



Final Update of the LAX Part 161 Application

March 11, 2015

LAX/Community Noise Roundtable

Overview

- FAA's FAR Part 161 Regulation and LAWA's proposed Use Restriction
- The noise problem and LAWA's approach to address it
- Study findings
- Project schedule
- FAA's interim determinations and ultimate acceptance of the Application
- FAA's final determination disapproving the proposed restriction

Background – Airport Noise & Capacity Act (ANCA)

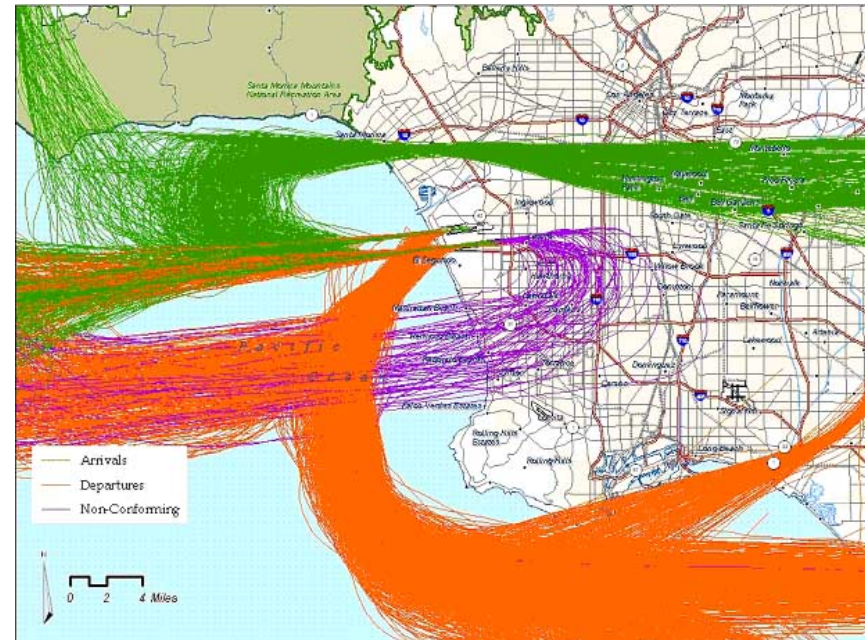
- In 1990, Congress passed the Airport Noise and Capacity Act (ANCA), which provided for a phase-out of Stage 2 aircraft greater than 75,000 pounds by January 1, 2000.
- In return for the Stage 2 Phase-out, ANCA established a process that made it very difficult for airport proprietors to enact new aircraft noise and access restrictions.
- The process is known as the Federal Aviation Regulation (FAR) Part 161 – “Notice and Approval of Airport Noise and Access Restrictions.”
- FAR Part 161 is the process that airport proprietors must follow and demonstrate that the benefits of a proposed restriction outweigh the costs of the restriction in order for FAA to consider approving the restriction.
- In the 25 years since ANCA was enacted, no application for a noise and access restriction at an air carrier airport has ever been approved by FAA. Only one application -- for a Stage 2 aircraft noise and access restriction at a general aviation airport (Naples) – has been approved.

From the LAX Part 161 Application:

“The City of Los Angeles (the “City”) has sought for many years to reduce the noise impacts of night-time aircraft operations at Los Angeles International Airport (“LAX”). One target of the City’s noise-reduction efforts has been “non-conforming operations” – departures to the east when LAX is in Over-Ocean or Westerly Operations at night. These non-conforming operations do not occur often, but when they do occur, they are likely, according to established estimation procedures, to cause thousands of awakenings in communities near LAX. Consistent with its commitments to the local community, the City has attempted to reduce the number of non-conforming operations through a variety of voluntary programs. These efforts have not been completely successful; various air carriers continue, from time to time, to engage in non-conforming operations.”

