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TRUCKEE TAHOE AIRPORT

Truckee Tahoe Airport

Airport Master Plan Update

April 20, 2022

Tonight's Agenda

- Introductions
  - Kevin Smith, Airport General Manager
- Administration
  - Katie Franco, Aviatrix Communications
- Airport Master Plan Update
  - Brad Musinski, Mead & Hunt

- Breakout Rooms
  - Flight Procedures: Hardy Bullock (TRK), Alec Seybold (Flight Tech)
  - Third Runway: Kevin Smith (TRK), Brad Musinski (Mead & Hunt)

- No formal conclusion this evening

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Master Plan Overview

Alternative Runway Feasibility Study

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How did we get here today?

- Since 2015 the Third Runway concept has continued to be a subject of public interest
- 2013 - 2015: Airport Master Plan
  - Third runway was briefly reviewed but not pursued due to cost and likely ineligibility for federal funding
  - RW 2/20 lengthening and widening became preferred alternative
- 2019 - 2020: Third Runway Preliminary Analysis
  - Evaluated FAA eligibility potential for Third Runway
  - Described steps to bring this to the FAA, funding, and environmental review
- In 2021 the Board decided to pursue a full Feasibility Study to fully vet the concept

Why does evaluating the Third Runway matter?

- Potential benefits to the community and operators
- Due diligence

Alternative Runway Feasibility Study

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Potential benefits to the community

- Reduce residential overflight
- Reduce noise impacts
- Enhance safety

Potential benefits to pilots/aircraft

- Improve operational efficiency
- Enhanced arrival and departure procedures
  - Vertically guided approach (LPV)
  - Improve climb gradient (departures)

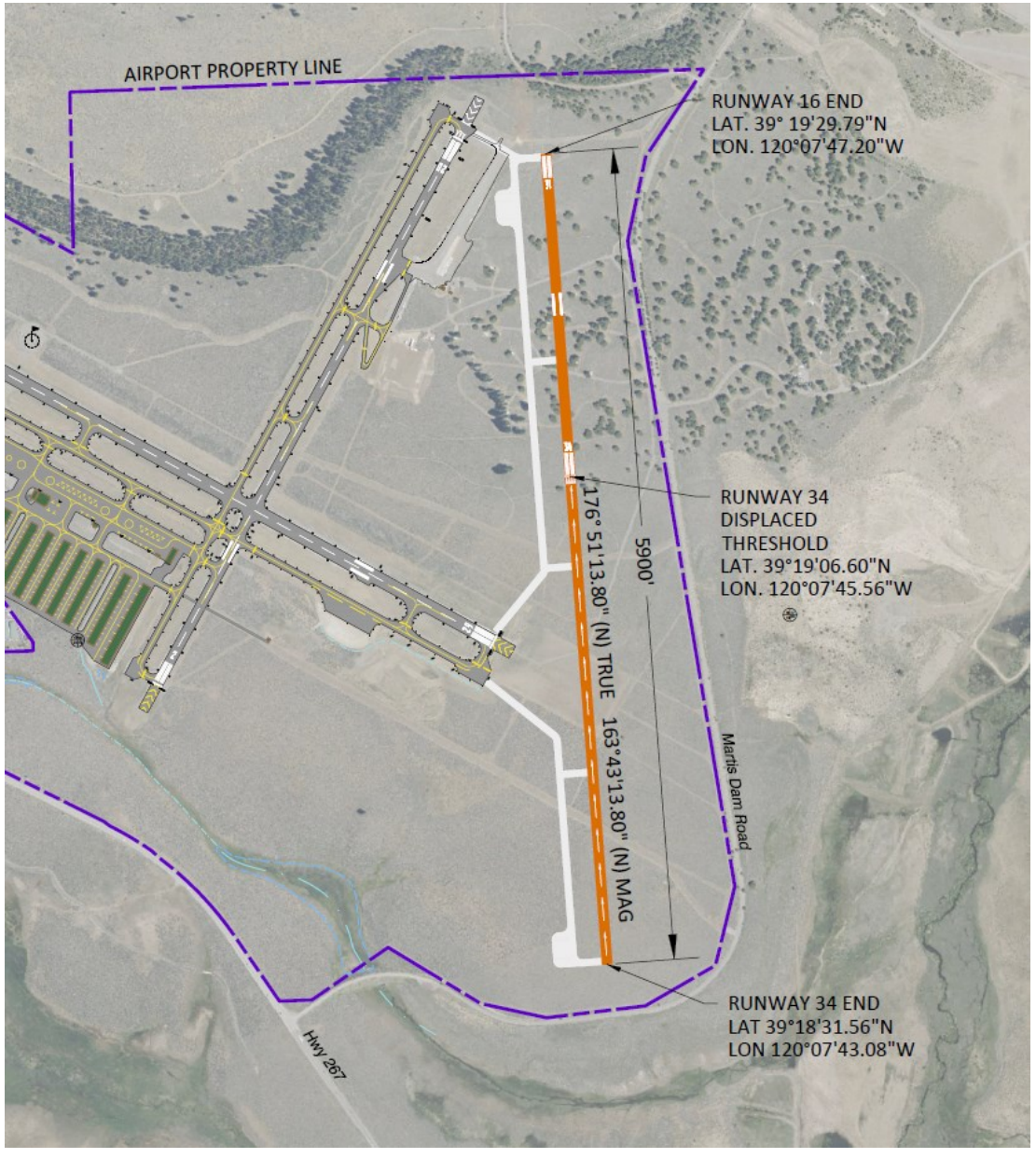
- GOAL: A Third Runway should not facilitate growth in operations at TRK

