LAX Community Noise Roundtable

Clifton A. Moore Administration Building • 1 World Way • Los Angeles, CA 90045
Web: http://www.lawa.org/LAXNoiseRoundTable.aspx

October 1, 2017

Michael P. Huerta, Administrator
Federal Aviation Administration
800 Independence Ave. SW
Washington, DC 20591

SUBJECT: 67% of Flights on LAX North Arrival Downwind Leg Pass Waypoint DAHJR Below the Mandatory Minimum Altitude of 6,000 Feet. This Creates an Unbearable Noise Problem for Many Thousands of People that must be Rectified.

Dear Administrator Huerta:

The LAX Community Noise Roundtable (LAX RT) voted unanimously to identify the subject issue of **call for immediate corrective action** of the systemic problem of 67% of aircraft missing the Mandatory Minimum Altitude of 6,000 feet at Waypoint DAHJR on the LAX North Arrival Downwind Leg.

The North Arrival route is composed of three STAR RNAV procedures introduced as part of the SoCal Metroplex's implementation of NextGen on April 27, 2017: HUULL 1, IRNMN 1, and RYDRR 1.

These Instrument Flight Procedures (IFPs) shifted the old Eastbound overland segment of the approach path to the North and, as is typical for NextGen RNAV IFPs, replaced a 2 mile wide dispersion pattern with a narrowly concentrated flight path. The results were entirely predictable based on prior cases of NextGen implementation, and the LAX RT voiced concerns about this during the Environmental Assessment of the SoCal Metroplex in 2015-16.

The communities under the North Arrivals flight path to the East and West of Waypoint DAHJR are densely populated residential neighborhoods in the City of Los Angeles and adjoining municipalities. The residents of these neighborhoods are experiencing excessive and debilitating noise.

In what follows, we will explain why the systematic violation of the Minimum Altitude established by the FAA's Flight Procedures can and must be rectified immediately to relieve the afflicted communities under the flight path.

- These are unprecedented complaints caused by the relocation and intense concentration of the flight path
- The worst noise impact comes from systemic violation of the Minimum Altitude at DAHJR
- The combination of systemic altitude violation and an intensely concentrated flight path is awful
- There is no excuse for 67% of flights missing the Minimum Altitude, especially at night
- ATC's systemic assignment of low altitudes is a failure by the FAA to adhere to its own rules
- The FAA also failed to obey its own rules by not including a Minimum Altitude at Waypoint GADDO
- The FAA also violated its own rules by refusing to provide information about new IFPs open to public comment

We will conclude by outlining solutions.

Unprecedented Noise Complaints from Previously Quiet Communities:

Since implementation of the new NextGen IFPs, the LAX Community Noise Roundtable (LAX RT) and elected officials (local and Federal) have been inundated with complaints about massive increases in aggravating aircraft noise both during the day and during sleep disrupting noise at night.

The complaints are coming from long swaths of communities under 30 to 40 miles of flight paths into and out of LAX, just as has occurred at every major roll out of NextGen at other airports. Complaints are a direct result of the Metroplex's relocated and densely concentrated flight paths. The ar ea from DAHJR to Downtown Los Angeles is very densely populated. Few noise complaints came from this area before the SoCal Metroplex implementation. Implementation moved the flight path and intensely concentrated it over areas that formerly had little air traffic.

The Worst Noise Impact comes from Low Altitude Passage over DAHJR in Violation of the FAA's Altitude Restriction:

The worst noise impact is from the astounding and inexcusable fact that 67% of aircraft pass DAHJR at altitudes below the Mandatory Minimum of 6,000 feet.

In the appendix to this letter, we have included altitude tables compiled by LAWA at the request of Los Angeles City Council President Herb J. Wesson, Jr. His Council District encompasses DAHJR, beginning about ½ mile West of the Waypoint and running along the flight path about 3 miles to East. Many areas even further east and west are aggressively complaining as well.

These altitude tables show not only that 67% of aircraft pass DAHJR below the required Mandatory Minimum Altitude of 6,000 feet, but also that a substantial number of flights were more than 1,000 feet below the altitude restriction, and far too many were as much as 2,000 and 3,000 feet below the altitude restriction.

The severity of the impact of these low flights cannot be understood without taking into account two crucial factors needing much more attention:

1. The pre-NextGen pattern of dispersion spread flights out over a 2 mile wide lateral path, with most traffic inside a 1 mile wide central band (1/2 mile on each side of center) and lighter traffic beyond that. In contrast, the new NextGen procedures shifted the heart of that path to the North by about 1/2 mile and intensely concentrated it into a newly narrow zone that formerly had much lighter traffic.
2. Missing the Mandatory Minimum Altitude at DAHJR by 1,000, 2,000, even 3,000 feet happens all day long, including during night operation hours (10pm to 7am) when FAA noise metrics and measures recognize the much greater negative impact of noise.

Low Altitude Flights at DAHJR are Newly Significant Because of the NextGen RNAV Flight Procedures

We have attached Aircraft Penetration Plots for Waypoint DAHJR for the Months of November 2016 (pre-NextGen) and July 2017 (after implementation) so that you can see the unprecedented Noise Zone created by the intense concentration of low flights over communities that formerly had only light traffic overhead.

When comparing these dispersion graphs, it is necessary to remember that in the pre-NextGen era there was no Waypoint DAHJR and there was no Minimum Altitude restriction in this locality or the surrounding region. DAHJR and its altitude restriction are products of NextGen, as is the intense concentration of the current flight path over an area that formerly had little traffic.

The altitude restriction of 6,000 feet at DAHJR was a major input in the FAA's prediction of noise impacts in the SoCal Metroplex Environmental Assessment. Flights passing DAHJR at 3,000, 4,000, or 5,000 feet have a vastly different noise impact than flights at 6,000. As such, the altitude restriction at DAHJR and similar restrictions over other highly populated areas were critical elements in the approval of the Metroplex.

Before raising any question about the sufficiency of 6,000 as the altitude restriction at DAHJR we need to focus on the far more fundamental problem that 67% of flights fall short of the currently published restriction.

FAA Air Traffic Control is responsible for assigning low altitudes at DAHJR. While there will always be some flights that may need to be assigned altitudes lower than the published Minimum Altitude because of exigent circumstance, it is obvious that a 67% failure rate cannot be explained by exigent circumstances.

Altitude Shortfalls at DAHJR during Nighttime is Devastating to the Well-Being of Many Thousands of Residents and Utterly Inexcusable.

The Day Night Level (DNL) formula and policies of the FAA recognize that aircraft noise at night is tremendously more powerful than noise during the day. The DNL formula adds 10db to the estimation of noise from every nighttime flight (10db is a doubling of noise level) and then counts each such flight 10 times in order to equalize the significance day and night noise levels. While the failings of the DNL system and FAA noise modelling are legendary and well established, especially in the context of NextGen, we are for the moment simply focusing on the baseline fact that the FAA already recognizes that the impact of aircraft is tremendously worse at night.

The FAA also recognizes the severity of the nighttime noise problem by maintaining IFPs for "Over Ocean Operations" that direct aircraft on the North Arrival route to take a final approach into LAX from the West (i.e., from over the Pacific) rather than from the East (overland) between the hours of midnight and 6:30am. But these procedures are limited in their use by weather conditions and runway conditions. Since the implementation of NextGen, "Over Ocean Operations" has been the exception, not the rule. "Over Ocean Operations" also do not cover the hours of 10pm to midnight.

Nighttime flights that miss the Minimum Altitude at DAHJR are egregious not just because the noise wreaks havoc with sleep patterns, but also because there is no possible excuse for it.