Noise Problem – Non-Conforming East Departures

- Aircraft departing to the east during Over-Ocean and Westerly Operations between midnight and 6:30 AM cause disturbances to communities east and south of airport where no other activity is occurring
- People report being awakened by these non-conforming departures
- Average of 65 “non-conforming” flights per year
- Though these single events are very noticeable, they create very minimal effects on annual CNEL contour



LAWA's Proposed Use Restriction

From the LAX Part 161 Application:

“This application seeks approval from the Federal Aviation Administration (the “FAA”) for the City to adopt a new ordinance that would require all aircraft operators to comply with prevailing flows whenever LAX is in Over-Ocean or Westerly Operations from midnight to 6:30 a.m. This runway use restriction, if approved by the FAA, would eliminate non-conforming operations and the awakenings they are estimated to cause.”

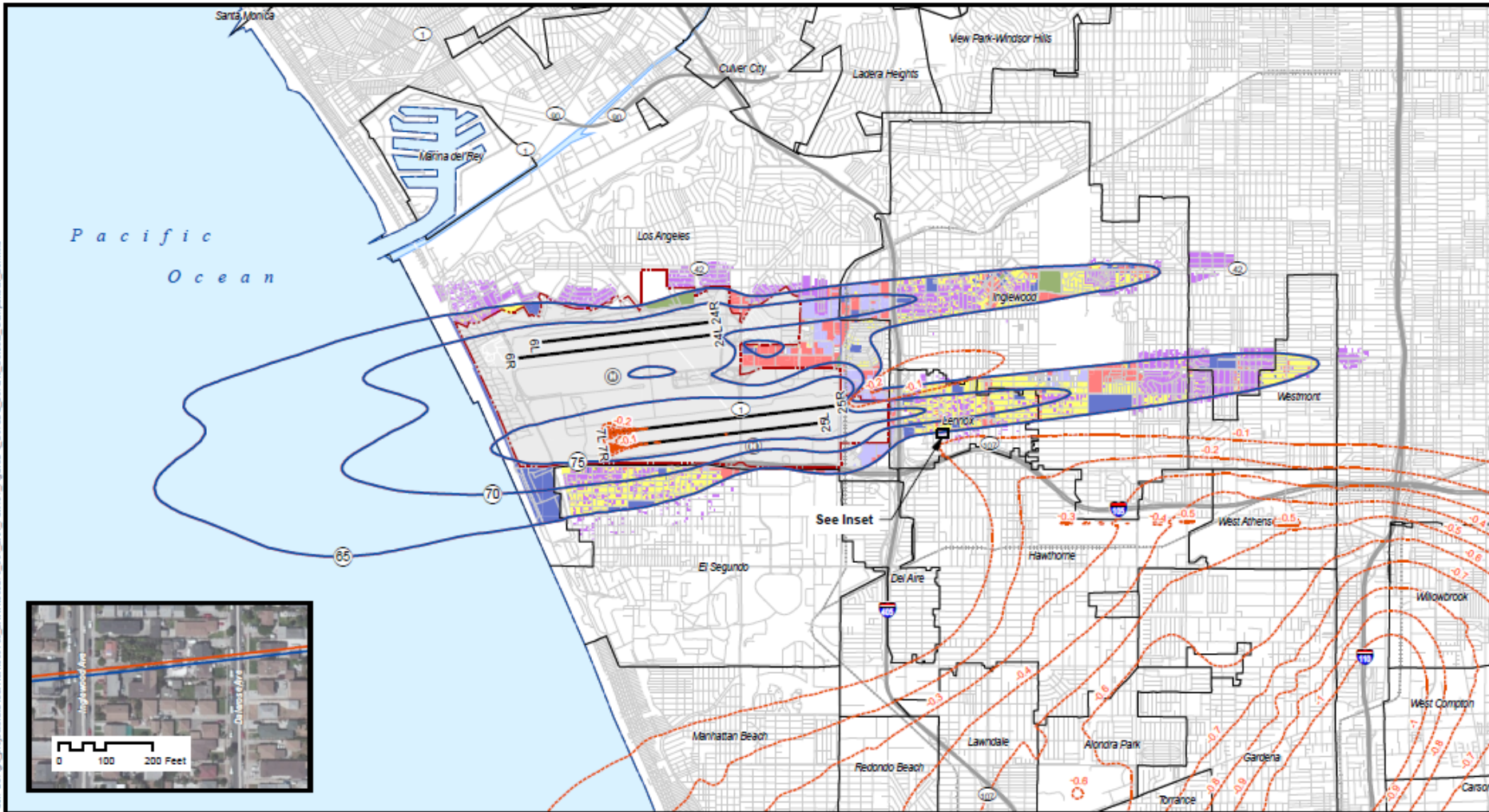
LAWA's Proposed Use Restriction

- Prohibit easterly departures (with exemptions for emergency operations, etc.) between midnight and 6:30 a.m. when the Airport is in Over Ocean Operations, or when it remains in Westerly Operations
- If restriction were imposed, an aircraft operator would need to:
 - reduce aircraft weight by offloading passengers or cargo to allow a westbound departure, or
 - delay the flight until favorable wind conditions exist, or
 - continue the east departure as planned and pay a penalty
- The proposed penalties were:
 - \$2,500 fine for the first violation;
 - \$5,000 fine for a second violation within a year of the first violation;