Airport Master Plan Update

- **Phase 1: Alternative Runway Feasibility Study**
- Evaluate conceptual Third Runway
- Present alternatives and benefits to the community
- If the Third Runway is determined to meet goals and be feasible, then:
- Update Airport Layout Plan with Third Runway
- Seeking FAA input and potential acceptance
- Does not guarantee construction
  - Funding
  - Environmental

Third Runway Concept

- Refined from other preliminary concepts
- Optimized for the best flight path alignment
- 5,900 feet total runway length
  - Maximizes runway length on property
  - Compliant safety area and taxiway geometry
- Runway 16/34 designation



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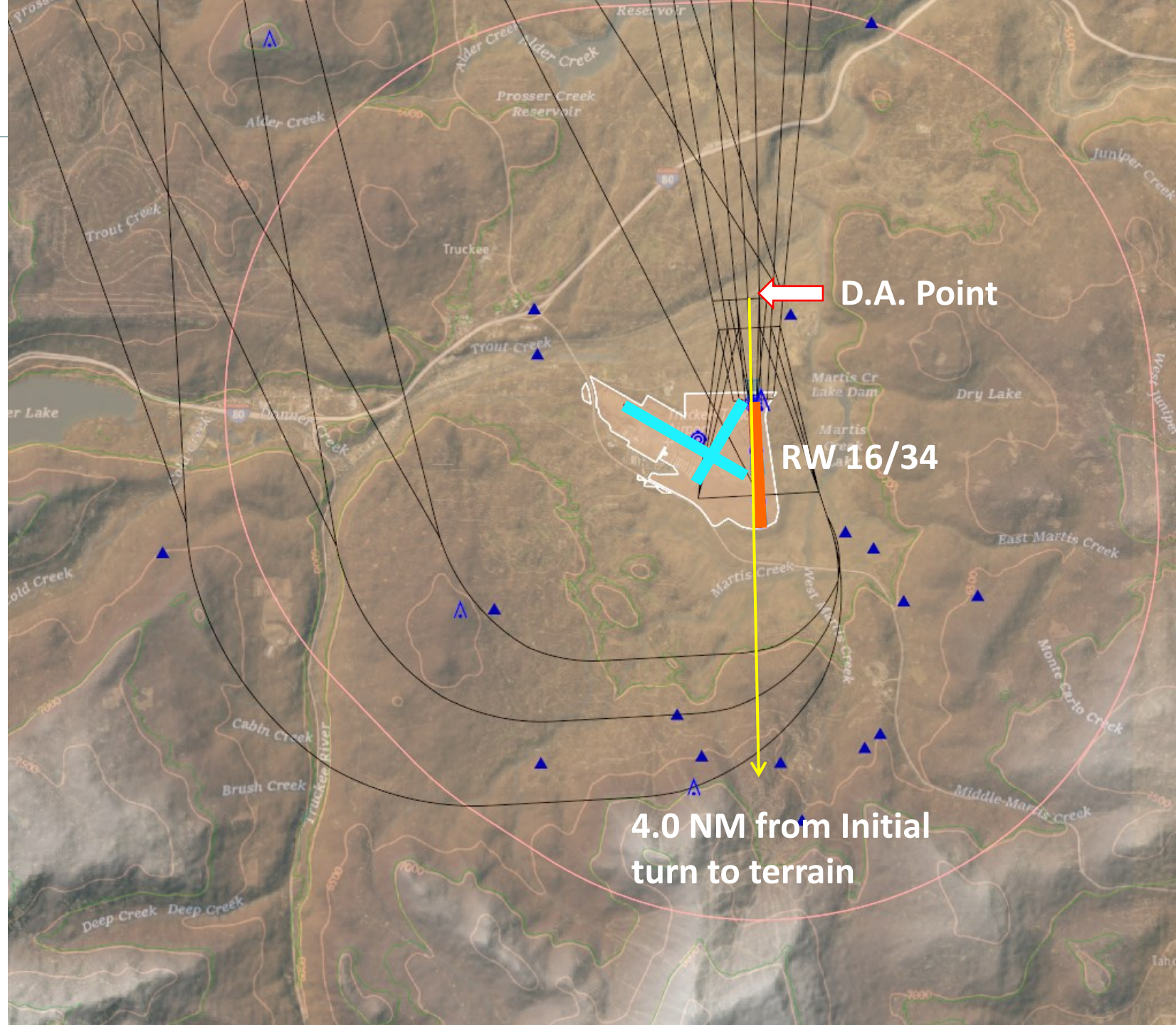
Flight Procedures for Third Runway Concept

