In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the City Clerk's office at (310) 618-2780. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting. [28CFR35.102-35.104 ADA Title II]

Direct questions or concerns to the Commission Liaison at (310) 784-7900 or individual department head prior to submission to the Commission. Parties will be notified if the complaint will be included on a subsequent agenda.

Any correspondence received after 2:00 p.m. on Thursday November 6th, 2025 on any item on the agenda will be provided to the Commission electronically and available for public inspection in the City Clerk's Office.

TORRANCE AIRPORT COMMISSION AGENDA
NOVEMBER 13, 2025
REGULAR MEETING
7:00 P.M. WEST ANNEX COMMISSION MEETING ROOM
AT 3031 TORRANCE BL.

AIRPORT COMMISSION MAY TAKE ACTION ON ANY ITEM LISTED ON THE AGENDA

1. CALL MEETING TO ORDER

ROLL CALL: Commission members: Hammond, Krc, Love, Marshall, Olmos, Wakayama, Chair Seferian.

2. FLAG SALUTE:

3. REPORT OF THE AIRPORT STAFF ON THE POSTING OF THE AGENDA

The agenda was posted on the Public Notice Board at 3031 Torrance Blvd. and on the City's Website on Thursday November 6th, 2025.

4. ANNOUNCEMENT OF WITHDRAWN, DEFERRED, AND/OR SUPPLEMENTAL ITEMS

5. ORAL COMMUNICATIONS (Limited up to a 15-minute period)

This portion of the meeting is reserved for comment on items on the Consent Calendar or not on the agenda. Under the Ralph M. Brown Act, the Commission cannot act on items raised during public comment, but may respond briefly to statements made or questions posed; request clarification; or refer the item to staff. ***No longer than 1 minute per speaker****. If presenting handout material to Commission, please provide 10 copies to staff before speaking.*

6. CONSENT CALENDAR

Matters listed under the Consent Calendar are considered routine and will be enacted by one motion and one vote. There will be no separate discussion of these items. If discussion is desired, that item will be removed by a Commissioner from the Consent Calendar and considered separately.

6A. APPROVAL OF MINUTES OCTOBER 9, 2025.

7. ADMINISTRATIVE MATTERS

7A. Accept and File Monthly Update of Aeronautical Operational Information Under the Purview of the General Services Department.

7B. Accept and File Unleaded Aviation Fuel Presentation by Torrance Airport Association (TAA).

8. COMMISSION ORAL COMMUNICATIONS

9. ADJOURNMENT

9A. Adjournment of Airport Commission Meeting to Thursday December 11th, 2025, at 7:00 p.m. West Annex Commission Meeting Room.

October 9, 2025

MINUTES OF REGULAR MEETING OF THE TORRANCE AIRPORT COMMISSION

1. CALL MEETING TO ORDER

The Torrance Airport Commission convened in a regular session at 7:00 PM on October 9, 2025, in the West Annex Commission Meeting Room 3031 Torrance Boulevard.

ROLL CALL

Present:	Commissioners Hammond, Krc, Love, Wakayama, and Chair Seferian
Absent:	Commissioners Olmos and Marshall
Also Present:	Airport Manager Rafael Herrera and General Services Director Shant Megerdichian

2. FLAG SALUTE

The Pledge of Allegiance was led by Commissioner Wakayama.

3. REPORT OF STAFF ON THE POSTING OF THE AGENDA

General Services Director Megerdichian reported that the agenda was posted on the Public Notice Board at 3031 Torrance Boulevard on Thursday, October 2, 2025.

4. ANNOUNCEMENT OF WITHDRAWN, DEFERRED, AND/OR SUPPLEMENTAL ITEMS

Supplemental to item #8B – email correspondence received after posting of agenda.

5. ORAL COMMUNICATIONS

Member of the public spoke.

6. CONSENT CALENDAR

6A. Approve Commission Minutes: September 11, 2025

MOTION: Commissioner Love moved to approve September 11, 2025 minutes. Commissioner Wakayama seconded the motion; a roll call vote reflected 5-0 approval. (Absent: Commissioners Marshall and Olmos)

7. ADMINISTRATIVE MATTERS

7A. ACCEPT AND FILE MONTHLY UPDATE OF AERONAUTICAL OPERATIONAL INFORMATION UNDER THE PURVIEW OF THE GENERAL SERVICES DEPARTMENT

Airport Manager Herrera presented the monthly update of Aeronautical Operational Information under the purview of the General Services Department. Commission discussed; Airport Manager Herrera answered questions of the commission.

DRAFT SUBJECT TO APPROVAL

Member of the public spoke.

MOTION: Commissioner Krc moved to receive and file the monthly update of Aeronautical Operational Information under the purview of the General Services Department. Commissioner Wakayama seconded the motion; a roll call vote reflected 5-0 approval. (Absent: Commissioners Marshall and Olmos)

7B. ACCEPT AND FILE TORRANCE MUNICIPAL AIRPORT NOISE ABATEMENT QUARTERLY REPORT FOR QUARTER THREE 2025

Environmental Quality Officer Zev introduced and presented the item.

Commission discussed the item; Environmental Officer Zev answered commission's questions.

Member of the public spoke.