 - \$10,000 fine for a third (and all subsequent violations) within three years of the first violation.

Approach to Benefits Analysis

- Determine the 65 CNEL Airport Noise Study Area for 2013 and 2018 using existing and forecast operations without the restriction, then again assuming the restriction is in place.
- Assess changes in CNEL, population, and housing unit counts
- Provide supplemental information on noise complaints of non-conforming flights
- Estimate sleep disturbance using a procedure newly adopted by the Federal Interagency Committee on Aviation Noise (FICAN) that relates noise and awakenings

Changes in 65 CNEL Contour for 2013



Note: All area shown on this figure is within the jurisdictional boundaries of both the City of Los Angeles and Los Angeles County.
 Basemap: Los Angeles World Airports (LAWA), Southern California Association of Governments (SCAG), Environmental Systems Research Institute (ESRI), United States Geological Survey (USGS)

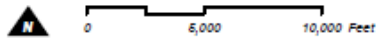
- | | | |
|---|------------------|---------------------------------|
| 2013 Status Quo CNEL Contours | Airport Boundary | Residential (Non-Compatible) |
| 2013 CNEL Contours with Proposed Runway Use Restriction | Runway / Taxiway | Residential (Compatible) |
| 2013 CNEL Reductions with Proposed Restriction (±65 CNEL) | Helicopter Pad | Public Use |
| Jurisdictional Boundaries | River / Streams | Recreational / Open Space |
| Previously Sound-Insulated Residential Parcels (Compatible) | Roads | Commercial Use |
| | Railroad | Manufacturing and Production |
| | | Vacant, Utility, Transportation |
| | | Water |

