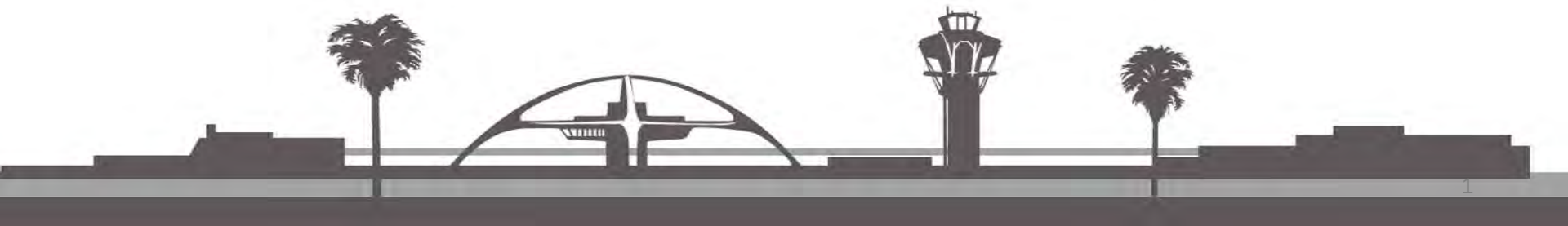
Los Angeles World Airports

FAA's Southern California Metroplex Project

LAWA Staff Update to the VNY Citizens Advisory Council

March 7, 2017



Background

- Today, Airports use ground-based navigation
- NextGen is a smarter, satellite-based, digital technology
- In March 2017, FAA will optimize airspace use with Performance Based Navigation (PBN)
- FAA's "Metroplex" Program implements PBN

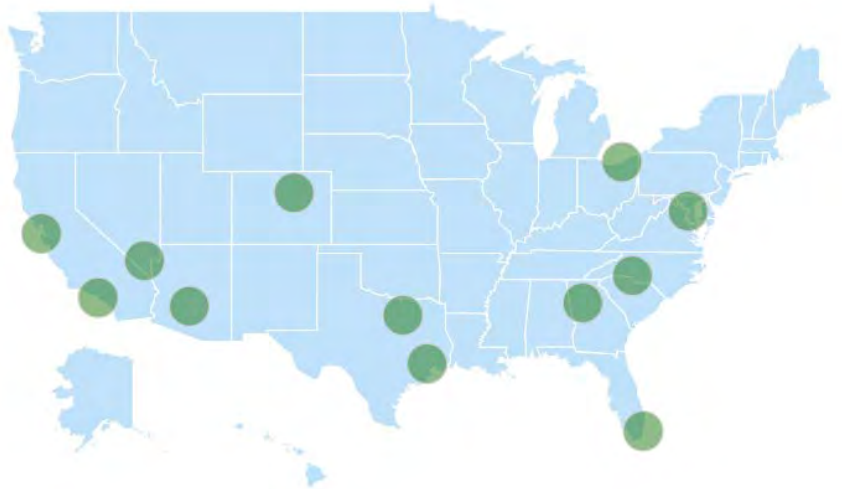
What is a Metroplex?

A Metroplex is a large geographic area covering multiple airports serving major metropolitan areas

Top 12 Metroplex Projects

- Atlanta
- Charlotte
- Cleveland-Detroit
- D.C.
- Denver
- Houston
- Las Vegas
- North Texas
- Northern California
- Phoenix
- South Central Florida
- **Southern California**

Metroplex locations



SoCal Metroplex General Study Area

Notes:

BUR	Bob Hope Airport
CMA	Camarillo Airport
CRQ	McClellan-Palomar Airport
LAX	Los Angeles International Airport
LGB	Long Beach Airport/Daugherty Field
MYF	Montgomery Field Airport
NKX	Miramar Marine Corps Air Station
NTD	Point Mugu Naval Air Station
NZY	North Island Naval Air Station
ONT	Ontario International Airport
OXR	Oxnard Airport
PSP	Palm Springs International Airport
SAN	San Diego International Airport
SBA	Santa Barbara Municipal Airport
SDM	Brown Field Municipal Airport
SEE	Gillespie Field
SMO	Santa Monica Municipal Airport
SNA	John Wayne-Orange County Airport
TRM	Jacqueline Cochran Regional Airport
UDD	Bermuda Dunes Airport
VNY	Van Nuys Airport

FAA's Metroplex Program Goals and Benefits

Los Angeles World Airports

1. Goals:
   - Improve airspace efficiency and reduce complexity
   - Optimize flight paths and climb/descent profiles
   - Promote Area Navigation (RNAV) and Required Navigational Performance (RNP)
   - Integrate airspace and procedure design
   - Decouple operations arriving and departing adjacent airports

2. Benefits:
   - Reduced controller task complexity, flight deck and controller communications
   - Reduced frequency congestion and pilot workload
   - Introduce repeatable, predictable flight paths
   - Improved fuel planning
   - Segregated lateral or vertical flows

Metroplex Procedures

Los Angeles World Airports

Procedures may include :

1. Optimized Profile Descent
   - Flight-idle throttle settings
   - Aircraft burns less fuel, until near touchdown

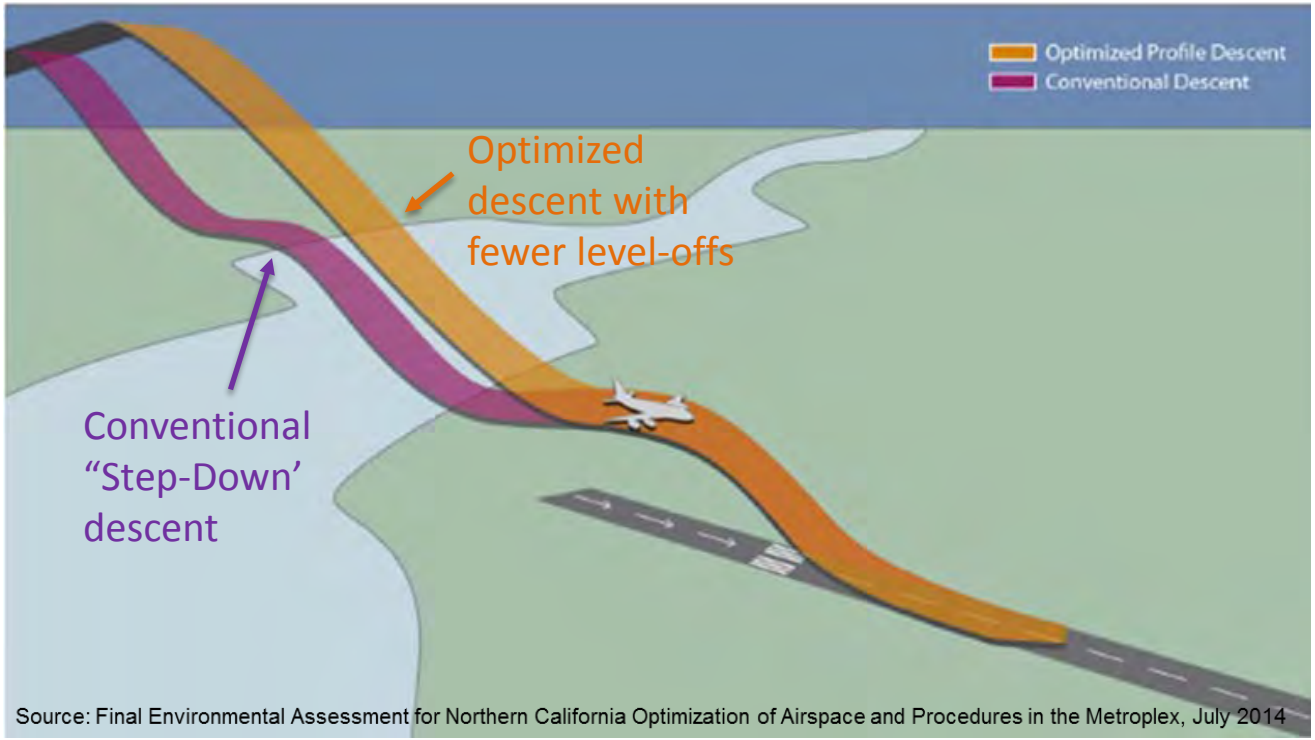
2. Optimized Climb Profile
   - Provides clearance for unrestricted climb to exit airspace quicker
   - Less air traffic controller instruction

3. Performance Based Navigation (PBN)
   - Area Navigation (RNAV) for departures and approaches
   - Required Navigation Performance (RNP)

Metroplex Procedures

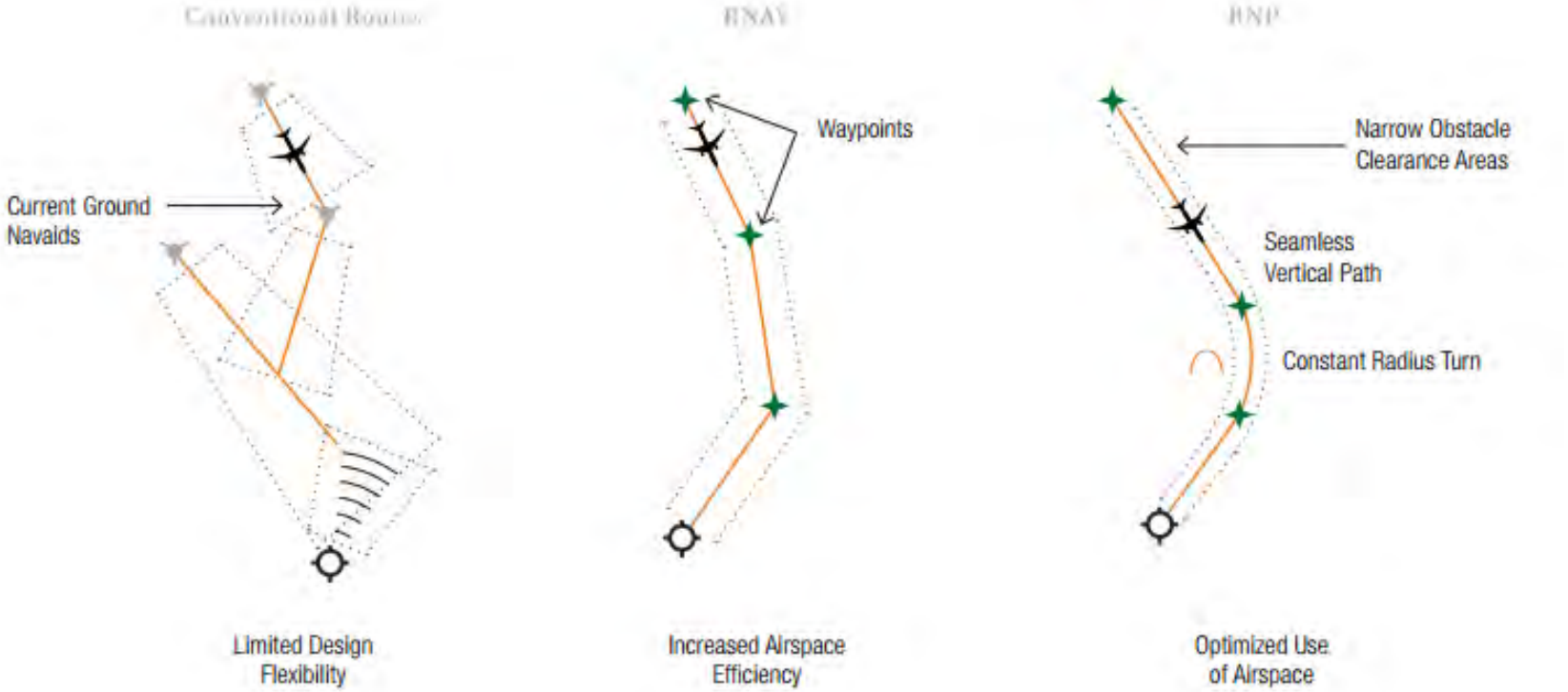
Los Angeles World Airports

Optimized Profile Descent Example:



Source: Final Environmental Assessment for Northern California Optimization of Airspace and Procedures in the Metroplex, July 2014

Metroplex Procedures



Source: Boeing, AERO_Q208_article3.pdf

SoCal Metroplex – Environmental Assessment (EA)

Los Angeles World Airports

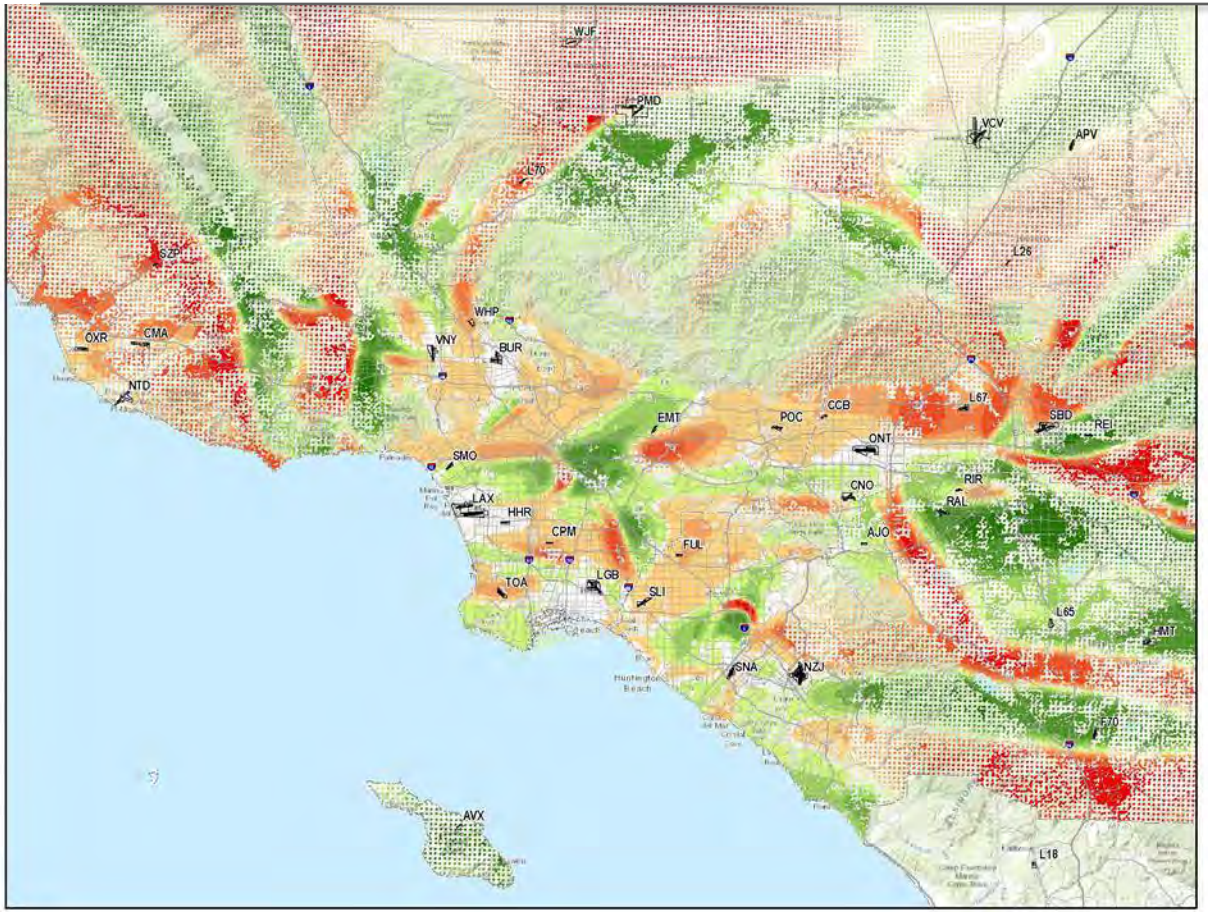
1. EA to include: procedure changes that do not produce significant noise increases

2. EA Threshold of Significance:

- +1.5 dB w/in the 65 DNL
- +3 dB in DNL 60 to 65
- +5 dB in DNL 45 to 60

EA Results: *No significant or reportable impacts*

SoCal Metroplex – Changes in Noise Levels



Change in dB DNL

- >= 3.0
- 1.5 - 2.9
- 1.0 - 1.4
- 0.5 - 0.9
- 0.1 - 0.4
- 0.0
- -0.1 - -0.4
- -0.5 - -0.9
- -1.0 - -1.4
- -1.5 - -2.9
- <= -3.0

County Boundary

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

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There are changes as high as 9.0 dB DNL, but since they are outside of the 45 DNL, they are not reported in the EA

Phoenix – Before and After RNAV (Actual Flight Tracks)

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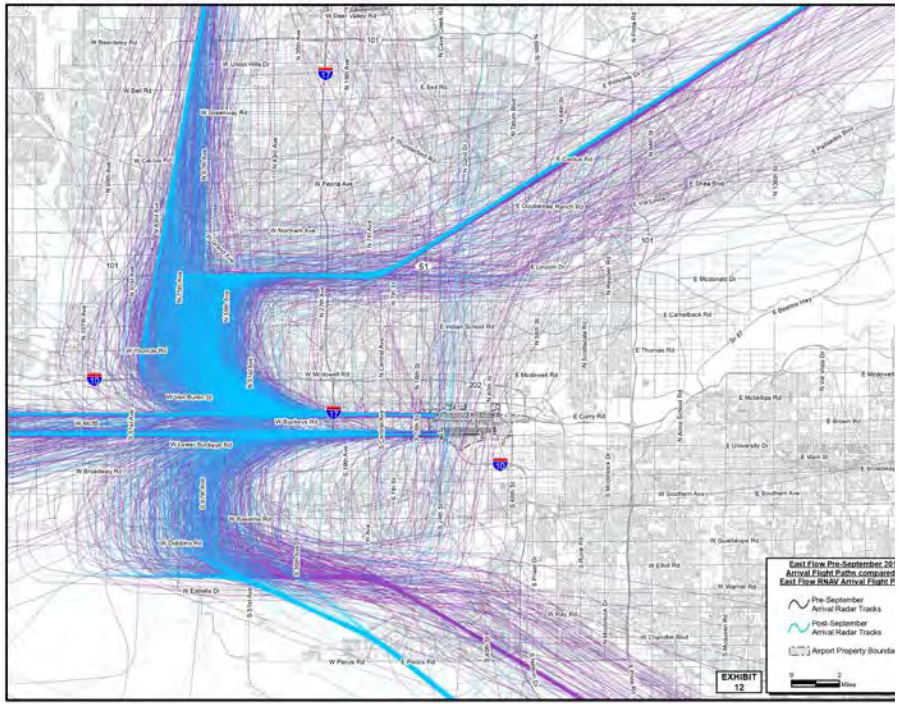
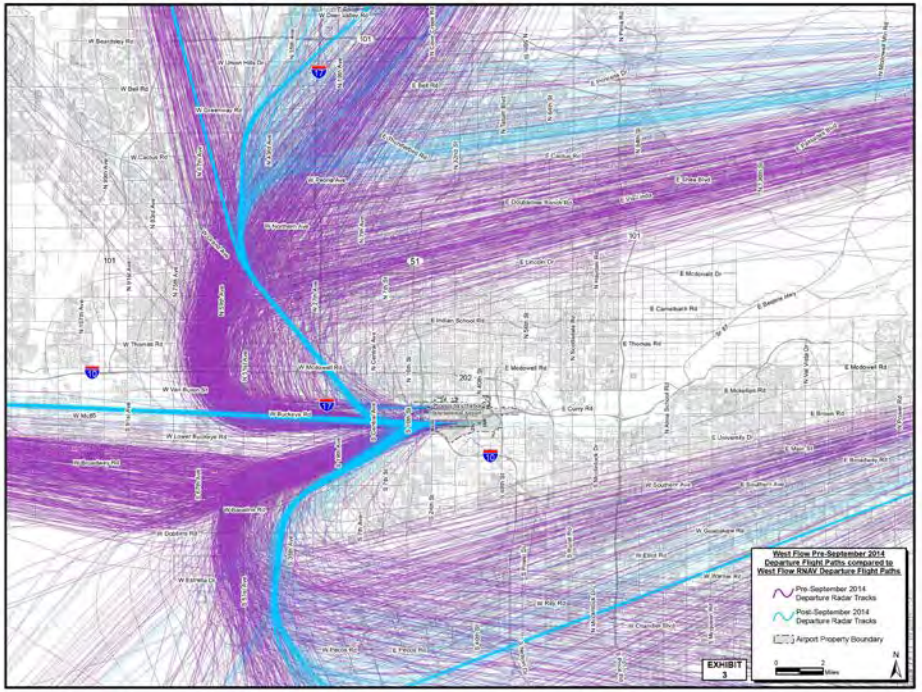
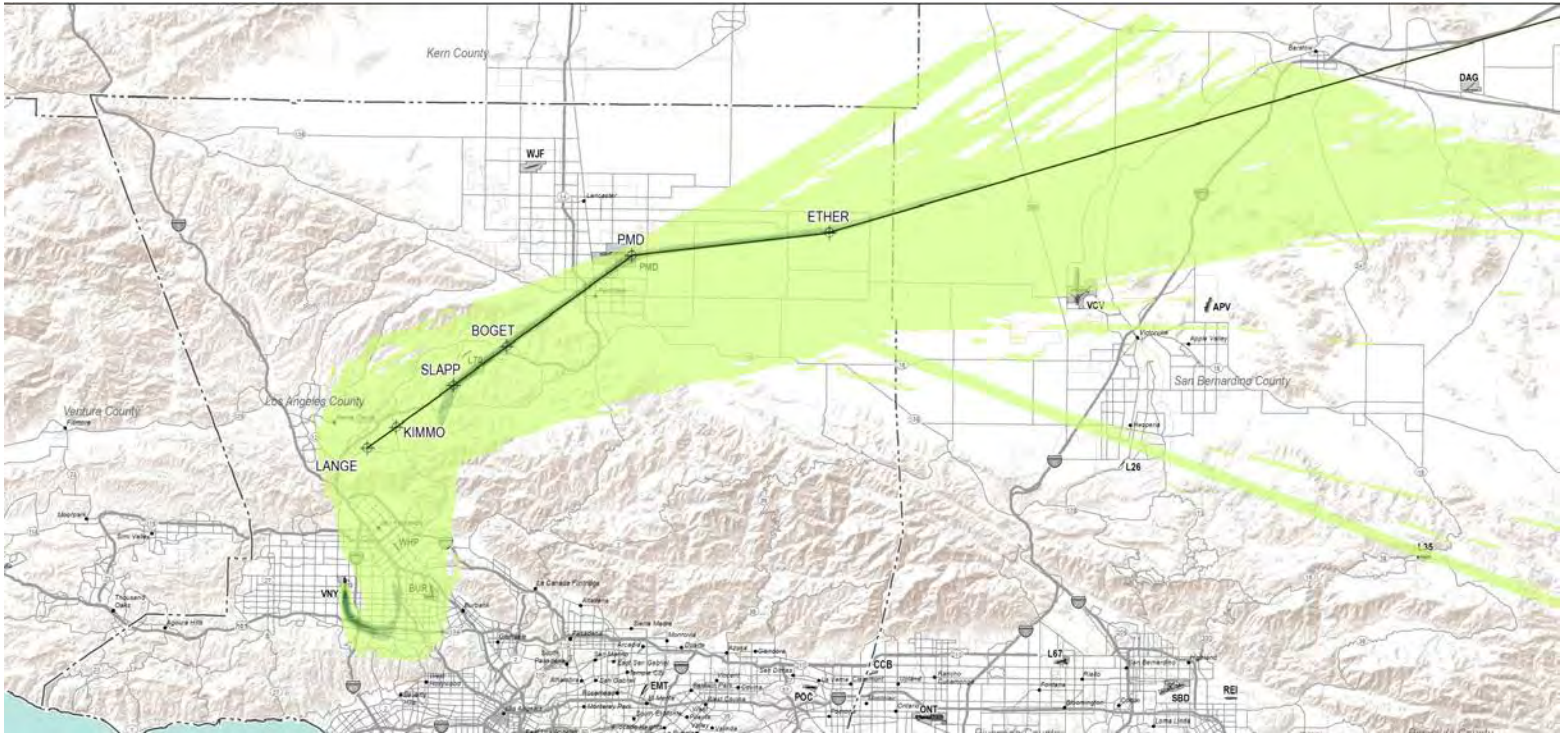
Before & After September 18, 2014 Flight Path Arrivals from the West