MOTION: Commissioner Hammond moved to receive and file the quarterly 2025 Torrance Municipal Airport Noise Abatement report. Commissioner Wakayama seconded the motion; a roll call vote reflected 5-0 approval. (Absent: Commissioners Marshall and Olmos)

8. COMMISSIONS AND STAFF ORAL COMMUNICATIONS

Commissioner Krc inquired as to when the president of the Torrance Airport Association would address the commission? The meeting hasn't been scheduled, but Mr. Broen has agreed to present at a future commission meeting.

Commissioner Krc inquired if the Federal Government shutdown has had an impact on operations and are impacts expected in the coming months? Airport Manager Herrera stated no major impacts, only slight delays with the FAA project.

Commissioner Wakayama asked for an update on the event that was to take place in the Torrance Airport building. General Services Director Megerdichian stated the Torrance Airport Festival has been postponed to June 2026.

Chair Hammond asked what a fully staff tower looks like? Airport Manager Herrera stated he doesn't have the actual numbers but stated approximately 7-9 total employees, with 3 employees working each shift.

Chair Seferian inquired into the naming of the General Aviation Center after Frank Robinson, has there been feedback? General Services Director Megerdichian stated the item had gone before the Naming Committee and was approved; however, the item has not yet been brought to City Council for final approval.

9. ADJOURNMENT

MOTION: At 7:33 PM Commissioner Love moved to adjourn the meeting to November 13, 2025 at 7:00 PM in the West Annex Commission Meeting Room. Commissioner Krc seconded the motion; a roll call vote reflected 5-0 approval. (Absent: Commissioners Marshall and Olmos)

DRAFT SUBJECT TO APPROVAL

Commission meeting of
NOVEMBER 13, 2025

Honorable Chair and Members
of the Airport Commission

Members of the Commission:

SUBJECT: Transmittal of Aeronautical Operational Information under the Purview of the General Services Department for the Month of **OCTOBER 2025**

The General Services Department acts as both the landlord for the city-owned facilities at the airport and as business manager for the airport. As such, the department is providing the following informational reports for review by the commission:

Report #1: Hangar and Tie down Rental Status

Report #2: Project Status Updates

Report #3: Meeting Room Calendar

Report #4: Hangar Waiting List

Report #5: Events Requiring Emergency Response

Report #6: Airfield Operations Status

For any questions about this transmittal, please call Rafael Herrera at (310) 784-7900.

REPORT 1

ZAMPERINI FIELD

HANGAR AND TIEDOWN INFORMATION

Total Number of City-Owned Hangars	341
Total Number of Hangar Vacancies	8
Total Number of Airport Tiedowns	181
Total Number of Tiedowns Available	41

The 341 hangars owned by the City are broken down into three size categories: small, medium, and executive. Of 341 total hangars, 74 were built by the City, while 267 hangars were funded by several private contractors. At time of construction, these hangars were built with individual preferences in mind and were not standardized according to size. Here are approximate sizes of small, medium and executive hangars.

Small Type A:	Under 40' Door Opening Width	800-1,200 sq. ft.
Small Type B:	40'-41' Door Opening Width	800-1,200 sq. ft.
Medium:	52'-54' Door Opening Width	1,200-2,200 sq. ft.
Executive:	57'-61' Door Opening Width	2,200-3,200 sq. ft.

Current rates for hangars are: $0.733/sq. ft. per month for Torrance Residents.
$0.822/sq. ft. per month for Non-Residents.

Current rates for Tiedowns are: Single Engine $145.00
Twin Engine $160.00

Current rates for Transient (Overnight) are: Single Engine $11.00
Twin Engine $18.00
Jet Engine $25.00

REPORT 2

TORRANCE AIRPORT – ZAMPERINI FIELD
PROJECT STATUS UPDATES

TOPIC	STATUS 11/06/25
Automated Weather Observing System (AWOS)	Royal Electric has completed 90% of construction and installation of the Automated Weather Observing System (AWOS). This project began on Monday, August 11, 2025 and will continue through Thursday, October 9, 2025. Cost for the construction $646,000. Notice to Air Missions (NOTAMS) will be issued for Runway and Taxiway closures due to construction activity. The FAA will have the final approval of the go-live date once construction, frequencies and connection to the FAA equipment is determined by the FAA/ inspector and certification of the AWOS is completed. Currently the project is on hold until the Federal Government returns to regular operation.
Airport Runway / Taxiway Lighting and Signage	The formal Request for Proposal (RFP) was finalized and advertised via Planetbids on July 21, 2025. RFP closed September 4, 2025. Staff is reviewing the proposals. The Airport remains open for overnight operations, please check NOTAMs for closures.
FAA Tower HVAC - Replacement	At their June 3, 2025 meeting, the City Council approved and awarded contract to ACCO Engineered Systems in the amount of $807,344 for HVAC replacement in the FAA Tower. This will replace the existing heating and air-conditioning equipment for this building. Pre-construction meeting took place July 1, 2025 to begin the design. Plans to be submitted in October 2025.

For the status of Airport projects, please refer to the Trending in Torrance website at https://www.trendingintorrance.com/airport-matters.html.

