORT

CONSTRUCTION



AIRPORT CONSTRUCTION AWARENESS

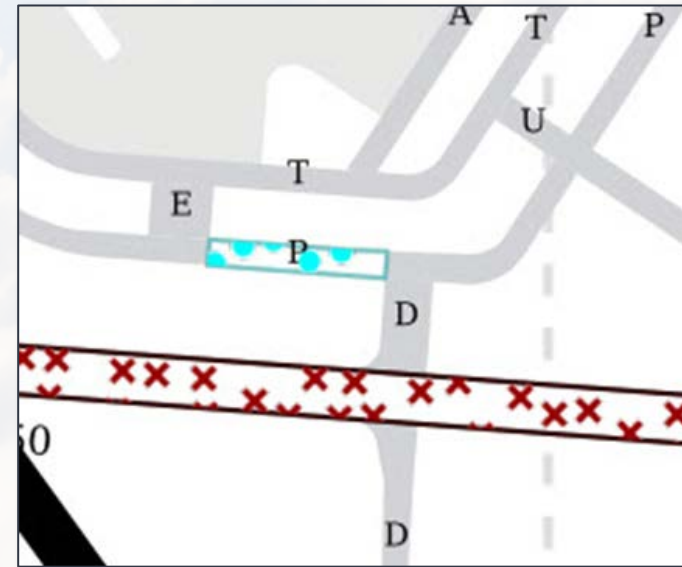
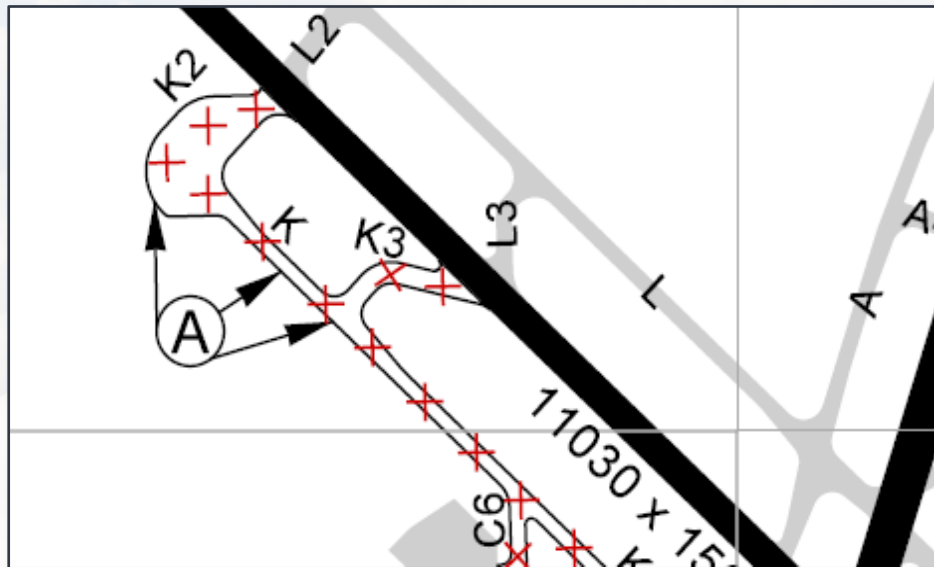


NOTAMS are notices filed to alert airfield users of potential hazards or airfield conditions.

- 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.



	BNA	N/A		ON AIRPORT - SEE CONSTRUCTION GRAPHIC
	BNA	2/0570	REST	IAP NASHVILLE INTL NASHVILLE

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.

