LAX Community Noise Roundtable

Work Program A1
Review of SoCal Metroplex Proposed Procedures and Suggestions for Comment Letter

July 8, 2015

Presentation Overview

- Review some of the proposed changes to arrival and departure procedures in Southern California
- Review the extent to which Roundtable noise abatement recommendations were incorporated into the procedures
- Identify possible areas for the Roundtable to comment to FAA on the Metroplex EA
- Respond to questions

Southern California Metroplex Environmental Assessment

- **The Draft EA for the SoCal Metroplex project was released and made available for public review and comment on Wednesday, June 10, 2015**
- **The SoCal Metroplex project is a part of the FAA's NextGen initiative to improve airspace efficiency throughout the United States by utilizing satellite-based navigation technology**
- **FAA will accept written comments on the Draft EA until *this Friday, July 10, 2015***
- **FAA's contact information for receiving public comments is provided at the end of this presentation**

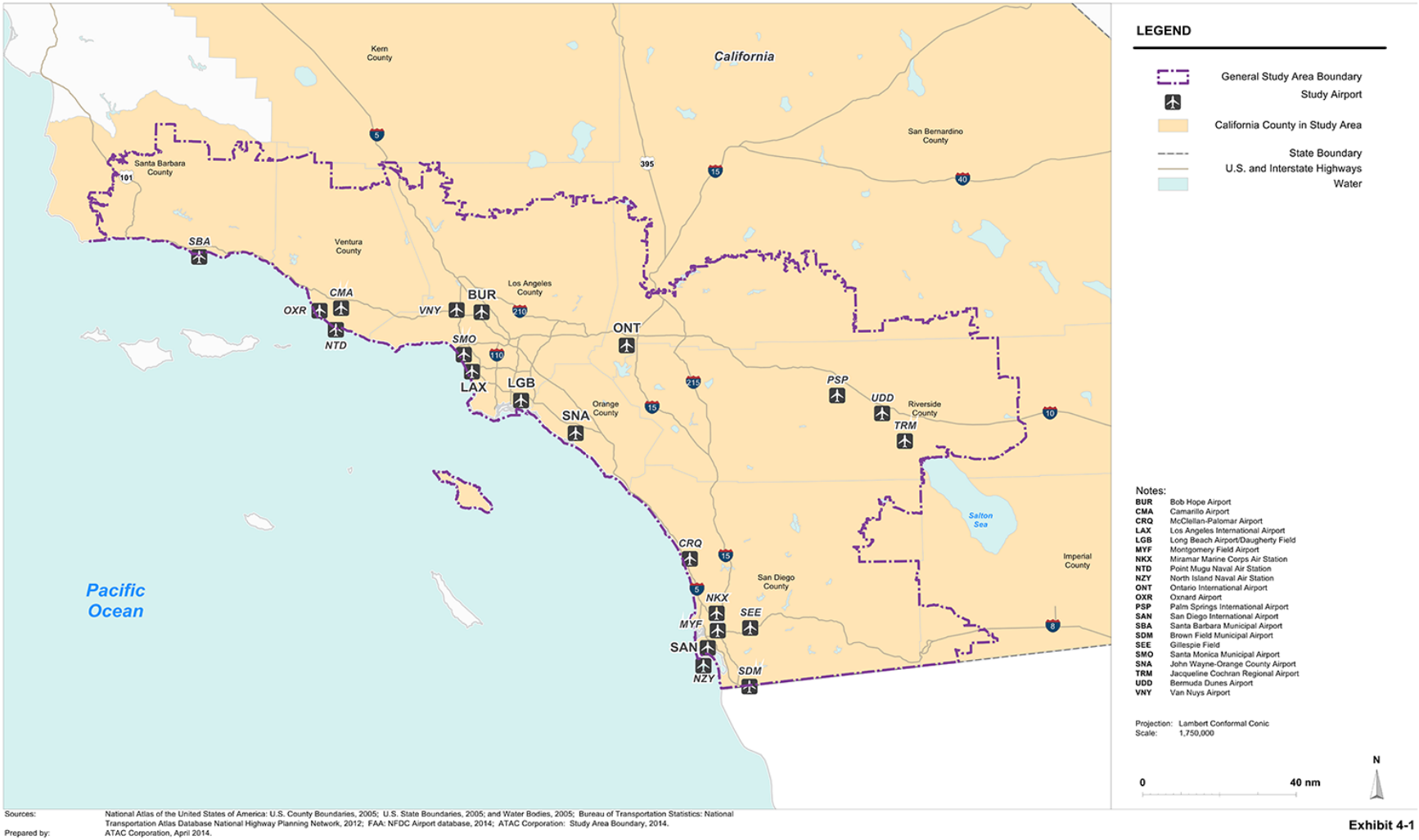
LAX Community Noise Roundtable Recommendation Letter

- **On September 24, 2012, the LAX Community Noise Roundtable sent a letter to the FAA recommending noise abatement measures for FAA to consider in the Metroplex process**

- **On January 8, 2014, the FAA sent a letter to the Roundtable indicating that the Roundtable's recommendations were forwarded to the Southern California Metroplex Design and Implementation team "for consideration during the procedure design process."**

- **The FAA's letter also indicated that in order to implement the procedures more quickly, the designs would remain within the thresholds of an Environmental Assessment (EA), rather than trigger a lengthy Environmental Impact Statement (EIS)**

Southern California Metroplex General Study Area



Sources: National Atlas of the United States of America: U.S. County Boundaries, 2005; U.S. State Boundaries, 2005; and Water Bodies, 2005; Bureau of Transportation Statistics: National Transportation Atlas Database National Highway Planning Network, 2012; FAA: NFDC Airport database, 2014; ATAC Corporation: Study Area Boundary, 2014.

Prepared by: ATAC Corporation, April 2014.

Exhibit 4-1

General Study Area

SoCal OAPM EA

Source: Federal Aviation Administration

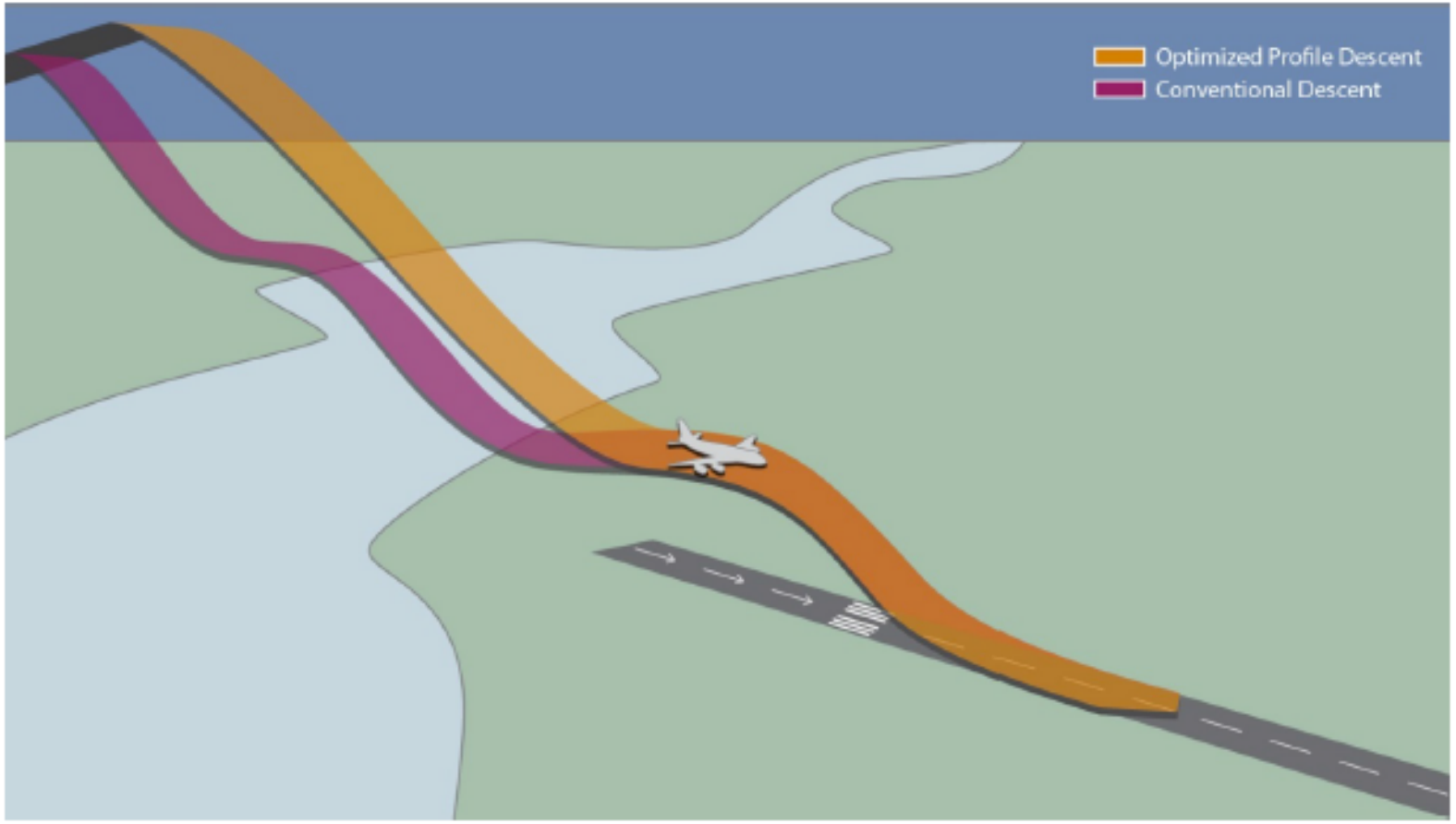
Southern California Metroplex Procedures

The Metroplex procedures include:

- **Optimized Profile Descent (OPD)**
  - Uses flight-idle throttle settings and keeps the aircraft "clean" until several miles from touchdown
- **Performance Based Navigation (PBN), Required Navigation Performance (RNP), and Area Navigation (RNAV) departures and approaches**
  - Reduces distance flown, increases precision and repeatability, and reduces pilot/controller communications

Optimized Profile Descent Compared to a Conventional Descent

Exhibit 1-6 Optimized Profile Descent Compared to a Conventional Descent

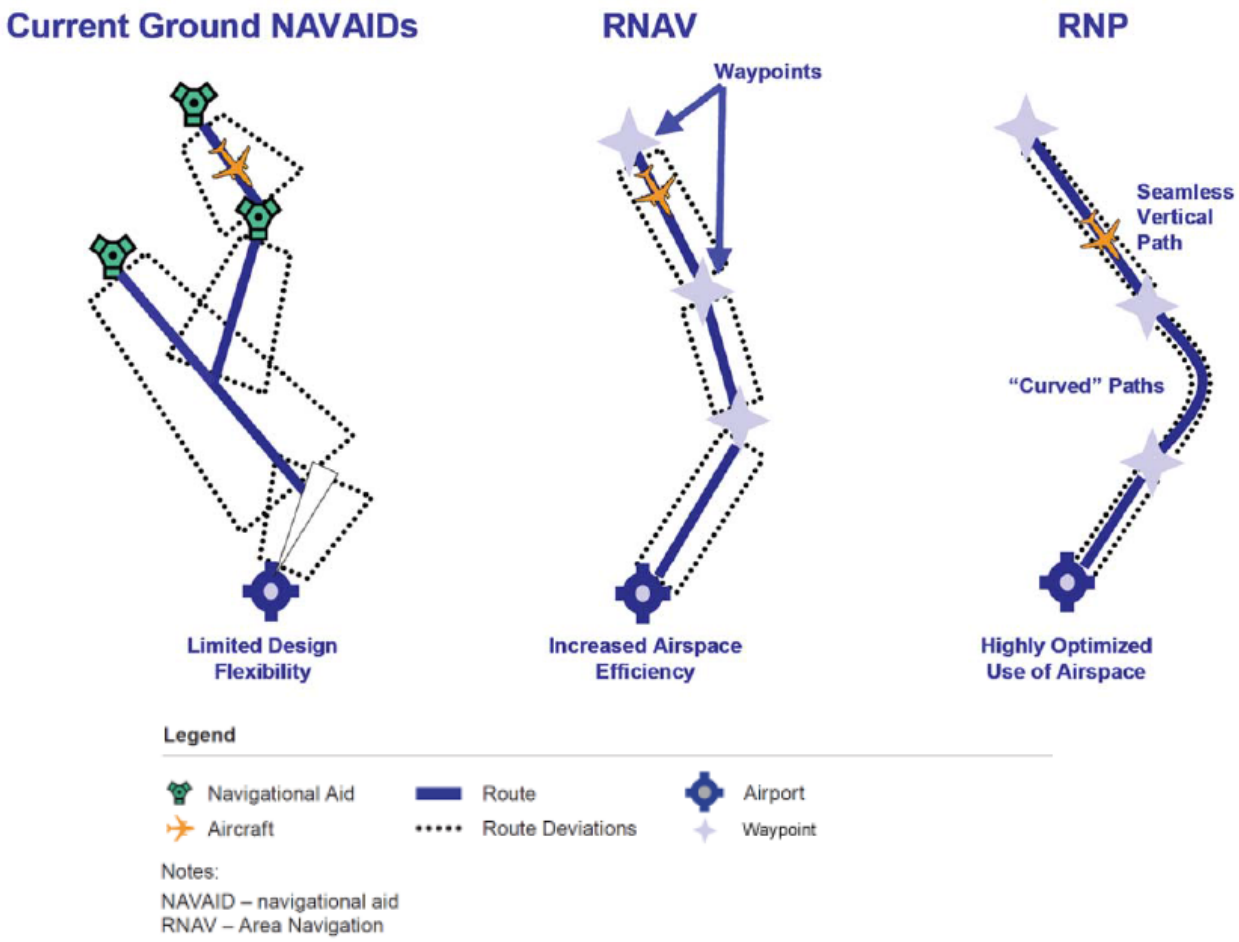


Source: ATAC Corporation, December 2012.
Prepared by: ATAC Corporation, October 2013.