REPORT 3

NOVEMBER MEETING ROOM SCHEDULE

11/1/25	Alpha Kappa Alpha - Sigma Omega Chapter	9:30 AM-1:00 PM
11/2/25	Miracle Life Community Church	9:30 AM-11:30 AM
11/3/25	City of Torrance	2:00-3:00 PM
11/4/25	Riviera Little League	7:00 PM – 9:00 PM
11/5/25	Pastor Chris Cannon	9:30 AM – 11:30 AM
11/5/25	AYSO	6:30 PM-9:30 PM
11/6/25	So Bay Quilters	10:00 AM–12:00 PM
11/6/25	The Vette Set, Inc.	6:30 PM-8:30 PM
11/7/25	Private Meeting	7:00 PM-8:00 PM
11/9/25	Miracle Life Community Church	9:30 AM-11:30 AM
11/9/25	South Coast Cactus	12:00 PM-4:00 PM
11/10/25	So Bay Camera Club	6:30 PM-9:30 PM
11/14/25	Private Meeting	7:00 PM-8:00 PM
11/15/25	Indivisible Southbay L.A.	11:30 AM – 3:30 PM
11/16/25	Miracle Life Community Church	9:30 AM-11:30 AM
11/16/25	California Taxpayers	4:00 PM -6:00 PM
11/18/25	So Bay Orchid Society	7:00 PM-8:00 PM
11/21/25	Private Meeting	7:00 PM-8:00 PM
11/23/25	Miracle Life Community Church	9:30 AM-11:30 AM
11/23/25	MMLA Inc.	4:15 PM – 7:15 PM
11/24/25	So Bay Camera Club	6:30 PM-9:30 PM
11/28/25	Private Meeting	7:00 PM-8:00 PM
11/30/25	Miracle Life Community Church	9:30 AM-11:30 PM

REPORT 4

HANGAR WAITING LIST

1	Freitag, D.	11/05/12	EXEC
2	Deaver R.	10/22/13	EXEC
3	Ellison, B.	11/05/13	EXEC
4	Macey, B.	08/02/16	MED/EXEC
5	Van De Velde, D.	09/26/16	MEDIUM
6	Woodside, D.	12/29/16	MED/EXEC
7	Ristevski, B.	01/09/17	MED/EXEC
8	Mabry, M.	01/24/17	MED/EXEC
9	Geiger, G.	02/06/17	EXEC
10	Adli, B.	02/22/17	EXEC
11	Constable, W.	03/23/17	EXEC
12	Stewart, D.	04/07/17	EXEC
13	Regan, K.	05/24/17	MEDIUM
14	Gerts, I.	06/27/17	MEDIUM
15	Armstrong, S.	11/14/17	MED/EXEC
16	Levine, M.	01/26/18	MED/EXEC
17	Bryson, Z.	03/22/18	EXEC
18	Badour, S.	09/24/18	MED/EXEC
19	Wachner, J.	10/02/18	MED/EXEC
20	Vartanian, J.	10/15/18	MED/EXEC
21	McNerney, R.	11/05/18	MED/EXEC
22	McKay, R.	03/28/19	MEDIUM
23	Burshtan, D.	06/24/19	MEDIUM
24	Ribitsch, R.	10/04/19	MEDIUM
25	Colton, J	06/03/20	MEDIUM
26	Ristevki, B.	10/02/20	MED/EXEC
27	Elminoufi, G.	01/08/21	MED/EXEC
28	McGivern, J.	05/14/21	MED/EXEC
29	Zimmer, C.	05/26/21	EXEC
30	Hong, D.	06/17/21	MED/EXEC
31	Henry, M.	09/28/21	MED/EXEC
32	Ford, W.	09/28/21	MEDIUM
33	Liu, A.	12/28/21	MED/EXEC
34	Blaire, W.	03/31/22	MED/EXEC
35	Holm, B.	06/09/22	MED/EXEC
36	Peterson, J.	07/11/22	MEDIUM
37	Au, J.	07/18/22	EXEC
38	Nosrati, D.	10/03/22	SMALL TYPE A OR B
39	Jimenez, R.	11/08/22	EXEC
40	Ye, M.	03/01/23	MEDIUM
41	Ebrahim, S.	03/09/23	MED/EXEC
42	Osipov, Y.	03/16/23	MED/EXEC
43	Kanfoudi, K.	04/04/23	EXEC
44	Blaire, W.	04/20/23	SMALL TYPE B
45	Nakamura, H.	12/13/23	MED/EXEC
46	Moran, D.	12/13/23	MED/EXEC
47	Liu, E.	02/20/24	EXEC
48	Inskeep, J.	03/18/24	EXEC

49	Slusser, J.	06/26/24	MEDIUM
50	Centers, R.	07/24/24	MED/EXEC
51	Nordel, S.	08/13/24	MED/EXEC
52	Boyarsky, A.	10/28/24	MEDIUM
53	Brandt, J.	11/13/24	MED OR EXEC
54	Willis, T.	1/17/2025	MED/EXEC
55	Arnold, I.	5/6/2025	MED/EXEC
56	Boyarsky, A.	5/23/2025	SMALL A OR B
57	Dimella, R.	6/3/2025	MED/EXEC
58	Goebel, J.	7/21/25	SMALL B
59	Johnson, B.	8/29/25	SMALL A, B, & MED
60	Ristevski, B.	9/9/25	SMALL A OR B
61	Pourkaveh, J.	10/1/25	EXEC
62	Kulakhmetov, M.	10/1/25	SMALL A, B, MED OR EXEC
63	Grau, W.	10/14/25	SMALL A & B
64	Starflinger, P.	10/16/25	MED/EXEC
65	Paterson, F.	10/24/25	SMALL A OR B
66	Baker, M.	10/28/25	SMALL A
67	Panitz, E.	11/3/25	SMALL A OR B