- Main Ramp in 2025
- Runway 20 VASI





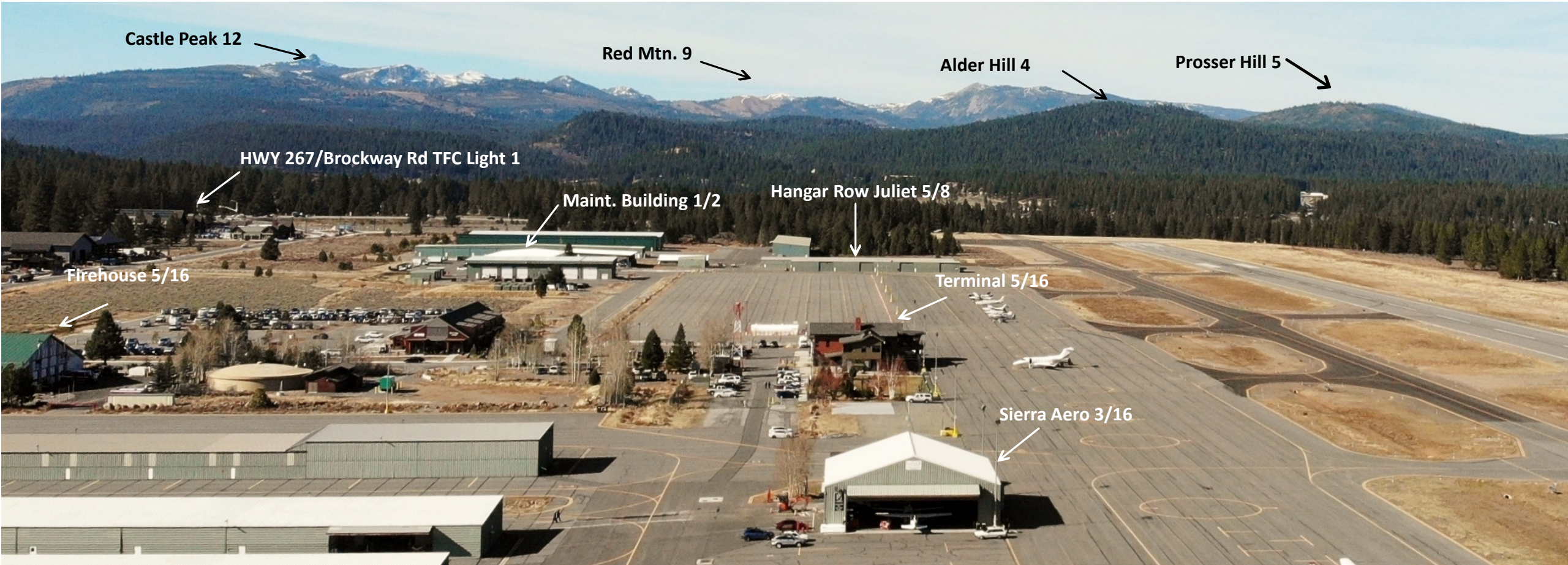
LOCAL AREA WEATHER TRENDS

The following are weather conditions specific to this airport:

- Thunderstorms
- Snow
- Fog
- Visibility from the Tower
- Smoke



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.



