



CITY OF NEWPORT BEACH AVIATION COMMITTEE AGENDA

City Council Chambers - 100 Civic Center Drive, Newport Beach 92660

Wednesday, July 22, 2026 - 5:00 PM

Aviation Committee Members:

Mayor Lauren Kleiman, Chair

Mayor Pro Tem Noah Blom, Vice Chair

Kurt Belcher, Committee Member

Nicholas Prytherch, Committee Member

Michael Radigan, Committee Member

Jack Stranberg, Committee Member

M.C. Sungaila, Committee Member

Staff Members:

Tara Finnigan, Assistant City Manager

Lorig Harutunian, Management Analyst

Sheila Betts, Administrative Assistant

The Aviation Committee meeting is conducted in accordance with the Ralph M. Brown Act. In compliance with the Brown Act, the Aviation Committee agenda must be posted at least seventy-two (72) hours prior to each regular meeting. The Act also requires that members of the public be provided an opportunity to comment on agenda items before the Committee, as well as on matters not listed on the agenda but within the subject matter jurisdiction of the Aviation Committee. The Chair may limit public comments to a reasonable duration, generally three (3) minutes per speaker.

Members of the public may submit questions and comments in writing for the Aviation Committee's consideration by emailing Aviation@newportbeachca.gov no later than 10:00 a.m. on the day of the meeting to allow sufficient time for the Aviation Committee to review the materials. All submitted emails will be made part of the official record.

The City of Newport Beach is committed to full compliance with the Americans with Disabilities Act (ADA). If you require special assistance to participate in this meeting, the City will make every reasonable effort to accommodate your needs. Please contact the City Manager's Office in advance of the meeting at (949) 644-3002 or sbetts@newportbeachca.gov so that appropriate arrangements can be made.

NOTICE REGARDING PRESENTATIONS REQUIRING USE OF CITY EQUIPMENT

Any presentation requiring the use of the City of Newport Beach's equipment must be submitted to the City Manager's Office 24 hours prior to the scheduled meeting.

I. CALL MEETING TO ORDER

II. ROLL CALL

III. APPROVAL OF MINUTES

[Draft Minutes from April 27, 2026](#)

[Additional Materials Received Aviation Committee 7.22.26 Jim Mosher](#)

IV. CURRENT BUSINESS

a. Oral Reports

- i. Report from the County of Orange - Orange County Board of Supervisors' Vice Chair Katrina Foley will provide an update on County airport-related matters.
- ii. Federal Advocacy Update - Zac Commins, Carpi & Clay, will provide an update on aviation-related federal legislation and the firm's advocacy efforts on behalf of the City.

- iii. Chair's Report - Aviation Committee Chair Lauren Kleiman will discuss the May 27 Orange County Council of Governments conference, recent meetings between the City of Newport Beach and the Department of Transportation and between the City and Ontario International Airport, Assembly Bill 431, and the Orange County Grand Jury Report titled "Connecting Orange County to LAX: Evaluating Transportation Options."

[Assembly Bill 431](#)

[City Letter Opposing AB 431 Unless Amended](#)

[Orange County Grand Jury Report "Connecting Orange County to LAX"](#)

[Additional Materials Received AviationCommittee 7.22.26 JimMosher](#)

b. Ontario International Airport Presentation

Curt Hagman, San Bernardino County Supervisor and Vice Chair of the Ontario International Airport Authority (OIAA), will discuss the progress made at the airport since the OIAA assumed control a decade ago and plans for the airport's future.

V. PUBLIC COMMENTS ON NON-AGENDA ITEMS

Public comments are invited on agenda and non-agenda items generally considered to be within the subject matter jurisdiction of the [Board/Committee/Commission]. Speakers must limit comments to three (3) minutes. Before speaking, we invite, but do not require, you to state your name for the record. The [Board/Committee/Commission] has the discretion to extend or shorten the speakers' time limit on agenda or non-agenda items, provided the time limit adjustment is applied equally to all speakers. As a courtesy, please turn cell phones off or set them in the silent mode.

[Additional Materials Received AviationCommittee 7.22.26 JimMosher](#)

VI. NEXT MEETING: October 28, 2026

VII. ADJOURNMENT



CITY OF NEWPORT BEACH AVIATION COMMITTEE REGULAR MEETING MINUTES

Monday, April 27, 2026 - 5 p.m.
City Council Chambers – 100 Civic Center Dr., Newport Beach, CA 92660

Aviation Committee Members:

Mayor Lauren Kleiman, Chair
Mayor Pro Tem, Noah Blom, Vice Chair

Kurt Belcher, Committee Member
Nicholas Prytherch, Committee Member
Michael Radigan, Committee Member
Jack Stranberg, Committee Member
M.C. Sungaila, Committee Member

Staff Members:

Tara Finnigan, Assistant City Manager
Lorig Harutunian, Management Analyst
Errica Garrett, Administrative Assistant

I. CALL MEETING TO ORDER

Chair Lauren Kleiman called the meeting to order at 5:04 p.m.

II. ROLL CALL

All members were present except for Committee Member Belcher and Sungaila. Committee Member Sungaila arrived at 5:11 p.m.

III. APPROVAL OF MINUTES

Chair Kleiman opened public comment, and there was none.

A **Motion** was made by Vice Chair Noah Blom, and was seconded by Committee Member Michael Radigan, to approve the Draft Minutes for January 26, 2026.

Ayes: Kleiman, Blom, Prytherch, Radigan, and Stranberg
Nays: None
Abstain: None
Absent: Belcher and Sungaila

IV. CURRENT BUSINESS

a. Oral Reports

- i. **Report from the County of Orange – Orange County Board of Supervisors' Vice Chair Katrina Foley will provide an update on County airport-related matters.**

Chair Kleiman stated that public comments on the Oral Reports will be taken at the conclusion of all four reports.

Chair Kleiman reported that Orange County Board of Supervisors Vice Chair Katrina Foley is unavailable tonight and requested that her District Representative, Robbie LaBounty, provide the update.

Mr. LaBounty reported that the Board of Supervisors recognized the 2025 Fly Friendly award recipients earlier in April. He stated that John Wayne Airport (JWA) Director Charlene Reynolds has continued her outreach to commercial carriers to encourage them to use newer and quieter equipment whenever possible. He added that newer generation aircraft represented nearly a third of air carrier operations at JWA in the third quarter of 2025. He noted that Vice Chair Foley worked to secure six tie-down spots at Jay's Aviation for smaller aircraft due to concerns from local pilots. He added that Vice Chair Foley is also working with JWA and Jay's to identify other new space opportunities.

Mr. LaBounty reported that JWA continues to look for creative low-impact revenue opportunities inside the terminal, including new vending machines and other automated vending options. He noted that the two Pokémon vending machines generated \$50,000 in a month as an example of their success in improving the traveler experience. He stated that Vice Chair Foley remains focused on protecting the Settlement Agreement, reducing aviation noise where the County has authority, maintaining strong relationships with Newport Beach residents, supporting responsible general aviation, and keeping JWA financially self-supporting.

ii. Federal Advocacy Update – Zac Commins, Capri & Clay, will provide an update on the aviation-related federal legislation and the firm's advocacy efforts on behalf of the City.

Zac Commins, principal at Capri & Clay Government Relations, reported that the Federal Aviation Administration (FAA) had a comprehensive organizational restructuring that included the creation of a centralized aviation safety management system, an office responsible for modernizing air traffic control and an advanced aviation technologies office to oversee the integration of drones, Advanced Air Mobility (AAM), and other emerging technologies. He added that these changes are designed to help implement the FAA's Flight Plan 2026 strategy.

Mr. Commins reported that the National Transportation Safety Board (NTSB) released its report on the mid-air collision near Ronald Reagan Washington National Airport, concluding that the crash was preventable and stemmed from long-standing safety risks. Congress is working on multiple bills to address the risks identified in the report. Due to objections from the Pentagon, the House of Representatives voted down the Senate-passed Rotorcraft Operations Transparency and Oversight Reform (ROTOR) Act that would have expanded the use of Automatic Dependent Surveillance - Broadcast (ADS-B) cockpit technology and limited when military aircraft can disable location-sharing systems. The House passed its own aviation safety bill, the Airspace Location and Enhanced Risk Transparency (ALERT) Act, to address safety concerns raised in the NTSB report while allowing more exceptions for military aircraft. The House also passed the Supersonic Aviation Modernization Act, which would allow for civil supersonic flights within the national airspace under certain conditions.

Mr. Commins reported that in March, the FAA selected eight proposals for the AAM Electric Vertical Take-off and Landing (eVTOL) Integration Pilot Program (EIPP), which is designed to accelerate the integration of eVTOL aircraft into the national airspace

system. The eight selections cover a wide range of operational concepts including urban air taxis, regional passenger transportation, cargo and logistics networks, emergency medical response, autonomous flight technologies, and offshore energy sector transportation. Several California-based companies, such as Joby Aviation, are participating in the pilot program, and operations are expected to begin as early as this summer.

Mr. Commins reported that the City successfully worked with Senators Alex Padilla and Adam Schiff, along with Representative Dave Min, to include language in the Fiscal Year 2026 transportation appropriations report for both the House and Senate, directing the FAA to engage with local communities, including those not represented at airport roundtables, about how AAM will integrate into the national airspace system. The City has requested that similar language be included in the FY 2027 bills focusing on the implementation of the Community Collaboration Program. The process is underway for FY 2027 in the House Appropriations Committee, with further updates to come after meetings in late May and early June.

iii. Air Carrier Fleet Optimization – Committee Member Jack Stranberg will provide an update on recent discussions he and Chair Kleiman have had with commercial air carriers.

Committee Member Stranberg reported that the City has met with commercial air carriers about their equipment use for about two and a half years and has seen a substantial increase in Next Generation (NextGen) equipment coming to JWA. In the past few weeks, he and Chair Kleiman communicated with Alaska Airlines, Breeze Airways, Southwest Airlines and American Airlines, with discussions for a meeting with Delta Airlines ongoing.

Committee Member Stranberg and Chair Kleiman met with senior officials from American Airlines in June 2023 which was moving its primary NextGen base from Miami International Airport to Dallas Fort Worth International Airport. They discussed the advantages of using this equipment for flights to JWA. All 18 daily American flights out of JWA will be on either Boeing MAX 8 or Airbus New Engine Operation (NEO) aircraft, and Mr. Stranberg cited this as an example of the benefits of relationship building. Delta and United Airlines continue to add MAX 8 and NEO flights to JWA, accounting for about half of their flights. American Airlines is working diligently with its air crews on the unique speed and altitude required for JWA takeoffs and landings.

Committee Member Stranberg reported that Alaska Airlines has a small order for MAX 8s and intends to initially use them for long-haul flights from its hub at Seattle-Tacoma International Airport but added that JWA will be a priority for Alaska as it increases its MAX 8 fleet in the future.

Committee Member Stranberg reported that Southwest Airlines ordered 314 MAX 7s from Boeing. Boeing is in the testing stage with its MAX 7s, and the aircraft is expected to be certified by the FAA later in 2026, with a likelihood of Southwest using its new MAX 7s at JWA in 2027. Southwest's use of MAX 7s could increase JWA's NextGen aircraft percentage to over 60%.

iv. Recap of 2026 UC Davis Aviation Noise and Emissions Symposium – Committee Member Michael Radigan and Management Analyst Lorig Harutunian will share highlights of this year's symposium.

Committee Member Radigan discussed the content of this year's symposium, including

the sessions on Advanced Air Mobility (AAM). He noted that 80% of crashes are caused by pilot error, adding that it seems surprising that there is not a heavier lean towards autonomous flights as opposed to human-piloted ones. He expects that there will likely be human pilots in the type of AAM aircraft discussed at the symposium.

The City must prepare its infrastructure, including location and power sources, for the future arrival of eVTOL aircraft. He added that the City should be thinking of how the new aircraft could benefit residents.

Management Analyst Lorig Harutunian reported that AAM, drones and aviation-related noise were discussed at the symposium. She explained how cities' planning divisions will play a central role in identifying vertiport locations, their approval process, and zoning. There are still unknowns, such as noise levels and logistics, regarding the use of drones for routine matters like package delivery. The symposium was helpful for making connections with municipalities, airports, community groups and other organizations, to share ideas about these emerging technologies.

Chair Kleiman opened public comment on the reports.

Jim Mosher noted that several presentations discussed encouraging quieter aircraft at JWA and cautioned against promising the airlines that JWA can raise its passenger capacity for the final four years of the Settlement Agreement by lowering noise levels in 2026. He added that merely ending the year more quietly does not mean that significantly increasing the passenger capacity would not, by itself, incur a significant new impact, as the additional noise could push noise levels above the reduction seen.

Vice Chair Blom thanked Committee Member Stranberg and Chair Kleiman for their work with the commercial air carriers.

Chair Kleiman encouraged the City to send letters to the air carrier partners thanking them for being good neighbors.

Committee Member Stranberg noted that American Airlines should receive a letter. He added that letters sent in the past to Southwest and Spirit received positive responses within their respective organizations.

Chair Kleiman closed public comment.

Chair Kleiman received and filed the reports.

b. Joby Aviation Presentation

Ryan Brodley, business development principal, West Coast, and Karen Coronel, state and local government affairs for Joby Aviation, will provide an overview of the company's work in developing electric vertical takeoff and landing aircraft for commercial passenger service.

Ryan Brodley of Joby Aviation reported that Joby's eVTOL aircraft is close to being FAA certified. He discussed Joby's electric air taxi, noting that it has a range of 100 miles and a noise signature of 65 decibels from 300 feet away during takeoff and landing, and 45 dB from the ground while at cruising altitude.

Mr. Brodley reported that Joby formed partnerships with Delta Airlines and Uber Technologies, among others. Clay Lacy Aviation is a partner that is already a Fixed-Based Operator (FBO) at JWA.

Mr. Brodley reported that Joby has been flight testing for many years and recently

completed the first eVTOL demonstration flights connecting Manhattan to John F. Kennedy International Airport. He expressed Joby's commitment to Los Angeles County and Orange County and added that Joby is also looking to integrate heliports into commercial buildings and parking garages.

Karen Coronel of Joby's state and local government affairs team reported that California's two EIPP applications were denied but expressed excitement about what the EIPP will contribute to the entire industry. She added that Joby will be demonstrating its air taxi and other equipment at sites in Florida and Texas. She added that Joby is looking to work with the FAA as part of the EIPP to ensure efficient operations within the national air space, certify pilots and training methods, and address maintenance matters and infrastructure.

Ms. Coronel reported that Joby has a series of demonstration flights slated for the next year. Joby will be working on policy, infrastructure, and regulatory work connected to the EIPP that will impact California. She added that the California Department of Transportation (Caltrans) is leaning into the AAM framework that the FAA is building. She expressed hope that Joby will have its aircraft in the local market by the middle of 2027 so that it can build up to 2028 when the area hosts the Summer Olympic Games.

In response to Committee Member Sungaila's inquiries, Mr. Brodley clarified that Joby's preferred flight altitude is 1,500 feet, but they will be permitted to fly as low as 400-500 feet to match existing helicopter corridors. Joby has been working with Clay Lacy for a couple of years, and is eager to welcome electric aircraft made by Joby and others to its FBO.

In response to Committee Member Sungaila's inquiries, Ms. Coronel noted that this is a new industry and it will likely grow slowly around general aviation airports. She added that the future could certainly include vertiports on top of parking garages, depending on factors such as the structure's stability and ability to accommodate electrical recharging needs. She agreed that Joby should be concerned about localized impacts of its service, such as automobile traffic, and this makes municipal communication and community engagement critical. She added that many State regulations will require working with local governments.

In response to Committee Member Sungaila's inquiry, Mr. Brodley clarified that Joby has a tiered strategy for growth, with the first tier being access to existing airports such as JWA and Fullerton Municipal Airport. He added that the second tier would include gaining access to existing helipads, noting that many are at hospitals or police stations, making them inappropriate for general air taxi use. He added that they would also engage developers who are interested in the traffic that these aircraft could bring to their residential and commercial properties as an amenity. He stated that their third tier of creating new vertiports is a much longer-term matter due to the permitting and other processes involved.

In response to Committee Member Sungaila's inquiry, Ms. Coronel agreed that their technology could someday be used in place of work currently handled by drones. She noted that the EIPPs in Utah and North Carolina submitted a joint application that will allow them to test some products.

In response to Committee Member Stranberg's inquiry, Mr. Brodley stated that Joby's products will follow Visual Flight Rules (VFR) for the first couple of years, with potential for Instrument Flight Rules (IFR) in the future.

Chair Kleiman opened public comment.

In response to Chair Kleiman's inquiry, Mr. Brodley stated that one of the first conversations Joby has with any potential site is about electrical power, adding that they are considering

the implementation of battery energy storage systems to lessen the amount of energy pulled from the electrical grid and add resiliency. He noted that, initially, Joby is looking at single chargers and not 3-4 pad vertiports with higher power needs.

Chair Kleiman discussed working with the South Coast Air Quality Management District (AQMD), utility partners, and the California Air Resources Board (CARB) about how to bring vertiports online without adding to the electrical grid's load and creating other issues.

In response to Lorian Petry's inquiry, Ms. Coronel reported that Joby is working with the FAA on how its aircraft will integrate into the air traffic control system. Mr. Brodley added that Joby expects to operate within the existing airspace procedures on day one, similar to current helicopter operations.

In response to Committee Member Sungaila's inquiry, Ms. Coronel encouraged continued discussions with the Committee and requested information on community events where Joby can participate and educate the public.

Chair Kleiman closed public comment.

Chair Kleiman received and filed the report.

c. Regular Meeting Schedule Discussion

City staff and the committee will discuss and select a new regular meeting day and time.

Assistant City Manager Tara Finnigan provided options for moving the committee's regular meeting day. The committee members agreed that a quarterly meeting on the fourth Wednesday of the month at 5 p.m. works best, with the next meeting set for July 22.

Chair Kleiman opened public comment, and there was none.

V. PUBLIC COMMENTS ON NON-AGENDA ITEMS

Ron Rubino, speaking on behalf of Still Protecting Our Newport (SPON), appreciated the meeting and its discussion, adding that SPON is interested in AAM and would like to be involved. He invited the Committee to attend SPON's annual meeting on May 31 at 9 a.m., where the Settlement Agreement will be one of the things discussed. He commended the work of the City and County for its collaboration on improving JWA.

Sue Dvorak requested additional information about what the City's plan will be for vertiport development, including zoning and a potential timeline.

Vice Chair Blom stated that there have been internal discussions about vertiports. There is currently nothing in the City's zoning code to allow one. He reported that changes to zoning have not yet been discussed, and that they would seek recommendations from the Committee and County when the discussion happens.

VI. NEXT MEETING: TBD

Chair Kleiman set the next meeting for July 22, 2026.

VII. ADJOURNMENT

Chair Kleiman adjourned the meeting at 6:20 p.m.

July 22, 2026, Aviation Committee Comments

The following comments regarding the Newport Beach [Aviation Committee](#) meeting [agenda](#) are from:
Jim Mosher (jimmosher@yahoo.com), 2210 Private Road, Newport Beach 92660 (949-548-6229)

Item III. Draft Minutes from April 27, 2026

The draft minutes appear to have been carefully proofread. I have no corrections to suggest, but I do have these comments:

Page 3, Item iii, paragraph 2, sentence 1: “*Committee Member Stranberg and Chair Kleiman met with senior officials from American Airlines in June **2023** which was moving its primary NextGen base from Miami International Airport to Dallas Fort Worth International Airport.*”

Comment: Are the minutes correct in attributing American’s increase in Boeing MAX 8 operations at JWA to a conversation nearly three years before? Or was some later year intended?

Item IV.a.i. Report from County of Orange

I cannot anticipate the content of the oral report, but the following topics are typically included:

Newer Generation Aircraft

Both the City and the airport have shown interest in the increased use of newer generation aircraft by the regularly-scheduled commercial carriers at JWA.

The current list of such aircraft consists of the Airbus 320-200 Neo, 320-100 Neo, 220-100, 220-300 and Boeing 737-MAX 8 (displayed by JWA in [WebTrak](#) with their [IATA codes](#) A20N, A21N, A220, A223 and B38M).

The following graphic shows the percentage of these newer generation in each carrier’s operations (as shown in WebTrak) by month through noon on Saturday, July 18, 2026, as well as the overall percentage out of all regularly-scheduled operations, which in July so far is at 43%.

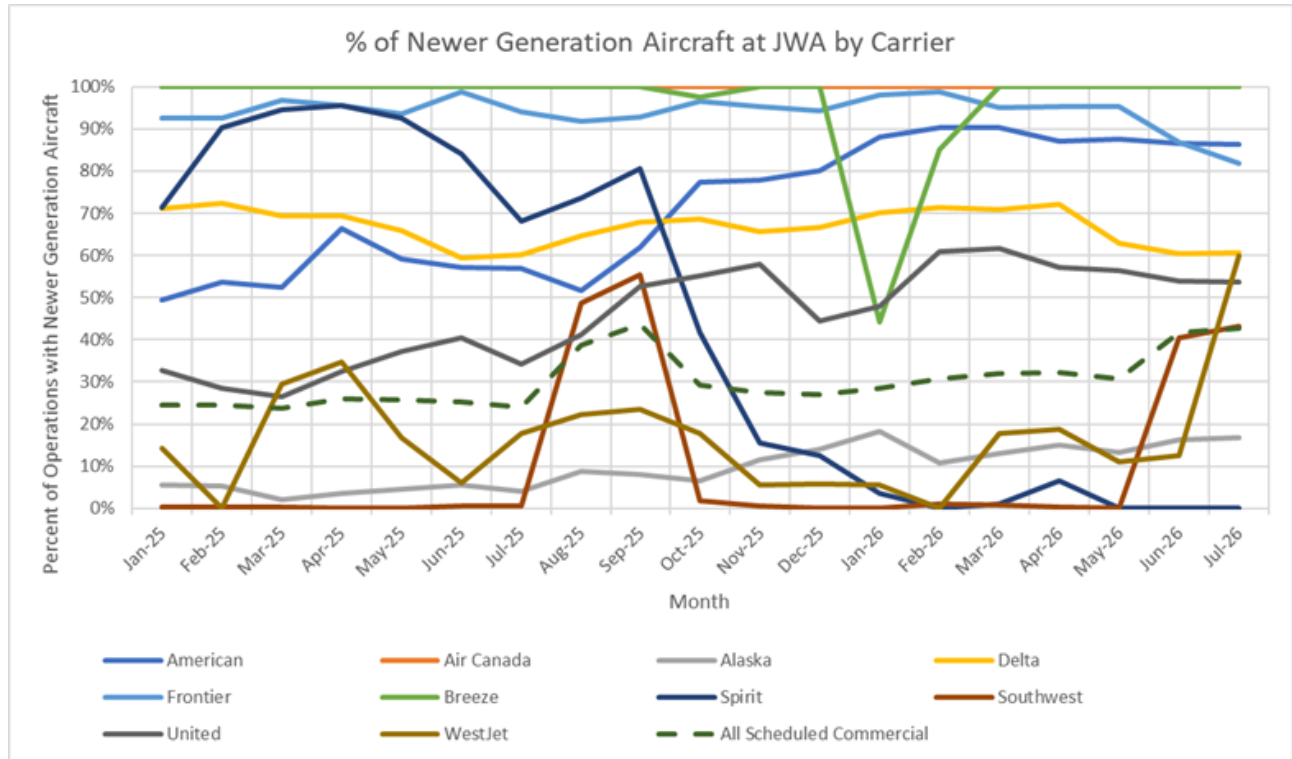
At the top of the chart are Air Canada, which has been at 100% throughout this period, and Breeze, which has been at 100% for most of it.

Not plotted are Allegiant, Horizon, JetSuiteX,¹ Skywest,² FedEx and UPS³ because they would all be at 0% (FedEx and UPS are included in the totals used to calculate the percentages; although extolled by some,).

¹ JetSuiteX, although extolled by some, flies older aircraft models, the [Embraer ERJ-135 and ERJ-145](#), not regarded as “newer generation,” and with no clear newer generation replacement. Its operations are included in the total used to compute the overall percentage of newer generation commercial air carrier operations.

² WebTrak does not distinguish between Skywest’s own commuter operations and those flown under another carrier’s name. All its operations are included in computing the overall percentage.

³ FedEx and UPS are included in the total operations used to compute the overall percentage of newer generation operations in keeping with the practice in Table 9 of JWA’s [Noise Abatement Quarterly Reports](#), where they are listed as an “air carrier” (even though the JetSuiteX and SkyWest commuter operations are not).



Southwest Airlines, which is by far the dominant carrier at JWA, can be seen oscillating between a substantial number of newer generation aircraft (the B38M in their case) and none, which, due to their dominance, moves the overall percentage. A little over half their operations were with the B38M from August 5, 2025, through October 1, 2025, and a slightly smaller percentage starting this June.

WestJet, a very minor operator, also shows a strong (but possibly equally temporary?) uptick, with 6 of its 10 operations so far in July being with the B38M.

Spirit Airlines, which formerly flew a mix of the older A320 and newer A20N, showed a sharp decline in its percentage of A20N operations prior to its terminating service on May 2.

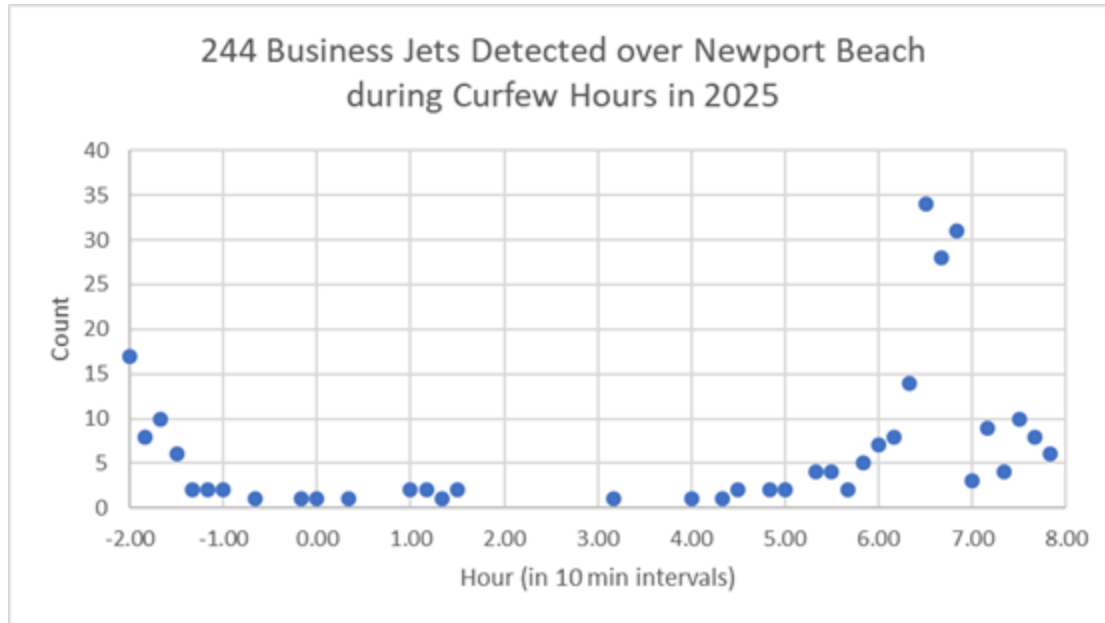
General Aviation Curfew Hours Operations

There is a common belief that without a hard curfew for General Aviation flights,⁴ they can fly over Newport Beach at any time of night they want.

While this is true in theory, the reality is there doesn't, at present, appear to be much demand for very late night or very early morning operations.

The following graphic (-2.00 on the horizontal scale is 10:00 p.m., -1.00 is 11:00 p.m. and 0.00 is midnight) shows the count of curfew hour GA jet operations over the Newport Beach noise monitors in all of 2025.

⁴ They are currently restricted only by curfew hour noise limits stricter than those during the rest of the day.



As can be seen, by far the most common time for curfew hour GA operations is the half hour before the 7:00 non-curfew window opens. But even more popular⁵ is the hour before that window opens at 8:00 a.m. on Sunday. The only other time with noticeable GA curfew activity is the half hour after the departure curfew starts at 10:00 p.m.

For whatever reason, no GA operations were reported between 2:00 and 3:00 a.m. in 2025, and only one for the whole year between 3:00 and 4:00 a.m.

This could, of course, change if JWA became a more welcoming venue for international GA flights.

