SOUTHERN CALIFORNIA
ASSOCIATION of GOVERNMENTS

AVIATION TECHNICAL ADVISORY COMMITTEE (ATAC)

Thursday, February 27, 2014 from 10:00am- 12:00 Noon

SCAG Main Office
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

USA Toll-Free Teleconference: 866-590-5055
Web Meeting Address: https://www.webmeeting.att.com
Participant Code: 4343683

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Meeting not subject to Brown Act (Aviation Technical Advisory Committee- 2/27/14)

AGENDA

A. Call Meeting to Order and Welcome (Mr. Gary Gosliga, ATAC Chair)
B. Introductions (All)
C. Discussion Items

1. Status of the Aviation Task Force and Development of the 2016 Regional Transportation Plan/Sustainable Communities Strategy (Mr. Rich Macias, SCAG Director of Transportation Planning)	10 mins
2. Regional Aviation Program FY13-14 and FY 14-15 Update (Mr. Ryan N. Hall, SCAG Aviation Specialist)	10 mins
3. Report on the Los Angeles Helicopter Noise Initiative (Mr. Steve May, Special Programs Integrator, Federal Aviation Administration- Western Pacific Region) Attachment	25 mins
4. Litigation Update Regarding Metropolitan Planning Organizations and Regional Transportation Plans (Ms. Joann Africa, SCAG Director of Legal Services)	10 mins
5. SCAG Draft Public Participation Plan (Mr. Jeff Liu, SCAG Public Affairs Specialist) Attachment	5 mins
6. LAX Modernization Update (Mr. Diego Alvarez, LAWA Director of Modernization)	30 mins
7. Updates on ATAC Standing Agenda Topics (Mr. Gary Gosliga, ATAC Chair) A. Southern California Airspace Users Working Group (SCAUWG) B. SoCal Metroplex (OAPM) C. National Business Aviation Association (NBAA) D. Southwest Chapter of the American Association of Airport Executives (SWAAAE) E. Transportation Research Board (TRB) F. Department of Homeland Security (DHS) Updates G. Discussion on Additional Topics	20 mins
8. Comments/Announcements/Around the Table Discussion (Mr. Gary Gosliga, ATAC Chair and All)	10 mins

D. Adjourn (Mr. Gary Gosliga, ATAC Chair)

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Item 3: FAA Report on the Los Angeles Helicopter Noise Initiative (Executive Summary)

The full report can be accessed here:

http://www.faa.gov/regulations_policies/policy_guidance/envir_policy/media/la_helicopter_noise%20report_final_053113.pdf

SOUTHERN CALIFORNIA
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Item 5: SCAG Draft Public Participation Plan Notice of Availability

Meeting not subject to Brown Act (Aviation Technical Advisory Committee- 2/27/14)

Federal Aviation Administration

Report on the Los Angeles Helicopter Noise Initiative

May 31, 2013

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1.0 Executive Summary

Helicopter noise in the greater Los Angeles region has been a concern for residents for many years. Residents in certain areas of Los Angeles County, including the San Fernando Valley, Santa Monica, Palos Verdes, Hollywood Hills and Torrance, have raised helicopter issues with their Congressional representatives. On May 23, 2012, the two Senators from California plus five House of Representative members from the affected communities wrote a letter to the Secretary of Transportation requesting that the Federal Aviation Administration (FAA) begin a process to solicit local stakeholder views and undertake an examination of potential remedies.

In response to this request, the FAA has undertaken the Los Angeles Helicopter Noise Initiative. This collaborative effort, led by the FAA Western-Pacific Regional Administrator, has solicited input from local communities and other stakeholders on helicopter noise and safety issues in Los Angeles County. The FAA solicited public input through two public workshops. These workshops generated over 500 comments with suggestions from private citizens, elected officials, civic group representatives, and the helicopter industry. The FAA's role in these meetings was to listen and consider the views of all stakeholders.

The FAA has considered and analyzed stakeholders' comments and suggestions in 10 general categories:

Ensure Safety of Helicopter Operations
Establish Noise Abatement Helicopter Routes
Keep Helicopters at Higher Altitudes
Limit Hovering
Reduce Helicopter Source Noise
Reduce Flights by Electronic News Gathering (ENG) Operations
Restrict Helicopter Flights
Charge Fees for Helicopter Operations
Improve Information on Helicopter Operations and Noise Abatement Practices
Establish a Forum for Addressing Helicopter Noise Issues

In support of the Los Angeles Helicopter Noise Initiative, the FAA formed an internal working group to provide the expertise and participation of FAA offices with a role in helicopter safety, operation, and noise. Appropriate FAA subject matter experts analyzed suggestions in each category to determine feasibility for implementation. This report describes each of the categories of suggestions and provides a summary of the FAA's findings.

There is no single remedy that can be implemented on a large-scale basis throughout the Los Angeles Basin. The airspace over Southern California is among the most congested and complex in the world. For safety reasons, helicopter traffic must be separated by altitude from higher-performing and faster-moving fixed-wing aircraft. The density of land use in the area, as

well as the complexity and diversity of airspace users present challenges to identifying optimal helicopter routes that are safe, efficient, and serve noise abatement purposes.

The FAA does not regard these broad-based constraints as precluding actions to respond to community helicopter noise concerns, particularly since many of the comments received on helicopter noise issues are tied to landmarks or specific locations (e.g., the Hollywood Bowl, Griffith Park, the Getty Center, area airports and freeways) that may be addressed with situation-specific measures. It is the FAA's intent to follow through on the Los Angeles Helicopter Noise Initiative with a series of actions in cooperation with local stakeholders to improve the helicopter noise situation within Los Angeles County. In addition to being effective for noise abatement, such measures must be safe, operationally manageable in the complex Los Angeles airspace, and responsive to community economic interests and public safety needs. The FAA commits to undertake and support the following actions:

- Evaluate existing helicopter routes to identify feasible modifications that could lessen impacts on residential areas and noise-sensitive landmarks. Any new routes intended to provide noise relief will be evaluated to avoid simply shifting noise from one residential neighborhood to another. Safety Risk Management studies would be required to ensure that helicopters can transition airspace safely and efficiently.

- Analyze whether helicopters could safely fly at higher altitudes in certain areas along helicopter routes and at specific identified areas of concern. Any proposed altitude changes would be required to go through an FAA Safety Risk Management Panel prior to adoption.

- Develop and promote best practices for helicopter hovering and electronic news gathering. Hover times are site-specific and event-specific. The FAA will continue to issue Advisory Notices to Airmen (NOTAMs) for large events and encourage helicopter operators and news organizations to employ practices that reduce noise.

- Conduct outreach to helicopter pilots to increase awareness of noise-sensitive areas and events. A collaborative effort among the FAA, pilot groups, and communities has identified noise "hot spots" within the Los Angeles Basin. The FAA seeks to increase pilots' situational awareness of noise problems on the ground and of community issues with noise.

- Explore a more comprehensive noise complaint system. A centralized system that provides a single repository for helicopter noise complaints in Los Angeles County may be more advantageous than current individual systems, with differing geographic and jurisdictional coverage. The FAA will support the assessment of the prospects for developing such a system with homeowners' associations and operator groups.

- Continue the collaborative engagement between community representatives and helicopter operators, with interaction with the FAA. A significant positive result of the Los Angeles Helicopter Noise Initiative is that community representatives and helicopter operators plan to meet regularly, with input from the FAA, to identify specific noise sensitive locations and helicopter operating practices that contribute to noise concerns. The group is committed to identifying measures that will provide noise relief without degrading safety or eroding business opportunities.

At a national level, the FAA sponsors research on aircraft noise. The FAA is currently creating a research roadmap to identify new areas of aircraft noise research, including helicopters, and will be preparing additional studies pending availability of funding and resources. The FAA is also in the process of rulemaking to implement a Stage 3 helicopter noise standard in the U.S. The Stage 3 helicopter noise standard will apply to all new helicopters types certified after the implementation date of the rule. As older helicopters are retired and new helicopters are purchased, the percentage of quieter Stage 3 helicopters in the U.S. fleet will increase.

This report identifies actions and flexible approaches that offer the best opportunities to address helicopter noise issues identified by residents of Los Angeles County. In the FAA's experience, the most satisfactory and widely accepted noise abatement measures are those that are collectively discussed by engaged stakeholders and the FAA at the local level and are supported by local consensus. As explained in the conclusion of the report, a federal regulatory process is not well suited to the helicopter noise situation in Los Angeles and could reduce community and other stakeholder involvement, as well as delay other remedies for an indefinite period of time. Furthermore, a comprehensive regulation governing helicopter noise in Los Angeles County would be extremely difficult, if not impossible, to develop. It is not clear what a regulation might direct, given the local complexities and the problems with broad-based route or altitude solutions as explained in this report, or whether it would be possible to develop the type of generic approach to a problem that lends itself to rulemaking for a category of aviation users. The FAA recommends the engagement of a robust local process and is prepared to support such a process to pursue remedies that reduce helicopter noise, are responsive to community quality-of-life and economic interests, and are consistent with National Airspace System safety and efficiency.

2.0 Introduction

Los Angeles County covers 4,084 square miles, an area some 800 square miles larger than the combined area of the states of Delaware and Rhode Island. It has the largest population of any county in the nation, exceeded by only eight states. As of January 2010, 10,441,080 people -- approximately 27 percent of California's residents -- lived in Los Angeles County.

The geography that Los Angeles County encompasses is as diverse as the population. There are 1,875 square miles of mountains, with the highest point located 10,080 feet above sea level atop Mt. San Antonio, and 1,741 square miles of flatland that includes a low point of nine feet below sea level in the City of Wilmington. The difference in elevation between the Los Angeles Civic Center and the surrounding mountains is greater than between the City of Denver and its surrounding mountains.[1] Additionally, Los Angeles County includes 75 miles of mainland coastline, plus an additional 129 square miles of islands.[2]

As a result of the influence of topography on the circulation of marine air, Los Angeles County's climate is subject to wide variations within short distances. For example, Santa Monica Pier enjoys a normal July maximum temperature of around 75° F, while the average temperature increases to 95° F at Canoga Park in the San Fernando Valley just 15 miles to the north.[3] Although it is often said that Los Angeles has no seasons, it might be more accurate to say the city has its own unique seasons. Two of them are "June Gloom" and "the Santa Ana winds." The first refers to the ocean fog that keeps the beach cities (and often all of the Los Angeles Basin) overcast into early afternoon; it's most common in June, but can occur any time between March and mid-August. The middle of autumn (October-November) often brings the Santa Ana winds, strong, hot winds from across the desert that increase brush-fire danger[4] and reverse the prevailing offshore winds. Topography and climate conditions play an important role in a pilot's decision whether to fly and what routes to use.

Southern California's airspace is extremely complex and has high-volume air traffic due to multiple international, domestic and general aviation airports in close proximity to one another, military operations, and flight training activity. Currently there are 27 airports (15 public use, 11 private use and 1 private use seaplane base) in Los Angeles County with 21 different airport sponsors.[5] Additionally, there are 138 heliports registered with the FAA. Although some of these are owned by public entities, none are public use (i.e., available for use by the general public without prior approval of the owner or operator). Throughout Los Angeles County there are also

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[1] http://articles.latimes.com/1998/feb/27/local/me-23684

[2] http://www.lacounty.gov/wps/portal/lac

[3] "Climate of California". Western Regional Climate Center. Retrieved October 6, 2011.

[4] Poole, Matthew R. (September 22, 2010). *Frommer's Los Angeles 2011*. John Wiley & Sons. p. 22.

[5] http://www.gcr1.com/5010web/

numerous unregistered heliports on top of high-rise buildings for emergency use that are regulated by Los Angeles County or municipal fire codes.

Aircraft, whether fixed-wing or helicopters, can be operated under visual flight rules (VFR) or instrument flight rules (IFR). Aircraft under VFR are flown primarily by reference to visual cues outside the cockpit (e.g., horizon, buildings, rivers, highways, etc.) for orientation and navigation, and to maintain separation from terrain and other aircraft. Aircraft under IFR rely on instruments that allow pilots to operate them in poor visibility and at higher altitudes. Most helicopters operate under VFR which means that it is the pilot's responsibility to "see and avoid" other traffic, terrain, or obstacles. Simply speaking, the pilot is responsible for the safe operation of the aircraft, while ATC is responsible for the overall safety and efficiency of the airspace. Although air traffic controllers may provide traffic advisory service to VFR flights (workload permitting), this does not replace a pilot's duty to "see and avoid." In addition, many of the helicopter operations in the Los Angeles region, as well as elsewhere in the United States, occur in airspace where no ATC services are provided.

Within Los Angeles County there are different types of "controlled" airspace (Class A, B, C, D, or E) and "uncontrolled airspace" (Class G). Controlled airspace has defined dimensions, within which ATC services are provided to all IFR operations and may be provided to VFR flights. Advisory ATC services may be provided in uncontrolled airspace (Class G), workload permitting, but ATC does not have the responsibility to separate aircraft.

Airspace classes are defined by regulations in 14 CFR part 71. Class A covers the highest altitudes (above 18,000 feet MSL).[6] Unless specially authorized, all aircraft in Class A must operate under IFR. Class B generally includes airspace from the surface to 10,000 feet MSL around the busiest airports and is individually tailored to contain all published instrument procedures for that airport. Class B typically consists of a surface area around the airport and two or more layers that increase in size, so that they often resemble an upside-down wedding cake. Pilots, whether operating under IFR or VFR, must contact ATC to receive clearance in order to operate in Class B. All aircraft are provided separation services by ATC while operating in Class B.

Class C generally includes the area around towered airports that are served by radar approach control and have a certain number of IFR operations or passenger enplanements. As with Class B, each Class C area is individually tailored to the airport. Each pilot operating within Class C must establish and maintain two-way radio communication with ATC. ATC provides separation services between VFR and IFR operations within Class C.

