



## SANTA BARBARA AIRPORT

# Noise Working Group

## 2<sup>nd</sup> Meeting

Sept. 25<sup>th</sup>, 2024

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# Purpose

To foster collaboration between neighborhood representatives and airport stakeholders, with the aim of enhancing community understanding of airport operations and noise dynamics. By providing a platform for education and dialogue, the group seeks to identify realistic and achievable strategies to mitigate the noise impact of the airport on surrounding neighborhoods. Through vetting ideas and generating recommendations, the Working Group endeavors to promote harmony between airport operations and the local community, ensuring a sustainable and peaceful coexistence.





# Meeting Ground Rules

- Speak to others as you would like to be spoken to.
- Avoid interrupting when someone else is speaking.
- Listen actively and with an open mind.
- Avoid bringing up unrelated issues or topics.
- Focus on ideas, not individuals.
- Provide constructive feedback.
- No personal attacks.
- Ensure everyone has a chance to speak and contribute.
- Encourage quieter members to share their views.
- Aim to find common ground and build consensus.
- Focus on solutions rather than dwelling on problems.





# Noise Working Group

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Sept. 25<sup>th</sup>, 2024

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- **FAA Departure Procedures**

- At a glance: KWANG5, HABUT4, FLOUT5, MISHN3, GAUCH2
- August 2024 Jet departures tracks
- Most common used procedures and impacts
- Examining tight turning departures to the ocean like FLOUT5

- **FAA Arrival Procedures**

- At a glance: PITBL1, VOR/GPS 25, ILS7, RNAV7, Alaska RNAV25, Southwest RNAV25
- August 2024 Jet arrival tracks
- FAA Instrument Approaches
  - *VOR/GPS25, ILS/LOC 7*

- **Special Approaches**

- Alaska RNAV 25 arrival tracks
- Southwest RNAV25 arrival tracks
- Mirroring Special Approach for RWY7

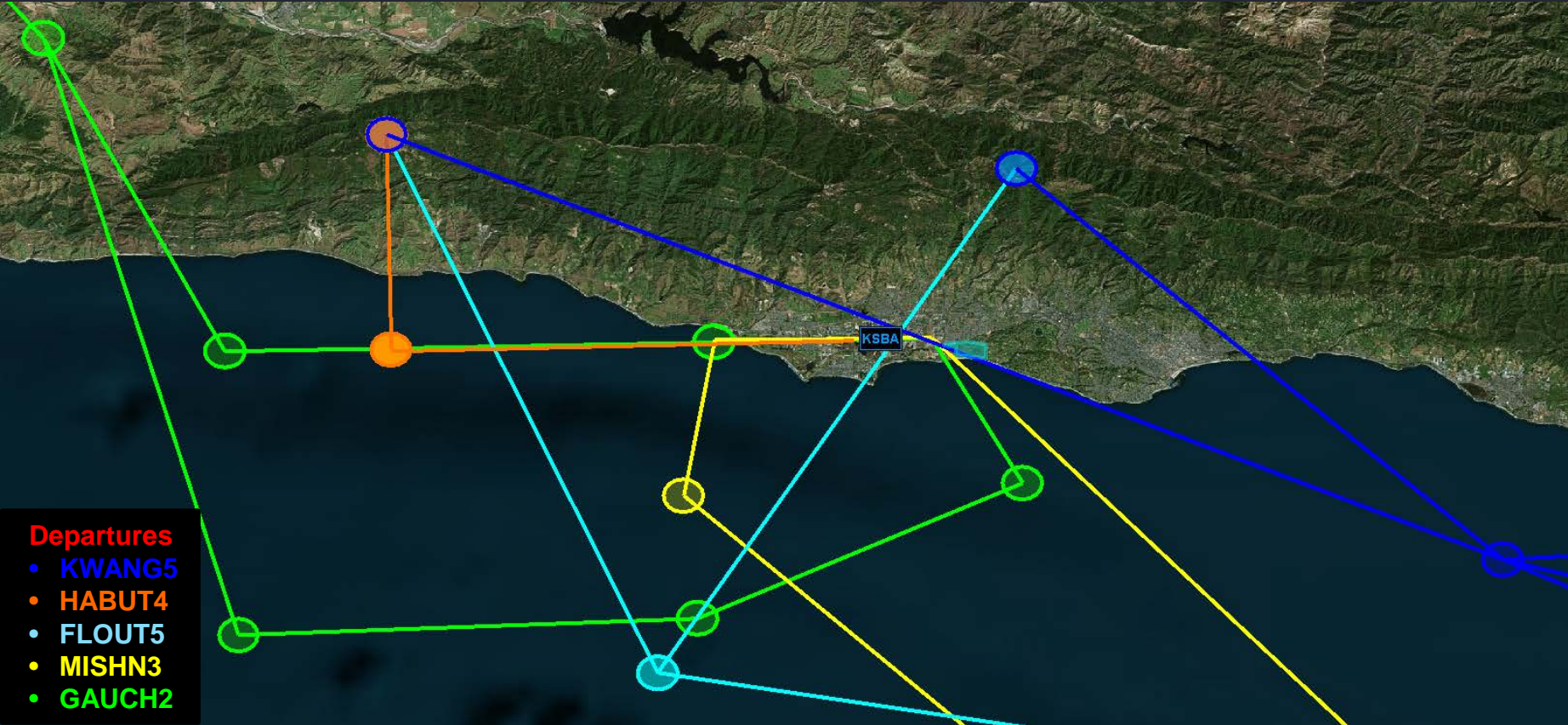
- **Osprey/Military Flights**

**MISHN3 (RNAV) - Eastbound:** Optimized for RNAV-equipped aircraft heading east.  
**GAUCH2 (RNAV) - Northbound:** Designed for RNAV-equipped aircraft traveling north.  
**KWANG5 (VOR) - North & Eastbound:** Serves aircraft equipped with VOR technology heading north and east.  
**HABUT4 (Localizer/VOR) - Northbound:** Utilized by aircraft with localizer or VOR technology flying north.  
**FLOUT5 (VOR) - North & Eastbound:** Accommodates VOR-equipped aircraft moving north and east.  
**SBA5 (VOR) - Assigned by Tower:** This VOR-based route is used exclusively when assigned by the tower control.