Source: Draft Environmental Assessment for the Southern California Metroplex Project, June 2015

Depictions of Conventional, RNAV, and RNP Procedures

Exhibit 1-5 Navigational Comparison – Conventional/RNAV/RNP

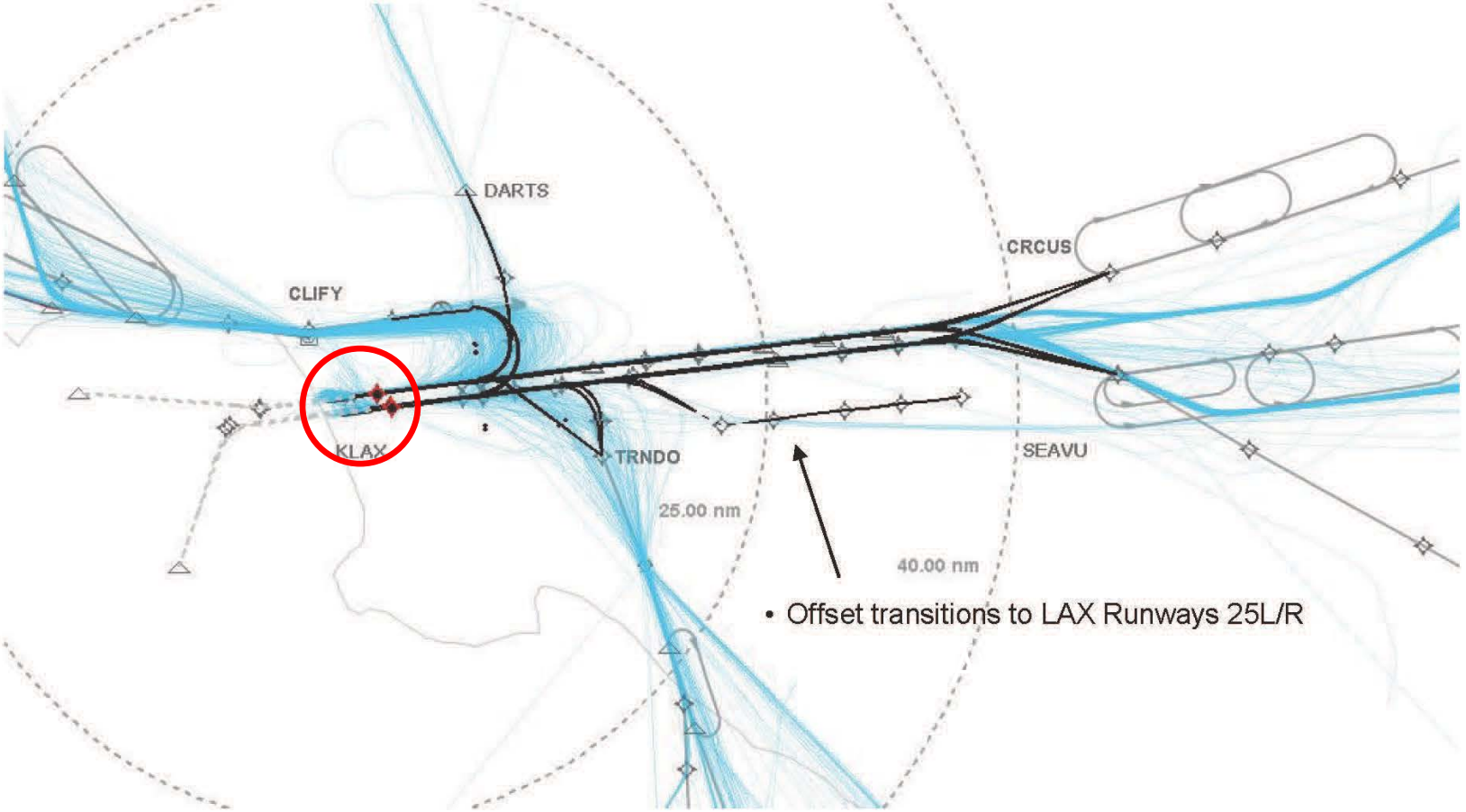


Source: U.S. Department of Transportation, Federal Aviation Administration, "Performance-Based (PBN) Brochure," October 2009.
Prepared by: ATAC Corporation, March 2013.

Source: Draft Environmental Assessment for the Southern California Metroplex Project, June 2015

Review of the Proposed SoCal Metroplex Procedures

LAX RNAV/RNP Approaches
West Flow

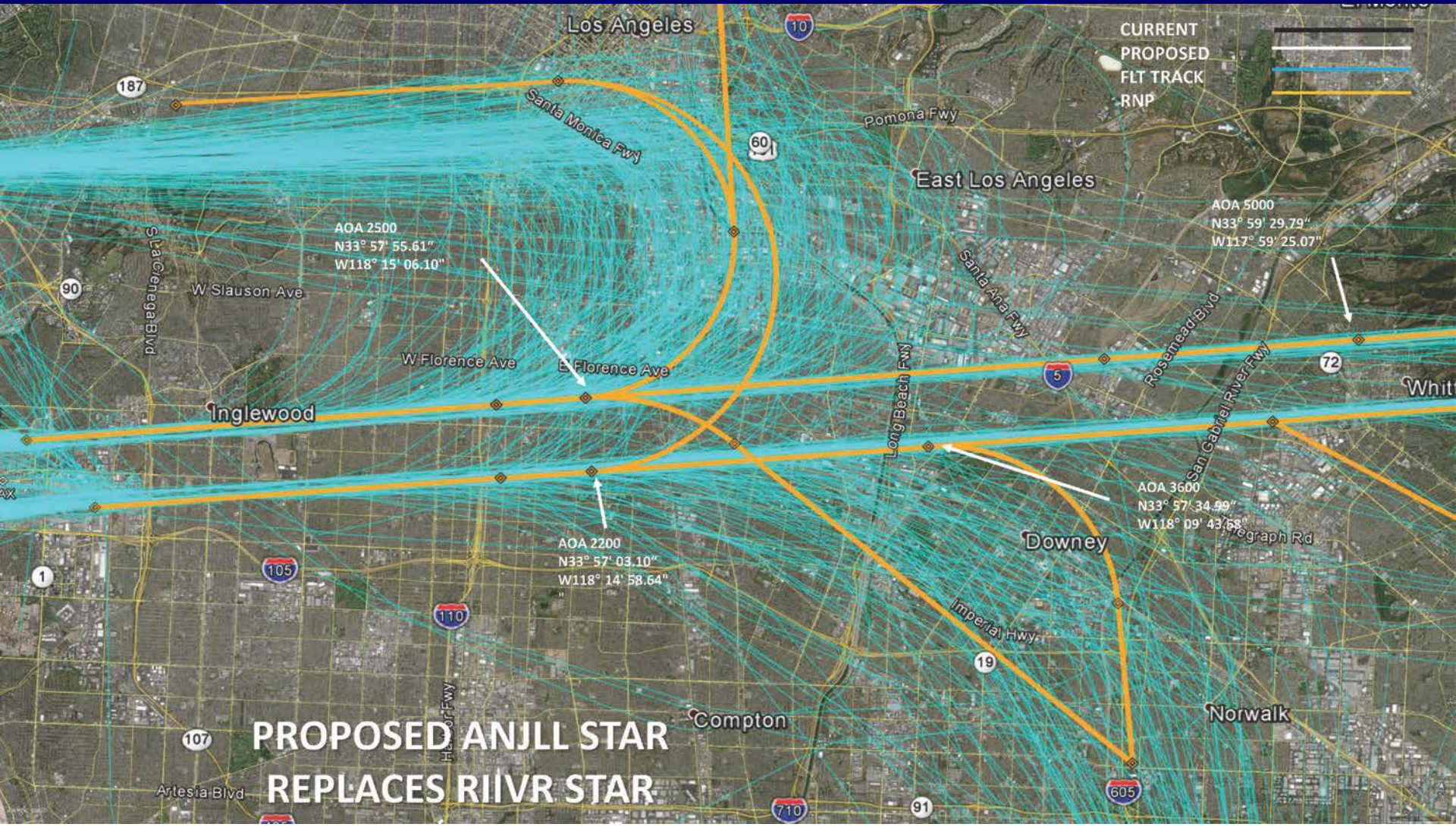


Source: Federal Aviation Administration

Review of the Proposed SoCal Metroplex Procedures

Source: Federal Aviation Administration

Review of the Proposed SoCal Metroplex Procedures



Source: Federal Aviation Administration

Roundtable Recommendations to FAA in 2012
Work Program Item A7 – Extended Downwind Approach

Roundtable's Recommendations

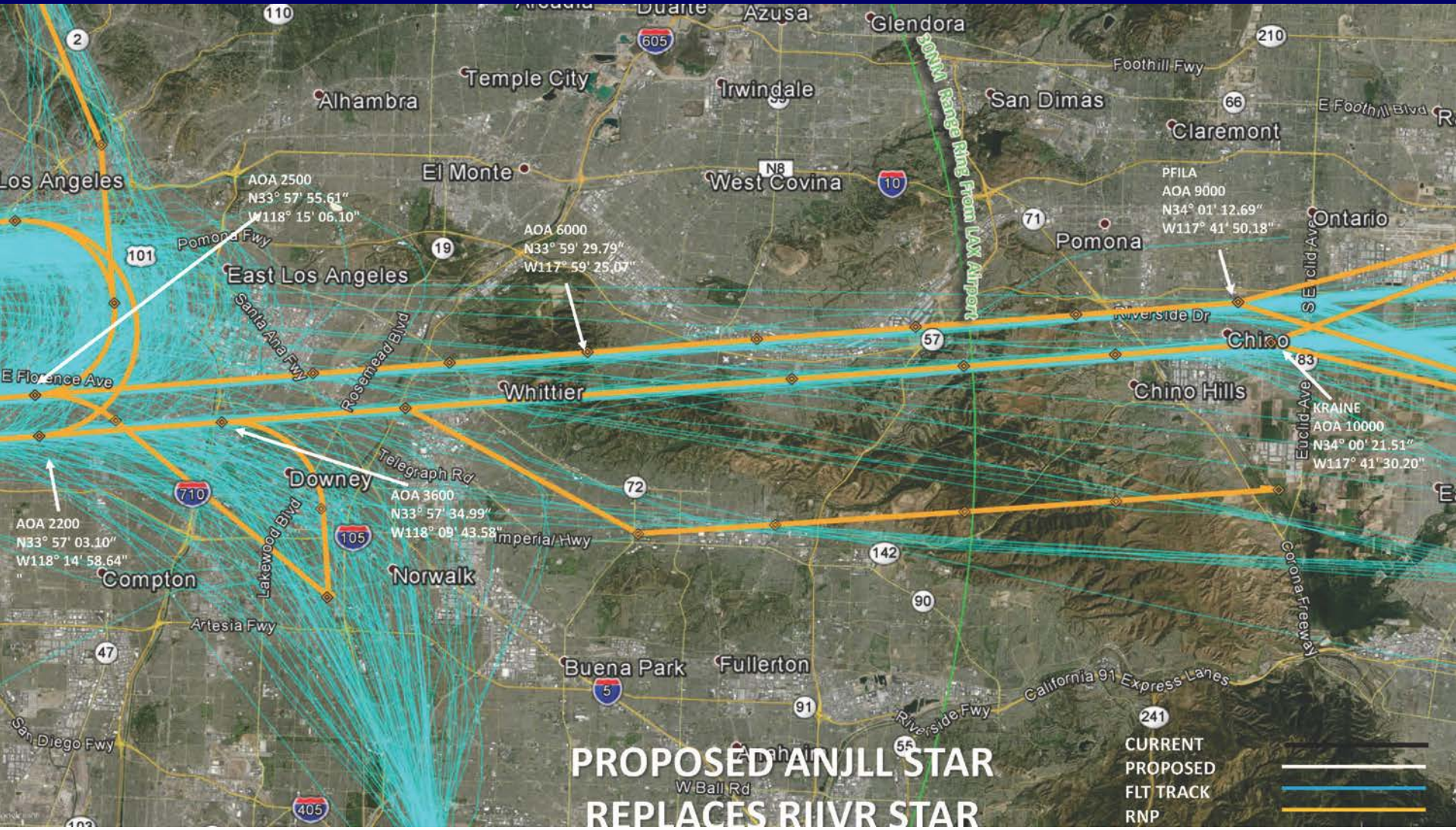
1) Increase the minimum altitude as much as possible for aircraft on the extended downwind and base legs of the approach to reduce noise

2) Explore options to reduce the requirement of using the extended downwind approach as a way to minimize Monterey Park overflights

Metroplex Results

- **North Downwind RNP arrival procedures during west flow may partially reduce overflights of Monterey Park;**
- **Approximately 40 percent of the aircraft using LAX can fly the RNP;**
- **Concentrates the base leg turn over primarily commercial land uses between the 110 and 710 freeways;**
- **Aircraft may still be vectored further to the east when safety requires it or aircraft are not equipped to fly the RNP**

Review of the Proposed SoCal Metroplex Procedures



Source: Federal Aviation Administration

Roundtable Recommendations to FAA in 2012
Work Program Item A11 – CDA at Lower Altitudes

Roundtable's Recommendations

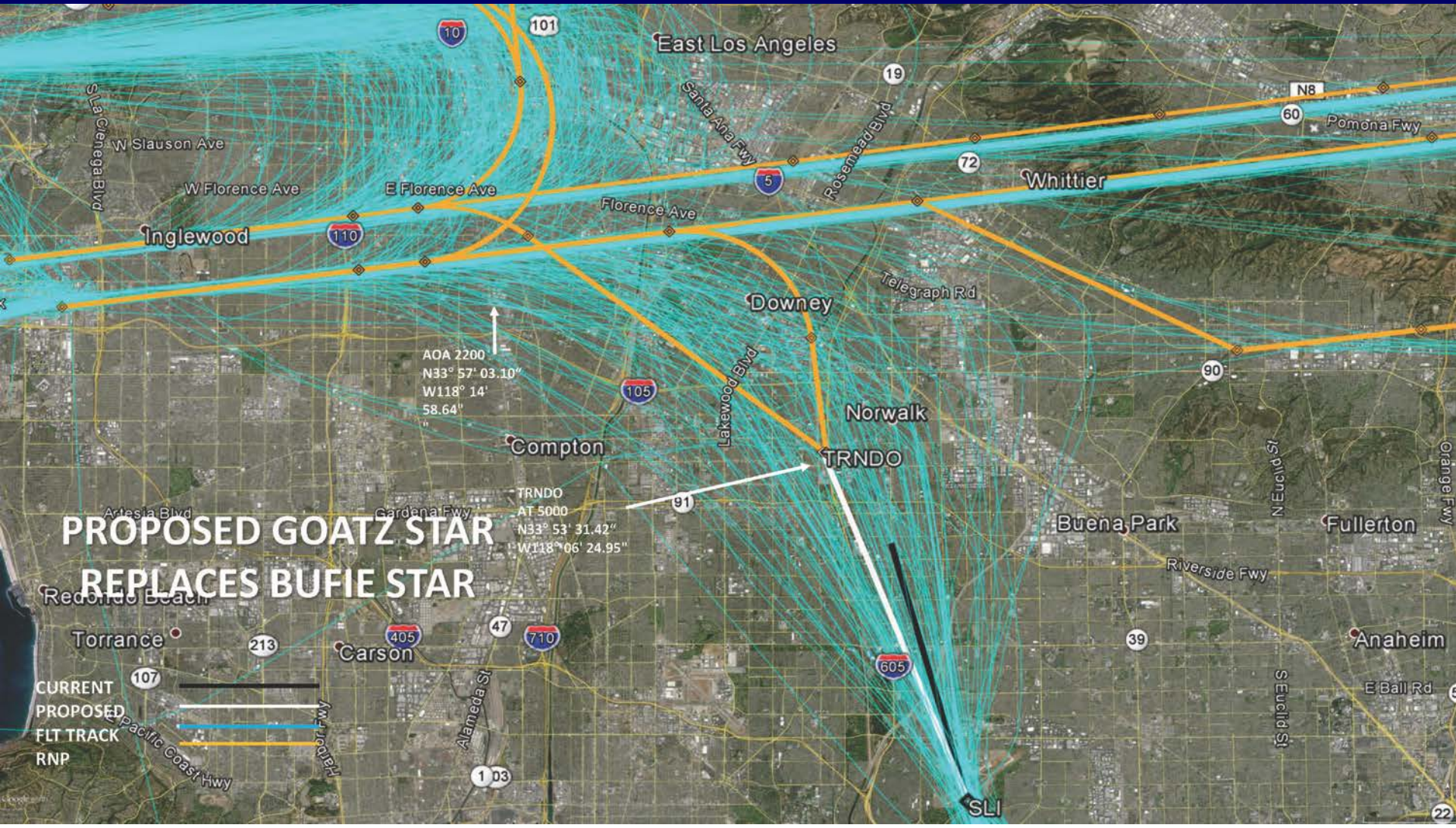
1) Re-investigate the possibility of increasing the altitudes for aircraft on the CDA

2) Explore other possible solutions to resolve this issue.