LAX
Los Angeles World Airports

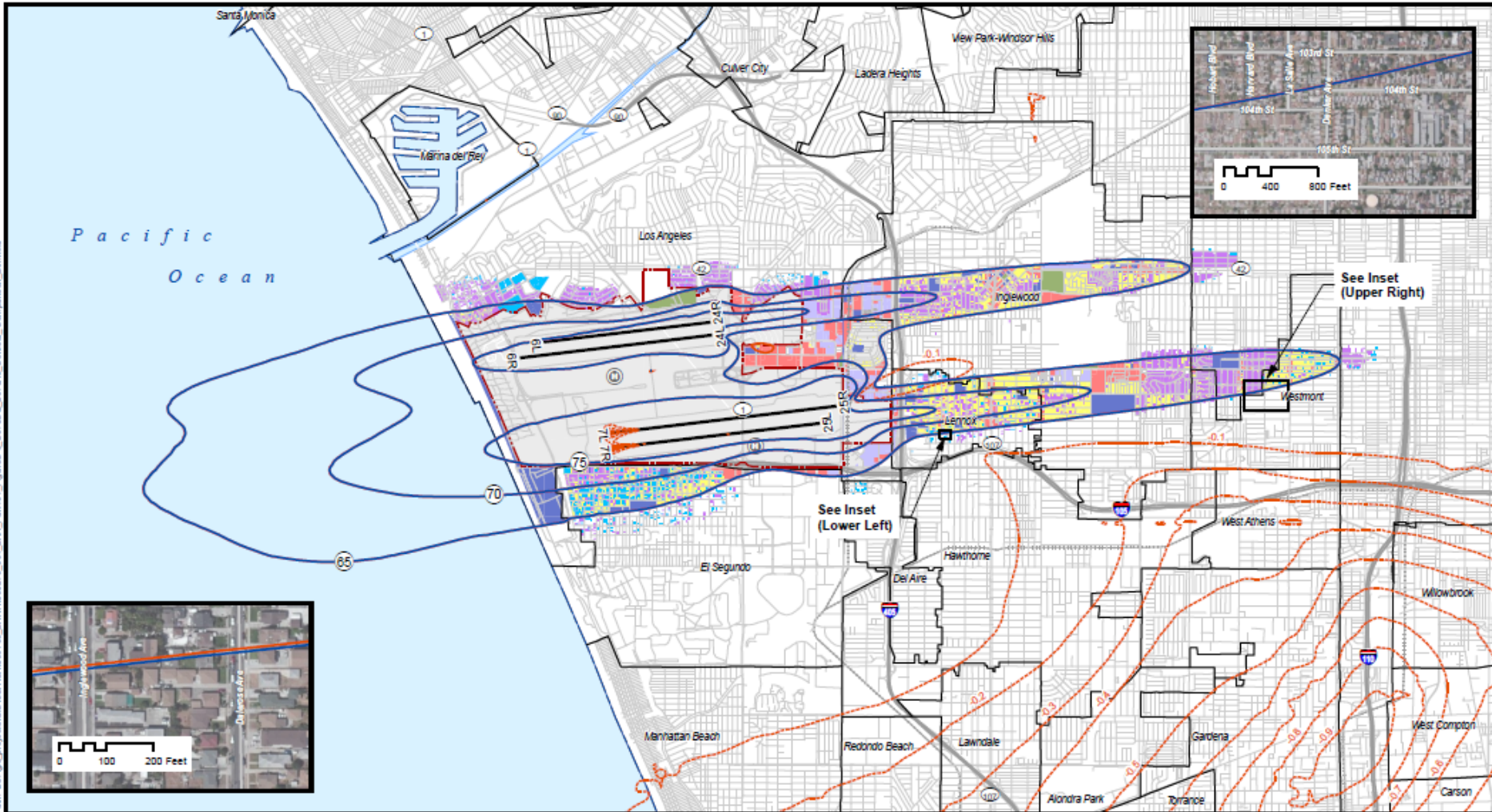
Comparison of 2013 Status Quo CNEL Contours and Proposed Restriction CNEL Contours Including Difference Contours

Figure 0-8





















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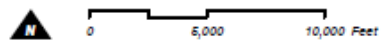


Changes in 65 CNEL Contour for 2018



Note: All area shown on this figure is within the jurisdictional boundaries of both the City of Los Angeles and Los Angeles County.
 Basemap: Los Angeles World Airports (LAWA), Southern California Association of Governments (SCAG), Environmental Systems Research Institute (ESRI), United States Geological Survey (USGS)


- | | | |
|---|--|---|
|  2018 Status Quo CNEL Contours |  Airport Boundary |  Residential (Non-Compatible) |
|  2018 CNEL Contours with Proposed Runway Use Restriction |  Runway / Taxiway |  Residential (Compatible) |
|  2018 CNEL Reductions with Proposed Restrictions (SB CNEL) |  Helicopter Pad |  Public Use |
|  Jurisdictional Boundaries |  River / Streams |  Recreational / Open Space |
|  Previously Sound-Insulated Residential Parcels (Compatible) |  Road |  Commercial Use |
|  Parcels Identified for Future Sound Insulation (Compatible) |  Railroad |  Manufacturing and Production |
| | |  Vacant, Utility, Transportation |
| | |  Water |