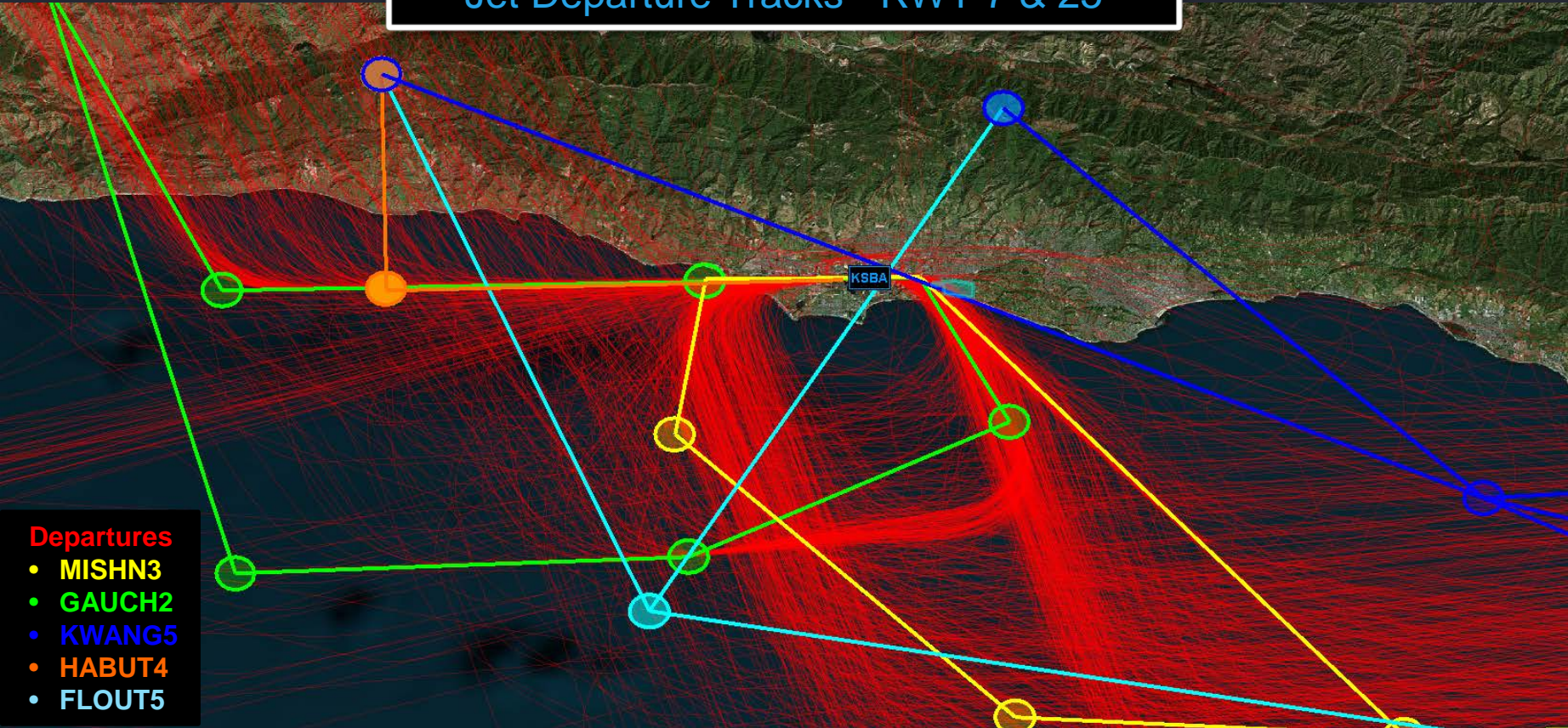
## Departures

- MISHN3
- GAUCH2
- KWANG5
- HABUT4
- FLOUT5

**RNAV (Area Navigation):** Satellite or ground-based signals instead of fixed routes  
**ILS (Instrument Landing System) & LOC (Localizer):**  
 ILS: Radio Signals for Vertical and Lateral guidance  
 LOC: Radio Signals for Lateral guidance  
**VOR (VHF Omnidirectional Range):** Radio signals like a beacon to maintain course

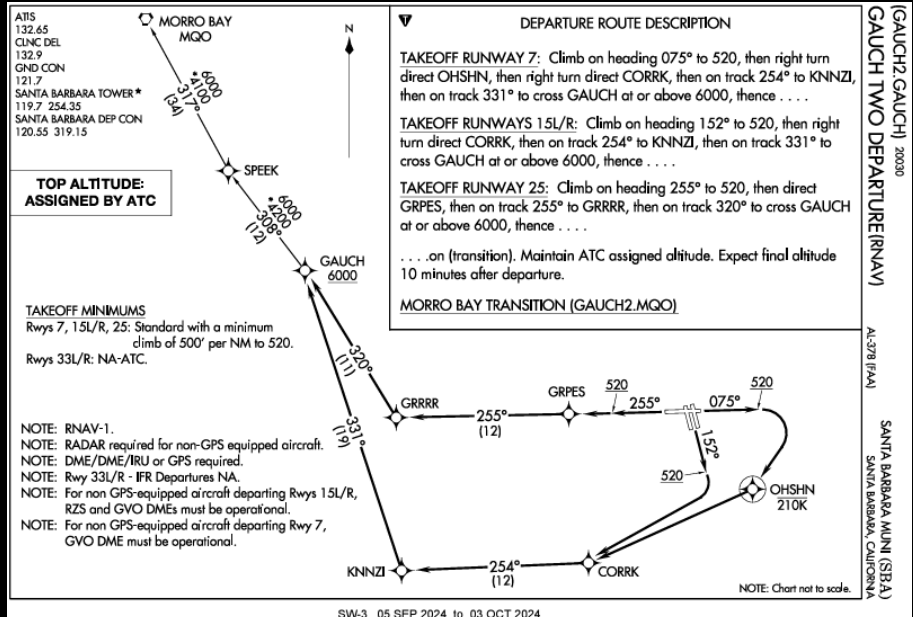
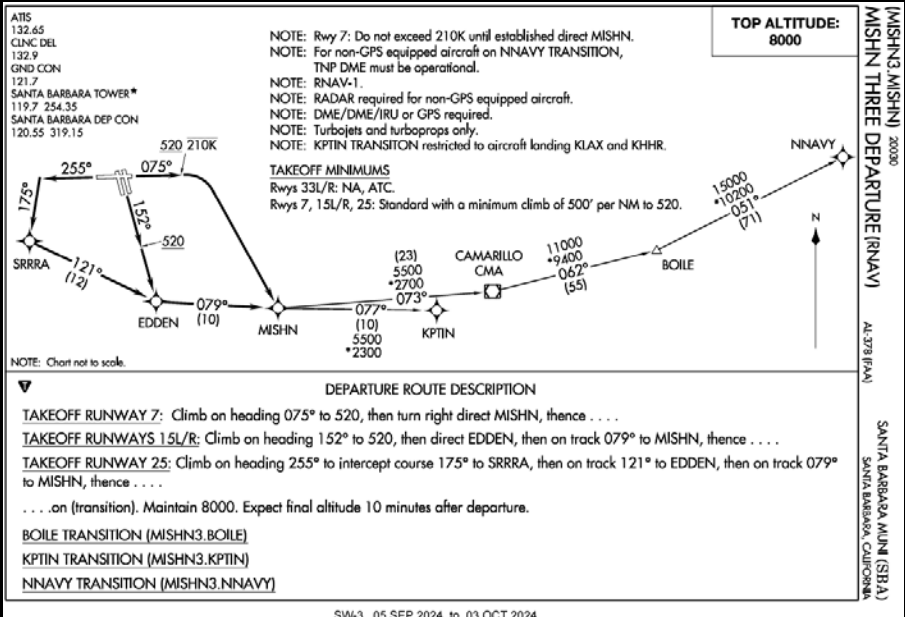