Before & After September 18, 2014 Flight Departures to the West

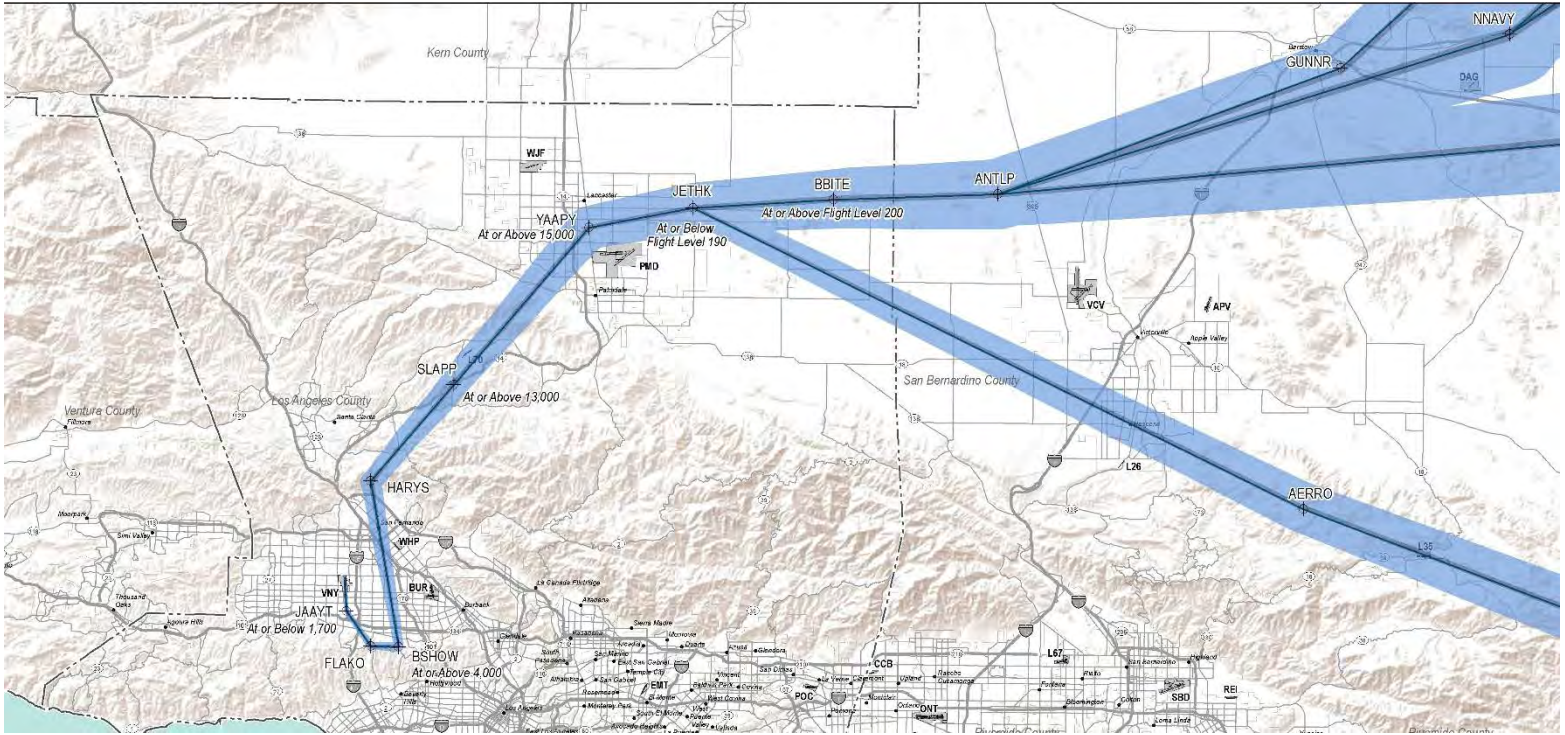


VNY - NEWHALL Conventional Departure (No Action Procedure) Flight Track Density

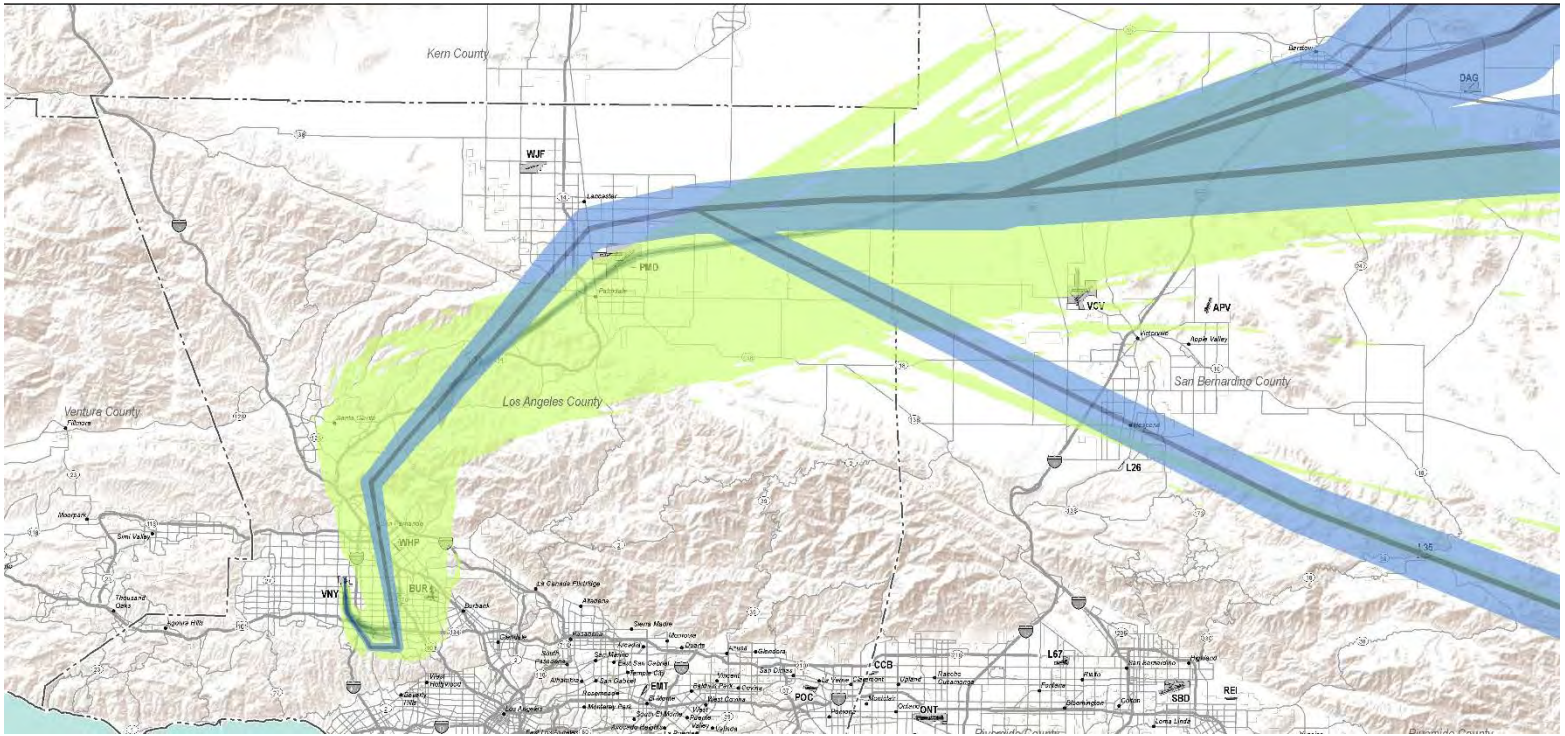


VNY HARYS RNAV Departure (Proposed Action Procedure)
Route and Representative Flight Track Distribution