Summary of Changes to Hangar Waiting List

Applicants From Waiting List Who Received Hangars

Choo, K.	1/06/25	Small A or B
Willis, T.	1/17/25	Small A or B
King, W.	2/01/25	Small A or B
Dwoskin, D.	2/26/25	Executive
Starflinger, P.	3/4/25	Small A, B, Med or Exec
Smith, C.	3/24/25	Small B
Ferdon, R.	4/1/25	Small A or B
Adams, C.	4/8/25	Small A or B
Winkelmann, C.	4/10/25	Small B
Hansen, E.	12/16/24	Small A or B
Yau, J.	1/21/25	Small A, B, Med or Exec
Arnold, I.	1/29/25	Small A, B, Med or Exec
Prenter, C.	4/3/25	Small A or B
Cadaval, M.	1/28/25	Small A or B
Atlas, T.	4/8/25	Small A or B
Shimomura, M.	4/25/25	Small A, B, Med or Exec
Broen, P.	7/8/25	Med/Exec
Lind, J.	7/31/25	Small A or B
Schladen, M.	7/31/25	Med
Bohner, R.	8/1/25	Exec
Currie, G.	8/1/25	Small A or B
Belton, D.	4/14/25	Small B, Med or Exec
Haaroff, C.	5/15/25	Small A or B
Brock, D.	5/22/25	Small A or B
Heffernan, K.	5/29/25	Small A, B, Med or Exec
Evans, W.	7/15/25	Small A, B, Med or Exec
Durbin, D.	5/19/25	Small A or B

New Waiting List Applicants Added

Willis, T.	1/17/25	Med/Exec
Baker, M.	2/19/25	Small A or B
Arnold, I.	5/6/25	Med/Exec
Boyarsky, A.	5/23/25	Small A or B
Dimella, R.	6/3/25	Med/Exec
Goebel, J.	7/21/25	Small B
Osipov, Y.	8/1/25	Small A, B, Med or Exec
Johnson, B.	8/29/25	Small A, B, & Med
Ristevski, B	9/9/25	Small A or B
Pourkaveh, J.	10/1/25	Executive
Kulakhmetov, M.	10/1/25	Small A, B, Med or Exec

Grau, W.	**10/14/25**	**Small A & B**
Starflinger, P.	**10/16/25**	**Med/Exec**
Paterson, F.	**10/24/25**	**Small A or B**
Baker, M.	**10/28/25**	**Small A**
Panitz, E.	**11/3/25**	**Small or B**

Request For Refund/Removal From Hangar Waiting List

Goebel, J.	**1/18/25**	**Small B**
Striplin, D.	**2/19/25**	**Executive**
Gahbro, A.	**4/2/25**	**Small A or B**
Thuli, N.	**4/2/25**	**Small A or B**
Sheridan, T.	**1/14/25**	**Small A or B**
Archambault, B.	**3/17/25**	**Small A**
Baker, M.	**2/19/25**	**Small A or B**
Goebel, J.	**1/27/25**	**Small B**
Dulon, L.	**2/14/25**	**Small B or Med**
Shaw, D.	**4/25/25**	**Small A, B, Med or Exec**
Keskintepe, L.	**9/3/25**	**Small A or B**
Paterson, F.	**7/3/25**	**Small A or B**

***Hangars Received Through Advertisement (not from Waiting List)**

NON-AVIATION HANGAR WAITING LIST

1	Pudumjee, V.	06/24/22	SMALL
2	Rodriguez, M.	08/04/22	SMALL
3	Lindman, P.	09/06/22	SMALL
4	Lee, B.	09/15/22	SMALL
5	Kane, C.	09/26/22	SMALL
6	Valentino, A	10/24/22	SMALL
7	Tanaka, A.	11/21/22	SMALL
8	Juska, P.	11/23/22	SMALL
9	Aparicio, A.	02/09/23	SMALL
10	Flaig, F.	03/28/23	SMALL
11	Thomson, J.	05/08/23	SMALL
12	Viking, J.	08/22/23	SMALL
13	Fitton, L.	09/05/23	SMALL
14	Yau, V.	09/18/23	SMALL
15	Giebler, M.	10/02/23	SMALL
16	Thompson, S.	10/12/23	SMALL
17	Gentile, M.	11/29/23	SMALL
18	Dunbar, K.	01/23/24	SMALL
19	Lorman, M.	05/16/24	SMALL
20	Haddad, S.	08/12/24	SMALL
21	Nagandla, S.	03/25/25	SMALL

Summary of Changes to Non-Aviation Hangar Waiting List

Applicants From Waiting List Who Received Hangars

New Waiting List Applicants Added

Nagandla, S. 3/25/25 Small

Request For Refund/Removal From Hangar Waiting List

*Hangars Received Through Advertisement (not from Waiting List)

REPORT 5

EVENTS REQUIRING EMERGENCY RESPONSE

FOR THE MONTH OF SEPTEMBER 2025

OPERATIONS	----------TOTAL	8,395
INCIDENTS	----------	1
ACCIDENTS	----------	0
PERCENT OF OPERATIONS	----------	.01

Airport Incidents:

September

09/14/25 – 12:00 – Mobile 102 responded to a Cessna 172S aircraft. The aircraft lost brakes at Taxiway Echo and Alpha. The aircraft was towed to a tiedown without incident. TFD not required.

Definitions:

ACCIDENTS: An occurrence associated with the operation of an aircraft, which takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage.