Situational
Awareness

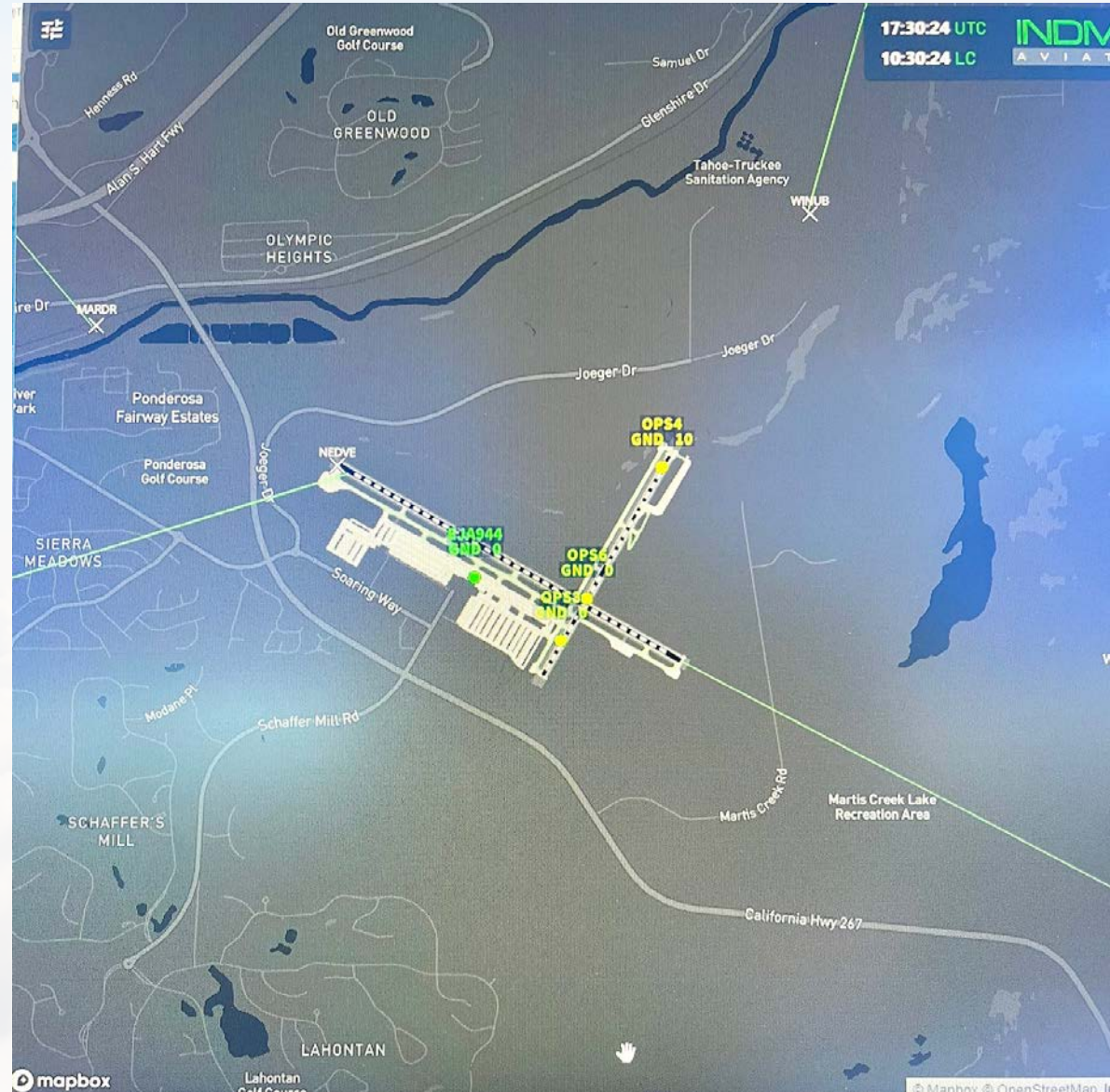


Phraseology



Winter Ops

Vehicle Tracking





LOCAL AREA WILDLIFE HAZARDS

The following are wildlife hazards specific to this airport:

- Coyotes
- Waterfowl
- Migratory birds
- Deer
- Bears



LETTERS OF AGREEMENT

SURFACE OPERATIONS



- TRK NFCT and TTAD Movement and Non-Movement Areas and Control of Airport Vehicles
- TRK NFCT and TTAD Operating in Runway Safety Areas
- TRK NFCT and TTAD Reporting Airport Conditions
- TRK NFCT, TTAD, TFPD, PCSO, and NCSO Airport Emergency Services
- TRK NFCT and TTAD Operation of Airfield Lighting



LOCAL UPCOMING SPECIAL EVENTS



- Truckee Tahoe Airshow and Family Festival
- Young Eagles
- Local Golf Tournaments
- Fire Fighting Base

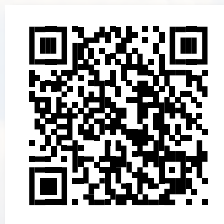


OUTREACH

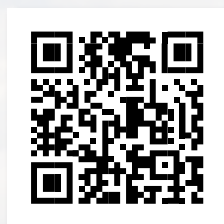


PILOT SAFETY AWARENESS VIDEOS

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.