LAX
Los Angeles World Airports

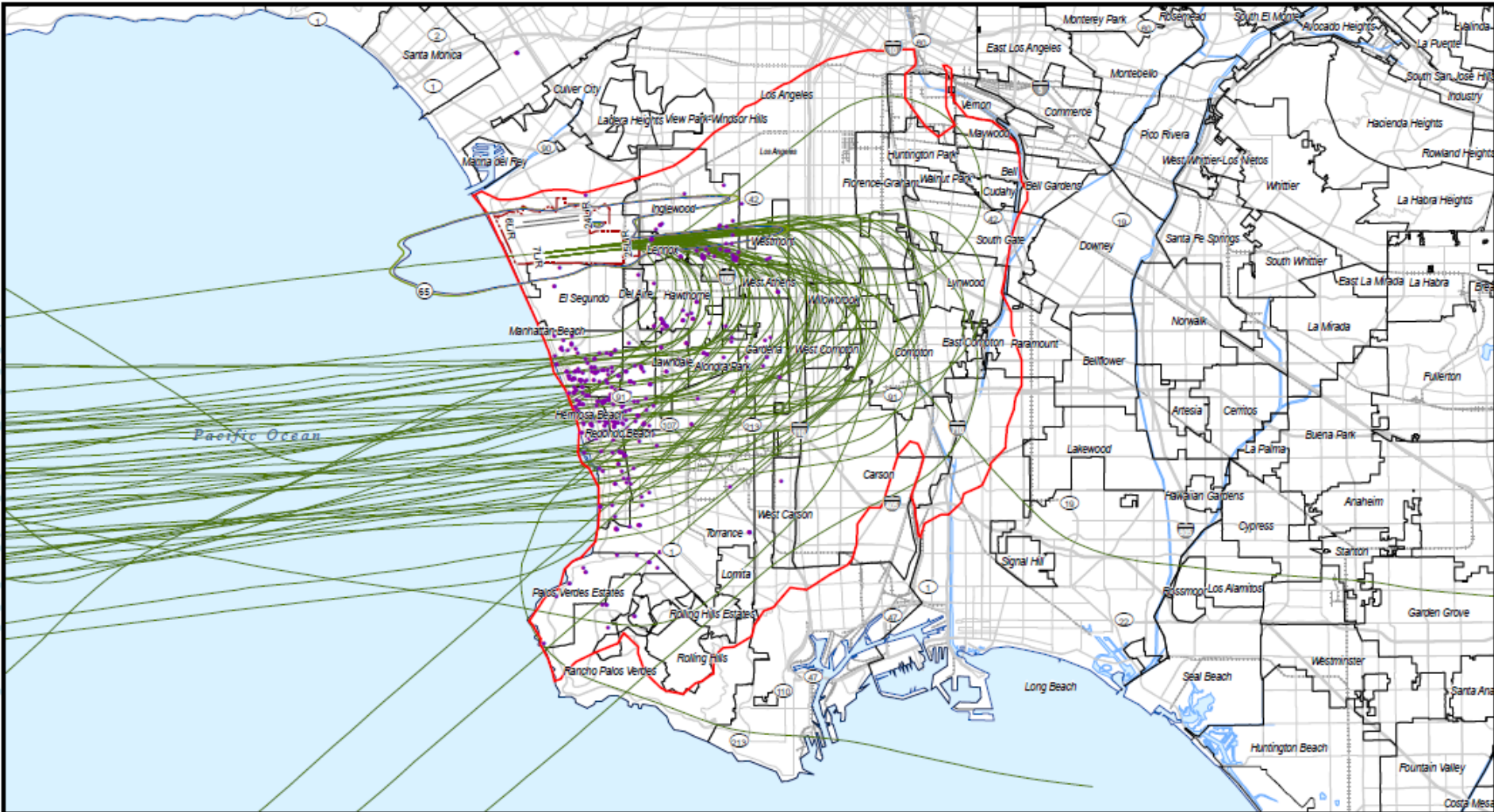
Comparison of 2018 Status Quo CNEL Contours and Proposed Restriction CNEL Contours Including Difference Contours