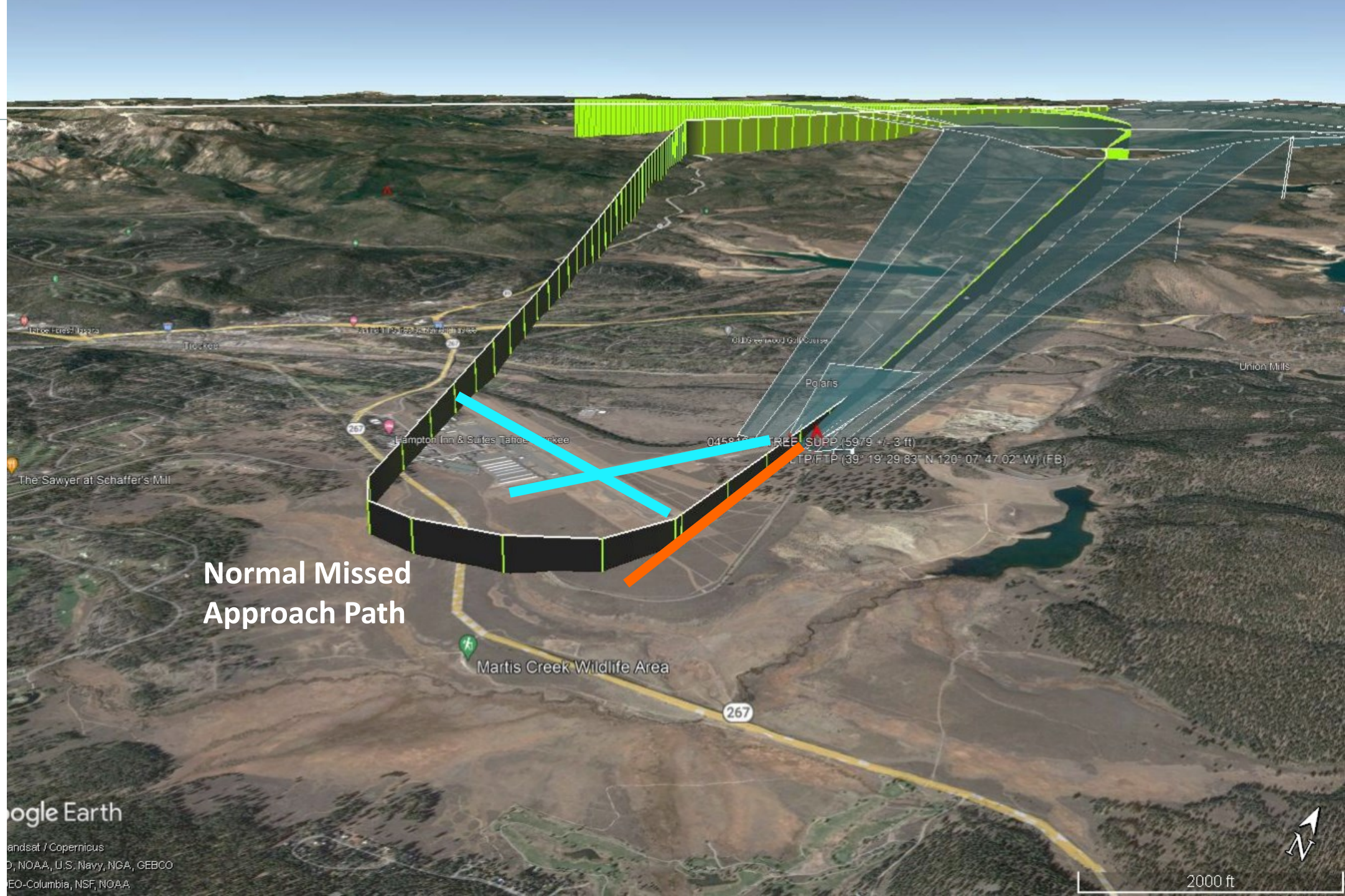
RW 16 LPV Approach

- CAT A/B/C Missed Approach Obstacle Clearance Surfaces
- Utilizes higher than standard Decision Altitude (D.A.)
- Requires speed limitation
- 2 minutes and 40 seconds to high terrain (@ 90 knots)