Fly Friendly

In [written comments](#) I submitted in advance of this Committee's January 26, 2026, meeting, and in [additional comments](#) submitted in advance of the April 27 meeting, I pointed out some problems with the [Fly Friendly scoring](#) revealed by the vendor's relatively recent posting of the readings of each departure at each microphone used to compute the scores.

Examination of those individual readings showed, and continues to show, unexpectedly high and low noise readings.⁶

The unexpectedly high readings appear to result from the vendor's attributing to the GA aircraft all the noise observed as it passes a microphone, whether that noise originates from the plane or

⁵ The popularity of the 7:00 to 8:00 a.m. time slot for GA operations is at least six times greater than it appears in the graphic because it is a curfew time on only 1 day out of 7 (Sunday), compared to the other time slots, which are curfew times 7 days a week. Hence, the most likely time to hear a curfew operation is between 7:00 and 8:00 a.m. (compared to any other hour).

⁶ The existence of unexpectedly high readings is revealed if one uses the on-screen sort function to put the highest noise levels at the top, and observes many at NMS 6S and 7S, which being the most distant stations are expected to yield low rather high readings. Sorting in the reverse order reveals purported events near the threshold of human hearing, which are not intuitively reasonable when the readings at the neighboring monitors were normal.

some other source. This has the effect of unfairly reducing the scores of aircraft that had the bad luck to have their reading taken at a moment when there was a high level of background noise near the microphone.

The unexpectedly low readings appear to result from the vendor's practice of substituting in a reading when, for whatever reason, an actual measurement is not available. These substitute numbers are supposedly based on modeling, but appear to be a set number for a given aircraft model at a given monitor that bears little resemblance to the actual reads typically observed. The rationale for these substitutions is that the vendor assigns a score to each GA departure by averaging its readings over the seven Newport Beach monitors, and a reading at each is needed to compute an average.

Substituting fake data is never desirable, and in this case appears to be completely unnecessary. Rather than insisting on having a score for each departure based on averaging that departure's readings at each of the seven monitoring stations, the vendor could, instead, average all the available actual readings for a given aircraft at each monitor, and then compute its overall score based on the average of that aircraft's seven monitor averages. If there is no missing data, the result will be the same as the vendor's current method. If points *are* missing, only actually observed data will be averaged, and the result will not be biased by the substitution of faked readings. Additionally, the averages for the noise produced by a given aircraft at a given monitor could be computed as the "energy average" of the observations (as is done in preparing the Quarterly Noise Reports), rather than an "arithmetic average." The energy average is by far the more conventional way of averaging decibel readings taken at a given point over time, and more accurately reflects the outsized impact of the high dB readings compared to the low ones. In fact, the dB readings that need to be averaged are themselves energy averages over the time it takes the aircraft to pass.

Because the Fly Friendly scoring reports are available only on-screen and cannot be downloaded for more careful study, the impact of these technical problems with the scoring are difficult to assess. They may affect only a small fraction of the reported numbers, or a much larger one.

What seems more important is whether the program is achieving its goal of reducing GA noise, which would itself seem to be a combination of whether it is possible to substantially reduce GA noise and whether the results (and ways to reduce noise) are being effectively communicated to those producing the noise.

One indication that the communication to the pilots and operators is less effective than it might be about what the program is trying to achieve and what can be done to achieve it is that some of the operators most honored by the Fly Friendly are also unusually prolific violators of the much longer existing [General Aviation Noise Ordinance](#), and might even be at risk of being banned from the airport for repeated GANO violations.⁷ It is a bit as if a citizen honored at a dinner as a town's best driver was simultaneously in court facing possible revocation of their license for repeated DUI's.

⁷ GANO violations are based on exceeding a cumulative measure for the microphone flyover, the [Single Event Noise Exposure Level](#) (SENEL) exceeding specified [Noise Limits](#). It is very difficult for the public to verify from JWA's WebTrak portal if a violation has occurred, because it displays only the instantaneous loudness, from which the peak (Lmax) can be discerned, but not the SENEL. There is however, no reason it could not display the SENEL, especially in the historical playback mode, when the noise monitor circle turns into a rectangle when an event has been detected.

The table below attempts to summarize the results for the Tier 1 Fly Friendly finishers listed in the [2025 Annual Report](#). Tier 1 is the GA operators with highest 15 total number of operations in the year.

Texas-based Baker Aviation (call sign KOW) was honored as the Tier 1 winner in 2025. They were also the Tier 1 winner in 2024, and the Tier 2 (the next 15 top operators) winner in 2023, and the Tier 3 winner in the 2022 starting year. In other words, as their operations have increased they have moved to increasing higher tiers, but always finished at the top of their peers.

2025 Fly Friendly Tier 1 Operator Performance								
Carrier	# FF ops	# WebTrak ops	# curfew ops	% curfew	# violations	% violations	FF Score	Name
all GA jets	45,650	42,232	436	1.03%	100	0.24%		
KOW	485	426	15	3.52%	4	0.82%	86.9	Baker Aviation
WUP	361	360	3	0.56%	1	0.28%	86.8	Wheels Up
EJA	8,298	8,272	4	0.05%	0	0.00%	84.9	NetJets Aviation
PXT	223	152	3	1.97%	2	0.90%	83.7	Pacific Coast Jet
LXJ	3,808	3,701	4	0.11%	2	0.05%	83.2	FlexJet
TIV	337	116	-	0.00%	0	0.00%	83.1	Thrive Aviation
JRE	379	363	10	2.75%	6	1.58%	81.2	Fly Exclusive
* PFT	1,832	-	-	-	1	0.05%	80.8	Paragon Airways
TWY	244	43	-	0.00%	0	0.00%	80.1	Sunset Aviation
KFB	283	63	-	0.00%	0	0.00%	78.9	STAJets
VJA	745	601	1	0.17%	0	0.00%	77.8	Vista America
* TBL	215	-	-	-	1	0.47%	77.2	Bell Aliant Regional Comms
SIS	276	176	1	0.57%	0	0.00%	76.4	Silver Air
EJM	453	187	-	0.00%	0	0.00%	75.0	Executive Jet Management
RGY	1,289	827	55	6.65%	0	0.00%	66.9	Regency Airlines

In addition to the Fly Friendly information shaded in blue, the table shows the number of times each operators aircraft were found in WebTrak, and the number of those WebTrak-displayed operations that occurred during the curfew hours and the number of GANO violations incurred (three of which by an “operator” within three years can lead to a three year expulsion from JWA).

Most WebTrak data is lacking for Paragon Airways (PFT) and Bell Aliant (TBL) because all their aircraft subscribe to the FAA's [Limiting Aircraft Data Displayed](#) (LADD) program, which blocks display of their identity on certain public displays, including WebTrak. For some other operators, a portion of their fleet is enrolled in LADD, resulting in the identified WebTrak operations being less than the operations reported in the Fly Friendly scoring (which apparently has access to the identity of all GA operations). However, the number of GANO violations resulting from each operator's total operations should be reasonably accurate because for the violating aircraft whose identity was not publicly revealed in WebTrak, the tail number and call sign were retrieved with the replay feature in the [ADS-B Exchange](#) flight tracker.

The top line, shaded in salmon, gives the results for all GA jet operations, of which it can be seen about 1% occur during curfew hours and about 0.24% of all GA jet operations result in a GANO violation (all of which in 2025 occurred during curfew hours). Operators exceeding these averages are highlighted in red.

As can be seen, a Baker Aviation jet, despite being honored as the Fly Friendly winner in its tier, is nearly four times as likely as the average GA jet to fly during curfew hours, and also nearly 4 times

as likely to receive a GANO violation citation. This might be compared with the lowest Fly Friendly scorer in the tier, Regency Airlines, which manages to fly a much higher percentage of its operations during the curfew hours, but manages to do so without incurring any GANO noise violations at all.

Not evident from the table, Baker Aviation operates two models of aircraft at JWA, the C750, which is quiet enough in its normal daytime operations to only rarely exceed the more stringent curfew hour limits, and the CL30, whose daytime operations would almost always exceed the curfew hour limits (see the Fly Friendly “Operator by Aircraft” [scoring report](#)). All four of Baker’s 2025 noise violations were with the C750, which would indicate special precautions would be needed to fly even that quieter aircraft during the curfew. But despite the four citations, this was evidently not communicated to Baker, for in 2026, they have begun operating the CL30 during curfew hours and, predictable, nearly all of those have generated violations.

Item V. PUBLIC COMMENTS ON NON-AGENDA ITEMS

Although the focus of the new Aviation Committee seems a bit different from that of the old, I would hope it continues to be interested in and concerned about the noise impacts of JWA flight operations on the Newport Beach community.

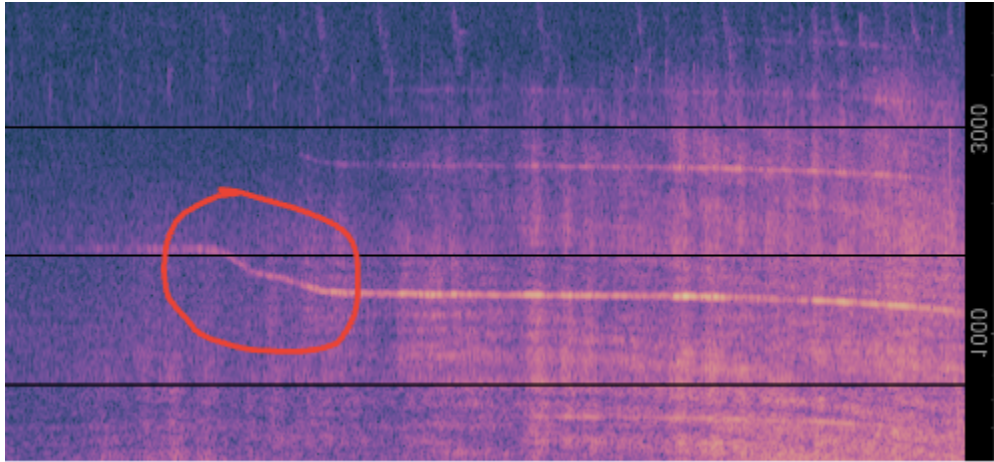
Much has been said about the improvement to be expected from the increasing introduction of the Boeing 737 MAX 8 (and later to the MAX 9). While it is true that compared to older models the MAX 8 significantly reduces the conventionally measured weighted decibels of overall noise, the new engine design is also accompanied by a distinctive, and rather loud, tonal whistle, particularly prominent as a departing MAX 8 approaches an observer.

The whistle is said to be attributed to the engine’s intake fan, with the air being stirred, in succession by the 18 fan blades. As has been discussed in the technical literature in recent years, the good news about this is that the tone, and the variations heard in it (and the tones heard from other engine models), allows observers on the ground to follow how the pilot is adjusting the engine during the flight. And unlike decibel measurements, which require calibration against a known standard, the frequency (pitch) of a sound is more easily and reliably measurable.

To test what can be learned, I tried the free [Spectroid](#) application available on Android devices, which produces a scrolling “waterfall chart” of the frequency spectrum as it evolves over time.

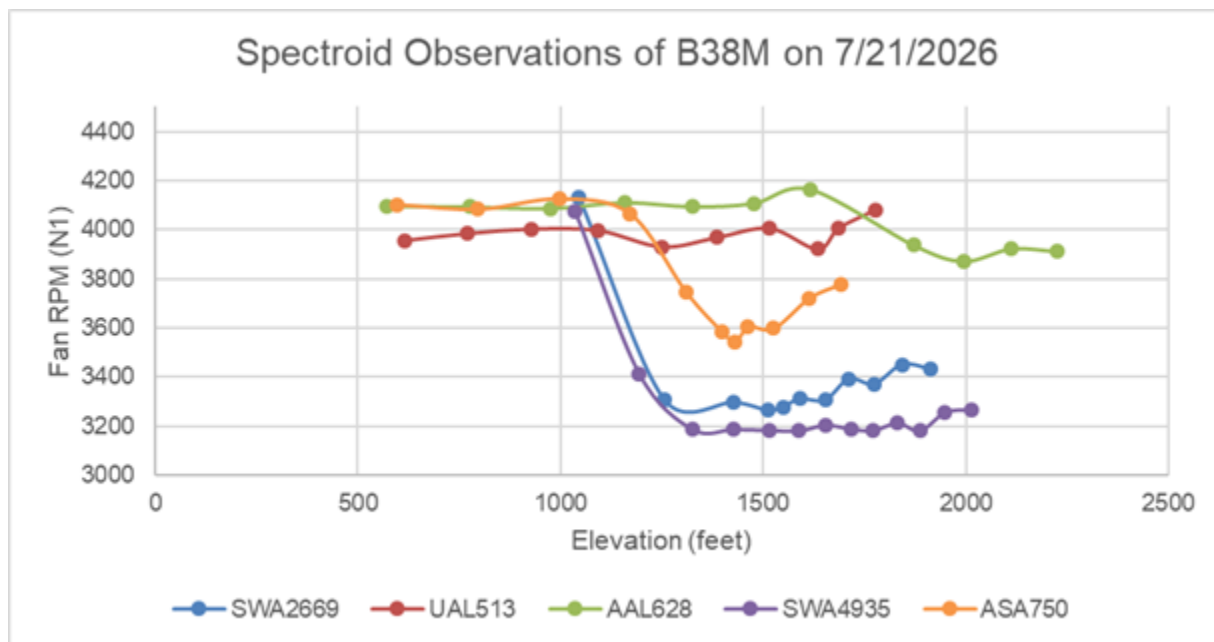
SWA2669 (tail number N8832H) was the first MAX 8 in yesterday morning’s (July 21, 2026) lineup, and produced, as observed from my home, the Spectroid screenshot shown on the following page, which has been flipped and rotated for clarity so that time runs from left (earliest) to right (latest) and frequency from top (highest) to bottom (lowest).

The feature circled in red is the point on the principal tone where the pilot reduced the fan speed (and hence the thrust). Much of the later decline in frequency is a result of the “Doppler effect” (in which the pitch of train whistle is increased by its motion as it approaches, and lowered as it passes by and recedes). The parallel line above the brightest tonal line, and the fainter one above that, are its harmonics, and exactly 2 and 3 times the base frequency.



With some effort, the amount by which these frequencies are altered by the aircraft's motion can be determined from the radar tracking data displayed in WebTrak. In particular, each radar point produces a sound that will be observed on the ground at a predictable later time, and hence how much the sound observed at that moment was altered can be computed, and the corrected frequency translated into the revolutions per minute the fan must have been operating at to produce it.

The following graph shows the RPM and elevation of the radar points for five of the six MAX 8 departures in yesterday's morning lineup, plotted from the moment the principal fan tone could first be detected in the Spectroid display to the aircraft's point of closest approach to my home.



The Southwest pilots can be seen to have significantly cut back the engine power at around 1,000 ft, the Alaska pilot cut back by a lesser amount at a slightly higher elevation, the American pilot cut back even less at around 1,600 ft, while the United pilot did not cut back at all over this range.

As to altitude, the American pilot achieved the highest elevation (about 2,300 ft) when passing my home, while the Alaska pilot achieved the lowest (about 1,700 ft).

More observations would be needed to determine how characteristic these patterns may be, and what impact they have on noise. Observations closer to the end of the runway might also be helpful to pick up more of the Southwest pattern prior to their cutback (in the two examples shown, and as is evident from the image on the preceding page, the Southwest whistle became audible from my location only seconds before the cutback started).

AMENDED IN SENATE MAY 27, 2026

AMENDED IN ASSEMBLY APRIL 30, 2025

CALIFORNIA LEGISLATURE—2025–26 REGULAR SESSION

ASSEMBLY BILL

No. 431

**Introduced by Assembly Member Wilson
(Coauthors: Assembly Members Davies and Harabedian)**

February 5, 2025

An act to add Chapter 9 (commencing with Section 21720) to Part 1 of Division 9 of the Public Utilities Code, relating to aviation.

LEGISLATIVE COUNSEL'S DIGEST

AB 431, as amended, Wilson. Advanced Air Mobility Infrastructure Act.

Existing law, the State Aeronautics Act, governs various matters relative to aviation in the state, and authorizes the Department of Transportation to adopt, administer, and enforce rules and regulations for the administration of the act. ~~Existing law establishes the Advanced Air Mobility, Zero-Emission, and Electrification Aviation Advisory Panel to assess the feasibility and readiness of existing infrastructure to support a vertiport network to facilitate the development of advanced air mobility services, the development of a 3-year prioritized workplan for the state to advance advanced air mobility services, and pathways for promoting equity of access to advanced air mobility infrastructure, as specified. Existing law requires the department, not later than January 1, 2025, to report to the Legislature on the infrastructure feasibility and readiness study and the 3-year prioritized workplan.~~

This bill, the Advanced Air Mobility Infrastructure Act, would require the department to take certain actions related to advanced air mobility,

~~as defined, including, among other things, developing a statewide plan, or updating the statewide aviation plan, to include vertiports, electric aviation charging, and the infrastructure needs of other advances in aviation technology, and designating a subject matter expert for advanced air mobility within the department, as specified. department, in coordination with specified agencies, to include advanced air mobility, as defined, in the next update to the California Transportation Plan prepared after January 1, 2027, and to establish a statewide working group to facilitate ongoing collaboration to explore California's role as a leader in the development and implementation of advanced air mobility, as specified.~~ The bill would prohibit its provisions from being construed to (1) interfere with or suspend the authority of the Federal Aviation Administration or any other federal department or agency, or state zoning laws or regulations, as specified, or (2) limit or interfere with the jurisdiction, authority, rights, or responsibilities of any airport sponsor or operator, as specified.

~~The bill would include findings that changes proposed by this bill address a matter of statewide concern rather than a municipal affair and, therefore, applies to all cities, including charter cities.~~

~~Under existing law, a violation of the State Aeronautics Act is a crime.~~

~~Because the above provisions would be part of the State Aeronautics Act, the bill would impose a state-mandated local program.~~

~~The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.~~

~~This bill would provide that no reimbursement is required by this act for a specified reason.~~

Vote: majority. Appropriation: no. Fiscal committee: yes.

State-mandated local program: ~~yes~~-no.

The people of the State of California do enact as follows:

- 1 SECTION 1. The Legislature finds and declares all of the
- 2 following:
- 3 (a) If developed and deployed at scale, the development of
- 4 advanced air mobility can provide economic and environmental
- 5 benefits to the state and the nation.
- 6 (b) The use of advanced air mobility can aid in California's
- 7 progress toward its statutory renewable energy and climate
- 8 mandates.

1 (c) Diversity in technologies lowers overall costs. Advanced
2 air mobility technology adds diversity to the state’s transportation
3 portfolio.

4 (d) The development of advanced air mobility presents an
5 opportunity to California by providing a tremendous opportunity
6 for economic growth, including the development and preservation
7 of a skilled and trained construction workforce to carry out projects
8 and long-term job creation, all while improving mobility and
9 accessibility for all Californians.

10 (e) Advanced air mobility improves multimodal transportation
11 and access to destinations by providing transportation opportunities
12 that improve access to jobs, services, educational opportunities,
13 and emergency and medical services.

14 (f) Advanced air mobility will allow all Californians to traverse
15 densely populated areas in a matter of minutes instead of hours,
16 expanding accessibility while reducing traffic congestion on our
17 roadways.

18 (g) Investment in advanced air mobility can offer career
19 pathways and workforce training in clean energy development.
20 Advanced air mobility will provide additional blue collar industrial
21 work opportunities and support apprenticeship opportunities for
22 a diverse labor pool.

23 SEC. 2. Chapter 9 (commencing with Section 21720) is added
24 to Part 1 of Division 9 of the Public Utilities Code, to read:

25
26 CHAPTER 9. ADVANCED AIR MOBILITY INFRASTRUCTURE ACT
27

28 21720. This chapter shall be known, and may be cited, as the
29 “Advanced Air Mobility Infrastructure Act.”

30 21721. For purposes of this chapter, the following definitions
31 apply:

32 (a) “Advanced air mobility” means an air transportation system
33 primarily using electric aircraft, including eVTOL and eCTOL
34 aircraft, to carry passengers, cargo, or provide services in an urban
35 or regional setting, with a gross takeoff weight of 300 pounds or
36 more.

37 (b) “eCTOL” means an electric conventional takeoff and landing
38 aircraft.

39 (c) “eVTOL” means an electric vertical takeoff and landing
40 aircraft.

(d) “Powered-lift aircraft” means the same as that term is defined in Part 1 (commencing with Section 1.1) of Subchapter A of Chapter I of Title 14 of the Code of Federal Regulations.

(e) “Vertiport” means an area of land, water, or a structure used or intended to be used for the landing or takeoff of powered-lift aircraft and includes associated buildings and facilities.

21722. This chapter only applies to electric aircraft, including eVTOL and eCTOL aircraft, and powered-lift aircraft that satisfy either of the following criteria:

(a) Have a gross takeoff weight of 300 pounds or more.

(b) Are capable of carrying humans or an equivalent amount of cargo.

~~21723. The department shall do all of the following:~~

~~(a) Develop a statewide plan, or update the statewide aviation plan, to include vertiports, electric aviation charging, and the infrastructure needs of other advances in aviation technology in the statewide aviation plan and as appropriate in the statewide work plan.~~

~~(b) Designate a subject matter expert for advanced air mobility within the department as a resource for local and regional jurisdictions navigating advances in aviation technology, including electric powered-lift aircraft and electric aviation.~~

~~(c) Lead a statewide education campaign for local and regional decisionmakers to educate them on the benefits of electric powered-lift aircraft and advancements in aviation technology.~~

~~(d) Provide local and regional jurisdictions with guidance, including best practices, and technical resources to support uniform planning and zoning language across the state related to powered-lift aircraft, electric aviation, and other advances in aviation technology.~~

21723. (a) *The department, in coordination with the Transportation Agency, shall include advanced air mobility in the next update to the California Transportation Plan prepared after January 1, 2027.*

(b) *The department, in coordination with the Transportation Agency, the Energy Commission, the State Air Resources Board, the Governor’s Office of Business and Economic Development, and the Office of Land Use and Climate Innovation, shall establish a statewide working group to facilitate ongoing collaboration among state agencies, local offices of emergency management,*

1 *and industry stakeholders to explore California's role as a leader*
2 *in the development and implementation of advanced air mobility,*
3 *supporting technology, and economic development, including job*
4 *creation.*

5 21724. (a) This chapter shall not be construed to interfere with
6 or suspend either of the following:

7 (1) The authority of the Federal Aviation Administration, or
8 any other federal department or agency, including, but not limited
9 to, federal authority related to the governance of federal airspace,
10 air traffic control, and aviation safety, or any other federal
11 regulations, laws, or policies governing the operation of airports
12 or air transportation.

13 (2) State zoning laws or regulations, including, but not limited
14 to, zoning laws or regulations related to land use, development, or
15 the construction of facilities within the jurisdiction of the local
16 zoning authority.

17 (b) This chapter shall not be construed to limit or interfere with
18 the jurisdiction, authority, rights, or responsibilities of any airport
19 sponsor or airport operator with respect to the operation,
20 maintenance, management, or capital development of any airport
21 within the state.

22 ~~SEC. 3. The Legislature finds and declares that Section 2 of~~
23 ~~this act adding Chapter 9 (commencing with Section 21720) to~~
24 ~~Part 1 of Division 9 of the Public Utilities Code addresses a matter~~
25 ~~of statewide concern rather than a municipal affair as that term is~~
26 ~~used in Section 5 of Article XI of the California Constitution.~~
27 ~~Therefore, Section 2 of this act applies to all cities, including~~
28 ~~charter cities.~~

29 ~~SEC. 4. No reimbursement is required by this act pursuant to~~
30 ~~Section 6 of Article XIII B of the California Constitution because~~
31 ~~the only costs that may be incurred by a local agency or school~~
32 ~~district will be incurred because this act creates a new crime or~~
33 ~~infraction, eliminates a crime or infraction, or changes the penalty~~
34 ~~for a crime or infraction, within the meaning of Section 17556 of~~
35 ~~the Government Code, or changes the definition of a crime within~~
36 ~~the meaning of Section 6 of Article XIII B of the California~~
37 ~~Constitution.~~

O



June 29, 2026

Mayor

Lauren Kleiman

Mayor Pro Tem

Noah Blom

Council Members

Michelle Barto

Robyn Grant

Joe Stapleton

Sara J. Weber

Erik Kenneth Weigand

The Honorable Lori Wilson
California State Assembly
1021 O Street, Suite 8110
Sacramento, CA 95814

**RE: AB 431 (Wilson) Advanced Air Mobility Infrastructure Act
Oppose Unless Amended – City of Newport Beach**

Dear Assemblymember Wilson,

I write to you on behalf of the City of Newport Beach in respectful opposition to AB 431, unless the bill is amended to provide greater clarity surrounding local regulation of Advanced Air Mobility (AAM) facilities.

The City supports the inclusion of AAM in the next update to the California Transportation Plan, as well as the working group to support the development and implementation in California. The concern with this legislation is in Section 21724(a) in which the bill language states that “This chapter shall not be construed to interfere with or suspend...state zoning laws or regulations, including but not limited to, zoning laws or regulations relating to land use, development, or the construction of facilities within the jurisdiction of the local zoning authority”. As currently written, this bill could be construed to preempt local regulation of AAM facilities as local regulations are not specifically mentioned in the bill text.

The City is located directly adjacent to John Wayne Airport, a large passenger airport that is poised to become a core hub for AAM. Already we have seen major infrastructure changes at the airport as companies have begun installing electric air taxi chargers with the intent of using them for AAM projects. Several companies are also looking at installing vertiports surrounding the airport. If this bill is enacted and interpreted to preempt local zoning regulations surrounding AAM and vertiports, this could lead to the City to forcibly approving new AAM projects in locations that were deemed unsafe.

We are requesting that this bill be amended to include language that expressly states that local regulation is not preempted. If this bill is interpreted to preempt local regulation, cities would not have control

June 29, 2026

Page 2

over where AAM facilities would be located within their jurisdictions which could lead to dangerous conditions in certain areas where cities have determined that AAM facilities would not be viable. Local control over zoning is particularly critical when determining the location for new transportation facilities, especially AAM, a new technology that will likely require high energy demand, among other resources.

For these reasons, the City of Newport Beach maintains an oppose unless amended position unless language is added to expressly state that local regulations will not be preempted by this legislation.

Thank you and please reach out if you have any questions.

Sincerely,



Lauren Kleiman
Mayor
City of Newport Beach

Cc: Newport Beach City Council



Connecting Orange County to LAX: Evaluating Transportation Options

Orange County Grand Jury 2025-2026



TABLE OF CONTENTS

SUMMARY	5
BACKGROUND	6
REASON FOR STUDY	14
METHOD OF STUDY	15
INVESTIGATION AND ANALYSIS.....	15
FINDINGS.....	26
RECOMMENDATIONS.....	27
COMMENDATIONS	29
REQUIRED RESPONSES	30
Glossary and Acronyms.....	33
Bibliography	34
Appendix A	40
Appendix B	42
Appendix C.....	44
Appendix D.....	45

TABLES

Table 1 Airport Transportation Options to/from Irvine and LAX.....	19
Table 2 Public Transportation Routes from Irvine* to LAX.....	20
Table 3 LAX Traffic Comparison for September 2025	40
Table 4 LAX Ground Transportation Monthly Report for September 2025	41
Table 5 Weekday FlyAway®-to-Metrolink/Amtrak Route with Average Travel Time of Two Hours and 15 Minutes and Average Wait Time of 38 Minutes.....	45
Table 6 Weekday FlyAway®-to-Metrolink/Amtrak Route with FlyAway® Bus Arriving Five Minutes Early Reduces Average Travel Time by 23 Minutes	46
Table 7 Weekend FlyAway®-to-Metrolink/Amtrak Route with Average Travel Time of Two Hours and 15 Minutes and Average Wait Time of 38 Minutes.....	47

Table 8	Weekend FlyAway®-to-Metrolink/Amtrak Route with FlyAway® Bus Arriving Five Minutes Early Reduces Average Travel Time by 21 Minutes	48
Table 9	Weekday LA Metro C Line-to-Metrolink/Amtrak Route with Average Travel Time of Two and a Half Hours and Average Wait Time of 54 Minutes	49
Table 10	Weekend LA Metro C Line-to-Metrolink/Amtrak Route with Last Departure from LAX at 3:40 PM and Average Travel Time in Excess of Three Hours	50
Table 11	Weekday Metrolink/Amtrak-to-FlyAway® Route with Average Travel Time of One Hour and a 48 Minutes and Average Wait Time of only Seven Minutes ..	51
Table 12	Weekend Metrolink/Amtrak-to-FlyAway® Route with Average Travel Time of One Hour and a 52 Minutes and Average Wait Time of only Ten Minutes ..	52
Table 13	Weekday Metrolink/Amtrak-to-LA Metro C Line Route with Average Travel Time of One Hour and 47 Minutes but only One Train during Mid-Day	53
Table 14	Weekend Metrolink/Amtrak-to-LA Metro C Line Route with Earliest Arrival to LAX at 11:45 AM and Average Travel Time of Two Hours and Eight Minutes.	53
Table 15	Comparison of Transit Routes from Irvine to LAX.....	54
Table 16	Comparison of Transit Routes from LAX to Irvine	54

FIGURES

Figure 1	LA Metro Rail and Busway Network	10
Figure 2	Metrolink Regional Rail System Map	11
Figure 3	LOSSAN Corridor Map.....	12
Figure 4	LAX Annual Passenger Traffic – Historical Data and Forecast.....	16
Figure 5	Automated People Mover Map from LAX Central Terminals to Rental Car Facility	17
Figure 6	LAX Vehicle Access Policy Post-Automated People Mover	18
Figure 7	Metrolink Systemwide Ridership	42
Figure 8	Peak/Off-Peak Ridership Analysis.....	43

SUMMARY

The Orange County Grand Jury (Grand Jury) conducted a study to assess current travel options between Orange County and Los Angeles International Airport (LAX). The study evaluated available services, travel times, costs, and service gaps through interviews, document reviews, field research, and evaluation of public complaints. The Grand Jury determined that although a reasonably affordable and reliable public transportation option to LAX already exists, significant opportunities remain to improve travel efficiency for Orange County residents. The Grand Jury identified five Orange County locations for potential direct-to-LAX transportation services that could reduce trip times to LAX by 30 minutes or more, reduce traffic congestion and vehicle emissions, and potentially reduce transportation costs to LAX.