# FAA Instrument Departures August 2024 Jet Departure Tracks - RWY 7 & 25



# MISHN3 Departure

# GAUCH2 Departure





Most utilized departures are MISHN3 and GAUCH2  
Both departures climb straight out before turning



GAUCH2

KSBA

Departures

- MISHN3
- GAUCH2

MISHN3

GAUCH2

MISHN3

# What if FLOUT5 was utilized more? What might that look like for airlines and other jets?

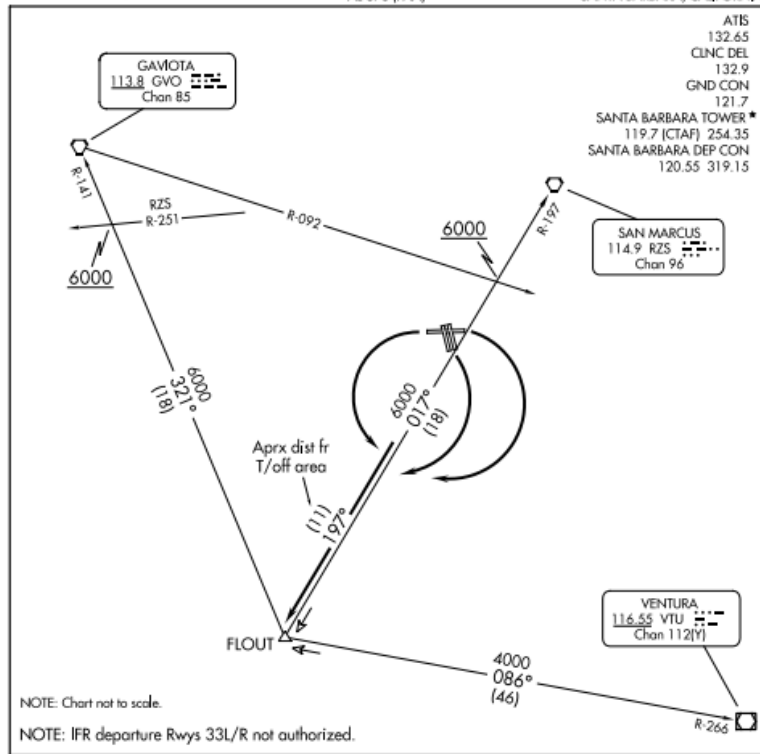
(FLOUT5.FLOUT) 24025

## FLOUT FIVE DEPARTURE

AL-378 (FAA)

SANTA BARBARA MUNI (SBA)

SANTA BARBARA, CALIFORNIA



**FLOUT5 instructs departures for RWY7 and RWY25 to immediately turn to the south over the ocean after takeoff.**

### DEPARTURE ROUTE DESCRIPTION

TAKEOFF RUNWAYS 7 and 15L/R: Turn right, thence. . . .

TAKEOFF RUNWAY 25: Turn left, thence. . . .

. . . intercept and proceed via RZS R-197 to FLOUT INT. Thence via (transition or assigned route.)

GAVIOTA TRANSITION (FLOUT5.GVO): From over FLOUT INT via GVO R-141 to GVO VORTAC. Cross RZS R-251 at or above 6000'.

SAN MARCUS TRANSITION (FLOUT5.RZS): From over FLOUT INT via RZS R-197 to RZS VORTAC. Cross GVO R-092 at or above 6000'.

VENTURA TRANSITION (FLOUT5.VTU): From over FLOUT INT via VTU R-266 to VTU VOR/DME.

**FLOUT FIVE DEPARTURE**  
(FLOUT5.FLOUT) 17JUL97

SANTA BARBARA, CALIFORNIA  
SANTA BARBARA MUNI (SBA)