SUBSTANTIAL DAMAGE means damage or failure which adversely affects the structural, strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component. Engine failure or damage limited to an engine if only one engine fails or is damaged, bent fairings or cowling, dented skin, small punctured holes in the skin or fabric, ground damage to rotor or propeller blades, and damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wingtips are not considered "substantial damage".

SERIOUS INJURY means any injury which: (1) requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received; (2) results in a fracture of any bone (except simple fractures of fingers, toes, or nose); (3) causes severe hemorrhages, nerve, muscle or tendon damage; (4) involves any internal organ; or (5) involves second or third degree burns; or any burns affecting more than 5% of the body surface.

INCIDENT: Any occurrence other than an accident associated with the operation of an aircraft, which affects or could affect the safety of operations.

NOTE: Per the FAA, Airport Operations totals will no longer be reported for the previous month. Due to automation, the totals will now be reported two months after they occur.

REPORT 6

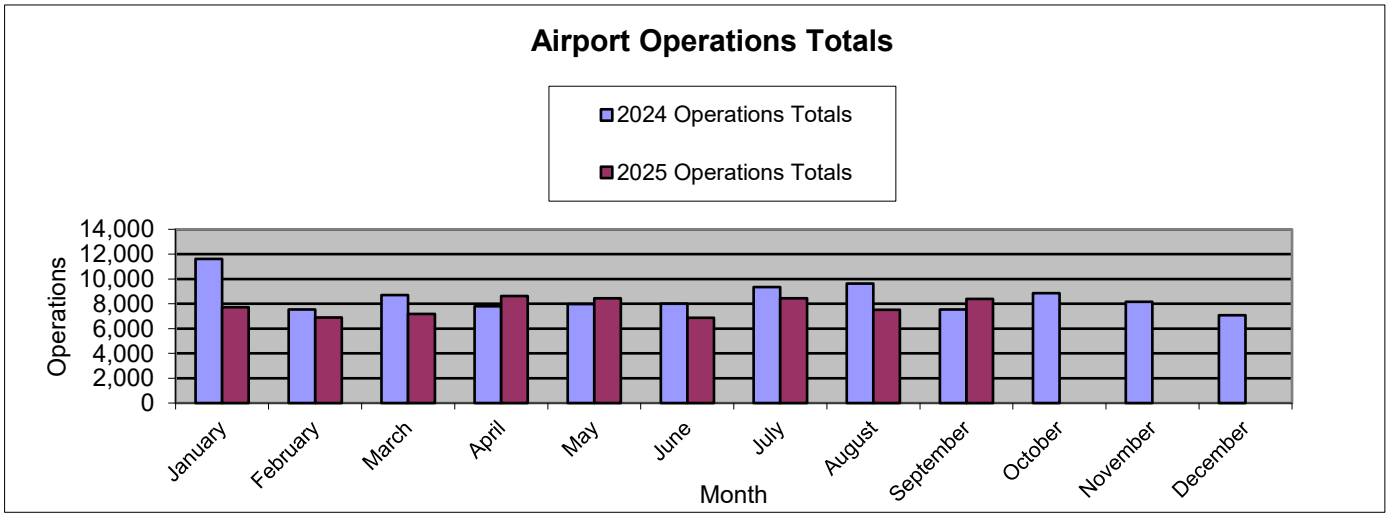
AIRFIELD OPERATIONS STATUS
ZAMPERINI FIELD

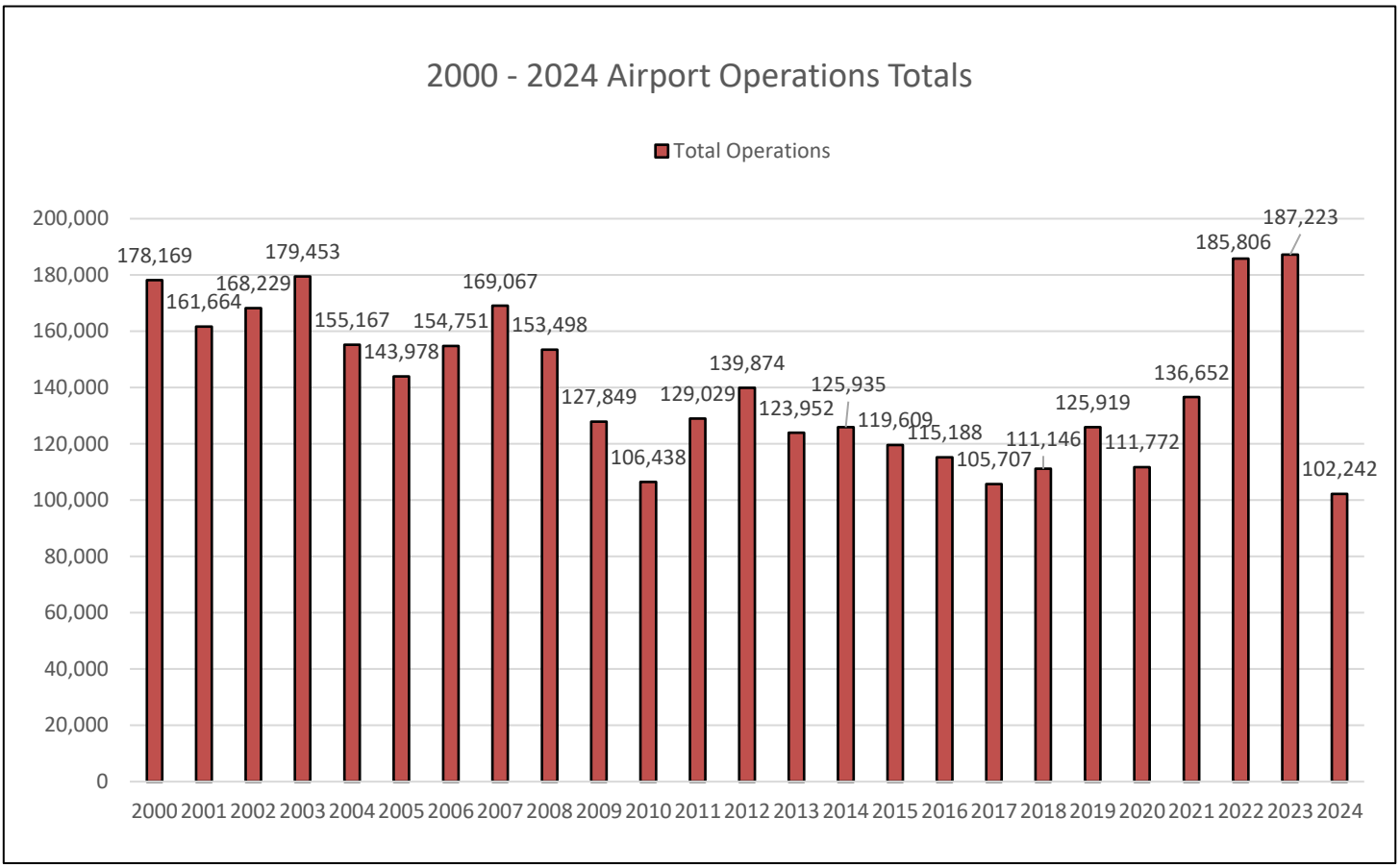
OPERATIONS ACTIVITIES FOR THE MONTH OF **SEPTEMBER 2025**

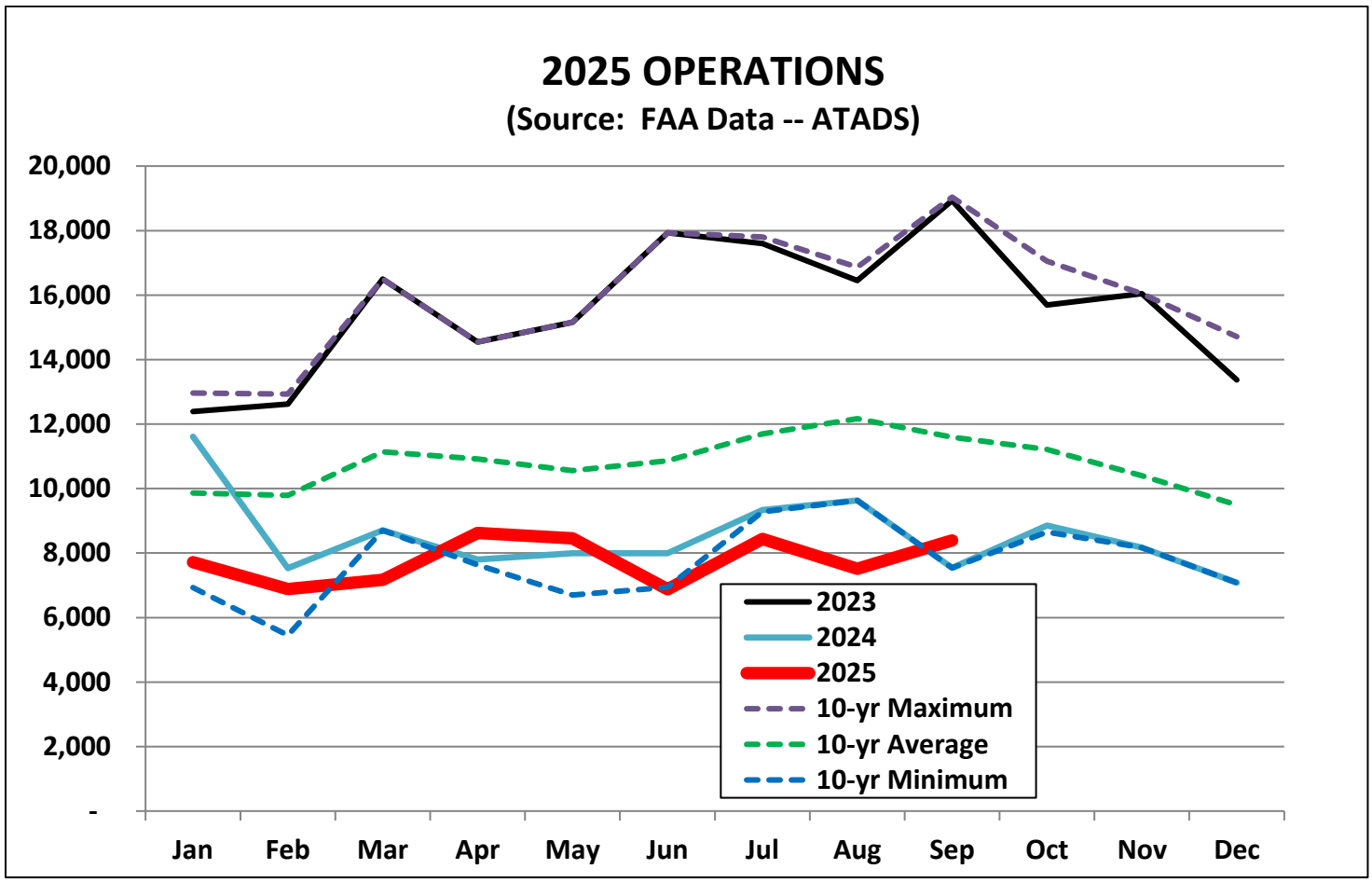
- Morning runway, taxiway, and hospital pad/lights checked for safety
- Foreign object debris checked on all runways and taxiways
- Storm water check done (for foreign object debris) for all drains, inlets, and outlets
- All runways, taxiways, and ramp areas vacuum swept
- Various hangars cleaned and prepared for rental
- All taxiway lights and signs sprayed for weeds
- All runways and taxiways swept
- Large items removed from trash bin area
- FOD removed from fence line