Metroplex Results

- Altitudes of new RNP arrival procedures remain the same as the conventional approach procedures;
- The new RNP arrival tracks remain in similar locations as the conventional approach procedures;
- The RNP arrival tracks will be more precise and concentrated than the conventional approach procedure tracks

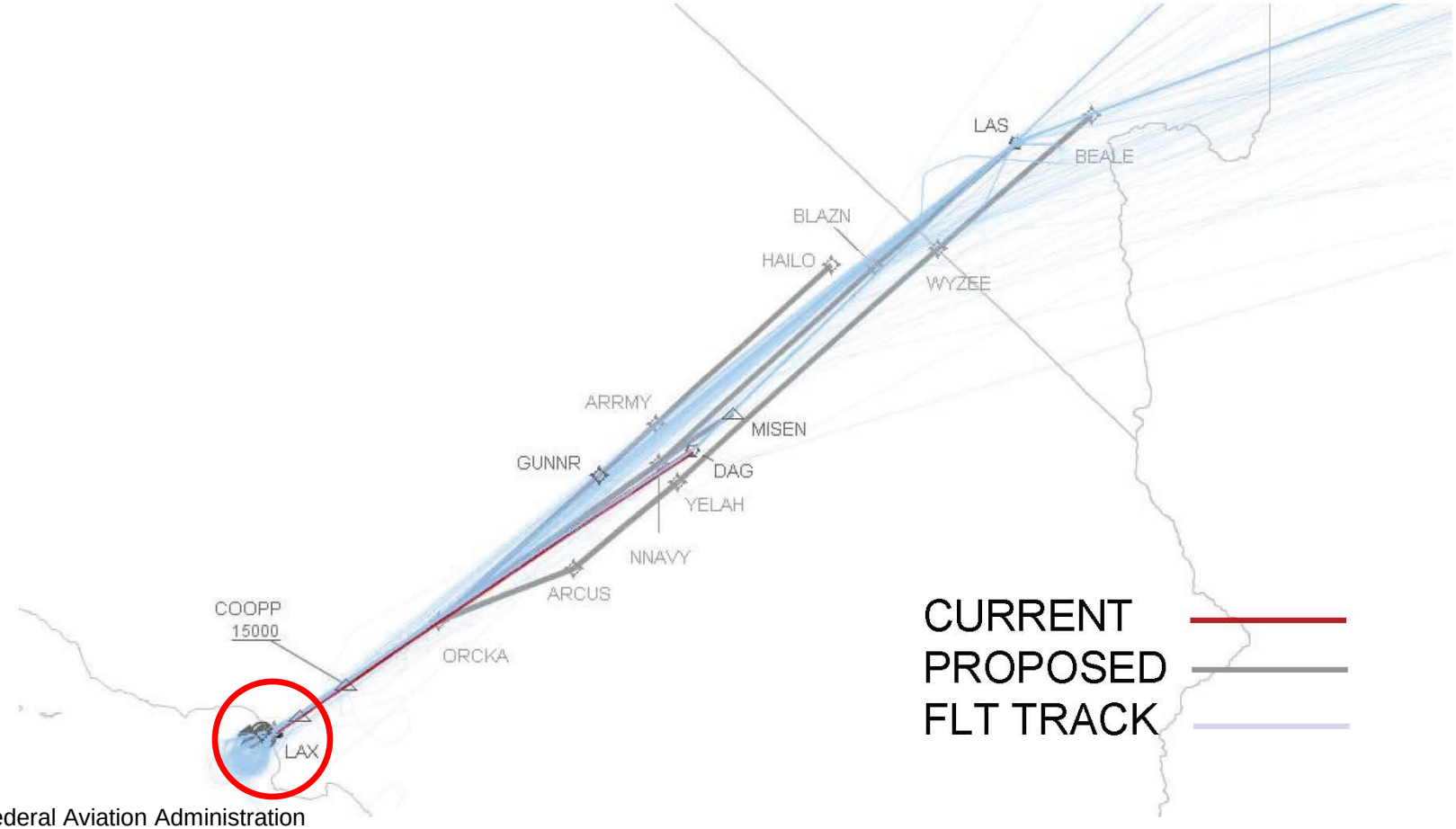
Review of the Proposed SoCal Metroplex Procedures



Source: Federal Aviation Administration

Review of the Proposed SoCal Metroplex Procedures

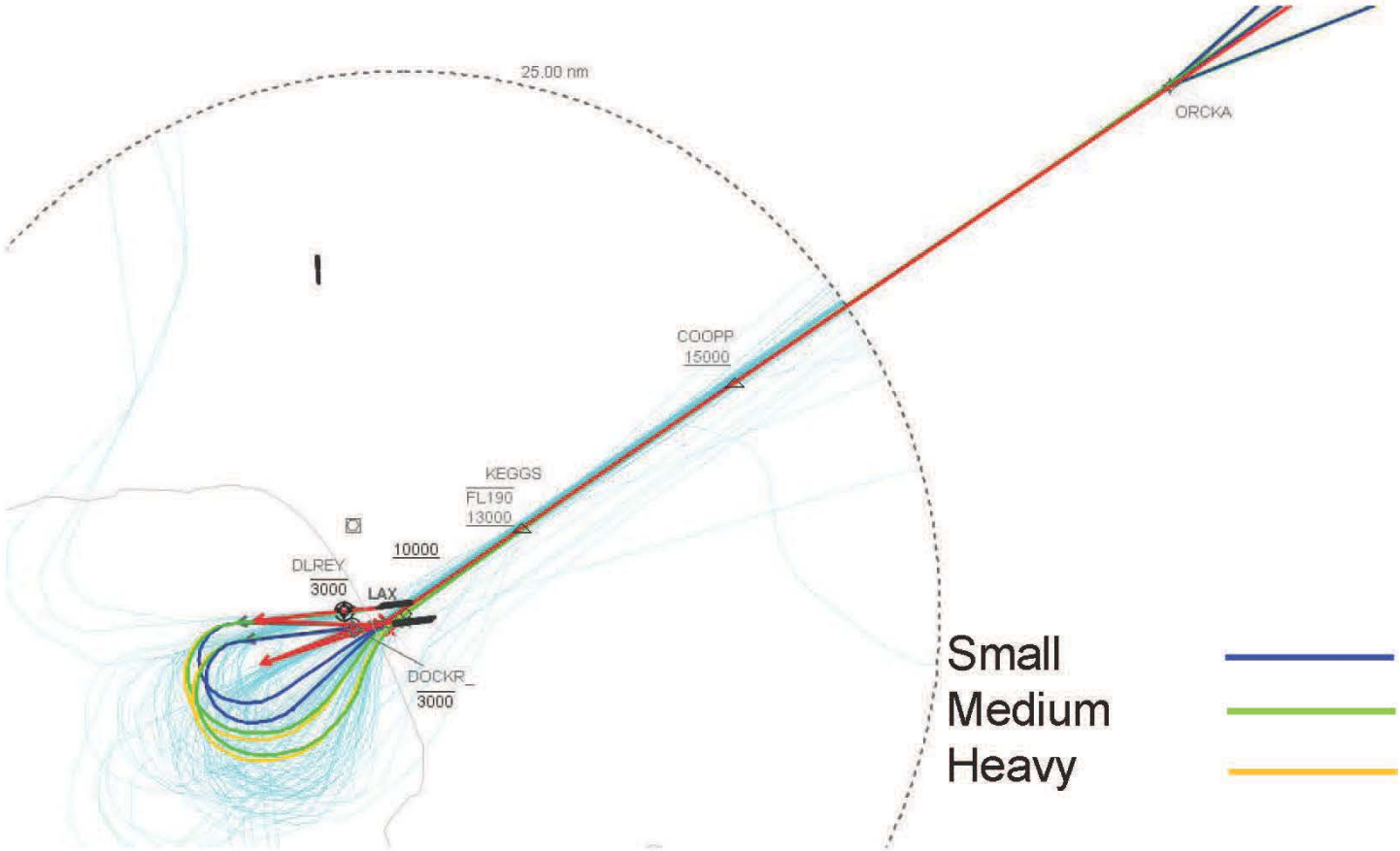
LAX LOOP8 SID West Flow (Old)
LAX ORCKA1 SID Flow (New)
Wide view



Source: Federal Aviation Administration

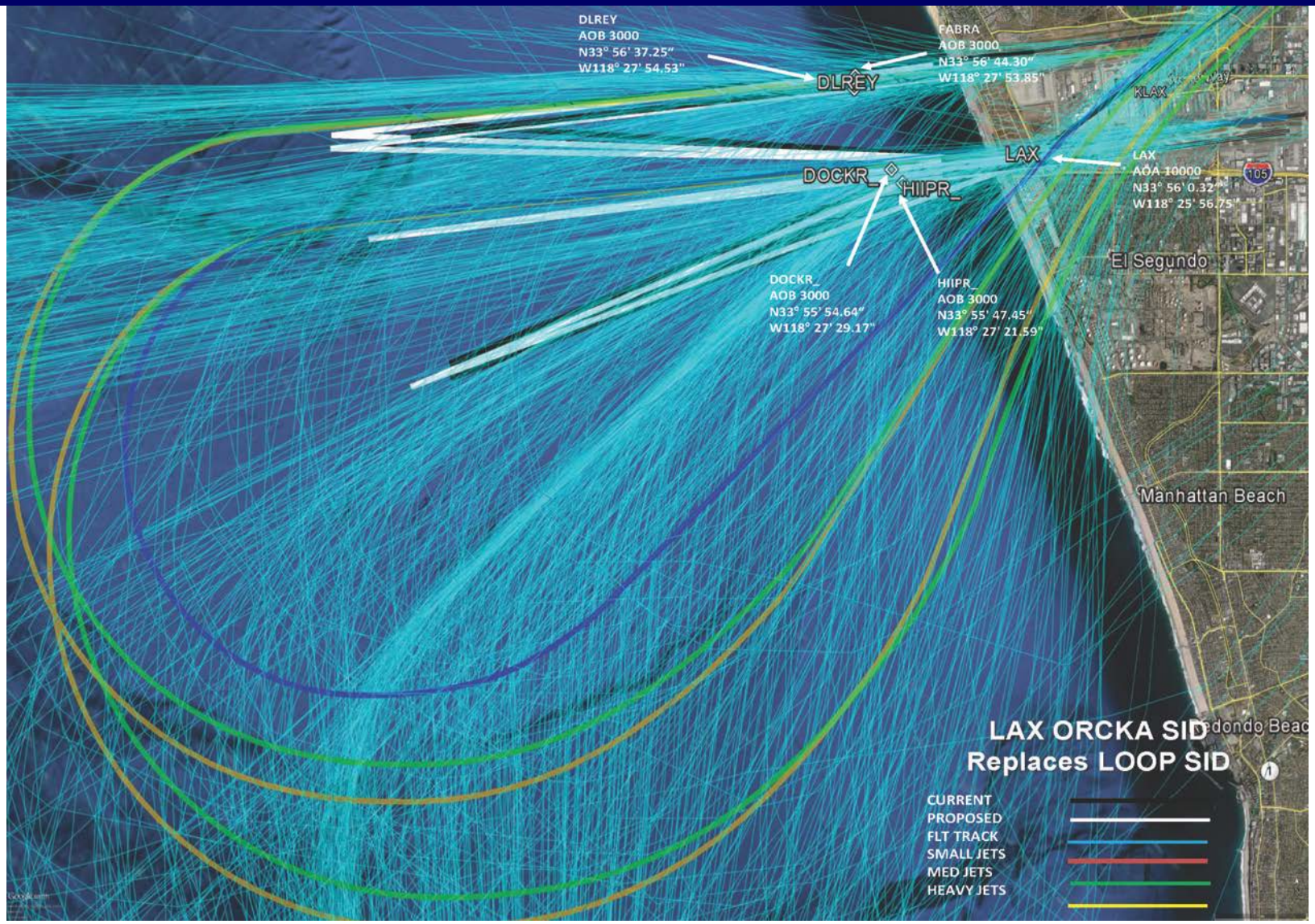
Review of the Proposed SoCal Metroplex Procedures

LAX LOOP8 SID West Flow (Old)
LAX ORCKA1 SID West Flow (New)
Close up view



Source: Federal Aviation Administration

Review of the Proposed SoCal Metroplex Procedures



Roundtable Recommendations to FAA in 2012
Work Program Item A6 – Improperly Flown Loop Departures

Roundtable's Recommendations

1) Re-investigate the possibility of establishing the LOOP RNAV/RNP procedure to help "tighten" the loop operations and

2) Look into other possibilities to improve the compliance of the LOOP departure procedure through the FAA OAPM process

Metroplex Results

– The ORCKA1 SID replaces the LOOP8 SID, but with no additional controls or waypoints to improve adherence of aircraft flying over LAX when re-crossing the shoreline;

– The ORCKA1 SID provides three different routes well east of LAX to allow FAA to maintain efficiency across a mix of aircraft types;

– The At Or Above (AOA) altitude near the LAX VOR remains at 10,000 feet

Roundtable Recommendations to FAA in 2012
Work Program Item A3 – Early Turns before the Shoreline

Roundtable's Recommendations

1) Explore options that could help pilots and controllers to reduce early turn operations and

2) Explore the possibility of adding a waypoint in the RNAV procedures or use other emerging technologies to assist pilots in identifying the shoreline during IFR conditions that could in turn help reduce early turns

Metroplex Results

– None of the new SIDs explicitly provide guidance to pilots to remain on runway heading until crossing the shoreline;

– The waypoints of FABRA, DELRY, DOCKR, and HIPR retain 3,000-foot MSL At OR Below (AOB) altitude limits

Roundtable Recommendations to FAA in 2012
Work Program Item A10 – Turboprop Community Overflights

Roundtable's Recommendations

1) Explore options of redesigning the JEDDD procedure that will meet all necessary requirements to allow full implementation of the procedure,

2) Reroute the remaining turboprop aircraft that are currently overflying the Peninsula to offshores routes, and

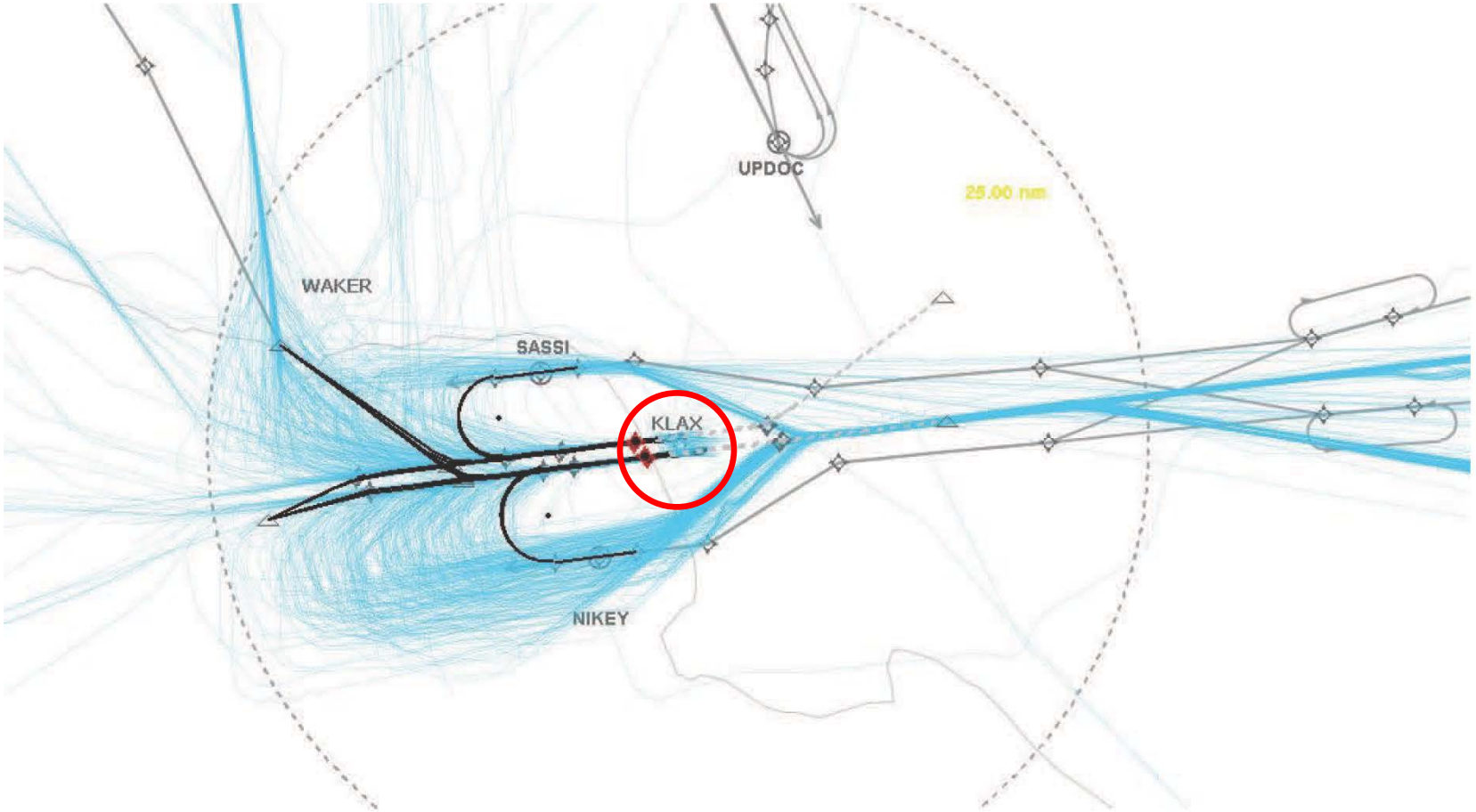
3) If option 2 proves infeasible, then increase the minimum altitude of turboprop aircraft that overfly the Peninsula