# Tightest Turning Departure Jet Tracks in August 2024



B737  
SBA 1064  
182 kts DEN  
Sun Aug 11 16:04:44 PDT 2024 25  
831.00 ft

B738 1330  
SBA SFO  
153 kts 858.00 ft  
Sun Aug 25 06:33:33 PDT 2024 7

E55P 4751  
SBA CRQ  
198 kts 1345.00 ft  
Sun Aug 11 14:00:18 PDT 2024 25

C560 1533  
SBA HCR  
178 kts 965.00 ft  
Mon Aug 05 10:18:54 PDT 2024 7

C25C 7732  
SBA HND  
233 kts 1756.00 ft  
Sun Aug 18 14:45:33 PDT 2024 25

FLOUT5

KSBA

# FAA Arrival & Approaches Airline Special Approaches



## PITBL1 – Arrival Procedure

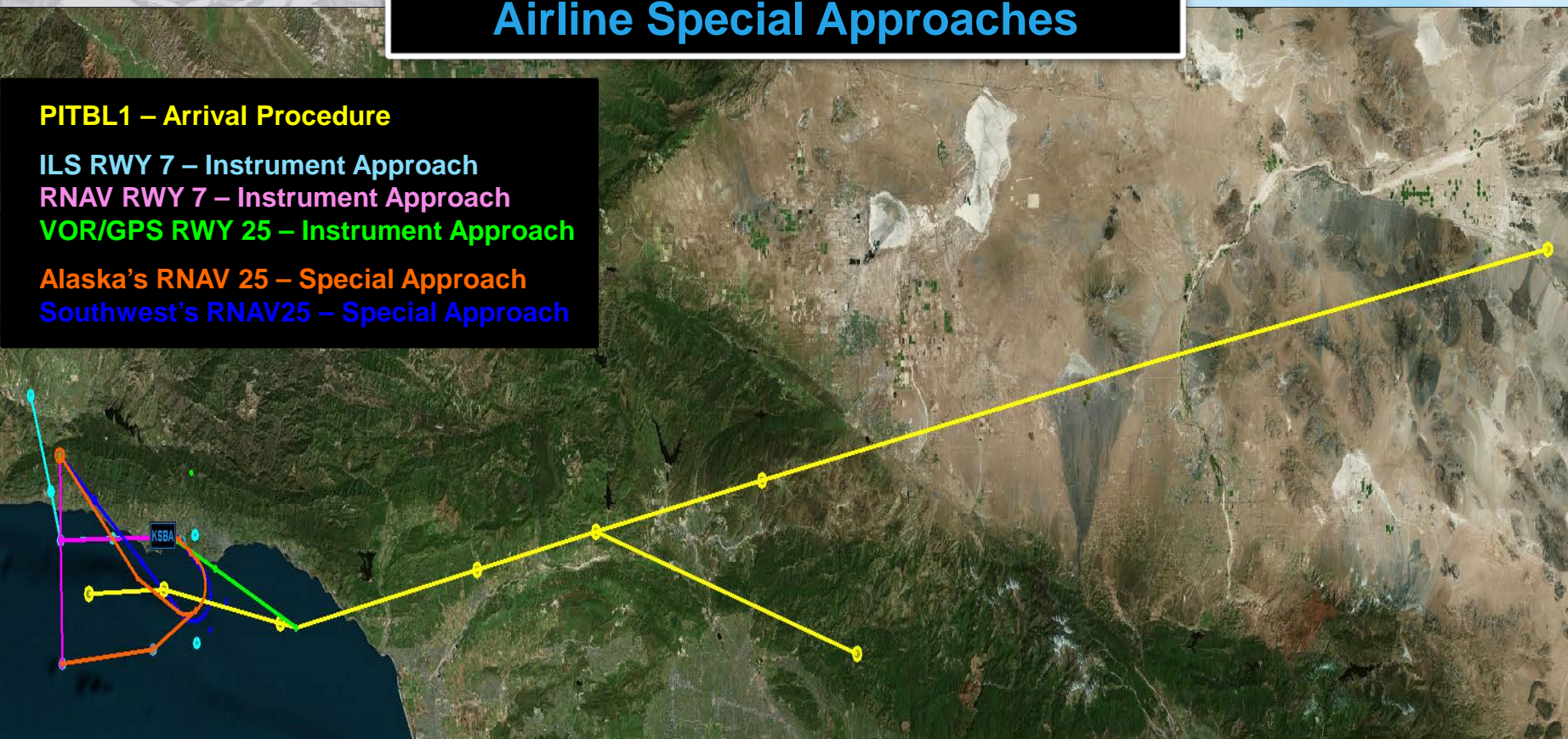
ILS RWY 7 – Instrument Approach

RNAV RWY 7 – Instrument Approach

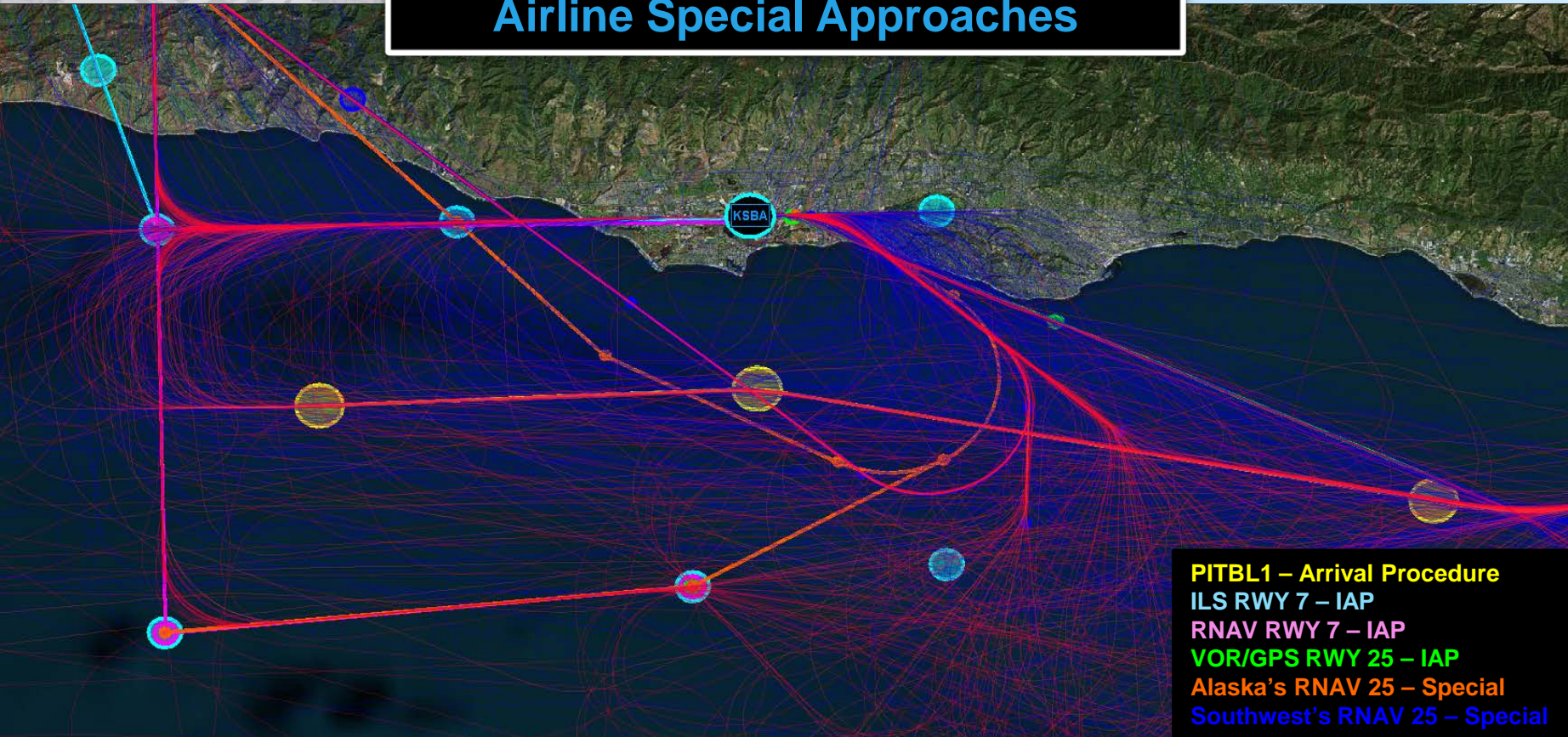
VOR/GPS RWY 25 – Instrument Approach