FROM THE FLIGHT DECK

COMMON SURFACE MISTAKES

WRONG SURFACE LANDINGS

**PARALLEL RUNWAYS WITH
STAGGERED THRESHOLDS**



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

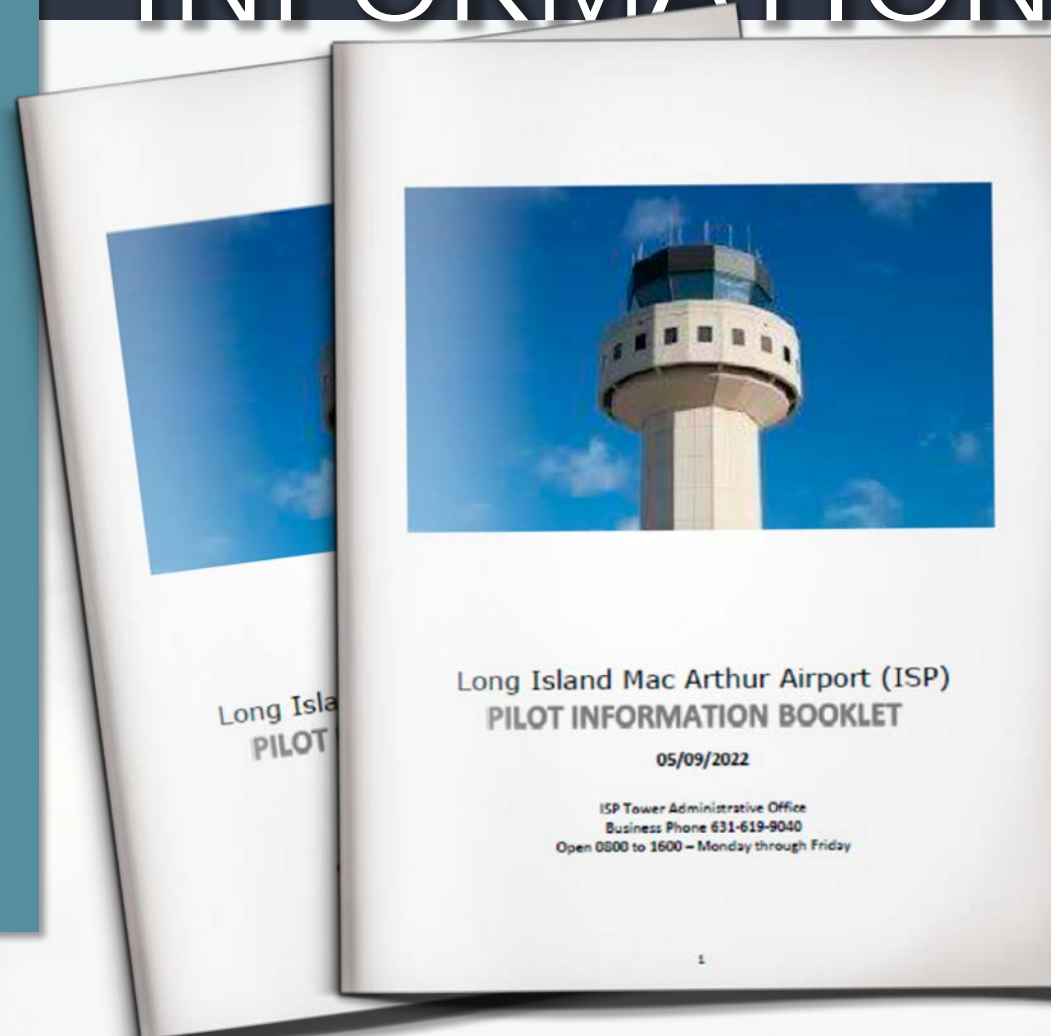


RUNWAY SAFETY PILOT SIMULATOR

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



RUNWAY SAFETY ACTION PLAN

RSAP

- **Action items are non-regulatory, voluntary, and flexible.**
- **The responsible parties for implementing and/or funding the Action Item must be in agreement with the Action Item.**
- **Your RSAP is due to your RSPM within 45 days for review and acceptance.**
- **Report Action Item updates & closures to your RSPM as completed.**