Metroplex Results

- The FAA did not propose any changes to the existing turboprop departure procedures at LAX as part of the Metroplex process
- In November 2014, SkyWest announced a phase out of its turboprop operations at LAX, which should further reduce turboprop overflights of the Palos Verdes Peninsula
- Current turboprop traffic volume at LAX is low

Review of the Proposed SoCal Metroplex Procedures

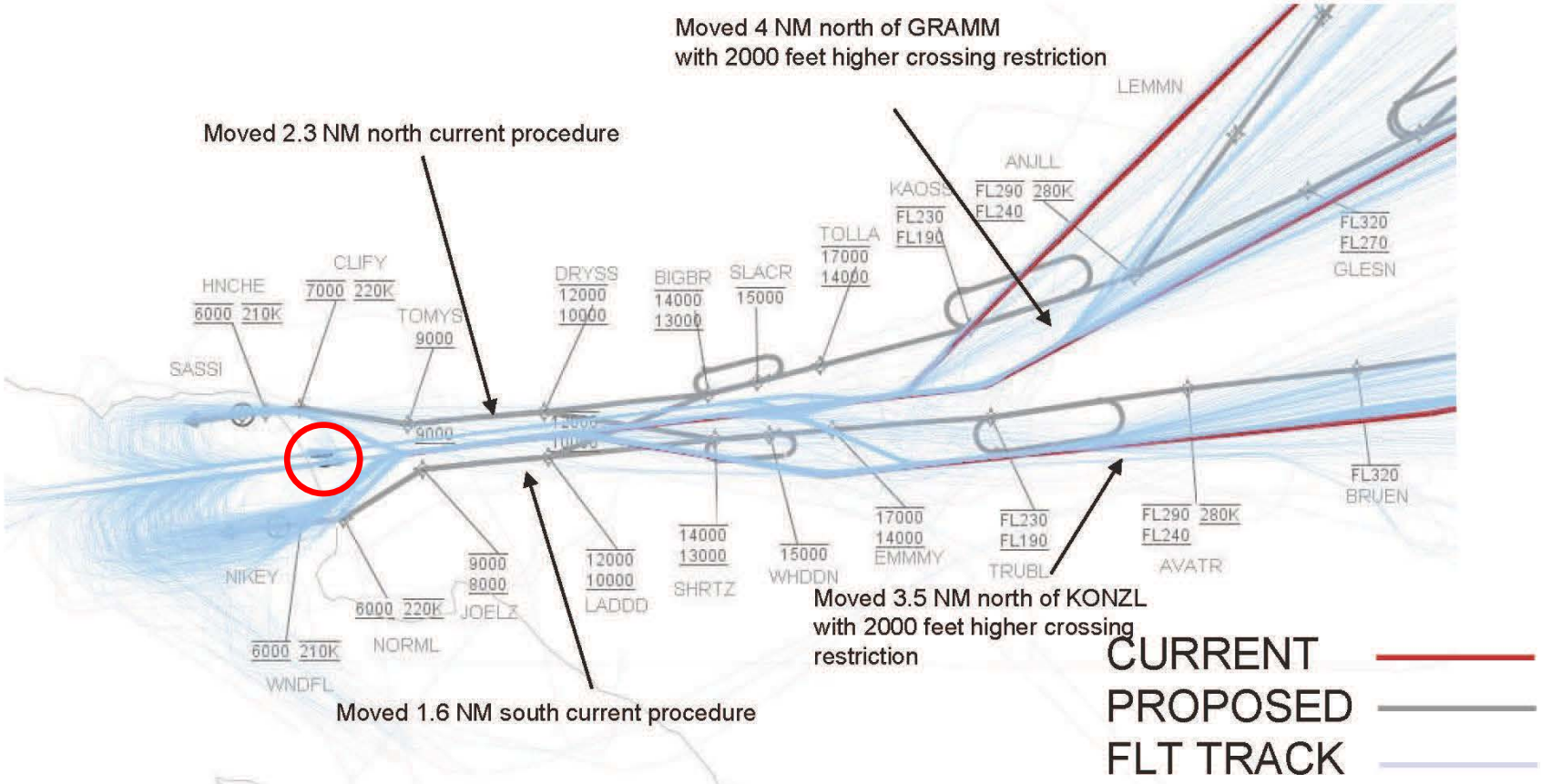
LAX RNAV/RNP Approaches
East Flow



Source: Federal Aviation Administration

Review of the Proposed SoCal Metroplex Procedures

LAX BASET3 STAR East Flow (Old)
LAX BIGBR1/BRUEN1 STARS East Flow (New)
Close up view



Source: Federal Aviation Administration

Review of the Proposed SoCal Metroplex Procedures

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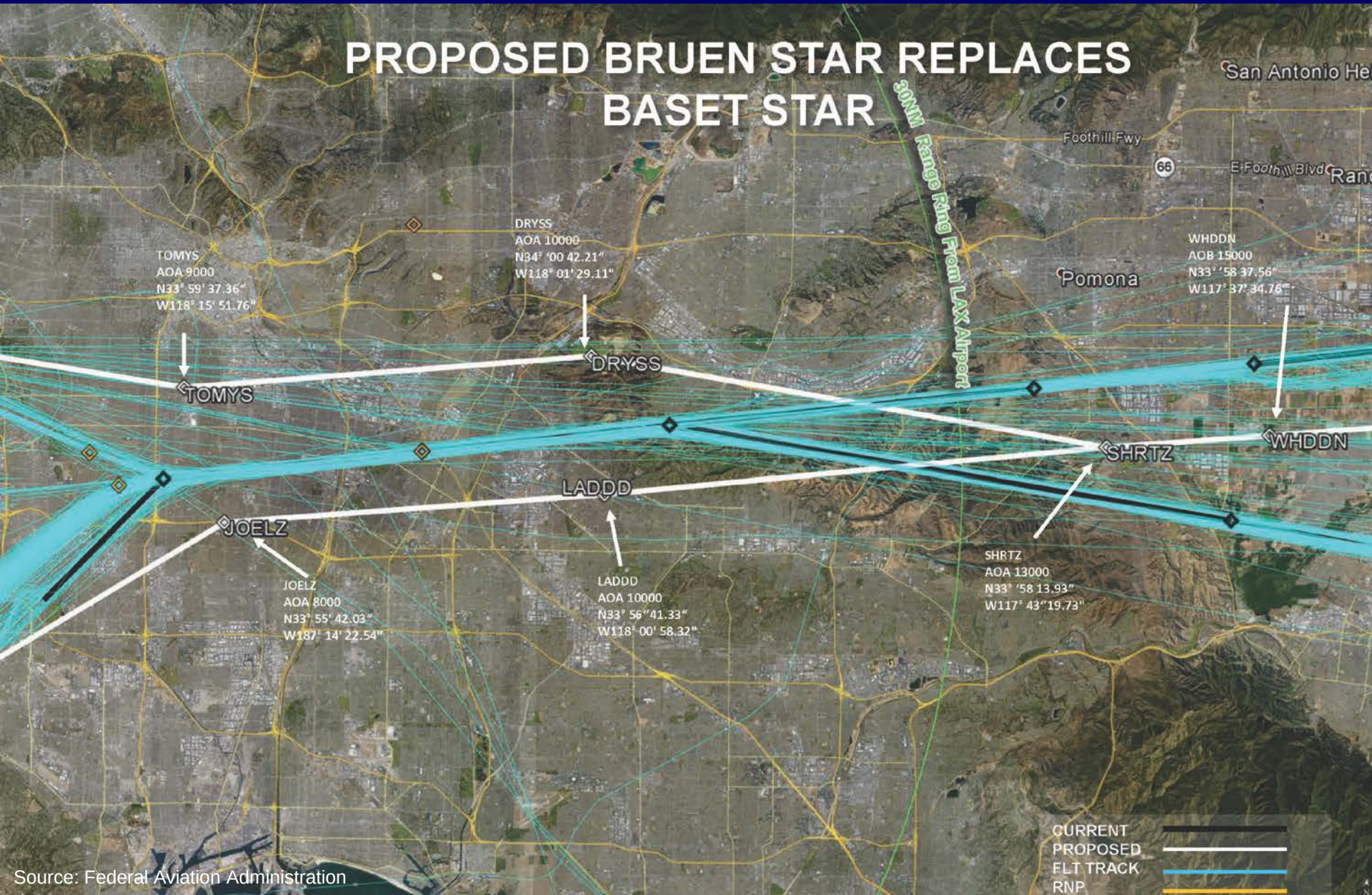

Source: Federal Aviation Administration

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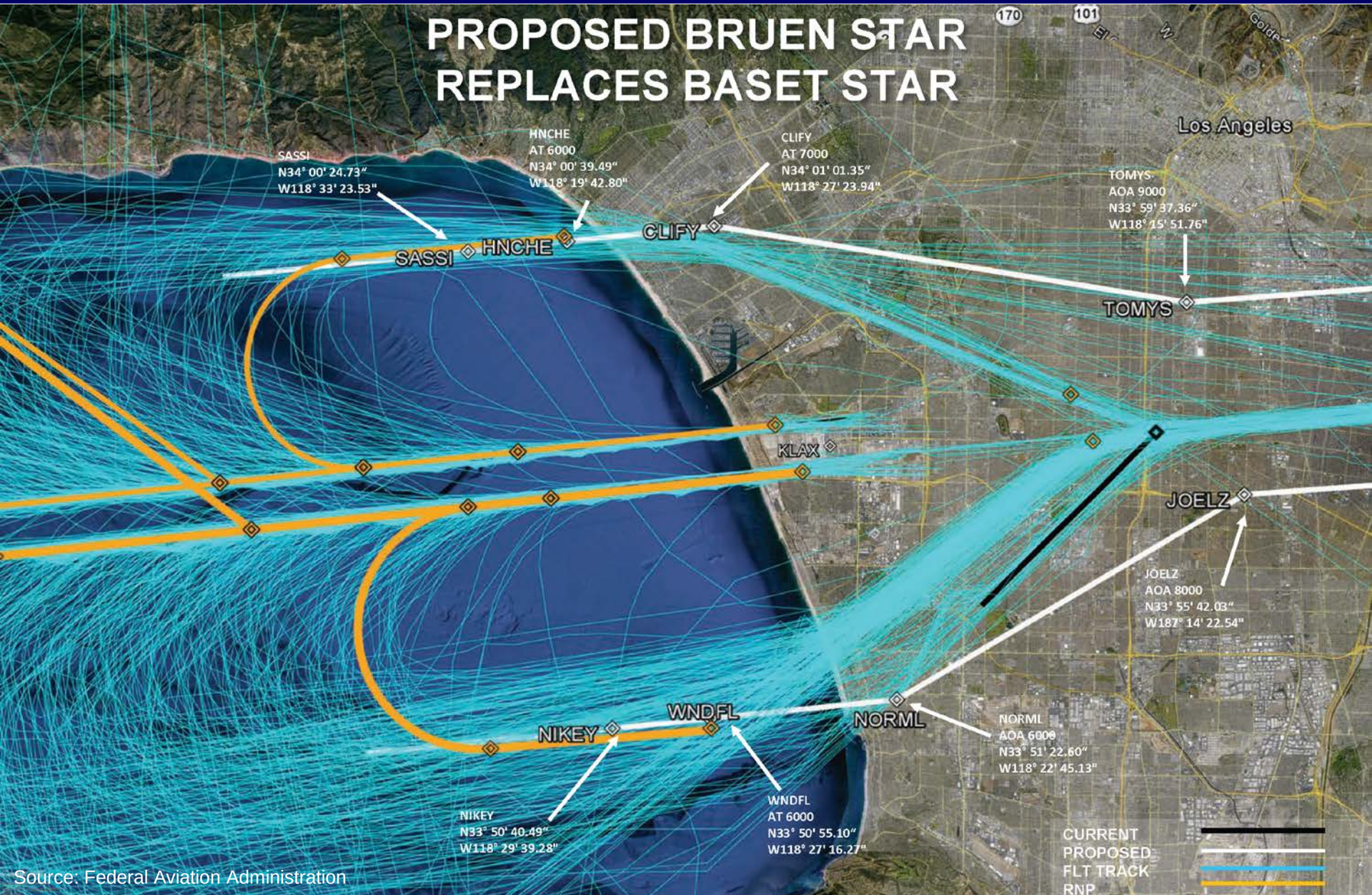
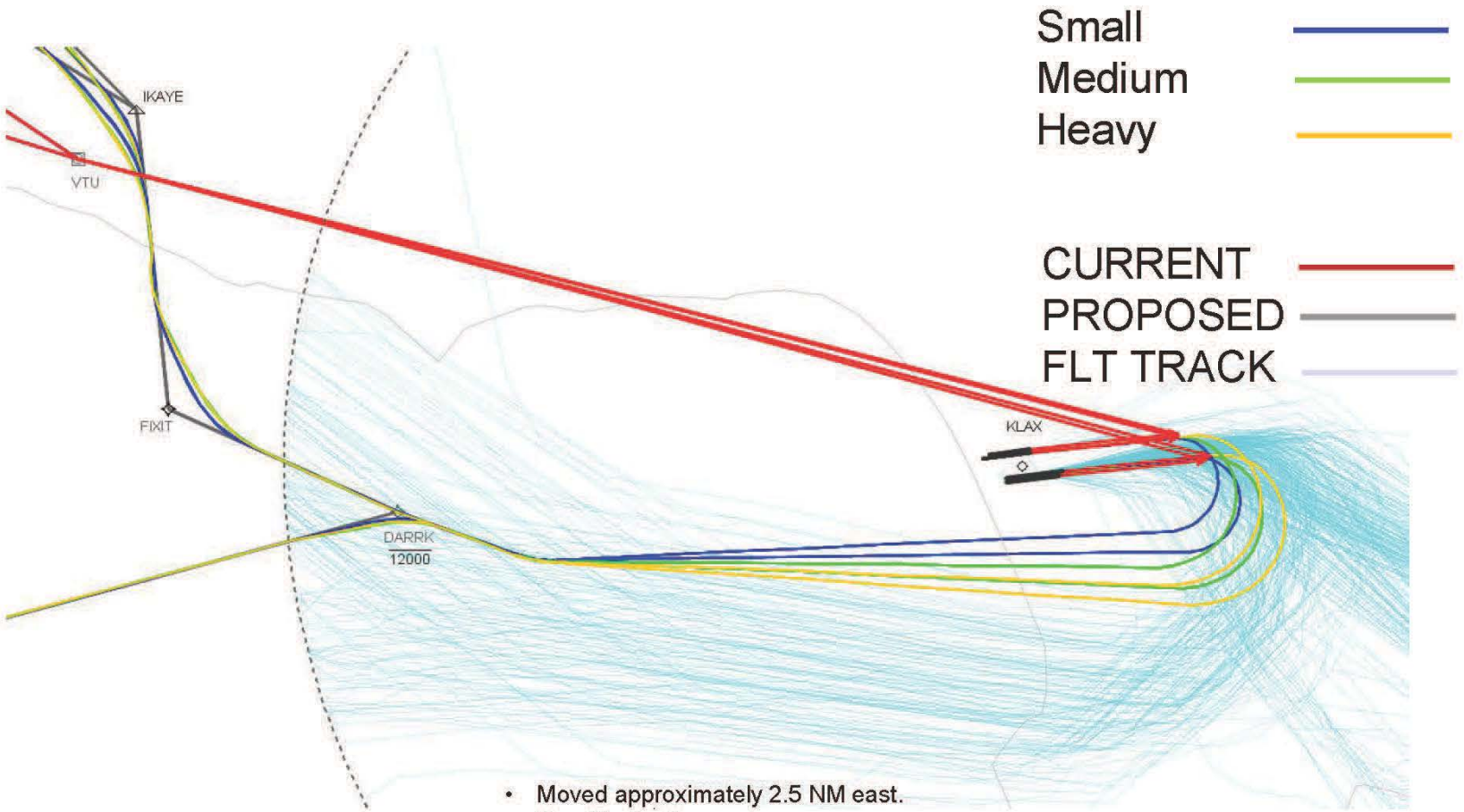