Alaska's RNAV 25 – Special Approach

Southwest's RNAV25 – Special Approach

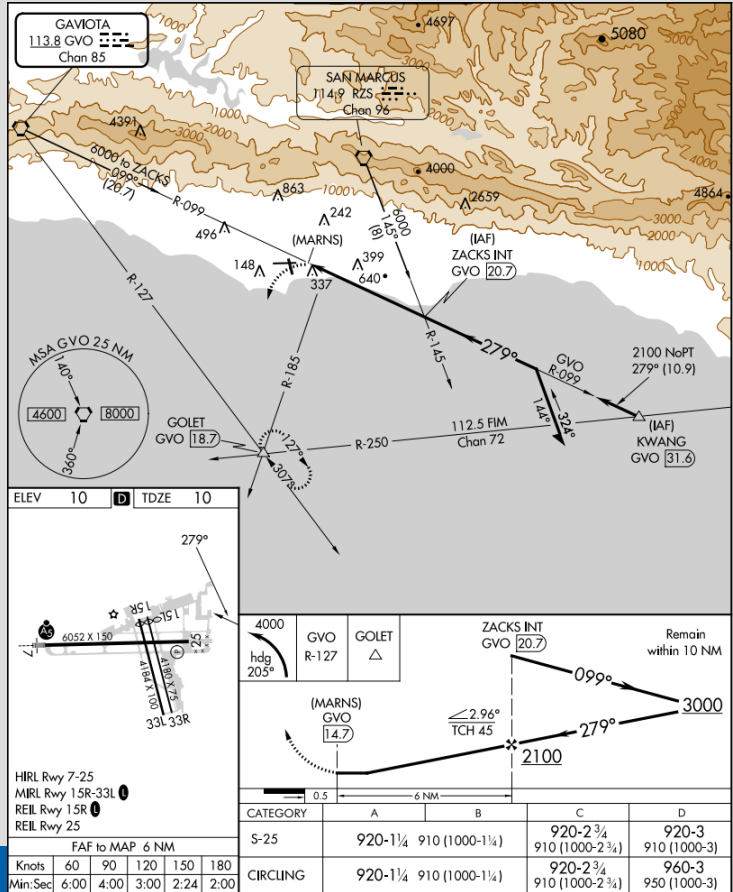


# FAA Arrival & Approaches Airline Special Approaches

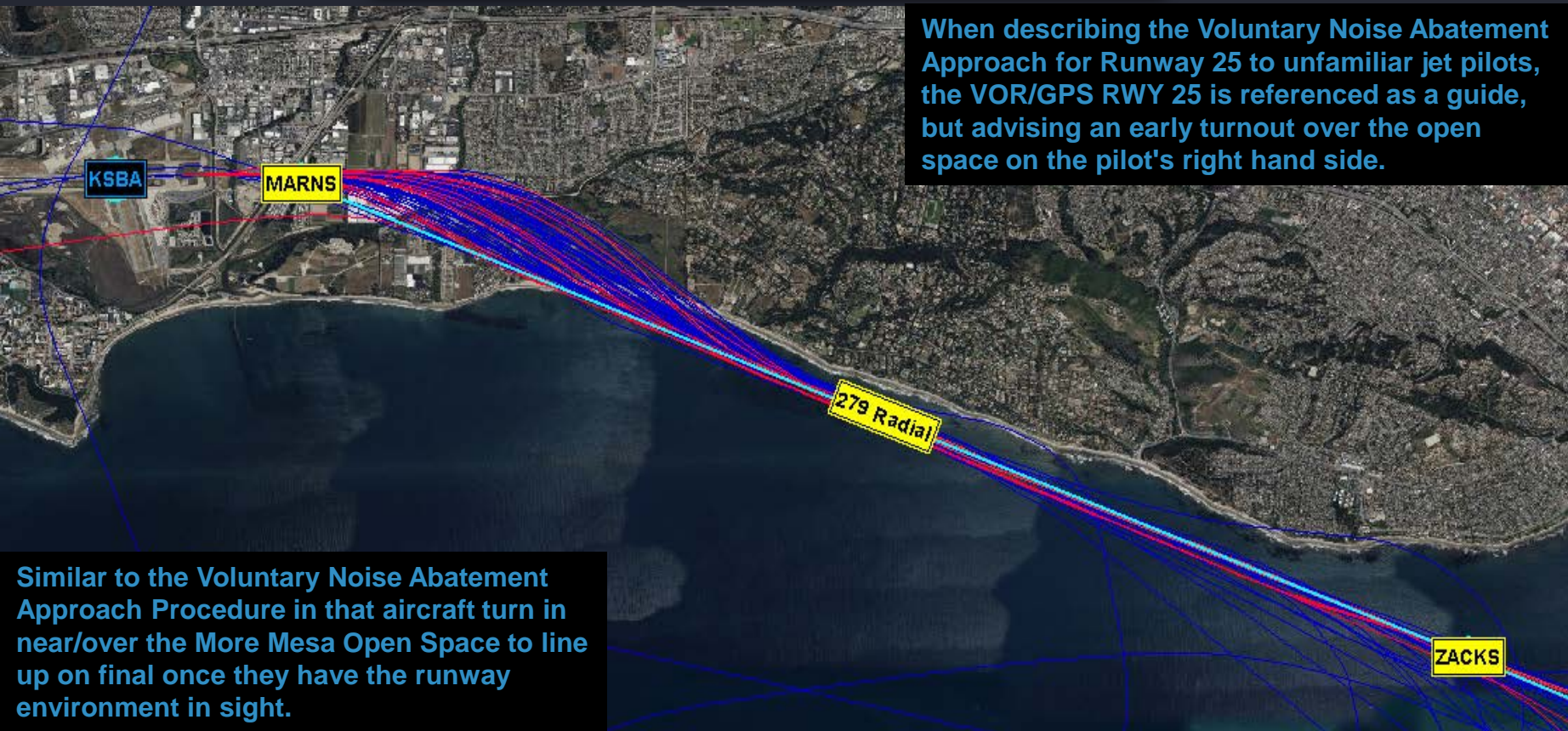


**PITBL1 – Arrival Procedure**  
**ILS RWY 7 – IAP**  
**RNAV RWY 7 – IAP**  
**VOR/GPS RWY 25 – IAP**  
**Alaska's RNAV 25 – Special**  
**Southwest's RNAV 25 – Special**

# FAA Approach – VOR/GPS RWY 25



- 1 Approach for Runway 25
  - VOR/GPS 25
  - Can be flown with Radio Navigation or GPS
- Inbound route parallels the coast until the last mile when aircraft turn in to stabilize on final approach
- Minimum altitude 920 feet
- Route along shoreline has heavy noise impact



