

TABLE 1 (1 OF 2): CONCEPT DEVELOPMENT PARAMETERS DESCRIPTION

PARAMETER	DESCRIPTION	OUTSIDE OF PARAMETER EXAMPLES	APPLICABLE FAA ORDERS AND GUIDANCE
Do not reduce safety	The primary purpose of the air traffic control system is to prevent the collision of aircraft operating in the system. The priority of an Air Traffic Controller is the safe separation of aircraft. Air traffic regulations and procedure design criteria are developed to provide a high level of safety. Any proposed changes to a procedure that do not meet air traffic regulations (e.g., aircraft separation), procedure design criteria, and/or obstruction clearance can cause safety risks, which would reduce the feasibility of a proposed concept.	<ul style="list-style-type: none"> ▪ A procedure that does not provide 3.0 nautical miles (NM) lateral separation and/or 1,000 feet mean sea level (MSL) vertically from another procedure. ▪ A procedure that requires a descent or climb rate above maximum levels stated in procedure design criteria and/or requires all available means by pilots to descend and slow down at the same time (e.g., use of speed brakes). ▪ A procedure that converges or conflicts with another procedure. ▪ Two procedures sharing a common route but designed differently. ▪ A procedure design that creates a new safety risk. 	<ul style="list-style-type: none"> ▪ Federal Aviation Administration (FAA) Order 7110.65, <i>Air Traffic Control</i> ▪ FAA Order 7210.56C, <i>Air Traffic Quality Assurance</i> ▪ FAA Order 8040.4, <i>Safety Risk Management Policy</i> ▪ FAA Order 8260.19, <i>Flight Procedures and Airspace</i> ▪ FAA Order 8260.3, <i>United States Standard for Terminal Instrument Procedures (TERPS)</i> ▪ FAA Order 8260.46, <i>Departure Procedure (DP) Program</i> ▪ FAA Order 8260.52, <i>United States Standard for Required Navigation Performance (RNP) Approach Procedures with Special Aircraft and Aircrew Authorization Required (SAAR)</i> ▪ FAA Order 8260.58, <i>United States Standard for Performance Based Navigation (PBN) Instrument Procedure Design</i>
Do not reduce SDIA capacity	San Diego International Airport's (SDIA's) airfield acceptance rate for departures and arrivals shall not be impacted by any proposed procedure concepts.	<ul style="list-style-type: none"> ▪ A procedure design that requires all Runway 27 departures to take off on one heading instead of two divergent headings will reduce the acceptance rate for departures per hour. 	<ul style="list-style-type: none"> ▪ FAA Order 7110.65, <i>Air Traffic Control</i>
Do not change flight paths over areas exposed to CNEL 65 dB or higher	A change in noise exposure for areas exposed to levels at or higher than Community Noise Exposure Level (CNEL) 65 decibels (dB) can be considered a significant impact, depending on the degree of change; this can also create potential land use compatibility impacts. Such impacts could require an Environmental Impact Statement (EIS) and could cause significant extraordinary circumstances, such as public controversy. This substantially impacts the feasibility of a proposed concept, and any such action should be evaluated as part of the Title 14 Code of Federal Regulations (CFR) Part 150 study process.	<ul style="list-style-type: none"> ▪ A change to initial departure headings from Runway 9 or Runway 27. 	<ul style="list-style-type: none"> ▪ FAA Order 1050.1F, <i>Environmental Impacts: Policies and Procedures</i> ▪ FAA Order 7400.1L, <i>Procedures for Handling Airspace Matters</i>, Chapter 32, "Environmental Matters"
Meet FAA PBN procedure design criteria	All concept procedures must meet PBN design criterial requirements, as documented in FAA Orders and guidelines.	<ul style="list-style-type: none"> ▪ Flyability failures based on the FAA's Terminal Area Route Generation Evaluation and Traffic Simulation (TARGETS) PBN procedure design tool. ▪ Distance requirements between two waypoints based on route geometry (e.g., 180-degree turns). ▪ Exceeding maximum descent rates or climb rates. 	<ul style="list-style-type: none"> ▪ FAA Order 8260.58, <i>United States Standard for Performance Based Navigation (PBN) Instrument Procedure Design</i> ▪ FAA Order 8260.3, <i>United States Standard for Terminal Instrument Procedures (TERPS)</i>