Missed Approach

- RW 16 missed approach path
- Looking northwest

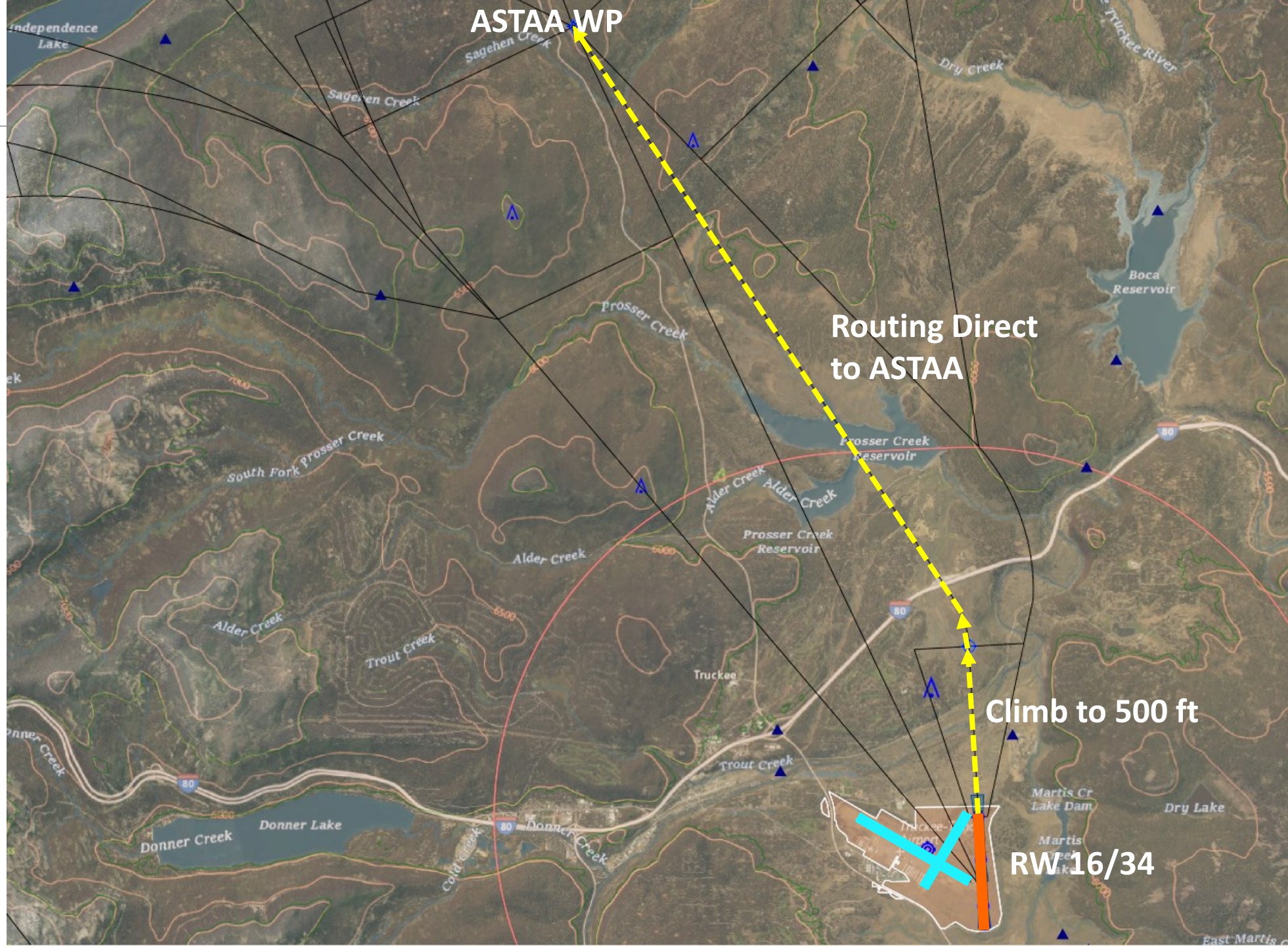


Missed Approach

- RW 16 missed approach path
- Looking southeast

Departure Routing

- Yellow line indicates estimated path of aircraft
- Climbing at a minimum of 344 ft/nm.

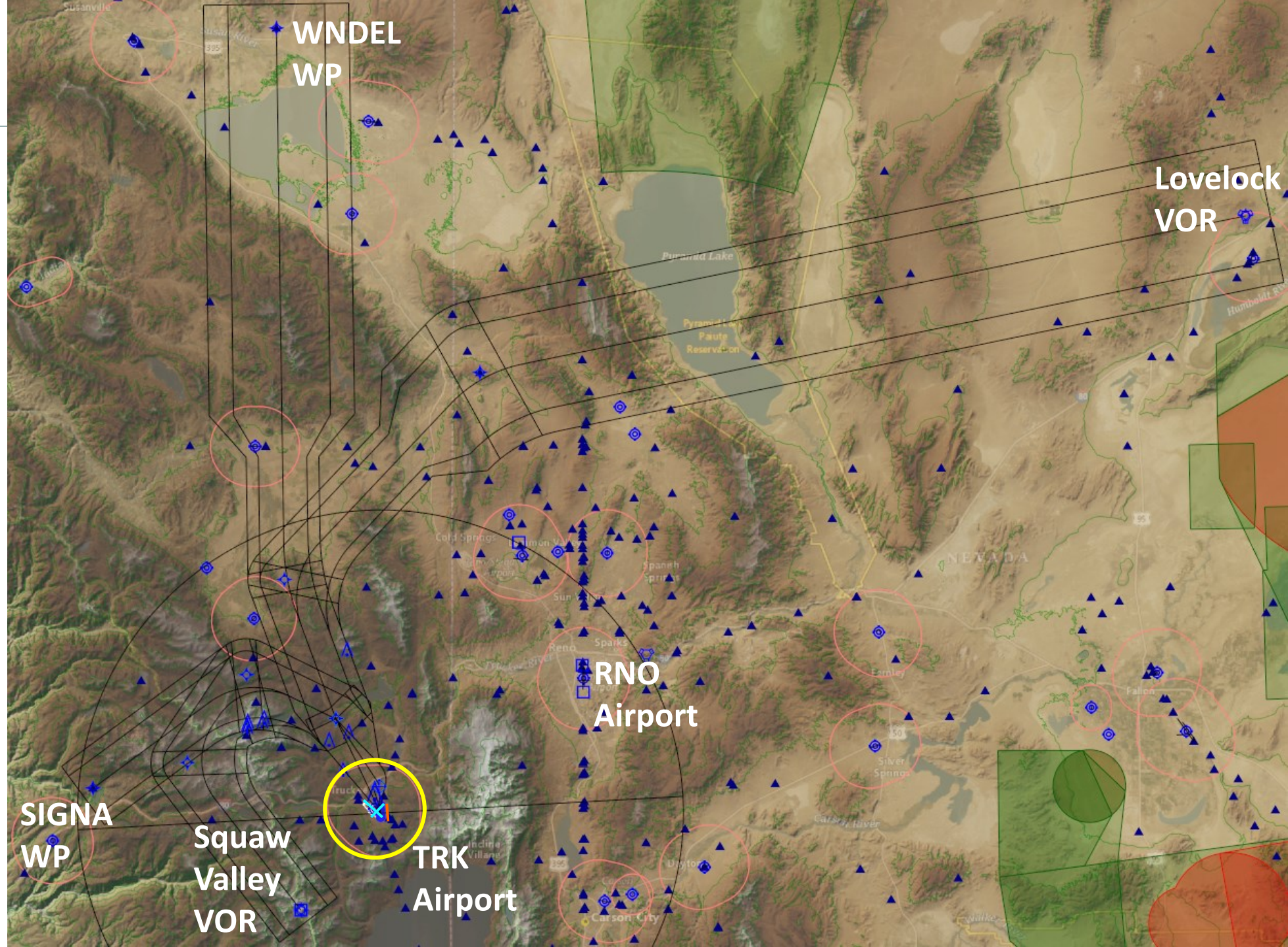


Departure Procedure

- Satellite overlay of RW 34 Departure
- Looking northwest

TRK Area Airspace

- Overview of TRK area airspace with waypoints
- Enroute transitions depicted



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Runway 16/34 Use Estimates

Runway 16/34 Utilization

- Utilization estimates to be used for noise/overflight analysis
- Pilot outreach to help determine utilization
  - Interviewed local pilots, charter operators, itinerant users
  - Three local pilots totaling 15% of operations
  - Six charter operators (itinerant users) totaling 8% of operations
  - Mix of piston, turboprop and jet operators
- Qualitative and quantitative
- Analyzed wind, weather, and visibility data