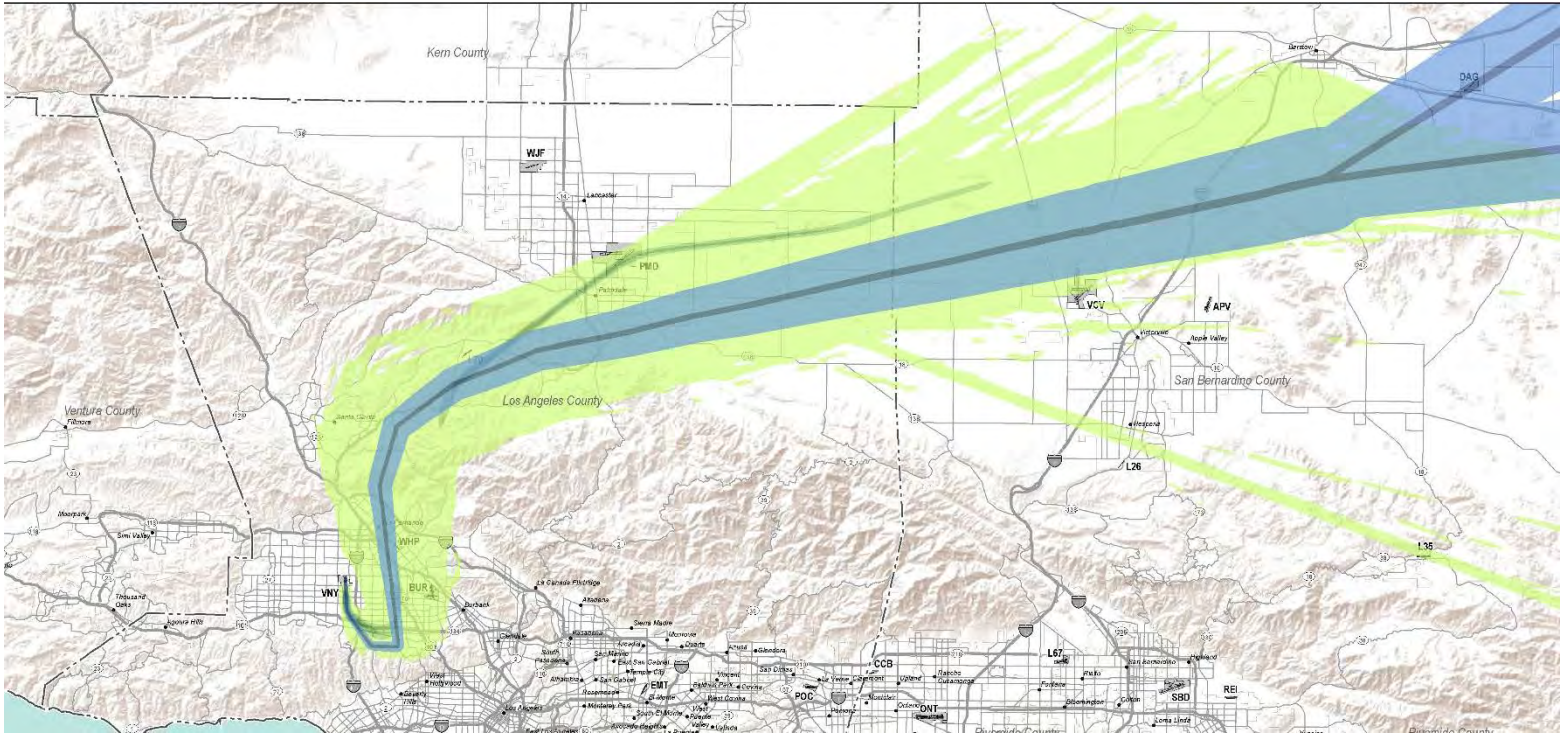
Los Angeles World Airports



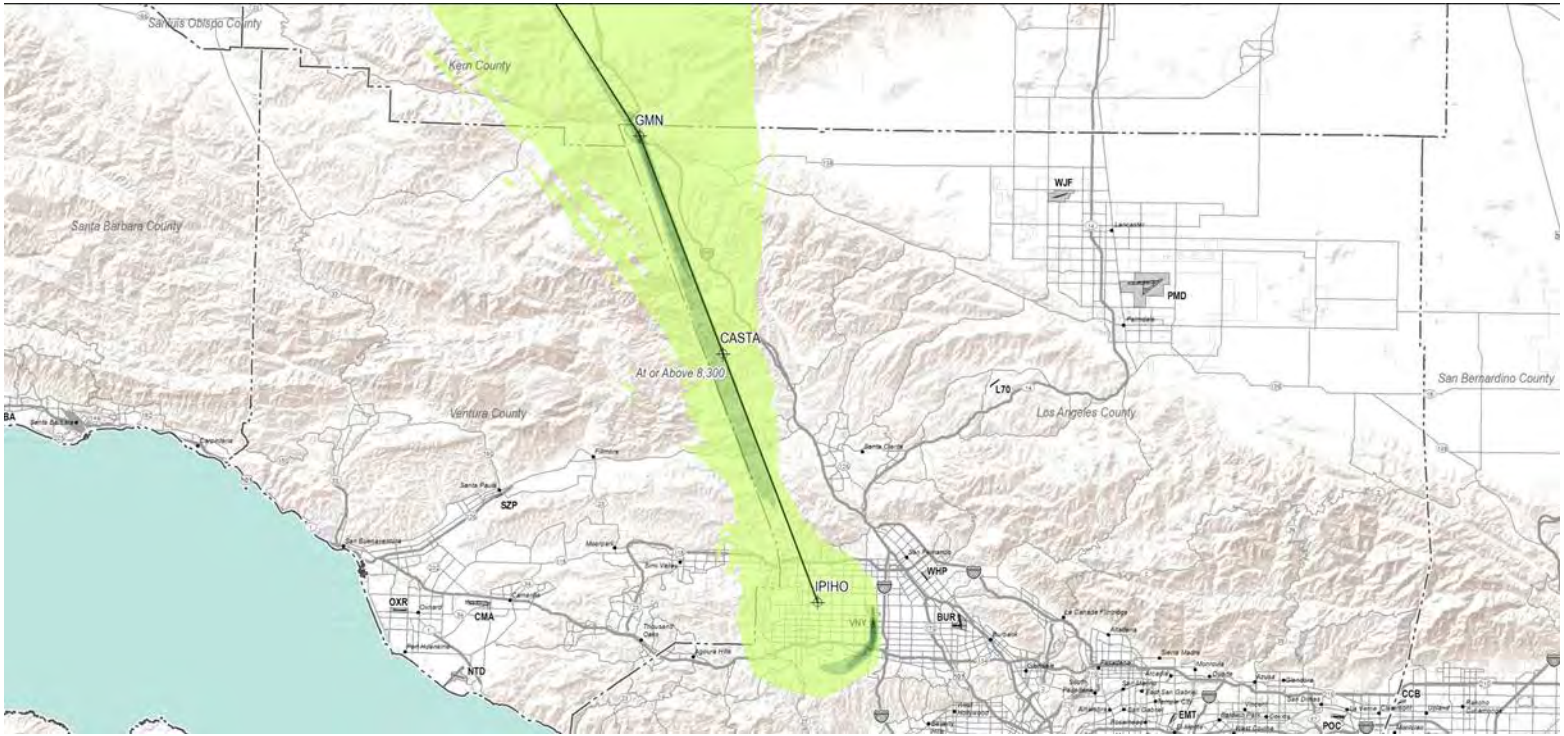
VNY - Comparison of NEWHALL Conventional Departure to HARYS RNAV Departure



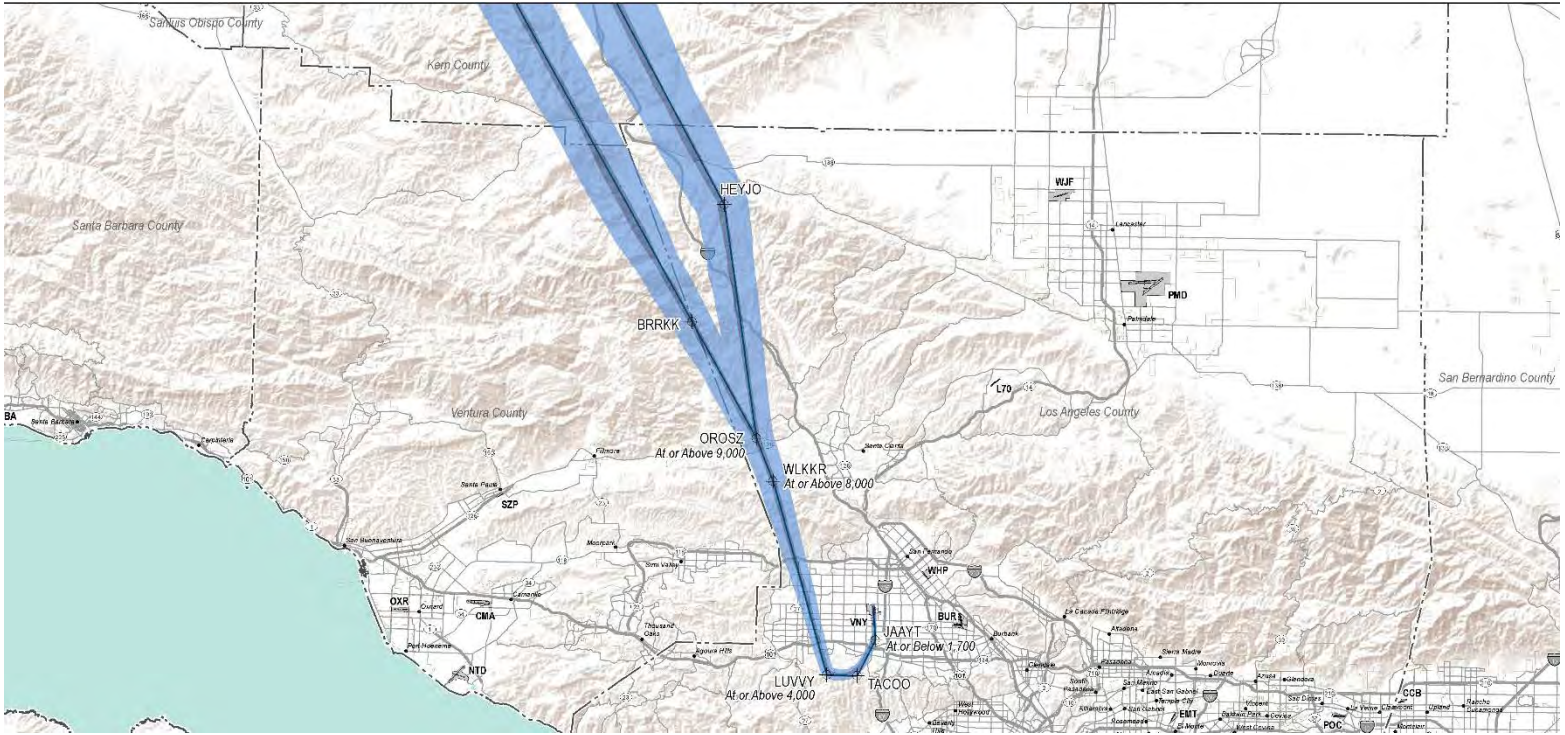
VNY - Comparison of NEWHALL Conventional Departure to ROSCOE RNAV Departure



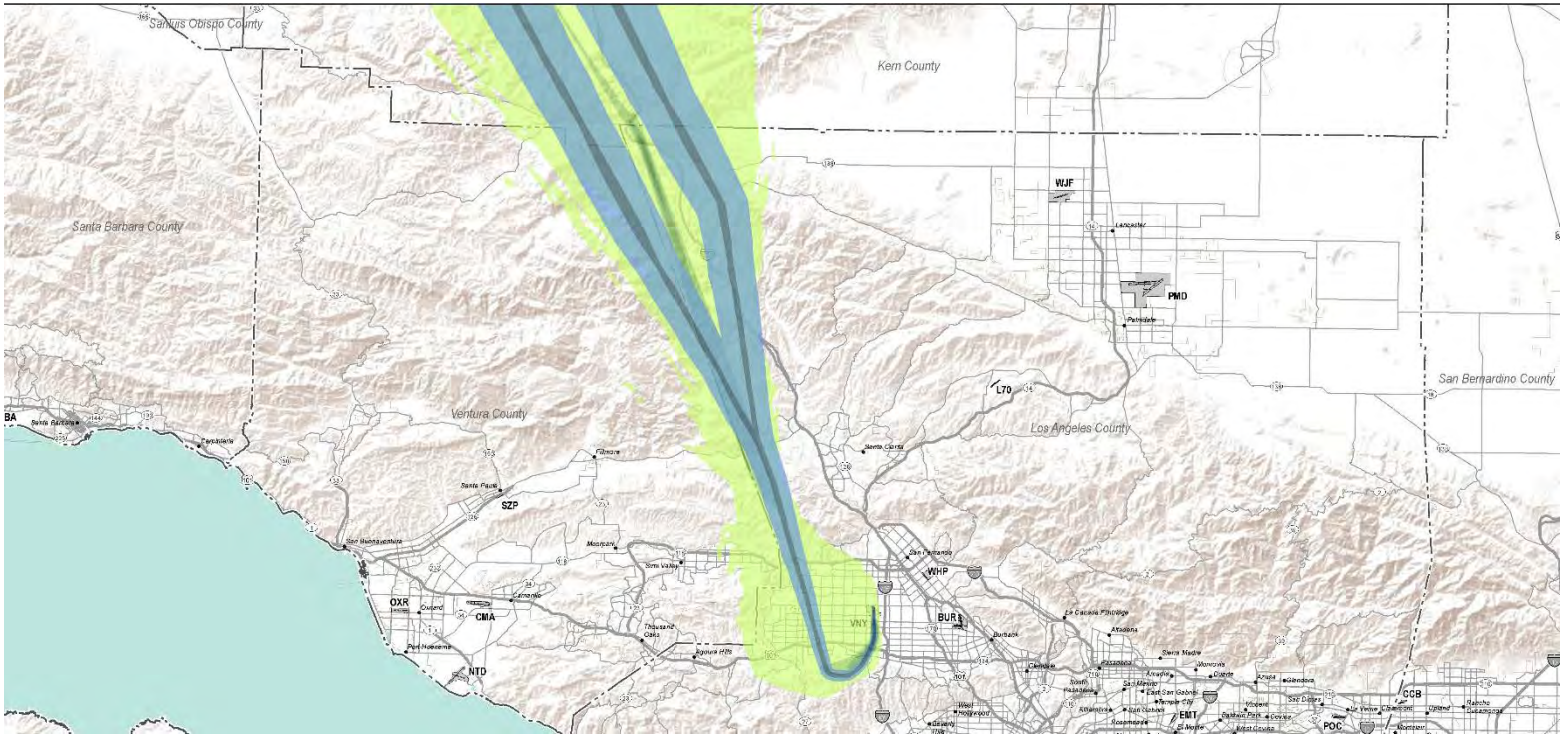
VNY - CANOGA Conventional Departure (No Action Procedure)
Flight Track Density