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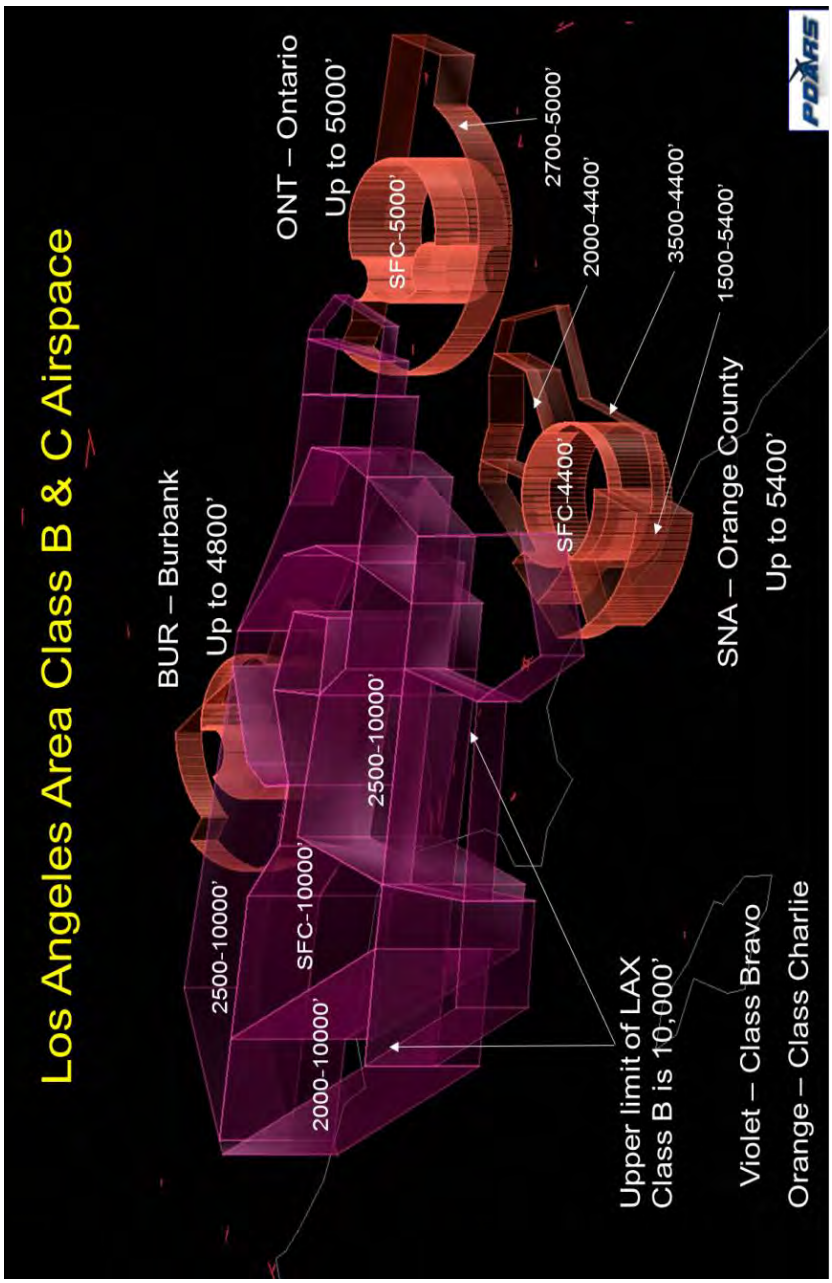
[6] Airspace altitudes are expressed in Mean Sea Level (MSL) because it is a consistent measurement, while Above Ground Level (AGL) varies with the local terrain.

Class D generally includes airspace around other towered airports. Unless otherwise authorized, pilots operating within Class D must establish and maintain two-way radio communication with ATC. Although there is not a formal requirement to separate VFR aircraft from other VFR aircraft operating within Class D, ATC typically provides traffic advisories. Class E generally includes the remaining controlled airspace, while uncontrolled airspace is designated Class G.

Figure 2-1 shows the Class B and C airspace associated with four major commercial airports: Los Angeles International Airport (LAX), Burbank-Bob Hope Airport (BUR), Los Angeles/Ontario International Airport (ONT) and John Wayne Airport (SNA).

Figure 2-1 Depiction of LAX Class B, BUR, ONT, and SNA Class C



The following figures (Figures 2-2 through 2-4) display radar flight tracks on January 11, 2012, (a typical day) and illustrate the complexity and congestion within the Los Angeles Basin. The first graphic presents the flight tracks of aircraft within the Los Angeles area operated under IFR and VFR. The second graphic shows only those aircraft that operated under VFR. A large number of these flights occur under or around Class B and C airspace. The final graphic shows the flight tracks for aircraft operated at 90 knots or less. These are presumed to be either helicopters or arriving/departing aircraft. It is important to note that many helicopters operate below or outside of radar coverage, which is limited to line-of-sight. Therefore, these presentations do not depict all helicopter operations.

Helicopters are used for a wide range of purposes in the Los Angeles Basin in direct support of both the public and private sectors. Public safety departments, including the California Department of Forestry, the Los Angeles City police and fire departments, Los Angeles County sheriff and fire departments, and other local municipalities utilize helicopters for law enforcement and fire protection functions. Federal, state, and local governments also conduct search and rescue operations with helicopters and use them in support of disaster assessment and relief activities. Utilities install, maintain, and inspect power lines with helicopter operations. In the health sector, helicopters are used to transport trauma patients to hospitals and life-saving organs to transplant recipients within critical timelines, landing at and taking off from helipads at hospitals such as UCLA Medical Center.

Helicopters are used to conduct air tours for tourists to see the sights of Southern California, including iconic landmarks and landscapes. The news industry relies heavily on helicopters to provide coverage of breaking news events and traffic reports; in fact, local television station KTLA launched the first news-gathering helicopter, christened the “Telecopter,” in 1958. Many local news media helicopters are based out of Van Nuys and Whiteman Airports. Other industries supported by helicopter operations include real estate (surveys and aerial photography), agriculture (pesticide spraying), and entertainment (television and movie filming). Within the aviation sector, helicopters are used by flight schools for pilot training and Robinson Helicopters, headquartered at Zamperini Field, conducts required test flights of aircraft manufactured or overhauled there**.**

Figure 2-2 January 11, 2012: 11,676 Flight Tracks (All Flights)

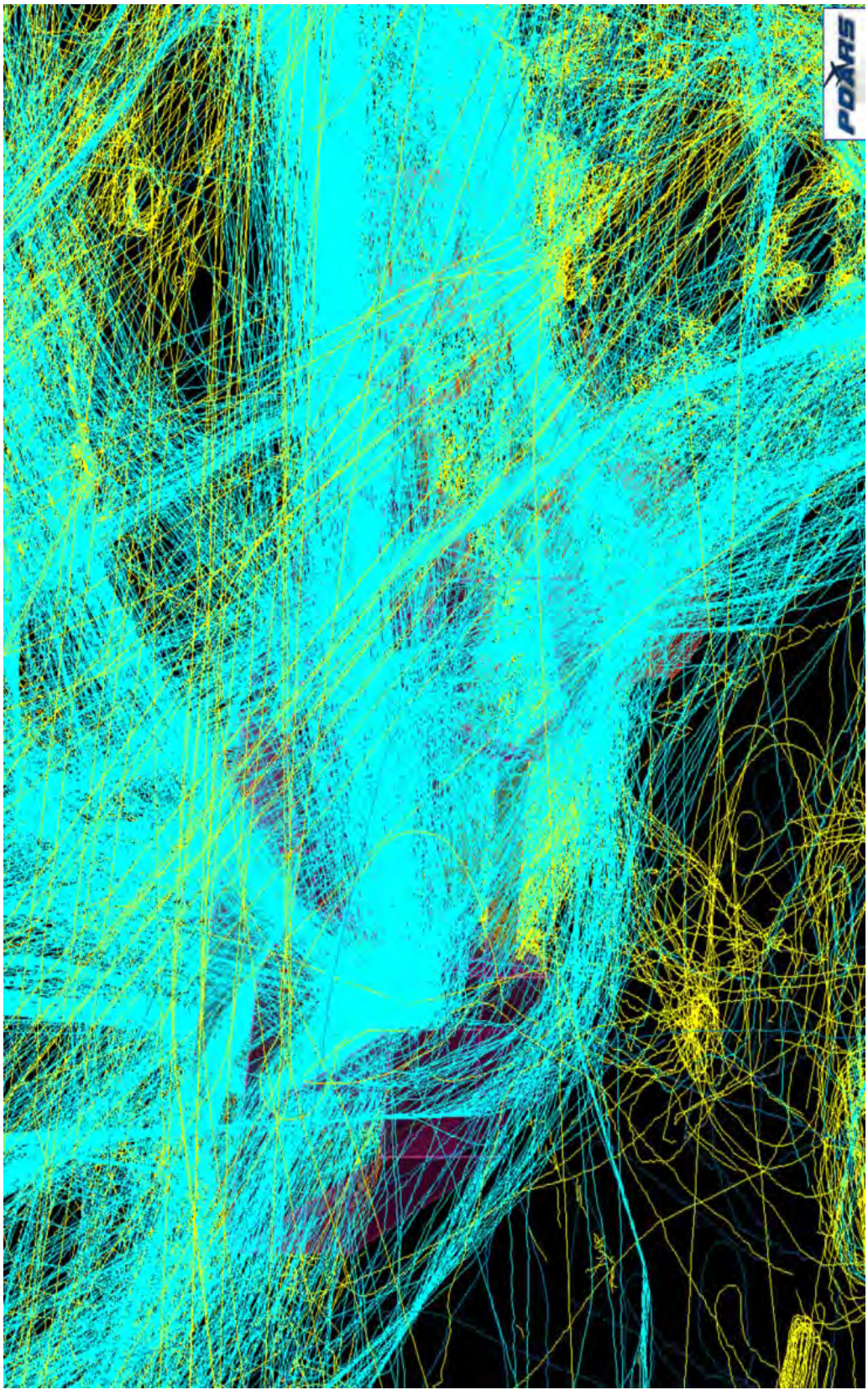


Figure 2-3 January 11, 2012: 6,948 VFR Flight Tracks

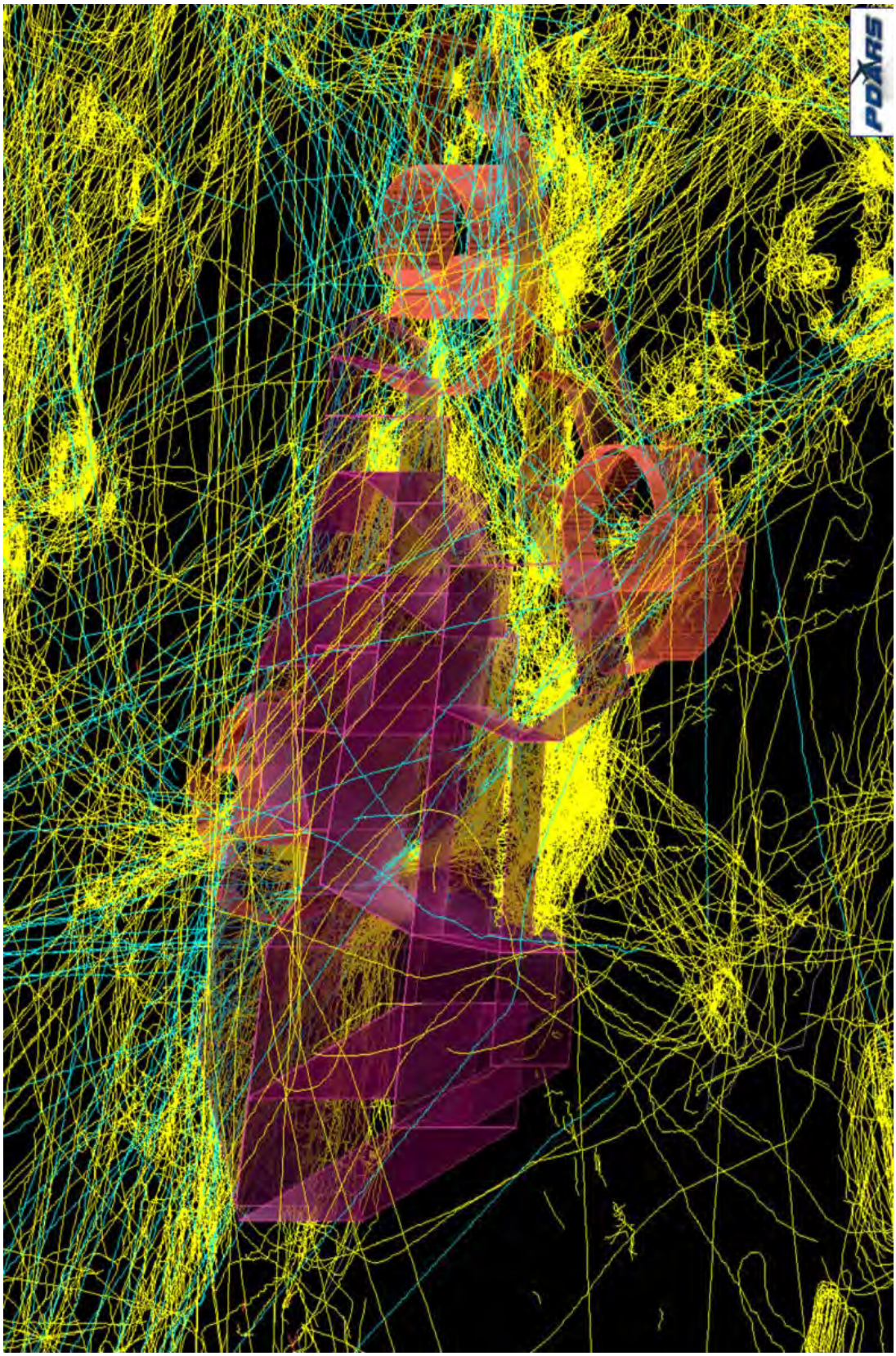
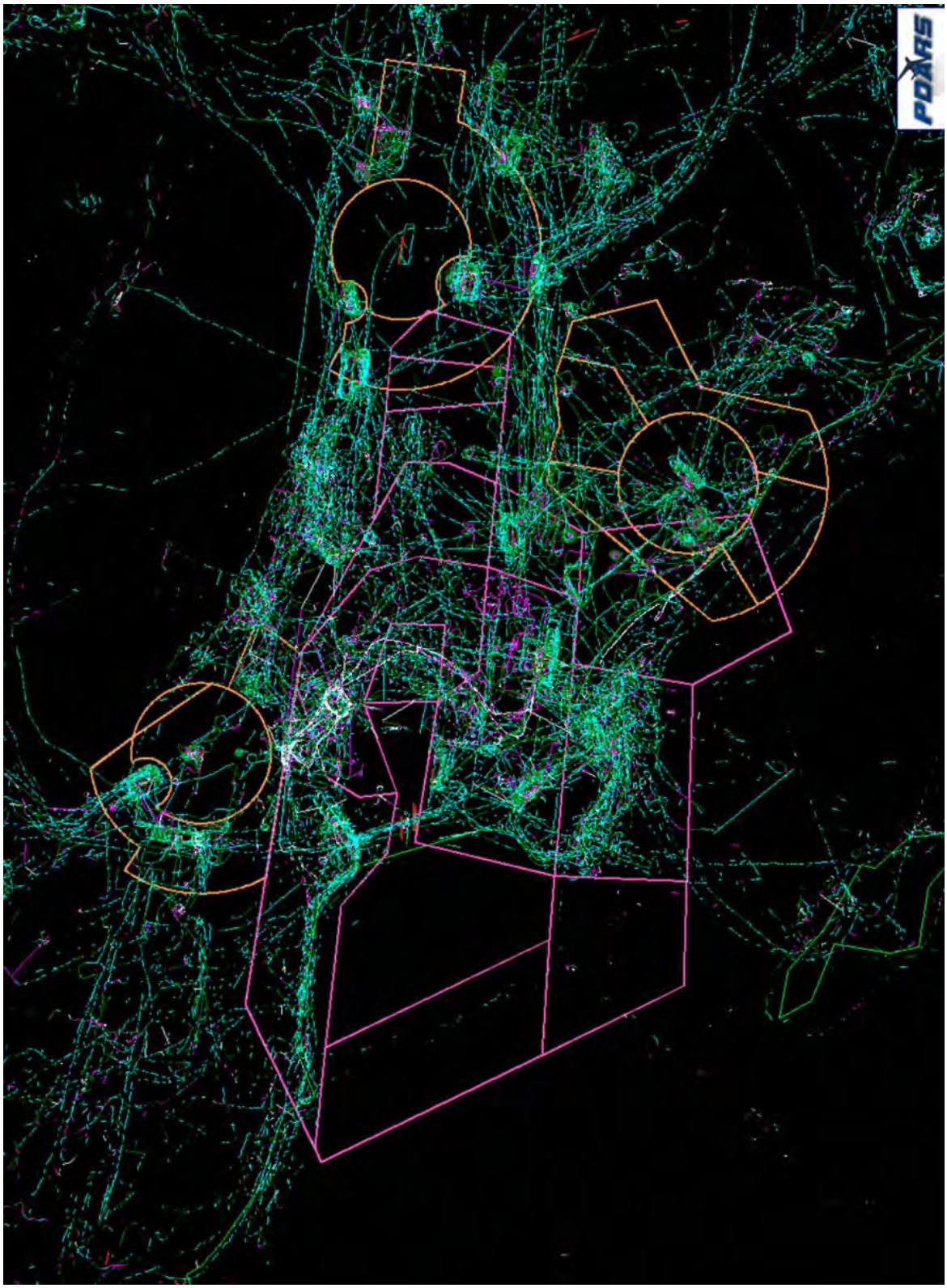


Figure 2-4 January 11, 2012: Flights with Groundspeeds of 90 Knots or Less: Presumed to be Helicopters or any Aircraft Taking Off from or Landing at an Airport



Background of the Los Angeles Helicopter Noise Initiative

Helicopter operations have been an issue for some Los Angeles communities for more than 20 years. The FAA has participated in ongoing efforts to address helicopter noise issues through various venues, including the Van Nuys Citizens Advisory Council, the LAX Community Noise Roundtable, and the City of Torrance Helicopter Committee. During the past several years, residents in Los Angeles County, predominantly in the San Fernando Valley, Hollywood Hills, and Torrance/Palos Verdes areas, have raised concerns about local helicopter noise with their congressional representatives.