Source: Federal Aviation Administration

Review of the Proposed SoCal Metroplex Procedures

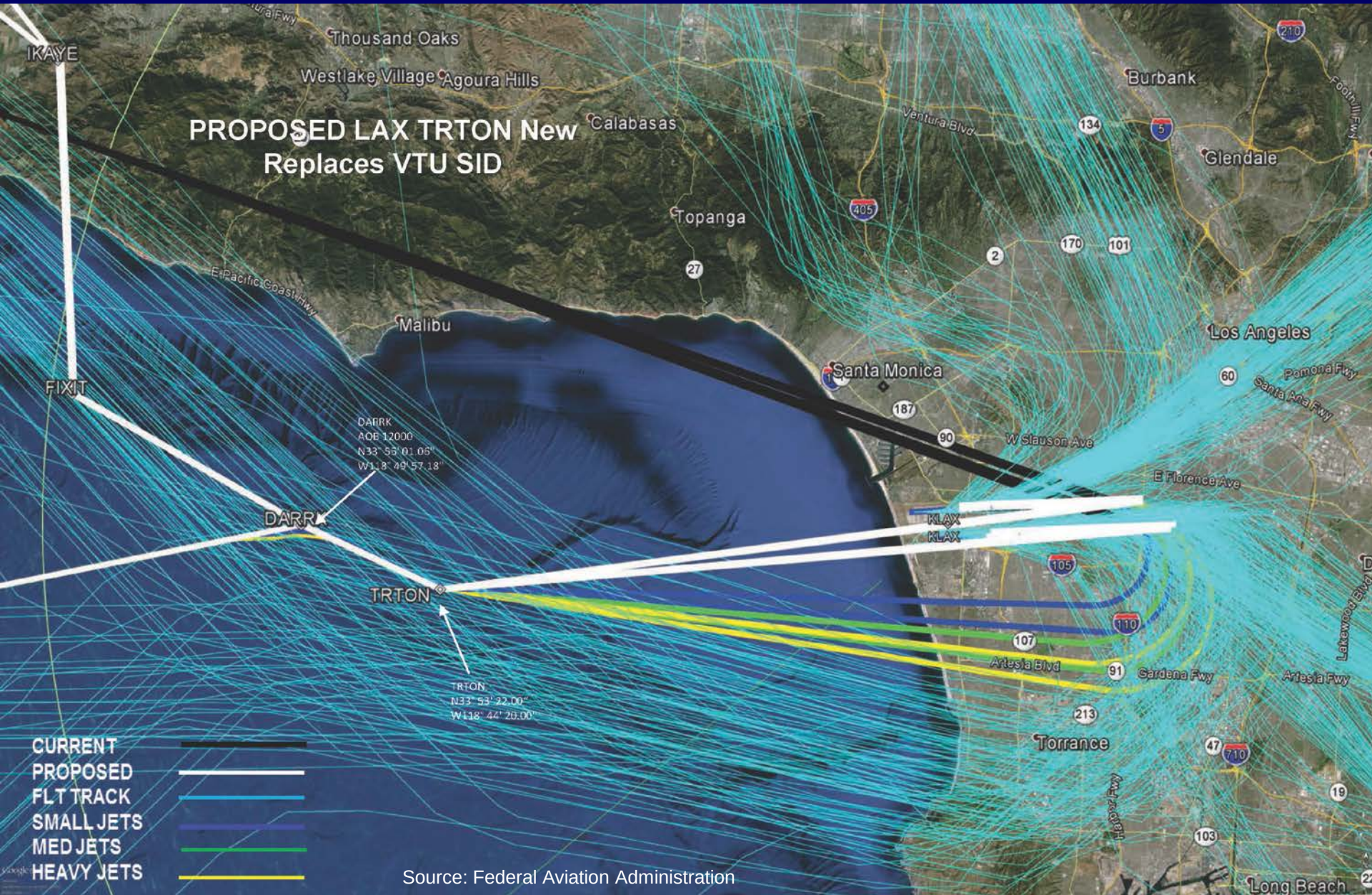
LAX VTU5 SID East Flow (Old)
LAX TRTON1 SID East Flow (New)
Close up view



- Moved approximately 2.5 NM east.
- No altitude change.

Source: Federal Aviation Administration

Review of the Proposed SoCal Metroplex Procedures



Source: Federal Aviation Administration

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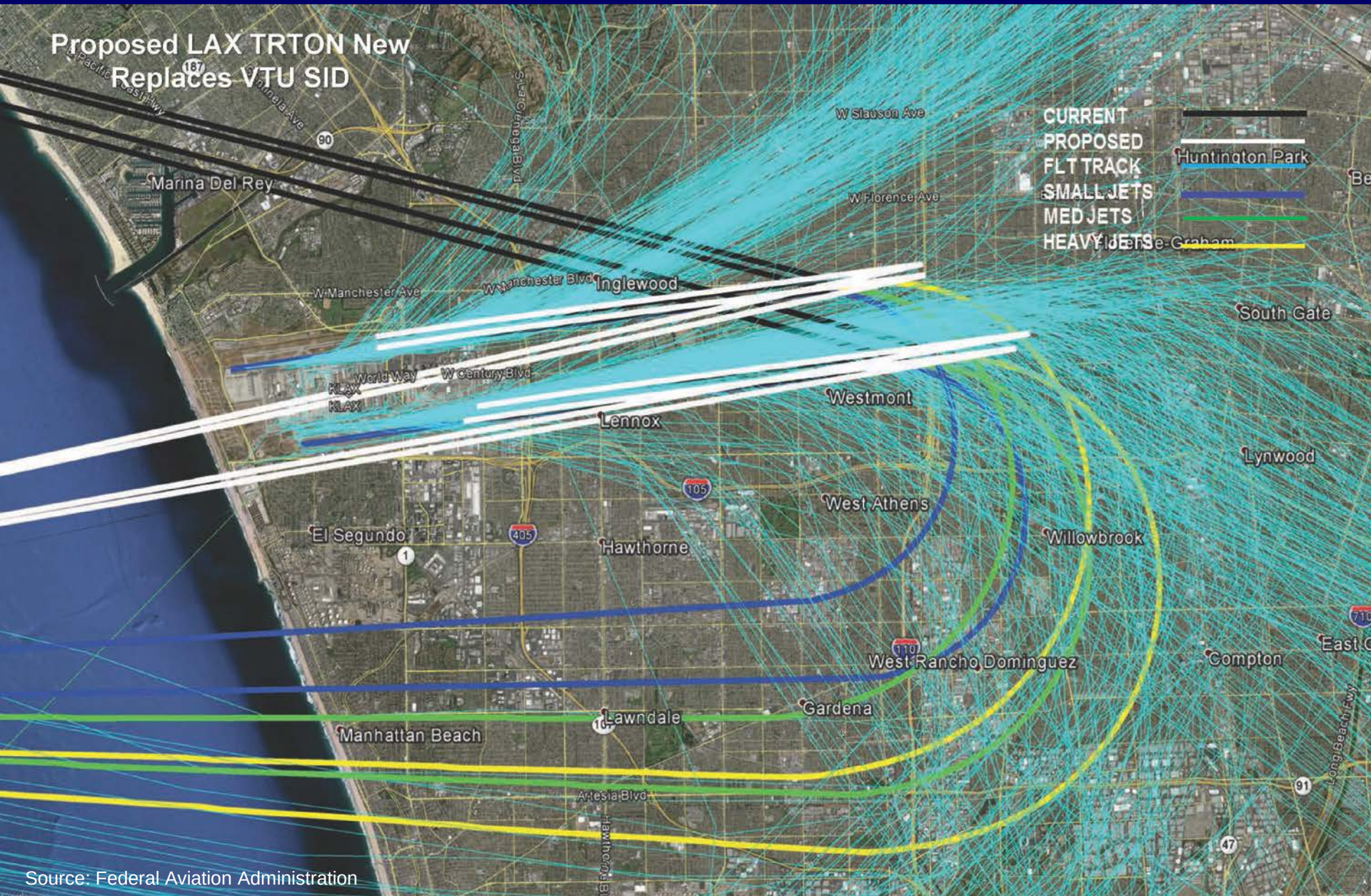
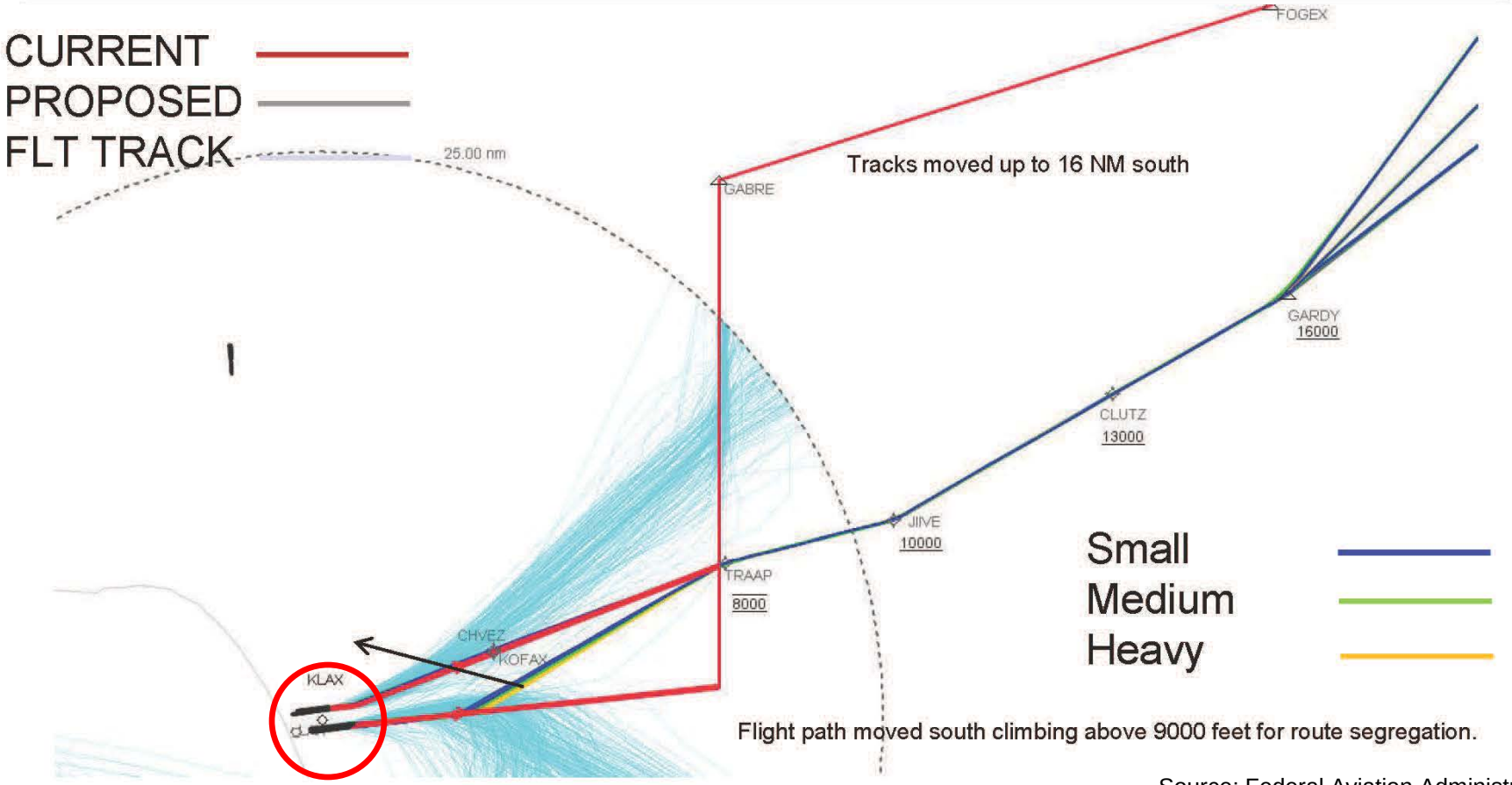