Figure 9-9



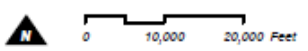
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Complaints & Flight Tracks of Non-Conforming Flights



Basemap: Los Angeles World Airports (LAWA), Southern California Association of Governments (SCAG), Environmental Systems Research Institute (ESRI), United States Geological Survey (USGS)

- ▭ Noise-Induced Awakenings Change Contour
- ▭ Airport Boundary
- ▭ Runway / Taxiway
- ▬ River / Streams
- ▬ Roads
- - - - - Railroad
- Complaints of Non-Conforming Operations
- ▬ Non-Conforming Tracks
- ▭ 2013 State Quo CNEL Contours
- ▭ 2013 CNEL Contours with Proposed Runway Use Restriction
- ▭ 2018 State Quo CNEL Contours
- ▭ 2018 CNEL Contours with Proposed Runway Use Restriction
- Jurisdictional Boundaries



Complaints of Non-Conforming Operations and Non-Conforming Flight Tracks

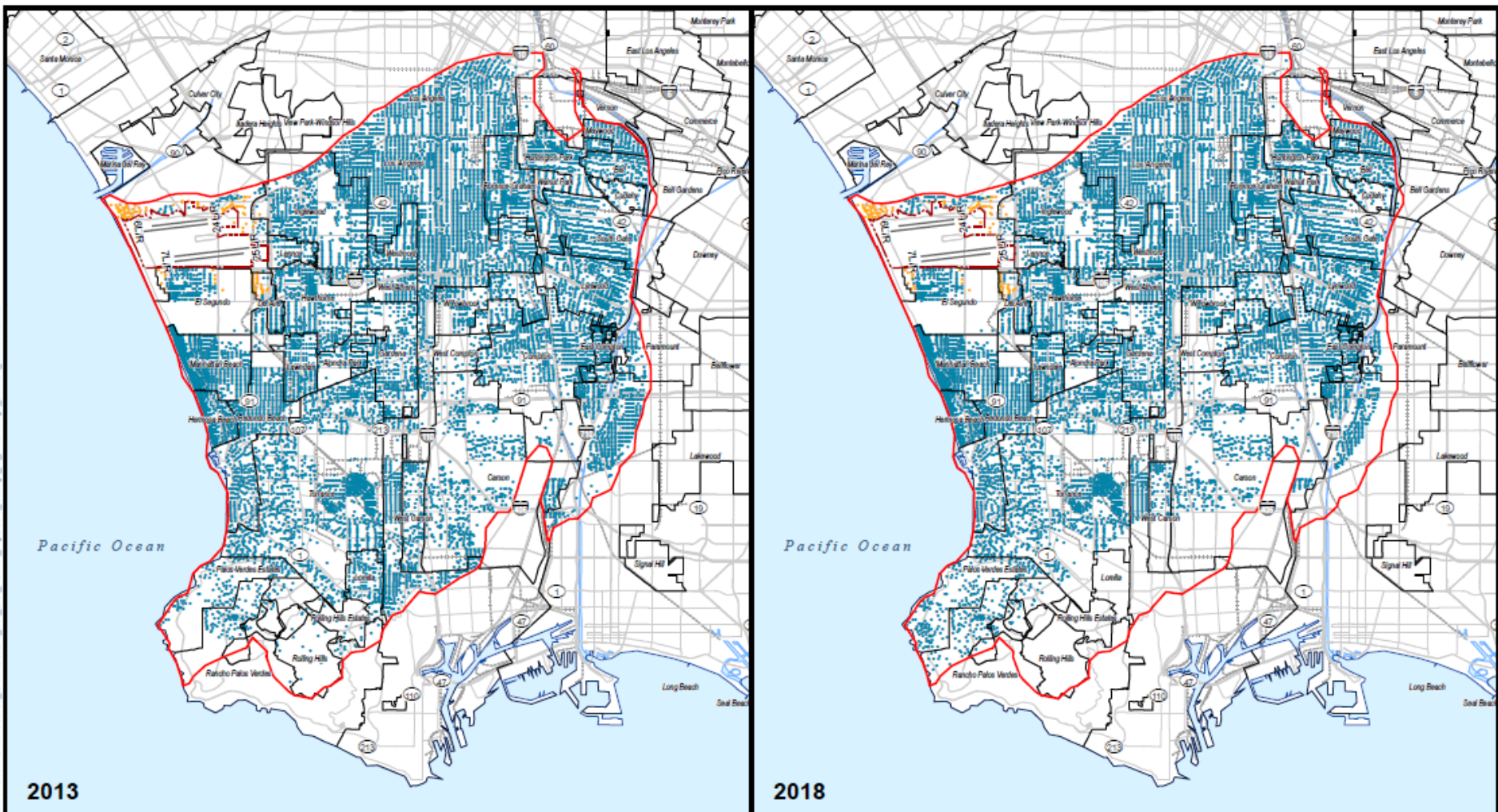
Figure D-15

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Historic and Projected Complaints by Contour Interval

CNEL (dB)	Noise Complaints by CNEL	
	2013	2018
< 65	531	530
65 - 70	10	10
70 - 75	0	1
>75	0	0
Total > 65	10	11
Total	541	541
Note: An additional 50 complaints were not included in above numbers due to lack of corresponding addresses for mapping purposes		

Decreases and Increases in the Probability of Awakening

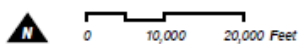


2013

2018

Basemap: Los Angeles World Airports (LAWA), Southern California Association of Governments (SCAG), Environmental Systems Research Institute (ESRI), United States Geological Survey (USGS)

- ▬ Noise-Induced Awakenings Change Contour
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- ▬ Railroad
- Population Centroids Experiencing Decreased Awakenings with Proposed Restriction
- Population Centroids Experiencing Increased Awakenings with Proposed Restriction