TABLE 1 (2 OF 2): CONCEPT DEVELOPMENT PARAMETERS DESCRIPTION

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Fit within existing airspace boundaries	Controlled airspace is managed by breaking up the airspace into multiple sectors assigned to an air traffic controller. Every effort should be made to ensure procedure concepts do not require a change in sector boundaries; keep aircraft within the appropriate sector; and stay at least 1.5 NM laterally and/or 1,000 feet MSL vertically from neighboring sector boundaries to ensure safe separation. In addition, SDIA operations must stay within the Class B airspace. ¹ All procedure concepts must ensure SDIA operations stay within the controlled Class B airspace boundaries.	<ul style="list-style-type: none"> ▪ A procedure that leaves the Class B boundary. ▪ A procedure design that is within 1.5 NM from a neighboring air traffic control sector. ▪ A procedure design that changes location where an air traffic controller transitions control over to another air traffic controller. 	<ul style="list-style-type: none"> ▪ FAA Order 7110.65, <i>Air Traffic Control</i> ▪ Standard Operating Procedures for Los Angeles Air Route Air Traffic Control Center (ZLA ARTCC) ▪ Standard Operating Procedures for Southern California Terminal Radar Approach Control (SCT TRACON) ▪ Letter of Agreements between SCT TRACON and ZLA ARTCC
Be sensitive to moving noise to new noncompatible areas to reduce noise over a community	If the purpose and need of a procedure design is to reduce noise over a community, then every effort should be made not to cause an increase in noise for other communities, especially those not represented by the Citizen Advisory Committee (CAC), or cause other environmental impacts as a result of moving a procedure, unless the affected communities are informed of the change and potential impacts.	<ul style="list-style-type: none"> ▪ A PBN procedure design moved over communities that do not have a PBN procedure over the community causes a reportable and/or noticeable change in aircraft noise exposure. 	<ul style="list-style-type: none"> ▪ Environmental considerations: FAA Order 1050.1F, <i>Environmental Impacts: Policies and Procedures</i>, Section 4(f) resources: historic properties; environmental justice and/or extraordinary circumstances. ▪ FAA Top Policy Issues: "FAA Authority regarding Noise: While the FAA has the authority to alter flight procedures based on noise, the Agency historically has not exercised that authority to prohibit aircraft flights over a particular area unless the operation is unsafe, or the aircraft is operated in a manner inconsistent with FAA regulations. This is because flight procedure changes can result in shifting of aircraft noise from one community to another. Any work regarding the movement of procedures is done for safety and efficiency reasons (including enhancing controller ability to monitor traffic)."²

NOTES:

1 Class B airspace is designated airspace from the surface to 10,000 feet MSL surrounding a busy airport, such as SDIA, in terms of airport operations or passenger enplanements. The configuration of each Class B airspace area is individually tailored, consists of a surface area and two or more layers, and is designed to contain all published instrument flight procedures once an aircraft enters the airspace. Air Traffic Control clearance is required for all aircraft to operate in the area, and all aircraft that are so cleared receive separation services within the airspace

2 U.S. Department of Transportation, Federal Aviation Administration, FAA Top Policy Issues, <https://www.transportation.gov/transition/FAA/Top-Policy-Issues> (accessed September 11, 2018).

SOURCE: Ricondo & Associates, Inc., September 2018.