Source: Federal Aviation Administration

Review of the Proposed SoCal Metroplex Procedures

LAX GABRE9 SID East Flow (Old)
LAX GARDY1 SID East Flow (New)
Close up view



Source: Federal Aviation Administration

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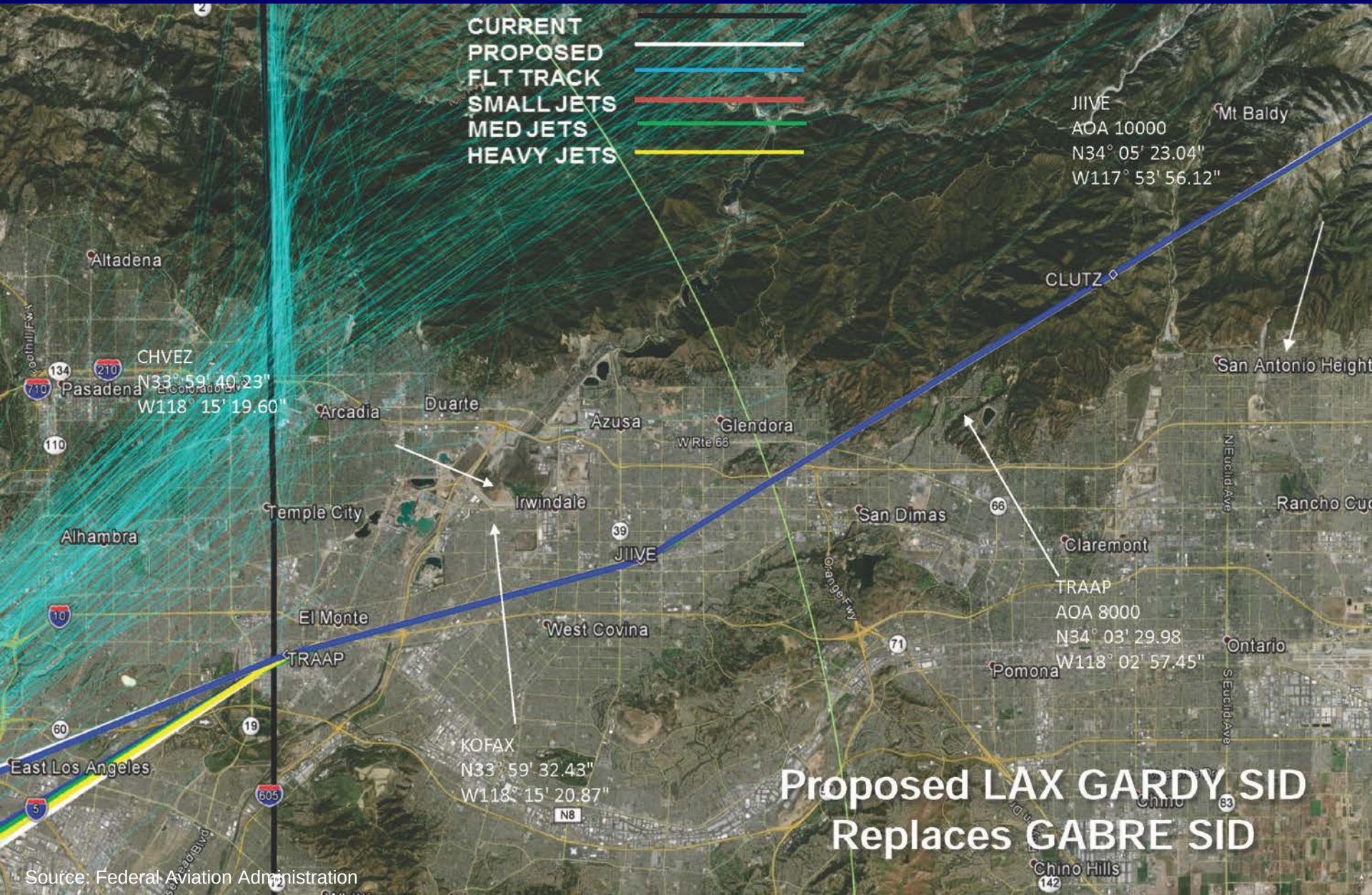
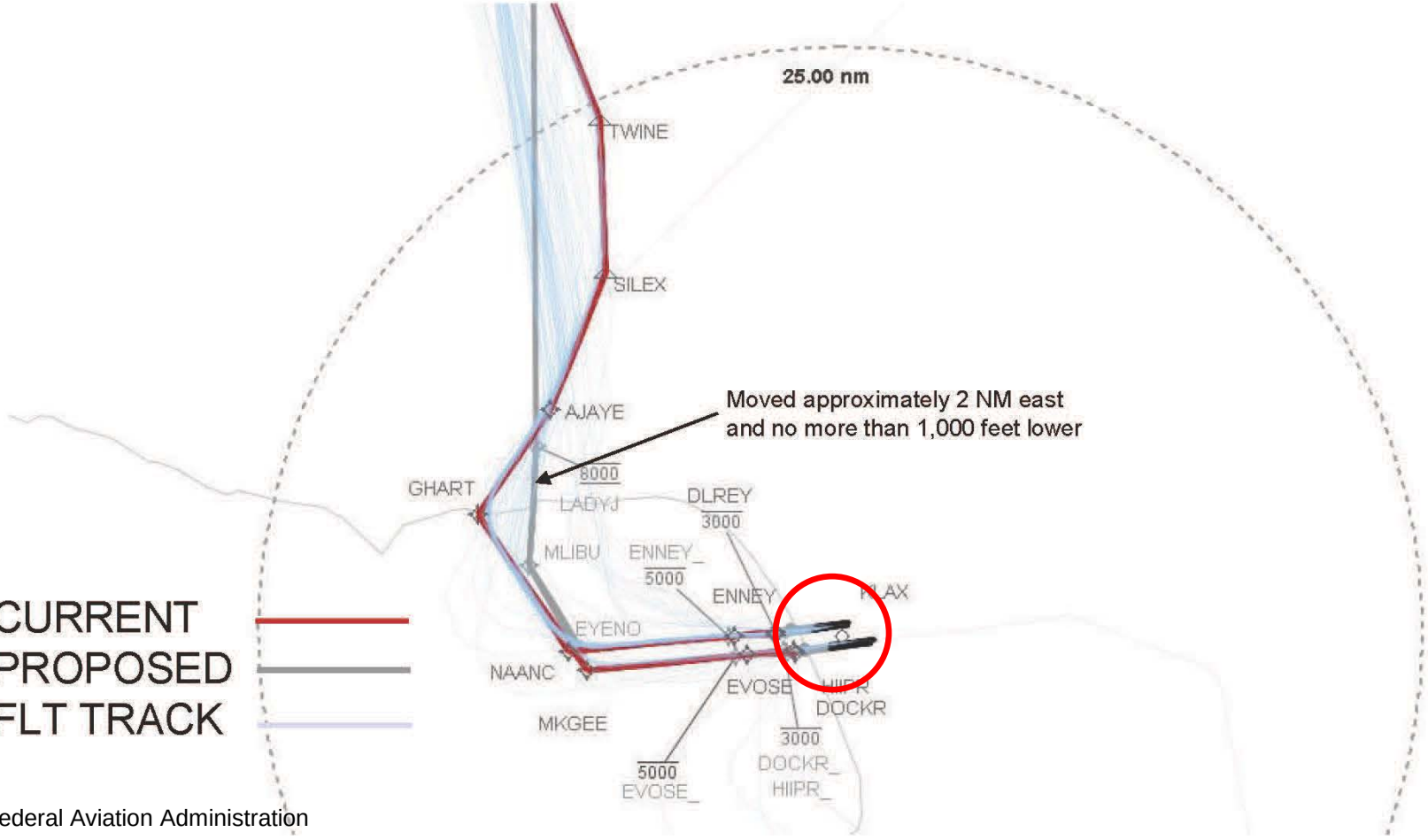


Source: Federal Aviation Administration

Review of the Proposed SoCal Metroplex Procedures

LAX CASTA4 SID West Flow (Old)
LAX LADYJ SID West Flow (New)
Close up view



Source: Federal Aviation Administration

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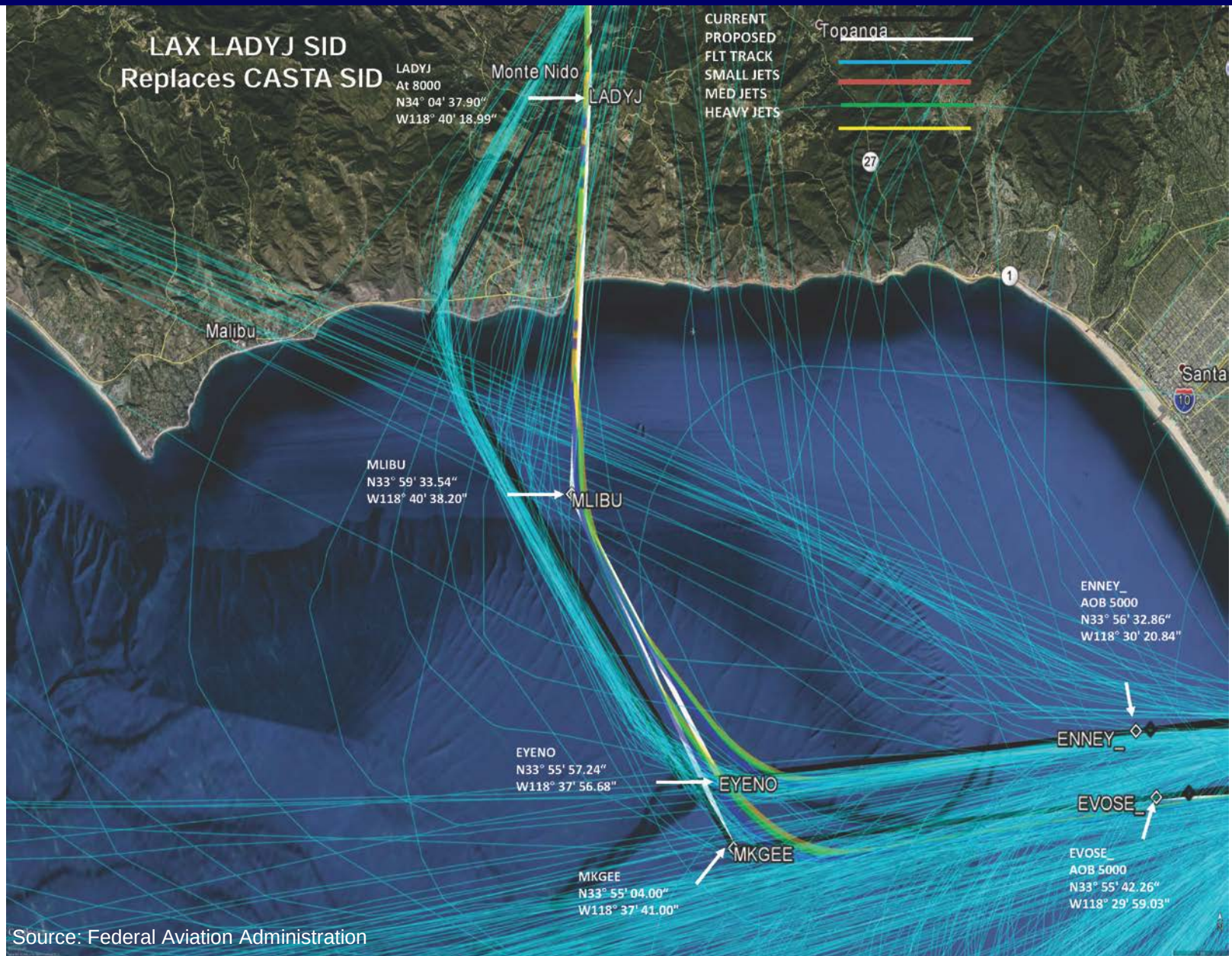
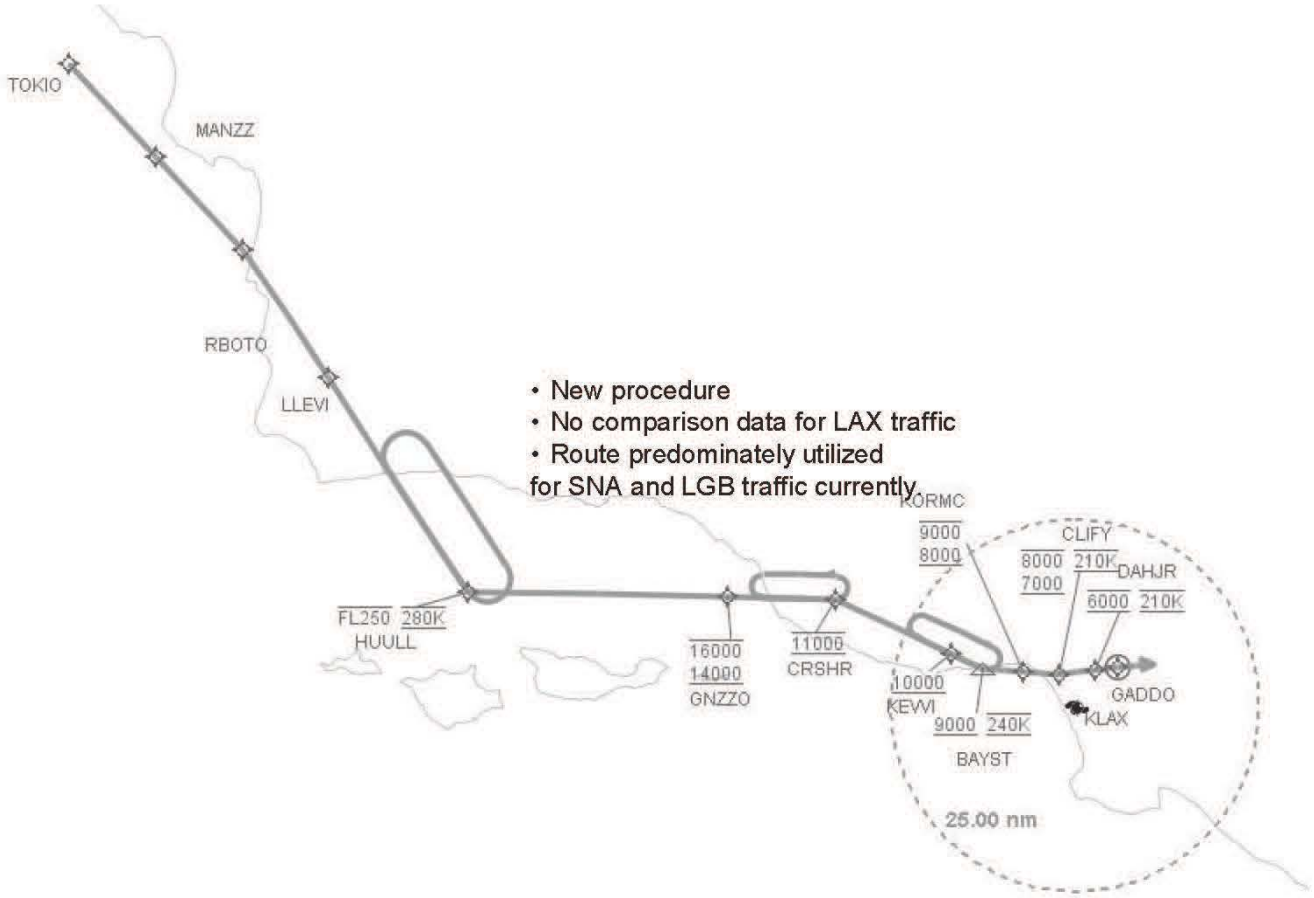


Source: Federal Aviation Administration

Review of the Proposed SoCal Metroplex Procedures

LAX HUULL1 STAR West Flow (New)



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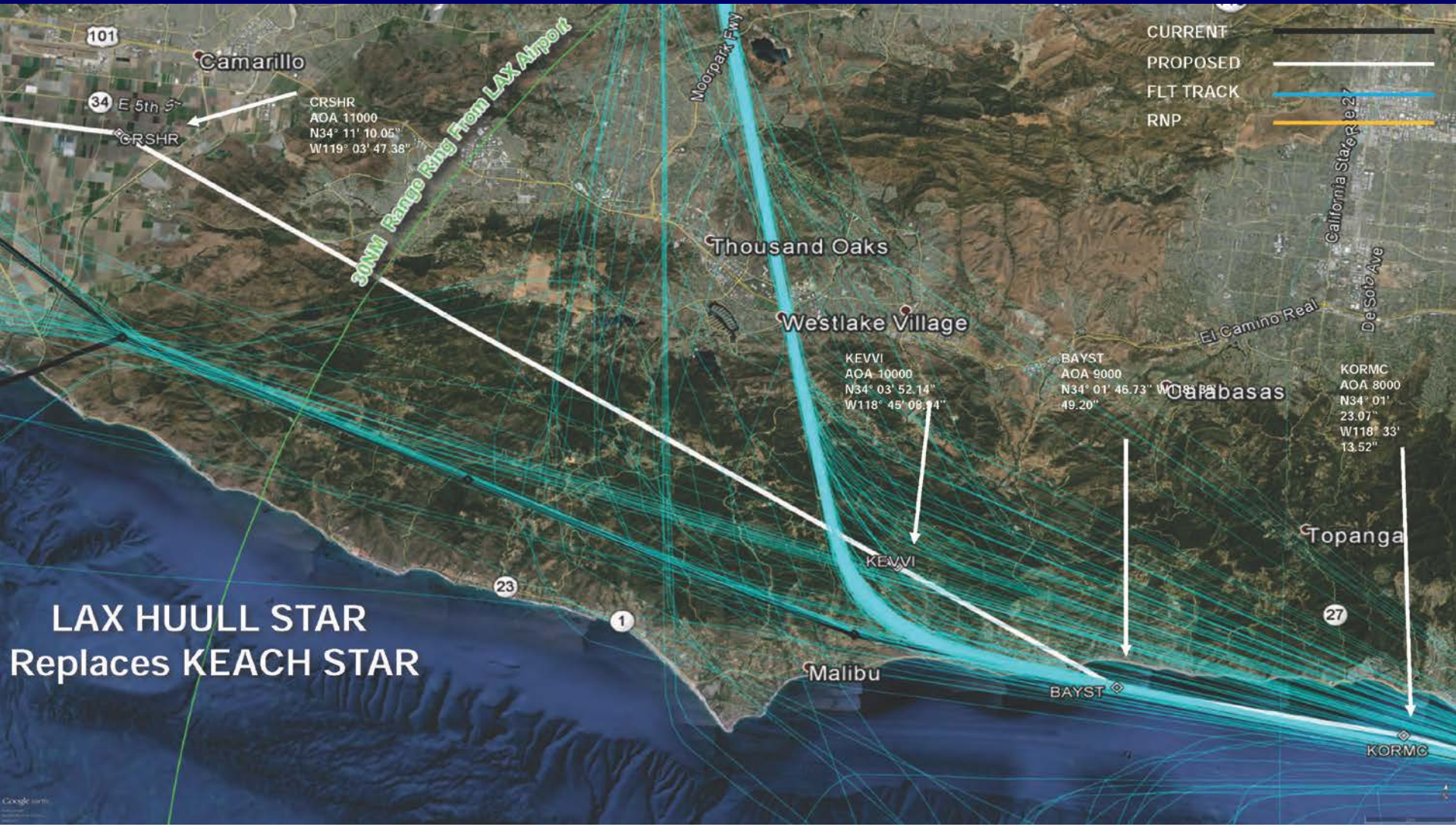