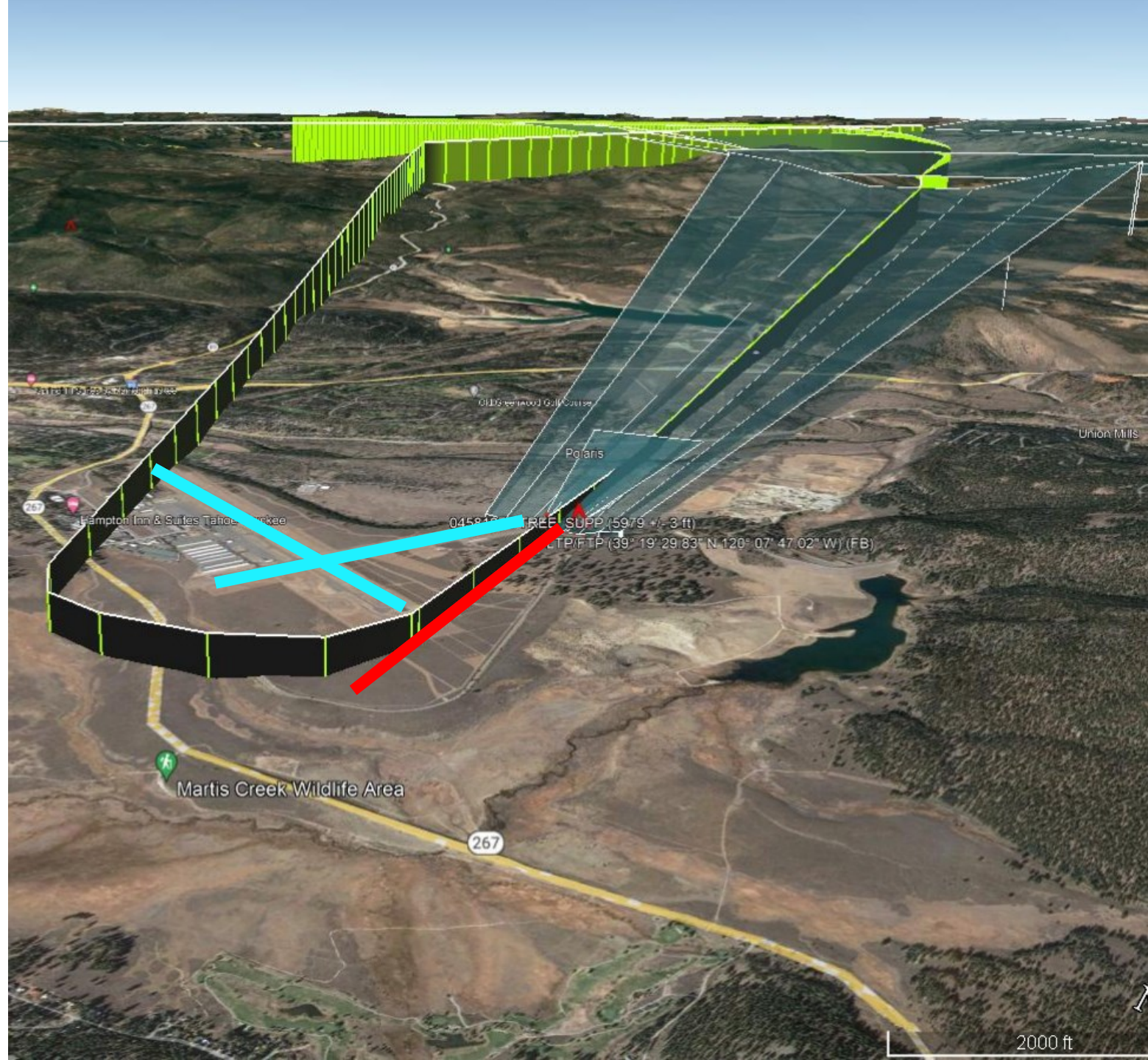
Pilot and Operator Interviews – Key Findings

- TRK is located in complex airspace
- Many factors go into runway use for arrivals and departures
  - Wind speed and direction
  - Terrain
  - Visibility
  - Wet/icy runway conditions (contaminated runways)
  - Aircraft performance
  - Fuel and weight
- No consensus on how often operators would use RW 16/34
- In calm winds / clear conditions: Runway 29 preferred for arrivals and departures