There are far fewer total flight operations at LAX between 10pm to 7am than during daytime operations. For most of those hours there are only a handful of North Arrival flights per hour, and hence most planes on the North Arrival route have considerable time and space in between them. Nevertheless, aircraft pass DAHJR 1,000 and 2,000 and sometimes even 3,000 below the prescribe Minimum Altitude at 4am and 5am, when there is not another flight nearby on the North Arrivals route and few others on any route.

During nighttime operations there is no problem of sequencing or spacing that could possibly explain why FAA Air Traffic Control would assign such low altitudes to these flights in 67% of operations. Thus the non-existence of heralded software for Terminal Sequencing and Spacing (TSAS) cannot explain the 67% failure rate. Nor can the few planes that are not RNAV equipped. Nor can exigent circumstances. There is absolutely no excuse for so many planes missing the Min Alt at night (10PM -7AM) when light traffic eliminates virtually all spacing and sequencing problems.

This is a Problem of the FAA Failing to Observe and Implement its Own Rules

These IFPs were created, approved, and then published on April 27, 2017 as part of the SoCal Metroplex, a major project with extensive notifications of elected officials and many workshops and briefings. However, public comments, environmental clearance, and FAA approval of the IFPs may have gone quite differently if DAHJR had no Minimum Altitude, or if the Minimum Altitude had been set as "At or Above 3,000 feet" instead of "At 6,000 feet."

Since it is FAA Air Traffic Control that is assigning altitudes lower than 6,000 feet at DAHJR to 67% of the planes crossing the waypoint, it is the FAA that is not obeying its own rules when it comes to observing its own Minimum Altitude requirements.

The Problem of the FAA Failing to Observe and Implement its Own Rules is Even Deeper: Failure to Assign a Minimum Altitude to Waypoint GADDO, the Terminal Fix, Violated FAAO 8260.3C PARA 2-2-1f(6)(b), Which has been Effective since March 14, 2016

Our letter to you dated September 24, 2017, included our technical comment letter submitted to the IFP design team for the public comment process on proposed revised IFPs STAR HUULL 2, IRNMN 2, and RYDDR 2. We pointed out in those communications, the principal change in these proposed revision – which we strongly endorse – is the assignment of a Mandatory Minimum Altitude of 6,000 feet at Waypoint GADDO. This terminal fix does not have any altitude restriction in currently operative IFPs, which were published on April 27, 2017.

GADDO is the next Waypoint after DAHJR on these IFPs. The FAA Flight Standards Service reports for the subject IFP revisions state that the "Reason" for the FAA's "Change" to assign a Mandatory Min Alt at GADDO is that a Min Alt is "REQUIRED PER FAAO 8260.3C PARA 2-2-1f(6)(b)." This rule has been effective since at least March 14, 2016 – more than one year before the April 27, 2017 publication of version 1 of these three IFPs. The rule requires that a terminal fix must have a Minimum Altitude.

While we absolutely support the immediate assignment of a Mandatory Minimum Altitude at GADDO, we are disturbed that this limit has been absent since inception on April 27, 2017. Many thousands of residents have suffered from this error.

We want to believe that implementing an altitude restriction at GADDO will produce an improvement, but what is the point of having altitude restrictions if the FAA itself does not observe them 67% of the time?

This returns us to the problem of observing the Minimum Altitude at DAHJR, which is a specific instance of what seems to be a more general problem needing immediate correction.

FAA Refusal to Share Information on Flight Procedures (IFPs) Open to Public Comment is Another Violation of FAA Rules

As our letter to you dated September 24, 2017 explained, we are troubled by several problems in the FAA's communication with us, the public, and elected Federal officials.

Since spring 2017, FAA officials have been meeting with us, the region's elected Federal officials, and with the public to discuss the noise problems resulting from NextGen implementation. In none of these meetings since spring 2017 did FAA staff ever inform us that revisions of pertinent IFPs were underway, nor that these revisions would address altitude issues.

A deputy of Senator Feinstein was told by FAA staff in late July or early August that the proposed revisions of STAR HUULL, IRNMN, and RYDRR were minor tweaks that did not and could not address altitude issues.

When one of our RT members researched his way to finding the FAA Information Gateway in late July 2017 and learned that new/revised flight procedures were "under development," he wrote repeatedly to senior FAA officials to request information about the scope of changes under consideration, but his question was unanswered.

The LAX RT wanted the FAA to discuss the proposed IFPs at its regular meeting held on September 13, 2017. FAA staff refused to brief the LAX RT and failed to provide any information on the grounds that the matter was a subject of confidential mediation and that FAA counsel advised not to discuss the procedures. This request was for a meeting two weeks after these IFPs had moved on the FAA website to the "Flight Check" stage with a "Comment" period open until September 25, 2017. The RT was forced to hold a special meeting at the last minute to discuss the proposed procedures using only information posted on the FAA Information Gateway.

We seek to work with the FAA as partners to make NextGen livable for our area residents. The FAA says it regards us as a partner and that it wants all public and local government concerns about NextGen and the Metroplex to be conveyed to the FAA through the LAX RT. But for this to succeed the FAA needs to follow its own rules on providing information during comment periods, follow its own rules to include essential things like Minimum Altitude assignments in IFPs, and make sure that the FAA's own Air Traffic Control branch observes essential Minimum Altitude requirements over sensitive and densely populated routes.

Without nurturing and fostering our partnership with the FAA, we cannot be a conduit for the FAA to the public and local government officials.

The Path Forward from Here

1. The LAX RT and the communities we represent need the FAA to step forward immediately to correct the observance of Minimum Altitude at Waypoint DAHJR.
2. Then we need the FAA to quickly implement the FAA's proposed new altitude restriction at GADDO, which is required to be to be in compliance with the FAA's own rules!
3. Obviously the restriction at GADDO also needs to be observed in practice (exigent circumstances always excepted), otherwise it is meaningless.
4. These changes can and must be made rapidly and successfully.
    a. Observing the altitude restriction at DAHJR is a matter of FAA Air Traffic Control consistently assigning proper altitude levels. This should be done immediately.
    b. The publication of STAR HUULL 2, IRNMN 2, and RYDRR 2 is scheduled for December 7, 2017, so the altitude restriction at GADDO should be formalized by then.
5. FAA partnership with the RT and the communities we represent must become real, as we delineated in our September 24, 2017 letter to you about the new/revised IFPs and the underlying problems of adhering to FAA rules.
6. Making these changes quickly would not only relieve many thousands of people of much needless suffering, it would also build confidence in the FAA and the FAA's commitment to work with the LAX RT.
7. We must all work together to try to make the important NextGen changes livable for the tens of thousands of residents in the Los Angeles region.
    a. In the not too distant future, we hope that the FAA will consider;

i. A modest increase in the Minimum Altitude of 500 to 1,000 feet at DAHJR and Waypoints to the West so that residents can be spared noise and a continuous glide slope down to GADDO can be maintained.
ii. A change of DAHJR's restriction from "At" to "At or Above X,000 feet).
iii. Active consideration of other measures to lessen noise that we expect to bring to your attention in coming months.

We hope that the FAA will work with us to make NextGen livable for the tens of thousands of residents in Los Angeles and neighboring municipalities who live under these relocated and unprecedentedly concentrated flight paths. This will be a long project and its success will depend upon cooperation, lots of hard work, and good will from all parties: the FAA, the public, elected officials, and, of course, the LAX RT that serves as the principal intermediary between the FAA, the public, and local governments.

The LAX Community Noise Roundtable is an independent, volunteer body consisting of local elected officials, recognized community groups, FAA, airlines, and Los Angeles World Airlines. Our mandate is to highlight noise issues on the ground and to work with the FAA to minimize them. As a body we appreciate the potential benefits of NextGen and strive to reduce the implementation impacts. The FAA has asked that effected localities work with the Roundtable to assemble and identify issues, act as a coordinator, help set priorities, and work with the FAA to identify and publicize solutions. The FAA has the ultimate responsibility for all activities in our skies including departure and arrival routes.