A substantial share of Orange County travelers continues to rely on LAX despite the proximity of John Wayne Airport (SNA). While SNA serves roughly 11.8 million passengers annually, an estimated 9.9 million Orange County travelers choose LAX each year for generally lower fares, more international destinations, and greater availability of nonstop domestic routes. Orange County travelers use both SNA and LAX, but use of public transportation to both SNA and LAX is extremely low. Most passengers still depend on private vehicles and ride hailing services, which worsen roadway congestion and increase emissions.

The Grand Jury analyzed ten different transportation options, ranging from personal vehicles and ride-hailing services to combinations of Metrolink, Amtrak, LA Metro rail, and shuttle buses. Costs and travel times varied widely: the least expensive options, such as Metrolink combined with LA Metro light rail, generally involved the longest travel times, while premium private car services offered the fastest and most convenient—but highest cost—experience. Each option presented distinct advantages and disadvantages. Among the public transit options evaluated, the Metrolink or Amtrak connection to the FlyAway® bus proved the most reliable, with typical travel times under two hours.

Although federal regulations prohibit the Orange County Transportation Authority (OCTA) from operating a direct bus route to a single destination, OCTA plays a critical role in shaping regional transit. As the operator of transit centers and a member agency of Metrolink, OCTA has substantial influence over potential improvements to LAX-bound transportation for Orange County residents.

The FlyAway® bus service, operated by Los Angeles World Airports (LAWA), already provides direct, frequent, and efficient service from Union Station and Van Nuys to LAX.

Large-scale LAX improvement projects, including the Automated People Mover (APM), Intermodal Transportation Facilities, and roadway upgrades, are expected to further enhance airport access, ease congestion, and reduce emissions.

The Grand Jury identified five viable Orange County candidate sites for future FlyAway® or similar direct-to-LAX transportation services:

- Anaheim Regional Transportation Intermodal Center (ARTIC)
- Irvine Transportation Center
- Fullerton Park & Ride and Orangethorpe Transit Village Conceptual Study
- The Village at Buena Park Mall (transit-oriented development)
- Bolsa Pacific at Westminster (transit-oriented development at the former Westminster Mall)

Establishing service from these locations could reduce trip times to LAX by 30 minutes or more, reduce traffic congestion and vehicle emissions, and potentially reduce overall transportation costs to LAX.

BACKGROUND

Orange County Residents Use SNA and LAX

John Wayne Airport offers limited international service and fewer direct domestic routes compared to other major southern California airports. For many airline destinations, LAX remains the primary gateway to domestic and international travel for Orange County residents. Historically, travel from Orange County to Los Angeles for work or to reach LAX for travel has relied heavily on personal vehicles that cause traffic congestion and increase vehicle emissions, and public transportation options remain limited. Since 2014, traveler behavior and transportation patterns in Orange County have shifted as indicated by the following summary statistics:¹

- Orange County is the sixth most populous county in the United States with 3.175 million inhabitants, and its population has fluctuated by less than 44,000 people over the past 10 years.
- Households without cars increased from <2% in 2014 to 5% in 2023.
- Solo car commuters decreased from 79% to 69% from 2014 to 2023.
- John Wayne Airport reported that a survey found that 55% of travelers fly for pleasure/leisure, 31% for business, and 14% for personal/other reasons.

¹ Orange County Transportation Authority, *2024 OCTA Transit Vision: Appendix A – State of OC Transit*, May 2025, https://www.octa.net/pdf/OCTV_AppendixA.pdf.

- SNA welcomed eleven million annual passengers in 2024.
- SNA operates under a legal cap of 11.8 million annual passengers through 2025, set by a 1985 noise abatement settlement. The cap increases to 12.5 million from 2026 through 2030.²
- Orange County is origin/destination for 13% of LAX passengers or 9.9 million travelers in 2024.
- Anaheim (zip code 92802) is the top Orange County origin/destination for LAX passengers, many staying in hotels near Disneyland.
- LAX ground transportation statistics for September 2025 show only 0.2% of vehicle traffic to LAX were FlyAway® buses.

Each day, an average of 90,000 vehicles enter or exit LAX, including those used for passenger drop-offs and pickups, rental cars, taxis, rideshares, and airport staff transportation.³ LAX ground transportation statistics are available on the Los Angeles World Airports website. From January 2025 to September 2025, LAX has recorded passenger traffic totaling 55,451,401 passengers, which is an average daily visitation rate of 203,119 passengers.⁴ Monthly statistics for LAX air traffic and ground transportation in September 2025 are provided in Appendix A [Error! Reference source not found.](#)⁵

- Personal private vehicles and transportation network companies (TNCs) comprised approximately 85 percent of LAX's pickups and drop-offs. TNCs are businesses that provide on-demand ride services through digital platforms.
- Approximately one percent of LAX passengers use public transit.

Southern California Association of Governments

The Southern California Association of Governments (SCAG) plays a key role in regional transportation planning. SCAG serves as the Metropolitan Planning Organization (MPO) for six counties, including Orange and Los Angeles. Its core planning document in transportation planning is the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which provides a 20-year multimodal vision updated every four years. SCAG's Aviation Program focuses on:

² Still Protecting Our Newport (SPON), *John Wayne Airport*, Accessed November 1, 2025, <https://spon-newportbeach.org/John-Wayne-Airport.html>.

³ Los Angeles World Airports, *Monthly Ground Transportation Traffic Statistics*, Accessed November 1, 2025, <https://www.lawa.org/lawa-investor-relations/statistics-for-lax/ground-transportation-traffic-statistics>.

⁴ Los Angeles World Airports, *Volume of Air Traffic*, Accessed November 1, 2025, <https://www.lawa.org/lawa-investor-relations/statistics-for-lax/volume-of-air-traffic>.

⁵ See Appendix A, Tables 3 and 4.

- Airport ground access planning
- Collaboration with LAX, the Federal Aviation Administration (FAA), and Caltrans Division of Aeronautics
- Data collection and forecasting for airport-related travel demand

SCAG works with key transit authorities and agencies like the OCTA, Los Angeles County Metropolitan Transportation Authority (LA Metro), and others across its six-county region to improve regional connectivity. SCAG's Corridor Planning Program identifies and enhances key transportation corridors, including those that could link Orange County transit centers to LAX. Projects from OCTA must be included in SCAG's RTP/SCS to qualify for state and federal funding. This includes potential FlyAway®-style services that would not be precluded from consideration pursuant to the federal charter prohibition, Metrolink enhancements, or express bus pilots. Many of SCAG's reports provide historical context, including SCAG President's Report (2025),⁶ SCAG Connect SoCal Final Report (2024),⁷ SCAG Aviation & Ground Access Technical Report (2024),⁸ SCAG Demographics & Growth Forecast Technical Report (2024),⁹ 2024 OC Transit Vision Full Report (2025)¹⁰ and Appendix A (2025).¹¹ SCAG has recently launched the SoCal Airport Access and Mobility Study,¹² a regional airport passenger and employee survey to better understand how people travel to and from southern California's airports. The study will analyze ground access patterns, preferences, and challenges for the purpose of informing planning for congestion relief, safety, and multimodal connectivity. The SoCal Airport Access and Mobility Study is scheduled to conclude by June 2027.

⁶ Southern California Association of Governments, *2024–25 President's Report*, May 2025, https://scag.ca.gov/sites/default/files/2025-05/24-0022-2025GA-PresidentsReport_Final.pdf.

⁷ Southern California Association of Governments, *Connect SoCal 2024: A Plan for Navigating to a Brighter Future*, Adopted April 4, 2024, <https://scag.ca.gov/sites/default/files/2024-05/23-2987-connect-socal-2024-final-complete-040424.pdf>.

⁸ Southern California Association of Governments, *Connect SoCal 2024: Aviation & Airport Ground Access Technical Report*, Adopted April 4, 2024, <https://scag.ca.gov/sites/default/files/2024-05/23-2987-tr-aviation-airport-ground-access-final-040424.pdf>.

⁹ Southern California Association of Governments, *Connect SoCal 2024: Demographics & Growth Forecast Technical Report*, Adopted April 4, 2024, <https://scag.ca.gov/sites/default/files/2024-05/23-2987-tr-demographics-growth-forecast-final-040424.pdf>.

¹⁰ Orange County Transportation Authority, *2024 OC Transit Vision*, May 2025, https://www.octa.net/pdf/OCTV_FullReport.pdf.

¹¹ Orange County Transportation Authority, *2024 OC Transit Vision: Appendix A – State of OC Transit*, May 2025, https://www.octa.net/pdf/OCTV_AppendixA.pdf.

¹² Southern California Association of Governments, *Aviation, SoCal Airport Access and Mobility Study*, Accessed November 20, 2025, <https://scag.ca.gov/aviation-program>.

Orange County Transportation Authority

OCTA, established by county referendum in 1972, evolved from Santa Ana Transit, and began with five bus routes. Over time, OCTA consolidated smaller transit agencies across the County.

As Orange County's transportation planning commission, OCTA funds and implements transit and capital projects to support a balanced, sustainable transportation system. It oversees services and programs that impact the daily lives of 3.2 million residents across thirty-four cities, as well as commuters and visitors.

OCTA manages bus and rail transit, rideshare programs, environmental initiatives, active transportation, express lanes, and freeway improvements. Its mission is to deliver transportation solutions that enhance quality of life and keep Orange County moving.¹³

OCTA works with SCAG to ensure that Orange County's transportation priorities align with the larger regional plan. OCTA focuses on operating transit services, managing highways, and oversight of Metrolink. OCTA prioritizes local transportation projects and submits them to SCAG for inclusion in the overall regional plan. Memorandums of Understanding (MOUs) exist between the two agencies to define their respective roles and responsibilities and ensure coordination.

LA Metro

The Los Angeles Metro Rail system began operations on July 14, 1990, with the opening of the Blue Line which connected downtown Los Angeles to Long Beach. Since that time, LA Metro has steadily expanded the network into a comprehensive rail system that includes six lines serving over one hundred stations across Los Angeles County. LA Metro planners and engineers have strategically extended service into key regions, including the San Fernando Valley, the Westside, and the South Bay, with the objective of alleviating traffic congestion and promoting a sustainable alternative to automobile travel. The system's network of light rail and busway routes, illustrated in Figure 1, reflects LA Metro's commitment to enhancing regional mobility.

¹³ Orange County Transportation Authority, *Connecting Orange County*, Accessed January 18, 2026, <https://www.octa.net/about/about-octa/overview>.



Source: metro.net

Figure 1 LA Metro Rail and Busway Network

Metrolink

Metrolink, launched in 1992, is the third-largest commuter rail network in the U.S., serving 67 stations across six counties. Operated by the Southern California Regional Rail Authority, a joint powers authority with leadership from Los Angeles, Orange, San Bernardino, Riverside and Ventura counties, Metrolink primarily connects regional commuters to downtown Los Angeles.¹⁴



Source: Metrolink

Figure 2 Metrolink Regional Rail System Map

Metrolink reported that recent ridership growth has been driven by off-peak travel, with over 140,000 boardings on the OC Line in April 2025 (see Appendix B). Since January 2025, off-peak ridership is increased 46% year-over-year, as shown in Appendix C. Metrolink is expanding its appeal to leisure travelers attending events, like a baseball game, or visiting attractions like Disneyland without the hassle of traffic and parking.¹⁵

¹⁴ Liz Ohanesian, "Day Trip on a Budget Throughout Southern California with Metrolink," *Orange County Register*, September 9, 2025. <https://www.ocregister.com/2025/09/09/day-trip-on-a-budget-throughout-southern-california-with-metrolink/>.

¹⁵ Liz Ohanesian, "Day Trip on a Budget," *Orange County Register*

Pacific Surfliner

Amtrak's Pacific Surfliner train runs along the 351-mile Los Angeles – San Diego – San Luis Obispo (LOSSAN) rail corridor, as shown in Figure 3. In Fiscal Year 2024-25 2.03 million passengers traveled the Pacific Surfliner. The LOSSAN Rail Corridor Agency, a joint powers authority composed of rail owners, operators, and planning agencies along the corridor, oversees service coordination and planning. Since July 2015, the agency has managed the Pacific Surfliner service under an interagency transfer agreement with the State of California. OCTA serves as the managing agency for the LOSSAN Agency.



Source: octa.net

Figure 3 LOSSAN Corridor Map

FlyAway® Bus

FlyAway® is an airport shuttle service providing non-stop connections to and from LAX and bus terminals near Van Nuys Airport and Los Angeles Union Station. Managed by LAWA and operated by Bus.com (9139249 Canada Inc.), a contracted bus provider, FlyAway® supports LAWA's initiative to reduce traffic congestion and emissions through high-occupancy transit. In 2024, LAWA reported over 1.9 million FlyAway® passengers with 1.1 million from Van Nuys and 0.8 million from Union Station.

Individuals traveling from Orange County to LAX must first either take Metrolink or Amtrak to Union Station, or drive there by car, where they transfer to a FlyAway® bus providing direct service to the airport. Unlike local transit services like OCTA, which operate fixed-route buses with multiple stops, FlyAway® buses provide nonstop service to LAX. LAWA operates FlyAway® under FAA guidelines, which restrict service to airport passengers and employees. Approximately 10% of FlyAway® riders are LAX workers. This restriction to airport passengers and employees ensures compliance with FAA regulations and maintains service efficiency.

FlyAway® routes cover twenty-two miles from Van Nuys and fourteen miles from Union Station to LAX. Despite the difference in distance, both routes offer similar travel times, typically 30 to 60 minutes, and maintain a bus frequency of every 30 minutes. The \$12.75 fare closely aligns with the breakeven point for operating costs, in contrast to OCTA's farebox recovery rate of between 10% and 20% of operating expenses.

Between 2009 and 2012, FlyAway® operated a direct route from the Irvine Transportation Center to LAX, covering approximately fifty miles. Service commenced on November 16, 2009, providing for a 60-minute or more journey between LAX and the Irvine Transportation Center. Despite its convenience, the service faced several challenges, including a limited schedule of just six trips per day, a relatively high fare of \$25, and low ridership. During Fiscal Years 2011–2012, the route averaged only forty-eight passengers per day and generated an annual operating loss of \$382,337, equating to roughly \$21.89 per passenger. These factors contributed to the route's discontinuation. Following the Chapter 11 bankruptcy filing of Coach America, the operator of the service, FlyAway® officially terminated the route on August 31, 2012.

Transit to John Wayne Airport and Other Airports

John Wayne Airport has approximately 32,000 visitors per day¹⁶ and 174 airport employees arriving each day.¹⁷ Most travelers at John Wayne Airport rely on personal vehicles and TNCs for their journeys. Those travelers heading to the Disneyland Resort area also use commercial shuttles and the Anaheim Transportation Network's (ATN) Everyone Ventures Everywhere (EVE) bus service to complete their trip. OCTA does not operate a direct transit link connecting John Wayne Airport to Metrolink. OC Bus 76, the only fixed-route service serving the airport, caters to airport staff and employees of nearby businesses. Between August 15 and September 15, 2025, OC Bus 76 averaged

¹⁶ John Wayne Airport, "John Wayne Airport Posts September 2025 Statistics," News Releases, Accessed November 1, 2025, <https://www.ocair.com/news/2025/10/22/statistics-september-2025/>.

¹⁷ John Wayne Airport, "Statistics," News & Info, Accessed November 1, 2025, <https://www.ocair.com/about/news-info/statistics/>.

just twenty daily riders, underscoring the difficulty of generating transit demand for airport-related trips.

The iShuttle 400A previously connected the Tustin Metrolink Station, John Wayne Airport, and the Irvine Business Complex (IBC). Operated jointly by the City of Irvine and OCTA, the shuttle aimed to reduce congestion and improve access to employment centers. It ran on weekdays during peak hours from October 13, 2019, until its cancellation on June 28, 2025, due to low ridership.

OCTA continues to assess its transit network through regular system studies, including OC Bus 360 (2016–2020), Making Better Connections (2022), and the OC Transit Vision (2024). An important focus of the 2024 OC Transit Vision is to identify potential high-capacity and rapid transit corridors. The OC Transit Vision report identified a potential long-term opportunity to explore an airport connection along the Bristol/State College corridor.

LAWA officials cited Boston and Minneapolis as having similar express bus and light rail services from metropolitan areas to major international airport terminals. These metropolitan areas are somewhat comparable to the multi-county metropolitan region served by LAX. In Boston, the Logan Express bus service operates from five locations in the Boston area to Logan International Airport with daily ridership of 6,850 passengers, system wide. Covering 23-miles, the Framingham, MA to Boston Logan route costs \$9 per trip, operates every 30 minutes, and completes the journey in 35 to 45 minutes. The Minneapolis Metro Blue Line, a light rail service, connects Minneapolis International Airport to downtown Minneapolis and other locations like the Mall of America. The route is nine miles from the airport to downtown. The Blue Line light rail operates every 12 minutes from Minneapolis International Airport with a fare of \$2 to downtown. In 2025 Blue Line daily ridership averaged 15,300 passengers.

REASON FOR STUDY

The overall purpose of this study was to evaluate current and future in-progress travel options between Orange County and LAX. John Wayne Airport accommodates approximately 11.8 million passengers annually, while an estimated 9.9 million Orange County residents travel through LAX. The grand jury report will serve several purposes including informing Orange County residents of available service options and associated time requirements as well as costs of the distinct options. In addition, the report will highlight service gaps and inefficiencies. Route and/or schedule enhancements or expansion opportunities will also be addressed. Finally, by promoting the use of public transportation, reduction of traffic congestion and vehicle emissions

will be realized. The goal of this report will be to identify specific public transportation options and identify and prioritize implementation of those options by evaluation of time requirements, costs, and schedule options.

METHOD OF STUDY

The Orange County Grand Jury investigated the transportation challenges that Orange County residents face when traveling to LAX to provide a clear and accurate assessment. The Grand Jury based its study on a comprehensive review of multiple sources, including interviews, public records, complaint letters submitted to the Grand Jury, and relevant news articles. Multiple independent sources corroborated and validated all facts, findings, and recommendations presented in the report.

- Interviewed several Orange County executives and senior staff directly involved in managing transportation systems connecting Orange County to LAX.
- Reviewed and analyzed key documents related to the investigation, including:
 - Metrolink operational overviews
 - Records from OCTA, Metrolink, LA World Airports, LA Metro, and the Norwalk Transportation System
- Examined news articles and publications relevant to the topic.
- Investigated the transportation concerns outlined in public complaint letters submitted to the Grand Jury.
- Conducted extensive internet research.
- Performed field investigations in which Grand Jury members rode Metrolink, Norwalk Transportation System Bus 4, and four LA Metro lines, and engaged with security personnel and staff at FlyAway® Bus, Union Station, Norwalk, and LAX Metro stations to directly observe and assess transportation conditions.

INVESTIGATION AND ANALYSIS

LAX Passenger Growth and Forecast

In 2024, LAX welcomed over 76.58 million travelers.¹⁸ Although LAX dropped to the 5th busiest airport in the United States, partly due to ongoing construction and relatively high landing fees,¹⁹ LAWA consultants conservatively project a compound annual

¹⁸ Los Angeles World Airports, *10-Year Summary*, Accessed November 1, 2025, <https://www.lawa.org/lawa-investor-relations/statistics-for-lax/10-year-summary/passengers>.

¹⁹ Howard Fine, “LAX Slips to 5th Busiest in the Nation,” *Los Angeles Business Journal*, February 10, 2025, <https://labusinessjournal.com/featured/lax-slips-to-5th-busiest-in-the-nation/>.

growth rate (CAGR) of 2.7% in passenger traffic through Fiscal Year 2034.²⁰ At this pace, LAX could serve over 100 million travelers annually by 2034, representing a 30% increase from current levels and an additional 23.4 million travelers per year.

Figure 4 illustrates historical data for LAX passenger traffic between 2015 and 2024 and forecast estimates beyond 2024.

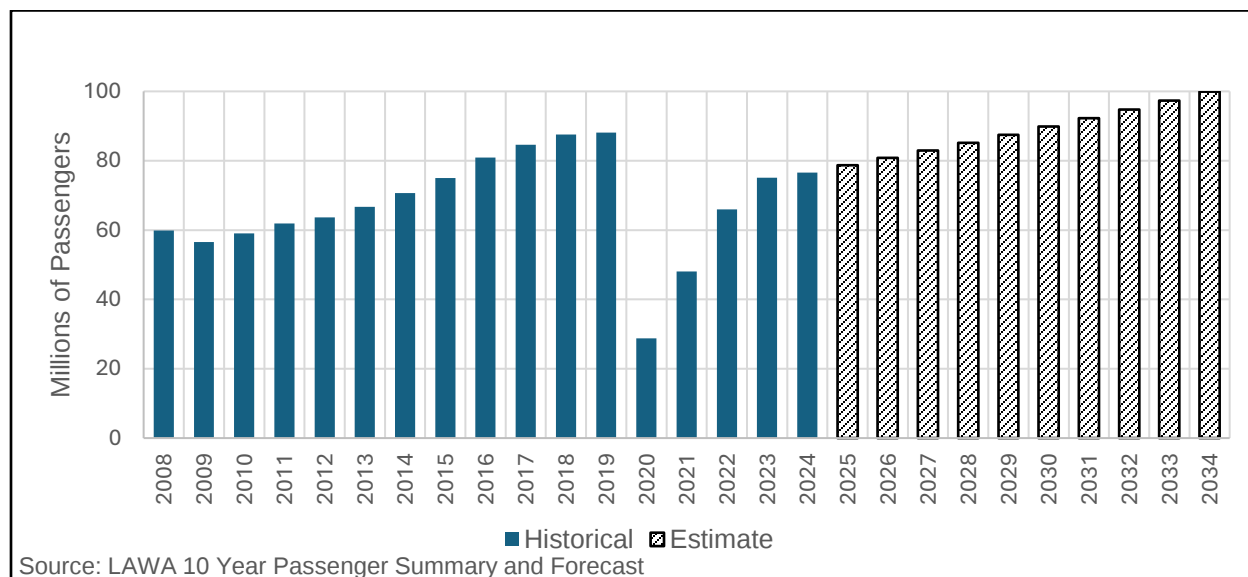


Figure 4 LAX Annual Passenger Traffic – Historical Data and Forecast

LAX Capital Improvement Projects

To accommodate this growth, LAWA has completed or is nearing completion of several capital improvement projects as part of its Landside Access Modernization Program (LAMP) and Airfield & Terminal Modernization Project (ATMP).

- Automated People Mover (APM):** A 2.25-mile elevated train connecting terminals, parking areas, the Consolidated Rent-A-Car (ConRAC) facility, and LAX/Metro Transit Center. It is expected to transport up to eighty-five million passengers annually.²¹ APM is aimed at (1) reducing vehicle congestion near LAX, (2) providing efficient ground transportation, and (3) improving airport accessibility.

²⁰ Los Angeles World Airports, "LAX Capital Program Plan of Finance and Key Metrics," *LAWA Legislative Update*, March 13, 2025, <https://www.lawa.org/sites/lawa/files/2025-03/3.%20Management%20Report%20C%20-%20Capital%20Finance%20Plan.pdf>.

²¹ M. Kubwa, "\$2 Billion LAX's People Mover Completion Set for Late 2025," *Construction Review*, April 5, 2024, <https://constructionreviewonline.com/construction-news/usa/2-billion-laxs-people-mover-completion-set-for-late-2025/>.

- **ConRAC Facility:** A 6.3-million-square-foot facility housing over 18,000 rental vehicles. Its integration with APM will eliminate over 3,200 daily rental car shuttle trips from the LAX Central Terminal Area (CTA).²²
- **Intermodal Transportation Facilities (ITF):** Two facilities (ITF East and ITF West) offering parking, ground transportation services, and meet-and-greet areas.
- **ATMP Roadway Improvements Project:** Reconfigured roadways, including 4.4 miles of new infrastructure, are being constructed to reduce congestion on Sepulveda Boulevard and create dedicated airport access routes. Construction near Sepulveda Boulevard, 96th Street, and Century Avenue will continue through 2030.

Completion of LAMP and ATMP projects will significantly alleviate traffic congestion and reduce long lines that plague LAX's current CTA. An aerial view in Figure 5 illustrates the scale of the APM.

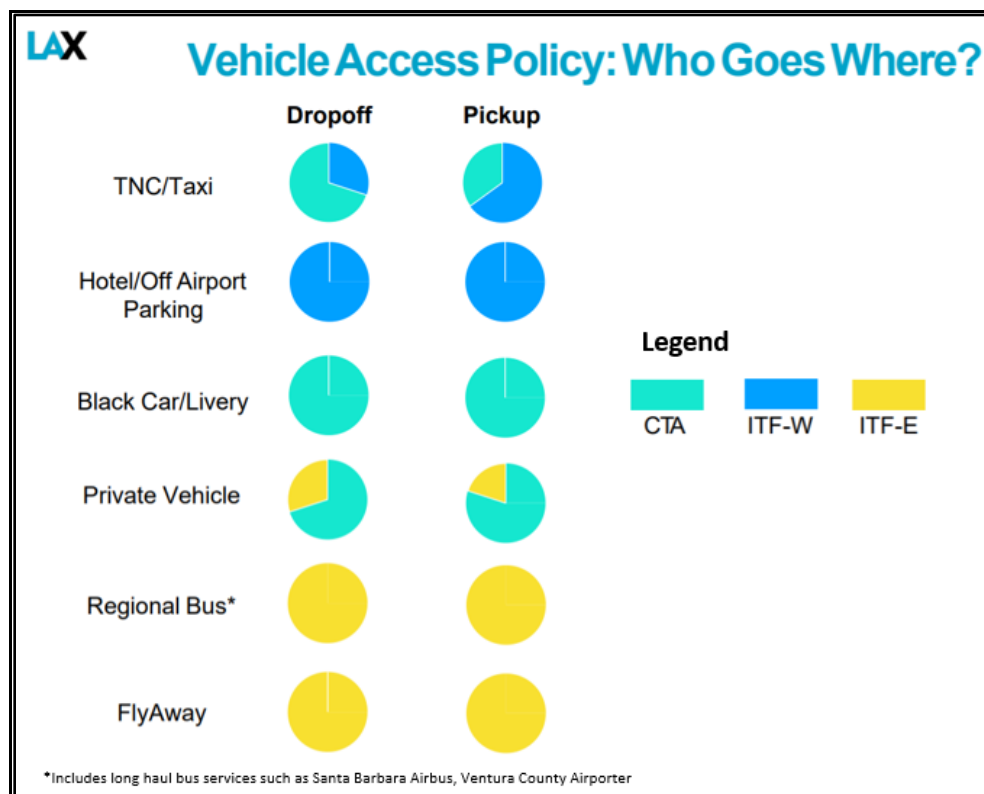


Source: Gateway Los Angeles Airport Business District Official Website

Figure 5 Automated People Mover Map from LAX Central Terminals to Rental Car Facility

²² Los Angeles World Airports, "Consolidated Rent-A-Car Facility," *Connecting LAX*, Accessed November 1, 2025, <https://www.lawa.org/connectinglax/consolidated-rent-a-car-facility>.