At the invitation of U.S. Representative Howard Berman, the FAA Western-Pacific Regional Administrator and the Air Traffic Organization (ATO) Vice President of Mission Support attended a "Helicopter Roundtable" meeting with various community representatives and helicopter operators in January 2012. On May 23, 2012, seven Southern California congressional representatives wrote to the Secretary of Transportation (Appendix A) asking that the FAA begin a process to formally solicit local stakeholder views on helicopter noise in Los Angeles County and undertake an examination of potential remedies. The letter invited the FAA to hear firsthand from their constituents about helicopter noise concerns. In response, the FAA Western-Pacific Regional Administrator initiated a collaborative effort to solicit input on helicopter noise and safety issues in Los Angeles County. In a July 31, 2012, letter responding to the congressional delegation, (Appendix B), the FAA Acting Administrator committed to prepare a report on the process by May 2013. The Acting Administrator agreed that measures to address helicopter noise must be developed through local engagement and collaboration with community associations, the flying community, and local government, and noted the FAA's role would be to listen and consider the views of the public in its report.

During the next six months, the FAA participated in public meetings and reviewed written comments to better understand the scope of the concerns and interested parties' views on potential solutions. On August 6, 2012, the FAA participated in a public meeting organized by Representative Berman held in Sherman Oaks, California. More than 250 people attended the meeting; speakers included 17 community representatives and 25 from the general public. In a month-long period following that meeting, the FAA received more than 500 written comments on cards provided at the meeting and through an e-mail account established for this initiative. On October 29, 2012, the FAA met with 17 helicopter operators at Whiteman Airport in Los Angeles. On December 5, 2012, the FAA met with 12 community representatives and a representative of the PHPA at the FAA Regional Office in Hawthorne, California.

The FAA initiated a number of immediate steps to address concerns raised by area residents.[7] These steps include an outreach campaign to helicopter operators and advisory Notices to Airmen (NOTAMs) requesting that operators avoid overflights of noise sensitive events. During the Hollywood Bowl concert season, the FAA issues NOTAMs and nearby airports broadcast information asking pilots to avoid the Hollywood Bowl. Information about the concerts has been added to the Los Angeles Helicopter Chart ("avoid when white strobe lights are on June – October"). The FAA issues similar NOTAMs for the Coachella Arts and Wine Festival. Also, during recent events that were anticipated to attract significant numbers of electronic news gathering helicopters (ENG), the FAA successfully reduced noise complaints by asking the media to voluntarily pool information received about freeway congestion from helicopters, avoid flying during early morning or late evening hours, remain as high as possible, and limit hover times. The FAA is initiating a 180-day test period of three revised helicopter routes that were designed by a Helicopter Noise Committee formed by the City of Torrance that included local communities, the FAA, aviation stakeholders, and the airport authority. Prior to the test period, the FAA formed a Safety Risk Management (SRM) Panel to evaluate the risk of introducing the hybrid routes into the National Airspace System (NAS). The suggestions and views gathered through these meetings and comments and the experience gained from these initial efforts have been used to formulate this report.

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[7] These actions respond to community comments that indicate that noise from helicopters is annoying to residents. They do not reflect an analysis that helicopter noise levels are incompatible with residences under federal airport land use compatibility guidelines, nor do they reflect analysis that noise levels exceed thresholds of significance under the National Environmental Policy Act.

3.0 Issues

Introduction

This section focuses on the main issues of concern that stakeholders, including community representatives, the general public and helicopter operators identified during this process. It also includes suggestions the FAA received to address those issues.

The issues and suggestions were collected during various opportunities for public and stakeholder input during the initiative. This includes statements and discussions during the August 6, 2012, public meeting that Representative Berman led, the October 29, 2012, helicopter operators' meeting and the December 5, 2012, community representatives' meeting. It also includes approximately 500 written comments submitted during the August 6 – September 7, 2012, comment period.

Many of the comments were tied to landmarks or geographic areas in the Los Angeles Basin or specific events in the region. The locations of these landmarks and events are shown on Figure 3-1. Detailed information about the topography and airspace for each of these locations is provided in Appendix C.

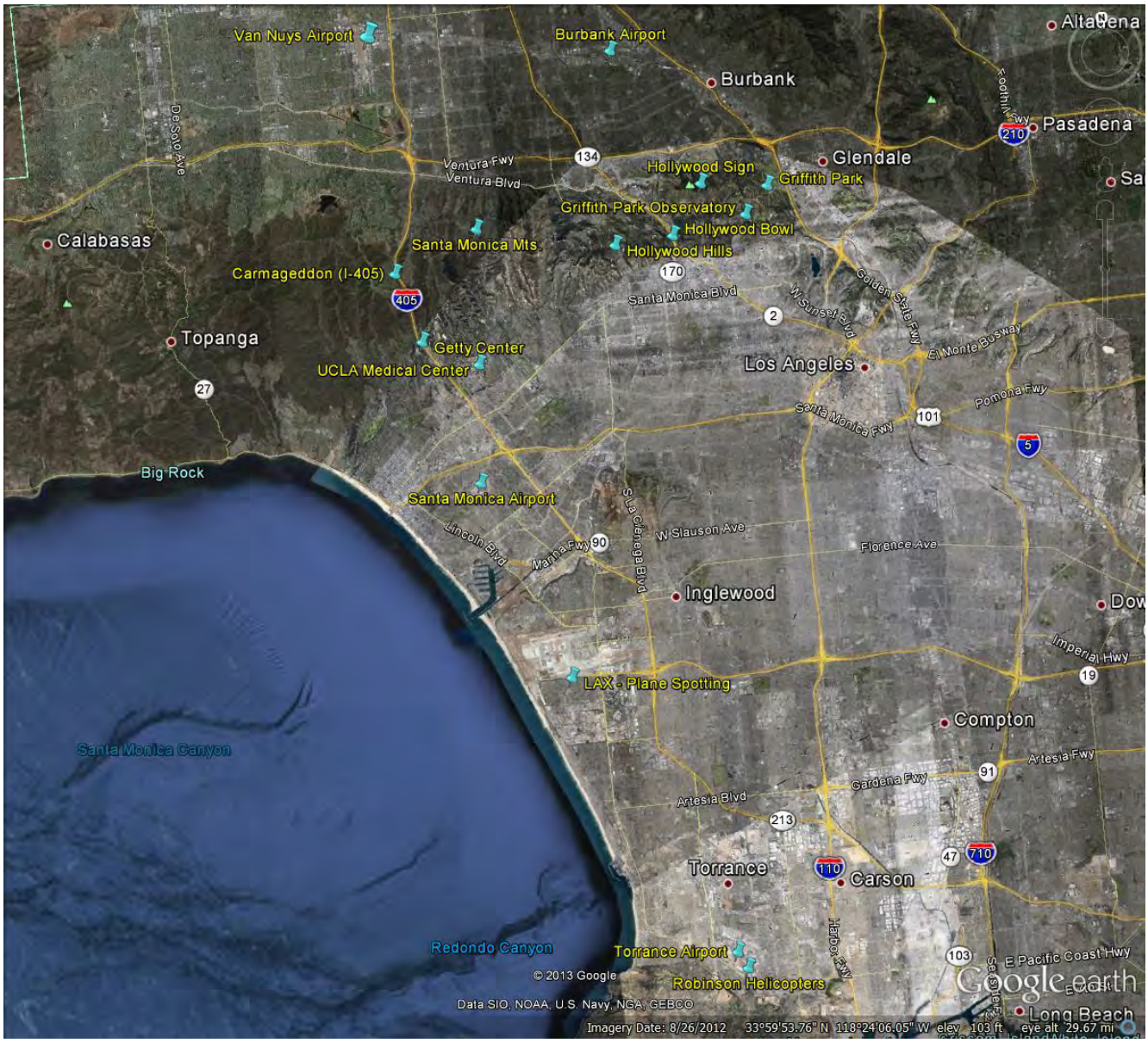
Hollywood Sign

The Hollywood Sign is a local landmark and cultural icon located on Mount Lee in the Hollywood Hills area of the Santa Monica Mountains. The sign overlooks the Hollywood district of Los Angeles with "HOLLYWOOD" spelled out in 45-foot tall white capital letters. Originally constructed in 1923, it was created as an advertisement for local real estate development. It is designated as a Los Angeles Historic-Cultural Monument.

A number of comments came from residents who live directly adjacent to the Hollywood Sign. Most commenters cited negative impacts to their quality of life and interruption of their ability to conduct daily activities (i.e., enjoy backyard, converse or listen to TV inside). Specific issues included the high frequency of air tour operations, extended hovering or circling of the landmark, and low altitude flights over adjacent residential areas.

Suggestions associated with this issue included limiting hovering times, raising altitudes, and establishing a no-fly zone.

Figure 3-1 Locations of Noise Issue Areas.



Hollywood Bowl

The Hollywood Bowl is a modern outdoor amphitheater in the Hollywood area of Los Angeles, just 850 feet west of the Hollywood Freeway (SR170/US 101) and is used primarily for music performances. It is the largest natural amphitheater in the US, carved into a hillside with a seating capacity of almost 18,000. The amphitheater is known for its distinctive band shell, set against the backdrop of the Hollywood Hills and the Hollywood Sign to the northeast. It is owned by Los Angeles County and is home of the Hollywood Bowl Orchestra, summer home of the Los Angeles Philharmonic, and host of hundreds of musical events each year. It originally opened in 1922.

Commenters focused on helicopters and other aircraft overflying the Hollywood Bowl during performances. Noise interrupted and/or detracted from their ability to enjoy the event or led them to stop attending events there altogether. Public concerns mainly related to flyover events rather than to hovering operations. Other concerns included operators not adhering to advisory NOTAMs advising pilots to avoid the area when illuminated Bowl spotlights indicate a performance is in progress. The Hollywood Bowl management has requested that helicopter operators fly closer to I-5 rather than Lake Hollywood or the Cahuenga Pass since both locations are adjacent to the Ford Amphitheatre and the Hollywood Bowl.[8] Commenters noted that this could take operators over residential areas and/or Griffith Park.

The primary suggestion associated with this issue was establishing a no-fly zone during performance season.

Griffith Park

Griffith Park is a large urban municipal park at the eastern end of the Santa Monica Mountains in the Los Feliz neighborhood of Los Angeles. Its boundaries include the Ventura Freeway (SR 134/US 101) to the north and the Golden State Freeway (I-5) to the east. It covers more than 4,300 acres and is one of the largest urban parks in the US. Created in 1896, Griffith Park is designated as a Los Angeles Historic-Cultural Monument. Attractions in the park include the Greek Theatre (a 5,700 seat amphitheater) and Griffith Observatory, a popular tourist attraction with an extensive array of space and science-related displays. The Los Angeles Zoo is also located in Griffith Park.

Commenters identified a number of issues. They questioned the need and/or right of commercial tour operators to ruin the public's ability to enjoy the tranquility of this park which offers a respite from the city. They noted that there are residences in the area that helicopter operators overfly while providing close-up views of the Griffith Observatory and the Hollywood Sign. Other concerns included a general increase in air tour activity in recent years, hovering and low altitude operations to give passengers an eye level view of these landmarks. Commenters expressed concern about the impact of helicopter noise on wildlife in wilderness areas of the park, and the potential for crashes resulting in fire hazards to adjoining residential areas.

Suggestions associated with this issue include limiting hovering times, raising altitudes, and establishing a no-fly zone.

[8] http://www.phpa.org/PHPAFiles/2012/2012%20Bowl%20Letter.pdf

Carmageddon I and II

A section of Interstate 405 (I-405), one of the busiest freeways in the US, was closed over one weekend in July 2011 as part of the Sepulveda Pass Improvements Project. Before the closure, local radio and television newscasts referred to the event as "Carmageddon" - a metaphoric reference to the end of the world for travel by automobile, because it was anticipated that the closure would severely impact traffic. The reality was that vehicular traffic was much lighter than normal around the area during the closure, due to the public warnings and alerts that went out ahead of the event. A similar shutdown, termed Carmageddon II, was implemented over the last weekend in September 2012.

A number of commenters focused on these specific events, indicating that during Carmageddon I primary issues were with continuous early morning (4 a.m.) and late night operations to provide coverage of what turned out to be a non-event. Related comments included incessant hovering, low altitudes, and multiple operations in close geographic proximity. One commenter noted the improved situation during Carmageddon II (as compared to Carmageddon I) attributing this improvement mostly to ENG organizations using a pool helicopter to cover that event.

Suggestions associated with this issue included limiting hovering times and increasing distance between hovering aircraft, raising altitudes, establishing morning/evening curfews, and video pooling for ENG.

Van Nuys Airport (VNY)

Van Nuys Airport is a public-use airport in the San Fernando Valley section of Los Angeles, a few miles northwest of the intersection of the San Diego Freeway (I-405) and the Ventura Freeway (SR 134/US 101). Los Angeles World Airports (LAWA) owns and operates the airport. While no major commercial airlines fly into VNY, it is one of the busiest general aviation airports in the world serving private, chartered, and small commercial aircraft. Many news helicopters from the Los Angeles area are based at VNY, as is the Los Angeles City Fire Department's air operations unit.

Commenters said there has been an increase in helicopter operations in recent years and more low-flying operations. A number of commenters live in residential areas around VNY that underlie flight paths. Commenters identified the concentration of ENG activity, coupled with noise from other aircraft using VNY, as an issue. Many commenters also expressed concerns about noise from police, fire, emergency medical services (EMS), and military operations at VNY.

Suggestions associated with this issue included dispersing arrival/departure routes, raising altitudes, and video pooling for ENG.

Zamperini Field (formerly Torrance Municipal Airport) (TOA)

The City of Torrance owns Zamperini Field, which is a public-use airport 3 miles outside the city's central business district. It is one of the busiest general aviation airports in the state. TOA is also home to Robinson Helicopter Company, the largest manufacturer of civil helicopters in North America, which currently employs approximately 1,300 people. Robinson's entire production, assembly, and testing facilities are located on the southeast side of the airport.

Comments were received from a number of people living in neighborhoods adjacent to or near the airport. Commenters noted that helicopters deviate from the voluntary routes and altitudes. A number of commenters also specifically identified Robinson Helicopter operations as problematic, in terms of frequency and routes. These commenters say they have noticed an increase in Robinson test flight operations over the years, noting that they fly low and frequently impact nearby residents' quality of life and ability to conduct daily activities. Commenters suggested that urban areas, with dense populations, should not be used for test flights.