The positions included in this Roundtable correspondence are the opinion of the majority of the Roundtable membership, and are not the official position of the FAA, the City of Los Angeles, or Los Angeles World Airports.

We look forward to improving our working relationship and to reduce the impacts for those on the ground.

Sincerely,

Denny Schneider, Chair, LAX Community Noise Roundtable

CC:

U.S. Senator Diane Feinstein		Council President Herb Wesson, City of Los Angeles
U.S. Senator Kamala Harris		Councilman Mike Bonin, City of Los Angeles
Congresswoman Karen Bass		Councilman Marqueece Harris-Dawson
Congressman Ted Lieu		Ms. Deborah Flint, Exec. Dir Los Angeles World Airports
Congresswoman Maxine Waters		Mr. Dennis Roberts, Regional Administrator, FAA Western-Pacific Region
Congressman Jimmy Gomez		

Documents on Altitude Issues at Waypoint DAHJR on LAX North Arrivals Downwind Leg

STAR (RNAV) HUULL 1, IRNMN 1, and RYDRR 1 All Assign a Mandatory Minimum Altitude of 6,000 feet at Waypoint DAHJR

IRNMN HUULL & RYDR STAR

Change from Pre-NextGen Flight Path to Current NextGen RNAV Flight Path

Los Angeles World Airports

Federal Aviation Administration (FAA) SoCal Metroplex Project

LAWA Briefing to City Council IGTC&T Committee

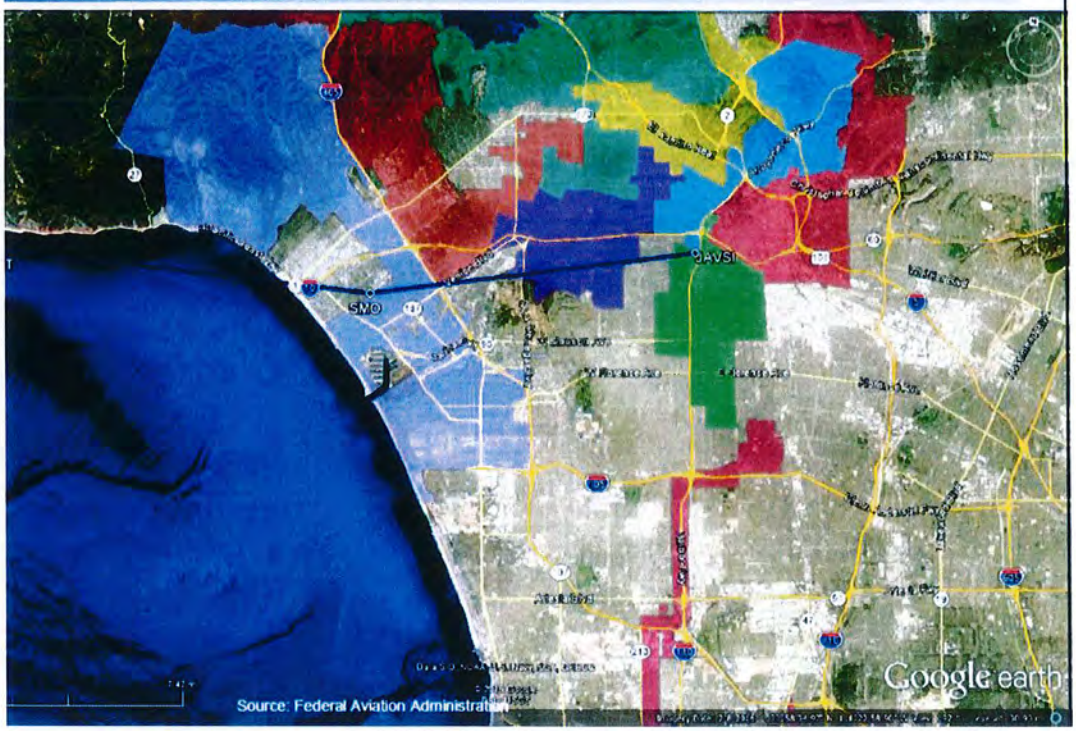
Los Angles World Airports

Noise Management

June 7, 2016

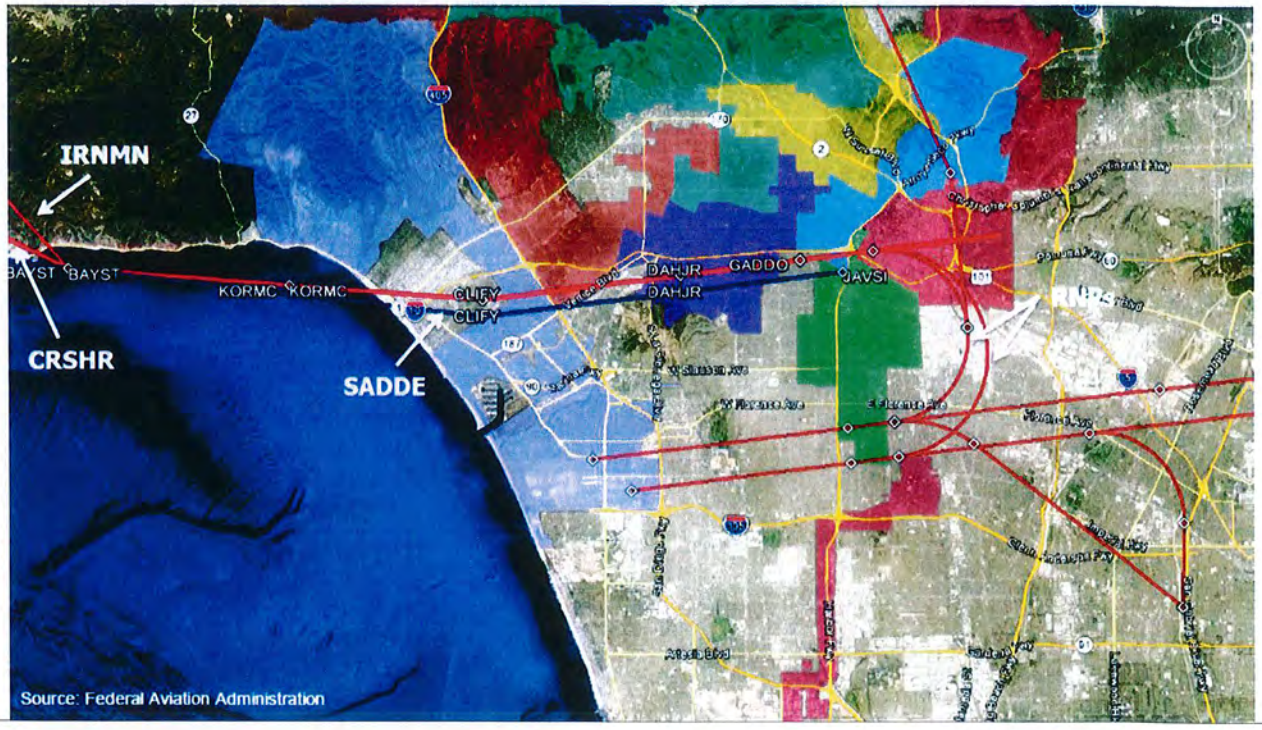
LAX North Arrival Downwind Leg

Current Procedure: SADDE 6



LAX North Arrival Downwind Leg

SADDE6 vs. Proposed CRSHR and IRNMN RNAVs and RNPs

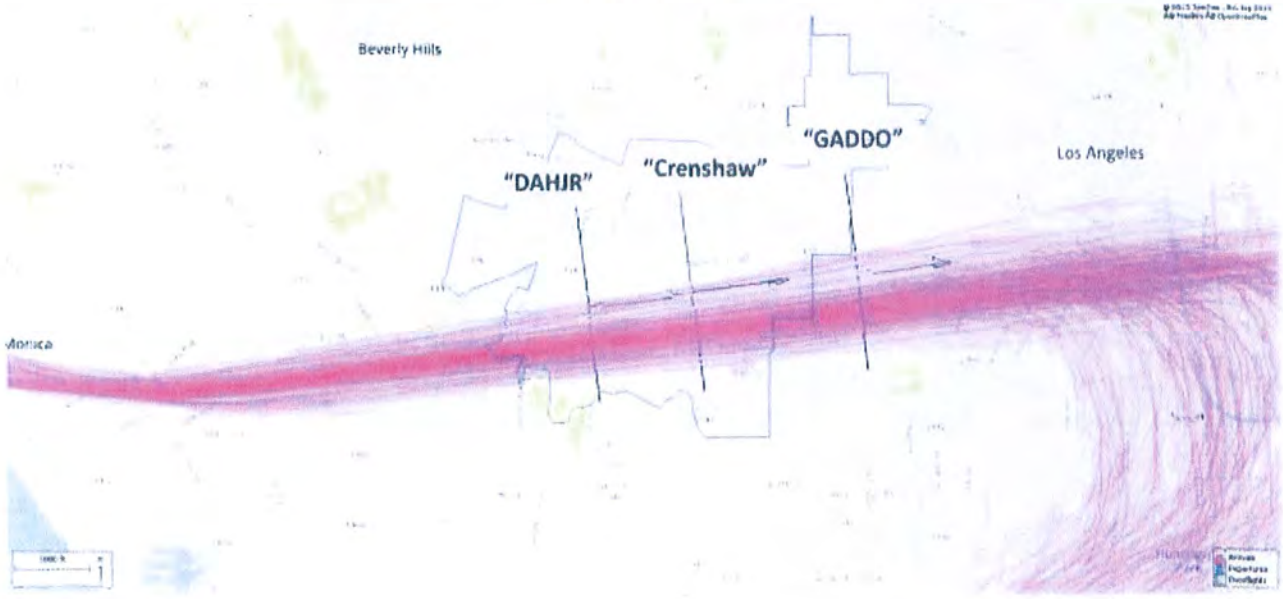


Flight Tracks, Dispersion Graphs, & Altitude Data that LAWA Gave to Office of L.A. City Council President Herb Wesson

1) **Comparing Pre vs Post NextGen = Apples vs Oranges**
2) **What Matters: Concentrated Flight Path, Over New Area, New Waypoints, New Min Alt, New Noise Impact, FAA Does Not Observe Own Rules**

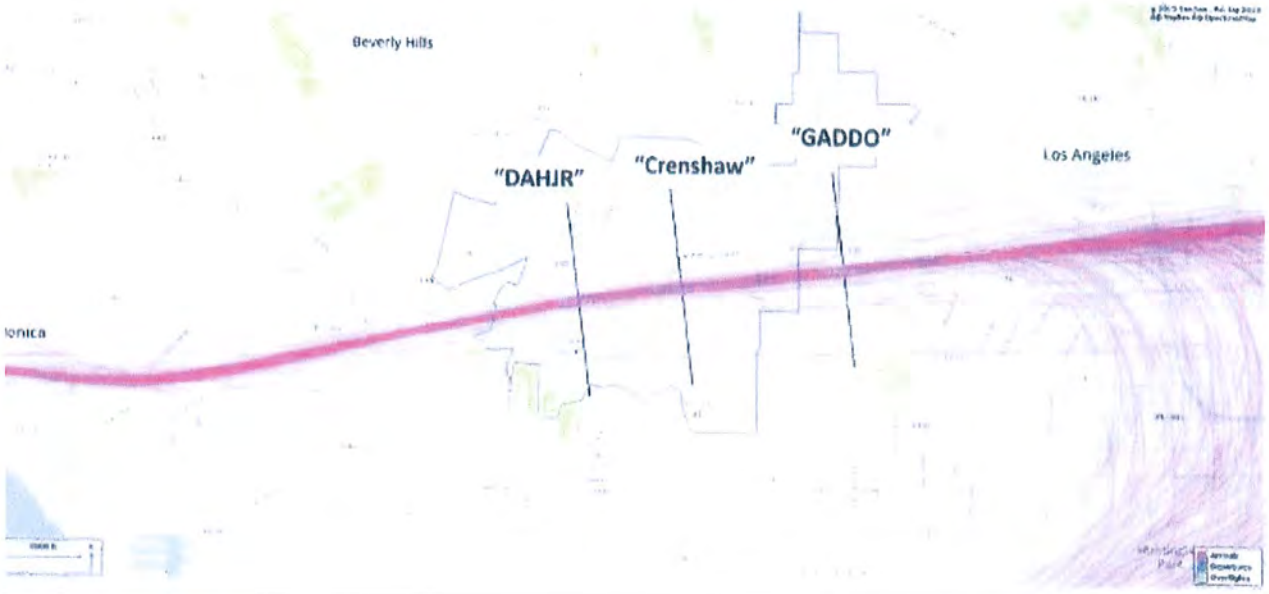
Representative Daily Flight Tracks Over CD-10

November 7, 2016
(922 operations)



Representative Daily Flight Tracks Over CD-10

May 8, 2017
(984 operations)

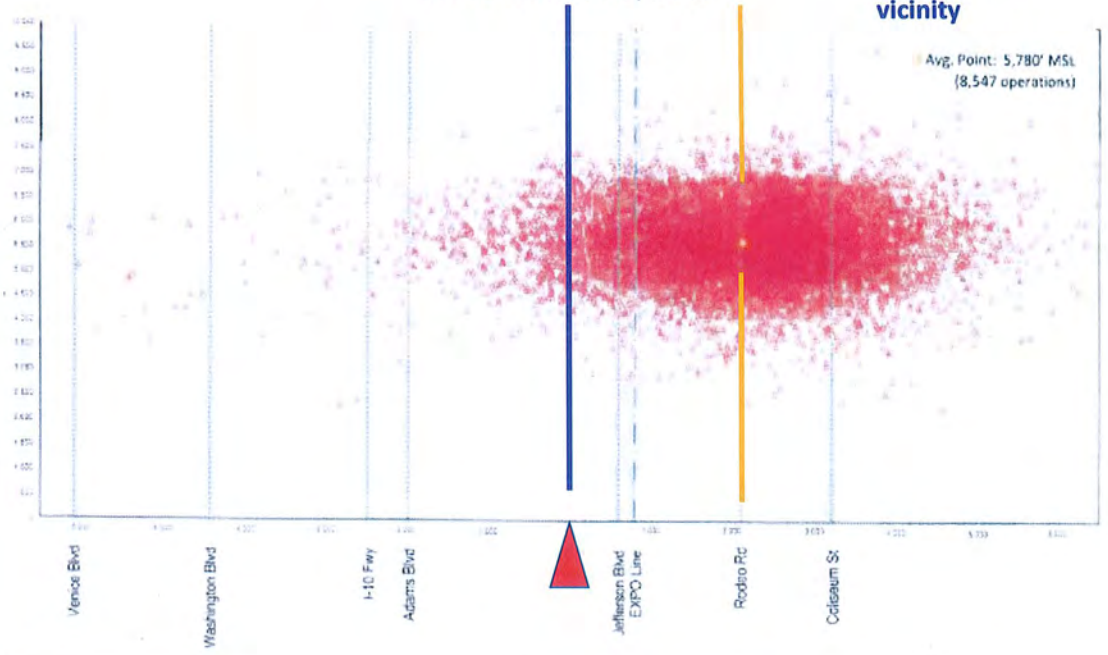


Aircraft Gate Penetration Plot at "DAHJR"

(Centered near S. Redondo Blvd and Blackwelder St)