Key Findings – RW 16/34 Utilization

Arrivals on Runway 16

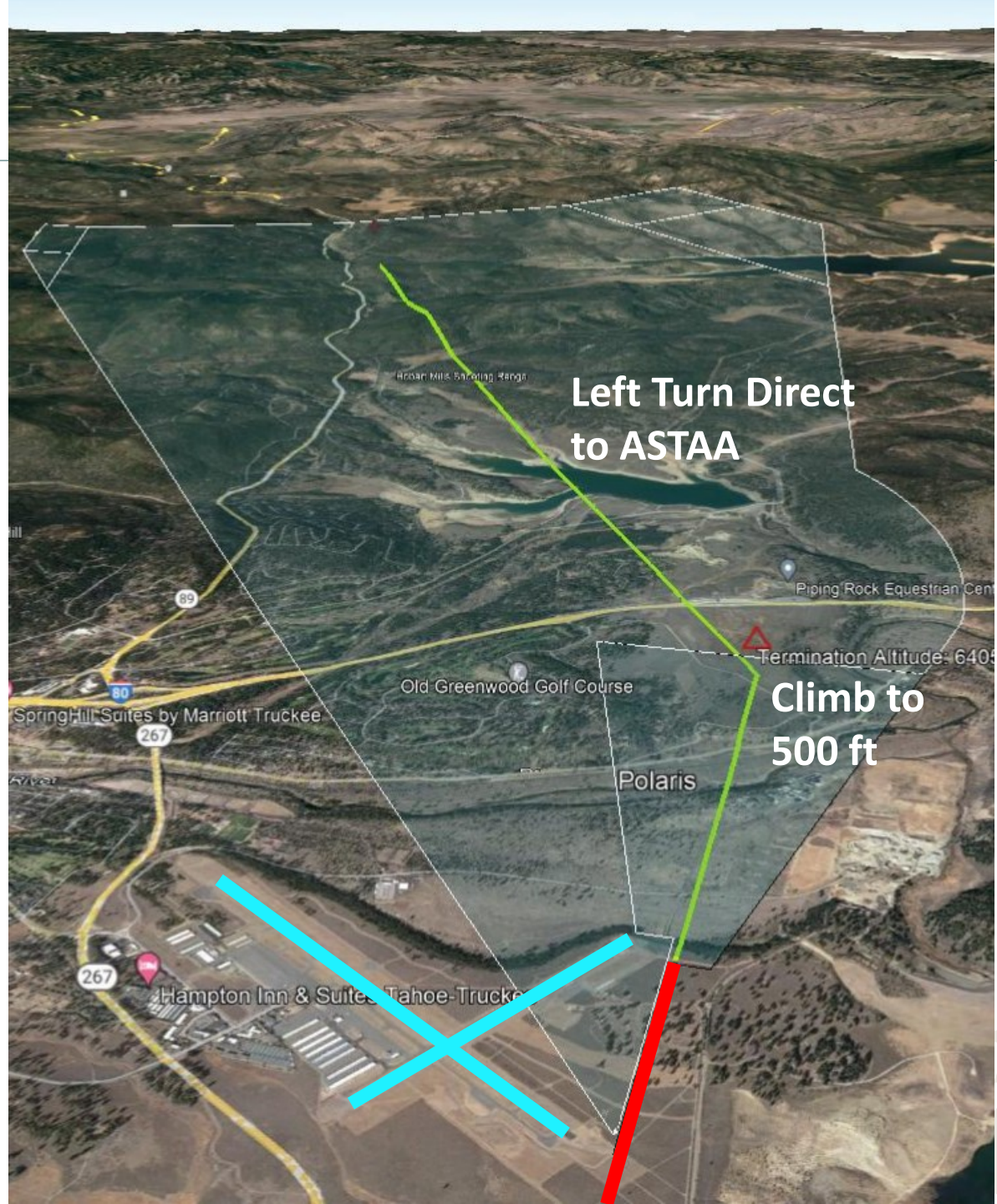
- Use when winds out of south and >10 knots
  - 160-195 true heading
- Use during low visibility
  - Use of the straight-in LPV approach
  - May outweigh the loss in runway length



Key Findings – RW 16/34 Utilization

Departures on Runway 34

- Lower climb gradient
  - RW 29 may be preferred for departures on hot days
  - Jets may be able to take on more fuel for longer range flights
- Reservations on taxiing distance to 34 end



Pilot and Operator Interviews – Other Key Findings

- Most operators would use 16/34 during calm conditions if directed by Air Traffic and conditions are safe
- Any additional instrument procedure or runway will enhance safety
- Possibility for more operations with LPV approach
- Possibility for more night operations
- General support for RW 2/20 lengthening and widening
- Some operators do not believe the LPV provides any benefit over the LP on RW 20
- General concern on taxiing distance

Weather Data

- Prevailing winds
  - Warmer months – Winds out of SW, shifting to WSW in the afternoon
  - Winter – Relatively calmer conditions
  - Calm Wind Conditions – Vary between 40% and 60% of the time between 6:00 AM and 11:00 PM

- Periods of low visibility (below 1.5 nautical miles) are rare
  - Usually associated with a storm and airport may be closed
  - Most operators will not fly into TRK when conditions are near visibility minimums