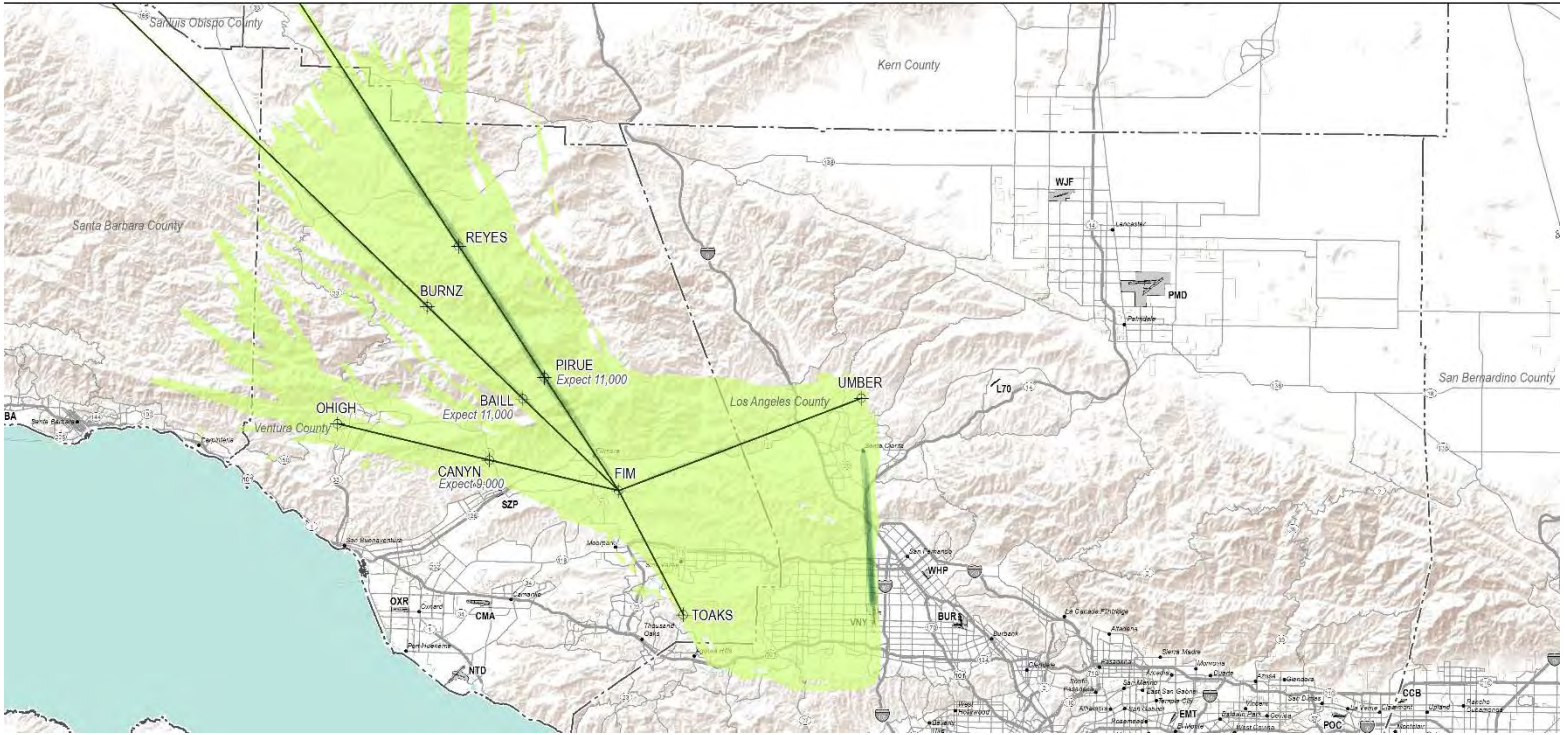
VNY - WLKKR RNAV Departure (Proposed Action Procedure)
Route and Representative Flight Track Distribution



VNY - Comparison of CANOGA Conventional Departure to WLKKR RNAV Departure

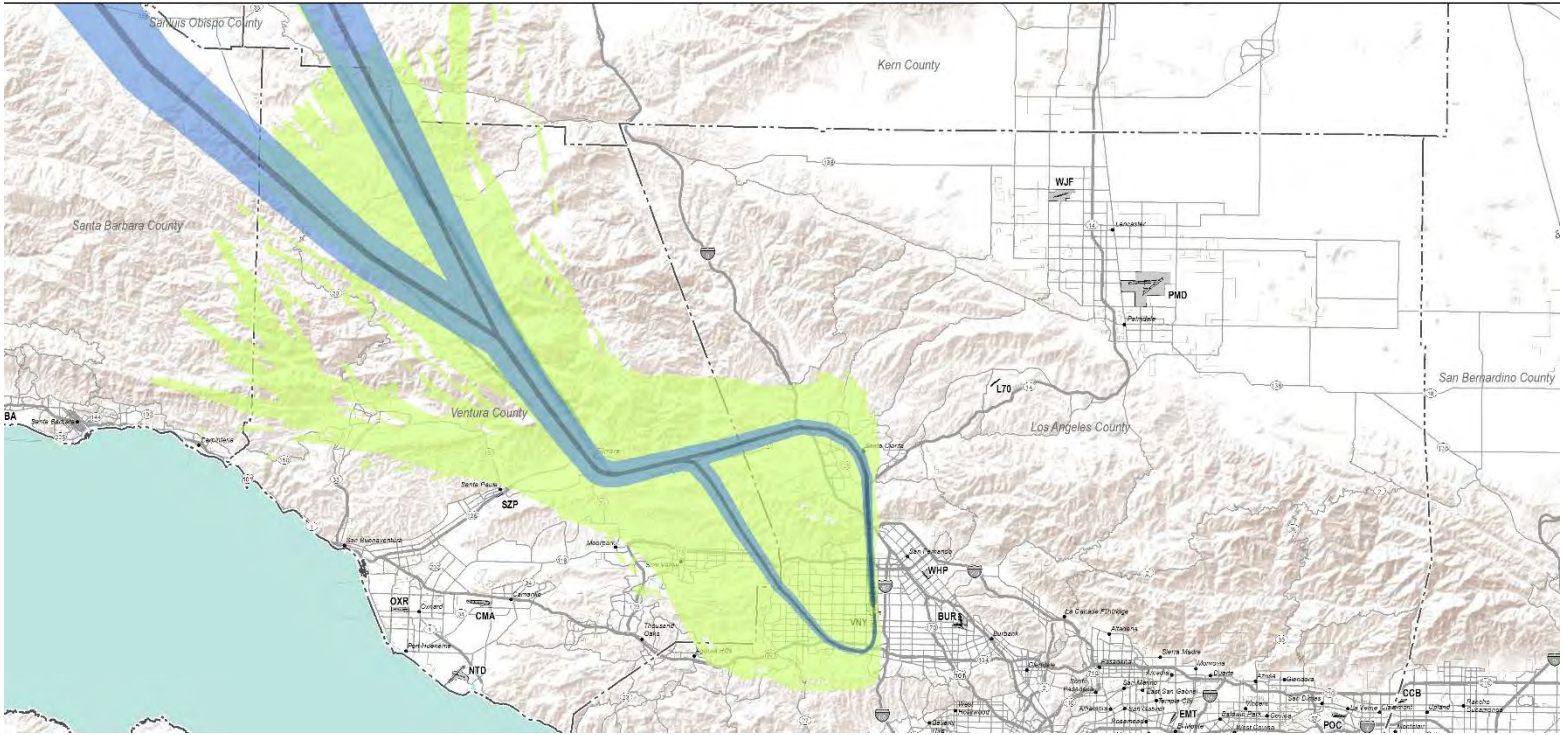


VNY FERNANDO Conventional Arrival (No Action Procedure) Flight Track Density

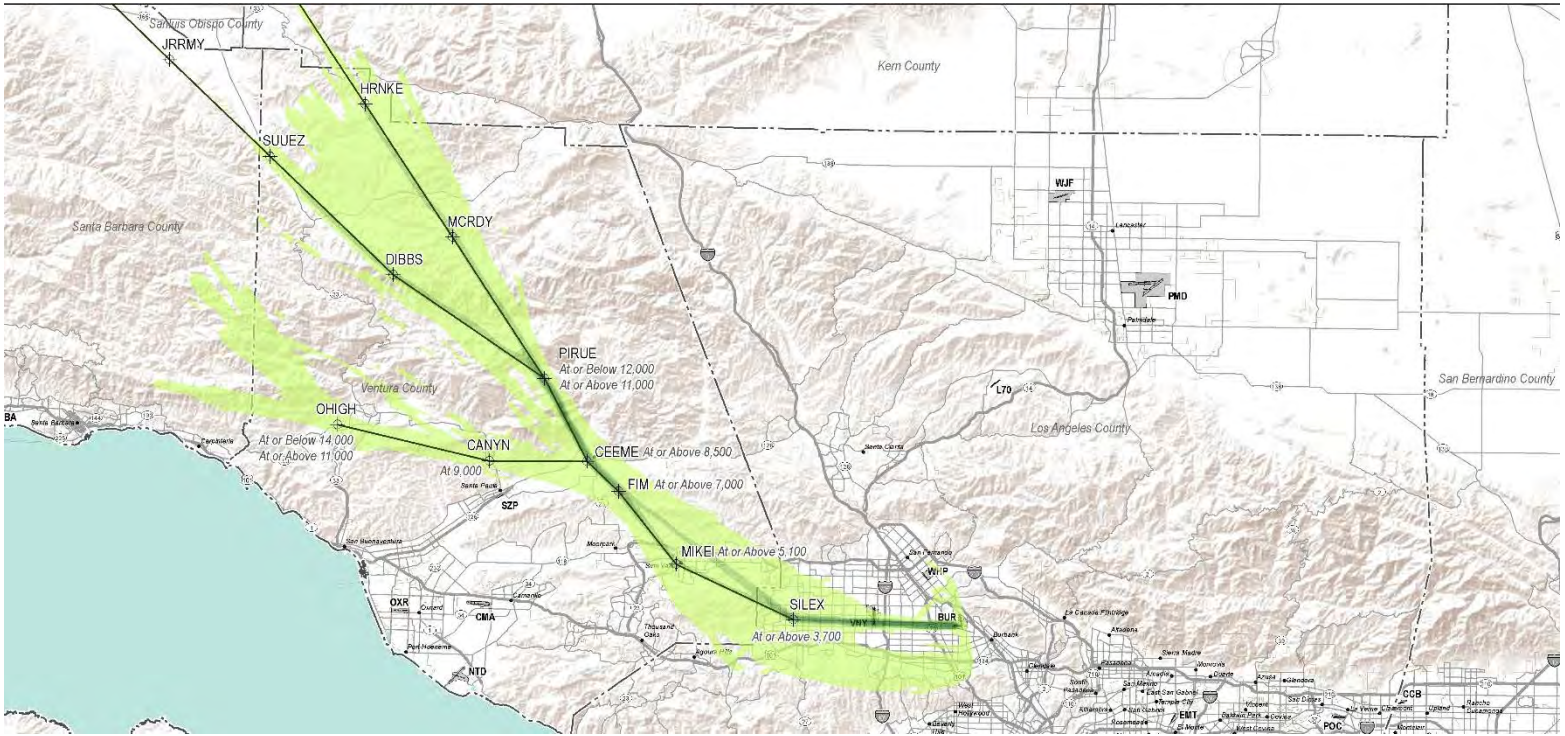


VNY ROKKR RNAV Arrival (Proposed Action Procedure)
Route and Representative Flight Track Distribution