# FAA Approaches ILS/LOC 7 and RNAV(GPS)7



- Two Approaches for runway 7
  - RNAV RWY 7 (GPS)
  - ILS/LOC RWY 7 (Radio Nav.)
- Both have 10 mile straight-in final approach to facilitate a stabilized approach to lowest minimums in bad weather
- Minimum Altitudes
  - ILS7 – 213 feet
  - LOC7 – 500 feet
  - RNAV7 – 380 feet
- Straight-in approach has heavy noise impact

SANTA BARBARA, CALIFORNIA AL-378 (FAA) 24249

LOC/DME FSB-A	APP CRS	Way Idg	6052
110.3	075°	TDZE	13
Chan 40		Apr Elev	13

**ILS or LOC RWY 7**  
SANTA BARBARA MUNI (SBA)

⚠ Circling RWY 15R NA or night. VDF NNA when using Omnid altimeter setting. When local altimeter setting not received, use Omnid altimeter setting and increase all DA/MDA 100 feet, and S-LOC. Cat C visibility to RVR 5000. Cat D visibility to RVR 6000. Increase Circling Cat A visibility 1/2 mile. Cat C visibility 1/2 mile. For Invs ALS when using Omnid altimeter setting, increase S-LS 7 to all Cats visibility to RVR 5000. Circling NNA for Cats C and D north of RWY 15R authorized with use of FD or HUD or HHD to DA (NNA when using Omnid altimeter setting).

SANTA BARBARA APP CON*	SANTA BARBARA TOWER*	GND CON	CLNC DEL	UNICOM
132.65	120.55 318.15 (151-329°)	121.7	132.9	122.95
	125.4 291.1 (330°-150°)			

MISSED APPROACH: Climb to 700 then climbing right turn to 4000 on R25 VORTAC R-185 to GOLET INT/R25 1&4 DME and hold, continue climb-in-hold to 4000.

HABIT HSA [E.2]	GOYED INT HSA [E.2]	NAPPS INT HSA [E.2]	GOLET RZS [E.2]
2700	1800	700	4000
075°	075°	075°	075°

GS 3.00° TCH 48

CATEGORY	A	B	C	D
S-RS 7#	213/24	200 (200-1)		
S-LOC 7	500/24	487 (500-1)	500/50	500/50
CIRCLING	800-1	800-1 1/2	800-2 1/2	1000-3
	787 (800-1)	787 (800-1 1/2)	787 (800-2 1/2)	987 (1000-3)

SANTA BARBARA, CALIFORNIA  
Amdt 5D 03NOV22

SANTA BARBARA MUNI (SBA)  
42°26'N-119°50'W

**ILS or LOC RWY 7**

SANTA BARBARA, CALIFORNIA AL-378 (FAA) 24249

WAAS	APP CRS	Way Idg	6052
CH 78306	074°	TDZE	13
WOTA		Apr Elev	14

**RNAV (GPS) RWY 7**  
SANTA BARBARA MUNI (SBA)

⚠ Top table does not apply to INAV/VNAV. For Invs MALSR when using Omnid altimeter setting, increase PV all Cats visibility to 1/2 mile, and UNAV Cat C to 1 1/2. Cat D to 2. For Invs MALSR, increase PV all Cats visibility to RVR 6000. For uncorrected RNAV/VNAV systems, UNAV/VNAV NA below -15% or above 49°C. RNAV/VNAV NA when using Omnid altimeter setting. When local altimeter setting not received, use Omnid altimeter setting and increase all DA/MDA 100 feet, and increase UNAV/VNAV visibility Cat C and D 1/2 mile. UNAV Cat C to RVR 6000, Cat D 1/2 mile. Circling Cat A visibility 1/2 mile, Cat C visibility 1/2 mile. VDF NNA when using Omnid altimeter setting. Circling RWY 15R NA or night. Circling NNA for Cats C and D north of RWY 725.

SANTA BARBARA APP CON*	SANTA BARBARA TOWER*	GND CON	CLNC DEL	UNICOM
132.65	120.55 318.15 (151-329°)	121.7	132.9	122.95
	125.4 291.1 (330°-150°)			

MISSED APPROACH: Climb to 4000 direct CESRA and right turn via 1&4 track to HYOBE and right turn via 251° track to GOLET and hold, continue climb-in-hold to 4000.

Procedure NA for arrivals of AFOXY via V27 northwest bound.

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Procedure NA for arrivals of AFOXY via V27 northwest bound.

HABIT HSA [E.2]	GOYED INT HSA [E.2]	NAPPS INT HSA [E.2]	GOLET RZS [E.2]
2700	1800	700	4000
075°	075°	075°	075°

GS 3.00° TCH 48

CATEGORY	A	B	C	D
S-RS 7#	380/40	367 (400-1)		
INAV/DA	866-2	853 (900-2)	866-2 1/2	866-2 1/2
	853 (900-2 1/2)	853 (900-2 1/2)	853 (900-2 1/2)	853 (900-2 1/2)
INAV MDA	560/24	547 (600-1)	550/50	550/60
	547 (600-1)	547 (600-1)	547 (600-1)	547 (600-1)
CIRCLING	800-1	800-1 1/2	800-2 1/2	1000-3
	786 (800-1)	786 (800-1 1/2)	786 (800-2 1/2)	988 (1000-3)