Suggestions associated with this issue included raising altitudes and moving flight paths.

The Getty Center

The Getty Center, located in Brentwood, opened in 1997 and is one of two locations of the J. Paul Getty Museum. The Getty Center is situated atop a hill just to the west of the San Diego Freeway (I-405) and is well known for its architecture, gardens, and views overlooking Los Angeles. It draws about 1.3 million visitors a year.

A few commenters said they believe there has been increased flight activity in residential areas adjacent to the Center in the last few years and attribute it to ENG and/or air tour helicopter operations. Commenters said low flying and hovering caused noise and vibrations in homes. The Los Angeles terminal area chart identifies the Getty Center as a VFR waypoint and pilots use it for navigation.

Suggestions associated with this issue included raising altitudes and limiting hovering times.

Santa Monica Airport (SMO)

SMO is a general aviation airport that the City of Santa Monica owns and operates. SMO is primarily in Santa Monica, with the east end of the airport within the City of Los Angeles. SMO is south of the Santa Monica Freeway (I-10), west of the San Diego Freeway (I-405), about two miles east of the Pacific Ocean and six miles north of Los Angeles International Airport (LAX).

Commenters said they have noticed an increase in helicopter activity in recent years that impacts adjacent residential areas. Issues included low circling and/or hovering as helicopters come in for

landing at SMO, sometimes waiting for landing clearance while airplanes take off or arrive. Helicopter operations also frequent the beach/shoreline areas of Santa Monica. Commenters identified impacts to residents including noise and jet exhaust, vibrations, and disruption of daily activities (working from home, conversing, and enjoying summer with windows open).

Suggestions associated with this issue include raising altitudes, limiting hovering times, and establishing morning/evening curfews.

Hollywood Hills

The Hollywood Hills is a central Los Angeles neighborhood in the southeastern Santa Monica Mountains, containing Beachwood Canyon, Cahuenga Pass, Franklin Village, Hollywood Heights, Hollywoodland, Outpost, and Whitley Heights. It abuts the west side of Griffith Park and is bisected on its west side by US Highway 101.

Commenters noted high helicopter activity in this area which they attribute to a number of factors. Landmarks and attractions for air tour helicopters in this area include Hollywood Boulevard, TCL Chinese Theater (formerly Grauman's), the Walk of Fame, Chateau Marmont, Sunset Boulevard, Universal Studios, and the nearby Hollywood Bowl, Hollywood Sign, and Griffith Park. Celebrity homes in the area attract low-altitude, circling/hovering flights for tourists, paparazzi, and realtors, according to commenters. This area also gets ENG flights providing traffic coverage on the Hollywood Freeway (SR 170/US 101). Commenters also stated that flights approaching from the San Fernando Valley do not increase altitudes as they fly over these foothill communities. Commenters identified impacts to residential areas including early morning flights, vibrations, sleep interruption, and disruption of daily activities.

Suggestions associated with this issue included raising altitudes, limiting hovering times and increasing distance between hovering aircraft, and establishing a no-fly zone.

Freeways

The Los Angeles Basin is home to a network of interconnected freeways that cover a large geographic area. The I-5, I-10, US Highway 101, I-110, and I-405 are some of the main freeways in the area, with some of the greatest traffic congestion in the nation.

Commenters specifically identified a number of the primary freeways as having high concentrations of helicopter activity, primarily ENG operations. These freeways included US Highway 101, the I-101/405 interchange, and the I-110. A few commenters identified the Sepulveda Pass area as a high concentration of ENG activity, directly under the route where most VNY-based ENG helicopters fly to cover west side traffic. Commenters expressed concerns that helicopter operations interrupt daily activities and degrade the quality of life in residential areas adjacent to these freeways, citing constant hovering, geographically concentrated activities, early morning and late evening operations, and low altitude flights. Commenters said that ENG

coverage of traffic is a daily event with expansive multi-hour “rush hours” for morning and evening coverage due to commute patterns and volumes.

Suggestions associated with this issue included establishing morning/evening curfews, video pooling for ENG, limiting hovering times and increasing distance between hovering aircraft, and raising altitudes.

Plane Spotting Activities at LAX

At least one commercial operator recently began providing what is called “plane spotting” flights over and adjacent to LAX. Plane spotting is a hobby whereby individuals observe, photograph and log the registration numbers of aircraft. Local helicopter operators provide customers with the ability to photograph various types of aircraft landing and departing LAX from a higher vantage point. These operations are said to last one to two hours, use orbiting patterns, and fly relatively low over residential areas of El Segundo that are already affected by airport noise. Other types of helicopter flights occur over and around LAX. For example, LAWA also contracts with companies to provide photos of the ongoing construction or conduct site surveys at LAX.

4.0 Approaches

This section discusses approaches to addressing helicopter issues in Los Angeles County, based on suggestions that the general public, community representatives, and helicopter operators have submitted during the past year. The FAA reviewed all of these suggestions and grouped them under 10 general categories:

Ensure Safety of Helicopter Operations
Establish Noise Abatement Helicopter Routes
Keep Helicopters at Higher Altitudes
Limit Hovering
Reduce Helicopter Source Noise
Reduce Flights by Electronic News Gathering (ENG) Operations
Restrict Helicopter Flights
Charge Fees for Helicopter Operations
Improve Information on Helicopter Operations and Noise Abatement Practices
Establish a Forum for Addressing Helicopter Noise Issues

Appropriate FAA subject matter experts analyzed suggestions in each category to determine whether they would be feasible. Each suggestion is described below and followed by a discussion of the FAA's evaluation.

4.1 Ensure Safety of Helicopter Operations

Although the focus of the meetings was on noise, many participants raised concerns about the safety of helicopter operations. One commenter requested that the FAA provide more controller assistance to helicopter pilots, while another suggested that helicopters have onboard collision avoidance systems. Some commenters expressed concern that increasing the minimum altitudes for helicopters would create a safety issue by mixing rotorcraft with fixed-wing operations in the same airspace.

Discussion

In controlled airspace, ATC issues safety alerts to an aircraft under their control if they are aware that it is at an altitude which, in the controller's judgment, places it in unsafe proximity to terrain, obstructions, or another aircraft. However, pilots are cautioned that this service is not always available and that many factors affect the ability of the controller to be aware that such a situation is developing. ATC may also provide traffic advisory services to VFR flights, workload permitting, but controllers are limited in their ability to provide these services. Radar systems are limited to line-of-sight, which means that helicopters operating below radar coverage cannot be "seen" by ATC. Controllers working in VFR control towers use visual means to provide advisories to pilots, meaning the controller literally looks out of the ATC tower cab window to look for traffic conflicts.

Controllers working in larger ATC towers, like LAX, utilize Remote Automated Radar Terminal System Color Displays (RACD). These displays allow controllers to identify aircraft on radar and also aid them in visually identifying aircraft. Controllers' ability to visually separate aircraft can be limited by phenomena which reduce visibility, such as clouds, fog, haze, and even the time of day (the low lying sun around sunrise and sunset makes visual identification of aircraft more difficult). Additionally, ATC frequently is not in communication with helicopters operating outside Class B, C, and D airspace. Radio communications, like radar, operate only in a direct line-of-sight with the aircraft. The radar and radio coverage does not allow controllers to provide services at all altitudes. Also, many pilots prefer to navigate under or around the various classes of airspace to limit the requirement to communicate with busy air traffic controllers.

Additionally, the sheer volume of IFR traffic may preclude ATC from providing this additional service to VFR operations even if it is technically possible to do so. The airspace over Southern California is among the most congested and complex in the world and the separation of IFR aircraft always has priority over providing traffic advisory services. The Southern California Terminal Radar Approach Control (SoCal TRACON or SCT) is the busiest approach control facility in the world. In the fiscal year ending September 30, 2012, SCT conducted a total of 1,966,853[9] operations, of which 1,498,378 operations were IFR.

Most of these IFR operations were fixed-wing jet airplanes arriving at or departing from the major airports in the Los Angeles basin. Air carriers are required by regulation to conduct their operations on IFR flight plans, whether or not the weather requires it, and must follow FAA-approved procedures. These instrument arrival and departure procedures are highly structured with respect to courses, descent and climb rates, and altitudes flown in order to ensure safety. The process for establishing and changing these instrument procedures is rigorous and time consuming.

Under these conditions, the best way to ensure safety is to segregate slower-moving helicopters from higher-performing aircraft operations. Although there is potential for enhancing helicopter safety through the Next Generation Air Transportation System ("NextGen"), the tools being developed under NextGen will not enable helicopters to operate safely at higher altitudes in congested airspace. For example, Automatic Dependent Surveillance-Broadcast (ADS-B), which uses the Global Positioning System (GPS) to provide position with altitude information, offers improved situational awareness to pilots and will allow ATC to reduce the mandatory separation between many types of aircraft.[10] However, neither ADS-B Out, which transmits an aircraft's position to ATC and other appropriately equipped aircraft, nor ADS-B In, which allows pilots in

[9] Total Operations and VFR Traffic Numbers were provided by SCT OPSNET Report.

[10] The FAA has issued regulations which will require aircraft operating in high-density, complex airspace such as that in Southern California to have ADS-B Out capability by 2020; currently there is no formal requirement for ADS-B In on aircraft.

equipped aircraft to receive positional information from similarly equipped flights, would address the inherent risk of mixing slower-moving helicopters with faster aircraft. Like other types of collision-avoidance technology, ADS-B can enhance pilots' and controllers' ability to "see" potential airspace conflicts, but it is only effective in situations where there is sufficient time and maneuvering room to take action based on that information. The technology to manage a greater number and mix of aircraft with vastly different performance capabilities within the same airspace does not exist now and will not in the foreseeable future. Given the slower speed of helicopters and the fact that they typically operate under VFR, safety requires helicopters to be kept at altitudes where they will not interact with jet aircraft.

4.2 Establish Noise Abatement Helicopter Routes

Many commenters suggested routing helicopters over industrial and commercial areas or major freeways to avoid overflying residential areas. Others suggested establishing transit routes offshore to avoid residential areas and beaches. Commenters also suggested shifting helicopter arrival and departure routes at airports (with Van Nuys specifically mentioned) to avoid residential areas or if that were not possible, dispersing or rotating arrival and departure tracks. Some commenters suggested rules to make routes mandatory.

Discussion

The comments received throughout the Los Angeles Helicopter Noise Initiative reflect localized concerns about helicopter routes. The FAA's experience with aircraft noise abatement routes has shown that optimal solutions vary significantly. Some communities prefer to concentrate noise over a particular area while others prefer to disperse the flight paths so that different neighborhoods receive a portion of the overall noise. The FAA is committed to working with Los Angeles County communities and helicopter operators to explore refining existing helicopters routes or establishing new routes that minimize noise impacts.

Most established helicopter routes are shown on the Los Angeles Helicopter Route Chart.[11] This chart shows primary and secondary helicopter routes as well as transition routes. VFR Helicopter Route Charts facilitate the orderly flow of helicopters by informing air traffic controllers and helicopter pilots what routes the helicopter can be expected to follow relative to other air traffic. Although these VFR helicopter routes are voluntary for use by pilots when they are not in airspace requiring them to be communicating with ATC, they become mandatory when the pilot accepts the route (subject to weather, or revised instructions due to traffic).

Los Angeles is one of nine major metropolitan areas in the United States with published VFR Helicopter Route Charts (the others are Baltimore-Washington, Boston, Chicago, Dallas-Fort Worth, Detroit, Houston, New York, and Salt Lake City). These areas have some of the nation's

[11] Available at http://aeronav.faa.gov/index.asp?xml=aeronav/applications/VFR/chartlist_heli

busiest airports, where there is a high-volume mix of both airplane and helicopter traffic and which are surrounded by highly congested, densely populated urban environments. These charts were first published in the late 1970's and were based upon well-known helicopter routes which had already been established using readily identifiable ground features such as prominent roadways, railroad tracks, river channels, or other familiar landmarks. Publishing helicopter routes in these areas greatly enhanced safety by making it easier for controllers to separate the large volume of fast-moving airplane traffic from the slower helicopter traffic in their airspace. These routes currently offer the best means of providing for the safe and efficient separation of airplane and helicopter traffic in these areas. VFR Helicopter Route Charts are available for purchase by pilots anywhere and have become part of the universally available aviation chart system published in the U.S.

There are many factors, primarily airspace safety and efficiency, which the FAA takes into consideration when establishing helicopter routes. For the routes to be useful, the FAA must provide routing that allows VFR pilots to navigate via recognizable landmarks. In densely built-up urban environments, major roadways may be the most readily identifiable surface features to use for air navigation in VFR conditions. Primary helicopter routes in the Los Angeles Basin essentially overfly major freeways/thoroughfares, providing pilots with easy visual references. Moving VFR traffic away from existing routes is dependent on the availability of alternate landmarks which are prominent enough to be useful to VFR pilots.

One of the benefits of routing helicopters over major transportation corridors is the potential to avoid residential areas and provide some masking of the helicopter noise by the underlying vehicle traffic. This approach concentrates noise in locations that already have higher ambient noise levels. Keeping helicopter routes offshore is not a feasible option in this region. There are limits on the distance helicopters can safely operate from shore when they are not equipped for over-water operations. Unlike fixed-wing aircraft, helicopters are unable to glide any significant distance in the event of total loss of power. Requiring helicopters that are unequipped for over-water operations to fly at a distance offshore would present a safety hazard. In addition, because many helicopter operations in the Los Angeles Basin provide aerial views of traffic conditions, tourist attractions or real estate - rather than point-to-point transportation - offshore routing is impractical and could result in routing complexity, and increased flight time and noise.[12]

In addition to the voluntary helicopter routes that have been designated for the greater Los Angeles area, a number of airports also have developed arrival/departure routes for helicopters in

[12] The situation in Los Angeles differs from that along the north shore of Long Island, where the FAA established a voluntary helicopter route approximately a mile offshore that served as the basis for a regulation adopted July 6, 2012 (77 Fed. Reg. 39911). Unlike the situation in Los Angeles, helicopter traffic on the north shore of Long Island is mostly point-to-point transportation between New York City and residential communities along the northern and eastern parts of the island. It was possible to take advantage of a body of water between these points to establish an off-shore route to lessen the overall impact of noise on residential areas. The Long Island rule has been challenged in Helicopters Association International, Inc. v FAA, DC Circuit No. 12-1335. The case was argued on May 10, 2013 and is pending for decision.

the airport environs (See Figure 4-1 VNY Helicopter Routes). The FAA's policy is to work with airport sponsors to respond to community requests for noise abatement flight procedures and to encourage the development of such proposals through the FAA's Airport Noise Compatibility Program under 14 CFR part 150. The Part 150 process is voluntary and consists of two steps: developing Noise Exposure Maps (NEM) and developing the Noise Compatibility Program (NCP). The FAA's role is to ensure that the proposed noise abatement procedures can be accomplished safely, do not compromise aircraft performance standards, do not affect required ATC clearance and separation standards, and would result in noise benefits and otherwise comply with statutory and regulatory requirements.