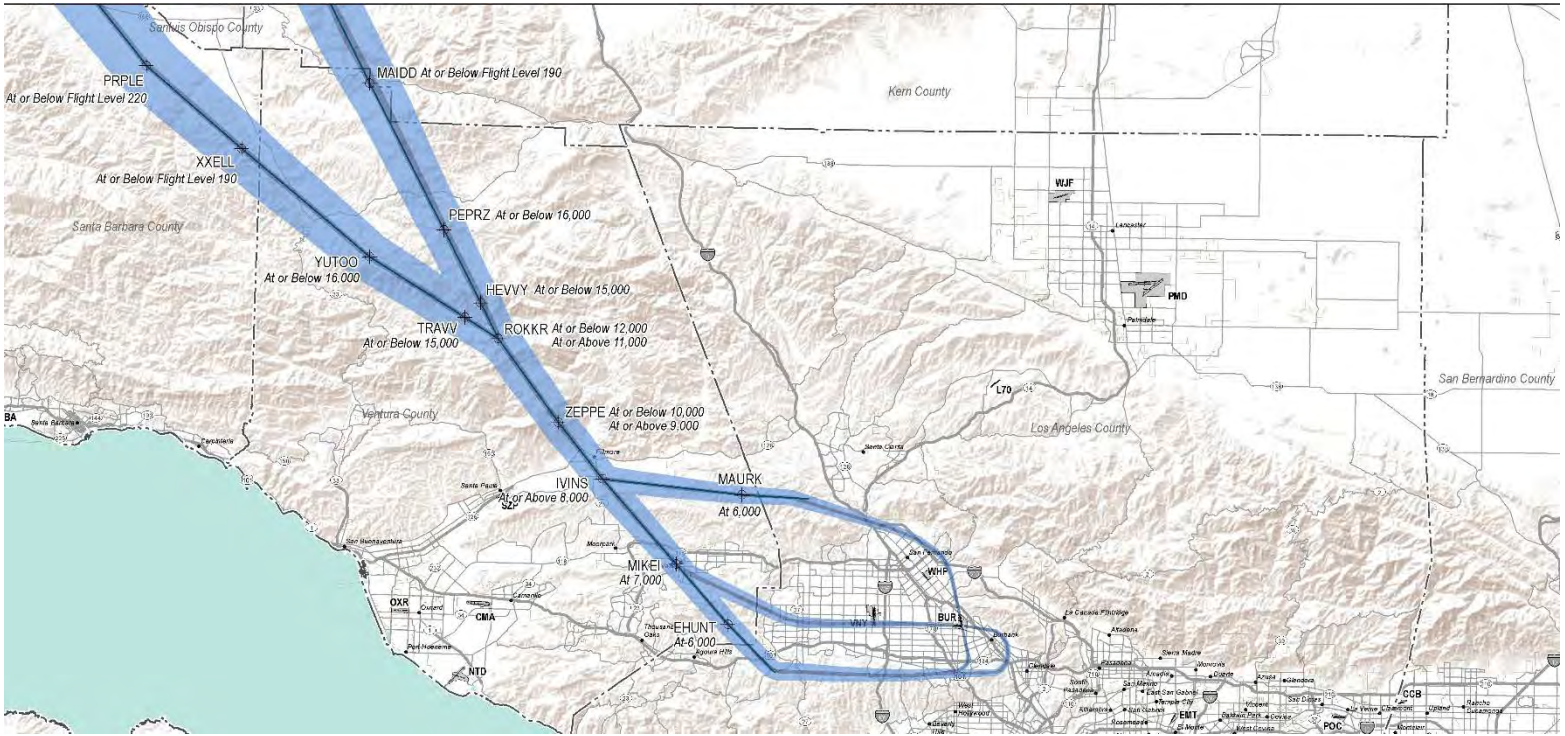
VNY Comparison of FERNANDO Conventional Arrival to ROKKR RNAV Arrival



BUR - CEEME Conventional Arrival (No Action Procedure)
Flight Track Density



BUR - ROKKR Arrival (Proposed Action Procedure)
Route and Representative Flight Track Distribution



BUR - Comparison of CEEME Conventional Arrival to ROKKR RNAV Arrival

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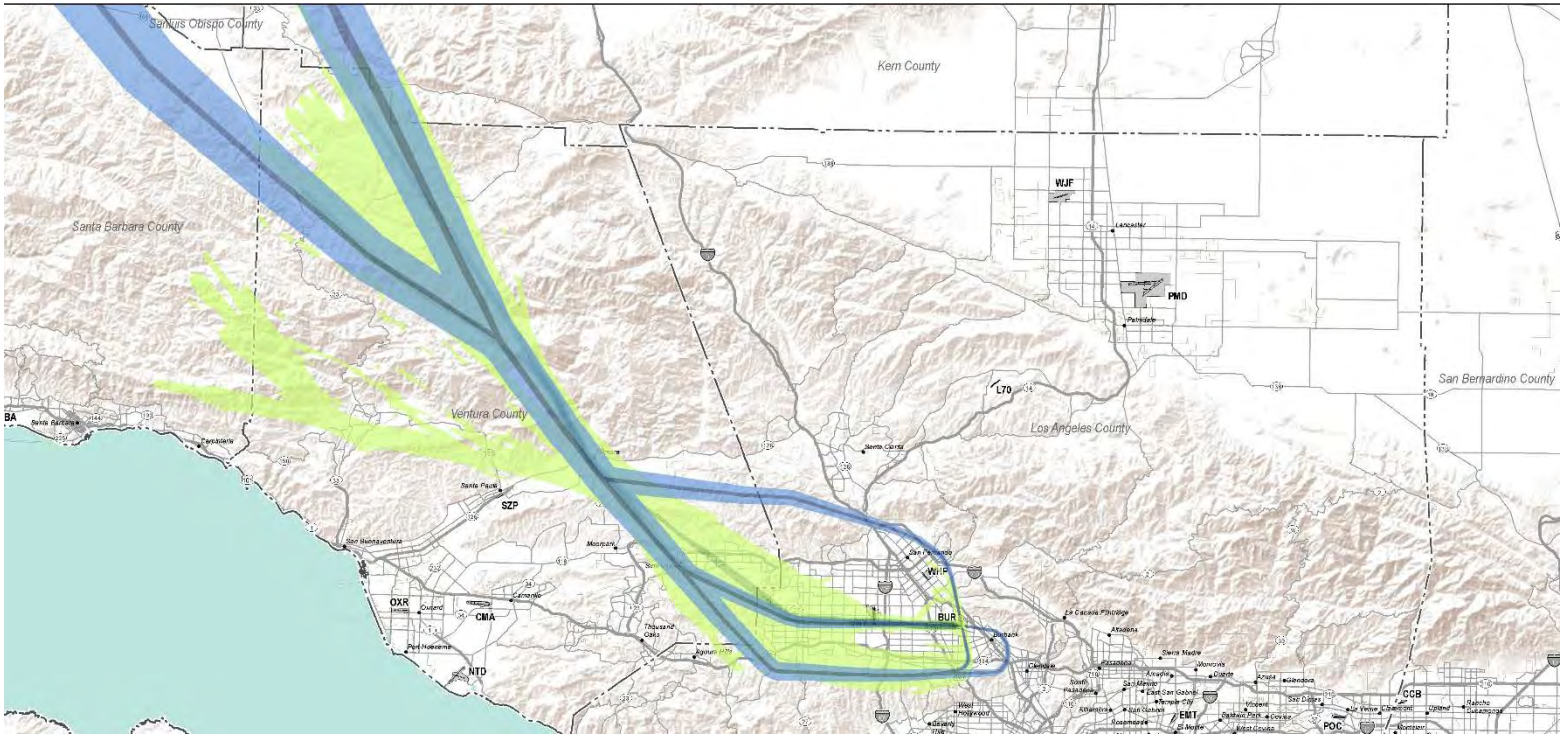
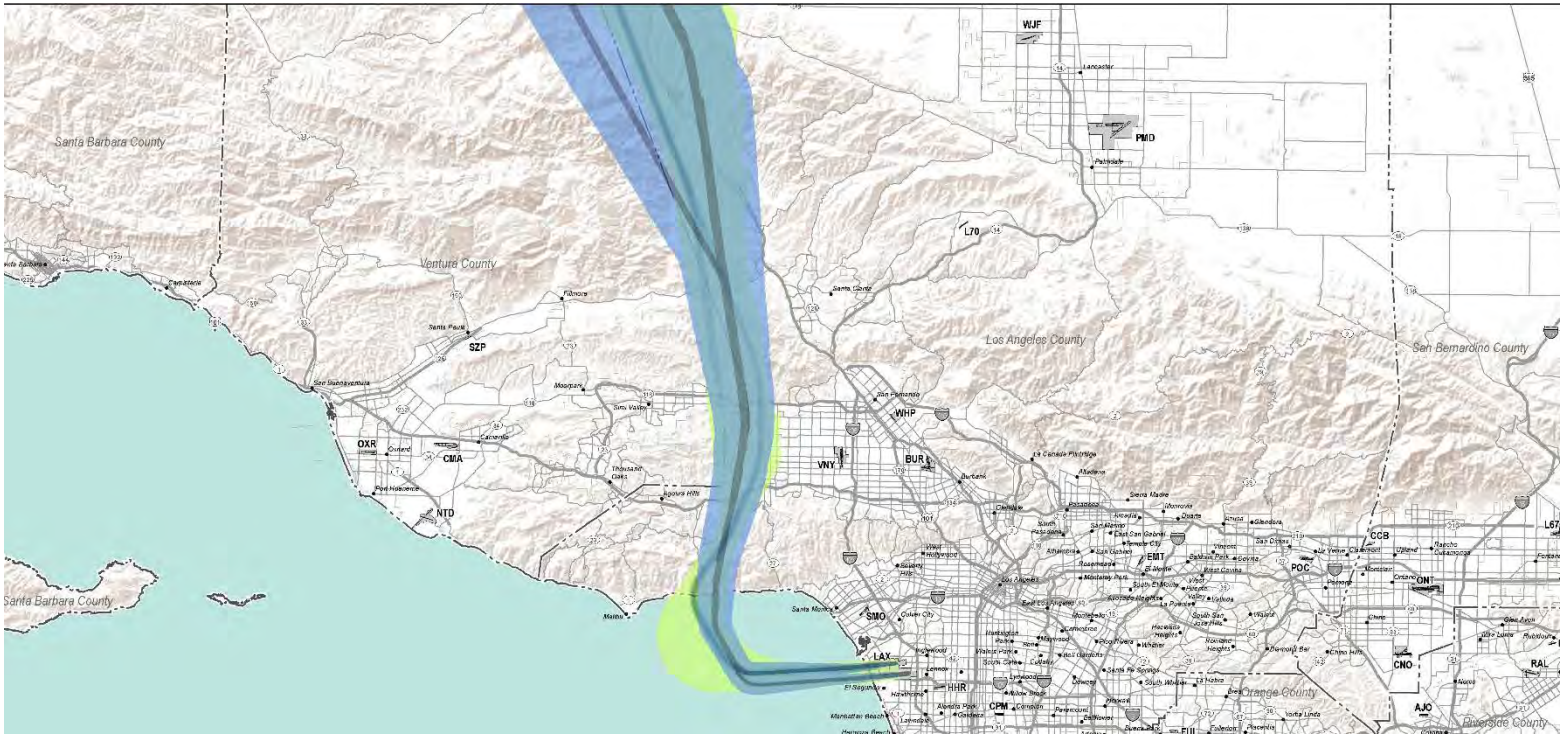