November 1-30, 2016

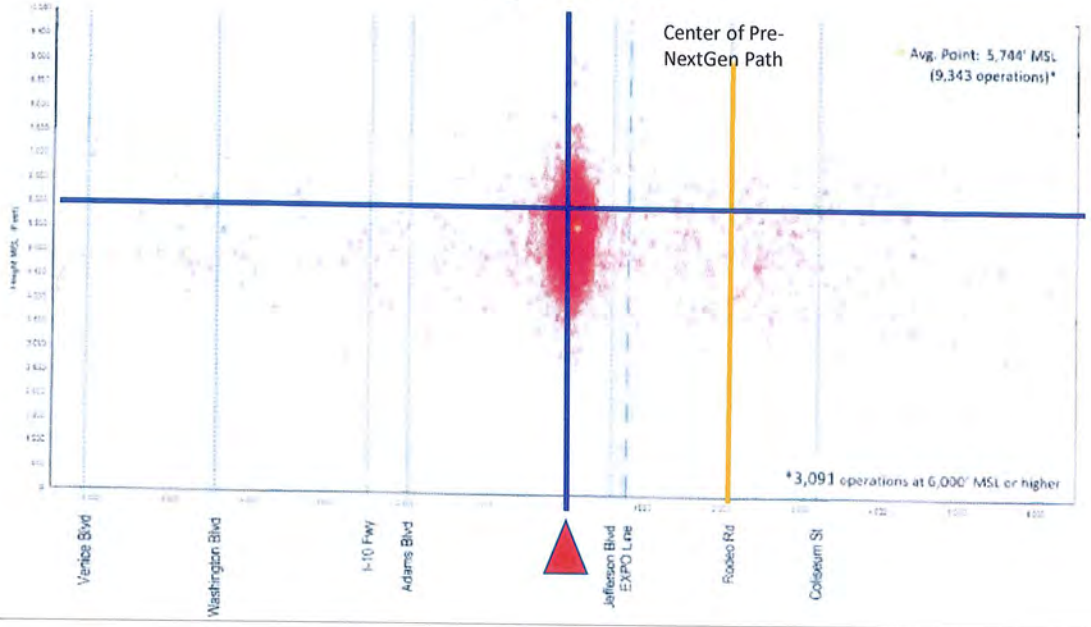
DAHJR did not exist in Nov 2016, no Min Alt restriction in vicinity



Aircraft Gate Penetration Plot at "DAHJR"

(Centered near S. Redondo Blvd and Blackwelder St)

May 1-31, 2017



Nov-2016

Altitude MSL (ft)	Count of Ops	% of Ops		
>9500	1	0.0%		
9000-9500	2	0.0%		
8500-9000	4	0.0%		
8000-8500	14	0.2%		
7500-8000	54	0.6%		
7000-7500	367	4.3%		
6500-7000	1113	13.0%		
6000-6500	1732	20.3%		
5500-6000	2230	26.1%	Count of Ops	% of Ops
5000-5500	1815	21.2%		
4500-5000	801	9.4%		
4000-4500	266	3.1%		
3500-4000	106	1.2%		
3000-3500	30	0.4%		
2500-3000	10	0.1%		
<2500	2	0.0%		
Grand Total	**8547**	**100%**	**5260**	**62%**

Mar-2017

Altitude MSL (ft)	Count of Ops	% of Ops		
>9500	1	0.0%		
9000-9500	2	0.0%		
8500-9000	5	0.1%		
8000-8500	14	0.2%		
7500-8000	68	0.8%		
7000-7500	392	4.4%		
6500-7000	1166	13.0%		
6000-6500	1904	21.3%		
5500-6000	2416	27.0%	Count of O	% of Ops
5000-5500	1861	20.8%		
4500-5000	734	8.2%		
4000-4500	251	2.8%		
3500-4000	90	1.0%		
3000-3500	29	0.3%		
2500-3000	6	0.1%		
Grand Total	**8939**	**100%**	**5387**	**60%**

DAHJR MONTHLY

May-2017

Altitude MSL (ft)	Count of Ops	% of Ops		
9000-9500	2	0.0%		
8500-9000	1	0.0%		
8000-8500	3	0.0%		
7500-8000	14	0.1%		
7000-7500	71	0.8%		
6500-7000	296	3.2%		
6000-6500	2704	28.9%		
5500-6000	3773	40.4%	Count of O	% of Ops
5000-5500	1707	18.3%		
4500-5000	551	5.9%		
4000-4500	162	1.7%		
3500-4000	47	0.5%		
3000-3500	11	0.1%		
2500-3000	1	0.0%		
Grand Total	**9343**	**100%**	**6252**	**67%**

Jul-2017

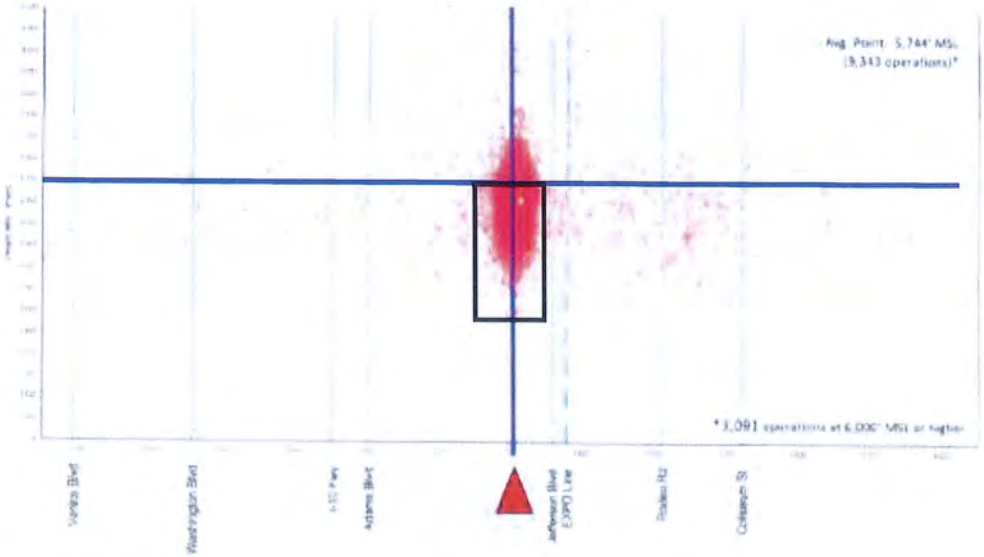
Altitude MSL (ft)	Count of Ops	% of Ops		
>9500	1	0.0%		
9000-9500	0	0.0%		
8500-9000	5	0.1%		
8000-8500	8	0.1%		
7500-8000	14	0.1%		
7000-7500	60	0.6%		
6500-7000	290	2.9%		
6000-6500	2919	29.6%		
5500-6000	4251	43.1%	Count of O	% of Ops
5000-5500	1672	16.9%		
4500-5000	464	4.7%		
4000-4500	134	1.4%		
3500-4000	35	0.4%		
3000-3500	12	0.1%		
2500-3000	1	0.0%		
<2500	1	0.0%		
Grand Total	**9867**	**100%**	**6570**	**67%**

This Noise Zone is an Entirely New Phenomenon. It Violates the IFPs & What was Promised in Metroplex Approval

Aircraft Gate Penetration Plot at "DAHJR"

(Centered near S. Redondo Blvd and Blackwelder St)