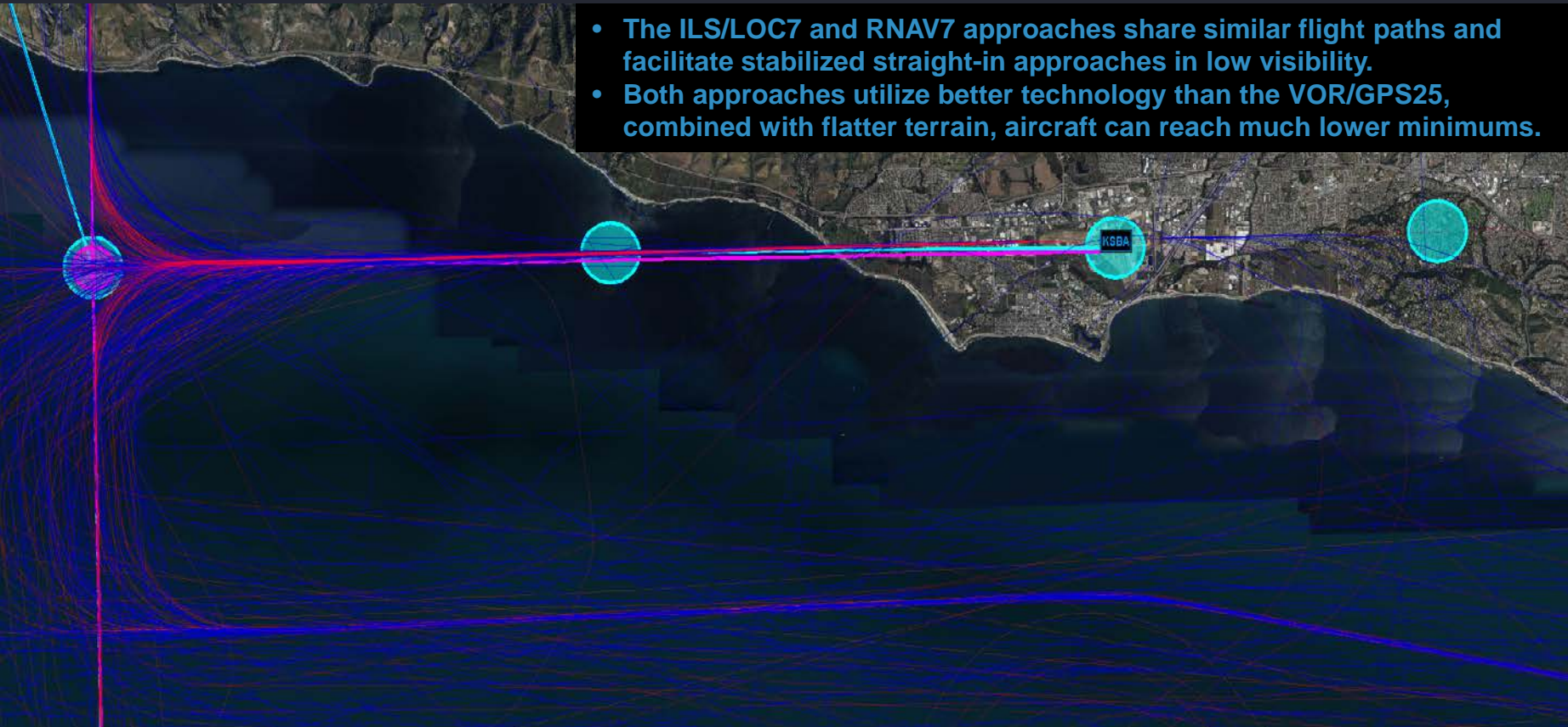
SANTA BARBARA, CALIFORNIA  
Amdt 5D 03NOV22

SANTA BARBARA MUNI (SBA)  
34°26'N-119°50'W

**RNAV (GPS) RWY 7**



- The ILS/LOC7 and RNAV7 approaches share similar flight paths and facilitate stabilized straight-in approaches in low visibility.
- Both approaches utilize better technology than the VOR/GPS25, combined with flatter terrain, aircraft can reach much lower minimums.



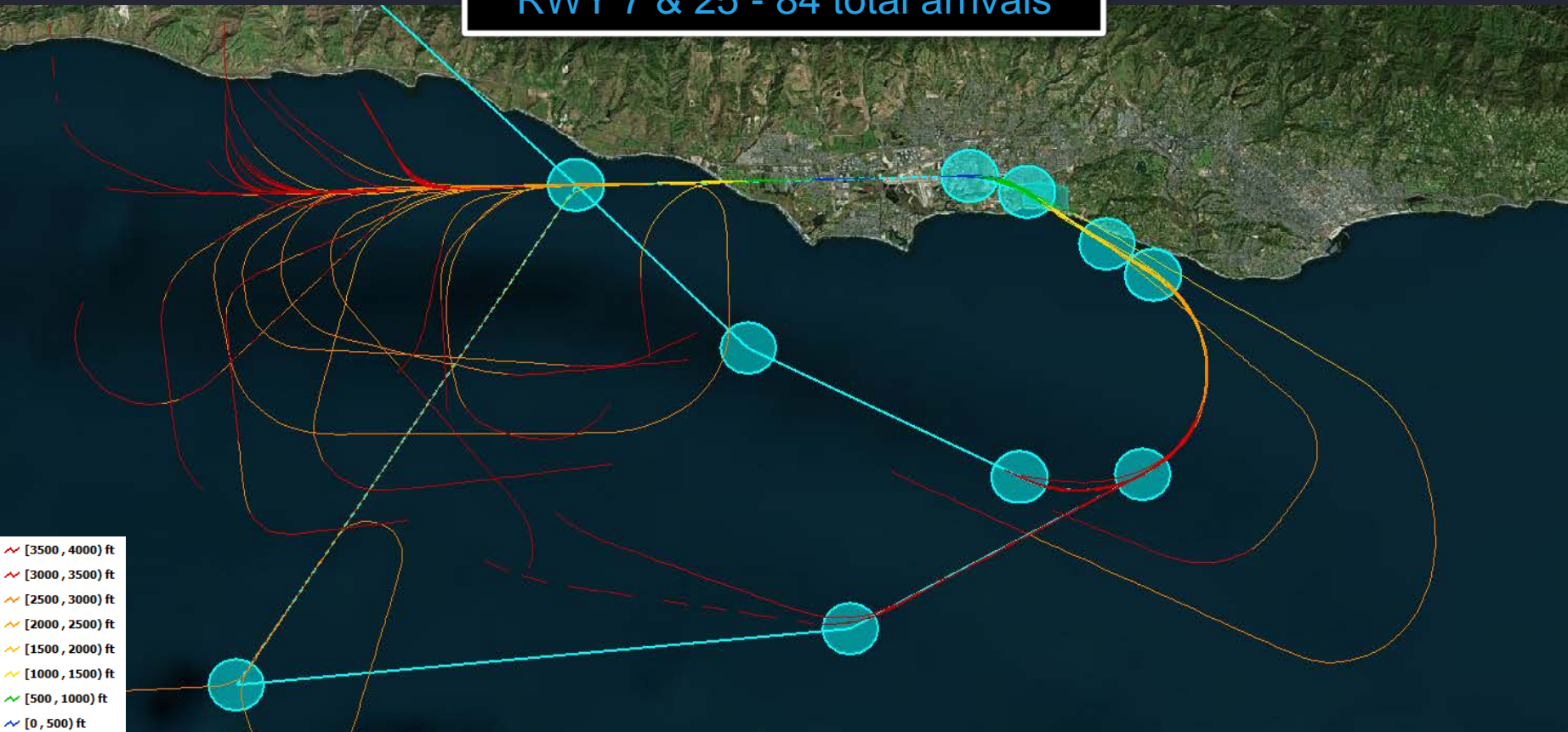
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“Special Instrument Procedures authorized for use only by air carriers or some other segment of the aviation industry are not published in the Federal Register and are identified as “Special Procedures.” Special Instrument Procedures may be developed for public and private use based on aircraft performance, aircraft equipment, or crew training, and may also require the use of landing aids, communications, or weather services not available for public use.”