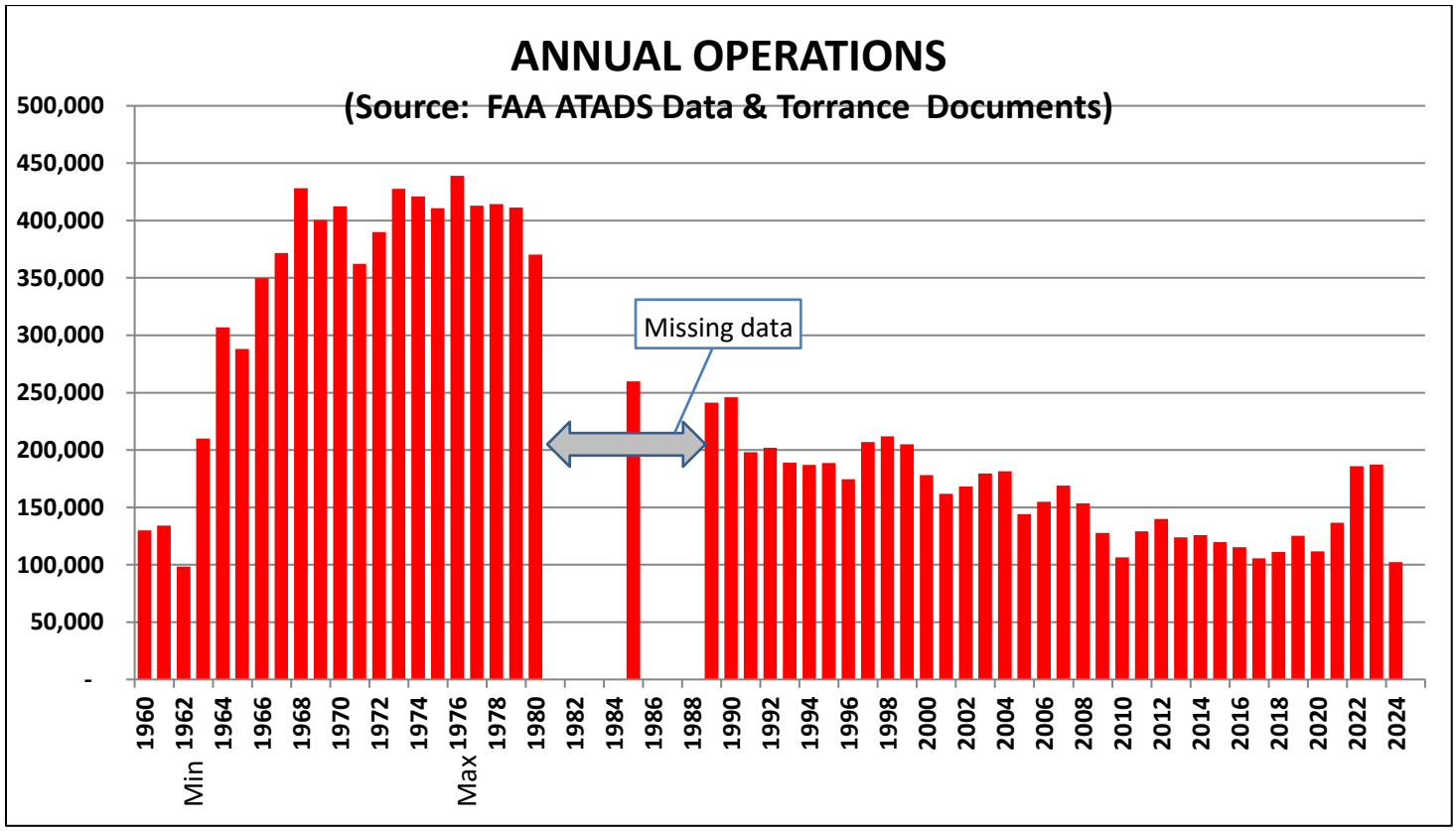
2025/2024 OPERATIONS TOTALS

Month	Year	Operations		Month	Year	Operations
January	2025	7,715		January	2024	11,609
February	2025	6,888		February	2024	7,532
March	2025	7,168		March	2024	8,705
April	2025	8,623		April	2024	7,797
May	2025	8,452		May	2024	7,990
June	2025	6,877		June	2024	7,994
July	2025	8,437		July	2024	9,334
August	2025	7,515		August	2024	9,633
September	2025	8,395		September	2024	7,545
				October	2024	8,854
				November	2024	8,168
				December	2024	7,081




2000 - 2024 Airport Operations Totals
Total Operations
200,000
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
178,169
161,664
168,229
179,453
155,167
143,978
154,751
169,067
153,498
127,849
106,438
129,029
139,874
123,952
125,935
119,609
115,188
105,707
111,146
125,919
111,772
136,652
185,806
187,223
102,242
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024


2025 OPERATIONS
(Source: FAA Data -- ATADS)
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
-
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
2023
2024
2025
10-yr Maximum
10-yr Average
10-yr Minimum


ANNUAL OPERATIONS
(Source: FAA ATADS Data & Torrance Documents)
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
-
Missing data
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
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2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024
Min
Max

7B

Transition to Unleaded Fuel at Torrance Airport

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Question

- **Automobiles transitioned to unleaded fuel starting in the 1970s. Why are piston powered aircraft still using leaded fuel?**

How Dangerous is Lead in the Atmosphere?