Figure 4-1 VNY Helicopter Routes

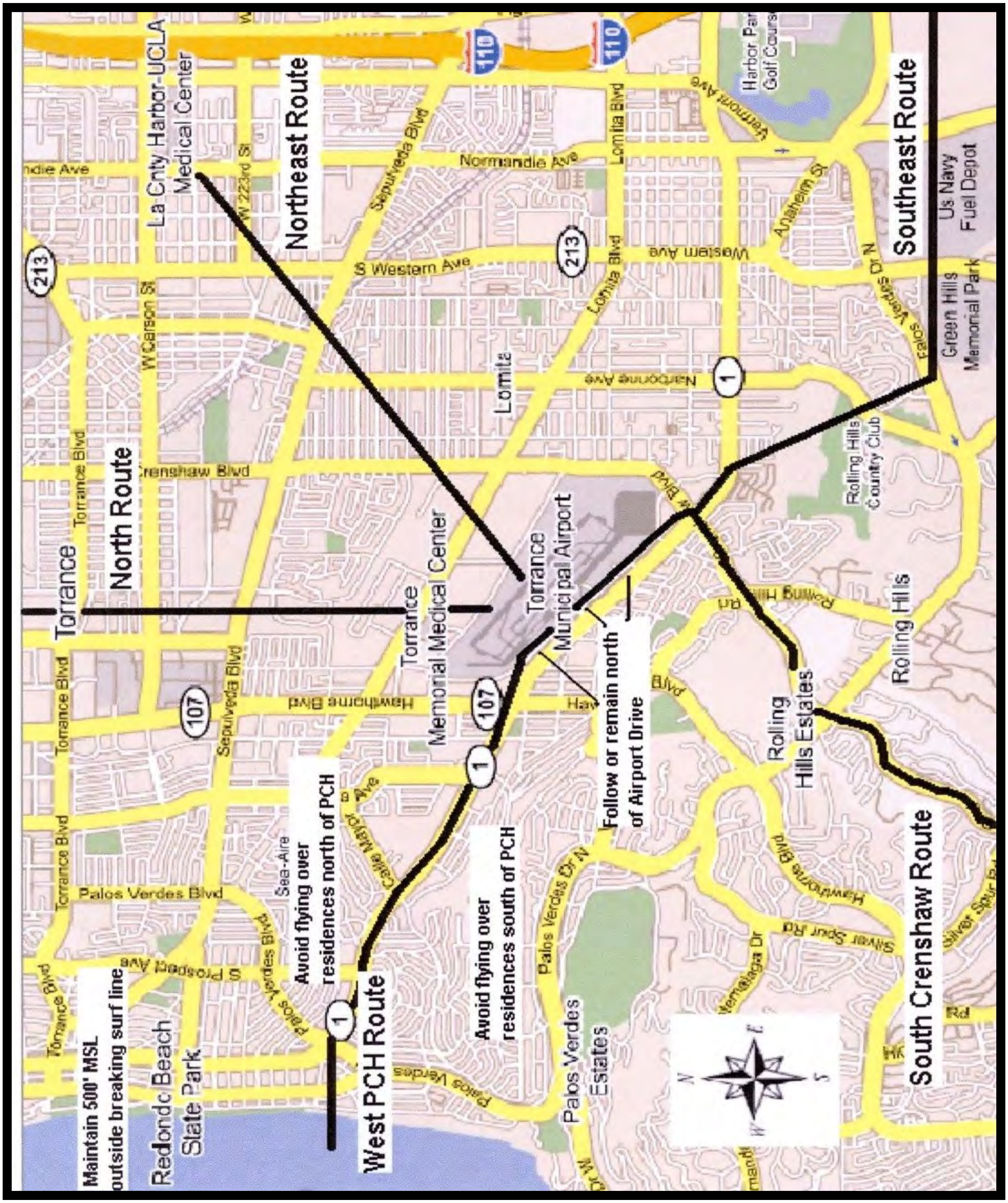
A Part 150 NCP at Van Nuys Airport illustrates the challenges of establishing or modifying noise abatement routes for helicopters. Helicopters were repeatedly cited as a key issue in the first Public Workshop held in 1989, and a VNY Helicopter Task Force was established to develop potential measures to address helicopter noise. The NCP addressed various elements of helicopter operations and included two proposed measures regarding routes to avoid noise sensitive areas. One of these measures would have increased use of an existing helicopter route in order to concentrate noise over less-sensitive areas. However, in October 2009 the FAA disapproved the measure as part of the NCP because it would have created an air traffic safety hazard. The second measure was not approved, pending the provision of information on the noise benefits/disbenefits of shifting operations. The FAA did approve for study by LAWA another measure which, among other things, would evaluate whether any adjustments should be made to the eight primary helicopter routes out of VNY.

Although not associated with Part 150 actions, the FAA is working with the City of Torrance to test community-recommended helicopter arrival and departure route modifications at Zamperini Field that may have noise benefits. To address noise concerns, the City of Torrance formed a Community and Stakeholder Helicopter Noise Committee to review and make suggestions for proposed changes to the existing voluntary helicopter routes. The committee used current routes as a starting point and proposed changes to the West Pacific Coast Highway (PCH), South Crenshaw, and Southeast routes. The committee also carefully reviewed two other routes, the North and Northeast routes, but made no suggestions for changes. The Torrance City Council reviewed and accepted the proposed modifications and then asked the FAA to consider and test them.

Prior to accepting the new routes for testing, the FAA conducted a Safety Risk Management (SRM) Panel on the proposals. This panel consisted of representatives from the city airport authority/noise abatement office, aircraft operators and FAA subject matter experts. Community members observed the process. The panel evaluated the route change proposals for any hazards that might be introduced into the NAS. Of the three original proposed routes, two were accepted and the third was rejected due to a finding of “high hazard.” The airport authority removed this last request, and substituted a revised route that was subsequently accepted with no hazard to the NAS. After completing community outreach, the FAA will test these new routes for 180 days, during time which the City of Torrance will evaluate noise issues.

The following figure (4-2) depicts the existing Zamperini Field voluntary helicopter routes.

Figure 4-2 – Torrance Helicopter Routes - Zamperini Field and Air Traffic Procedures dated Oct. 20, 2009



There have been several changes at LAX that have reduced the noise impacts of helicopter operations. With the establishment of Class D airspace at LAX on December 15, 2011 (implemented on June 28, 2012), helicopters no longer operate freely in the airspace adjacent to LAX. Once construction began on the new Tom Bradley International Terminal, the LAX west heliport was closed. This closure eliminated the Robinson helicopter "demo" flights that occurred between Zamperini Field (TOA) and LAX.

One company that offers plane-spotting helicopter flights works with the LAX tower to minimize noise impacts by utilizing staging areas that avoid residential areas. One area is located north of Runway 24L/R or the LAX North Complex. Two other areas are located within the LAX airport property. Noise sensitive areas in El Segundo are identified and avoided. Weather permitting, holding areas and traffic patterns have been placed over industrial and commercial areas to avoid overflying residential areas.

The density of land use, complexity of airspace and diversity of airspace users in Los Angeles County present particular challenges to identifying optimal helicopter routes in terms of safety, efficiency, and noise abatement. While some commenters have suggested mandatory routes as a solution, it is not clear which routes or route improvements would lend themselves to rulemaking for a category of aviation users. Federal rulemaking requirements, including limitations on the FAA's engagement with stakeholders during the process, could make it more difficult to work collaboratively with stakeholders to identify effective noise abatement routes that are supported by local consensus. Success in reducing noise is directly related to the availability of effective noise abatement procedures, rather than the implementation mechanism (voluntary vs. mandatory). The issue is whether a procedure can be designed to minimize noise impacts on residential or other noise-sensitive areas. The FAA's experience is that voluntary noise abatement procedures have a high degree of compliance when operators can use them safely and efficiently. Voluntary noise abatement measures are successfully in wide use across the U.S., while mandatory measures are rare. The most effective and widely-accepted noise abatement measures are those that are developed in collaboration with stakeholders and supported by local consensus.

The FAA supports the efforts of the Southern California Users Workgroup, the Aircraft Owners and Pilots Association (AOPA), PHPA, LAWA, and local communities to develop and refine voluntary routes for helicopters, continue to improve the Los Angeles Helicopter Chart and conduct outreach programs to the flying community. The FAA is prepared to collaborate with operators and the communities to reevaluate existing helicopter routes and explore options to lessen the impact on residential areas and landmarks that have been identified as areas of concern. Any new helicopter routes or corridors intended to provide noise relief would be carefully evaluated to avoid simply shifting noise from one residential neighborhood to another. Safety Risk Management studies would be required to ensure helicopters operating within the National Airspace System are able to transition airspace as safely and efficiently as possible. Toward this end, the Operations Support Group (OSG) at the Western Service Center has

compiled data from the helicopter routes in the Los Angeles Basin and has begun preliminary work to identify airspace and air traffic issues in the areas that the public has identified as having helicopter noise issues.

4.3 Keep Helicopters at Higher Altitudes

Numerous commenters expressed a desire to set minimum altitudes for helicopter operations. Some commenters proposed a specific minimum altitude ranging from 1,000 feet to 3,000 feet AGL, with 2,000 feet AGL the most common suggestion. Many commenters suggested applying this altitude to flights over residential areas, while others suggested applying the limit to any areas underneath the flight. Some thought that a minimum altitude should apply to flying, hovering, and circling operations. On the other hand, there were comments, primarily from those conducting aerial photography for commercial/industrial/real estate interests, who wanted their operations excluded from any new altitude limits to avoid adversely affecting their businesses. Some commenters suggested that helicopters be required to fly with the same altitude restrictions as fixed-wing aircraft, while other commenters noted that increasing the minimum altitudes for helicopters would create a safety issue by mixing rotorcraft with fixed-wing operations in the same airspace.

Discussion

Due to their special operating characteristics, helicopters are allowed under federal regulations to operate at lower altitudes than fixed-wing aircraft. When establishing altitudes for helicopter routes,[13] the FAA will consider the speed compatibility of aircraft operating in the same airspace. Despite the advancements in situational awareness technology, VFR pilots must abide by the see-and-avoid concept of flight. For safety reasons, helicopter routes are generally designed to be flown at altitudes below arrival and departure routes for fixed-wing aircraft to segregate the slower helicopter traffic to the extent possible. Having slower helicopters operate at the same altitude as fixed-wing aircraft that are two to three times faster increases the risk of evasive maneuvers occurring over congested areas and would create an unsafe environment.

In the Los Angeles Basin, increasing the altitude in which helicopters fly would, in many areas, create conflicts with traffic patterns into and out of airports. For example, as the following figures

[13] As discussed in Section 4.2, the VFR Helicopter Route Charts and their associated altitudes are voluntary unless a helicopter pilot in Class B or C airspace accepts the altitude as part of an ATC clearance.

depict, helicopters operating at higher altitudes in this area would conflict with aircraft flying into LAX and Burbank-Bob Hope Airport (BUR).[14] Helicopters operating at the altitudes some commenters suggested could directly conflict with many of the arrival and departure procedures for airports in the region.

In addition, vertical separation must be maintained between aircraft due to the dangers of wake turbulence, which has been identified as the cause of numerous injuries to crew and passengers as well as a contributing factor in many fatal accidents. Wake turbulence is most dangerous at low altitudes and increases in strength depending on the size of the aircraft generating the wake. As shown in Figure 4-3, a minimum of 500 feet of vertical separation is provided between aircraft on the LAX final approach and the helicopters transiting along the I-110 VFR Helicopter Route below.

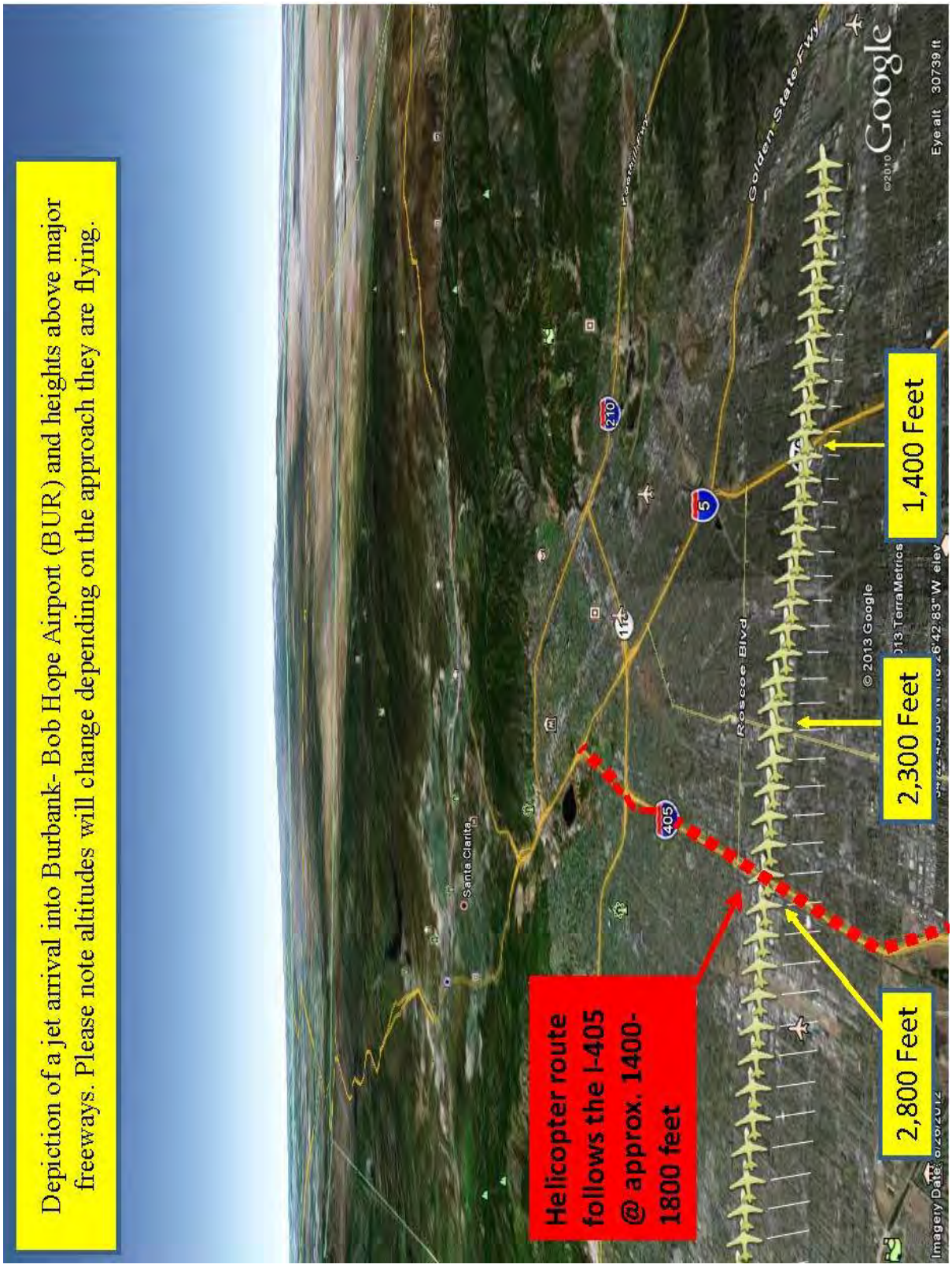
The Terminal Collision Avoidance System (TCAS) is another consideration. TCAS is deployed in air carrier aircraft and is designed to alert pilots to possible collisions with other aircraft. Take off and landing are considered critical phases of flight, and it is important to avoid unnecessary TCAS alerts and potential resulting evasive actions that could result from increasing the numbers and types of aircraft operating within the same area.