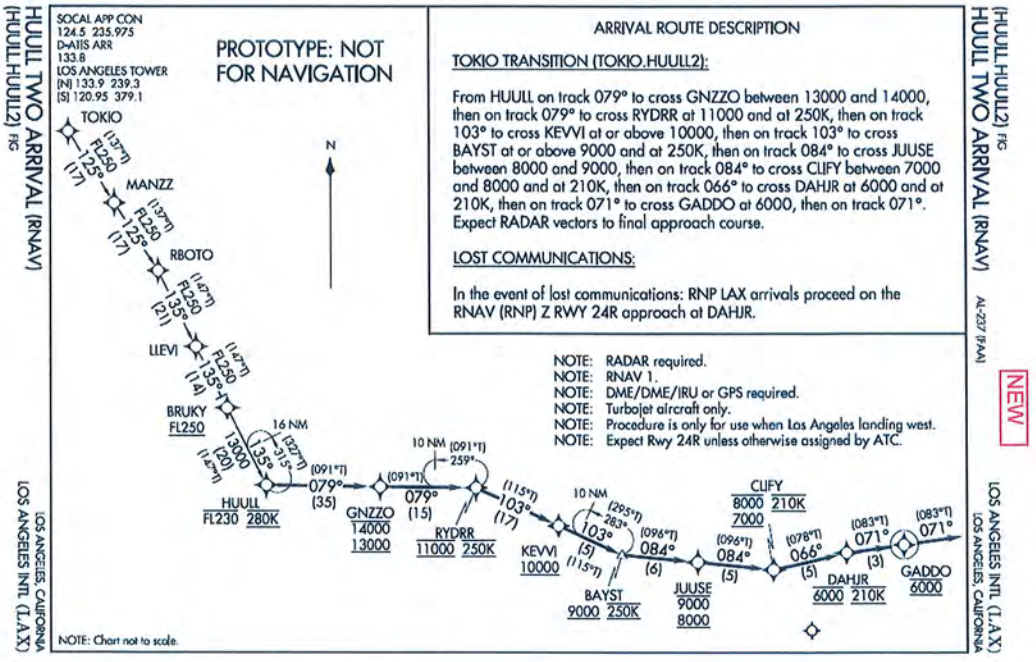
May 1-31, 2017



FAA's Proposed Revisions to be Implemented in HUULL 2, IRNMN 2, RYDRR 2

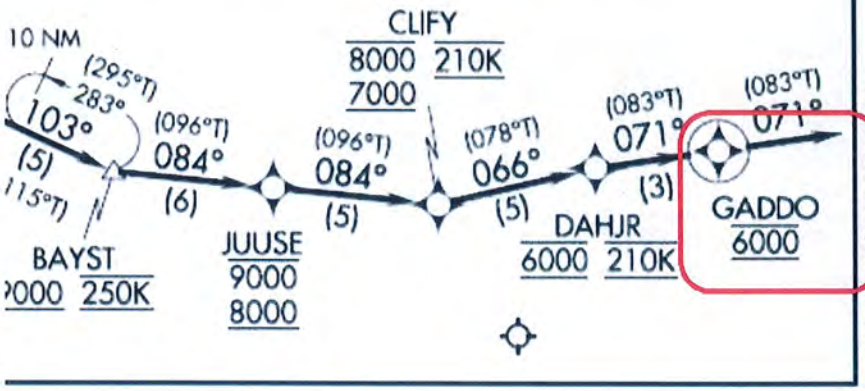
Add a Mandatory Minimum Altitude of 6,000 Feet at GADDO, as Required Since at least March 14, 2016 by FAAO 8260.3C, par 2-2-1 (f)(6)(b).

HUULL 2 – Proposed Revision at Flight Check



HUULL 2 – Blow up of LA Basin end of approach

)TE: RADAR required.
)TE: RNAV 1.
)TE: DME/DME/IRU or GPS required.
)TE: Turbojet aircraft only.
)TE: Procedure is only for use when Los Angeles landing west.
)TE: Expect Rwy 24R unless otherwise assigned by ATC.



:AA)

NEW

LOS ANGELES INTL (LAX)
LOS ANGELES, CALIFORNIA

HUULL 1 – Blow up of LA Basin end of approach

ARRIVAL ROUTE DESCRIPTION

TOKIO TRANSITION (TOKIO.HUULL1)

From HUULL on track 079° to cross GNZZO between 14000 and 16000, then on track 079° to cross RYDRR at 11000, then on track 103° to cross KEVVI at or above 10000 and at 250K, then on track 103° to cross BAYST at or above 9000 and at 240K, then on track 084° to cross JUUSE between 8000 and 9000, then on track 084° to cross CLIFY between 7000 and 8000 and at 210K, then on track 066° to cross DAHJR at 6000 and at 210K, then on track 071° to GADDO, then on track 071°. Expect RADAR vectors to final approach course.

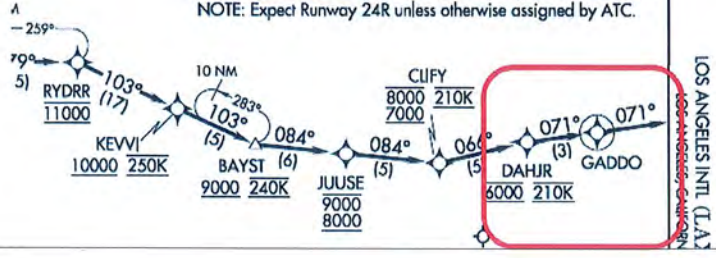
LOST COMMUNICATIONS

In the event of lost communications: RNP LAX arrivals proceed on the RNAV (RNP) Z RWY 24R approach at DAHJR.

(HUULL.HUULL1) 17117
HUULL ONE ARRIVAL (RNAV)
AL-237 (FAA)

OLD

NOTE: RADAR required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Turbojet aircraft only.
NOTE: Procedure is only for use when Los Angeles landing west.
NOTE: Expect Runway 24R unless otherwise assigned by ATC.



LOS ANGELES INTL (LAX)
LOS ANGELES, CALIFORN

FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
STANDARD TERMINAL ARRIVAL (STAR)

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL. Altitudes are minimum altitudes unless otherwise indicated. Distances are in nautical miles (NM). Graphic depictions attached.

Arrival Name	Number	STAR Computer Code	Superseded Number	Dated	Effective Date
HUULL (RNAV)	TWO	HUULL.HUULL2	ONE	04/27/2017	

ADDITIONAL FLIGHT DATA:
DME/DME ASSESSMENT: SLT (RNP 2.0)
REFERENCE MAGNETIC VARIATION = KLAX 12E/2020
DO NOT CHART MODAS.

FLIGHT INSPECTED BY:

Name	Organization	Date	Signature

DEVELOPED BY:

Name	Organization	Date	Signature
Robert E. Henry - FAA Lead Jose Gonzalez, NATCA Co-Lead	Southern California Metroplex	06/02/2017	

APPROVED BY:

Name	Organization	Date	Signature
S. L. Shrimpton	Acting Manager, WSC-OSG		

CHANGES:
1. ADDED BRUKY WAYPOINT AND RESTRICTION AT OR ABOVE FL250 BETWEEN LLEVI AND HUULL.
2. AMENDED MEA BETWEEN TOKIO/MANZZ, MANZZ/RBOTO, RBOTO/LLEVI FROM 14000 TO FL250, BETWEEN BRUKY/HUULL FROM 14000 TO 13000.
3. CHANGED RESTRICTION AT HUULL FROM "AT OR BELOW FL250" TO "AT OR BELOW FL230".
4. CHANGED RESTRICTION AT GNZOO FROM "BETWEEN 14000 AND 16000" TO "BETWEEN 13000 AND 14000".
5. ADDED SPEED RESTRICTION AT RYDRR "AT 250K".
6. REMOVED SPEED RESTRICTION AT KEVVI "AT 250K".
7. CHANGED SPEED RESTRICTION AT BAYST FROM "240K" TO "250K"
8. ADDED RESTRICTION "AT 6000" TO GADDO WAYPOINT.
9. FM LEG CHANGED FROM 071.00 TO 071.01.