Figure 6 details vehicle access policy and categories of how shuttle and commercial bus pick-ups and drop-offs will occur at the Intermodal Transportation Facilities.



Source: LAWA Board of Airport Commissioners Management Report, August 3, 2023

Figure 6 LAX Vehicle Access Policy Post-Automated People Mover

LAWA officials consider the Union Station and Van Nuys routes ideal for FlyAway® service. Union Station offers convenient access to parking and multiple transit modes, enhancing connectivity for airport-bound travelers. With ongoing improvements under LAMP and ATMP, LAWA anticipates expanding service while reducing operational costs.

Transportation Options Between Orange County and LAX

The Grand Jury identified multiple transportation options between Orange County and LAX. Table 1 summarizes these options, including cost, travel time, and number of transfers. Estimated costs and travel time in Table 1 are based on a weekday one-way trip from Irvine, CA to LAX at 10:00 AM. Personal vehicle cost assumes a 50-mile distance between Irvine, CA and LAX, twenty-five miles per gallon, and \$4.50 per gallon.

Table 1 Airport Transportation Options to/from Irvine and LAX

Option	Cost Estimate	Travel Time	Transfers	Pros	Cons
Get Dropped Off	\$18	1:00	0	Simple, low cost, no parking hassle	Requires family/friend's time and availability
Drive Yourself	\$9 + \$30/day for economy parking	1:00	0	Full control over timing; easy access to car; predictable cost with reservation	Parking fees can be high; risk of car damage; traffic stress
Drive Yourself → LA Metro C Line (Norwalk Station) → APM	\$7.15 + \$3/day for parking	1:15	2	Full control over timing; predictable cost; low parking fees at Norwalk Station	Risk of car damage; traffic stress; additional planning for long-term parking
Transport Network Companies (Uber, Lyft, Opoli) → APM	\$80–\$150	1:00	0-1	Door-to-door convenience; no parking needed; customizable vehicle options	Surge pricing; availability varies; unpredictable costs
Metrolink → FlyAway® → APM	\$23.75	1:44	2	Affordable; Amtrak ticket adds \$8;	Longer travel time; limited schedule; variable fees for long-term parking
Metrolink → LA Metro → APM	\$12.75	1:43	3–4	Cheapest option; Amtrak ticket adds \$8; eco-friendly	Multiple transfers; long travel time; limited-service hours; variable fees for long-term parking
One-Way Car Rental → APM	\$60	1:00	1	Flexible for visitors; option for SNA flights redirected to LAX; no return trip needed	Cost includes gas, rental, and drop-off fees; logistics of pickup/drop-off
Taxi → APM	\$95–\$200	1:00	1	Reliable; direct service	Expensive; metered fare can vary with traffic
Black Car/Executive Car	\$160–\$330	1:00	0	Luxury experience; flight tracking; stress-free	Expensive
Shuttle Bus → APM	\$80-150	1:10	1	Cost-effective for groups; door-to-door; flight tracking	Longer travel time due to multiple stops; less privacy

Note: During peak commute times, travel time estimates for car and bus options could be an additional 30 minutes or more.

Public Transportation Options

Highlights of selected public transportation options from Orange County to LAX available after the opening of the APM are given in Table 2 with routes departing from the Irvine Metrolink Station to LAX and other public transit modes as noted. Currently, FlyAway® buses drop passengers off directly at the LAX Central Terminal Area (CTA), while LA Metro riders arriving at ITF East transfer to a LAX Shuttle bus to reach the CTA.

Table 2 Public Transportation Routes from Irvine* to LAX

Route	Travel Time	Transfers	Transfer Locations
Metrolink/Amtrak → FlyAway® Bus → APM	~1.9 hours	2	1. Union Station 2. ITF East
Metrolink → Norwalk Transit → Metro C Line → APM	~1.9 hours	3	1. Norwalk/Santa Fe Springs Station 2. Norwalk Station 3. ITF East
Metrolink/Amtrak → Metro Bus J Line → Metro C Line → APM	~2.2 hours	3	1. Union Station 2. Harbor Freeway Station 3. ITF East
Metrolink/Amtrak → Metro A → E → K Lines → APM	~2.1 hours	4	1. Union Station 2. Little Tokyo Station 3. Expo/Crenshaw Station 4. ITF East
OC Bus 83 → Metro Bus 460 → Metro C Line → APM	~3.2 hours From Laguna Hills Transportation Center	3	1. Disneyland East Shuttle Station 2. Norwalk Station 3. ITF East
OC Bus 70 → OC Bus 543 or 43 → Metro Bus 460 → Metro C Line → APM	~3.3 hours From Tustin Metrolink Station	4	1. Edinger Avenue & Harbor Blvd. 2. Disneyland East Shuttle Station 3. Norwalk Station 4. ITF East
OC Bus 529 → Metro Bus 460 → Metro C Line → APM	~2.4 hours From Goldenwest Transportation Center	3	1. Fullerton Park & Ride 2. Norwalk Station 3. ITF East

*Note: Starting locations other than Irvine Metrolink Station are identified.

Safety

The Grand Jury received letters from the public expressing concern about safety on public transportation. While LA Metro carries nearly one million passengers daily, the Los Angeles County Sheriff's Department, Transit Services Bureau recorded 537 crimes for the year on LA Metro buses and trains as of October 9, 2025, with battery, theft, aggravated assault, and robbery among the most frequent offenses.²³ In 2024, OCTA reported bus ridership at 34.8 million boardings and 314 Group A offenses, which are serious crimes such as assault, theft, and drug violations, reflecting a 15% decrease from 2023.

LA Metro continues to enhance its customer experience, with a February 2025 rider survey indicating that 87% of passengers are satisfied or very satisfied with the service. In the same survey, 53% of respondents reported noticeable improvements in the transit

²³ Los Angeles County Sheriff's Department, *Transit Services Bureau Weekly Report*, October 14, 2025, <https://lasd.org/transit-services-bureau-weekly-report-68/>.

system over the past year, primarily citing better service quality and increased safety.²⁴ Meanwhile, customer feedback consistently rates Metrolink, Amtrak, and FlyAway® services as reliable and safe.

LA Metro responded to safety concerns by implementing a layered security strategy that includes uniformed law enforcement officers, Metro Transit Security Officers, and Metro Ambassadors throughout the system. The agency upgraded station infrastructure with brighter lighting, expanded surveillance coverage, and taller fare gates to deter fare evasion and unauthorized access. LA Metro partners with county, city, and regional agencies to implement a care-based approach that delivers support and resources to individuals experiencing homelessness and those with untreated mental illness. After crime increased following the suspension of the Tap-to-Exit program, LA Metro reinstated the initiative and expanded weapons detection technology at key stations.²⁵ These measures reflect LA Metro's commitment to maintaining a secure and accessible transit environment.

Travelers who use the LA Metro C Line to reach LAX benefit from recent infrastructure upgrades and a continuous security presence at the LAX/Metro Transit Center. This facility connects the C and K Lines to the airport via a free shuttle service and, beginning in mid-2026, will offer direct access through the APM. Enhanced lighting, surveillance systems, and Americans with Disabilities Act (ADA) accessible facilities contribute to a safer experience for airport-bound passengers, especially during daytime and peak travel hours (6:00 AM–9:00 AM and 3:00 PM–7:00 PM).

Cost Analysis

Public transportation total fares from Orange County to LAX range from \$9.50 to \$35.75 depending on origin and route. Fare programs offer discounts for students, seniors, and disabled persons. For example, Metrolink Monthly Pass holders can ride the FlyAway® bus at no additional cost. Published regular fares that are shown below are from official websites as of September 12, 2025.

- **FlyAway®:** \$12.75 (Union Station to LAX)
- **Metrolink:** \$7.75–\$13.50 (between Buena Park and San Clemente to Union Station)

²⁴ LA Metro, *LAX Metro Transit Center Opening Drives Dramatic Increase in Ridership on K Line*, Accessed November 2, 2025, <https://www.metro.net/about/lax-metro-transit-center-opening-drives-dramatic-increase-in-ridership-on-k-line/#:~:text=Overall%20System%20Ridership%20and%20Experience,reasons%20cited%20for%20the%20improvement.>

²⁵ Travis Schlepp, "What Happened After LA Metro Paused Its Tap-to-Exit Program," *KTLA*, September 15, 2025, <https://ktla.com/news/travel/what-happened-after-la-metro-paused-its-tap-to-exit-program/>.

- **Amtrak:** \$14–\$23 (between Buena Park and San Clemente to Union Station)
- **OC Bus:** \$2 per boarding or \$5/day
- **LA Metro:** \$1.75 per trip with free transfers for two hours, \$5 fare cap/day
- **Norwalk Transit:** \$1.25 per boarding (Norwalk Metrolink to Norwalk C Line Station)

Parking fees vary at Metrolink/Amtrak stations across Orange County. Most stations provide free daily parking for up to 72 hours. Some stations located in high-demand urban areas require paid parking permits. At ARTIC, vehicles must be registered for overnight or Lot C parking at least 24 hours prior to parking. An overnight parking authorization form can be found on the Visit Anaheim website. Current parking guidelines and fees can be found on the Metrolink “Parking at Stations” website. FlyAway® bus patrons can use parking lots at Union Station and Vay Nuys, which have daily parking fees of \$8/day and \$6/day with a 30-day limit, respectively. Parking is \$3/day and permitted overnight for seventy-two consecutive hours at the LA Metro C Line Norwalk Station. For longer stays, an Extended Permit Authorization Form must be submitted in advance to metroparking@joesautoparks.com. Parking at the Norwalk Station parking lot is free on weekends and holidays.

LA Metro commuters use a pre-paid TAP fare card for transportation fares and OC Bus commuters began using a pre-paid WAVE card in October 2025.

Schedule and Reliability

The Grand Jury examined published schedules (Appendix C) and route maps. Transit app, Apple Maps, and Google Maps confirmed real-time routes and travel times.

- **FlyAway®:** Runs every 30 minutes; 30-to-60-minute travel time varies day-to-day
- **LA Metro Rail:** Lines A, C, E, and K typically run every ~10 minutes; travel time depends on route
- **APM:** Runs every two minutes at peak usage; ~10-minute end-to-end travel time²⁶
- **Metrolink/Amtrak:** Hourly weekday coverage; limited weekend Metrolink service
- **Norwalk Transit Buses 4 & 7:** ~30-minute weekday frequency; ~50-minute weekend frequency; Travel time is between 15 and 25 minutes, depending upon day, time of day, and direction of route

²⁶ Los Angeles World Airports, “Automated People Mover (APM) Train System,” *The Development Group*, Accessed November 1, 2025, <https://www.lawa.org/transforminglax/projects/automated-people-mover-train-system>.

Based on published schedules, the Grand Jury found that the FlyAway® bus service from Union Station to LAX typically takes approximately 34 minutes under normal traffic conditions and is 10 to 20 minutes faster than LA Metro’s light rail alternatives. However, during peak commuting times—such as 8:00 AM and 5:30 PM—the FlyAway® bus can take 60 minutes or more. Starting in early 2026, FlyAway® passengers will transfer at ITF East and use the Automated People Mover, rather than being dropped off or picked up at LAX’s Central Terminal Area. According to LAWA officials, this change will improve the customer experience, improve bus queues, and reduce trip times.

FlyAway® buses operate every 30 minutes, while LA Metro light rail trains on the A, C, E, and K Lines typically run every 10 minutes. If a passenger misses a FlyAway® bus and opts for LA Metro instead, they may arrive at LAX’s Central Terminal Area at the same time or up to 10 minutes earlier than the next FlyAway® bus.

The Grand Jury found that the Metrolink and Amtrak Pacific Surfliner schedules separately have gaps at the time of this report. However, together they provided hourly weekday service to and from Union Station. On weekdays, train service from Irvine, CA runs from 5:12 AM to 10:49 PM, with thirteen northbound Metrolink trips and twelve northbound Amtrak trips. A similar number of southbound trips depart Union Station daily. Amtrak Pacific Surfliner maintains the same schedule on weekends, while Metrolink reduces service to four northbound and four southbound trips each day. Starting in early 2026, Amtrak will increase Pacific Surfliner service to thirteen daily trips.

Norwalk Transit System (NTS) Buses 4 and 7 connect the Metrolink Norwalk/Santa Fe Springs Station to the LA Metro C Line Norwalk Station, located 3.1 miles apart. Although weekend service is less frequent, both weekday and weekend schedules for Buses 4 and 7 align with the first and last Metrolink trains at Norwalk/Santa Fe Springs Station.

The Grand Jury learned that travelers can connect from the LA Metro C Line at its Norwalk Station to LA Metro Bus 460 to reach Disneyland. A trip from LAX to Disneyland takes approximately two hours. Passengers may transfer from Bus 460 to Orange County buses at Knott’s Berry Farm, Fullerton Park & Ride, or Disneyland. This route offers a lower-cost alternative to Metrolink/Amtrak, though it requires more travel time.

The investigation identified the fastest public transit route from Irvine to LAX as the Metrolink or Amtrak connection to the FlyAway® bus at Union Station (see Appendix D). This route averages one hour and 48 minutes on weekdays, with the quickest connection taking one hour and 41 minutes in the afternoon. The return trip from LAX to

Irvine averages two hours and 15 minutes. Travel times for the FlyAway® bus can vary due to traffic congestion. The Grand Jury found that if FlyAway® buses arrived five minutes earlier at Union Station, travelers could catch the next Metrolink or Amtrak train departing at 10 and 40 minutes past the hour, reducing average travel time by 23 minutes.

An alternate route to LAX via Metrolink requires a transfer at the Norwalk/Santa Fe Springs Station to NTS Bus 4 or 7, followed by a connection to the Metro C Line. On weekdays, this trip averages approximately one hour and 47 minutes. On weekends, travel time exceeds two hours and eight minutes due to limited Metrolink service and the absence of Amtrak stops at the Norwalk/Santa Fe Springs Station. The return trip from LAX to Irvine via this route averages 2 hours and 30 minutes on weekdays and over 3 hours on weekends, primarily due to extended wait times for Metrolink trains. Weekend travelers face additional constraints, with the earliest possible arrival at LAX after 11:45 AM and final departure from LAX using this route at 3:40 PM.

Transit-Supportive Developments

There are transit-supportive and transit-oriented developments in Orange County that are approximately 25-miles from LAX and near a freeway include Fullerton Park and Ride, Buena Park Mall, and former Westminster Mall.

The Fullerton Park & Ride facility is the focus of a major planning initiative called the Orangethorpe Transit Village Conceptual Study, led by the Orange County Transportation Authority (OCTA) in partnership with the City of Fullerton. The study is exploring the potential for transit-supportive mixed-use development at the 9-acre Fullerton Park & Ride site, which is currently underutilized.

The Buena Park Downtown Mall is undergoing a major transit-oriented design transformation centered around the redevelopment of the former Sears property. Approved by the Buena Park City Council in June 2023, the Village at Buena Park is a \$650 million mixed-use project led by Merlone Geier Partners. It will replace the old Sears building and adjacent parking lot with 1,302 apartments and townhomes, public space with walking paths, electric vehicle (EV) charging stations, bike racks, and 3,000 parking spaces.

The City of Westminster has approved the Westminster Mall Specific Plan (WMSP), which outlines a plan for converting the mall into a mixed-use development with 1,167 housing units, retail, hospitality, and public spaces with walking paths. Shopoff Realty Investments is leading this 26-acre redevelopment project, called Bolsa Pacific at Westminster. The project's design and goals reflect principles of Transit-Oriented

Development (TOD), such as walkable streets, mixed-use buildings, higher residential density, and proximity to public transit. As for transit services, OC Bus 64 currently stops at bus only lane near the former Westminster Mall on Edwards Street near Bolsa Avenue.

ARTIC is co-located at the OC Vibe development, which has elements of transit-oriented design. While ARTIC is forty miles from LAX, ARTIC provides connectivity to Anaheim Resort Transportation (ART), Metrolink, Amtrak, OCTA buses, and Greyhound buses.

Barriers to Airport Transit Success

The Grand Jury identified several key barriers that hinder the success of airport transit services:

- **Time-sensitivity:** Air travelers are highly time-conscious. The risk of missing a flight makes reliability paramount, and many passengers prefer to maintain control over their schedule, often distrusting public transit reliability.
- **Convenience:** Public buses are frequently perceived as slow, infrequent, and indirect compared to driving or using transportation network companies (TNCs). Transfers and wait times at bus stops add stress and reduce appeal.
- **Luggage Limitations:** Transit vehicles are typically not designed to accommodate large or heavy luggage, making them less suitable for airport-bound passengers.
- **Travel Habits:** Historically, airport trips have been dominated by private vehicles and shuttle services. Public transit has not been the preferred mode for most travelers.

The Grand Jury concluded that the Metrolink or Amtrak connection to the FlyAway® bus from Union Station currently offers the most reliable public transit option between Orange County and LAX, with average travel times under two hours. Return trips from LAX to Irvine average two hours and 15 minutes. The Grand Jury found that adjusting FlyAway® bus arrival times at Union Station by five minutes would enable passengers to board earlier Metrolink or Amtrak trains, thereby reducing travel time from LAX to Orange County by 23 minutes. LAWA has an opportunity to revise FlyAway® bus departure schedules with the opening of ITF East in mid-2026.

Using LA Metro light rail instead of the FlyAway® bus adds 10 to 20 minutes to the journey from Union Station to LAX. Although the Norwalk/Santa Fe Springs shortcut may offer faster travel to LAX at certain times, limited Metrolink service results in return trips that are over 30 minutes longer than the FlyAway® route via Union Station.

Implementing direct FlyAway®-style bus service between LAX and Orange County would ease traffic congestion, lower greenhouse gas emissions, and significantly improve regional transit efficiency, cutting public transit travel times by 30 minutes or more. The Grand Jury identified several viable locations within Orange County for such a service. A comparative analysis of travel durations (see Table 1) underscores the time-saving potential of enhanced regional transit connectivity. LAWA's proven success with the FlyAway® program demonstrates that direct bus service can operate near the breakeven point, offering a practical and efficient solution for airport access.

Better Understanding Orange County's Needs

The Southern California Association of Governments (SCAG) has launched its SoCal Airport Access and Mobility Study, a regional airport passenger and employee survey to better understand how people travel to and from Southern California's airports.²⁷ The first stage of the study is analysis of existing conditions to document the region's airports, access facilities, and connecting transportation networks. This is the ideal opportunity for SCAG to engage with all Orange County cities to understand each city's transportation need for enhanced regional intermodal transit connectivity across various transit authorities and agencies and across county lines.

FINDINGS

In accordance with California Penal Code Sections 933 and 933.05, the 2025-2026 Orange County Grand Jury requires (or, as noted, requests) responses from each agency affected by the findings presented in this section. The responses are to be submitted to the Presiding Judge of the Superior Court.

Based on its investigation described herein, the 2025-2026 Orange County Grand Jury has arrived at the following six principal findings:

- F1** Several Orange County locations meet the criteria for express bus pick-up sites, being approximately twenty-five miles from LAX and near major freeways. These locations are Fullerton Park & Ride, Buena Park Mall, and former Westminster Mall.
- F2** The Anaheim Regional Transportation Intermodal Center presents a viable option for express bus service to LAX due to its location near Orange

²⁷ Southern California Association of Governments. *SoCal Airport Access and Mobility Study*.
<https://scag.ca.gov/aviation-program>

County attractions and multimodal connectivity, despite being forty miles from LAX.

F3 The Irvine Transportation Center is a viable potential location for direct bus service to LAX due to its location near South Orange County, freeway access, and multimodal connectivity, despite being fifty miles from LAX.

F4 Public transit options to LAX that offer travel times comparable to private automobiles have several limitations.

- The Orange County Transportation Authority has never operated direct transit service to LAX due to federal regulations prohibiting transit bus service to a single destination such as LAX.
- Metrolink OC Line lacks direct connections to LAX, as stations such as Norwalk/Santa Fe Springs do not provide a seamless link to the airport.
- Southern California Association of Governments planning documents that discuss regional airport ground access neglect cross-county mobility challenges.

F5 Metrolink provides less frequent service on weekends. Weekend travel times often exceed three hours due to reduced train schedules and longer transfer wait times.

F6 Metrolink offers the most dependable connection at Union Station, linking travelers to bus and light rail services to LAX. These routes require transfers, and variable freeway conditions can affect overall travel times.

RECOMMENDATIONS

In accordance with California Penal Code Sections 933 and 933.05, the 2025-2026 Orange County Grand Jury requires (or, as noted, requests) responses from each agency affected by the recommendations presented in this section. The responses are to be submitted to the Presiding Judge of the Superior Court.

Based on its investigation described herein, the 2025-2026 Orange County Grand Jury makes the following eight recommendations:

R1 By September 30, 2026, the City of Fullerton should direct its Planning Department to collaborate with Orange County Transportation Authority (OCTA) and Los Angeles World Airports (LAWA) on a business case study for FlyAway® or similar services from Fullerton Park & Ride

(Orangethorpe Transit Village) to LAX, with a case study submitted to LAWA. This study should include projected ridership, financial sustainability, infrastructure readiness, and community benefits to support funding of the proposed service. [F1]

R2 By September 30, 2026, the Buena Park City Council should direct its Planning Department to collaborate with Los Angeles World Airports (LAWA) on a business case study for FlyAway® or similar services from the Buena Park Mall site (Village at Buena Park) to LAX, with a case study submitted to LAWA. This study should include projected ridership, financial sustainability, infrastructure readiness, and community benefits to support funding of the proposed service. [F1]

R3 By September 30, 2026, the Westminster City Council should direct its Planning Department to collaborate with Los Angeles World Airports (LAWA) on a business case study for FlyAway® or similar services from the former Westminster Mall site (Bolsa Pacific at Westminster) to LAX, with a case study submitted to LAWA. This study should include projected ridership, financial sustainability, infrastructure readiness, and community benefits to support funding of the proposed service. [F1]

R4 By September 30, 2026, the Anaheim City Council should direct its Planning Department to collaborate with Orange County Transportation Authority (OCTA) and Los Angeles World Airports (LAWA) on a business case study for FlyAway® or similar services from the Anaheim Regional Transit Intermodal Center to LAX, with a case study submitted to LAWA. This study should include projected ridership, financial sustainability, infrastructure readiness, and community benefits to support funding of the proposed service. [F2]

R5 By September 30, 2026, the Irvine City Council should direct its Transportation Department to review the previous FlyAway® service that ended in 2012, engage the LAWA Mobility Unit or any other express bus service of their choice, and, upon receiving City Council approval, submit a business case study to LAWA or other express bus service(s). This study should include projected ridership, financial sustainability, infrastructure readiness, and community benefits to support funding of the proposed service. [F3]

R6 By September 30, 2026, Southern California Association of Governments should reach out to all Orange County cities to engage and understand

each city's transportation need for enhancing regional intermodal transit connectivity across various transit authorities and agencies and across county lines. [F4]

R7 By March 31, 2026, Metrolink should increase Metrolink OC Line weekend train service to support public transportation trips from Orange County through Union Station to LAX. [F5]

R8 By June 30, 2026, OCTA and Metrolink should promote the appropriate services that offer convenient connections to LAX, aiming to inform and guide travelers who are ready to choose public transit for their airport commute. [F6]

COMMENDATIONS

Southern California cities have made commendable strides in addressing transportation challenges through innovative, community-responsive programs which exemplify proactive governance and sustainable urban planning.

One standout initiative is *Irvine CONNECT*, a free neighborhood shuttle service launched by the City of Irvine in response to resident concerns about traffic congestion and limited transit options. This program reflects a thoughtful and inclusive approach to mobility, connecting key destinations such as parks, schools, hospitals, and shopping centers with Irvine Station. Since its inception, Irvine CONNECT has expanded significantly—most notably in July 2025, when the city extended the Yale-Barranca route and introduced new routes like the Jamboree-UCI and Barranca Link. These expansions were based on data from the city's Transit Vision Study and community feedback, demonstrating Irvine's commitment to evidence-based planning and public engagement.

The program's success is evident in its ridership growth, with the original route serving nearly 150,000 rides in its first year. The city's decision to sunset the older iShuttle program and consolidate services under Irvine CONNECT further highlights its dedication to streamlining operations and improving service quality. With seventy-seven stops and shuttles running every 20 minutes, Irvine CONNECT offers an eco-friendly, accessible alternative to car travel, helping reduce emissions and traffic while enhancing connectivity across the city.

These efforts deserve recognition not only for their operational success but also for their responsiveness to community needs. Mayor Larry Agran praised the effort saying, "The No.1 complaint I hear from our city residents is about Irvine's traffic congestion. The

Irvine CONNECT shuttle is one way we are addressing that issue.”²⁸ Irvine’s leadership in expanding transit infrastructure, investing in capital improvements like new bus stops, and leveraging technology for real-time shuttle tracking sets a high standard for municipal transit innovation. Programs like Irvine CONNECT are a model for other cities seeking to build sustainable, resident-centered transportation networks. Orange County has launched several other commendable transportation programs that prioritize safety, sustainability, and regional connectivity. These initiatives reflect strong leadership and a commitment to improving mobility for residents and visitors alike.

REQUIRED RESPONSES

California Penal Code Section 933 requires the governing body of any public agency which the Grand Jury has reviewed, and about which it has issued a final report, to comment to the Presiding Judge of the Superior Court on the findings and recommendations pertaining to matters under the control of the governing body. Such comment shall be made no later than 90 days after the Grand Jury publishes its report (filed with the Clerk of the Court). Additionally, in the case of a report containing findings and recommendations pertaining to a department or agency headed by an elected County official (e.g., District Attorney, Sheriff, etc.), such elected County official shall comment on the findings and recommendations pertaining to the matters under that elected official’s control within 60 days to the Presiding Judge with an information copy sent to the Board of Supervisors.

The following excerpts from the California Penal Code provide the requirements for public agencies to respond to the Findings and Recommendations of this Grand Jury report:

§933

(c) No later than 90 days after the grand jury submits a final report on the operations of any public agency subject to its reviewing authority, the governing body of the public agency shall comment to the presiding judge of the superior court on the findings and recommendations pertaining to matters under the control of the governing body, and every elected county officer or agency head for which the grand jury has responsibility pursuant to Section 914.1 shall comment within 60 days to the presiding judge of the superior court, with an information copy sent to the board of supervisors, on the findings and recommendations pertaining to matters under the control of that county officer or agency head and any agency or agencies which that officer or agency head supervises

²⁸ Irvine Community News & Views iMessage, (*Free Irvine CONNECT Shuttle Bus Has Expanded Routes*, 10/2/2025).

or controls. In any city and county, the mayor shall also comment on the findings and recommendations. All of these comments and reports shall forthwith be submitted to the presiding judge of the superior court who impaneled the grand jury. A copy of all responses to grand jury reports shall be placed on file with the clerk of the public agency and the office of the county clerk, or the mayor when applicable, and shall remain on file in those offices. One copy shall be placed on file with the applicable grand jury final report by, and in the control of the currently impaneled grand jury, where it shall be maintained for a minimum of five years.

§933.05.

(a) For purposes of subdivision (b) of Section 933, as to each grand jury finding, the responding person or entity shall indicate one of the following:

(1) The respondent agrees with the finding.

(2) The respondent disagrees wholly or partially with the finding, in which case the response shall specify the portion of the finding that is disputed and shall include an explanation of the reasons therefor.

(b) For purposes of subdivision (b) of Section 933, as to each grand jury recommendation, the responding person or entity shall report one of the following actions:

(1) The recommendation has been implemented, with a summary regarding the implemented action.

(2) The recommendation has not yet been implemented, but will be implemented in the future, with a timeframe for implementation.

(3) The recommendation requires further analysis, with an explanation and the scope and parameters of an analysis or study, and a timeframe for the matter to be prepared for discussion by the officer or head of the agency or department being investigated or reviewed, including the governing body of the public agency when applicable. This timeframe shall not exceed six months from the date of publication of the grand jury report.

(4) The recommendation will not be implemented because it is not warranted or is not reasonable, with an explanation therefor.

(c) However, if a finding or recommendation of the grand jury addresses budgetary or personnel matters of a county agency or department headed by an elected officer, both the agency or department head and the board of supervisors shall respond if requested by the grand jury, but the response of the board of supervisors shall address only those

budgetary or personnel matters over which it has some decision-making authority. The response of the elected agency or department head shall address all aspects of the findings or recommendations affecting his or her agency or department.