Population Centroids Showing Change in Awakenings with Proposed Restriction

Figure S-3

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Net Decreases in Awakenings

CNEL (SQ) (dB)	Sleep Awakenings by Population			Sleep Awakenings by Housing Units		
	Proposed Restriction	Status Quo	Change	Proposed Restriction	Status Quo	Change
< 65	56,890	57,351	-461	18,256	18,410	-154
65 to <70	15,879	15,913	-34	5,482	5,492	-10
70 to <75	7,136	7,148	-12	2,187	2,190	-3
Total ≥ 65	23,014	23,061	-46	7,669	7,682	-13
Total	79,905	80,412	-507	25,925	26,093	-167

Note: May not add or subtract exactly due to rounding; population and housing counts determined using census block centroids (See Appendix K for a description of the complete process)

Approach to Cost Analysis

- Determine air carriers responsible for non-conforming flights
- Interview Chief Pilots and other representatives of most frequent operators of non-conforming flights to identify:
 - Reasons for easterly departures
 - What they would do if a restriction were implemented
- Estimate costs of increased crew delays, changes in fuel burn, and off-loading of passengers or cargo to permit Over Ocean Operation

Part 161 Project Schedule

Date	Milestone
March 2005	Awarded contract to HMMH to conduct the Part 161 Study
2005 – 2011	Amended contract to extend the time necessary to complete the study
December 2011	Prepared text of Draft Ordinance
August – September 2012	Finalized fleet mix forecasts; Completed sleep disturbance and benefit/cost analyses
October - December 2012	Completed Draft Part 161 study and Application; Conducted a public review process
January 2013	Submitted application to FAA for determination
2013 -2014	FAA determined application was incomplete on two occasions. LAVWA submitted revised applications to ensure FAA's acceptance.