REASONS:
1, 3, 4. ATC REQUEST FOR SEPARATION FROM CROSSING DEPARTURE AIRCRAFT.
2. CORRECTED MEA TO MATCH OPERATIIONAL MINIMUM RESTRICTIONS AT BRUKY AND GNZZO.
5, 6. ATC REQUEST FOR IMPROVED SEQUENCING OF ARRIVALS.
7. IAW FAAO 8260.3C PARA 2-2-1h.
8. REQUIRED PER FAAO 8260.3C PARA 2-2-1f(6)(b).
9. ALIGN WITH LEG INTO GADDO.

QUALITY 14 CHECKED

CHANGES:
1. ADDED BRUKY WAYPOINT AND RESTRICTION AT OR ABOVE FL250 BETWEEN LLEVI AND HUULL.
2. AMENDED MEA BETWEEN TOKIO/MANZZ, MANZZ/RBOTO, RBOTO/LLEVI FROM 14000 TO FL250, BETWEEN BRU
3. CHANGED RESTRICTION AT HUULL FROM "AT OR BELOW FL250" TO "AT OR BELOW FL230".
4. CHANGED RESTRICTION AT GNZOO FROM "BETWEEN 14000 AND 16000" TO "BETWEEN 13000 AND 14000".
5. ADDED SPEED RESTRICTION AT RYDRR "AT 250K".
6. REMOVED SPEED RESTRICTION AT KEVVI "AT 250K".
7. CHANGED SPEED RESTRICTION AT BAYST FROM "240K" TO "250K"
8. ADDED RESTRICTION "AT 6000" TO GADDO WAYPOINT.
9. FM LEG CHANGED FROM 071.00 TO 071.01.

REASONS:
1, 3, 4. ATC REQUEST FOR SEPARATION FROM CROSSING DEPARTURE AIRCRAFT.
2. CORRECTED MEA TO MATCH OPERATIIONAL MINIMUM RESTRICTIONS AT BRUKY AND GNZZO.
5, 6. ATC REQUEST FOR IMPROVED SEQUENCING OF ARRIVALS.
7. IAW FAAO 8260.3C PARA 2-2-1h.
8. REQUIRED PER FAAO 8260.3C PARA 2-2-1f(6)(b).
9. ALIGN WITH LEG INTO GADDO.

Same Reason for All 3 North Arrival IFPs

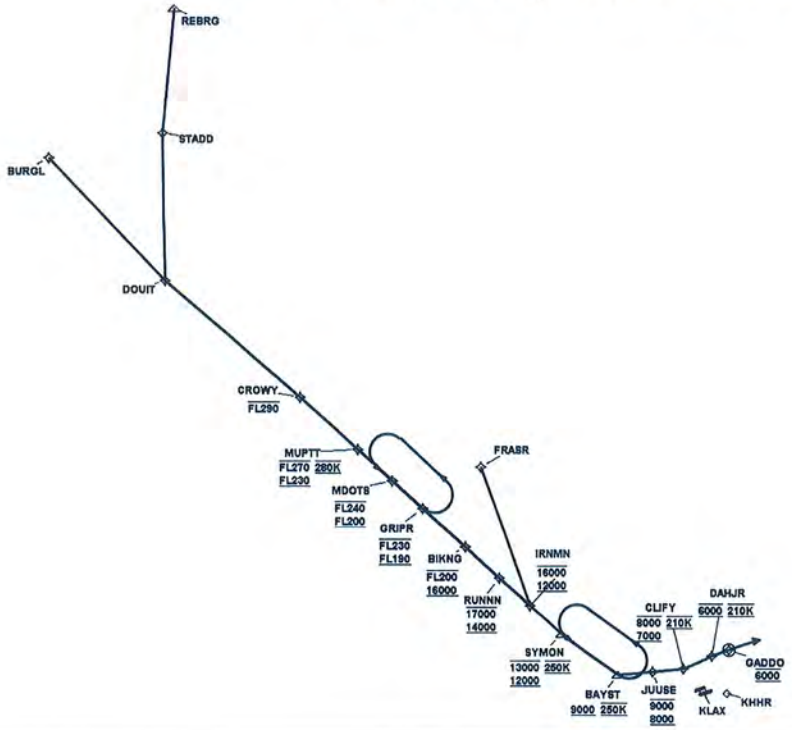
Why is GADDO getting a Min Alt now?

FAAO 8260.3C, par 2-2-1 (f)(6)(b) (effective March 14, 2016)

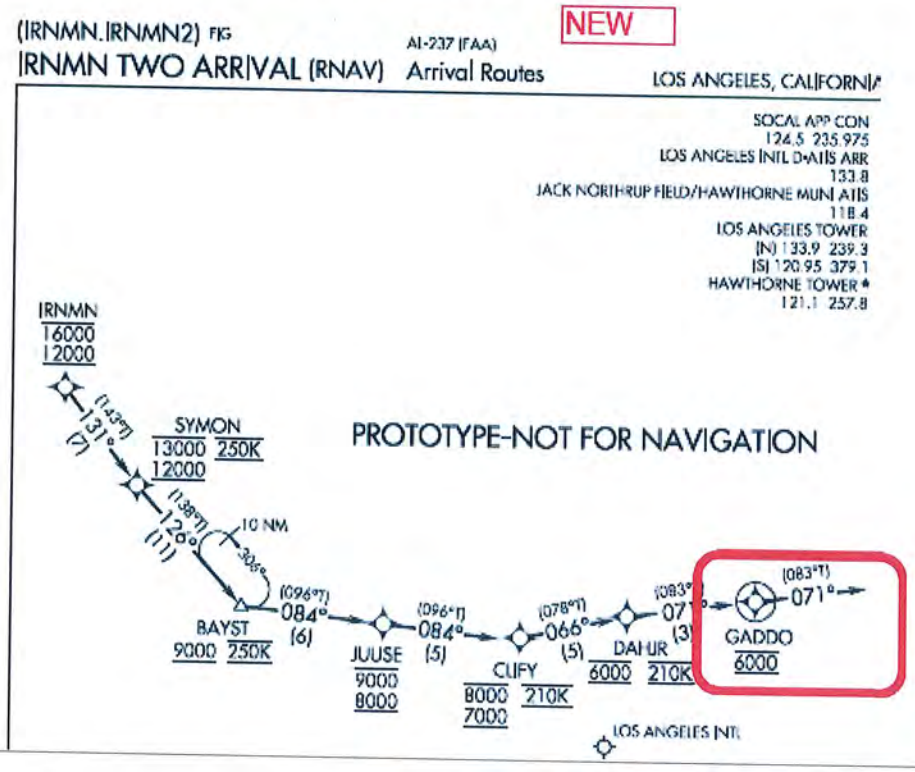
If the STAR authorizes radar vectors after the termination fix/NAVAID, an altitude is required at the termination fix and that altitude must be at or above the minimum vectoring altitude (MVA) and/or minimum IFR altitude (MIA) (as applicable). If the STAR authorizes radar vectors after the termination fix/NAVAID and does not join an approach, then the altitude authorized at the termination fix should be a mandatory altitude.

Note: If the STAR termination fix will be authorized for either joining an approach or for radar vectors, the altitude must match the approach altitude [see paragraph 2-2-1.f(6)(a)] and must be above the MVA/MIA [see paragraph 2-2-1.f(6)(b)].