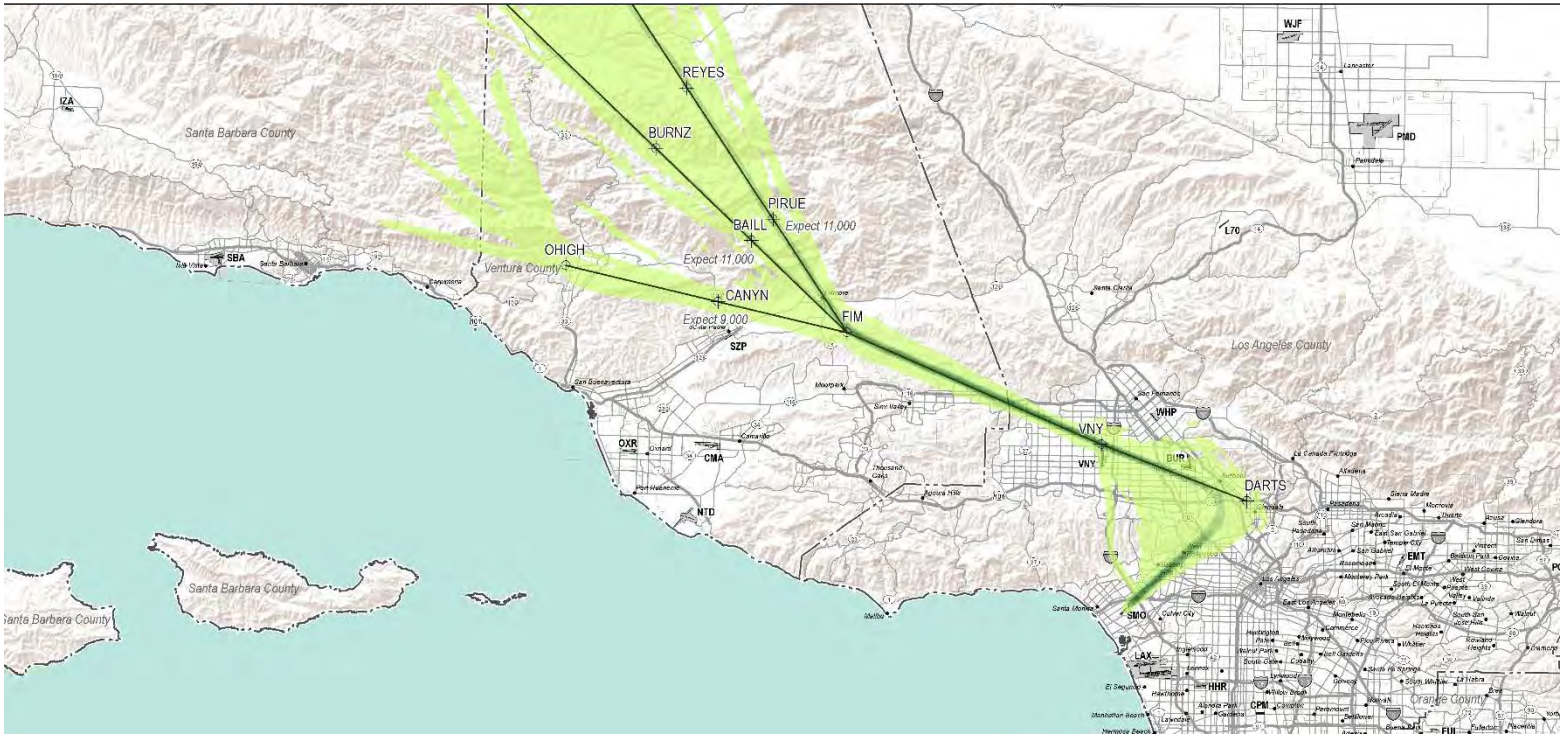
LAX - CASTA RNAV Departure (No Action Procedure)
Flight Track Density

LAX - LADYJ RNAV Departure (Proposed Action Procedure)
Route and Representative Flight Track Distribution

LAX - Comparison of CASTA RNAV Departure to LADYJ RNAV Departure



SMO FERNANDO Conventional Arrival (No Action Procedure)
Flight Track Density



SMO BONJO RNAV Arrival (Proposed Action Procedure)
Route and Representative Flight Track Distribution

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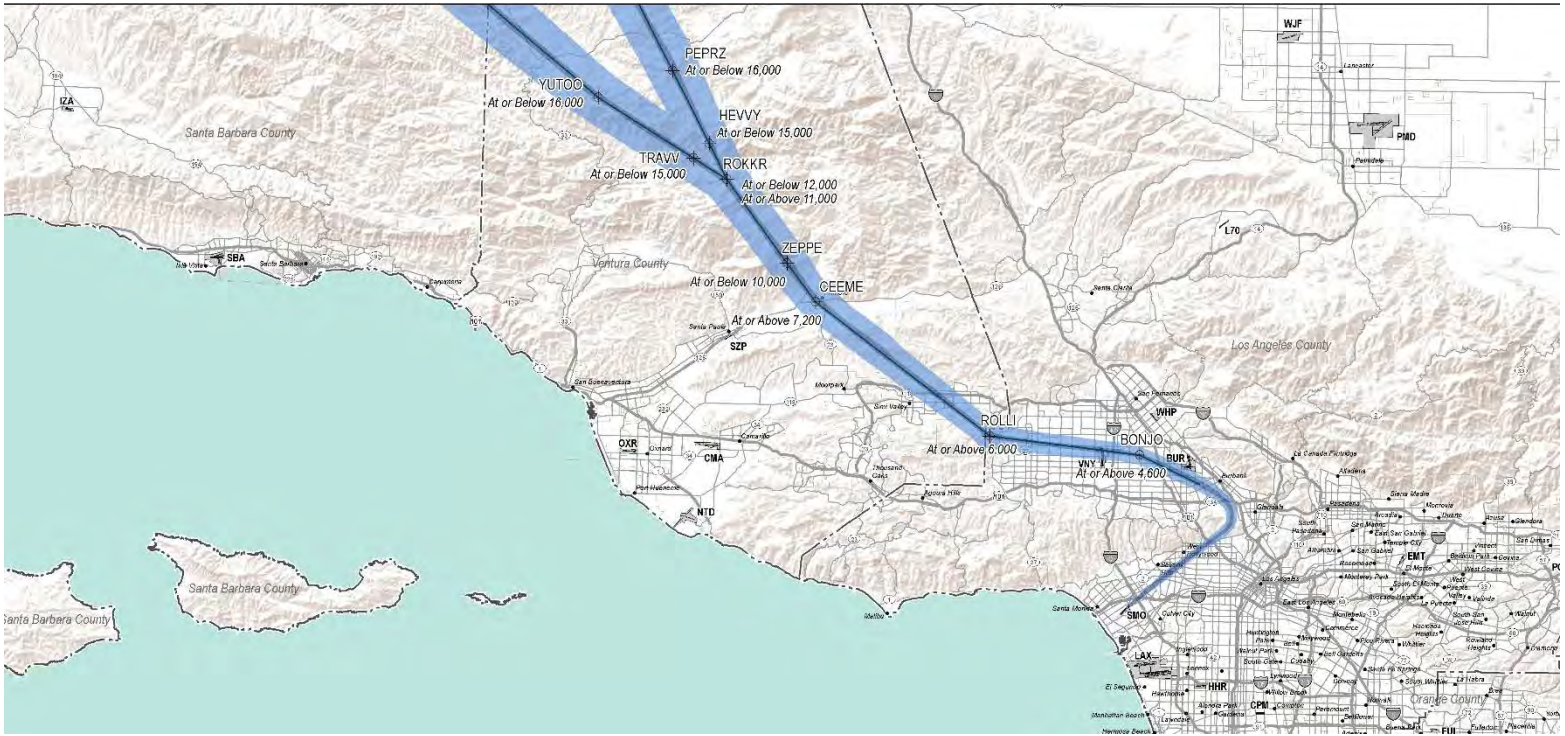
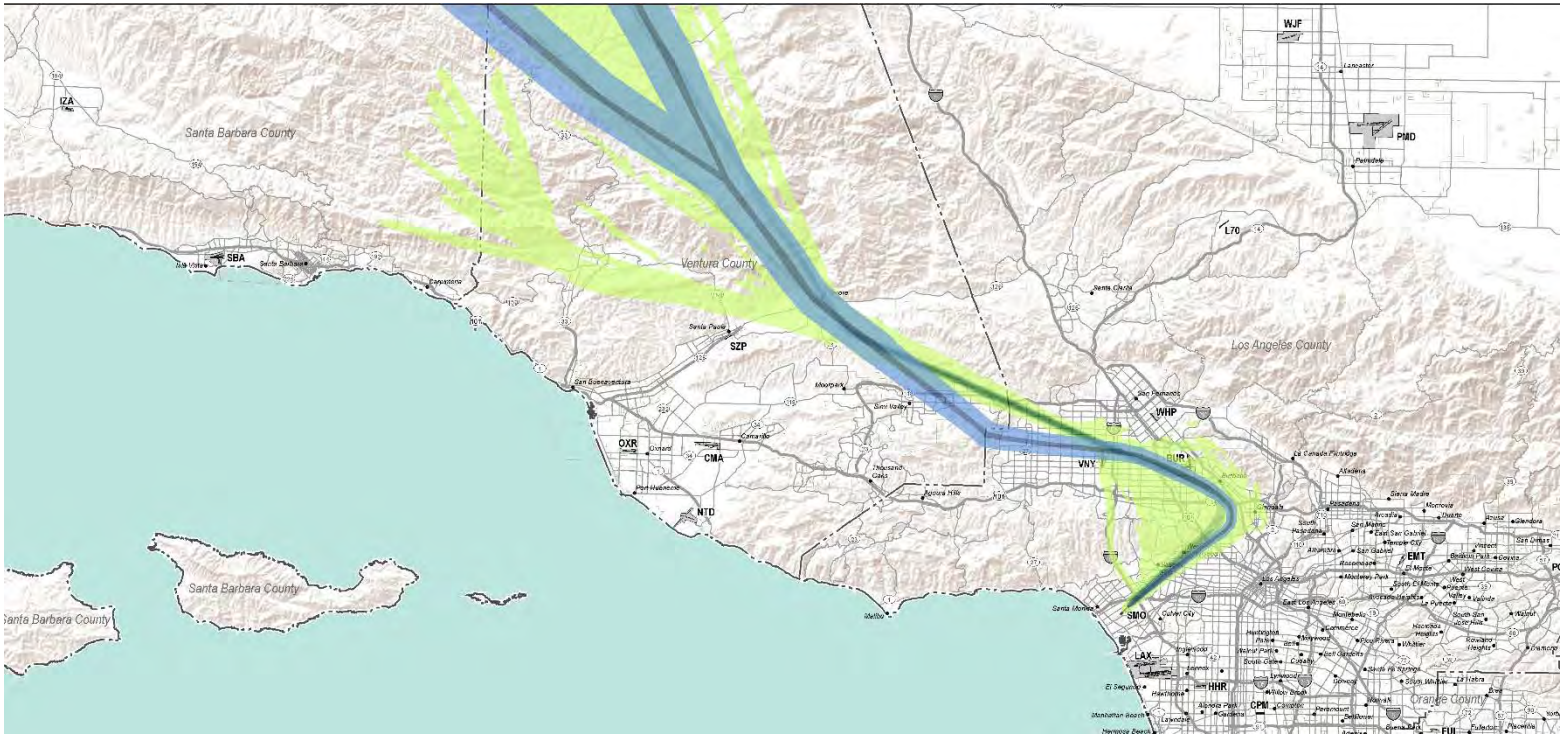
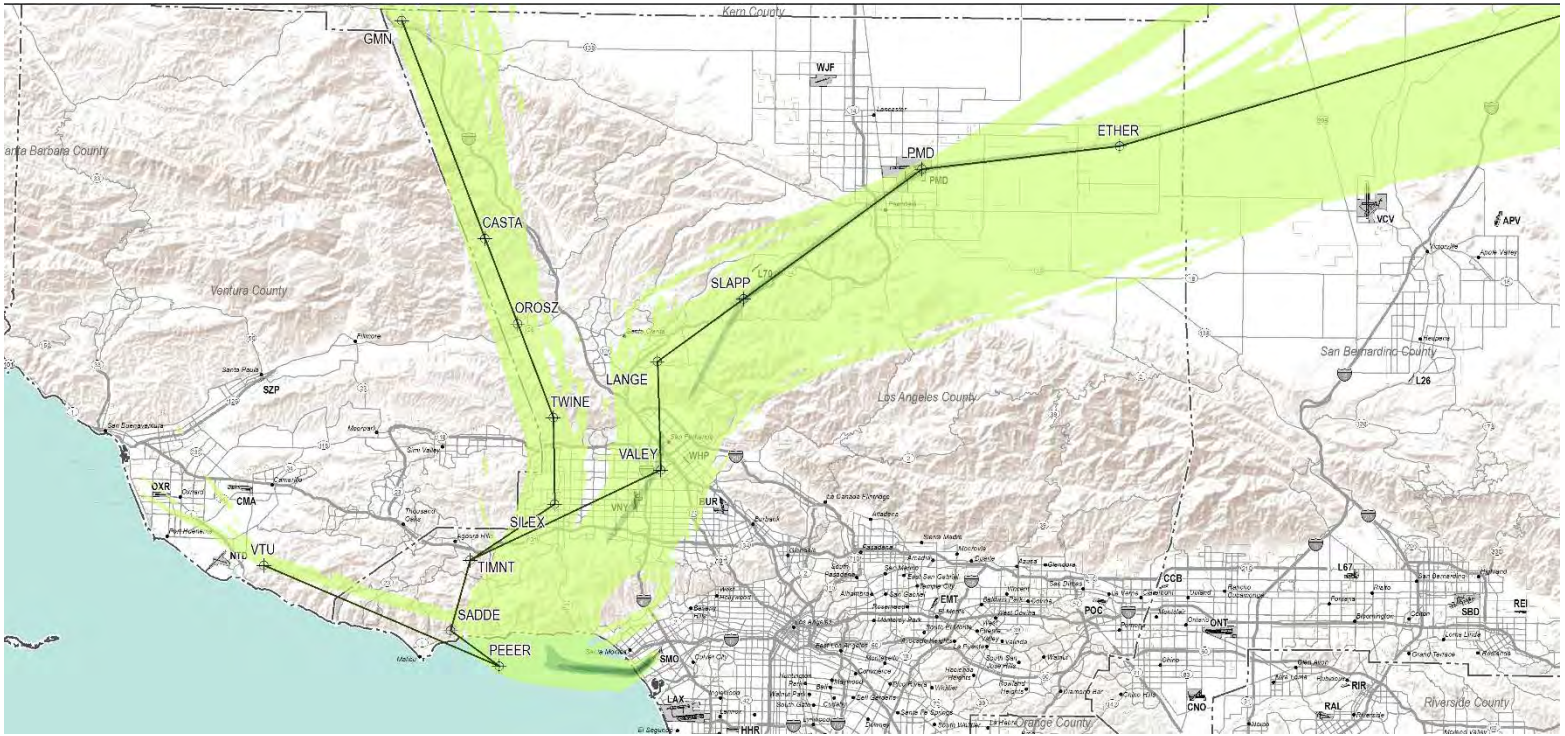