The Orange County Grand Jury requires the following responses:

City of Fullerton	90 Day Response Required
Findings:	F1
Recommendations:	R1
City of Buena Park	90 Day Response Required
Findings:	F1
Recommendations:	R2
City of Westminster	90 Day Response Required
Findings:	F1
Recommendations:	R3
City of Anaheim	90 Day Response Required
Findings:	F2
Recommendations:	R4
City of Irvine	90 Day Response Required
Findings:	F3
Recommendations:	R5
Orange County Transportation Authority	90 Day Response Required
Findings:	F1, F2, F4
Recommendations:	R1, R4, R8

Southern California Association of Governments	90 Day Response Required
Findings:	F4
Recommendations:	R6

Southern California Regional Rail Authority (as governing Board of Metrolink)	90 Day Response Required
Findings:	F4, F5, F6
Recommendations:	R7, R8

Glossary and Acronyms

Amtrak	American Track
ADA	Americans with Disabilities Act
APM	Automated People Mover
ART	Anaheim Resort Transportation
ATMP	Airfield & Terminal Modernization Project
ATN	Anaheim Transportation Network
CAGR	Compound Annual Growth Rate
Caltrans	California Department of Transportation
ConRAC	Consolidated Rent-A-Car
CTA	Central Terminal Area
EV	Electric Vehicle
EVE	Everyone Ventures Everywhere
FAA	Federal Aviation Administration
IBC	Irvine Business Complex
ITF	Intermodal Transportation Facility
JPA	Joint Powers Authority
LACMTA or LA Metro	Los Angeles County Metropolitan Transportation Authority
LAMP	Landside Access Modernization Program

LAWA	Los Angeles World Airports
LAX	Los Angeles International Airport
LOSSAN	Los Angeles – San Diego – San Luis Obispo
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
NTS	Norwalk Transit System
OC	Orange County
OCTA	Orange County Transportation Authority
RTP/SCS	Regional Transportation Plan/Sustainable Community Strategy
SCAG	Southern California Association of Governments
SNA	John Wayne Airport
TNC	Transportation Network Company
TOD	Transportation Oriented Development
WMSP	Westminster Mall Specific Plan

Bibliography

Amtrak. *The Amtrak App*. Accessed November 1, 2025. <https://www.amtrak.com/app>.

Anaheim Transportation Network (ATN). Accessed November 1, 2025. <https://rideart.org/>.

Anaheim Transportation Network. *A-Way WeGo*. Accessed November 1, 2025. <https://rideart.org/awaywego-app/>.

Animalia-Life. *New Metrolink Train*. [Cover page upper right image of Metrolink train]. Photograph. Accessed December 15, 2025. <https://www.animalia-life.club/qa/pictures/new-metrolink-train>.

Boston Logan. *Logan Express*. Accessed November 2, 2025. <https://www.massport.com/logan-airport/getting-to-logan/logan-express>

City of Irvine. *Irvine Shuttle*. Accessed November 1, 2025. <https://cityofirvine.org/public-works-department/irvine-shuttle>.

Discover Los Angeles. “The Landside Access Modernization Program Will Transform LAX.” August 10, 2023. Accessed September 15, 2025.

<https://www.discoverlosangeles.com/Business%2520Services/the-landside-access-modernization-program-will-transform-lax>.

Eakin, Marah. “WTF Is Going on With L.A.’s LAX Metro Connector.” *Fodor’s*, March 4, 2025. <https://www.fodors.com/world/north-america/usa/california/los-angeles/experiences/news/inside-laxs-new-people-mover-metro-connection-delays-what-to-expect>.

Fine, Howard. “LAX Slips to 5th Busiest in the Nation.” *Los Angeles Business Journal*, February 10, 2025. <https://labusinessjournal.com/featured/lax-slips-to-5th-busiest-in-the-nation/>.

FlyAway®. *LAX FlyAway® Bus*. Accessed November 1, 2025. <https://www.flylax.com/flyaway-bus>.

Gateway LA. “Project: LAX Automated People Mover (APM).” *Gateway LAX Airport Business District*. Accessed November 1, 2025. <https://www.gatewayla.org/project-lax-automated-people-mover-apm>.

Irvine Community News & Views iMessage. “Free Irvine CONNECT Shuttle Bus Has Expanded Routes.” October 2, 2025. <https://irvinecommunitynewsandviews.org/free-irvine-connect-shuttle-bus-has-expanded-routes/>.

John Wayne Airport. “John Wayne Airport Posts September 2025 Statistics.” *News Releases*. Accessed November 1, 2025. <https://www.ocair.com/news/2025/10/22/statistics-september-2025/>.

John Wayne Airport. “Statistics.” *News & Info*. Accessed November 1, 2025. <https://www.ocair.com/about/news-info/statistics/>.

Kubwa, M. “\$2 Billion LAX’s People Mover Completion Set for Late 2025.” *Construction Review*, April 5, 2024. <https://constructionreviewonline.com/construction-news/usa/2-billion-laxs-people-mover-completion-set-for-late-2025/>.

Los Angeles County Grand Jury. “LAX - Automated People Mover, \$880,000,000 of Change Orders! – So What?” *Grand Jury Report*, June 30, 2025, 551–602. <https://www.grandjury.co.la.ca.us/pdf/2024-25%20Los%20Angeles%20County%20Civil%20Grand%20Jury%20Final%20Report.pdf>

Los Angeles County Metropolitan Transportation Authority. *Metro*. Accessed November 1, 2025. <https://www.metro.net>.

LA Metro. *Interactive Estimate Ridership Stats*. Accessed November 2, 2025.

<https://opa.metro.net/MetroRidership/>

LA Metro. *LAX Metro Transit Center Opening Drives Dramatic Increase in Ridership on K Line*. Accessed November 2, 2025. <https://www.metro.net/about/lax-metro-transit-center-opening-drives-dramatic-increase-in-ridership-on-k-line/#:~:text=Overall%20System%20Ridership%20and%20Experience,reasons%20cited%20for%20the%20improvement.>

LA Metro. *Rider Apps*. Accessed November 1, 2025. <https://www.metro.net/riding/rider-apps/>.

Los Angeles County Sheriff's Department. *Transit Services Bureau Weekly Report*, October 14, 2025. <https://lasd.org/transit-services-bureau-weekly-report-68/>.

Los Angeles World Airports. "Airfield and Terminal Modernization Project (ATMP) Roadway Improvements Project." *Airport Development Group*. Accessed November 1, 2025. <https://www.lawa.org/transforminglax/projects/atmp-roadways>.

Los Angeles World Airports. "Automated People Mover (APM) Train System." *The Development Group*. Accessed November 1, 2025. <https://www.lawa.org/transforminglax/projects/automated-people-mover-train-system>.

Los Angeles World Airports. *Board of Airport Commissioners Minutes: Regular Meeting @ LAX*, August 3, 2023. https://lawa.granicus.com/player/clip/980?view_id=4&meta_id=62526&redirect=true.

Los Angeles World Airports. "Consolidated Rent-A-Car Facility." *Connecting LAX*. Accessed November 1, 2025. <https://www.lawa.org/connectinglax/consolidated-rent-a-car-facility>.

Los Angeles World Airports. *Welcome to LAWA, the governing body for LAX and Van Nuys Airports*. Accessed November 1, 2025. <https://www.lawa.org>.

Los Angeles World Airports. "LAX Capital Program Plan of Finance and Key Metrics." *LAWA Legislative Update*, March 13, 2025. <https://www.lawa.org/sites/lawa/files/2025-03/3.%20Management%20Report%20C%20-%20Capital%20Finance%20Plan.pdf>.

Los Angeles World Airports. *Monthly Ground Transportation Traffic Statistics*. Accessed November 1, 2025. <https://www.lawa.org/lawa-investor-relations/statistics-for-lax/ground-transportation-traffic-statistics>.

Los Angeles World Airports. *10-Year Summary*. Accessed November 1, 2025.

<https://www.lawa.org/lawa-investor-relations/statistics-for-lax/10-year-summary/passengers>.

Los Angeles World Airports. *Vehicle Access Policy Post-Automated People Mover (APM)*. Board of Airport Commissioners Management Report, August 3, 2023.

https://lawa.granicus.com/MetaViewer.php?view_id=4&clip_id=980&meta_id=62527.

Los Angeles World Airports. *Volume of Air Traffic*. Accessed November 1, 2025.

<https://www.lawa.org/lawa-investor-relations/statistics-for-lax/volume-of-air-traffic>.

Metrolink. *Welcome to Metrolink*. Accessed November 1, 2025.

<https://metrolinktrains.com>.

Metrolink. *FlyAway®*. Accessed November 1, 2025. <https://metrolinktrains.com/rider-info/general-info/flyaway/>.

Metrolink. *Metrolink App*. Accessed November 1, 2025.

<https://metrolinktrains.com/ticketsOverview/where-to-buy/mobile-app/>.

Metrolink. *Parking at Train Stations*. Accessed November 1, 2025.

<https://metrolinktrains.com/rider-info/general-info/parking-at-train-stations/>.

Minneapolis Metro Transit. *Airport*. Accessed November 2, 2025.

<https://www.metrotransit.org/airport>

Norwalk Transit System (NTS). Accessed November 1, 2025.

https://www.norwalk.org/departments_services/norwalk_transit_system_nts/index.php.

Ohanesian, Liz. "Day Trip on a Budget Throughout Southern California with Metrolink." *Orange County Register*, September 9, 2025.

<https://www.ocregister.com/2025/09/09/day-trip-on-a-budget-throughout-southern-california-with-metrolink/>.

Orange County Grand Jury (2025 – 2026). [Cover page lower left image of FlyAway® bus]. Photograph, November 10, 2025. Unpublished internal documentation.

Orange County Grand Jury (2025 – 2026). [Cover page lower right image of Automated People Mover]. Photograph, November 10, 2025. Unpublished internal documentation.

Orange County Transportation Authority. Accessed November 1, 2025.

<https://www.octa.net>.

Orange County Transportation Authority. *Connecting Orange County*. Accessed January 18, 2026. <https://www.octa.net/about/about-octa/overview>.

Orange County Transportation Authority. *The OC Bus Mobile App*. Accessed November 1, 2025. <https://www.octa.net/getting-around/bus/oc-bus/oc-bus-app/overview>.

Orange County Transportation Authority. *Orangethorpe Transit Village Conceptual Study*. Accessed November 1, 2025. <https://www.octa.net/programs-projects/programs/plans-and-studies/orangethorpe-transit-village-conceptual-study/>.

Orange County Transportation Authority. *Transit-Supportive Design Guidelines*. Accessed November 1, 2025. <https://www.octa.net/news/publications/transit-supportive-guidelines>.

Orange County Transportation Authority. *2024 OC Transit Vision*. May 2025. https://www.octa.net/pdf/OCTV_FullReport.pdf.

Orange County Transportation Authority. *2024 OC Transit Vision: Appendix A – State of OC Transit*. May 2025. https://www.octa.net/pdf/OCTV_AppendixA.pdf.

Orange County Transportation Authority. *About WAVE Card*. Accessed November 1, 2025. <https://wave.octa.net/en/wave-card/about-wave-card/>.

Pacific Surfliner. *Your SoCal ride with a view*. Accessed November 1, 2025. <https://www.pacificsurfliner.com/>.

Public CEO. *OCTA plans to use state funds to welcome back bus riders*. [Cover page upper left image of OCTA bus]. Photograph. Accessed December 15, 2025. [https://www.publicceo.com/2022/08/orange-county-transportation-authoritys-student-bus-pass-program-expands-to-all-county-community-colleges/#iLightbox\[gallery76351\]/0](https://www.publicceo.com/2022/08/orange-county-transportation-authoritys-student-bus-pass-program-expands-to-all-county-community-colleges/#iLightbox[gallery76351]/0).

Schlepp, Travis. “What Happened After LA Metro Paused Its Tap-to-Exit Program.” *KTLA*. September 15, 2025. <https://ktla.com/news/travel/what-happened-after-la-metro-paused-its-tap-to-exit-program/>.

Southern California Association of Governments. *2024–25 President’s Report*. May 2025. https://scag.ca.gov/sites/default/files/2025-05/24-0022-2025GA-PresidentsReport_Final.pdf.

Southern California Association of Governments. *Connect SoCal 2024: A Plan for Navigating to a Brighter Future*. Adopted April 4, 2024. <https://scag.ca.gov/sites/default/files/2024-05/23-2987-connect-socal-2024-final-complete-040424.pdf>.

Southern California Association of Governments. *Connect SoCal 2024: Aviation & Airport Ground Access Technical Report*. Adopted April 4, 2024.

<https://scag.ca.gov/sites/default/files/2024-05/23-2987-tr-aviation-airport-ground-access-final-040424.pdf>.

Southern California Association of Governments. *Connect SoCal 2024: Demographics & Growth Forecast Technical Report*. Adopted April 4, 2024.

<https://scag.ca.gov/sites/default/files/2024-05/23-2987-tr-demographics-growth-forecast-final-040424.pdf>.

Southern California Association of Governments. Aviation. *SoCal Airport Access and Mobility Study*. Accessed November 20, 2025. <https://scag.ca.gov/aviation-program>.

Still Protecting Our Newport (SPON). *John Wayne Airport*. Accessed November 1, 2025. <https://spon-newportbeach.org/John-Wayne-Airport.html>.

TAP. *TAP is your ticket to ride*. Accessed November 1, 2025. <https://www.taptogo.net/>.

Transit. *Your license to a car-free life*. Accessed November 1, 2025. <https://transitapp.com/>.

Visit Anaheim. *Anaheim Regional Transportation Intermodal Center*. Accessed November 1, 2025. <https://www.visitanaheim.org/plan-your-trip/transportation/artic/>.

Appendix A

Los Angeles World Airports Traffic and Vehicle Data

Table 3 LAX Traffic Comparison for September 2025

Los Angeles World Airports (LAWA) Traffic Comparison (TCOM) Los Angeles International Airport Calendar YTD January to September						
10/23/2025, 1:26 PM Page 1 of 1						
	Sep-2025	Sep-2024	% Change	Jan-2025 to Sep-2025	Jan-2024 to Sep-2024	% Change
<u>Passenger Traffic Totals</u>						
Domestic	3,942,661	4,240,358	-7.02 %	37,582,019	39,416,944	-4.66 %
International	1,866,574	1,968,016	-5.15 %	17,869,382	18,235,631	-2.01 %
Total	5,809,235	6,208,374	-6.43 %	55,451,401	57,652,575	-3.82 %
<u>Domestic Passengers</u>						
Scheduled Carriers	3,940,315	4,238,663	-7.04 %	37,554,861	39,400,427	-4.68 %
Commuter Carriers	579	0	100.00 %	12,885	91	14,059.34 %
Charter Carriers	1,767	1,695	4.25 %	14,273	16,426	-13.11 %
Total	3,942,661	4,240,358	-7.02 %	37,582,019	39,416,944	-4.66 %
<u>International Passengers</u>						
Tom Bradley Intl	1,045,693	1,091,068	-4.16 %	9,851,967	9,950,908	-0.99 %
West Gates-MSC	439,328	434,496	1.11 %	3,870,304	3,771,001	2.63 %
Terminal 6	193,915	191,410	1.31 %	1,932,838	1,942,379	-0.49 %
Terminal 7	79,089	104,027	-23.97 %	950,330	1,077,046	-11.77 %
Terminal 2	47,581	86,047	-44.70 %	575,720	751,408	-23.38 %
All Other Terminals	60,968	60,968	0.00 %	688,223	742,889	-7.36 %
Total	1,866,574	1,968,016	-5.15 %	17,869,382	18,235,631	-2.01 %
<u>US Customs Arrivals by Terminal</u>						
Tom Bradley Intl	829,419	858,769	-3.42 %	7,983,718	7,920,228	0.80 %
Terminal 7	74,822	71,461	4.70 %	773,860	791,700	-2.25 %
Terminal 2	214	0	100.00 %	214	0	100.00 %
Terminal 5	0	0	0.00 %	0	0	0.00 %
Terminal 4	0	0	0.00 %	0	0	0.00 %
All Other Terminals	0	0	0.00 %	0	0	0.00 %
Total	904,455	930,230	-2.77 %	8,757,792	8,711,928	0.53 %
<u>Air Cargo (Tons)</u>						
Mail	4,623	4,283	7.94 %	44,570	35,610	25.16 %
Freight	179,165	191,177	-6.28 %	1,594,909	1,761,083	-9.44 %
Total	183,788	195,459	-5.97 %	1,639,479	1,796,693	-8.75 %
<u>FAA Aircraft Movement</u>						
Air Carrier	43,941	44,896	-2.13 %	409,915	409,501	0.10 %
Air Taxi	1,647	1,690	-2.54 %	16,311	15,302	6.59 %
General Aviation	904	1,139	-20.63 %	9,145	9,581	-4.55 %
Military	17	29	-41.38 %	233	314	-25.80 %
Total	46,509	47,754	-2.61 %	435,604	434,698	0.21 %

Source: lawa.org

Table 4 LAX Ground Transportation Monthly Report for September 2025

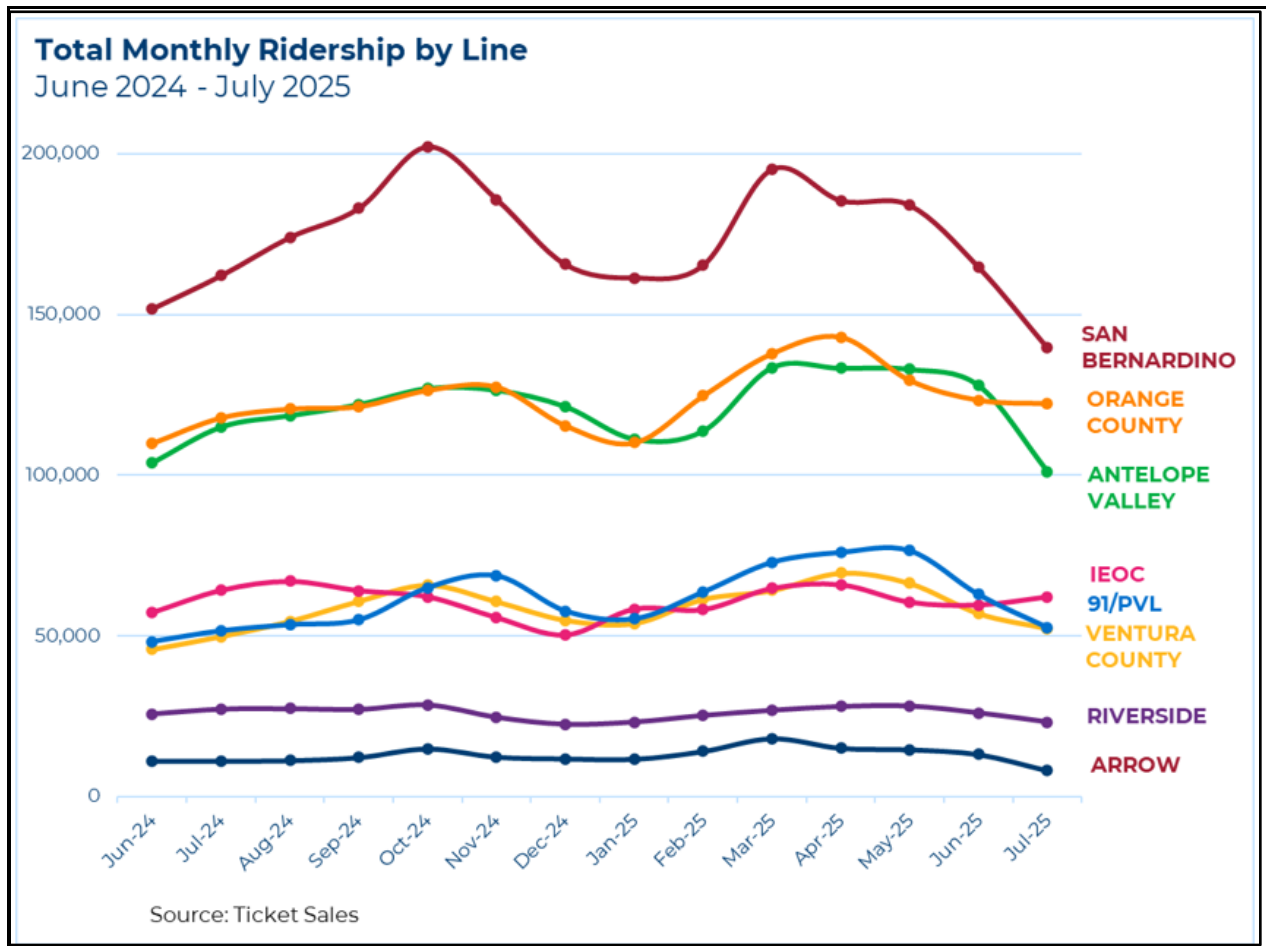
Los Angeles World Airports (LAWA) Los Angeles International Airport (LAX) Ground Transportation Monthly Report All Commercial Vehicle Activity Page 1 of 1												
September 2025 Upper & Lower Level Volumes			Current Month Sep 2025			Year Prior Sep 2024			Year-to-Date Comparison			
Operator Type	Monthly	Daily Avg	Market Share	Monthly	Daily Avg	Market Share	% Change	YTD Totals	YTD Daily Avg	Last YTD Totals	Last YTD Daily Avg	YTD % Change
CHARTER												
TRANSPORTATION CHARTER PARTY (TCP)	252,609	8,420	9.3%	157,345	5,245	5.3%	60.5%	1,734,032	6,329	1,268,223	4,612	37.2%
TRANSPORTATION NETWORK COMPANY (TNC)	565,409	18,847	20.9%	656,983	21,899	22.3%	-13.9%	5,103,838	18,627	5,546,239	20,168	-7.6%
Total Charter	818,018	27,267	30.3%	814,328	27,144	27.6%	0.5%	6,837,870	24,956	6,814,462	24,780	0.7%
COURTESY												
HOTEL/MOTEL	32,383	1,079	1.2%	38,824	1,294	1.3%	-16.6%	323,487	1,181	394,246	1,434	-17.6%
PRIVATE PARKING	26,444	881	1.0%	24,478	816	0.8%	8.0%	219,166	800	196,487	714	11.9%
RENTCAR-ON AIRPORT	41,107	1,370	1.5%	43,311	1,444	1.5%	-5.1%	371,759	1,357	365,750	1,330	2.0%
Total Courtesy	99,934	3,331	3.7%	106,613	3,554	3.6%	-6.3%	914,412	3,337	956,483	3,478	-4.0%
PASSENGER STAGE CORPORATION (PSC)												
SCHEDULED SERVICE	2,486	83	0.1%	2,000	67	0.1%	24.3%	21,103	77	16,661	61	27.1%
SHARED-RIDE	7	0	0.0%	13	0	0.0%	-46.2%	43	0	199	1	-78.3%
Total PSC	2,493	83	0.1%	2,013	67	0.1%	23.8%	21,146	77	16,860	61	25.9%
TAXI												
TAXI	67,218	2,241	2.5%	85,171	2,839	2.9%	-21.1%	593,445	2,166	690,789	2,512	-13.8%
Total Taxi	67,218	2,241	2.5%	85,171	2,839	2.9%	-21.1%	593,445	2,166	690,789	2,512	-13.8%
LAWA												
FLYAWAY	6,246	208	0.2%	6,730	224	0.2%	-7.2%	56,810	207	65,508	238	-13.0%
LAX SHUTTLE	7,721	257	0.3%	9,783	326	0.3%	-21.1%	87,812	320	74,724	272	17.9%
Total LAWA	13,967	466	0.5%	16,513	550	0.6%	-15.4%	144,622	528	140,232	510	3.5%
COMMERCIAL TOTAL	1,001,630	33,388	37.0%	1,024,638	34,155	34.7%	-2.2%	8,511,495	31,064	8,618,826	31,341	-0.9%
PRIVATE VEHICLES	1,702,302	56,743	63.0%	1,927,648	64,255	65.3%	-11.7%	16,238,917	59,266	17,619,001	64,069	-7.5%
Total Vehicle Volumes	2,703,932	90,131	100.0%	2,952,286	98,410	100.0%	-8.4%	24,750,412	90,330	26,237,827	95,410	-5.3%

Source: lawa.org

1

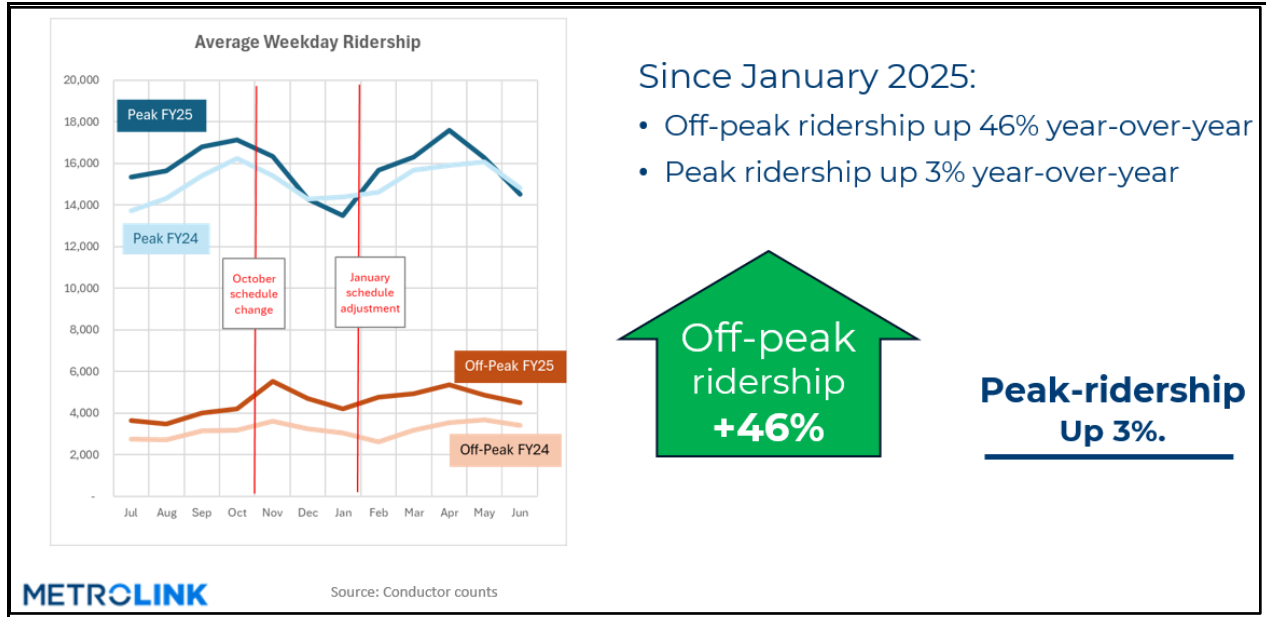
Appendix B

Metrolink Ridership Data



Source: Metrolink

Figure 7 Metrolink Systemwide Ridership



Source: Metrolink

Figure 8 Peak/Off-Peak Ridership Analysis

Appendix C

Public Transportation References

- **FlyAway® Bus**
- <https://www.flylax.com/flyaway-bus>
 - Schedule: Union Station - LAX
 - <https://www.flylax.com/flyaway-bus/union-station>
- **LA Metro**
- <https://www.metro.net/>
 - Schedule: A, C, E, J, and K Lines
 - <https://www.metro.net/riding/schedules-2/>
- **Norwalk Transportation System**
- https://www.norwalk.org/departments_services/norwalk_transit_system_nts/index.php
 - Schedule: Buses 4 and 7
 - https://www.norwalk.org/departments_services/norwalk_transit_system_nts/fares.php
- **Metrolink**
- <https://metrolinktrains.com/>
 - Schedule
 - <https://metrolinktrains.com/>
- **Amtrak Pacific Surfliner**
- <https://www.pacificsurfliner.com/>
 - Schedule
 - <https://www.pacificsurfliner.com/plan-your-trip/schedules/>
- **Orange County Transportation Authority**
- <https://octa.net/>
 - Schedule: Buses 76, 83, and 460
 - <https://octa.net/getting-around/bus/oc-bus/routes-and-schedules/routes-and-schedules>

Appendix D

Route Data

Table 5 Weekday FlyAway®-to-Metrolink/Amtrak Route with Average Travel Time of Two Hours and 15 Minutes and Average Wait Time of 38 Minutes