Source: Federal Aviation Administration

Review of the Proposed SoCal Metroplex Procedures

Deconflicting SMO and LAX

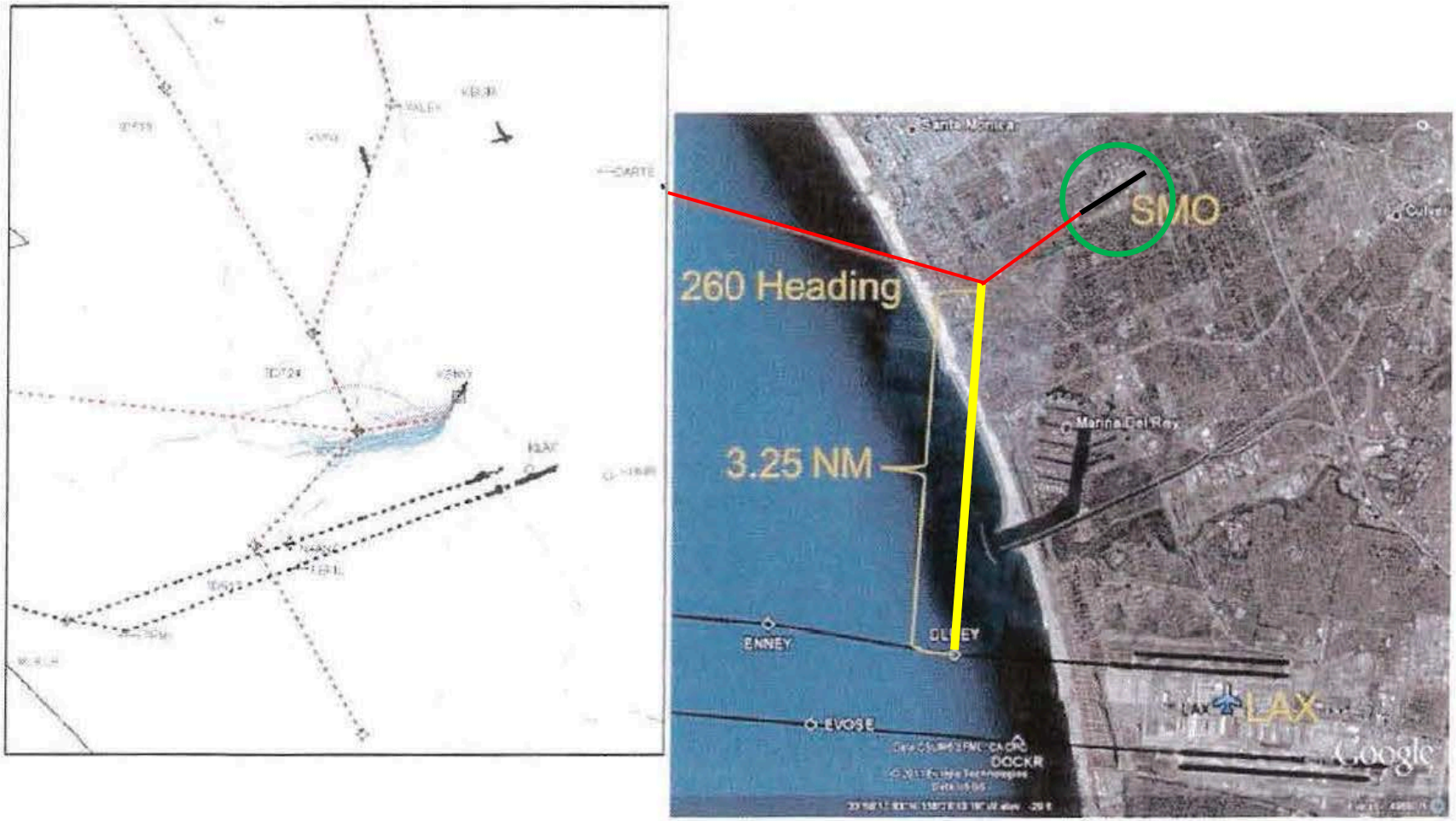
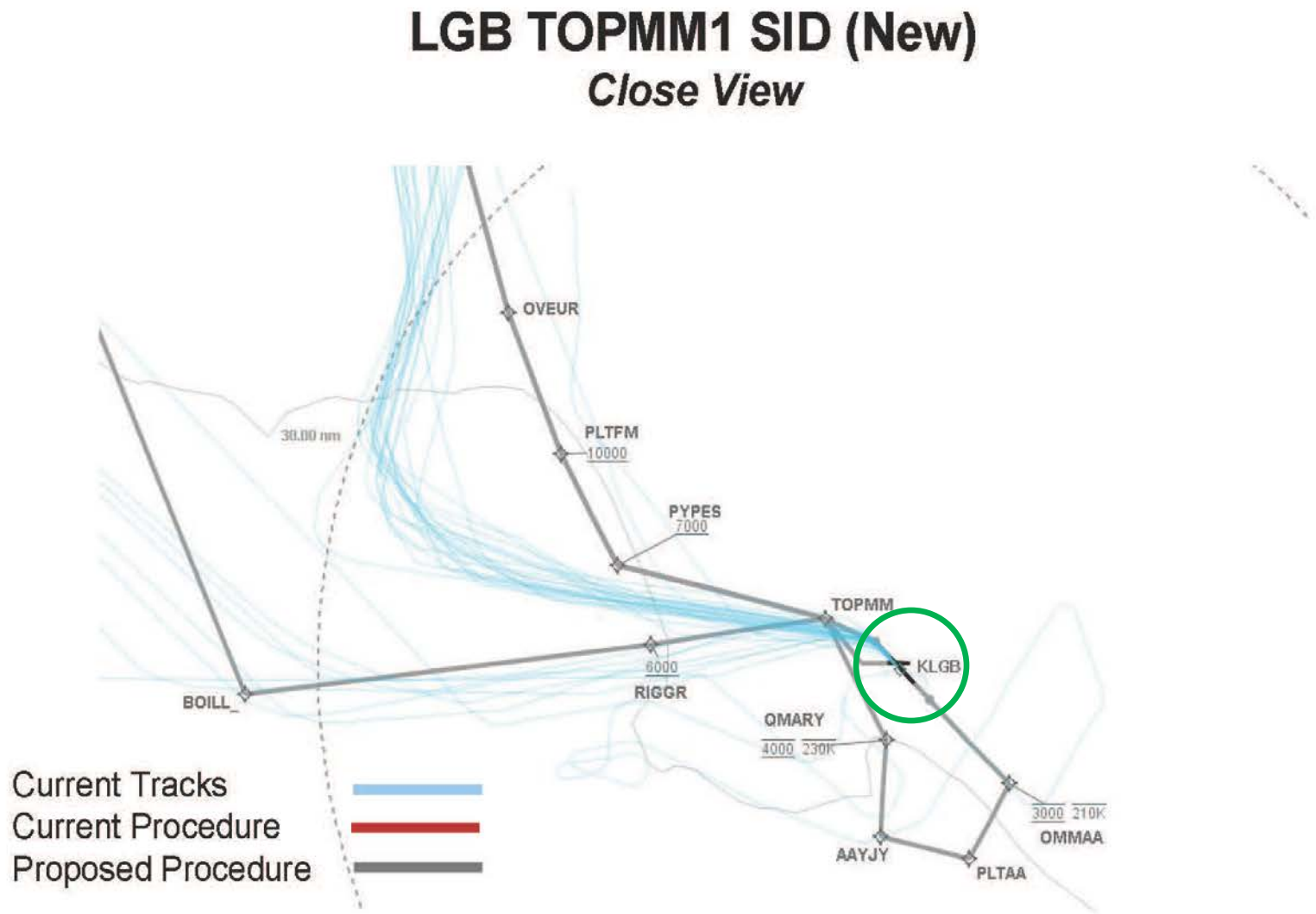


Figure 1: Study Team Recommendation for SMO RNAV SID

Source: Federal Aviation Administration

Review of the Proposed SoCal Metroplex Procedures



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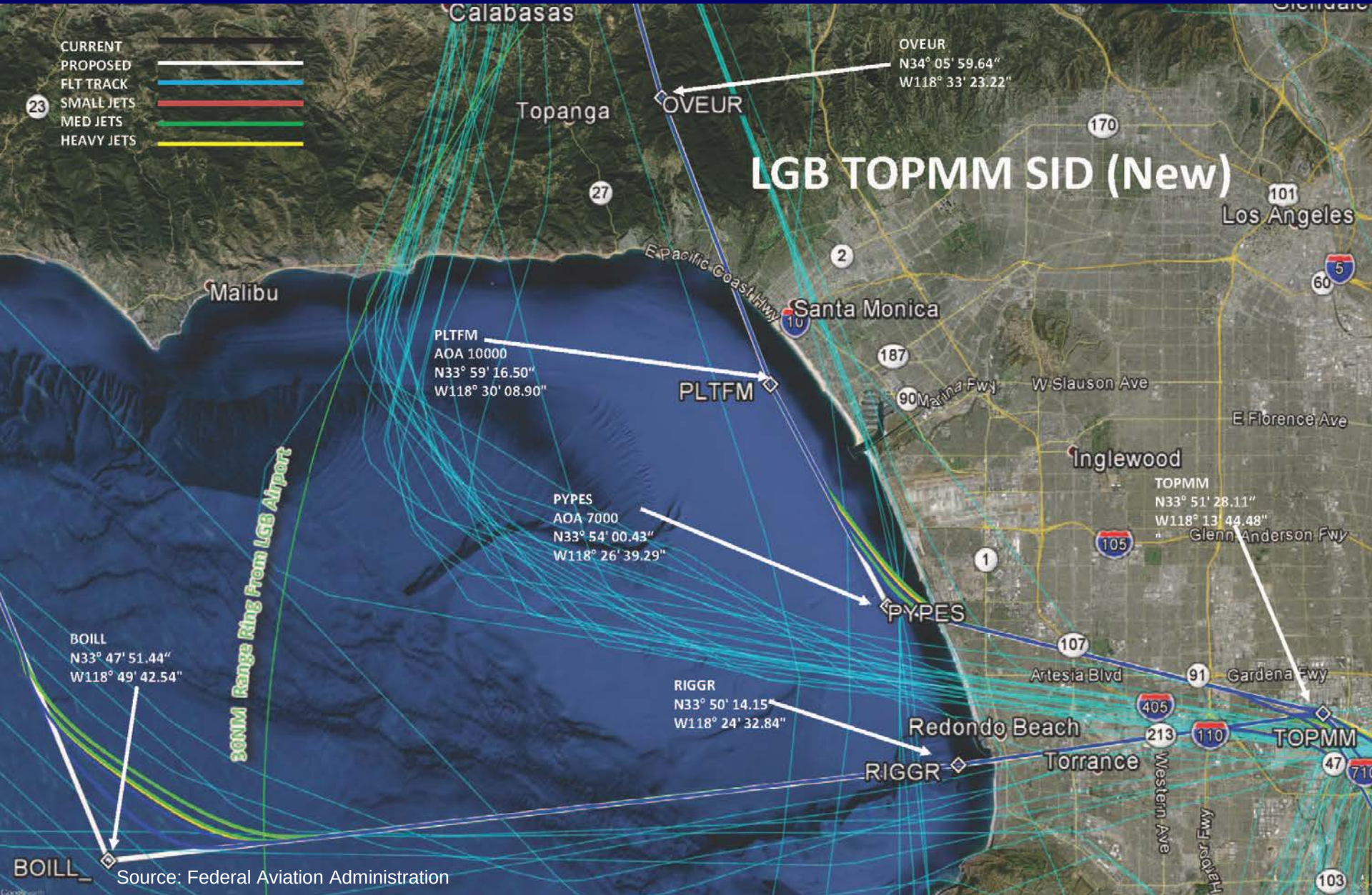
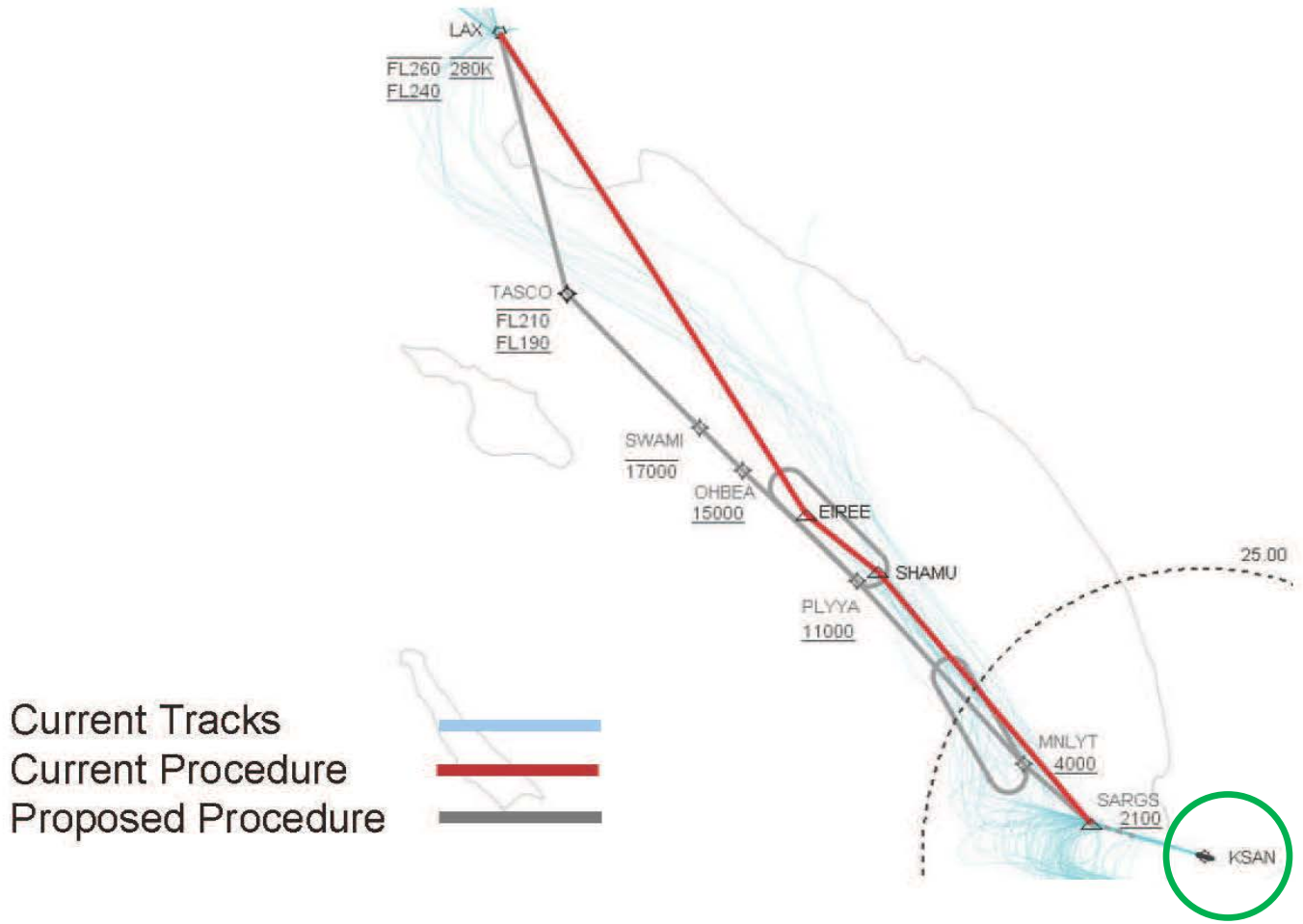