Given the aviation activity and airspace complexity in the Los Angeles Basin, it would create an unsafe flying environment to raise helicopter altitudes across the entire region. However, the FAA can analyze altitudes on existing helicopter routes to see if there are areas in which the altitude could be safely raised. In addition, the FAA is prepared to further review identified areas of concern (e.g., the Hollywood Bowl, Hollywood Hills, Hollywood Sign, Getty Center, and Griffith Park) to explore options for recommending higher altitudes that would not negatively impact safety or the efficient flow of air traffic. As documented in Appendix C, each location presents unique air traffic issues that the FAA will need to address individually. The FAA would subject any proposed altitude changes to an FAA Safety Risk Management Panel prior to publication on the VFR Helicopter Chart.

[14] The altitudes in which the arriving and departing aircraft cross will differ depending on the procedure they are flying and the prevailing weather conditions. These depictions are not representative of all arrival and departure paths available throughout Southern California at closely spaced airports. As discussed in Section 2.0, air traffic control altitudes are typically given in mean sea level, or MSL. As a result of the varying terrain in the LA Basin, an aircraft operating at a consistent MSL altitude may be significantly closer to the ground in some areas. Most commenters used the distance above ground level, or AGL, in recommending a minimum altitude.

Figure 4-3 Depicts a jet arrival into Los Angeles International Airport (LAX) and helicopter routes. Note: Altitudes displayed for arrival are in MSL.

Figure 4-4 Depicts a jet arrival into Bob Hope Airport (BUR) and helicopter routes. Note: Altitudes displayed for arrival are in MSL.



4.4 Limit Hovering

Another frequent suggestion was to set limits for helicopter hovering. This suggestion was usually tied to special events for ENG activities (e.g., "Carmageddon," traffic, or police events), or to specific locations for sightseeing flights such as the Hollywood Sign or Griffith Park Observatory. Some commenters suggested a broader application of hover limits to cover residential areas. Commenters also suggested time limits for hovering, with most in the 1 to 2 minute range, although some mentioned longer times (5 or 15 minutes). A number of commenters also suggested minimum distances of 1,000 feet to 1 mile between helicopters in a hover position. One commenter proposed no hovering operations before 8 a.m.

Discussion

The FAA and industry organizations strongly encourage helicopter operators to limit hovering over populated and other noise-sensitive areas when possible. However, certain operators, such as law enforcement and emergency services, need to hover for longer periods of time for public safety purposes. Mandatory hover time limits could result in increased risk if they did not provide exemptions for situations in which helicopter operators need to maintain a hover for collision avoidance or if ATC has instructed them to hold their position by hovering to avoid conflicting with another aircraft during operations in congested airspace. Mandatory time limits on hovering would be challenging to enforce. In addition, many of the businesses that rely on helicopter operations to provide aerial views would be significantly impacted if hovering were prohibited or severely limited.

The FAA believes that working with helicopter operators to improve awareness of "best practices" is a more effective approach. The Helicopters Association International's (HAI) Fly Neighborly Guide recommends turning in the direction of the main rotor rotation when hovering to minimize the noise generated by the anti-torque system and keeping the turn rate as low as practical.[15] Hover times appear to be site-specific and event-specific. The FAA has had success issuing advisory NOTAMs for planned events where helicopter activity is likely to occur. Advisory NOTAMs have alleviated noise complaints during events such as Carmageddon II and concerts at the Hollywood Bowl. The FAA will continue to issue advisory NOTAMs for large events and is exploring further outreach to the aviation community. Other measures include asking pilots to voluntarily limit hovering and collaborating with residents of affected areas to identify noise sensitive areas where hovering may be particularly intrusive.

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[15] Available at http://new.rotor.com/portals/1/Fly%202009.pdf.

4.5 Reduce Helicopter Source Noise

Commenters suggested the FAA study the best method to reduce the decibel level of sound from helicopters. Other commenters noted that the technology exists and there are already helicopters using "quiet technology." A few commenters requested the phase out of Stage 2 aircraft, which includes Stage 2 helicopters, over the next 3 to 5 years, and suggested that to spur this phase out, federal funds could be made available to upgrade local jurisdictions' police and fire aircraft and tax incentives could be offered for commercial operators.

Discussion

The FAA works with researchers and manufacturers to reduce "source noise" – the noise made by aircraft. Although source noise reduction requires a significant investment and can take many years from identifying a promising technology to certifying it and making it commercially available, these measures have the potential to provide noise relief to the greatest number of people.

As part of the FAA's role in the International Civil Aviation Organization's Committee on Aviation Environmental Protection (ICAO CAEP), the FAA co-leads a working group dedicated to noise technical issues. This international working group is the place where new international noise standards are developed. International agreement on aircraft noise standards is important since aviation is a global industry, and the CAEP working groups take the lead in determining the feasibility of new noise standards.

The FAA is in the process of implementing the ICAO Chapters 8 and 11 helicopter noise standard (called Stage 3 in the U.S.). The FAA's notice of proposed rulemaking was published in the Federal Register on September 18, 2012 (Docket No.: FAA-2012-0948; Notice No. 12-06), and the comment period closed on November 19, 2012. Implementation will take place after the FAA issued the final rule which is anticipated in early 2014. The Stage 3 helicopter noise standard will apply to all new helicopter types certified after the implementation date of the rule. It does not affect existing Stage 2 helicopters. As operators retire older helicopters and buy new ones, Stage 2 helicopters will diminish as a percentage of the fleet and Stage 3 helicopters will increase. Since the international standards are already in place and many manufacturers sell worldwide, many existing helicopters in the U.S. fleet may already meet the Stage 3 noise levels, but would need to be recertified as Stage 3.

It is not practical to consider mandating a phase out of Stage 2 helicopters until there are Stage 3 helicopters certified, commercially available and operational over a broad range of conditions. Recertification will take time to accomplish as it may entail multiple helicopter types needing to do certification flights. The effects of the new noise standard on the market need to be seen before the economic effects of a phase out could be assessed. In addition, any mandatory phase out would have national implications that would need to be examined, and would require additional rulemaking, including assessing the cost and benefit and the economic impact on small

businesses. Over the past several decades, the private sector has borne the cost of complying with federal mandates to reduce source noise by fixed-wing aircraft. The FAA would expect a similar approach to be taken for helicopter operators to convert to quieter aircraft.

Research is essential not just to identify new quiet helicopter technology, but also to develop the tools to measure and predict the noise produced. During the past two decades, the FAA has conducted numerous studies of helicopter noise, both alone and in association with the National Aeronautics and Space Administration (NASA). For example, in August 1995, the FAA worked with HAI to analyze flight tests of eight helicopters, gathering an extensive database of acoustic characteristics and flight path information associated with typical en route and heliport operations, including level flyovers. In 2004, the FAA developed a Report to Congress titled "Nonmilitary Helicopter Urban Noise Study." This report examined the noise effects on individuals, responded to public and industry views on reducing noise from helicopters, and included noise modeling and analysis to establish helicopter source noise effects within an urban environment and helicopter altitude noise sensitivity.

The FAA also has sponsored research by the Department of Transportation's Volpe Center that includes measuring and modeling helicopter noise.[16] The goal of this research is to enhance the modeling capabilities of the FAA's Aviation Environmental Design Tool (AEDT), which will improve the noise assessment of helicopter operations. The FAA is sponsoring research through the Airport Cooperative Research Program to review, evaluate, and document current helicopter noise models and identify potential improvements to better capture the unique complexity of helicopter operations.[17] The FAA is currently creating a research roadmap to identify potential new areas of research for aircraft noise, including helicopters, and will be preparing to conduct additional studies if funding and resources are available.

4.6 Reduce Flights by Electronic News Gathering (ENG) Operations

Many comments focused on ENG operations, and commenters suggested having news media use a pooled feed to limit the number and close concentration of helicopter activity for special events (e.g., "Carmageddon," the Space Shuttle Endeavor relocation) or daily coverage (traffic reports, coverage of accidents, fires, police pursuits). A few commenters suggested using drones in lieu of helicopters to monitor freeway traffic or accidents. In opposition, a commenter asked that restrictions be placed on the use of drones by private companies for commercial purposes, due to privacy concerns.

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[16] Source noise data for three types of helicopters was part of an October 2010 report of Aircraft Source Noise Measurement Studies. http://ntl.bts.gov/lib/35000/35900/35994/DOT-VNTSC-FAA-10-17.pdf
An Aug. 2012 report examined an advanced prediction model for aviation noise propagation in complicated environments with uneven terrain. http://ntl.bts.gov/lib/45000/45700/45704/Hybrid_Propagation_Model_Vol1.pdf
http://ntl.bts.gov/lib/45000/45700/45705/Hybrid_Propagation_Model_Vol2.pdf

[17] http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=3439

Discussion

The FAA would be acting beyond its statutory authority if it were to require pooled media coverage, and that type of restriction on news gathering may raise First Amendment concerns as well. As a best practice or voluntary measure for the news media, however, the FAA fully supports this effort. Two recent events showcase the viability of this measure and the potential success that can be achieved through advanced planning and cooperation among the news media.

In July 2011 the "Carmageddon I" event (weekend closure of the I-405 Freeway) occurred, generating numerous complaints from area residents about the ubiquitous and incessant ENG helicopter coverage. A second phase of the project, "Carmageddon II" was scheduled to occur the following year, in September 2012. When the dates were announced for "Carmageddon II" the PHPA urged the Southern California Radio and Television News Association (RTNA) to consider establishing a pooled feed of the event, using a single helicopter. Also, in advance of the September 2012 closure event, the FAA Western-Pacific Regional Administrator sent a letter to the PHPA reminding them of the negative feedback received from the public about ENG operations during "Carmageddon I." The letter requested that the PHPA remind its pilot members to "fly neighborly" and noted that "Carmageddon II" would be an opportunity to support the concept by voluntarily using techniques such as pooling, reduced hovering times, and increasing altitudes. Through the cooperative collaboration of the news media, ENG coverage of "Carmageddon II" resulted in a vast reduction in deployed ENG aircraft and a commensurate reduction in noise complaints from the public.

In October 2012, the space shuttle Endeavour was transported to LAX for a subsequent journey to its final resting place at the California Science Center in Los Angeles. The Endeavour was wheeled through the streets of Los Angeles, covering 12 miles in two days, before arriving at the California Science Center. This high-profile event garnered a vast amount of media coverage, but again, cooperative efforts by the news media reduced neighborhood impacts from ENG operations.

The FAA has not approved using unmanned aircraft systems (UAS), sometimes referred to as drones, for commercial purposes such as traffic reporting. The FAA Modernization and Reform Act of 2012 directed the FAA to establish a program to safely integrate UAS into the National Airspace System. Efforts to safely integrate UAS are currently underway.[18]

[18] http://www.faa.gov/about/initiatives/uas/reg/

4.7 Restrict Helicopter Flights

Commenters suggested various restrictions on helicopter operations. Some commenters proposed restricting operations over residential areas and having helicopters fly over industrial/commercial areas instead. Some suggested limiting the number of helicopter flights each day, restricting flight hours, or establishing nighttime curfews (10 pm to 8 am) for non-emergency helicopter operations. Several commenters suggested establishing a Special Federal Aviation Regulation (SFAR) for the entire county or for specific areas to implement these restrictions.

There were also more specific restriction proposals. A number of commenters suggested establishing "no fly" areas in defined locations across Los Angeles (e.g., Universal Studios, Hollywood Bowl, Griffith Park, Hollywood Hills or the Santa Monica Mountains), seasonal restrictions and nighttime curfews around the Hollywood Bowl during the performance season, and curfews for sightseeing helicopters over the Hollywood Hills, Santa Monica mountains, and the San Fernando Valley. One commenter suggested restricting daily helicopter manufacturer test flights and flight times from any specific airport.

Discussion

Unlike noise abatement routes (discussed above) that direct helicopter flights over less noise-sensitive areas but do not limit operations, these suggestions call for banning all non-emergency helicopter flights in certain areas or at certain times, or putting numerical limits on operations. Some of the suggestions target specific helicopter operations (e.g., sightseeing or manufacturer test flights), while others would disproportionately affect certain types of operations. For example, a nighttime curfew would particularly impinge on ENG helicopters, which typically are up in the air before 5:30 a.m. to report on morning rush-hour traffic. Similarly, a no-fly zone over an area that is a destination for sightseers would hinder air tour operators from offering some excursions. These kinds of restrictions would have a direct adverse economic impact on businesses that depend on helicopter operations.

By law, citizens of the United States have a public right of transit through the nation's navigable airspace, subject to regulations necessary to ensure the safety of aircraft and the efficient use of airspace (49 USC § 40103). The FAA's restrictions on the use of that airspace have focused on addressing safety and congestion with only a few exceptions. Location-specific air traffic regulations, often referred to as SFARs, are used in limited and unique situations. The FAA has only used SFARs to address noise in a very small number of cases which involved circumstances not present here. Most SFARs, including the SFAR for air tour operators in Hawaii, are promulgated because of safety concerns. Even those SFARs that have been adopted primarily for purposes other than safety must provide flexibility and exemptions to cover situations in which rigid compliance would result in unsafe operations. An SFAR for the entirety of Los Angeles County would have to have so many exemptions to address the complexity of the airspace and

diversity of operations that the exemptions very likely would make the rule ineffective and enforcement difficult or impossible.

Under Federal Aviation Regulations at 14 CFR part 91, the FAA can issue Temporary Flight Restrictions (TFRs) for certain types of events and situations. TFRs are regulatory actions issued through the NOTAM system that restrict certain aircraft from operating within a defined area, on a temporary basis, to protect persons or property on the ground. The FAA's regulations do not provide for TFRs for noise abatement.

Advisory NOTAMs may be issued for special events such as the Hollywood Bowl concerts, the Coachella Music Festival, and Carmageddon II. An advisory NOTAM warns pilots of an event/activity and "advises" them to maintain a recommended altitude and/or distance from the event. The NOTAMs are typically issued with reference to the nearest airport(s) and pilots flying in the area are made aware of them during preflight briefings.

Aircraft noise associated with airport arrivals and departures historically has been addressed by airport proprietors. Many airports have voluntary noise abatement measures in place adopted through an FAA Part 150 NCP. A few airports in the region have long-established restrictions that were "grandfathered," but new airport noise and access restrictions, including measures such as curfews, limits on types of aircraft allowed to utilize the airport, and limits on number of aircraft operations, are subject to the Airport Noise and Capacity Act of 1990 (ANCA) 49 U.S.C. 47521 et seq., and 14 CFR part 161, Airport Noise and Access Restrictions. Federally funded airports must also comply with federal grant assurance obligations in order to impose such restrictions. Generally speaking, noise and access restrictions must be reasonable, must not be unjustly discriminatory, and must not impose an undue burden on interstate commerce.

As a practical matter, restricting helicopter operations at one or even many airports would not prevent helicopters from operating in the Los Angeles region, and likely would produce no overall noise benefit because operations would shift to other airports or heliports. Currently, there are 15 public use and 11 private use airports located within the County, as well as 138 heliports. In addition, airport noise restrictions and other noise abatement measures are designed to deal with significant levels of aircraft noise in the airport vicinity, primarily from aircraft arrivals and departures, and would not address helicopter noise from overflights and hovering.

4.8 Charge Fees for Helicopter Operations

One commenter suggested assessing fees against helicopter pilots in Los Angeles to fund the costs of implementing these suggestions. Another commenter suggested that the FAA allow certain airports, such as Van Nuys, to place a fee or tax on each sightseeing helicopter operation to limit noise, restrict excessive flights, and generate funding for noise mitigation.