FlyAway®		Wait Time	Metrolink / Amtrak		Transit Time	Total Wait	Total Time
LAX	Union Station		Union Station	Irvine			
5:40 AM	6:12 AM	0:28	6:40 AM	7:48 AM	1:40	0:28	2:08
6:10 AM	6:42 AM	0:28	7:10 AM	8:12 AM	1:34	0:28	2:02
6:40 AM	7:12 AM	0:28	7:40 AM	8:48 AM	1:40	0:28	2:08
7:10 AM	7:42 AM	0:28	8:10 AM	9:12 AM	1:34	0:28	2:02
7:40 AM	8:12 AM	0:28	8:40 AM	9:48 AM	1:40	0:28	2:08
8:10 AM	8:42 AM	1:28	10:10 AM	11:12 AM	1:34	1:28	3:02
8:40 AM	9:12 AM	0:58	10:10 AM	11:12 AM	1:34	0:58	2:32
9:10 AM	9:42 AM	0:28	10:10 AM	11:12 AM	1:34	0:28	2:02
9:40 AM	10:12 AM	0:28	10:40 AM	11:48 AM	1:40	0:28	2:08
10:10 AM	10:42 AM	0:28	11:10 AM	12:12 PM	1:34	0:28	2:02
10:40 AM	11:12 AM	0:58	12:10 PM	1:12 PM	1:34	0:58	2:32
11:10 AM	11:42 AM	0:28	12:10 PM	1:12 PM	1:34	0:28	2:02
11:40 AM	12:12 PM	0:28	12:40 PM	1:48 PM	1:40	0:28	2:08
12:10 PM	12:42 PM	0:42	1:24 PM	2:32 PM	1:40	0:42	2:22
12:40 PM	1:12 PM	0:12	1:24 PM	2:32 PM	1:40	0:12	1:52
1:10 PM	1:42 PM	0:58	2:40 PM	3:48 PM	1:40	0:58	2:38
1:40 PM	2:12 PM	0:28	2:40 PM	3:48 PM	1:40	0:28	2:08
2:10 PM	2:42 PM	0:28	3:10 PM	4:12 PM	1:34	0:28	2:02
2:40 PM	3:12 PM	0:28	3:40 PM	4:48 PM	1:40	0:28	2:08
3:10 PM	3:42 PM	0:28	4:10 PM	5:09 PM	1:31	0:28	1:59
3:40 PM	4:12 PM	0:28	4:40 PM	5:48 PM	1:40	0:28	2:08
4:10 PM	4:42 PM	0:28	5:10 PM	6:12 PM	1:34	0:28	2:02
4:40 PM	5:12 PM	0:28	5:40 PM	6:48 PM	1:40	0:28	2:08
5:10 PM	5:42 PM	0:28	6:10 PM	7:12 PM	1:34	0:28	2:02
5:40 PM	6:12 PM	0:28	6:40 PM	7:48 PM	1:40	0:28	2:08
6:10 PM	6:42 PM	1:28	8:10 PM	9:12 PM	1:34	1:28	3:02
6:40 PM	7:12 PM	0:58	8:10 PM	9:12 PM	1:34	0:58	2:32
7:10 PM	7:42 PM	0:28	8:10 PM	9:12 PM	1:34	0:28	2:02
7:40 PM	8:12 PM	1:28	9:40 PM	10:48 PM	1:40	1:28	3:08
8:10 PM	8:42 PM	0:58	9:40 PM	10:48 PM	1:40	0:58	2:38
8:40 PM	9:12 PM	0:28	9:40 PM	10:48 PM	1:40	0:28	2:08
9:10 PM	9:42 PM	0:28	10:10 PM	11:12 PM	1:34	0:28	2:02
				Average	1:36	0:38	2:15

Blue = Metrolink

Table 6 Weekday FlyAway®-to-Metrolink/Amtrak Route with FlyAway® Bus Arriving Five Minutes Early
Reduces Average Travel Time by 23 Minutes

FlyAway®		Wait Time	Metrolink / Amtrak		Transit Time	Total Wait	Total Time
LAX	Union Station		Union Station	Irvine			
5:35 AM	6:07 AM	0:03	6:10 AM	7:12 AM	1:34	0:03	1:37
6:05 AM	6:37 AM	0:03	6:40 AM	7:48 AM	1:40	0:03	1:43
6:35 AM	7:07 AM	0:03	7:10 AM	8:12 AM	1:34	0:03	1:37
7:05 AM	7:37 AM	0:03	7:40 AM	8:48 AM	1:40	0:03	1:43
7:35 AM	8:07 AM	0:03	8:10 AM	9:12 AM	1:34	0:03	1:37
8:05 AM	8:37 AM	0:03	8:40 AM	9:48 AM	1:40	0:03	1:43
8:35 AM	9:07 AM	1:03	10:10 AM	11:12 AM	1:34	1:03	2:37
9:05 AM	9:37 AM	0:33	10:10 AM	11:12 AM	1:34	0:33	2:07
9:35 AM	10:07 AM	0:03	10:10 AM	11:12 AM	1:34	0:03	1:37
10:05 AM	10:37 AM	0:03	10:40 AM	11:48 AM	1:40	0:03	1:43
10:35 AM	11:07 AM	0:03	11:10 AM	12:12 PM	1:34	0:03	1:37
11:05 AM	11:37 AM	0:33	12:10 PM	1:12 PM	1:34	0:33	2:07
11:35 AM	12:07 PM	0:03	12:10 PM	1:12 PM	1:34	0:03	1:37
12:05 PM	12:37 PM	0:03	12:40 PM	1:48 PM	1:40	0:03	1:43
12:35 PM	1:07 PM	0:17	1:24 PM	2:32 PM	1:40	0:17	1:57
1:05 PM	1:37 PM	1:03	2:40 PM	3:48 PM	1:40	1:03	2:43
1:35 PM	2:07 PM	0:33	2:40 PM	3:48 PM	1:40	0:33	2:13
2:05 PM	2:37 PM	0:03	2:40 PM	3:48 PM	1:40	0:03	1:43
2:35 PM	3:07 PM	0:03	3:10 PM	4:12 PM	1:34	0:03	1:37
3:05 PM	3:37 PM	0:03	3:40 PM	4:48 PM	1:40	0:03	1:43
3:35 PM	4:07 PM	0:03	4:10 PM	5:09 PM	1:31	0:03	1:34
4:05 PM	4:37 PM	0:03	4:40 PM	5:48 PM	1:40	0:03	1:43
4:35 PM	5:07 PM	0:03	5:10 PM	6:12 PM	1:34	0:03	1:37
5:05 PM	5:37 PM	0:03	5:40 PM	6:48 PM	1:40	0:03	1:43
5:35 PM	6:07 PM	0:03	6:10 PM	7:12 PM	1:34	0:03	1:37
6:05 PM	6:37 PM	0:03	6:40 PM	7:48 PM	1:40	0:03	1:43
6:35 PM	7:07 PM	1:03	8:10 PM	9:12 PM	1:34	1:03	2:37
7:05 PM	7:37 PM	0:33	8:10 PM	9:12 PM	1:34	0:33	2:07
7:35 PM	8:07 PM	0:03	8:10 PM	9:12 PM	1:34	0:03	1:37
8:05 PM	8:37 PM	1:03	9:40 PM	10:48 PM	1:40	1:03	2:43
8:35 PM	9:07 PM	0:33	9:40 PM	10:48 PM	1:40	0:33	2:13
9:05 PM	9:37 PM	0:03	9:40 PM	10:48 PM	1:40	0:03	1:43
9:35 PM	10:07 PM	0:03	10:10 PM	11:12 PM	1:34	0:03	1:37
Average					1:36	0:15	1:52

Blue = Metrolink

Table 7 Weekend FlyAway®-to-Metrolink/Amtrak Route with Average Travel Time of Two Hours and 15 Minutes and Average Wait Time of 38 Minutes

FlyAway®		Wait Time	Metrolink / Amtrak		Transit Time	Total Wait	Total Time
LAX	Union Station		Union Station	Irvine			
5:40 AM	6:12 AM	0:58	7:10 AM	8:12 AM	1:34	0:58	2:32
6:10 AM	6:42 AM	0:28	7:10 AM	8:12 AM	1:34	0:28	2:02
6:40 AM	7:12 AM	0:58	8:10 AM	9:12 AM	1:34	0:58	2:32
7:10 AM	7:42 AM	0:28	8:10 AM	9:12 AM	1:34	0:28	2:02
7:40 AM	8:12 AM	0:28	8:40 AM	9:49 AM	1:41	0:28	2:09
8:10 AM	8:42 AM	1:28	10:10 AM	11:12 AM	1:34	1:28	3:02
8:40 AM	9:12 AM	0:58	10:10 AM	11:12 AM	1:34	0:58	2:32
9:10 AM	9:42 AM	0:28	10:10 AM	11:12 AM	1:34	0:28	2:02
9:40 AM	10:12 AM	0:38	10:50 AM	11:59 AM	1:41	0:38	2:19
10:10 AM	10:42 AM	0:08	10:50 AM	11:59 AM	1:41	0:08	1:49
10:10 AM	10:42 AM	0:28	11:10 AM	12:12 PM	1:34	0:28	2:02
10:40 AM	11:12 AM	0:58	12:10 PM	1:12 PM	1:34	0:58	2:32
11:10 AM	11:42 AM	0:28	12:10 PM	1:12 PM	1:34	0:28	2:02
11:40 AM	12:12 PM	1:48	2:00 PM	3:09 PM	1:41	1:48	3:29
12:10 PM	12:42 PM	1:18	2:00 PM	3:09 PM	1:41	1:18	2:59
12:40 PM	1:12 PM	0:48	2:00 PM	3:09 PM	1:41	0:48	2:29
1:10 PM	1:42 PM	0:18	2:00 PM	3:09 PM	1:41	0:18	1:59
1:40 PM	2:12 PM	0:58	3:10 PM	4:12 PM	1:34	0:58	2:32
2:10 PM	2:42 PM	0:28	3:10 PM	4:12 PM	1:34	0:28	2:02
2:40 PM	3:12 PM	0:58	4:10 PM	5:09 PM	1:31	0:58	2:29
3:10 PM	3:42 PM	0:28	4:10 PM	5:09 PM	1:31	0:28	1:59
3:40 PM	4:12 PM	0:15	4:27 PM	5:36 PM	1:41	0:15	1:56
4:10 PM	4:42 PM	0:28	5:10 PM	6:12 PM	1:34	0:28	2:02
4:40 PM	5:12 PM	0:58	6:10 PM	7:12 PM	1:34	0:58	2:32
5:10 PM	5:42 PM	0:28	6:10 PM	7:12 PM	1:34	0:28	2:02
5:40 PM	6:12 PM	1:58	8:10 PM	9:12 PM	1:34	1:58	3:32
6:10 PM	6:42 PM	1:28	8:10 PM	9:12 PM	1:34	1:28	3:02
6:40 PM	7:12 PM	0:58	8:10 PM	9:12 PM	1:34	0:58	2:32
7:10 PM	7:42 PM	0:28	8:10 PM	9:12 PM	1:34	0:28	2:02
7:40 PM	8:12 PM	1:58	10:10 PM	11:12 PM	1:34	1:58	3:32
8:10 PM	8:42 PM	1:28	10:10 PM	11:12 PM	1:34	1:28	3:02
8:40 PM	9:12 PM	0:58	10:10 PM	11:12 PM	1:34	0:58	2:32
9:10 PM	9:42 PM	0:28	10:10 PM	11:12 PM	1:34	0:28	2:02
				Average	1:35	0:50	2:26

Blue = Metrolink

Table 8 Weekend FlyAway®-to-Metrolink/Amtrak Route with FlyAway® Bus Arriving Five Minutes Early Reduces Average Travel Time by 21 Minutes

FlyAway®		Wait Time	Metrolink / Amtrak		Transit Time	Total Wait	Total Time
LAX	Union Station		Union Station	Irvine			
5:35 AM	6:07 AM	0:03	6:10 AM	7:12 AM	1:34	0:03	1:37
6:05 AM	6:37 AM	0:33	7:10 AM	8:12 AM	1:34	0:33	2:07
6:35 AM	7:07 AM	0:03	7:10 AM	8:12 AM	1:34	0:03	1:37
7:05 AM	7:37 AM	0:33	8:10 AM	9:12 AM	1:34	0:33	2:07
7:35 AM	8:07 AM	0:03	8:10 AM	9:12 AM	1:34	0:03	1:37
8:05 AM	8:37 AM	0:03	8:40 AM	9:49 AM	1:41	0:03	1:44
8:35 AM	9:07 AM	1:03	10:10 AM	11:12 AM	1:34	1:03	2:37
9:05 AM	9:37 AM	0:33	10:10 AM	11:12 AM	1:34	0:33	2:07
9:35 AM	10:07 AM	0:03	10:10 AM	11:12 AM	1:34	0:03	1:37
10:05 AM	10:37 AM	0:13	10:50 AM	11:59 AM	1:41	0:13	1:54
10:35 AM	11:07 AM	0:03	11:10 AM	12:12 PM	1:34	0:03	1:37
11:05 AM	11:37 AM	0:33	12:10 PM	1:12 PM	1:34	0:33	2:07
11:35 AM	12:07 PM	0:03	12:10 PM	1:12 PM	1:34	0:03	1:37
12:05 PM	12:37 PM	1:23	2:00 PM	3:09 PM	1:41	1:23	3:04
12:35 PM	1:07 PM	0:53	2:00 PM	3:09 PM	1:41	0:53	2:34
1:05 PM	1:37 PM	0:23	2:00 PM	3:09 PM	1:41	0:23	2:04
1:35 PM	2:07 PM	1:03	3:10 PM	4:12 PM	1:34	1:03	2:37
2:05 PM	2:37 PM	0:33	3:10 PM	4:12 PM	1:34	0:33	2:07
2:35 PM	3:07 PM	0:03	3:10 PM	4:12 PM	1:34	0:03	1:37
3:05 PM	3:37 PM	0:33	4:10 PM	5:09 PM	1:31	0:33	2:04
3:35 PM	4:07 PM	0:03	4:10 PM	5:09 PM	1:31	0:03	1:34
3:35 PM	4:07 PM	0:20	4:27 PM	5:36 PM	1:41	0:20	2:01
4:05 PM	4:37 PM	0:33	5:10 PM	6:12 PM	1:34	0:33	2:07
4:35 PM	5:07 PM	0:03	5:10 PM	6:12 PM	1:34	0:03	1:37
5:05 PM	5:37 PM	0:33	6:10 PM	7:12 PM	1:34	0:33	2:07
5:35 PM	6:07 PM	0:03	6:10 PM	7:12 PM	1:34	0:03	1:37
6:05 PM	6:37 PM	1:33	8:10 PM	9:12 PM	1:34	1:33	3:07
6:35 PM	7:07 PM	1:03	8:10 PM	9:12 PM	1:34	1:03	2:37
7:05 PM	7:37 PM	0:33	8:10 PM	9:12 PM	1:34	0:33	2:07
7:35 PM	8:07 PM	0:03	8:10 PM	9:12 PM	1:34	0:03	1:37
8:05 PM	8:37 PM	1:33	10:10 PM	11:12 PM	1:34	1:33	3:07
8:35 PM	9:07 PM	1:03	10:10 PM	11:12 PM	1:34	1:03	2:37
9:05 PM	9:37 PM	0:33	10:10 PM	11:12 PM	1:34	0:33	2:07
9:35 PM	10:07 PM	0:03	10:10 PM	11:12 PM	1:34	0:03	1:37
Average					1:35	0:30	2:05

Blue = Metrolink

Table 9 Weekday LA Metro C Line-to-Metrolink/Amtrak Route with Average Travel Time of Two and a Half Hours and Average Wait Time of 54 Minutes

LA Metro C Line		Wait Time	Norwalk Bus 4		Wait Time	Metrolink / Amtrak		Transit Time	Total Wait	Total Time
LAX	Norwalk Station		Norwalk Station	Santa Fe Springs		Santa Fe Springs	Irvine			
4:40 AM	5:11 AM	0:05	5:16 AM	5:35 AM	0:30	6:05 AM	6:48 AM	1:33	0:35	2:08
5:10 AM	5:41 AM	0:05	5:46 AM	6:08 AM	0:57	7:05 AM	7:48 AM	1:36	1:02	2:38
5:40 AM	6:11 AM	0:05	6:16 AM	6:35 AM	0:30	7:05 AM	7:48 AM	1:33	0:35	2:08
6:10 AM	6:41 AM	0:04	6:45 AM	7:08 AM	0:57	8:05 AM	8:48 AM	1:37	1:01	2:38
6:40 AM	7:11 AM	0:08	7:19 AM	7:40 AM	0:25	8:05 AM	8:48 AM	1:35	0:33	2:08
7:10 AM	7:41 AM	0:05	7:46 AM	8:09 AM	0:56	9:05 AM	9:48 AM	1:37	1:01	2:38
7:40 AM	8:11 AM	0:05	8:16 AM	8:39 AM	0:26	9:05 AM	9:48 AM	1:37	0:31	2:08
8:00 AM	8:31 AM	0:10	8:41 AM	9:05 AM	0:00	9:05 AM	9:48 AM	1:38	0:10	1:48
8:40 AM	9:11 AM	0:25	9:36 AM	10:01 AM	1:04	11:05 AM	11:48 AM	1:39	1:29	3:08
9:10 AM	9:41 AM	0:21	10:02 AM	10:23 AM	0:42	11:05 AM	11:48 AM	1:35	1:03	2:38
9:40 AM	10:11 AM	0:26	10:37 AM	10:59 AM	0:06	11:05 AM	11:48 AM	1:36	0:32	2:08
10:00 AM	10:31 AM	0:06	10:37 AM	10:59 AM	0:06	11:05 AM	11:48 AM	1:36	0:12	1:48
10:40 AM	11:11 AM	0:08	11:19 AM	11:40 AM	1:25	1:05 PM	1:48 PM	1:35	1:33	3:08
11:10 AM	11:41 AM	0:02	11:43 AM	12:07 PM	0:58	1:05 PM	1:48 PM	1:38	1:00	2:38
11:40 AM	12:11 PM	0:25	12:36 PM	12:59 PM	0:06	1:05 PM	1:48 PM	1:37	0:31	2:08
11:59 AM	12:31 PM	0:05	12:36 PM	12:59 PM	0:06	1:05 PM	1:48 PM	1:38	0:11	1:49
12:30 PM	1:01 PM	0:08	1:09 PM	1:32 PM	0:17	1:49 PM	2:32 PM	1:37	0:25	2:02
1:10 PM	1:41 PM	0:29	2:10 PM	2:34 PM	0:31	3:05 PM	3:48 PM	1:38	1:00	2:38
1:30 PM	2:01 PM	0:09	2:10 PM	2:34 PM	0:31	3:05 PM	3:48 PM	1:38	0:40	2:18
2:10 PM	2:41 PM	0:28	3:09 PM	3:33 PM	0:32	4:05 PM	4:48 PM	1:38	1:00	2:38
2:30 PM	3:01 PM	0:08	3:09 PM	3:33 PM	0:32	4:05 PM	4:48 PM	1:38	0:40	2:18
3:10 PM	3:41 PM	0:28	4:09 PM	4:34 PM	0:31	5:05 PM	5:48 PM	1:39	0:59	2:38
3:40 PM	4:11 PM	0:27	4:38 PM	5:03 PM	0:02	5:05 PM	5:48 PM	1:39	0:29	2:08
4:00 PM	4:31 PM	0:07	4:38 PM	5:03 PM	0:02	5:05 PM	5:48 PM	1:39	0:09	1:48
4:30 PM	5:01 PM	0:01	5:02 PM	5:27 PM	0:38	6:05 PM	6:48 PM	1:39	0:39	2:18
5:10 PM	5:41 PM	0:01	5:42 PM	6:07 PM	0:58	7:05 PM	7:47 PM	1:38	0:59	2:37
5:40 PM	6:11 PM	0:05	6:16 PM	6:39 PM	0:26	7:05 PM	7:47 PM	1:36	0:31	2:07
6:10 PM	6:41 PM	0:04	6:45 PM	7:07 PM	2:58	10:05 PM	10:48 PM	1:36	3:02	4:38
6:40 PM	7:11 PM	0:24	7:35 PM	7:55 PM	2:10	10:05 PM	10:48 PM	1:34	2:34	4:08
7:10 PM	7:41 PM	0:51	8:32 PM	8:47 PM	1:18	10:05 PM	10:48 PM	1:29	2:09	3:38
7:40 PM	8:11 PM	0:21	8:32 PM	8:47 PM	1:18	10:05 PM	10:48 PM	1:29	1:39	3:08
8:10 PM	8:41 PM	0:28	9:09 PM	9:22 PM	0:43	10:05 PM	10:48 PM	1:27	1:11	2:38
8:40 PM	9:11 PM	0:38	9:49 PM	10:02 PM	0:03	10:05 PM	10:48 PM	1:27	0:41	2:08
9:00 PM	9:31 PM	0:18	9:49 PM	10:02 PM	0:03	10:05 PM	10:48 PM	1:27	0:21	1:48
Average		0:14			0:40			1:35	0:54	2:30

Blue = Metrolink

Connecting Orange County to LAX

Table 10 Weekend LA Metro C Line-to-Metrolink/Amtrak Route with Last Departure from LAX at 3:40 PM and Average Travel Time in Excess of Three Hours

LA Metro C Line		Wait Time	Norwalk Bus 4 and 7		Wait Time	Metrolink / Amtrak		Transit Time	Total Wait	Total Time
LAX	Norwalk Station		Norwalk Station	Santa Fe Springs		Santa Fe Springs	Irvine			
7:10 AM	7:41 AM	0:19	8:00 AM	8:18 AM	0:45	9:03 AM	9:49 AM	1:35	1:04	2:39
7:50 AM	8:21 AM	0:04	8:25 AM	8:39 AM	0:24	9:03 AM	9:49 AM	1:31	0:28	1:59
8:10 AM	8:41 AM	0:09	8:50 AM	9:08 AM	2:05	11:13 AM	11:59 AM	1:35	2:14	3:49
8:40 AM	9:11 AM	0:29	9:40 AM	9:58 AM	1:15	11:13 AM	11:59 AM	1:35	1:44	3:19
9:10 AM	9:41 AM	0:49	10:30 AM	10:50 AM	0:23	11:13 AM	11:59 AM	1:37	1:12	2:49
9:50 AM	10:21 AM	0:09	10:30 AM	10:50 AM	0:23	11:13 AM	11:59 AM	1:37	0:32	2:09
10:10 AM	10:41 AM	0:39	11:20 AM	11:40 AM	2:44	2:24 PM	3:09 PM	1:36	3:23	4:59
10:40 AM	11:11 AM	0:09	11:20 AM	11:40 AM	2:44	2:24 PM	3:09 PM	1:36	2:53	4:29
11:10 AM	11:41 AM	0:29	12:10 PM	12:30 PM	1:54	2:24 PM	3:09 PM	1:36	2:23	3:59
11:40 AM	12:11 PM	0:49	1:00 PM	1:20 PM	1:04	2:24 PM	3:09 PM	1:36	1:53	3:29
12:10 PM	12:41 PM	0:19	1:00 PM	1:20 PM	1:04	2:24 PM	3:09 PM	1:36	1:23	2:59
12:40 PM	1:11 PM	0:39	1:50 PM	2:10 PM	0:14	2:24 PM	3:09 PM	1:36	0:53	2:29
1:10 PM	1:41 PM	0:09	1:50 PM	2:10 PM	0:14	2:24 PM	3:09 PM	1:36	0:23	1:59
1:40 PM	2:11 PM	0:29	2:40 PM	3:00 PM	1:50	4:50 PM	5:36 PM	1:37	2:19	3:56
2:10 PM	2:41 PM	0:49	3:30 PM	3:50 PM	1:00	4:50 PM	5:36 PM	1:37	1:49	3:26
2:40 PM	3:11 PM	0:19	3:30 PM	3:50 PM	1:00	4:50 PM	5:36 PM	1:37	1:19	2:56
3:10 PM	3:41 PM	0:39	4:20 PM	4:40 PM	0:10	4:50 PM	5:36 PM	1:37	0:49	2:26
3:40 PM	4:11 PM	0:09	4:20 PM	4:40 PM	0:10	4:50 PM	5:36 PM	1:37	0:19	1:56
Average		0:25			1:04			1:35	1:30	3:05

Blue = Metrolink

Orange = Bus 7 (No Service on Sundays)

Table 11 Weekday Metrolink/Amtrak-to-FlyAway® Route with Average Travel Time of One Hour and a 48 Minutes and Average Wait Time of only Seven Minutes

Metrolink / Amtrak		Wait Time	FlyAway®		Transit Time	Total Wait	Total Time
Irvine	Union Station		Union Station	LAX			
5:12 AM	6:20 AM	0:10	6:30 AM	7:03 AM	1:41	0:10	1:51
5:49 AM	6:57 AM	0:03	7:00 AM	7:33 AM	1:41	0:03	1:44
6:12 AM	7:20 AM	0:10	7:30 AM	8:03 AM	1:41	0:10	1:51
7:12 AM	8:20 AM	0:10	8:30 AM	9:03 AM	1:41	0:10	1:51
7:49 AM	8:57 AM	0:03	9:00 AM	9:33 AM	1:41	0:03	1:44
8:12 AM	9:20 AM	0:10	9:30 AM	10:03 AM	1:41	0:10	1:51
9:12 AM	10:20 AM	0:10	10:30 AM	11:03 AM	1:41	0:10	1:51
9:49 AM	10:52 AM	0:08	11:00 AM	11:33 AM	1:36	0:08	1:44
10:12 AM	11:20 AM	0:10	11:30 AM	12:03 PM	1:41	0:10	1:51
11:49 AM	12:57 PM	0:03	1:00 PM	1:33 PM	1:41	0:03	1:44
1:12 PM	2:20 PM	0:10	2:30 PM	3:03 PM	1:41	0:10	1:51
1:49 PM	2:57 PM	0:03	3:00 PM	3:33 PM	1:41	0:03	1:44
2:49 PM	3:57 PM	0:03	4:00 PM	4:33 PM	1:41	0:03	1:44
3:12 PM	4:20 PM	0:10	4:30 PM	5:03 PM	1:41	0:10	1:51
3:52 PM	4:57 PM	0:03	5:00 PM	5:33 PM	1:38	0:03	1:41
4:12 PM	5:20 PM	0:10	5:30 PM	6:03 PM	1:41	0:10	1:51
5:12 PM	6:20 PM	0:10	6:30 PM	7:03 PM	1:41	0:10	1:51
5:52 PM	6:57 PM	0:03	7:00 PM	7:33 PM	1:38	0:03	1:41
6:12 PM	7:20 PM	0:10	7:30 PM	8:03 PM	1:41	0:10	1:51
6:53 PM	8:04 PM	0:26	8:30 PM	9:03 PM	1:44	0:26	2:10
7:12 PM	8:20 PM	0:10	8:30 PM	9:03 PM	1:41	0:10	1:51
8:12 PM	9:20 PM	0:10	9:30 PM	10:03 PM	1:41	0:10	1:51
8:49 PM	9:57 PM	0:03	10:00 PM	10:33 PM	1:41	0:03	1:44
9:49 PM	10:57 PM	0:03	11:00 PM	11:33 PM	1:41	0:03	1:44
				Average	1:40	0:07	1:48

Blue = Metrolink

Table 12 Weekend Metrolink/Amtrak-to-FlyAway® Route with Average Travel Time of One Hour and a 52 Minutes and Average Wait Time of only Ten Minutes

Metrolink / Amtrak		Wait Time	FlyAway®		Transit Time	Total Wait	Total Time
Irvine	Union Station		Union Station	LAX			
5:49 AM	6:57 AM	0:03	7:00 AM	7:33 AM	1:41	0:03	1:44
7:49 AM	8:57 AM	0:03	9:00 AM	9:33 AM	1:41	0:03	1:44
9:21 AM	10:34 AM	0:26	11:00 AM	11:33 AM	1:46	0:26	2:12
9:49 AM	10:52 AM	0:08	11:00 AM	11:33 AM	1:36	0:08	1:44
11:49 AM	12:57 PM	0:03	1:00 PM	1:33 PM	1:41	0:03	1:44
12:22 PM	1:34 PM	0:26	2:00 PM	2:33 PM	1:45	0:26	2:11
1:49 PM	2:57 PM	0:03	3:00 PM	3:33 PM	1:41	0:03	1:44
2:23 PM	3:39 PM	0:21	4:00 PM	4:33 PM	1:49	0:21	2:10
2:49 PM	3:57 PM	0:03	4:00 PM	4:33 PM	1:41	0:03	1:44
3:52 PM	4:57 PM	0:03	5:00 PM	5:33 PM	1:38	0:03	1:41
5:52 PM	6:57 PM	0:03	7:00 PM	7:33 PM	1:38	0:03	1:41
6:21 PM	7:38 PM	0:22	8:00 PM	8:33 PM	1:50	0:22	2:12
6:53 PM	8:04 PM	0:26	8:30 PM	9:03 PM	1:44	0:26	2:10
8:49 PM	9:57 PM	0:03	10:00 PM	10:33 PM	1:41	0:03	1:44
9:49 PM	10:57 PM	0:03	11:00 PM	11:33 PM	1:41	0:03	1:44
				Average	1:42	0:10	1:52