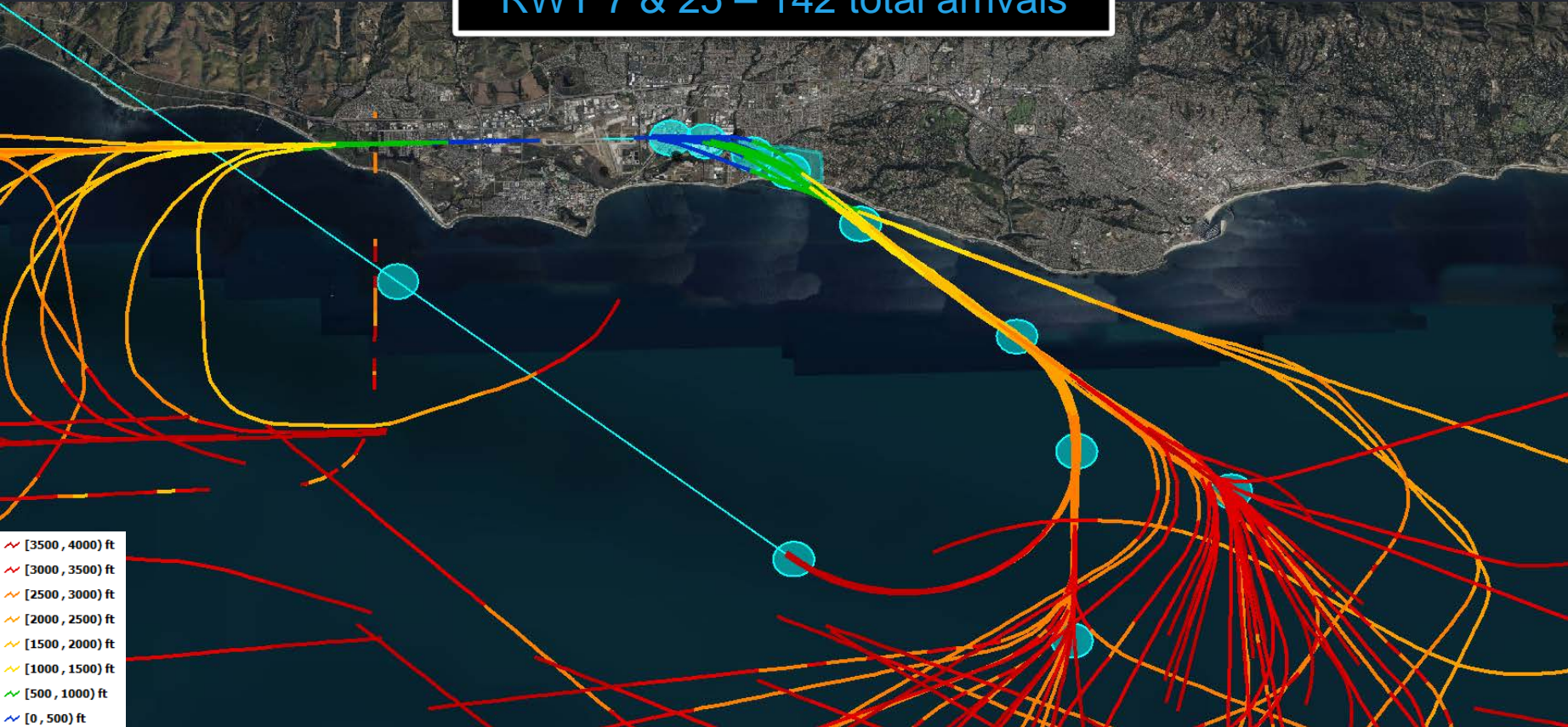
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- FAA Joint Order 8260.60A
- [Link to the FAA's webpage on Special Instrument Flight Procedures](#)
- Special Procedures are funded, designed, and maintained by the sponsoring entity
- Alaska Airlines
  - Effective Nov 2018
  - RNAV7 – Very similar to ILS 7, long straight in approach
  - RNAV25 – Similar to Voluntary Noise Abatement Approach 25
- Southwest Airlines
  - Effective Dec 2021
  - Only for RWY 25 – RNAV25 – Similar to Voluntary Noise Abatement Approach 25
  - Shared with United Airlines

# August 2024 – Alaska Arrivals RWY 7 & 25 - 84 total arrivals



# August 2024 – Southwest Arrivals RWY 7 & 25 – 142 total arrivals



- ~ [3500 , 4000] ft
- ~ [3000 , 3500] ft
- ~ [2500 , 3000] ft
- ~ [2000 , 2500] ft
- ~ [1500 , 2000] ft
- ~ [1000 , 1500] ft
- ~ [500 , 1000] ft
- ~ [0 , 500] ft



- **Purpose and Benefits** – Create FAA-approved, publicly available special procedures to reduce noise impact and enhance safety. Publicly published instrument procedures would offer better flexibility for jet aircraft operations than visual noise abatement procedures, which don't have programmable waypoints.
- **Stakeholder Collaboration** – FAA, Airlines, Local Government, Local Community
- **Technical and Environmental Analysis** - Analyze airspace, flight paths, and environmental impacts.
- **Procedure Design** - Design routes prioritizing noise reduction using advanced navigation technologies
- **Simulation and Testing** - Analyze noise footprint through simulated flights
- **Community involvement** – Provide transparent updates, public workshop for feedback
- **Regulatory compliance and approval** – FAA's approval for public usage
- **Implementation and monitoring** - Gradually implement and refine procedures based on data and feedback.
- **Cost Considerations** – Account for initial development and ongoing maintenance costs.
- **[Case Study: Special Procedures at Truckee Tahoe Airport District](#)**

US Navy

Fleet Logistics Multi-Mission Squadron 30  
VRM-30 'Titans'



Source: "VRM-30 Titans" image retrieved from [Seaforces Online](#), accessed [Sept-23-2024]

US Navy

Fleet Logistics Multi-Mission Squadron 50  
VRM-50 'Sun Hawks'



Source: "VRM-50 Sun Hawks" image retrieved from [Seaforces Online](#), accessed [Sept-23-2024]

**Homebase:** NAS North Island, San Diego, California (190 miles southeast)

**Navy Squadrons:** VRM-30, VRM-50



## SANTA BARBARA AIRPORT

# Let's open up to discussion

**2<sup>nd</sup> Meeting**

Weds - Sept. 25<sup>th</sup>, 2024

**3<sup>rd</sup> Meeting**

Weds - Oct. 30<sup>th</sup> 2024