Discussion

The FAA is specifically prohibited from imposing any new aviation user fees (Consolidated and Continuing Appropriations Act of 2012, Pub. L.112-55). Airport proprietors who have accepted federal funds are bound by the terms of their grant assurances, which require them to "make the airport available as an airport for public use on reasonable terms and without unjust discrimination to all types, kinds and classes of aeronautical activities, including commercial aeronautical activities offering services to the public at the airport." (FAA Airport Grant Assurance 22 (a)). In addition, charges or fees that are designed to, or have the effect of, controlling noise or restricting access to the airport must comply with the requirements of ANCA and 14 CFR part 161. Any fees that an airport proprietor might impose would only influence operations at that airport. Given the number and density of airports, helipads, and helicopter operators in Los Angeles County, such fees would have little effect on overall helicopter noise.

4.9 Improve Information on Helicopter Operations and Noise Abatement Practices

A theme running through many comments was the need for better ways to identify the helicopters causing noise problems. One suggestion was to require identifiable markings on all helicopters (e.g., improved tail N number size visibility) or markings on the underbelly of aircraft to help ground observers identify and report unauthorized flights to proper authorities. Another commenter suggested that helicopter operators in Los Angeles be required to use transponders to capture route and altitude data and file it with the FAA for review by the public. One commenter suggested using cameras for live surveillance of helicopter activity at appropriate locations (e.g., Mt. Lee and Griffith Park Observatory) to determine compliance with regulations and as a basis for enforcing regulations against any violators. The PHPA suggested they could update information about noise sensitive areas and disseminate it to pilots, especially for transient aircraft operations whose pilots may not be familiar with the location of noise-sensitive areas in the region.

Related to these suggestions, commenters called for the FAA to establish a compliance and enforcement system for routes and altitudes and suggested the FAA levy significant penalties against any operators who violate the rules. Other commenters suggested establishing a 24/7 centralized county-wide complaint system to receive reports from the public of aircraft violating regulations. Public outreach could be conducted about its availability and use.

Discussion

Like all aircraft, helicopters are required to be marked with a registration code. This unique identifier, sometimes called a "tail number" or "N number," must be displayed in accordance with 14 CFR part 45, Identification and Registration Marking. The markings must be 12 inches in height and located on both sides of the aircraft, displayed horizontally on both surfaces of the cabin, fuselage, boom, or tail.

Because the market for helicopters is global, locale-specific marking requirements would have national and international implications for the helicopter manufacturing industry. Larger tail numbers or markings on the underside would not be possible on many helicopters due to the limited surface area of the aircraft and other equipment, such as cameras, which may be mounted underneath. The usefulness of larger markings to aid in identification would also be limited by distance, altitude, and speed of aircraft, as well as a clear line of sight from the observer on the ground. However, many helicopters in the Los Angeles Basin are readily recognizable by distinctive paint and/or markings which identify their operators. This is particularly true of ENG and sightseeing helicopters.

Individual aircraft may also be identified using electronic signals emitted by transponders. Existing FAA regulations (14 CFR § 91.215) require all aircraft, including helicopters, to be equipped with an operable coded radar beacon transponder in all airspace within 30 nautical miles of the Los Angeles International Airport from the surface upward to 10,000 feet mean sea level (MSL). These transponders must be in use (transponder-on operations) when operating in this airspace. Because not all helicopter operations are captured on radar, which requires a clear line-of-sight, not every helicopter can be identified through its transponder. Live-feed cameras would have some of the same line-of-sight issues as radar, and would require significant resources for real-time monitoring. The placement of cameras at locations that are not owned and operated by the FAA would likely be beyond FAA's authority to implement.

It is important to distinguish noise complaints noise from complaints regarding unsafe helicopter operations. Allegations of safety violations of Federal Aviation Regulations (14 CFR parts 1-199) are generally investigated by Aviation Safety Inspectors from the Flight Standards District Office with jurisdiction over the area where the violation occurred.

Currently, there are a number of different noise complaint systems covering Los Angeles County. Airport owners are primarily responsible for abating helicopter noise and addressing complaints about helicopter operations in the vicinity of the airport. Many airports in the region, including LAX and VNY, have noise complaint systems with a flight track component that provides information on the particular aircraft of concern. In addition, PHPA is in the process of developing a noise complaint system. The FAA's Aviation Noise Ombudsman serves as a public liaison on a nationwide level for issues about aircraft noise questions or complaints. The majority of initial complaints the Noise Ombudsman receives are directed back to the appropriate airport or airport authority, FAA Regional Offices or Service Centers for review.

While each of these systems serves an important role in addressing individual noise complaints, the FAA recognizes the potential advantages of a centralized system that could collect information about the types, times and locations of operations creating noise issues, identify trends and hotspots and facilitate development of measures to reduce their occurrence. Although not in a position to host a Los Angeles County-wide system due to resource constraints, the FAA supports the concept of a comprehensive repository of helicopter noise complaint data in Los Angeles County and will work with community representatives, airports and operator groups to assess the prospects for developing such a system.

4.10 Establish a Forum for Addressing Helicopter Noise Issues

Commenters encouraged the FAA Western-Pacific Region to continue the work begun with the Los Angeles Helicopter Noise Initiative by holding periodic meetings and hearings in the San Fernando Valley to assess progress on controlling helicopter noise in the Valley. Other suggestions for expanding on the Initiative include establishing a community representative liaison with the PHPA.

Discussion

As a result of the Los Angeles Helicopter Noise Initiative, community representatives and helicopter operators are working together to identify noise sensitive locations and identify helicopter operating practices that contribute to noise concerns. Community representatives within Los Angeles County formed an official alliance called the Los Angeles Area Helicopter Noise Coalition. Helicopter operators within Los Angeles County formed an official alliance called the Los Angeles Area Helicopter Operators Association. These two newly formed organizations, along with the PHPA, which has been in existence for over 20 years, held an initial meeting in February 2013, with input from the FAA. The group is committed to finding solutions that will provide noise relief while not degrading safety or eroding business opportunities. The FAA supports any opportunity for collaborative engagement between community representatives and helicopter operators to resolve issues at the local level.

As expressed in the DOT/FAA Aviation Noise Abatement Policy in 1976 and still true today, noise abatement is a shared responsibility, with airport sponsors, aircraft operators and communities all having a role to play. The FAA is actively involved with airport-community noise roundtable organizations. The FAA is willing to participate in similar roundtable organizations with stakeholders for non-airport communities in the Los Angeles Basin.

The FAA also supports initiatives to increase awareness of helicopter noise issues in the pilot community. A collaborative effort among communities, the FAA, and the various pilot groups, has led to identifiable “Hot Spots” within the Los Angeles Basin. The PHPA publishes these “Hot Spots” on their website, along with information contained in FAA NOTAMs to increase pilots’ situational awareness.[19] The FAA is also working to modify the Los Angeles VFR Helicopter Chart to depict the most accurate information, and publishes a synopsis of the HAI “Fly Neighborly Program” guidelines on the chart. Pilots are encouraged to attend FAA Aviation Safety Program seminars and to speak with local air traffic controllers to increase their awareness. FAA air traffic managers at facilities throughout Los Angeles Basin attend local meetings to become more familiar with issues the communities are facing, and the FAA periodically conducts briefings to air traffic controllers on noise issues, including preferred altitudes and routes for helicopters.

[19] http://www.phpa.org/hotspot/

5.0 Conclusion

This report identifies actions and flexible approaches that offer the best opportunity to address identified helicopter noise issues in the Los Angeles Basin. It is the FAA's intent to follow through on the Los Angeles Helicopter Noise Initiative with a series of actions in consultation with local stakeholders to improve the helicopter noise situation within Los Angeles County. In addition to being effective for noise reduction, measures must be safe, operationally manageable in the complex Los Angeles airspace, and responsive to community economic interests and public safety needs. The FAA commits to undertake and support the following actions:

- Evaluate existing helicopter routes to identify feasible modifications that could lessen impacts on residential areas and noise-sensitive landmarks. Any new routes intended to provide noise relief will be evaluated to avoid simply shifting noise from one residential neighborhood to another. Safety Risk Management studies would be required to ensure that helicopters can transition airspace safely and efficiently.

- Analyze whether helicopters could safely fly at higher altitudes in certain areas along helicopter routes and at specific identified areas of concern. Any proposed altitude changes would be required to go through an FAA Safety Risk Management Panel prior to adoption.

- Develop and promote best practices for helicopter hovering and electronic news gathering. Hover times are site-specific and event-specific. The FAA will continue to issue Notices to Airmen (NOTAMs) for large events and engage in further outreach to helicopter operators and news organizations to encourage practices that reduce noise.

- Conduct outreach to helicopter pilots to increase awareness of noise-sensitive areas and events. A collaborative effort among the FAA, pilot groups, and communities has led to the identification of noise "hot spots" within the Los Angeles Basin. The FAA seeks to increase pilots' situational awareness of noise problems on the ground and of community issues with noise.

- Explore a more comprehensive noise complaint system. A centralized system that provides one repository of helicopter noise complaints in Los Angeles County may be more advantageous than current individual systems, with differing geographic and jurisdictional coverage. The FAA will support the assessment of the prospects for developing such a system with homeowners' associations and operator groups.

- Continue the collaborative engagement between community representatives and helicopter operators, with interaction with the FAA. A significant positive result of the Los Angeles Helicopter Noise Initiative is that community representatives and helicopter operators plan to meet regularly, with input from the FAA, to identify specific noise-

sensitive locations and helicopter operating practices that contribute to noise concerns. The group is committed to identifying measures that will provide noise relief without degrading safety or eroding business opportunities.

At a national level, the FAA sponsors research on aircraft noise. The FAA is currently creating a research roadmap to identify new areas of aircraft noise research, including helicopters, and will be preparing additional studies pending availability of funding and resources. The FAA is also in the process of rulemaking to implement a Stage 3 helicopter noise standard in the U.S. The Stage 3 helicopter noise standard will apply to all new helicopter types certified after the implementation date of the rule. As older helicopters are retired and new helicopters are purchased, the percentage of quieter Stage 3 helicopters in the U.S. fleet will increase.

The FAA is aware that a number of local citizens believe that helicopter noise problems would be resolved if the FAA would just issue a noise regulation, although people do not necessarily agree on the substance of such a regulation. However, it is the FAA's considered judgment that a comprehensive regulation governing Los Angeles County helicopter noise would be extremely difficult, if not impossible, to develop. It is not clear what a regulation might direct, given the local complexities and the problems with broad-based route or altitude solutions as explained in this report, or whether it would be possible to develop a generic approach to a problem that lends itself to rulemaking for a category of aviation users. Rulemaking would also require a high amount of resources and many years, during which time there would be limitations on the FAA's engagement with stakeholders and could be missed opportunities for more immediate actions. In the FAA's experience, the most satisfactory and widely accepted noise abatement measures are those that have been collectively discussed by engaged stakeholders and the FAA at the local level and are supported by local consensus. The FAA recommends the engagement of a robust local process and is prepared to support such a process to pursue remedies that are determined to reduce helicopter noise, are responsive to community quality-of-life and economic interests, and are consistent with National Airspace System safety and efficiency.

6.0 List of Figures

7.0 Glossary

AIR CARRIER — a person who undertakes directly by lease, or other arrangement, to engage in air transportation. This includes an individual, firm, partnership, corporation, company, association, joint-stock association, governmental entity, and a trustee, receiver, assignee, or similar representative of such entities.

AIR CARRIER AIRCRAFT — an aircraft that is being operated by an air carrier.

AIR TRAFFIC CONTROL (ATC) − A service operated by appropriate authority to promote the safe, orderly and expeditious flow of air traffic.

ALTITUDE− The height of a level, point, or object measured in feet Above Ground Level (AGL) or from Mean Sea Level (MSL).
a. MSL Altitude− Altitude expressed in feet measured from mean sea level.
b. AGL Altitude− Altitude expressed in feet measured above ground level.
c. Indicated Altitude− The altitude as shown by an altimeter. On a pressure or barometric altimeter it is altitude as shown uncorrected for instrument error and uncompensated for variation from standard atmospheric conditions.

AUTOMATIC DEPENDENT SURVEILLANCE− BROADCAST (ADS-B) − A surveillance system in which an aircraft or vehicle to be detected is fitted with cooperative equipment in the form of a data link transmitter. The aircraft or vehicle periodically broadcasts its GPS−derived position and other information such as velocity over the data link, which is received by a ground−based transmitter/receiver (transceiver) for processing and display at an air traffic control facility.

CLASS A− Generally, that airspace from 18,000 feet MSL up to and including FL 600, including the airspace overlying the waters within 12 nautical miles of the coast of the 48 contiguous States and Alaska. Unless otherwise authorized, all persons must operate their aircraft under IFR.

CLASS B− Generally, that airspace from the surface to 10,000 feet MSL surrounding the nation's busiest airports in terms of airport operations or passenger enplanements. The configuration of each Class B airspace area is individually tailored and consists of a surface area and two or more layers (some Class B airspaces areas resemble upside-down wedding cakes), and is designed to contain all published instrument procedures once an aircraft enters the airspace. An ATC clearance is required for all aircraft to operate in the area, and all aircraft that are so cleared receive separation services within the airspace. The cloud clearance requirement for VFR operations is "clear of clouds."

CLASS C− Generally, that airspace from the surface to 4,000 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower, are serviced by a radar approach control, and that have a certain number of IFR operations or passenger

enplanements. Although the configuration of each Class C area is individually tailored, the airspace usually consists of a surface area with a 5 nautical mile (NM) radius, a circle with a 10NM radius that extends no lower than 1,200 feet up to 4,000 feet above the airport elevation and an outer area that is not charted. Each person must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace and thereafter maintain those communications while within the airspace. VFR aircraft are only separated from IFR aircraft within the airspace.

CLASS D− Generally, that airspace from the surface to 2,500 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower. The configuration of each Class D airspace area is individually tailored and when instrument procedures are published, the airspace will normally be designed to contain the procedures. Arrival extensions for instrument approach procedures may be Class D or Class E airspace. Unless otherwise authorized, each person must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace and thereafter maintain those communications while in the airspace. No separation services are provided to VFR aircraft.

CLASS E− Generally, if the airspace is not Class A, Class B, Class C, or Class D, and it is controlled airspace, it is Class E airspace. Class E airspace extends upward from either the surface or a designated altitude to the overlying or adjacent controlled airspace. When designated as a surface area, the airspace will be configured to contain all instrument procedures. Also in this class are federal airways, airspace beginning at either 700 or 1,200 feet AGL used to transition to/from the terminal or en route environment, en route domestic, and offshore airspace areas designated below 18,000 feet MSL. Unless designated at a lower altitude, Class E airspace begins at 14,500 MSL over the United States, including that airspace overlying the waters within 12 nautical miles of the coast of the 48 contiguous States and Alaska, up to, but not including 18,000 feet MSL, and the airspace above FL 600.

CLASS G AIRSPACE− That airspace not designated as Class A, B, C, D or E.

GLOBAL POSITIONING SYSTEM (GPS) − A space-base radio positioning, navigation, and time-transfer system. The system provides highly accurate position and velocity information, and precise time, on a continuous global basis, to an unlimited number of properly equipped users. The system is unaffected by weather, and provides a worldwide common grid reference system. The GPS concept is predicated upon accurate and continuous knowledge of the spatial position of each satellite in the system with respect to time and distance from a transmitting satellite to the user. The GPS receiver automatically selects appropriate signals from the satellites in view and translates these into three dimensional position, velocity, and time. System accuracy for civil users is normally 100 meters horizontally.

INSTRUMENT FLIGHT RULES (IFR) − Rules governing the procedures for conducting instrument flight. Also a term used by pilots and controllers to indicate type of flight plan.