RECENTLY CLOSED ACTION ITEMS

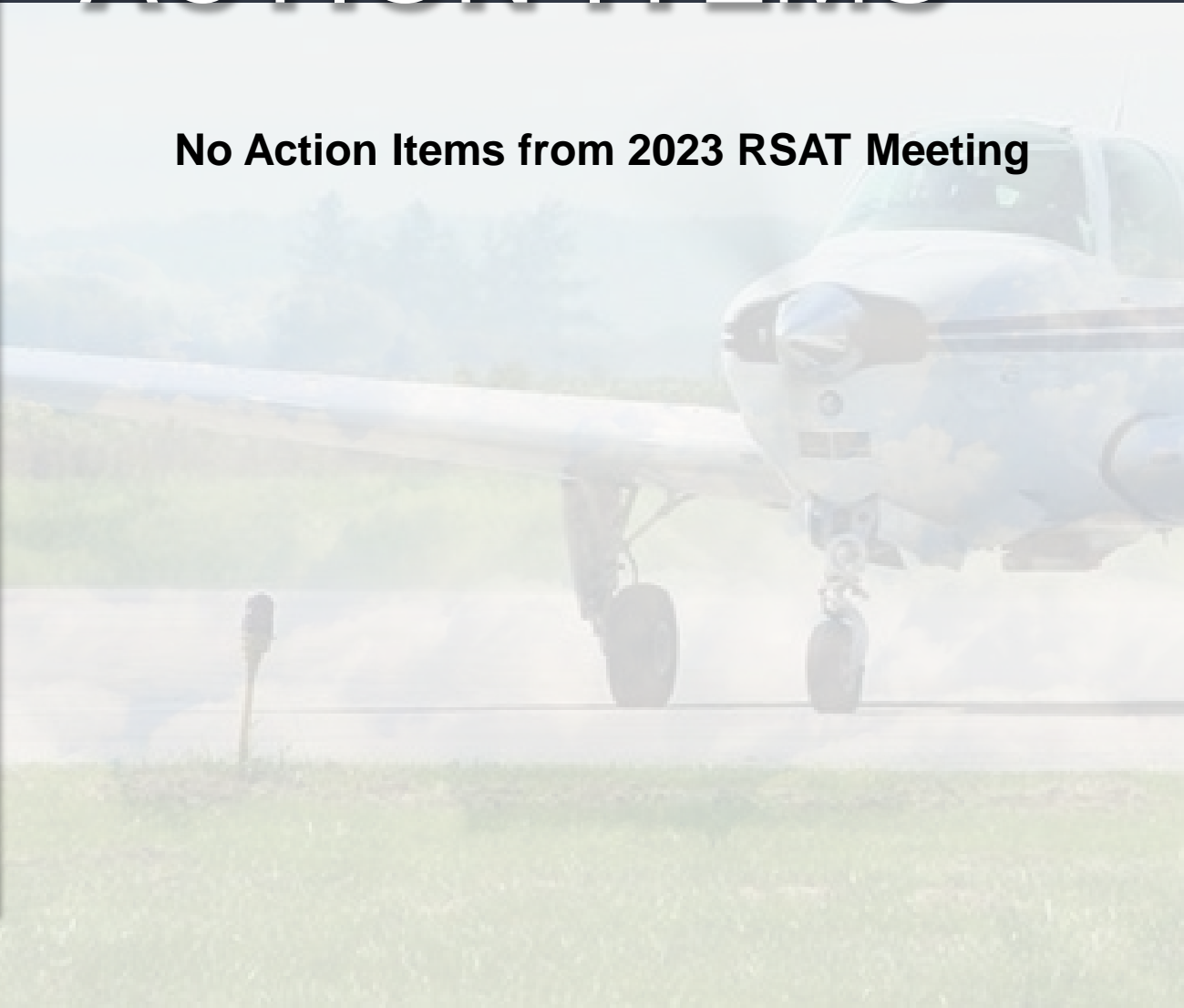
No Action Items from 2023 RSAT Meeting



OPEN

ACTION ITEMS

No Action Items from 2023 RSAT Meeting



PROPOSED NEW ACTION ITEMS

Action Item Description: Describe item

Action Item Rationale: Issue/concern

Estimated Completion Date:

Month/Day/Year

POC Organization: Operator/LOB

POC name: First & Last Name

POC phone: xxx.xxx.xxxx

POC email: xxxxxx.xxxx@xxx.xxx



NEXT UP

PLANNED PILOT- CONTROLLER FORUM

When:TBD

Location:
KTRK

NEXT RSAT

When:
8/14/2025

Location:
KTRK



CLOSING

YOUR OPPURTUNITY TO SAY SOMETHING



QR CODES

FROM THE FLIGHT DECK VIDEOS:



FAA



YouTube



Complex
Geometry

CONSTRUCTION:



Checklist



CND



ACAC
mailbox

AIRFIELD DRIVERS:



Situational
Awareness



Phraseology



Winter Ops

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=ILHsgz3aWZY>

Winter Ops: <https://youtube.com/watch?v=FNqAN1tHJUE&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://faarunwaysafetyimulator.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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