TABLE 2 (1 OF 6): DESIGN PARAMETERS REVIEW FINDINGS AND RECOMMENDATIONS TO ANAC SUBCOMMITTEE PROCEDURE SUGGESTIONS

ANAC RECOMMENDATION ¹	ANAC SUBCOMMITTEE PROCEDURE SUGGESTIONS ¹	CONSULTANT DESIGN PARAMETER REVIEW FINDINGS	CONSULTANT RECOMMENDATION
<p>Recommendation 14</p>	<p>Move the WNFLD and LANDN waypoints due south so as to align with the relocated Noise Dot #1 at 290° (15° separation from JETTI at 275°) and designate as "Flyover" waypoints in their respective SID's, consistent with JETTI.</p>	<p>Noise Dot #1 is located 1.5 nautical miles (NM) from the shoreline along a 299-degree magnetic heading (based on 11-degrees east magnetic variation) from the departure end of Runway 27. This suggestion recommends moving Noise Dot #1 along a 290-degree magnetic heading at 1.5 NM for the shoreline and designing a procedure that provides a "fly over" waypoint at the location. In addition, ANAC suggested relocating the WNFLD and LANDN waypoints south of their current location to be on the 290-degree magnetic extended course from the departure end of Runway 27. Compared to existing initial departure heading traffic, the Consultant determined a change in the overflight traffic location for areas exposed to noise levels at or above Community Noise Exposure Level (CNEL) 65 decibels (dB) was possible.</p>	<p>Recommend suggestion be evaluated under the Title 14 Code of Federal Regulations (CFR) Part 150 process due to its potential to change overflight traffic patterns for areas exposed to CNEL 65 dB or higher.</p>
	<p>Establish within the PADRZ SID procedure a horizontal distance from end of runway (1.0 miles) along a fixed heading which must be satisfied along with altitude before a right turn can be initiated to preclude flights that quickly attain the current 520' altitude and turn right of and prior to Noise Dot #1 before correcting to WYNFLD which results in aircraft flying farther north over Mission Beach.</p>	<p>This suggestion proposes to keep Runway 27 departures on the runway heading until aircraft reach a fixed point on the ground and at a required altitude before turning right. Compared to existing initial departure heading traffic, the Consultant determined a change in the overflight traffic location for areas exposed to noise levels at or above CNEL 65 dB was possible.</p>	<p>Recommend suggestion be evaluated under the 14 CFR Part 150 process due to its potential to change overflight traffic patterns for areas exposed to CNEL 65 dB or higher.</p>
	<p>PADRZ ONE SID - As currently designed the PADRZ ONE departure leaves aircraft very close to and almost paralleling the coast along La Jolla, increasing noise impacts significantly. We recommend moving the WNFLD and KERNL waypoints 1.5 NM south of their current positions. This will ensure aircraft proceed more directly off the coast without paralleling the shore and adds less than a mile of track distance to PADRZ.</p>	<p>Moving WNFLD and KERNL waypoints 1.5 NM south of their current locations would reduce the degree of divergence from aircraft heading 275-degrees from Runway 27. The Federal Aviation Administration (FAA) requires at least a 15-degree angle of divergence between two aircraft departing from the same runway when the leading aircraft is 1.0 NM ahead of the following aircraft at the time the following aircraft is cleared for takeoff. If the 15-degree divergence is not possible, then the following aircraft cannot take off until the leading aircraft is 3.0 NM ahead of the following aircraft. Implementing the suggestion would reduce the departure throughput of Runway 27. Assuming existing initial heading PADRZ Area Navigation (RNAV) Standard Instrument Departure (SID) design, the earliest opportunity to turn west during daytime hours (6:30 a.m. to 9:59 p.m.) is north and east of the WNFLD waypoint to ensure separation between ZOOO RNAV SID and BORDER 7 SID.</p>	<p>Recommend flight procedure design concepts for departures between 10:00 p.m. and 6:30 a.m., when all departures are assigned the same heading. A concept would turn departures to the west as soon as possible, or at 1.5 NM from the shoreline to stay as far south as possible from La Jolla. The design must maintain the existing PADRZ RNAV SID initial departure design to avoid a change in overflight traffic patterns for areas exposed to CNEL 65 dB or higher noise levels.</p>