FAA Initially Found Application Incomplete because:

- Application did not include maps of existing and future sound insulated housing units. (The Application assumed sound insulation would not eliminate awakenings; the Revised Application added the map anyway)
- The Airport boundary did not accurately reflect new projects such as the approved Runway Safety Area for 7L/25R. (The Revised Application confirmed that the boundary was accurate because the project would not be complete by 2018)
- The modeled flight tracks of non-conforming flights were not individually labeled. (The Revised Application added the labels)
- The cost analysis did not adequately account for the disruption of passengers. (The Revised Application added costs of passenger disruption)
- The Application did not state whether LAWA would accept a partial acceptance of the Restriction. (The Revised Application added a statement that LAWA would not accept a partial acceptance)

Primary Reason the Application was Incomplete:

- The FAA does not permit the inclusion of supplemental information regarding complaints or sleep awakenings beyond the 65 CNEL Airport Noise Study Area. (The Revised Application eliminated complaints and sleep awakenings at levels less than 65 CNEL, significantly reducing the noise benefits of the proposed Regulation)

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- The Final Application was submitted with these and other changes on May 12, 2014, and found to be **administratively complete** on June 10, 2014

FAA's Decision Regarding the Completed Application

Statutory conditions that must be met for a Stage 3 Restriction, and FAA's determination on whether each condition was satisfied

Condition	Description	Satisfy Condition?
1	The proposed restriction is reasonable, nonarbitrary, and nondiscriminatory	No
2	The proposed restriction would not create an unreasonable burden on interstate or foreign commerce	No
3	The proposed restriction would maintain safe and efficient use of navigable airspace	Yes
4	The proposed restriction would not conflict with any existing federal statute or regulation	No
5	The applicant has provided adequate opportunity for public comment on the proposed restriction	Yes
6	The proposed restriction does not create an unreasonable burden on the national aviation system.	Yes

FAA's Reasons for Disapproval of Condition 1

The FAA said:

- LAWA arbitrarily defined the noise problem as one of nighttime noise associated with easterly non-conforming departures. The Proposed Restriction would provide an “extremely small noise relief” within the Airport Noise Study Area, while imposing “a disproportionate negative effect on nighttime aircraft departures”.
- LAWA has not provided substantial evidence that the Proposed Restriction can relieve LAX’s noise problem. FAA still relies on DNL or CNEL (not awakenings or complaints) to make determinations of noise impact.
- LAWA has not provided substantial evidence that there are no feasible or cost-effective non-restrictive measures to address the noise problem such as improving voluntary compliance with Over-Ocean Operations.

FAA's Reasons for Disapproval of Condition 2

The FAA said:

- Whether a carrier chooses to off-load a heavily loaded aircraft to depart to the west or pay a penalty for a non-conforming flight to the east, either decision potentially reduces air carrier profitability
- FAA's analyses of costs suggest that, as long as paying fines is an option, some carriers would likely continue to operate non-conforming departures, thus reducing any noise benefit from those operations.
- LAWA's cost-benefit analysis does not demonstrate that the benefits of the Proposed Restriction have a reasonable chance of exceeding the potential cost of its adverse effects, or that the costs do not create an undue burden on interstate and foreign commerce

FAA's Reasons for Disapproval of Condition 4

The FAA said:

- LAWA's Proposed Restriction could establish a conflict with 14 CFR 91.3(a), which states that the Pilot in Command (PIC) of an aircraft has the final authority as to the operation of that aircraft, including "safety through aggressive risk management".
- FAA is concerned that the Proposed Restriction "reaches into the cockpit" and may interfere with safety parameters affecting critical departure decisions. The Application fails to adequately demonstrate the absence of a conflict with PIC authority and safety concerns.

- FAA requires a proposed restriction affecting Stage 3 aircraft operations must meet all six statutory conditions **supported by substantial evidence**, in order to approve a proposed restriction.
- **FAA determined that the Final Application did not meet three of the six conditions.**
- **The restriction was disapproved.**