SMO Comparison of FERNANDO Conventional Arrival to BONJO RNAV Arrival

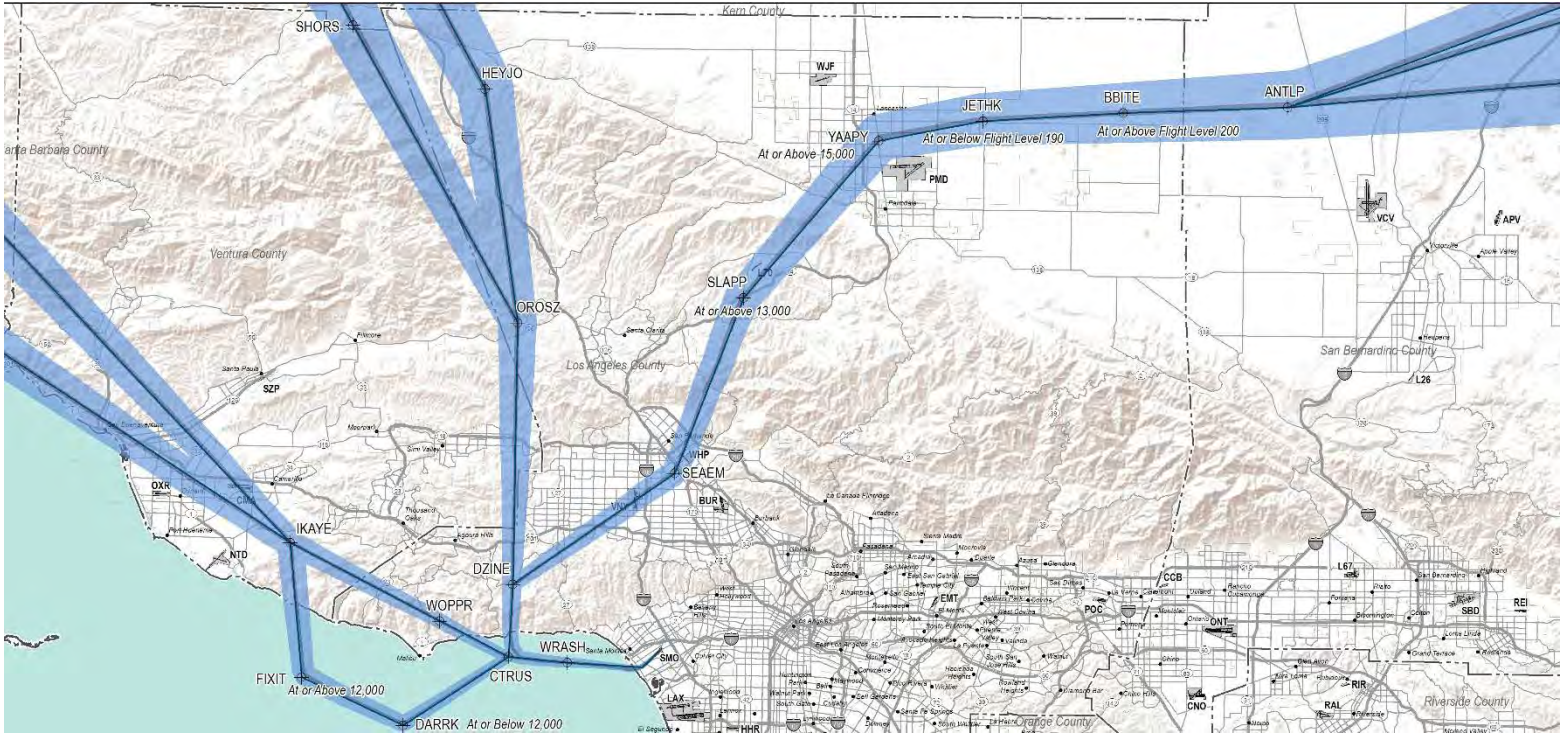


SMO PEER RNAV Departure (No Action Procedure)
Flight Track Density

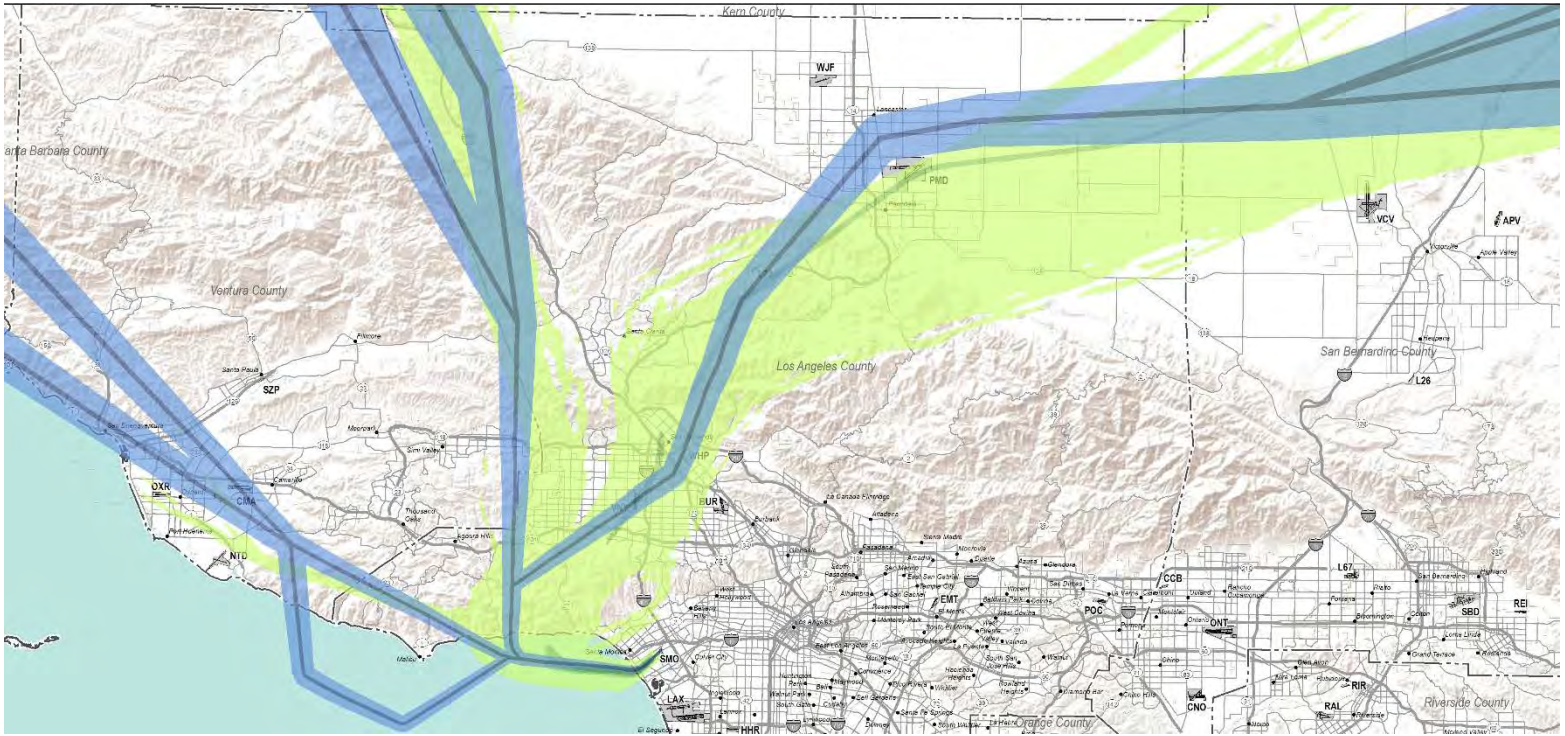


SMO CTRUS RNAV Departure (Proposed Action Procedure)
Route and Representative Flight Track Distribution

Los Angeles World Airports



SMO Comparison of PEEER RNAV Departure to CTRUS RNAV Departure



SoCal Metroplex – Schedule & Process

Los Angeles World Airports

SoCal Metroplex Schedule:

- Project Began in Summer 2012
- Draft Environmental Assessment (EA) released – June 2015
- Extended Comment Period (120 days) – ended on October 8, 2015
- FAA Responses to Comments/FONSI/ROD Issued on August 31, 2016
- Publication of Procedures for Use in Three Phases:
  - Phase 1: Nov 10, 2016 and Jan 5, 2017
  - Phase 2: March 2, 2017
  - Phase 3: April 27, 2017

SoCal Metroplex – Potential Effects of Implementation

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Communities and stakeholders may notice:

- Nothing at all
- Concentration of flight tracks
- Increase or decrease aircraft overflights & noise levels
- Increase or decrease aircraft altitudes & distance from flight tracks
- Aircraft on different flight tracks

Los Angeles World Airports

Resources:

FAA SoCal Metroplex Community Involvement Page
https://www.faa.gov/nextgen/communityengagement/socal/

LAWA's FAA Metroplex Information Page
http://www.lawa.org/welcome_lax.aspx?id=12168