TABLE 2 (2 OF 6): DESIGN PARAMETERS REVIEW FINDINGS AND RECOMMENDATIONS TO ANAC SUBCOMMITTEE PROCEDURE SUGGESTIONS

ANAC RECOMMENDATION ¹	ANAC SUBCOMMITTEE PROCEDURE SUGGESTIONS ¹	CONSULTANT DESIGN PARAMETER REVIEW FINDINGS	CONSULTANT RECOMMENDATION
Recommendation 14 (continued)	Create a new procedure: BROCK-1 (alternative 1) Request FAA to revise PADRZ SID and establish new waypoint BROCK1. Adds min increased flight time and takes aircraft further offshore before turning to northern destinations. This will help all coastal neighborhoods with noise issues.	The BROCK-1 suggestion is not feasible during daytime hours for the same reasons described for the “move WNFLD and KERNL waypoints 1.5 NM south” suggestion.	Recommend a flight procedure design concept for departures between 10:00 p.m. and 6:30 a.m. that is similar to the BROCK suggestion. The design must maintain the existing PADRZ RNAV SID initial departure design to avoid a change in overflight traffic patterns for areas exposed to CNEL 65 dB or higher noise levels.
	Create a new procedure: BROCK-2 (alternative 2 - preferred) Relocate Waypoints WNFLD and LANDN 0.75 miles directly south or adopt BROCK recommendation. Maintain 274 Departure until Altitude 520 ft. or greater. Maintain 274 departure heading until 520 ft. altitude or greater and the aircraft have reached (new) flyover waypoint 0.25 to 0.5 NM from the end of the runway before turning towards WNFLD, LANDN or new BROCK Waypoint.	The BROCK-2 suggestion is not feasible during daytime hours for the same reasons described for the “move WNFLD and KERNL waypoints 1.5 NM south” suggestion. In addition, the suggested initial heading to a fixed point and altitude is expected to change the existing overflight traffic patterns over areas exposed to CNEL 65 dB or higher noise levels.	Design concept procedure for departures between 10:00 p.m. and 6:30 a.m. that is similar to the BROCK suggestion. The design must maintain the existing PADRZ RNAV SID initial departure design to avoid a change in overflight traffic patterns for areas exposed to CNEL 65 dB or higher noise levels. Recommend the initial departure heading suggestion be evaluated under the 14 CFR Part 150 process due to its potential to change the overflight traffic patterns for areas exposed to CNEL 65 dB or higher.
	Do not move the PADRZ SID further south to avoid negative noise impacts on the south side communities of the Point Loma Peninsula	Any proposed procedure design concepts for departures heading north on the PADRZ RNAV SID are not expected to move as far south towards communities of the Point Loma Peninsula.	All proposed design concepts will consider potential noise impacts to the Point Loma Peninsula residents. Any changes to initial departure headings that suggest moving departures further south of 290 degrees would be evaluated under the 14 CFR Part 150 process.
Recommendation 15	East bound flights should reach a minimum of 8K feet before crossing over ZZOOO to minimize thrusters and reduce duration of noise impacts over Point Loma.	A requirement of 8,000 feet MSL at the ZZOOO waypoint is not feasible based on the existing design of the ZZOOO RNAV SID.	Design a concept procedure similar to the ZZOOO RNAV SID but increase the flight path distance between the JETTI and ZZOOO waypoints as a means to increase frequency of aircraft crossing near the ZZOOO waypoint at or above 8,000 feet MSL.
	FAA\TRACON to discourage the practice of redirecting flights off of their filed ZZOOO flight plan departure, to turn north then east over La Jolla. FAA to increase minimum SID flyover/flyby altitudes to encourage increased climb rates.	Some eastbound departures directed by FAA Air Traffic Control (ATC) to turn right over La Jolla occur during nighttime hours. Based on discussions with FAA SCT TRACON staff, an RNAV SID with an initial departure heading to the right and a route to the ZZOOO waypoint would reduce the number of eastbound departures turned right over La Jolla. Because this flight pattern does not occur frequently, designing an RNAV SID for eastbound departures turning right over La Jolla is not feasible.	Design concept procedure for departures between 10:00 p.m. and 6:30 a.m. that turn eastbound departures to the right on the same heading as the existing PADRZ RNAV SID with a flight path turning left heading towards the ZZOOO waypoint. The point where aircraft turn left to the south should be the same as the point where northbound departures turn in a westerly direction. The design should also seek to keep eastbound departures further west of the Point Loma area and provide the ability for most departures to be at or above 8,000 feet MSL near the ZZOOO waypoint.