Blue = Metrolink

Table 13 Weekday Metrolink/Amtrak-to-LA Metro C Line Route with Average Travel Time of One Hour and 47 Minutes but only One Train during Mid-Day

Metrolink / Amtrak		Wait Time	Norwalk Bus 4		Wait Time	LA Metro C Line		Transit Time	Total Wait	Total Time
Irvine	Santa Fe Springs		Santa Fe Springs	Norwalk Station		Norwalk Station	LAX			
5:12 AM	5:57 AM	0:04	6:01 AM	6:16 AM	0:09	6:25 AM	6:55 AM	1:30	0:13	1:43
6:12 AM	6:57 AM	0:03	7:00 AM	7:17 AM	0:08	7:25 AM	7:55 AM	1:32	0:11	1:43
7:12 AM	7:57 AM	0:06	8:03 AM	8:21 AM	0:04	8:25 AM	8:55 AM	1:33	0:10	1:43
8:12 AM	8:57 AM	0:12	9:09 AM	9:26 AM	0:09	9:35 AM	10:05 AM	1:32	0:21	1:53
9:12 AM	9:57 AM	0:04	10:01 AM	10:18 AM	0:07	10:25 AM	10:55 AM	1:32	0:11	1:43
10:12 AM	10:57 AM	0:03	11:00 AM	11:17 AM	0:08	11:25 AM	11:55 AM	1:32	0:11	1:43
1:12 PM	1:57 PM	0:02	1:59 PM	2:17 PM	0:08	2:25 PM	2:55 PM	1:33	0:10	1:43
3:12 PM	3:57 PM	0:00	3:57 PM	4:16 PM	0:09	4:25 PM	4:55 PM	1:34	0:09	1:43
4:12 PM	4:57 PM	0:10	5:07 PM	5:27 PM	0:08	5:35 PM	6:05 PM	1:35	0:18	1:53
5:12 PM	5:57 PM	0:04	6:01 PM	6:19 PM	0:06	6:25 PM	6:55 PM	1:33	0:10	1:43
6:12 PM	6:57 PM	0:04	7:01 PM	7:18 PM	0:07	7:25 PM	7:55 PM	1:32	0:11	1:43
7:12 PM	7:57 PM	0:17	8:14 PM	8:29 PM	0:16	8:45 PM	9:15 PM	1:30	0:33	2:03
8:12 PM	8:57 PM	0:29	9:26 PM	9:40 PM	0:05	9:45 PM	10:15 PM	1:29	0:34	2:03
Average		0:07			0:08			1:32	0:15	1:47

Blue = Metrolink

Table 14 Weekend Metrolink/Amtrak-to-LA Metro C Line Route with Earliest Arrival to LAX at 11:45 AM and Average Travel Time of Two Hours and Eight Minutes

Metrolink / Amtrak		Wait Time	Norwalk Bus 4		Wait Time	LA Metro C Line		Transit Time	Total Wait	Total Time
Irvine	Santa Fe Springs		Santa Fe Springs	Norwalk Station		Norwalk Station	LAX			
9:21 AM	10:05 AM	0:50	10:55 AM	11:10 AM	0:05	11:15 AM	11:45 AM	1:29	0:55	2:24
12:22 PM	1:06 PM	0:22	1:28 PM	1:44 PM	0:11	1:55 PM	2:25 PM	1:30	0:33	2:03
2:23 PM	3:10 PM	0:46	3:56 PM	4:12 PM	0:03	4:15 PM	4:45 PM	1:33	0:49	2:22
6:21 PM	7:08 PM	0:07	7:15 PM	7:29 PM	0:06	7:35 PM	8:05 PM	1:31	0:13	1:44
Average		0:31			0:06			1:30	0:37	2:08

Blue = Metrolink

Table 15 Comparison of Transit Routes from Irvine to LAX

Item	Metrolink/Amtrak -> FlyAway® -> APM		Metrolink -> NTS -> C Line -> APM	
	Weekday	Weekend	Weekday	Weekend
Average Trip Time (Hours: Minutes)	1:48	1:52	1:47	2:08
Shortest Trip Time (Hours: Minutes)	1:41	1:41	1:43	1:44
Longest Trip Time (Hours: Minutes)	2:10	2:12	2:03	2:24
Number of Trains	24	15	13	4
Average Frequency of Trains (Hours: Minutes)	0:43	1:08	1:15	3:00
Percentage of Trips < 2:00	96%	67%	85%	25%
Percentage of Trips < 2:00 and < 2:30	4%	33%	15%	75%
Percentage of Trips > 2:30 and < 3:00	0%	0%	0%	0%
Percentage of Trips > 3:00	0%	0%	0%	0%
Earliest Departure from Irvine	5:12 AM	5:49 AM	5:12 AM	9:21 AM
Earliest Arrival at LAX	7:03 AM	7:33 AM	6:55 AM	11:45 AM
Latest Departure from Irvine	9:49 PM	9:49 PM	8:12 PM	6:21 PM
Latest Arrival at LAX	11:33 PM	11:33 PM	10:15 PM	8:05 PM

Note: APM replaces LAX Shuttle in mid-2026

Source: Metrolink, Amtrak, LA Metro, Norwalk Transit System, and FlyAway® published schedules

Table 16 Comparison of Transit Routes from LAX to Irvine

Item	APM -> FlyAway® -> Metrolink/Amtrak		APM -> C Line -> NTS -> Metrolink	
	Weekday	Weekend	Weekday	Weekend
Average Trip Time (Hours: Minutes)	2:15	2:26	2:30	3:05
Shortest Trip Time (Hours: Minutes)	1:52	1:49	1:48	1:56
Longest Trip Time (Hours: Minutes)	3:08	3:32	4:38	4:59
Number of Trains	25	16	13	4
Average Frequency of Trains (Hours: Minutes)	0:41	1:04	1:20	2:35
Percentage of Trips < 2:00	6%	12%	15%	17%
Percentage of Trips < 2:00 and < 2:30	69%	42%	68%	39%
Percentage of Trips > 2:30 and < 3:00	16%	27%	12%	33%
Percentage of Trips > 3:00	9%	18%	6%	11%
Earliest Departure from LAX	5:40 AM	5:40 AM	4:40 AM	7:50 AM
Earliest Arrival at Irvine	7:48 AM	8:12 AM	6:48 AM	9:49 AM
Latest Departure from LAX	9:10 PM	9:10 PM	9:00 PM	3:40 PM
Latest Arrival at Irvine	11:12 PM	11:12 PM	10:48 PM	5:36 PM

Note: APM replaces LAX Shuttle in mid-2026

Source: Metrolink, Amtrak, LA Metro, Norwalk Transit System, and FlyAway® published schedules

July 22, 2026, Aviation Committee Comments

The following comments regarding the Newport Beach [Aviation Committee](#) meeting [agenda](#) are from:
Jim Mosher (jimmosher@yahoo.com), 2210 Private Road, Newport Beach 92660 (949-548-6229)

Item III. Draft Minutes from April 27, 2026

The draft minutes appear to have been carefully proofread. I have no corrections to suggest, but I do have these comments:

Page 3, Item iii, paragraph 2, sentence 1: “*Committee Member Stranberg and Chair Kleiman met with senior officials from American Airlines in June 2023 which was moving its primary NextGen base from Miami International Airport to Dallas Fort Worth International Airport.*”

Comment: Are the minutes correct in attributing American’s increase in Boeing MAX 8 operations at JWA to a conversation nearly three years before? Or was some later year intended?

Item IV.a.i. Report from County of Orange

I cannot anticipate the content of the oral report, but the following topics are typically included:

Newer Generation Aircraft

Both the City and the airport have shown interest in the increased use of newer generation aircraft by the regularly-scheduled commercial carriers at JWA.

The current list of such aircraft consists of the Airbus 320-200 Neo, 320-100 Neo, 220-100, 220-300 and Boeing 737-MAX 8 (displayed by JWA in [WebTrak](#) with their [IATA codes](#) A20N, A21N, A220, A223 and B38M).

The following graphic shows the percentage of these newer generation in each carrier’s operations (as shown in WebTrak) by month through noon on Saturday, July 18, 2026, as well as the overall percentage out of all regularly-scheduled operations, which in July so far is at 43%.

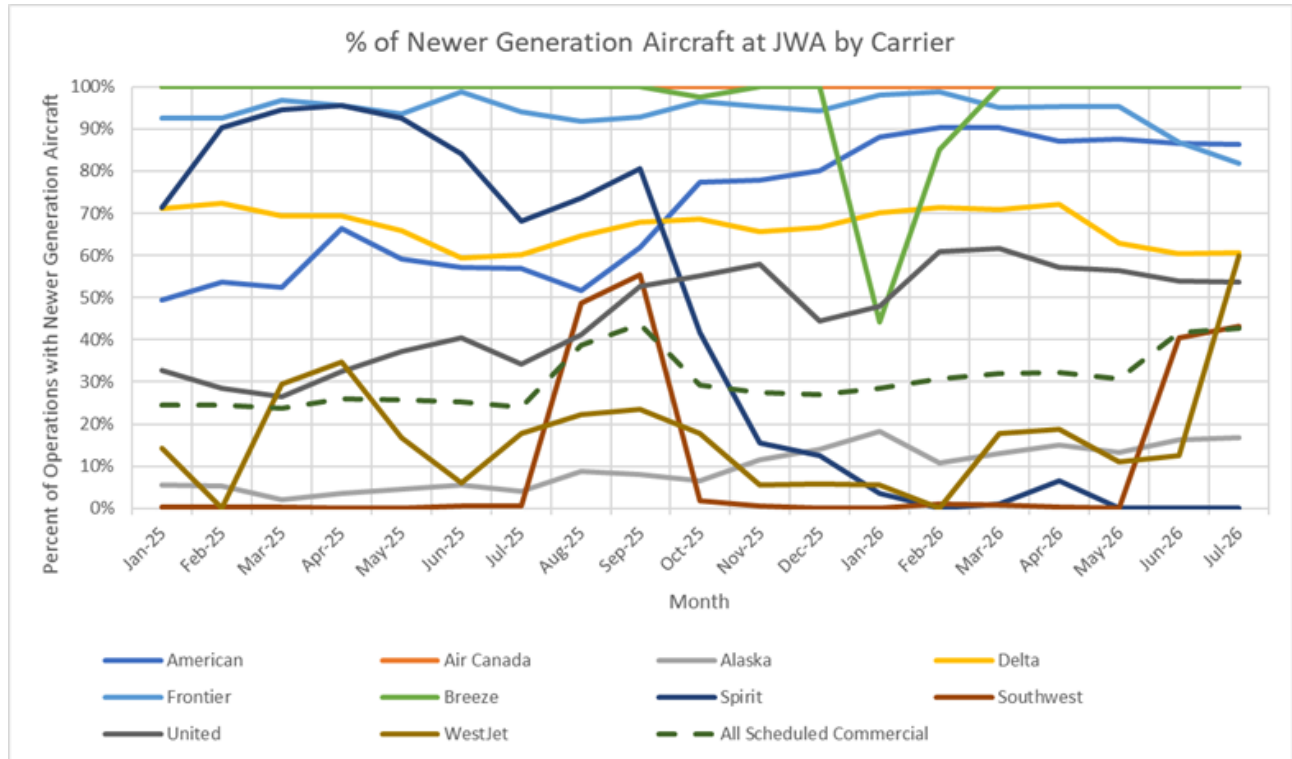
At the top of the chart are Air Canada, which has been at 100% throughout this period, and Breeze, which has been at 100% for most of it.

Not plotted are Allegiant, Horizon, JetSuiteX,¹ Skywest,² FedEx and UPS³ because they would all be at 0% (FedEx and UPS are included in the totals used to calculate the percentages; although extolled by some,).

¹ JetSuiteX, although extolled by some, flies older aircraft models, the [Embraer ERJ-135 and ERJ-145](#), not regarded as “newer generation,” and with no clear newer generation replacement. Its operations are included in the total used to compute the overall percentage of newer generation commercial air carrier operations.

² WebTrak does not distinguish between Skywest’s own commuter operations and those flown under another carrier’s name. All its operations are included in computing the overall percentage.

³ FedEx and UPS are included in the total operations used to compute the overall percentage of newer generation operations in keeping with the practice in Table 9 of JWA’s [Noise Abatement Quarterly Reports](#), where they are listed as an “air carrier” (even though the JetSuiteX and SkyWest commuter operations are not).



Southwest Airlines, which is by far the dominant carrier at JWA, can be seen oscillating between a substantial number of newer generation aircraft (the B38M in their case) and none, which, due to their dominance, moves the overall percentage. A little over half their operations were with the B38M from August 5, 2025, through October 1, 2025, and a slightly smaller percentage starting this June.

WestJet, a very minor operator, also shows a strong (but possibly equally temporary?) uptick, with 6 of its 10 operations so far in July being with the B38M.

Spirit Airlines, which formerly flew a mix of the older A320 and newer A20N, showed a sharp decline in its percentage of A20N operations prior to its terminating service on May 2.

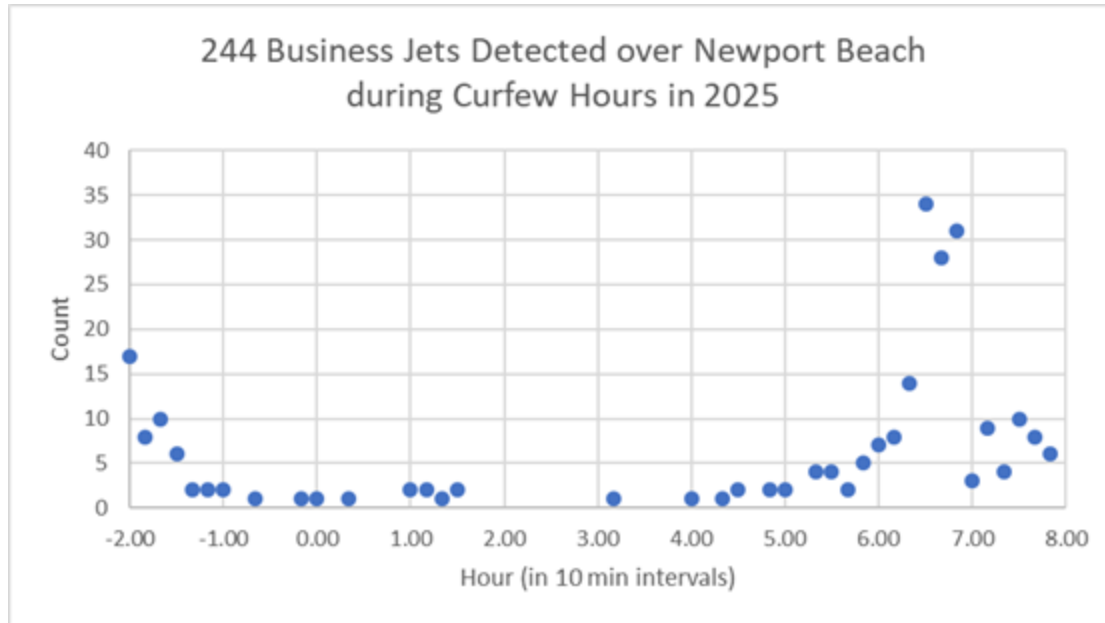
General Aviation Curfew Hours Operations

There is a common belief that without a hard curfew for General Aviation flights,⁴ they can fly over Newport Beach at any time of night they want.

While this is true in theory, the reality is there doesn't, at present, appear to be much demand for very late night or very early morning operations.

The following graphic (-2.00 on the horizontal scale is 10:00 p.m., -1.00 is 11:00 p.m. and 0.00 is midnight) shows the count of curfew hour GA jet operations over the Newport Beach noise monitors in all of 2025.

⁴ They are currently restricted only by curfew hour noise limits stricter than those during the rest of the day.



As can be seen, by far the most common time for curfew hour GA operations is the half hour before the 7:00 non-curfew window opens. But even more popular⁵ is the hour before that window opens at 8:00 a.m. on Sunday. The only other time with noticeable GA curfew activity is the half hour after the departure curfew starts at 10:00 p.m.

For whatever reason, no GA operations were reported between 2:00 and 3:00 a.m. in 2025, and only one for the whole year between 3:00 and 4:00 a.m.

This could, of course, change if JWA became a more welcoming venue for international GA flights.

Fly Friendly

In [written comments](#) I submitted in advance of this Committee's January 26, 2026, meeting, and in [additional comments](#) submitted in advance of the April 27 meeting, I pointed out some problems with the [Fly Friendly scoring](#) revealed by the vendor's relatively recent posting of the readings of each departure at each microphone used to compute the scores.

Examination of those individual readings showed, and continues to show, unexpectedly high and low noise readings.⁶

The unexpectedly high readings appear to result from the vendor's attributing to the GA aircraft all the noise observed as it passes a microphone, whether that noise originates from the plane or

⁵ The popularity of the 7:00 to 8:00 a.m. time slot for GA operations is at least six times greater than it appears in the graphic because it is a curfew time on only 1 day out of 7 (Sunday), compared to the other time slots, which are curfew times 7 days a week. Hence, the most likely time to hear a curfew operation is between 7:00 and 8:00 a.m. (compared to any other hour).

⁶ The existence of unexpectedly high readings is revealed if one uses the on-screen sort function to put the highest noise levels at the top, and observes many at NMS 6S and 7S, which being the most distant stations are expected to yield low rather high readings. Sorting in the reverse order reveals purported events near the threshold of human hearing, which are not intuitively reasonable when the readings at the neighboring monitors were normal.

some other source. This has the effect of unfairly reducing the scores of aircraft that had the bad luck to have their reading taken at a moment when there was a high level of background noise near the microphone.

The unexpectedly low readings appear to result from the vendor's practice of substituting in a reading when, for whatever reason, an actual measurement is not available. These substitute numbers are supposedly based on modeling, but appear to be a set number for a given aircraft model at a given monitor that bears little resemblance to the actual reads typically observed. The rationale for these substitutions is that the vendor assigns a score to each GA departure by averaging its readings over the seven Newport Beach monitors, and a reading at each is needed to compute an average.

Substituting fake data is never desirable, and in this case appears to be completely unnecessary. Rather than insisting on having a score for each departure based on averaging that departure's readings at each of the seven monitoring stations, the vendor could, instead, average all the available actual readings for a given aircraft at each monitor, and then compute its overall score based on the average of that aircraft's seven monitor averages. If there is no missing data, the result will be the same as the vendor's current method. If points *are* missing, only actually observed data will be averaged, and the result will not be biased by the substitution of faked readings. Additionally, the averages for the noise produced by a given aircraft at a given monitor could be computed as the "energy average" of the observations (as is done in preparing the Quarterly Noise Reports), rather than an "arithmetic average." The energy average is by far the more conventional way of averaging decibel readings taken at a given point over time, and more accurately reflects the outsized impact of the high dB readings compared to the low ones. In fact, the dB readings that need to be averaged are themselves energy averages over the time it takes the aircraft to pass.

Because the Fly Friendly scoring reports are available only on-screen and cannot be downloaded for more careful study, the impact of these technical problems with the scoring are difficult to assess. They may affect only a small fraction of the reported numbers, or a much larger one.

What seems more important is whether the program is achieving its goal of reducing GA noise, which would itself seem to be a combination of whether it is possible to substantially reduce GA noise and whether the results (and ways to reduce noise) are being effectively communicated to those producing the noise.

One indication that the communication to the pilots and operators is less effective than it might be about what the program is trying to achieve and what can be done to achieve it is that some of the operators most honored by the Fly Friendly are also unusually prolific violators of the much longer existing [General Aviation Noise Ordinance](#), and might even be at risk of being banned from the airport for repeated GANO violations.⁷ It is a bit as if a citizen honored at a dinner as a town's best driver was simultaneously in court facing possible revocation of their license for repeated DUI's.

⁷ GANO violations are based on exceeding a cumulative measure for the microphone flyover, the [Single Event Noise Exposure Level](#) (SENEL) exceeding specified [Noise Limits](#). It is very difficult for the public to verify from JWA's WebTrak portal if a violation has occurred, because it displays only the instantaneous loudness, from which the peak (Lmax) can be discerned, but not the SENEL. There is however, no reason it could not display the SENEL, especially in the historical playback mode, when the noise monitor circle turns into a rectangle when an event has been detected.

The table below attempts to summarize the results for the Tier 1 Fly Friendly finishers listed in the [2025 Annual Report](#). Tier 1 is the GA operators with highest 15 total number of operations in the year.

Texas-based Baker Aviation (call sign KOW) was honored as the Tier 1 winner in 2025. They were also the Tier 1 winner in 2024, and the Tier 2 (the next 15 top operators) winner in 2023, and the Tier 3 winner in the 2022 starting year. In other words, as their operations have increased they have moved to increasing higher tiers, but always finished at the top of their peers.

2025 Fly Friendly Tier 1 Operator Performance								
Carrier	# FF ops	# WebTrak ops	# curfew ops	% curfew	# violations	% violations	FF Score	Name
all GA jets	45,650	42,232	436	1.03%	100	0.24%		
KOW	485	426	15	3.52%	4	0.82%	86.9	Baker Aviation
WUP	361	360	3	0.56%	1	0.28%	86.8	Wheels Up
EJA	8,298	8,272	4	0.05%	0	0.00%	84.9	NetJets Aviation
PXT	223	152	3	1.97%	2	0.90%	83.7	Pacific Coast Jet
LXJ	3,808	3,701	4	0.11%	2	0.05%	83.2	FlexJet
TIV	337	116	-	0.00%	0	0.00%	83.1	Thrive Aviation
JRE	379	363	10	2.75%	6	1.58%	81.2	Fly Exclusive
* PFT	1,832	-	-	-	1	0.05%	80.8	Paragon Airways
TWY	244	43	-	0.00%	0	0.00%	80.1	Sunset Aviation
KFB	283	63	-	0.00%	0	0.00%	78.9	STAjets
VJA	745	601	1	0.17%	0	0.00%	77.8	Vista America
* TBL	215	-	-	-	1	0.47%	77.2	Bell Aliant Regional Comms
SIS	276	176	1	0.57%	0	0.00%	76.4	Silver Air
EJM	453	187	-	0.00%	0	0.00%	75.0	Executive Jet Management
RGY	1,289	827	55	6.65%	0	0.00%	66.9	Regency Airlines

In addition to the Fly Friendly information shaded in blue, the table shows the number of times each operators aircraft were found in WebTrak, and the number of those WebTrak-displayed operations that occurred during the curfew hours and the number of GANO violations incurred (three of which by an “operator” within three years can lead to a three year expulsion from JWA).

Most WebTrak data is lacking for Paragon Airways (PFT) and Bell Aliant (TBL) because all their aircraft subscribe to the FAA's [Limiting Aircraft Data Displayed](#) (LADD) program, which blocks display of their identity on certain public displays, including WebTrak. For some other operators, a portion of their fleet is enrolled in LADD, resulting in the identified WebTrak operations being less than the operations reported in the Fly Friendly scoring (which apparently has access to the identity of all GA operations). However, the number of GANO violations resulting from each operator's total operations should be reasonably accurate because for the violating aircraft whose identity was not publicly revealed in WebTrak, the tail number and call sign were retrieved with the replay feature in the [ADS-B Exchange](#) flight tracker.

The top line, shaded in salmon, gives the results for all GA jet operations, of which it can be seen about 1% occur during curfew hours and about 0.24% of all GA jet operations result in a GANO violation (all of which in 2025 occurred during curfew hours). Operators exceeding these averages are highlighted in red.

As can be seen, a Baker Aviation jet, despite being honored as the Fly Friendly winner in its tier, is nearly four times as likely as the average GA jet to fly during curfew hours, and also nearly 4 times

as likely to receive a GANO violation citation. This might be compared with the lowest Fly Friendly scorer in the tier, Regency Airlines, which manages to fly a much higher percentage of its operations during the curfew hours, but manages to do so without incurring any GANO noise violations at all.

Not evident from the table, Baker Aviation operates two models of aircraft at JWA, the C750, which is quiet enough in its normal daytime operations to only rarely exceed the more stringent curfew hour limits, and the CL30, whose daytime operations would almost always exceed the curfew hour limits (see the Fly Friendly “Operator by Aircraft” [scoring report](#)). All four of Baker’s 2025 noise violations were with the C750, which would indicate special precautions would be needed to fly even that quieter aircraft during the curfew. But despite the four citations, this was evidently not communicated to Baker, for in 2026, they have begun operating the CL30 during curfew hours and, predictable, nearly all of those have generated violations.

Item V. PUBLIC COMMENTS ON NON-AGENDA ITEMS

Although the focus of the new Aviation Committee seems a bit different from that of the old, I would hope it continues to be interested in and concerned about the noise impacts of JWA flight operations on the Newport Beach community.

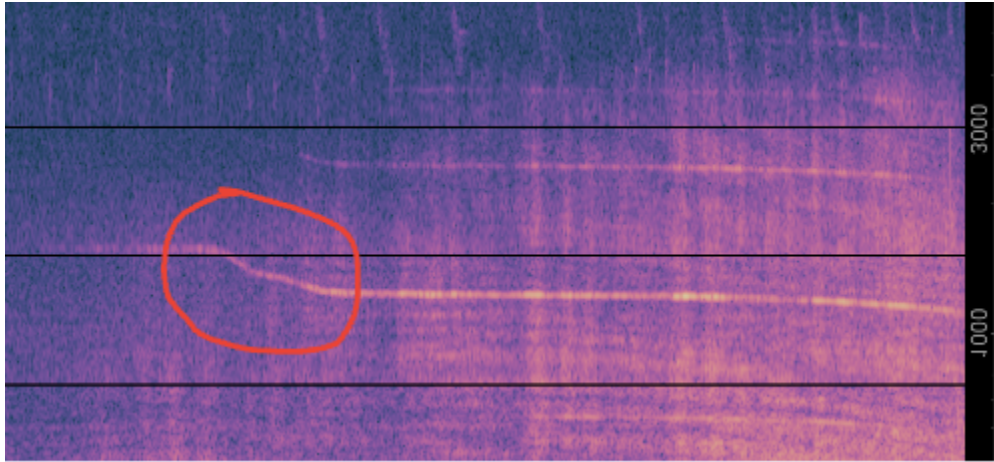
Much has been said about the improvement to be expected from the increasing introduction of the Boeing 737 MAX 8 (and later to the MAX 9). While it is true that compared to older models the MAX 8 significantly reduces the conventionally measured weighted decibels of overall noise, the new engine design is also accompanied by a distinctive, and rather loud, tonal whistle, particularly prominent as a departing MAX 8 approaches an observer.

The whistle is said to be attributed to the engine’s intake fan, with the air being stirred, in succession by the 18 fan blades. As has been discussed in the technical literature in recent years, the good news about this is that the tone, and the variations heard in it (and the tones heard from other engine models), allows observers on the ground to follow how the pilot is adjusting the engine during the flight. And unlike decibel measurements, which require calibration against a known standard, the frequency (pitch) of a sound is more easily and reliably measurable.

To test what can be learned, I tried the free [Spectroid](#) application available on Android devices, which produces a scrolling “waterfall chart” of the frequency spectrum as it evolves over time.