Wind Data

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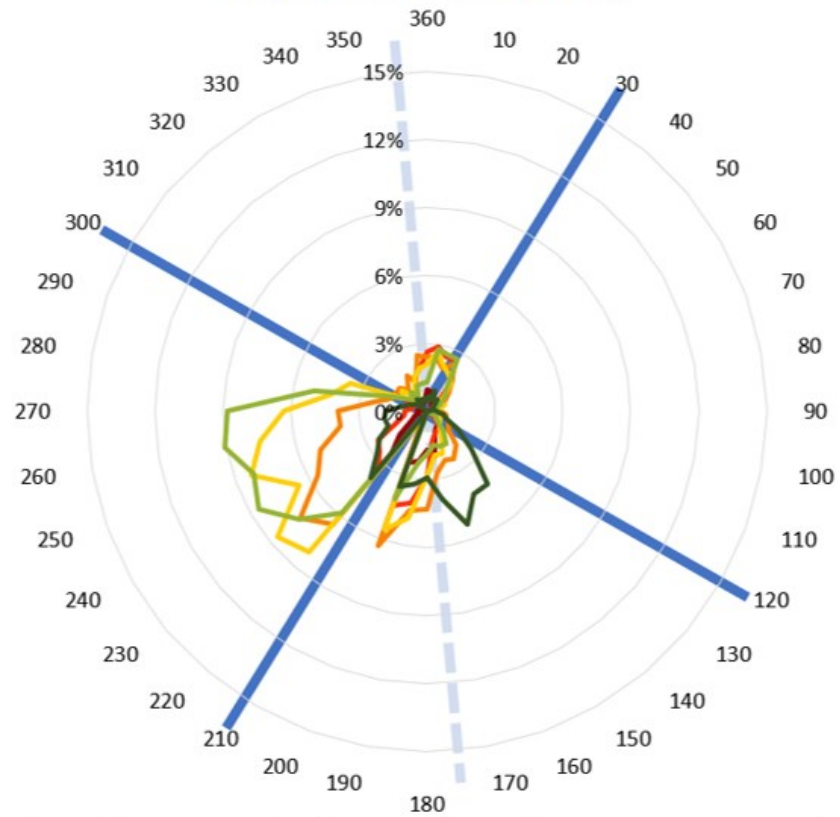
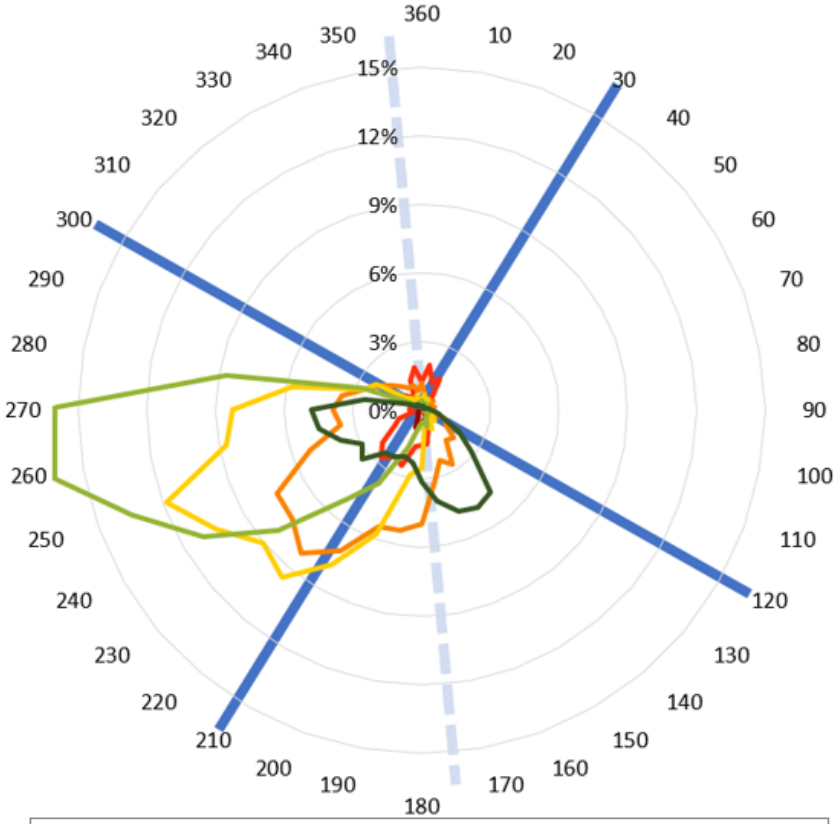
April Wind: Time of Day



April (2001-2020) Calm Wind (0-3 kt) Percentages			
6 AM - 8 AM	73%	2 PM - 5 PM	4%
8 AM - 11 AM	48%	5 PM - 8 PM	10%
11 AM - 2 PM	10%	8 PM - 11 PM	42%