TABLE 2 (3 OF 6): DESIGN PARAMETERS REVIEW FINDINGS AND RECOMMENDATIONS TO ANAC SUBCOMMITTEE PROCEDURE SUGGESTIONS

ANAC RECOMMENDATION ¹	ANAC SUBCOMMITTEE PROCEDURE SUGGESTIONS ¹	CONSULTANT DESIGN PARAMETER REVIEW FINDINGS	CONSULTANT RECOMMENDATION
Recommendation 15 (continued)	<p>FAA\TRACON to direct that ALL SAN departure separation be limited to between JETTI (275°) and the historical Red Noise Dot #1 (290° vectors from the end of runway 27) for LNSAY, BORDER, PEBLE and ZZOOO, etc. (plus all new Metroplex SID's); Prohibit 250° to 275° departure vector range, except for specific safety events ("Runway 27 STAR Missed Approach Wave Off").</p>	<p>All jet aircraft follow a 275-degree heading and 293-degree magnetic heading (based on 11-degree east magnetic variation) when assigned the ZZOOO and PADRZ RNAV SIDs, respectively. Propeller aircraft can be issued headings outside of the 275- and 293-degree heading range by FAA ATC. Directing all departures to be limited to headings between 275 and 293 degrees will change the overflight traffic location for areas exposed to noise levels at or above CNEL 65 dB and will have a detrimental effect on departure throughput.</p>	<p>Recommend suggestion be evaluated under the 14 CFR Part 150 process due to its potential to change the overflight traffic patterns for areas exposed to CNEL 65 dB or higher.</p>
	<p>Follow ZZOOO procedure, comply with the JETTI flyover waypoint and consider the establishment of a minimum vectoring altitude for Eastbound turns</p>	<p>The current ZZOOO RNAV SID complies with the 275-degree heading until flying over the JETTI waypoint. Minimum vectoring altitudes (MVA) are not applicable. MVA is driven only by obstacle clearance, and it is a reference for FAA ATC when vectoring aircraft not on a defined procedure. Modifying the MVA is not a feasible method to raise altitudes.</p>	<p>Design a concept procedure similar to the ZZOOO RNAV SID but increase the flight path distance between the JETTI and ZZOOO waypoints as a means to increase the frequency of aircraft crossing near the ZZOOO waypoint at or above 8,000 feet MSL.</p>
	<p>The ZZOOO ONE departure as currently designed puts departing aircraft close to the Point Loma peninsula and the southern end of coastal La Jolla, subjecting residents to increased and at times incessant noise from departing aircraft. Aircraft need to be further offshore before beginning the turn south to the ZZOOO waypoint. We recommend replacing the JETTI waypoint with a waypoint along the same track from the departure end of runway 27 that is 2 NM further west, located at approximately 32.75360N -117.25755W.</p>	<p>Increasing distance from Point Loma shoreline as aircraft turn back to the east towards the ZZOOO waypoint would require a modification to the existing ZZOOO RNAV SID design. Moving the JETTI waypoint further west would move aircraft further west of the Point Loma shoreline, and with increased flight distance, it would increase the frequency of aircraft at or above 8,000 feet MSL near the ZZOOO waypoint.</p>	<p>Design a concept procedure similar to the ZZOOO RNAV SID but move the JETTI waypoint 2.0 NM further west of the current location along the 275-degree magnetic heading from the departure end of Runway 27. The design between the JETTI and ZZOOO waypoints could maintain the same design used for the existing ZZOOO RNAV SID. This design is expected to move traffic further west of Point Loma's shoreline and increase the frequency of aircraft crossing near the ZZOOO waypoint at or above 8,000 feet MSL.</p>
Recommendation 16	<p>Revise COMIX STAR procedure in order to shift flights that Metroplex has moved and concentrated farther South (the downwind leg) over less populated areas and restore prior altitude.</p>	<p>This suggestion is related to SDIA arrivals from the north flying over the La Jolla and East County areas. The following review findings are in two parts: La Jolla Area and East County Area. <u>La Jolla Area</u> - Prior to the COMIX STAR, the BAYVU RNAV STAR was in use as early as 2010. The COMIX RNAV STAR was published in March 2017. The COMIX RNAV STAR indicates a lower altitude prior to crossing the shoreline compared to the BAYVU RNAV STAR: from at or above 9,000 feet MSL to at or above 8,000 feet MSL. In a study conducted by BridgeNet International, the COMIX STAR</p>	<p><u>La Jolla Area</u> – Design a concept procedure to direct aircraft from the LNTRN waypoint to a waypoint over the I-805 and State Route (SR) 52 interchange thence to the KLOMN waypoint. Altitude at LNTRN should be as high as possible and the descent gradient between LNTRN and KLOMN must meet the FAA's maximum descent gradient requirements. If a concept design passes to the Final Design Concept phase, noise screening analysis must be conducted to determine potential reportable changes in CNEL levels.</p>