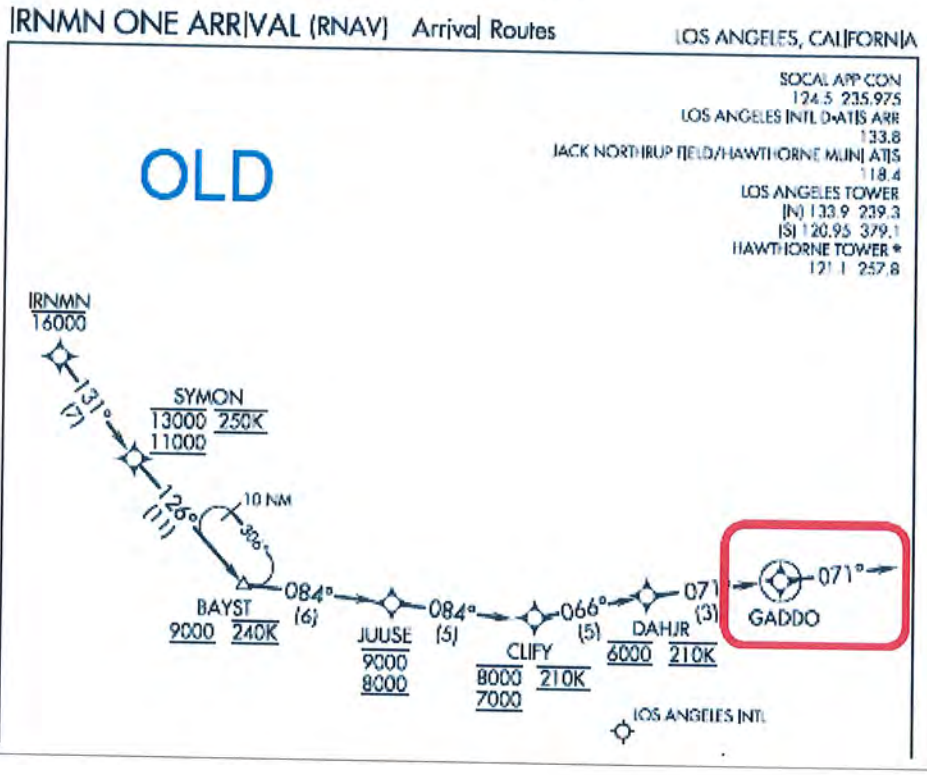
IRNMN 2 – Proposed Revision at Flight Check



IRNMN 2 – Blow up of LA Basin end of approach



IRNMN 1 – Blow up of LA Basin end of approach



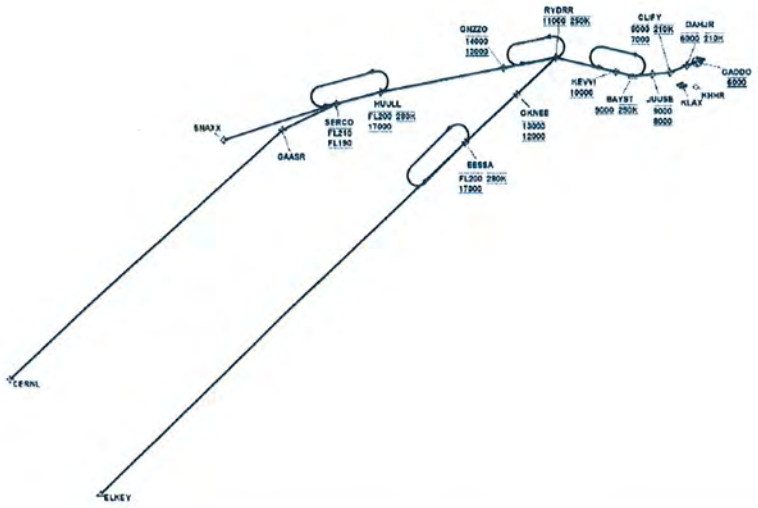
RYDRR 2 – Proposed Revision at Flight Check

FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
STANDARD TERMINAL ARRIVAL (STAR)

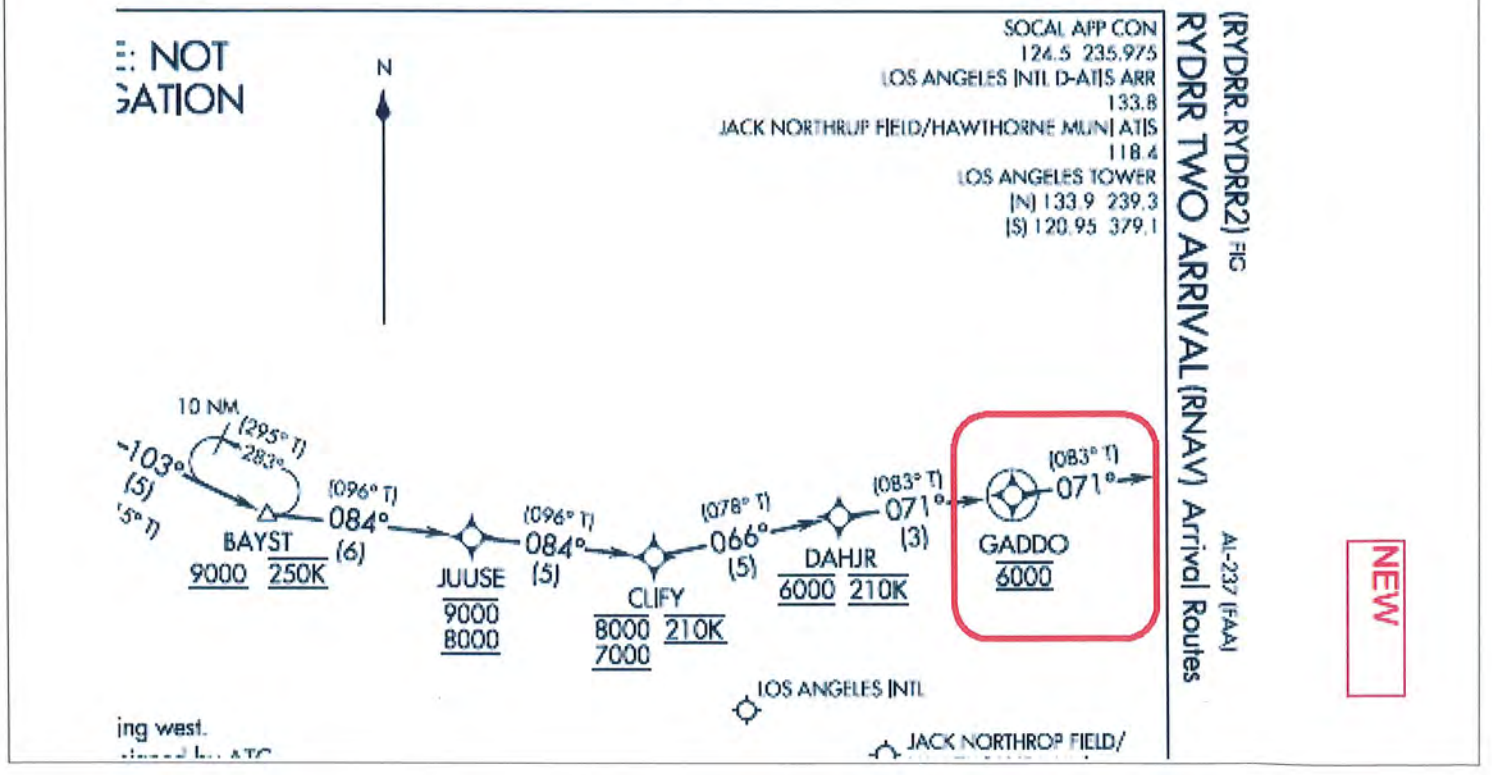
Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL. Altitudes are minimum altitudes unless otherwise indicated.
Distances are in nautical miles (NM). Graphic depictions attached

Arrival Name	Number	STAR Computer Code	Superseded Number	Dated	Effective Date
RYDRR (RNAV)	TWO	RYDRR.RYDRR2	ONE	04/27/2017	

Graphic Depiction 1



RYDRR 2 – Blow up of LA Basin end of approach



RYDRR 1 – Blow up of LA Basin end of approach