- Calm Wind: 40.3%

July Wind: Time of Day

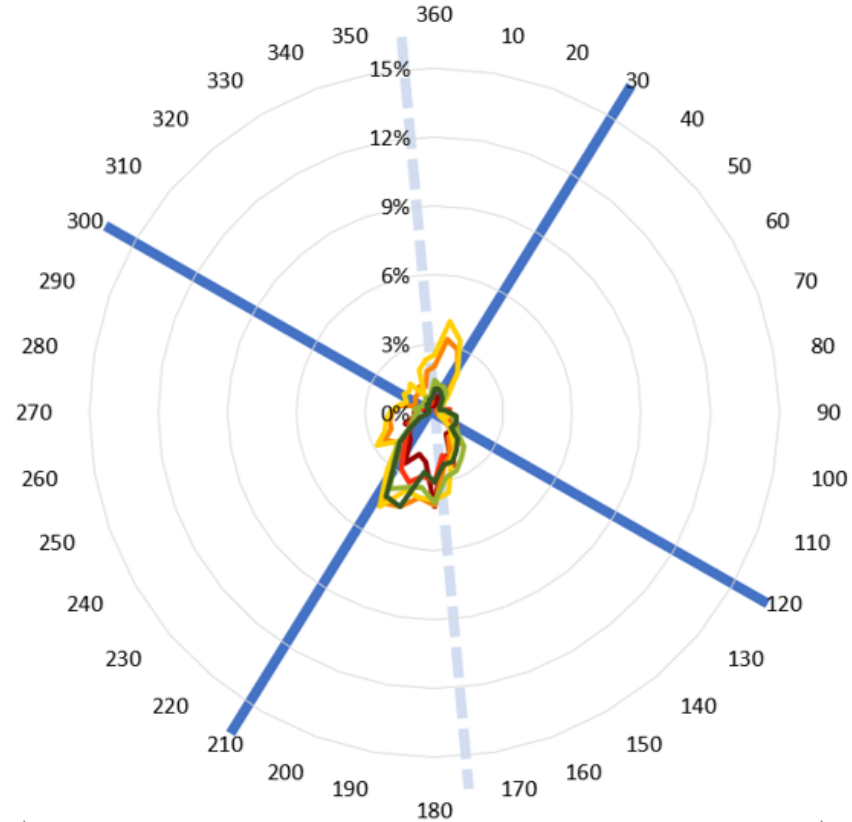


July (2001-2020) Calm Wind (0-3 kt) Percentages			
6 AM - 8 AM	93%	2 PM - 5 PM	2%
8 AM - 11 AM	65%	5 PM - 8 PM	4%
11 AM - 2 PM	7%	8 PM - 11 PM	36%

- Calm Wind: 41.9%

(Between 6:00 AM and 11:00 PM)

December Wind: Time of Day



December (2001-2020) Calm Wind (0-3 kt) Percentages			
6 AM - 8 AM	65%	2 PM - 5 PM	32%
8 AM - 11 AM	60%	5 PM - 8 PM	50%
11 AM - 2 PM	40%	8 PM - 11 PM	57%

- Calm Wind: 63.1%

Runway Utilization – Arrivals

- Percentages on existing runways

Arrivals	11	29	2	20
Piston	5%	56%	10%	29%
Turboprop	7%	66%	5%	21%
Jet 2-3	11%	74%	1%	14%
Jet 4-5	20%	72%	1%	8%
TOTAL OPS	**8%**	**61%**	**7%**	**24%**

- June 1, 2020 – May 31, 2021

- Percentages on proposed runways

Arrivals	11	29	2	20	16	34
Piston	4%	49%	8%	23%	16%	0%
Turboprop	6%	55%	4%	18%	17%	0%
Jet 2-3	7%	50%	1%	10%	31%	0%
Jet 4-5	12%	50%	1%	6%	30%	0%
TOTAL OPS	**5%**	**51%**	**6%**	**19%**	**19%**	**0%**

Existing Runway Utilization – Departures

- Percentages on existing runways

Departures	11	29	2	20
Piston	6%	44%	29%	21%
Turboprop	8%	72%	9%	10%
Jet 2-3	8%	87%	2%	3%
Jet 4-5	1%	96%	1%	2%
TOTAL OPS	**6%**	**58%**	**20%**	**16%**

- June 1, 2020 – May 31, 2021

- Percentages on proposed runways

Departures	11	29	2	20	16	34
Piston	5%	34%	19%	19%	1%	22%
Turboprop	6%	62%	7%	6%	0%	19%
Jet 2-3	5%	61%	1%	3%	0%	30%
Jet 4-5	1%	67%	1%	1%	0%	30%
TOTAL OPS	**5%**	**45%**	**13%**	**13%**	**0%**	**23%**

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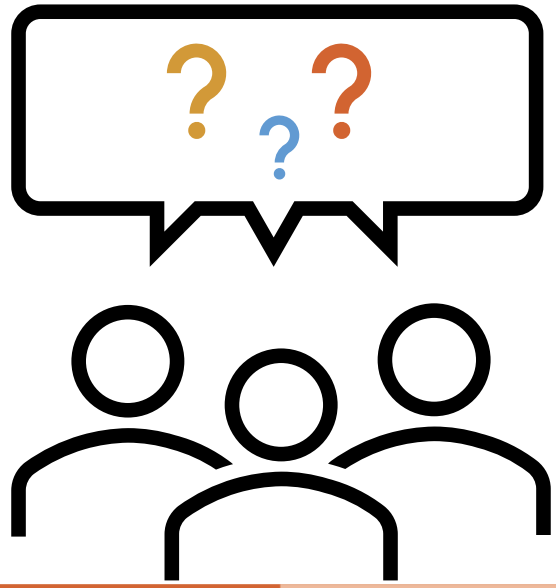
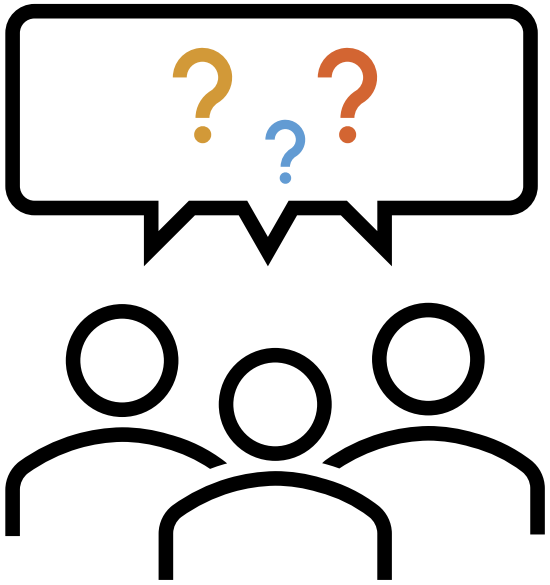
Next Steps

Next Steps – Master Plan

- Continue Runway Feasibility Study
- Finalize use estimates on Runway 16/34
- Alternative analysis
- Evaluate overflight, safety, and noise impacts on community
- Continue to present findings to the public
  - Public outreach workshop: In-person – May 3
  - Details available on airport website
- Learn about the projects any time at truckeetahoeairport.com

Two Breakout Rooms





Master Plan and Runway 16/34

Instrument Procedures

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Thank You

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