TABLE 2 (4 OF 6): DESIGN PARAMETERS REVIEW FINDINGS AND RECOMMENDATIONS TO ANAC SUBCOMMITTEE PROCEDURE SUGGESTIONS

ANAC RECOMMENDATION ¹	ANAC SUBCOMMITTEE PROCEDURE SUGGESTIONS ¹	CONSULTANT DESIGN PARAMETER REVIEW FINDINGS	CONSULTANT RECOMMENDATION
<p>Recommendation 16 (continued)</p>		<p>(continued) flight track shifted arrivals 1,200 feet south from the BAYVU RNAV STAR location over the La Jolla area, and the altitude as aircraft crossed the shoreline increased. Based on flight track analysis, BridgeNet International determined the "...changes were not in themselves sufficient to result in measurable changes in noise. The propagation of noise for aircraft above 8,000 feet for a ground shift of 1,200 feet would result in a change of less than 1 dBA. The pre- and post-Metroplex noise measurements did not show a measurable change in the maximum noise levels of aircraft flying the new arrival procedure."² Shifting a procedure flight path over populated areas not frequently exposed to COMIX RNAV STAR arrival overflight noise to abate noise may not be considered feasible by the FAA, but it may be confirmed based on noise screening analysis.</p> <p><u>East County Area</u> - East County residents also indicated changes in aircraft overflights. In November 2016, the FAA implemented a change to the BAYVU RNAV STAR, which added a flight path between the KLOMN waypoint and a new waypoint called NADDO. This path was added to ensure aircraft stay within the Class B airspace. Prior to the change, pilots would be cleared to descend after the KLOMN waypoint to join the final approach to Runway 27. Although the FAA ATC can still monitor the aircraft on radar, pilots would inadvertently descend below the Class B floor. The additional flight path provides a predictable path for pilots to keep the aircraft within the Class B airspace. Changes noticed by East County residents are most likely related to this change, which was carried over to the COMIX RNAV STAR. Proposing a procedure change to keep aircraft on an easterly heading prior to turning south (similar to the procedure prior to the BAYVU RNAV Standard Terminal Arrival Route [STAR] change) to join the final approach would not be feasible by the FAA, unless the Class B airspace floor is lowered. This is based on information the FAA provided in FAA Form 8260-1, Flight Procedure Standards Waiver, related to the COMIX RNAV STAR ending at the NADDO waypoint.³ The FAA has been working on modifying the Class B, which would include lowering the floor where the flight path between the KLOMN and NADDO waypoints is located, but the FAA could not provide a specific timeline when the change would be implemented.</p>	<p><u>East County Area</u> – The Authority recommended the formation of an East County working group to assess existing SDIA arrival noise concerns and to identify potential feasible measures to address the concerns. This effort will be independent of this Flight Procedure Evaluation.</p>

TABLE 2 (5 OF 6): DESIGN PARAMETERS REVIEW FINDINGS AND RECOMMENDATIONS TO ANAC SUBCOMMITTEE PROCEDURE SUGGESTIONS

ANAC RECOMMENDATION ¹	ANAC SUBCOMMITTEE PROCEDURE SUGGESTIONS ¹	CONSULTANT DESIGN PARAMETER REVIEW FINDINGS	CONSULTANT RECOMMENDATION
Recommendation 16 (continued)	Shift the waypoint XMANS on the COMIX STAR north to a location that is over the interstate freeway 805 and 52 with the constraint to remain clear of MCAS Miramar's airspace. It would come ashore over Torrey Pines State Park before connecting with KLOMNN	Moving traffic closer to the Marine Corp Air Station (MCAS) Miramar may conflict with air traffic operations at MCAS Miramar. Shortening the distance from the shoreline to the KLOMNN waypoint, while descending from a higher altitude, may present flight performance issues for users. To maintain the FAA's intent to provide an optimized descent profile for COMIX RNAV STAR, the location of the COMIX and FLSHH waypoints should be maintained. Shifting a procedure flight path over populated areas not frequently exposed to COMIX RNAV STAR arrival overflight noise to abate noise may not be considered feasible by the FAA, but it may be confirmed based on noise screening analysis.	Design a concept procedure to direct aircraft from the LNTRN waypoint to a waypoint over the I-805 and SR 52 interchange thence to the KLOMNN waypoint. Initial discussions with SCT TRACON indicated concerns with the MCAS traffic, but it does not expect it to be a significant issue to resolve. Altitude at LNTRN should be as high as possible, and the descent gradient between LNTRN and KLOMNN must meet the FAA's maximum descent gradient requirements. If a concept design passes to the Final Design Concept phase, then noise screening analysis must be conducted to determine potential reportable changes in CNEL levels.
	Increase Min. Altitude at LNTRN (LCOVE) at or above 10,000. This change would result in aircraft flying over less populated areas, including industrial businesses, thus reducing the noise impact and saving time/fuel. This proposed path is closer to the historical flight tracks pre-NextGen	This suggestion is related to the "shift the waypoint XMANS" suggestion. Shortening the distance from the shoreline to the KLOMNN waypoint, while descending from a higher altitude, may present flight performance issues for users.	Design a concept procedure to direct aircraft from the LNTRN waypoint to a waypoint over the I-805 and SR 52 interchange thence to the KLOMNN waypoint. The altitude at LNTRN should be as high as possible, and the descent gradient between LNTRN and KLOMNN must meet the FAA's maximum descent gradient requirements. If a concept design passes to the Final Design Concept phase, then noise screening analysis must be conducted to determine potential reportable changes in CNEL levels.
	COMIX ONE STAR: The RNAV-only COMIX ONE arrival is very similar to the existing non-RNAV BAYVU arrival in terms of ground track with a key difference being that the COMIX arrival has an "at or above 8,000 feet" altitude restriction on its last offshore waypoint (LANTRN). The BAYVU arrival has an "at or above 9,000 feet" restriction at its nearly identically-located LCOVE waypoint. This has resulted in aircraft being lower and noisier over La Jolla. We recommend changing the LANTRN waypoint's altitude restriction to "at or above 9,000 feet".	The FAA amended the COMIX RNAV STAR on May 24, 2018, which raised the altitude from at or above 8,000 feet to at or above 9,000 feet at the LNTRN waypoint. ⁴	The FAA implemented the ANAC suggestion; therefore, no further evaluation is required.