- EPA began to phase out lead in gasoline starting in the 1970's and leaded gasoline was fully prohibited after 1995
- As a result of EPA's regulatory efforts including the removal of lead from motor vehicle gasoline, levels of lead in the air decreased by 98 percent between 1980 and 2014. (EPA est.)
- Americans who grew up in the 1960s and 1970s, when the burning of leaded gasoline was at its peak, had the greatest exposure, losing up to six IQ points on average, the study found. Mar 9, 2022 (Yale Study)
- 180 million gallons of 100LL are consumed in the US yearly
- 135 billion gallons of motor fuel are consumed in the US yearly
- 100LL yearly consumption is equivalent to ½ a day's worth of motor fuel

What are Atmospheric Lead Levels Now?

- South Coast Air Quality Management District Study – Whiteman airport
  - The 24-hour results at Whiteman airport showed lead levels between 8 and 17 ng/m^3 with an average ambient concentration of 12.1 ng/m^3, which is substantially lower than U.S. EPA's national standard (150 ng/m^3).
  - These levels were also within the typical range of concentrations measured Basin-wide as part of MATES V
  - In other words, the atmospheric lead concentration near airports is not higher than elsewhere in LA basin

Why Do We Want To Stop Using 100LL?

- Health risks
  - Minimal effect
- Source
  - Tetraethyl lead is manufactured by a single company in the UK that wants to eliminate that product
- Reduced aircraft maintenance
  - Oil contamination
  - Spark plug contamination
  - Staining on the aircraft belly
- Public pressure
  - Using leaded fuel is a bad look for the aviation community

Challenges

- What is a Supplemental Type Certificate or STC
- Aircraft in the US are certified by the FAA using a Type Certificate. Once an aircraft manufacturer designs an airplane that is in compliance with all of the certification rules, a Type Certificate is issued. The manufacturer can then produce other aircraft that meet the type certificate and they are also approved
- Change to aircraft that do not comply with the Type Certificate can be approved using a Supplemental Type Certificate. The specified fuel for most piston aircraft is 100LL. Operating on any other fuel requires an STC.
- Fuels can be approved using the STC process, or can receive a fleetwide approval by the FAA (comply with an approved ASTM specification)

Who Is Making Unleaded Avgas Now

- **GAMI G100UL**
  - STC includes all FAA type-certificated spark-ignition piston engines and all fixed wing aircraft (helicopters will follow)
  - Vitol Aviation has produced 1.3 million gallons
    - Reid-Hillview, CA
    - Watsonville, CA
    - Tupelo, MS
- **Swift 100R**
  - STC for Lycoming IO-360-L2A engines and Cessna 172 R/S
  - California's San Carlos Flight Center (SCFC) has transitioned its fleet of Cessna 172 aircraft to using Swift Fuels' 100R fuel
  - Suppler of 94UL (basically 100LL without the lead)
    - Plans to discontinue once 100R is made available
- **LyondellBasell/VP Racing's UL100E**
  - Undergoing testing

GAMI Timeline

- **G100UL** from General Aviation Modifications, Inc. Key milestones
- **2009:** GAMI began its development of an unleaded aviation fuel.
- **July 2021:** The FAA granted initial STC approvals for G100UL for a limited number of engines and airframes.
- **September 1, 2022:** The FAA issued a fleetwide STC for G100UL, which covers every spark ignition piston engine and airframe in the FAA's Type Certificate database. This was the culmination of a nearly 13-year development process.
- **September 2022 onwards:** GAMI has been working on scaling up production to make G100UL commercially available to the public, which has presented logistical and cost challenges.

Other Timeline

- **PAFI**
  - The Piston Engine Aviation Fuels Initiative (PAFI) was established in 2014 to support the evaluation of candidate-unleaded fuels to replace approved leaded gasoline, with the objective of ultimately qualifying a fleet-wide solution.
  - In early September 2018, Swift announced a suspension in their PAFI work activities to pursue another fuel outside of the program.
- **EAGLE**
  - In February 2022, The EAGLE (Eliminate Aviation Gasoline Lead Emissions) initiative is a U.S. government and industry partnership, launched, with the goal of safely transitioning piston-engine aircraft from leaded 100LL fuel to unleaded alternatives by the end of 2030

Unknowns

- 100LL is a fuel specification and is made by several producers
  - Completely fungible, intermixable
- Will one replacement fuel win in the marketplace
- If multiple fuels survive:
  - Will every airplane need multiple STCs
  - Are all fuels fungible, intermixable with
    - With 100LL
    - With each other
  - Will alternate fuels:
    - Octane ≥ 100, equivalent or greater detonation resistance
    - Shelf life ≥ 1 year
    - Weight and energy content similar to 100LL

Thank You For Your Attention

QUESTIONS?