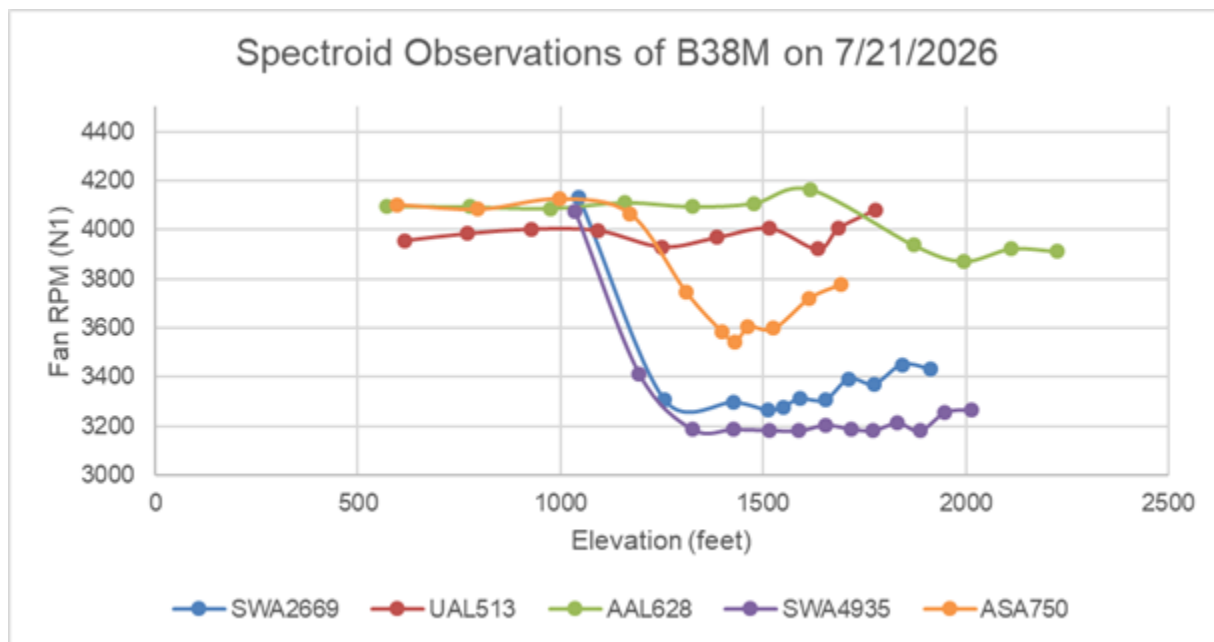
SWA2669 (tail number N8832H) was the first MAX 8 in yesterday morning’s (July 21, 2026) lineup, and produced, as observed from my home, the Spectroid screenshot shown on the following page, which has been flipped and rotated for clarity so that time runs from left (earliest) to right (latest) and frequency from top (highest) to bottom (lowest).

The feature circled in red is the point on the principal tone where the pilot reduced the fan speed (and hence the thrust). Much of the later decline in frequency is a result of the “Doppler effect” (in which the pitch of train whistle is increased by its motion as it approaches, and lowered as it passes by and recedes). The parallel line above the brightest tonal line, and the fainter one above that, are its harmonics, and exactly 2 and 3 times the base frequency.



With some effort, the amount by which these frequencies are altered by the aircraft's motion can be determined from the radar tracking data displayed in WebTrak. In particular, each radar point produces a sound that will be observed on the ground at a predictable later time, and hence how much the sound observed at that moment was altered can be computed, and the corrected frequency translated into the revolutions per minute the fan must have been operating at to produce it.

The following graph shows the RPM and elevation of the radar points for five of the six MAX 8 departures in yesterday's morning lineup, plotted from the moment the principal fan tone could first be detected in the Spectroid display to the aircraft's point of closest approach to my home.



The Southwest pilots can be seen to have significantly cut back the engine power at around 1,000 ft, the Alaska pilot cut back by a lesser amount at a slightly higher elevation, the American pilot cut back even less at around 1,600 ft, while the United pilot did not cut back at all over this range.

As to altitude, the American pilot achieved the highest elevation (about 2,300 ft) when passing my home, while the Alaska pilot achieved the lowest (about 1,700 ft).

More observations would be needed to determine how characteristic these patterns may be, and what impact they have on noise. Observations closer to the end of the runway might also be helpful to pick up more of the Southwest pattern prior to their cutback (in the two examples shown, and as is evident from the image on the preceding page, the Southwest whistle became audible from my location only seconds before the cutback started).

July 22, 2026, Aviation Committee Comments

The following comments regarding the Newport Beach [Aviation Committee](#) meeting [agenda](#) are from:
Jim Mosher (jimmosher@yahoo.com), 2210 Private Road, Newport Beach 92660 (949-548-6229)

Item III. Draft Minutes from April 27, 2026

The draft minutes appear to have been carefully proofread. I have no corrections to suggest, but I do have these comments:

Page 3, Item iii, paragraph 2, sentence 1: “*Committee Member Stranberg and Chair Kleiman met with senior officials from American Airlines in June 2023 which was moving its primary NextGen base from Miami International Airport to Dallas Fort Worth International Airport.*”

Comment: Are the minutes correct in attributing American’s increase in Boeing MAX 8 operations at JWA to a conversation nearly three years before? Or was some later year intended?

Item IV.a.i. Report from County of Orange

I cannot anticipate the content of the oral report, but the following topics are typically included:

Newer Generation Aircraft

Both the City and the airport have shown interest in the increased use of newer generation aircraft by the regularly-scheduled commercial carriers at JWA.

The current list of such aircraft consists of the Airbus 320-200 Neo, 320-100 Neo, 220-100, 220-300 and Boeing 737-MAX 8 (displayed by JWA in [WebTrak](#) with their [IATA codes](#) A20N, A21N, A220, A223 and B38M).

The following graphic shows the percentage of these newer generation in each carrier’s operations (as shown in WebTrak) by month through noon on Saturday, July 18, 2026, as well as the overall percentage out of all regularly-scheduled operations, which in July so far is at 43%.

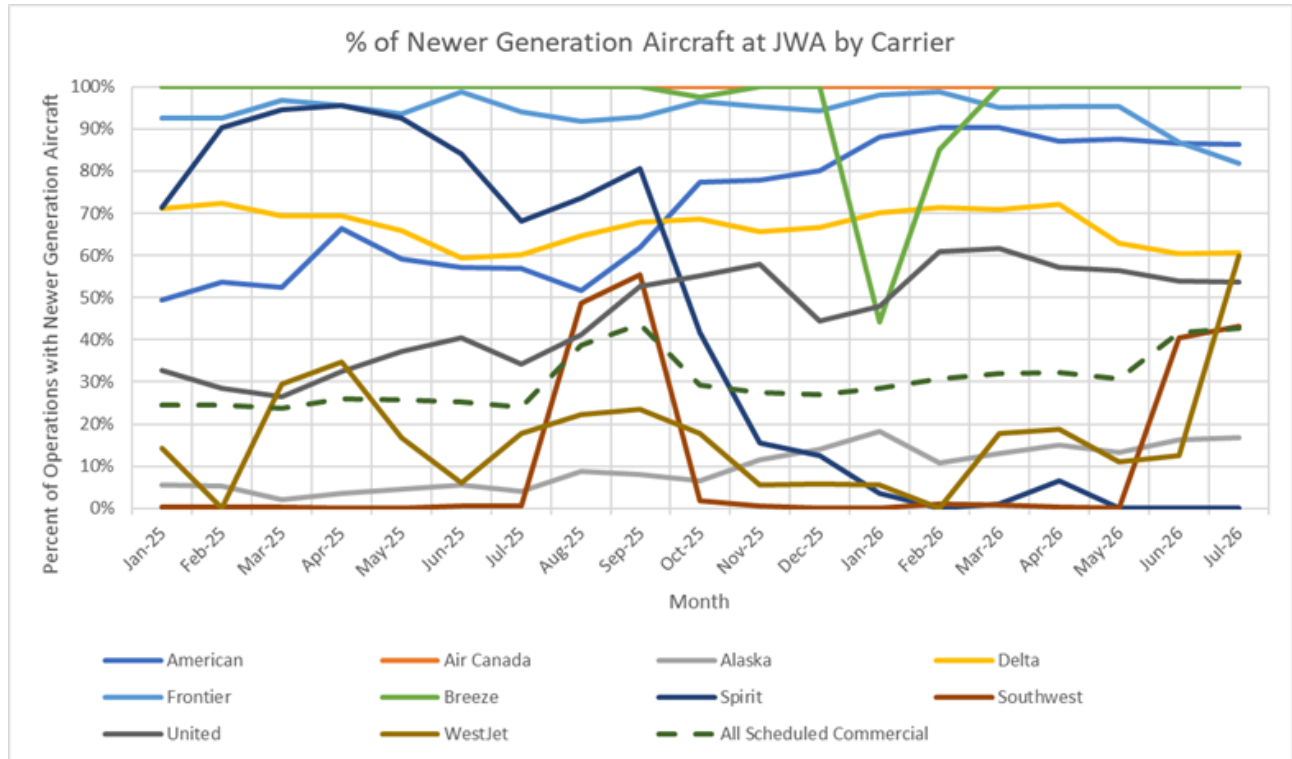
At the top of the chart are Air Canada, which has been at 100% throughout this period, and Breeze, which has been at 100% for most of it.

Not plotted are Allegiant, Horizon, JetSuiteX,¹ Skywest,² FedEx and UPS³ because they would all be at 0% (FedEx and UPS are included in the totals used to calculate the percentages; although extolled by some,).

¹ JetSuiteX, although extolled by some, flies older aircraft models, the [Embraer ERJ-135 and ERJ-145](#), not regarded as “newer generation,” and with no clear newer generation replacement. Its operations are included in the total used to compute the overall percentage of newer generation commercial air carrier operations.

² WebTrak does not distinguish between Skywest’s own commuter operations and those flown under another carrier’s name. All its operations are included in computing the overall percentage.

³ FedEx and UPS are included in the total operations used to compute the overall percentage of newer generation operations in keeping with the practice in Table 9 of JWA’s [Noise Abatement Quarterly Reports](#), where they are listed as an “air carrier” (even though the JetSuiteX and SkyWest commuter operations are not).



Southwest Airlines, which is by far the dominant carrier at JWA, can be seen oscillating between a substantial number of newer generation aircraft (the B38M in their case) and none, which, due to their dominance, moves the overall percentage. A little over half their operations were with the B38M from August 5, 2025, through October 1, 2025, and a slightly smaller percentage starting this June.

WestJet, a very minor operator, also shows a strong (but possibly equally temporary?) uptick, with 6 of its 10 operations so far in July being with the B38M.

Spirit Airlines, which formerly flew a mix of the older A320 and newer A20N, showed a sharp decline in its percentage of A20N operations prior to its terminating service on May 2.

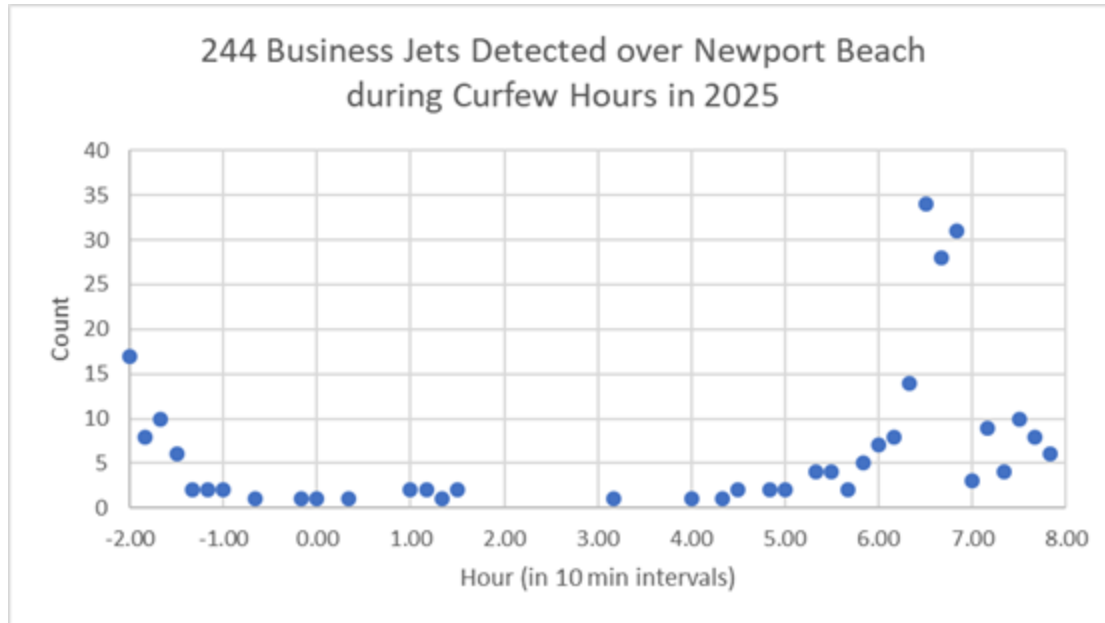
General Aviation Curfew Hours Operations

There is a common belief that without a hard curfew for General Aviation flights,⁴ they can fly over Newport Beach at any time of night they want.

While this is true in theory, the reality is there doesn't, at present, appear to be much demand for very late night or very early morning operations.

The following graphic (-2.00 on the horizontal scale is 10:00 p.m., -1.00 is 11:00 p.m. and 0.00 is midnight) shows the count of curfew hour GA jet operations over the Newport Beach noise monitors in all of 2025.

⁴ They are currently restricted only by curfew hour noise limits stricter than those during the rest of the day.



As can be seen, by far the most common time for curfew hour GA operations is the half hour before the 7:00 non-curfew window opens. But even more popular⁵ is the hour before that window opens at 8:00 a.m. on Sunday. The only other time with noticeable GA curfew activity is the half hour after the departure curfew starts at 10:00 p.m.

For whatever reason, no GA operations were reported between 2:00 and 3:00 a.m. in 2025, and only one for the whole year between 3:00 and 4:00 a.m.

This could, of course, change if JWA became a more welcoming venue for international GA flights.

Fly Friendly

In [written comments](#) I submitted in advance of this Committee's January 26, 2026, meeting, and in [additional comments](#) submitted in advance of the April 27 meeting, I pointed out some problems with the [Fly Friendly scoring](#) revealed by the vendor's relatively recent posting of the readings of each departure at each microphone used to compute the scores.

Examination of those individual readings showed, and continues to show, unexpectedly high and low noise readings.⁶

The unexpectedly high readings appear to result from the vendor's attributing to the GA aircraft all the noise observed as it passes a microphone, whether that noise originates from the plane or

⁵ The popularity of the 7:00 to 8:00 a.m. time slot for GA operations is at least six times greater than it appears in the graphic because it is a curfew time on only 1 day out of 7 (Sunday), compared to the other time slots, which are curfew times 7 days a week. Hence, the most likely time to hear a curfew operation is between 7:00 and 8:00 a.m. (compared to any other hour).

⁶ The existence of unexpectedly high readings is revealed if one uses the on-screen sort function to put the highest noise levels at the top, and observes many at NMS 6S and 7S, which being the most distant stations are expected to yield low rather high readings. Sorting in the reverse order reveals purported events near the threshold of human hearing, which are not intuitively reasonable when the readings at the neighboring monitors were normal.

some other source. This has the effect of unfairly reducing the scores of aircraft that had the bad luck to have their reading taken at a moment when there was a high level of background noise near the microphone.

The unexpectedly low readings appear to result from the vendor's practice of substituting in a reading when, for whatever reason, an actual measurement is not available. These substitute numbers are supposedly based on modeling, but appear to be a set number for a given aircraft model at a given monitor that bears little resemblance to the actual reads typically observed. The rationale for these substitutions is that the vendor assigns a score to each GA departure by averaging its readings over the seven Newport Beach monitors, and a reading at each is needed to compute an average.

Substituting fake data is never desirable, and in this case appears to be completely unnecessary. Rather than insisting on having a score for each departure based on averaging that departure's readings at each of the seven monitoring stations, the vendor could, instead, average all the available actual readings for a given aircraft at each monitor, and then compute its overall score based on the average of that aircraft's seven monitor averages. If there is no missing data, the result will be the same as the vendor's current method. If points *are* missing, only actually observed data will be averaged, and the result will not be biased by the substitution of faked readings. Additionally, the averages for the noise produced by a given aircraft at a given monitor could be computed as the "energy average" of the observations (as is done in preparing the Quarterly Noise Reports), rather than an "arithmetic average." The energy average is by far the more conventional way of averaging decibel readings taken at a given point over time, and more accurately reflects the outsized impact of the high dB readings compared to the low ones. In fact, the dB readings that need to be averaged are themselves energy averages over the time it takes the aircraft to pass.

Because the Fly Friendly scoring reports are available only on-screen and cannot be downloaded for more careful study, the impact of these technical problems with the scoring are difficult to assess. They may affect only a small fraction of the reported numbers, or a much larger one.

What seems more important is whether the program is achieving its goal of reducing GA noise, which would itself seem to be a combination of whether it is possible to substantially reduce GA noise and whether the results (and ways to reduce noise) are being effectively communicated to those producing the noise.

One indication that the communication to the pilots and operators is less effective than it might be about what the program is trying to achieve and what can be done to achieve it is that some of the operators most honored by the Fly Friendly are also unusually prolific violators of the much longer existing [General Aviation Noise Ordinance](#), and might even be at risk of being banned from the airport for repeated GANO violations.⁷ It is a bit as if a citizen honored at a dinner as a town's best driver was simultaneously in court facing possible revocation of their license for repeated DUI's.

⁷ GANO violations are based on exceeding a cumulative measure for the microphone flyover, the [Single Event Noise Exposure Level](#) (SENEL) exceeding specified [Noise Limits](#). It is very difficult for the public to verify from JWA's WebTrak portal if a violation has occurred, because it displays only the instantaneous loudness, from which the peak (Lmax) can be discerned, but not the SENEL. There is however, no reason it could not display the SENEL, especially in the historical playback mode, when the noise monitor circle turns into a rectangle when an event has been detected.

The table below attempts to summarize the results for the Tier 1 Fly Friendly finishers listed in the [2025 Annual Report](#). Tier 1 is the GA operators with highest 15 total number of operations in the year.

Texas-based Baker Aviation (call sign KOW) was honored as the Tier 1 winner in 2025. They were also the Tier 1 winner in 2024, and the Tier 2 (the next 15 top operators) winner in 2023, and the Tier 3 winner in the 2022 starting year. In other words, as their operations have increased they have moved to increasing higher tiers, but always finished at the top of their peers.

2025 Fly Friendly Tier 1 Operator Performance								
Carrier	# FF ops	# WebTrak ops	# curfew ops	% curfew	# violations	% violations	FF Score	Name
all GA jets	45,650	42,232	436	1.03%	100	0.24%		
KOW	485	426	15	3.52%	4	0.82%	86.9	Baker Aviation
WUP	361	360	3	0.56%	1	0.28%	86.8	Wheels Up
EJA	8,298	8,272	4	0.05%	0	0.00%	84.9	NetJets Aviation
PXT	223	152	3	1.97%	2	0.90%	83.7	Pacific Coast Jet
LXJ	3,808	3,701	4	0.11%	2	0.05%	83.2	FlexJet
TIV	337	116	-	0.00%	0	0.00%	83.1	Thrive Aviation
JRE	379	363	10	2.75%	6	1.58%	81.2	Fly Exclusive
* PFT	1,832	-	-	-	1	0.05%	80.8	Paragon Airways
TWY	244	43	-	0.00%	0	0.00%	80.1	Sunset Aviation
KFB	283	63	-	0.00%	0	0.00%	78.9	STAjets
VJA	745	601	1	0.17%	0	0.00%	77.8	Vista America
* TBL	215	-	-	-	1	0.47%	77.2	Bell Aliant Regional Comms
SIS	276	176	1	0.57%	0	0.00%	76.4	Silver Air
EJM	453	187	-	0.00%	0	0.00%	75.0	Executive Jet Management
RGY	1,289	827	55	6.65%	0	0.00%	66.9	Regency Airlines

In addition to the Fly Friendly information shaded in blue, the table shows the number of times each operators aircraft were found in WebTrak, and the number of those WebTrak-displayed operations that occurred during the curfew hours and the number of GANO violations incurred (three of which by an “operator” within three years can lead to a three year expulsion from JWA).

Most WebTrak data is lacking for Paragon Airways (PFT) and Bell Aliant (TBL) because all their aircraft subscribe to the FAA's [Limiting Aircraft Data Displayed](#) (LADD) program, which blocks display of their identity on certain public displays, including WebTrak. For some other operators, a portion of their fleet is enrolled in LADD, resulting in the identified WebTrak operations being less than the operations reported in the Fly Friendly scoring (which apparently has access to the identity of all GA operations). However, the number of GANO violations resulting from each operator's total operations should be reasonably accurate because for the violating aircraft whose identity was not publicly revealed in WebTrak, the tail number and call sign were retrieved with the replay feature in the [ADS-B Exchange](#) flight tracker.

The top line, shaded in salmon, gives the results for all GA jet operations, of which it can be seen about 1% occur during curfew hours and about 0.24% of all GA jet operations result in a GANO violation (all of which in 2025 occurred during curfew hours). Operators exceeding these averages are highlighted in red.

As can be seen, a Baker Aviation jet, despite being honored as the Fly Friendly winner in its tier, is nearly four times as likely as the average GA jet to fly during curfew hours, and also nearly 4 times

as likely to receive a GANO violation citation. This might be compared with the lowest Fly Friendly scorer in the tier, Regency Airlines, which manages to fly a much higher percentage of its operations during the curfew hours, but manages to do so without incurring any GANO noise violations at all.

Not evident from the table, Baker Aviation operates two models of aircraft at JWA, the C750, which is quiet enough in its normal daytime operations to only rarely exceed the more stringent curfew hour limits, and the CL30, whose daytime operations would almost always exceed the curfew hour limits (see the Fly Friendly “Operator by Aircraft” [scoring report](#)). All four of Baker’s 2025 noise violations were with the C750, which would indicate special precautions would be needed to fly even that quieter aircraft during the curfew. But despite the four citations, this was evidently not communicated to Baker, for in 2026, they have begun operating the CL30 during curfew hours and, predictable, nearly all of those have generated violations.

Item V. PUBLIC COMMENTS ON NON-AGENDA ITEMS

Although the focus of the new Aviation Committee seems a bit different from that of the old, I would hope it continues to be interested in and concerned about the noise impacts of JWA flight operations on the Newport Beach community.

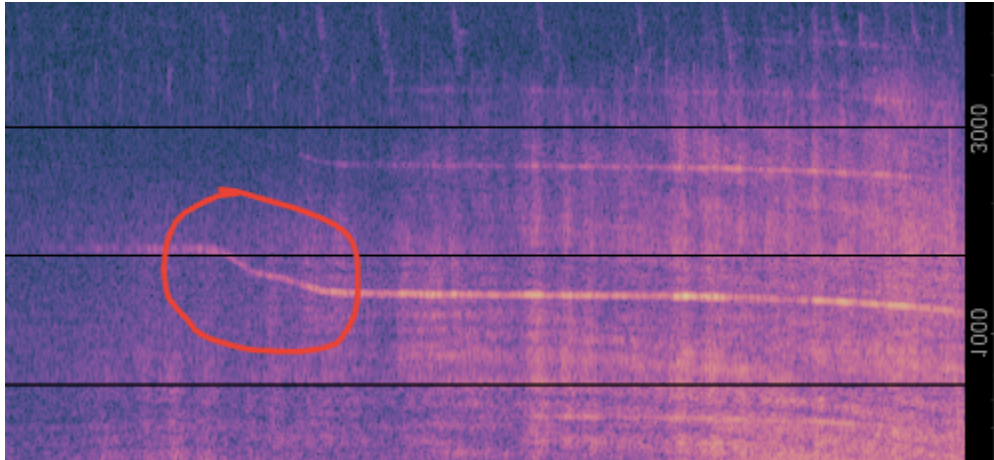
Much has been said about the improvement to be expected from the increasing introduction of the Boeing 737 MAX 8 (and later to the MAX 9). While it is true that compared to older models the MAX 8 significantly reduces the conventionally measured weighted decibels of overall noise, the new engine design is also accompanied by a distinctive, and rather loud, tonal whistle, particularly prominent as a departing MAX 8 approaches an observer.

The whistle is said to be attributed to the engine’s intake fan, with the air being stirred, in succession by the 18 fan blades. As has been discussed in the technical literature in recent years, the good news about this is that the tone, and the variations heard in it (and the tones heard from other engine models), allows observers on the ground to follow how the pilot is adjusting the engine during the flight. And unlike decibel measurements, which require calibration against a known standard, the frequency (pitch) of a sound is more easily and reliably measurable.

To test what can be learned, I tried the free [Spectroid](#) application available on Android devices, which produces a scrolling “waterfall chart” of the frequency spectrum as it evolves over time.

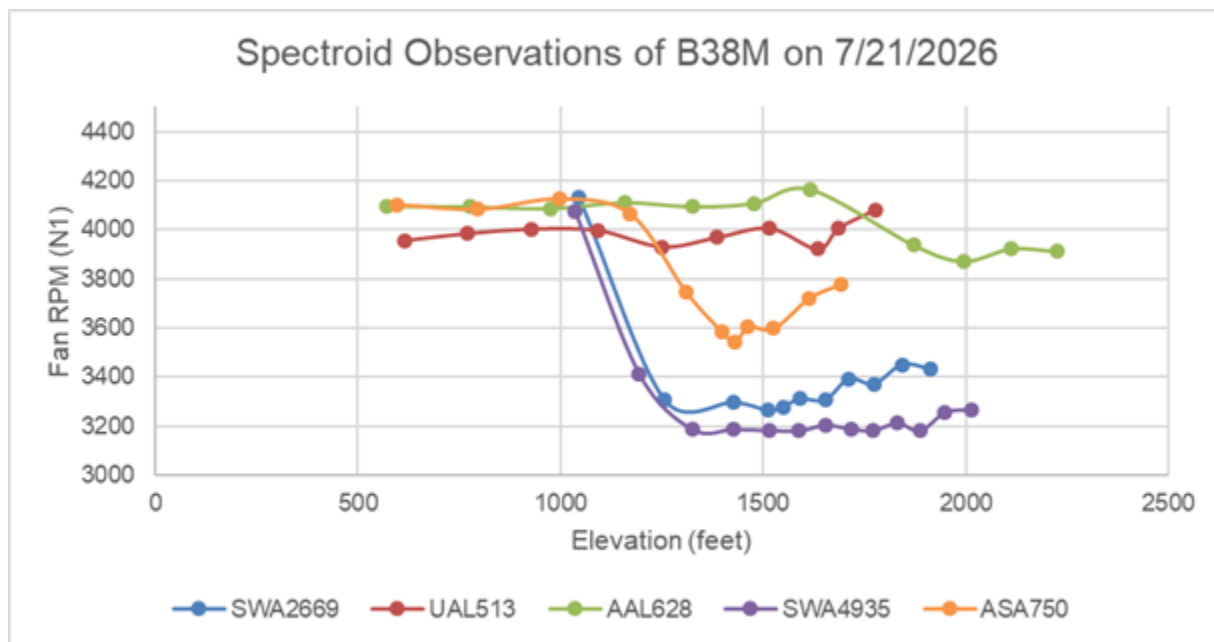
SWA2669 (tail number N8832H) was the first MAX 8 in yesterday morning’s (July 21, 2026) lineup, and produced, as observed from my home, the Spectroid screenshot shown on the following page, which has been flipped and rotated for clarity so that time runs from left (earliest) to right (latest) and frequency from top (highest) to bottom (lowest).

The feature circled in red is the point on the principal tone where the pilot reduced the fan speed (and hence the thrust). Much of the later decline in frequency is a result of the “Doppler effect” (in which the pitch of train whistle is increased by its motion as it approaches, and lowered as it passes by and recedes). The parallel line above the brightest tonal line, and the fainter one above that, are its harmonics, and exactly 2 and 3 times the base frequency.



With some effort, the amount by which these frequencies are altered by the aircraft's motion can be determined from the radar tracking data displayed in WebTrak. In particular, each radar point produces a sound that will be observed on the ground at a predictable later time, and hence how much the sound observed at that moment was altered can be computed, and the corrected frequency translated into the revolutions per minute the fan must have been operating at to produce it.

The following graph shows the RPM and elevation of the radar points for five of the six MAX 8 departures in yesterday's morning lineup, plotted from the moment the principal fan tone could first be detected in the Spectroid display to the aircraft's point of closest approach to my home.



The Southwest pilots can be seen to have significantly cut back the engine power at around 1,000 ft, the Alaska pilot cut back by a lesser amount at a slightly higher elevation, the American pilot cut back even less at around 1,600 ft, while the United pilot did not cut back at all over this range.

As to altitude, the American pilot achieved the highest elevation (about 2,300 ft) when passing my home, while the Alaska pilot achieved the lowest (about 1,700 ft).

More observations would be needed to determine how characteristic these patterns may be, and what impact they have on noise. Observations closer to the end of the runway might also be helpful to pick up more of the Southwest pattern prior to their cutback (in the two examples shown, and as is evident from the image on the preceding page, the Southwest whistle became audible from my location only seconds before the cutback started).