TABLE 2 (6 OF 6): DESIGN PARAMETERS REVIEW FINDINGS AND RECOMMENDATIONS TO ANAC SUBCOMMITTEE PROCEDURE SUGGESTIONS

ANAC RECOMMENDATION ¹	ANAC SUBCOMMITTEE PROCEDURE SUGGESTIONS ¹	CONSULTANT DESIGN PARAMETER REVIEW FINDINGS	CONSULTANT RECOMMENDATION
Recommendation 16 (continued)	Direct traffic from COMIX waypoint direct to the KLOMN waypoint (suggested at July 19, 2018 CAC meeting)	A flight path from the COMIX waypoint to the KLOMN waypoint would move the majority of arrivals from the north over communities that do not experience frequent arrival overflights. Therefore, the potential to cause a noise impact is high. Noise screening analysis is not required due to the substantial change in distance from the existing procedure location to the proposed location.	Recommended to eliminate from further evaluation.

NOTES:

Fly Over Waypoint – a waypoint in an RNAV procedure over which an aircraft is expected to fly before the turn to the next segment of the route is initiated.

Fly By Waypoint – a waypoint in an RNAV procedure where a turn is initiated prior to reaching it.

Minimum Vector Altitude (MVA) – the lowest altitude, expressed in feet above mean sea level, to which an air traffic controller may issue aircraft altitude clearances during vectoring/direct routing, except if otherwise authorized for approaches, departures, and missed approaches. The minimum vectoring altitude in each sector provides 1,000 feet above the highest obstruction in non-mountainous areas and 2,000 feet above the highest obstacle in designated mountainous areas. MVA is the lowest altitude that meets obstacle clearance requirements in the airspace specified. Minimum vectoring altitudes should be sufficiently high to minimize activation of aircraft ground proximity warning systems.

1 San Diego County Regional Airport Authority, *Board Agenda and Meeting Materials – December 7, 2017*, “Item 15 - Action Plan for Addressing the Airport Noise Advisory Committee (ANAC) Recommendations,” Exhibit A: Airport Noise Advisory Committee (ANAC) Sub-committee Recommendation (ANAC Approval), Approved, <https://san.org/Airport-Authority/Meetings-Agendas?EntryId=9048> (accessed September 13, 2018).

2 BridgeNet International, *La Jolla Aircraft Noise and Flight Track Analysis*, October 11, 2017, page 5.

3 U.S. Department of Transportation, Federal Aviation Administration, Flight Procedures Standard Waiver – FAA Form 8260-1 for COMIX RNAV STAR, https://www.faa.gov/air_traffic/flight_info/aeronav/procedures/application/?event=procedure.results&tab=ndbr&nasrId=SAN#searchResultsTop (accessed February 7, 2018).

4 U.S. Department of Transportation, Federal Aviation Administration, COMIX TWO STAR (RNAV)-AL 373 Chart, [https://www.faa.gov/aero_docs/dtpp/1810/00373COMIX.PDF#nameddest=\(SAN\)](https://www.faa.gov/aero_docs/dtpp/1810/00373COMIX.PDF#nameddest=(SAN)) (accessed October 3, 2018).

SOURCE: Ricondo & Associates, Inc., September 2018.