Source: Federal Aviation Administration

Review of the Proposed SoCal Metroplex Procedures

SAN SHAMU STAR East Flow (Old)
SAN PLYYA STAR East Flow (New)
Wide View



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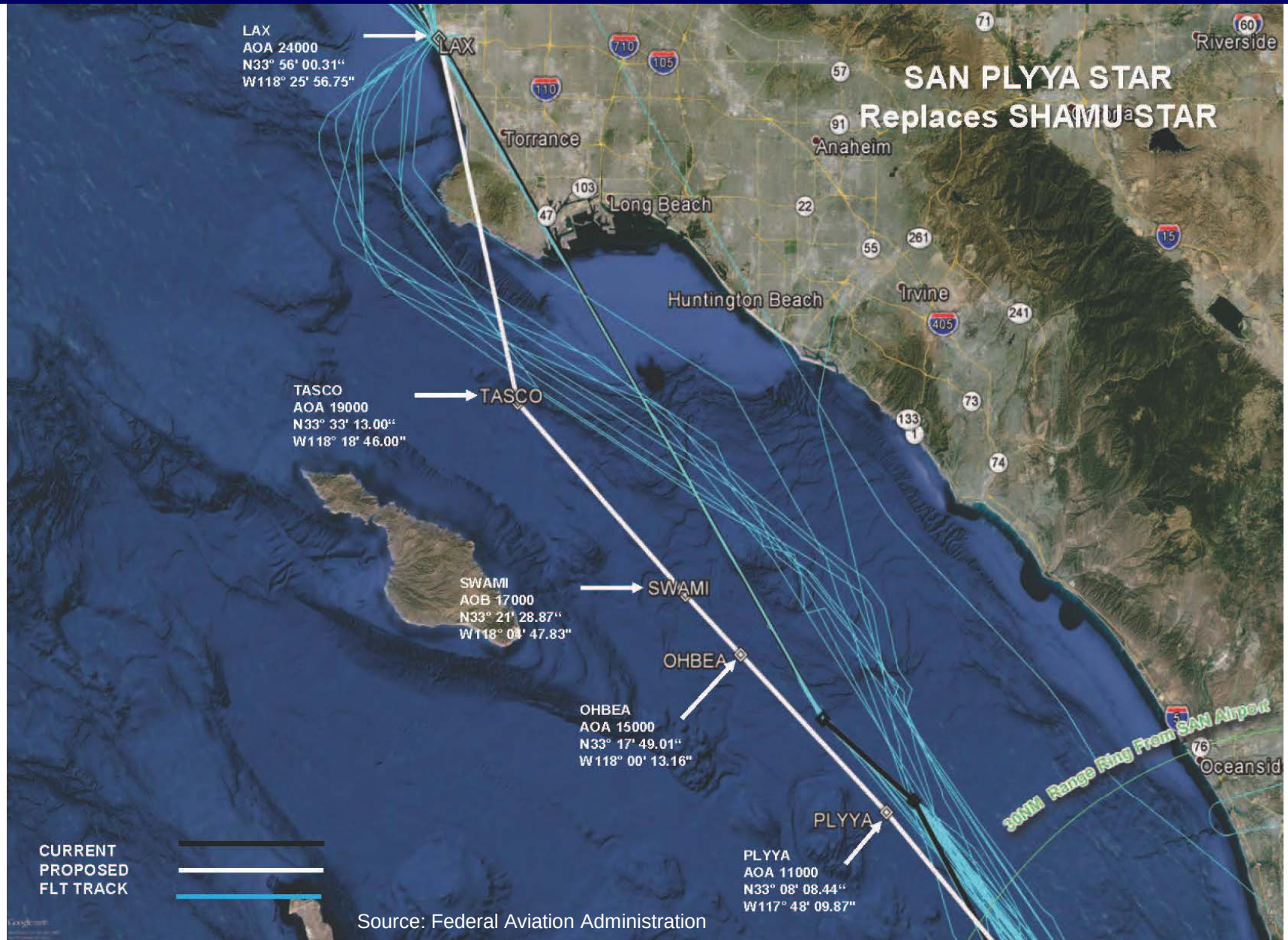

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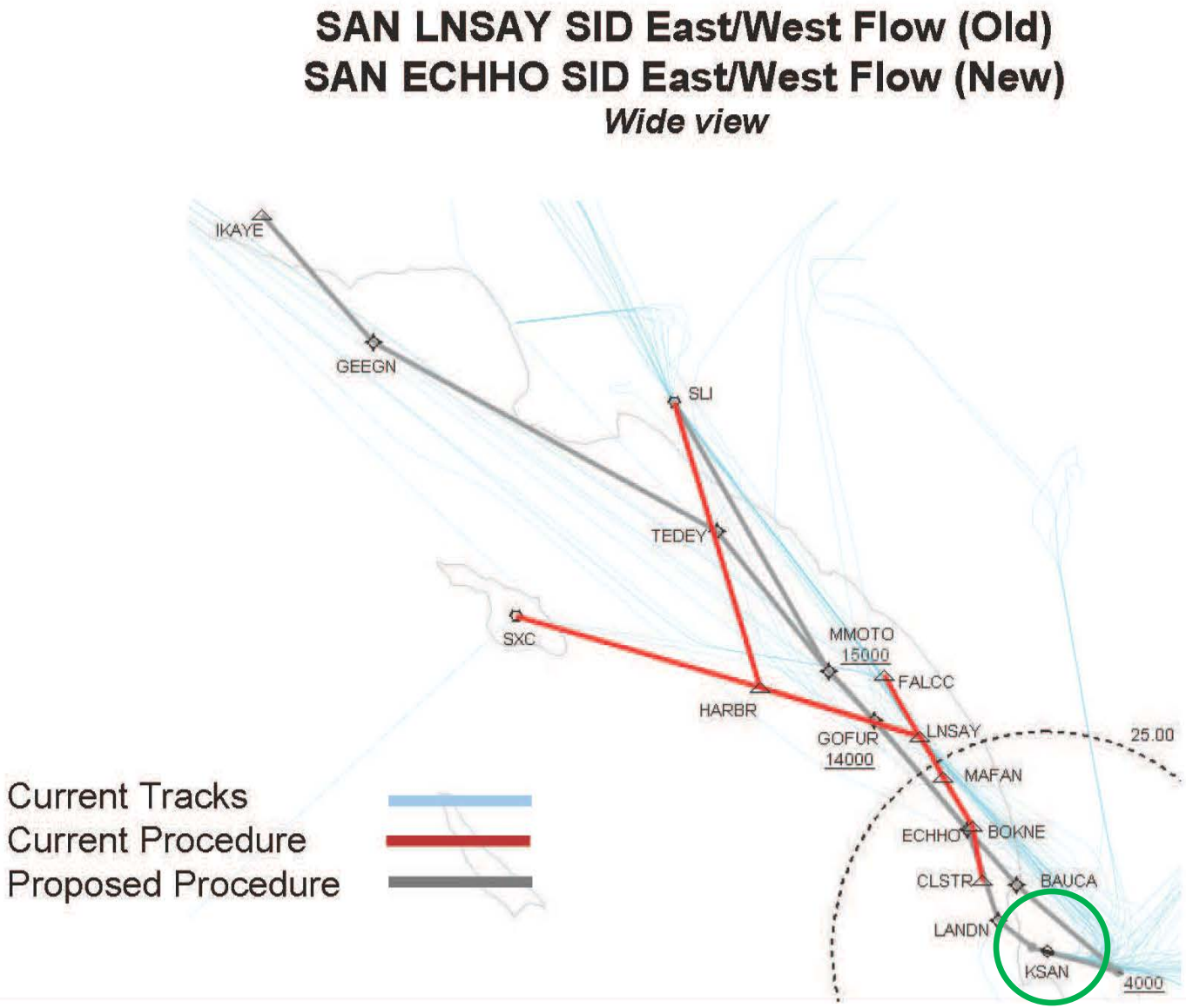

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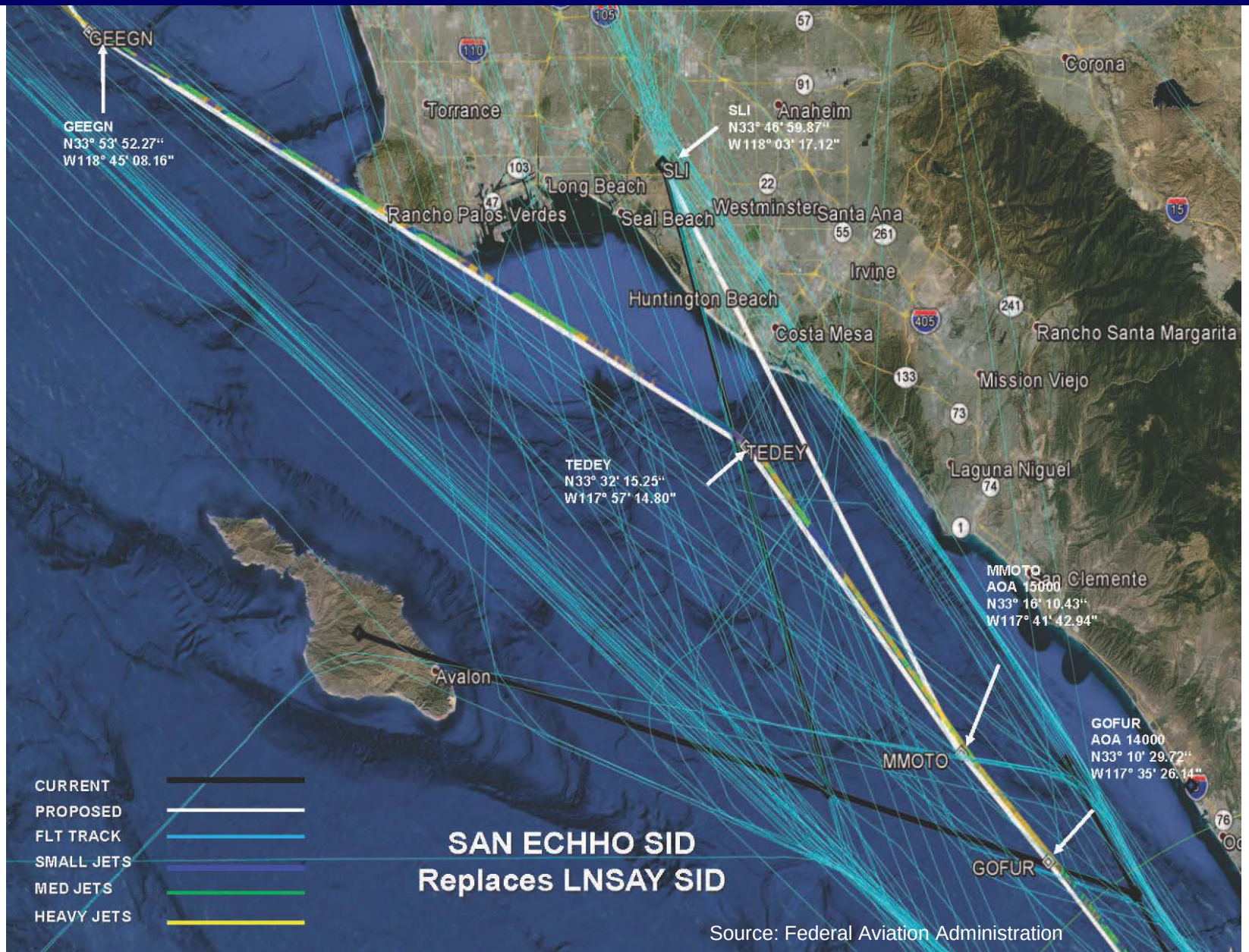

Source: Federal Aviation Administration

Change in Potential Population Exposed to Aircraft Noise

Metroplex EA conclusion regarding noise exposure:

- **There will be no significant noise impacts**

Table 5-3 Change in Potential Population Exposed to Aircraft Noise – 2015 and 2020

DNL Noise Exposure Level Under the Proposed Action	Increase in DNL with the Proposed Action	Population Exposed to Noise that Exceeds the Threshold	
		2015	2020
DNL 65 and higher	DNL 1.5 dB or greater	0	0
DNL 60 to 65	DNL 3.0 dB or greater	0	0
DNL 45 to 60	DNL 5.0 dB or greater	0	0

Source: U.S. Census Bureau, 2010 Census (population centroid data), accessed March 2015; ATAC Corporation, April 2015 (NIRS modeling results).
Prepared by: ATAC Corporation, April 2015.

Source: Draft Environmental Assessment for the Southern California Metroplex Project, June 2015

Potential Comment Letter Concepts

- **The Roundtable is concerned that if the Metroplex procedures are implemented as proposed in the EA they will result in:**
  - **shifting noise from one community to another,**
  - **exposing noise sensitive land uses to new overflights and new aircraft noise exposure,**
  - **lower altitudes over some communities, and**
  - **increasing noise levels over existing noise sensitive land uses by concentrating aircraft flight tracks over a narrower area than the existing, pre-Metroplex conditions**

Potential Comment Letter Concepts (cont.)

- Given these concerns, the Roundtable may consider requesting that the:
  - FAA remain open to the possibility making changes to the procedures should they result in widespread community complaints after implementation
  - FAA conduct the noise analysis using the CNEL metric and report any threshold of significance exceedances that result

Potential Comment Letter Concepts (cont.)

- **The Roundtable may consider requesting that FAA provide a follow-up presentation to the Roundtable, regarding the Roundtable's noise abatement recommendations and how they were considered in the Metroplex process**
  - **Request that the FAA explain why each measure was or was not implemented in the Metroplex process**

Southern California Metroplex Environmental Assessment

- **Comments can be emailed to:**

  9-ANM-SoCalOAPM@faa.gov

- **Comments can be submitted by regular mail to:**

  SoCal Metroplex EA
  Federal Aviation Administration
  Western Service Center - Operations Support Group
  1601 Lind Avenue SW
  Renton, WA 98057

- **SoCal Metroplex EA website:**

  http://www.metroplexenvironmental.com/socal_metroplex/socal_introduction.html

- **Google: SoCal Metroplex EA**

Questions?