NATIONAL AIRSPACE SYSTEM (NAS) - The common network of U.S. airspace; air navigation facilities, equipment and services, airports or landing areas; aeronautical charts, information and services; rules, regulations and procedures, technical information, and manpower and material. Included are system components shared jointly with the military.

NOTICE TO AIRMEN (NOTAM) − A notice containing information (not known sufficiently in advance to publicize by other means) concerning the Pilot/Controller Glossary 2/9/12 PCG N−4 establishment, condition, or change in any component (facility, service, or procedure of, or hazard in the National Airspace System) the timely knowledge of which is essential to personnel concerned with flight operations.

TRAFFIC ALERT AND COLLISION AVOIDANCE SYSTEM (TCAS) − An airborne collision avoidance system based on radar beacon signals which operates independent of ground-based equipment. TCAS-I generates traffic advisories only. TCAS-II generates traffic advisories, and resolution (collision avoidance) advisories in the vertical plane.

VISUAL FLIGHT RULES (VFR) − Rules that govern the procedures for conducting flight under visual conditions. The term “VFR” is also used in the United States to indicate weather conditions that are equal to or greater than minimum VFR requirements. In addition, it is used by pilots and controllers to indicate type of flight plan.

8.0 Appendices

Appendix A

Congress of the United States
Washington, DC 20515

May 23, 2012

Hon. Ray LaHood
Secretary
United States Department of Transportation
1200 New Jersey Ave. SE
Washington, DC 20590

Dear Secretary LaHood:

We are writing to respectfully request the Federal Aviation Administration (FAA) begin the process of formally soliciting local stakeholder views on helicopter noise in Los Angeles County, California in order to more quickly develop solutions to this ongoing problem. As cosponsors of legislation currently pending in the House and Senate, respectively, which would mandate the FAA issue regulations pertaining to helicopter noise, we believe the FAA should expeditiously undertake an examination of potential remedies to the longstanding problem of helicopter noise in residential areas of Los Angeles.

We also note that pending report language included in the Fiscal Year 2013 Senate Transportation, Housing and Urban Development, and Related Agencies Appropriations bill would direct the FAA to solicit the views of interested parties, including representatives of local communities, regarding helicopter noise and safety issues in Los Angeles County. The Senate Committee on Appropriations directed the FAA "to lead a collaborative effort … to (1) identify specific concerns with helicopter operations, including noise; (2) evaluate options that would respond to identified concerns including, but not limited to routes, operating altitudes, and hovering practices; and (3) develop solutions to the identified issues consistent with FAA's statutory responsibilities." Given longstanding concerns about helicopter noise expressed by our constituents, we urge you to begin the consultative process as referenced in the Senate Appropriations Committee report without delay.

We would also like to reiterate our firm belief that while consultations and reporting requirements are an important step forward, they are no replacement for meaningful action by the FAA to address the legitimate noise concerns expressed by our constituents in the Los Angeles area. While we understand the complexities involved in developing solutions to the problem of helicopter noise in Los Angeles, we note that previous efforts to address other air traffic-related noise concerns in the region were ultimately deferred

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as a result of repeated and costly studies. We strongly feel that FAA's leadership must lead to meaningful action to reduce helicopter noise.

We look forward to working with you and the FAA to develop a more detailed outline and scope for these consultations, and are pleased to invite the FAA to hear first hand from our constituents their concerns and solutions to the helicopter noise problem in the Los Angeles area. We look forward to hearing your response to our request.

Sincerely,

HOWARD L. BERMAN
Member of Congress

DIANNE FEINSTEIN
U.S. Senator

BARBARA BOXER
U.S. Senator

HENRY WAXMAN
Member of Congress

ADAM SCHIFF
Member of Congress

BRAD SHERMAN
Member of Congress

JANICE HAHN
Member of Congress

cc: FAA Acting Administrator Michael Huerta

S10-120523-005

Appendix B

U.S. Department
of Transportation

**Federal Aviation
Administration**

Office of the Administrator

800 Independence Ave., S.W.
Washington, D.C. 20591

July 31, 2012

The Honorable Dianne Feinstein
United States Senate
Washington, DC 20510

Dear Senator Feinstein:

Secretary LaHood has asked me to respond to your letter, cosigned by your congressional colleagues, requesting that the Federal Aviation Administration (FAA) begin a process to formally solicit local stakeholder views on helicopter noise in Los Angeles County, California. Additionally, you asked the FAA to note the reporting requirement in the draft language of the Fiscal Year 2013 Senate Transportation, Housing and Urban Development, and Related Agencies Appropriations Bill.

We agree that measures to address the issues related to helicopter noise in residential areas of Los Angeles County must be developed through local engagement and collaboration with community associations, the flying community, and local government.

Our Western-Pacific Regional Administrator, Mr. Bill Withycombe, is leading a collaborative effort to solicit input from local communities and stakeholders on helicopter noise and safety issues in Los Angeles County. He is forming an internal FAA working group to ensure support and accountability moving forward. As a result of the request from Congressman Berman's office to coordinate the meeting schedule, Mr. Withycombe and other FAA representatives will attend the first public meeting on August 6 in Sherman Oaks, California. The purpose of this meeting is to hear comments from the public and identify the issues of concern. A second public stakeholder meeting is in the planning process and will be held by October 2012. A final report will be developed by May 2013. It is important that the FAA avoid any potential issues under the Federal Advisory Committee Act of seeking consensus recommendations from stakeholders. The FAA's role will be to listen and consider the views of the public in its report to Congress.

We have sent a similar letter to each of the cosigners of your letter.

If I can be of further assistance, please contact me or Roderick D. Hall, Assistant Administrator for Government and Industry Affairs, at (202) 267-3277.

Sincerely,

Michael P. Huerta
Acting Administrator

Appendix C

Hollywood Sign

The Hollywood Sign is located at an elevation of 1,595 feet MSL. The terrain surrounding the sign within a 1 mile radius is steeply sloped from 800' up to the 1,775', with the highest point being ½ mile northwest of the landmark. The tallest obstacle in the immediate vicinity of the sign reaches to an elevation of 2,035'.

The Hollywood Sign is a VFR reporting point located within Burbank (BUR) ATCTs delegated surface area (below 2,000 feet). VFR aircraft are commonly observed navigating around the area near the sign with fixed-winged aircraft at approximately 1,800' and helicopters at approximately 1,200'. The minimum vectoring/IFR altitude over the Hollywood Sign is 3,000'.

Hollywood Bowl

The amphitheater is situated below the top of a mountain ridgeline which has a peak elevation of 1,690 feet MSL. Within ½ mile of the bowl, the terrain slopes downward from north (1,100') to south (450') into a residential area. Highway 101, a prominent visual reference point for VFR pilots, runs from southeast to north just east of the Hollywood Bowl.

The Hollywood Bowl lies beneath the BUR Class C airspace, which extends from 3,000-4,800 feet directly above it. The Bowl also lies just outside the area where the BUR Class C airspace extends down to the surface. VFR aircraft routinely uses the amphitheater as a visual reporting point for BUR ATCT, and fixed-wing aircraft flying via Highway 101 will cross this area at approximately 1,800', while helicopters will cross at 1,200'. There is a published helicopter route which follows Highway 101, and the Bowl itself is denoted on the Los Angeles Helicopter Chart with a comment asking aircraft to avoid flying over this landmark during concert season ("Avoid when white strobe lights are on June-October").

Griffith Park

The Griffith Park Observatory is located approximately one mile south of the Hollywood Sign and at an elevation of 1,150 feet MSL. There is higher terrain north of the structure, and the highest nearby obstruction is a 317' tall tower on top of 1,708' high Cahuenga Peak. A residential neighborhood is located immediately south of Griffith Park Observatory where the terrain slopes gradually to 200'.

Like the Hollywood Bowl, the Griffith Observatory and Park are located within the lateral confines of the BUR Class C airspace. The observatory lies beneath the portion of the Class C which extends from 3,000-4,800', while the park extends into the area in which the Class C airspace reaches to the surface. Just south of the observatory and park is the boundary of the LAX Class B airspace, which extends from 5,000-10,000' at the closest point, and from 2,500-10,000' within

3 nautical miles. There are two published helicopter routes which run north and south on each side of the park over Interstate 5 and Highway 101.

Carmageddon I and II

The freeway closures took place along a 10-mile section of I-405 in Los Angeles. The airspace over this area is extremely complex, with various classes of controlled airspace above and around the nearby airports. There is also Class G, or uncontrolled airspace in the area, where ATC cannot observe aircraft on radar and does not have authority to control aircraft. Overlying the freeway is the published San Diego Helicopter Route which begins at the intersection of I-405 and I-5 and continues south past the West Los Angeles Veteran Affairs Medical Center. The following image depicts where Carmageddon took place and the published helicopter route following the 405.

Van Nuys Airport (VNY)

Van Nuys Airport (VNY) is a public use airport located in the Los Angeles Basin (Latitude 34°12.59'N/Longitude 118°29.40'W). The airspace surrounding VNY airport is designated as Class D airspace from 1400-0645 Zulu and Class E during all other hours. Van Nuys airport is 4.8 miles from Whiteman Airport (WHP) and 6.6 miles from Bob Hope Airport (BUR). Van Nuys airport is closed to air carrier operations. The airport facility directive (AFD) states that Van Nuys is an extremely noise sensitive area and outlines the noise curfew. The noise ordinance curfew states there will be no take offs for aircraft exceeding 74 DBA (PER AC36-3) between 2200-0700, except military, mercy flights, or law enforcement aircraft.

Van Nuys Airport fixed-wing traffic pattern on the west side of the field is 2,000 MSL (1200 AGL) and on the east side of the field the fixed-wing traffic pattern altitude is 1,800 MSL (1,000 AGL). The helicopter traffic pattern altitude is 1,300 MSL (500 AGL) throughout the VNY airspace which is 500 feet below the lowest fixed-wing pattern. The fixed-wing traffic pattern altitude was established to protect air carrier operations descending directly over Van Nuys Airport that are landing at Burbank Airport. Due to the fact that Burbank Airport is in close proximity to Van Nuys Airport, the air carriers will descend to cross the BUR final approach fix (BUDDE) at an altitude of 2,750 MSL which is located in Van Nuys Airport airspace.

Helicopter pilots should transition over the airport while climbing to or descending from 1,300 MSL to avoid noise sensitive areas and should remain on one of the established routes which were designed to overfly industrial areas or freeways unless they are on an emergency response or surveillance mission; i.e., Police or Fire Department.

Zamperini Field (formerly Torrance Municipal Airport) (TOA)

Zamperini Field (TOA) is a public-use airport located in the Los Angeles Basin (Latitude 33°48.20'N/Longitude 118°20.38'W). The airspace surrounding TOA airport is designated as

Class D airspace (surface to 2,400 feet MSL) from 1500-0400 Zulu and Class G airspace (uncontrolled) during all other hours. TOA is closed to departures from 2200-0700 on weekdays and 2200-0800 on weekends and holidays. The airport facility directive (AFD) states TOA has noise-sensitive areas surrounding it. There are 5 voluntary helicopter routes to and from TOA airport along with noise abatement procedures. Touch-and-go, low approach, and stop-and-go landings are permitted Monday through Friday, are restricted on Saturdays and prohibited on Sundays and holidays. Simulated multi-engine out procedures are not authorized in the traffic pattern. City Noise Abatement restricts training operations in the south traffic pattern unless directed by Air Traffic.

There are two runways on the field (11R/29L and 11L/29R) that serve both fixed-wing and rotor wing aircraft. There is one helipad on the north side approximately mid field that is available from sunrise to sunset for one helicopter at a time to work the pattern or practice hovering. There is a hospital helipad located in the northwest corner of the field used for Lifeguard and other medical emergency flights. Pattern altitude for both the north and south patterns for single engine aircraft is 1,100 feet MSL and for twin engine aircraft is 1,600 feet MSL. When the north pattern becomes saturated with fixed-wing aircraft, due to the differences in aircraft performance and characteristics, it becomes necessary to move helicopters to the south pattern. This is done specifically for safety, but it is also more advantageous from a noise perspective than moving the fixed-wing aircraft, because helicopters can fly higher and remain closer to the airport as they require shorter climb and descent distance than do fixed-wing aircraft. When operating in the south pattern, helicopters remain inside of Pacific Coast Highway (operating over car dealerships and strip malls).

TOA conducted 151,806 total operations in 2012. Of this number, 69,976 were itinerant operations (arrivals or departures), 69,898 were local operations (aircraft based at TOA) and 11,932 were overflights (transitions). Most operations are conducted by light, civil aircraft both fixed-wing and rotor wing. Currently, there is no way to distinguish which operations are conducted by fixed-wing versus rotor wing aircraft. Jet traffic is limited as there is no jet fuel available at Zamperini Field.

Fixed-wing aircraft inbound to TOA may request to enter the airspace from any geographical area around the field. Generally speaking, however, most report inbound over Alondra Park (northwest), King Harbor (southwest), Vincent Thomas Bridge (east), Palos Verdes, (southeast), Good Year (north) or Signal Hill (northeast). The current helicopter routes keep them away from the fixed-wing entry points and corresponding routes of flight.

Although there is no way to say how many operations are fixed-wing versus rotor wing aircraft, there are a significant number of helicopter operations at TOA. Zamperini Field is the home of the Robinson Helicopter Company (RHC) as well as two independent helicopter flight schools. RHC currently produces 12 aircraft per week, and each one receives 4 to 6 hours of flight testing before delivery. RHC also conducts a 3 ½- day Pilot Safety Course which consists of 2 ½-days of classroom instruction and 1 day of maintenance, pre-flight inspections, and flying with an experienced RHC pilot in the R22, R44 or R66. This safety course is conducted 1 to 2 times

each month depending on demand (currently scheduled for 17 sessions during calendar year 2013). Helicopter traffic volume is significantly higher during these periods.

Weather conditions also play a critical role in the routes/altitudes used by helicopters. Although TOA is VFR approximately 90% of the time, the coastal marine layer that develops at certain times of the year can leave certain routes unusable or climbing to certain altitudes impossible.

The current voluntary helicopter routes established by a Letter of Agreement (LOA) have been in place for a substantial amount of time (since approximately the early 1990s) and are intended to keep helicopter and fixed-wing aircraft separated, standardize routes for signatories to the LOA, and shorten phraseology between pilots and controllers when requesting/utilizing those routes.

The Getty Center

The topography between the Getty Center and the Hollywood attractions varies between 800 and 1,200 feet MSL. Just northwest of the Center is a peak with an elevation of 2,126'. There are many high-rise buildings in the vicinity which reach as high as 824'. The Getty Center is located just outside of the Santa Monica Class D airspace, and the minimum vectoring/IFR altitude above it is 3,300'. The San Diego Helicopter Route follows I- 405 just east of the Getty Center.

Santa Monica Airport

Santa Monica (SMO) is a public-use airport located in the Los Angeles Basin (Latitude 34°00.95'N/Longitude 118°27.08'W). The airspace surrounding SMO airport is designated as Class D airspace from 1500-0500 Zulu and Class G during all other hours. The airport has instituted a noise policy that does not allow touch-and-go, stop-and-go, or low approaches on Saturdays, Sundays, or holidays. It also restricts those operations during the week and does not allow them between sunset and 0700. There are no departures from SMO between the hours of 11 PM and 7 AM on weekdays, and 8 AM on weekends. SMO has some of the most restrictive noise abatement procedures in the country. SMO is an important reliever for LAX and also provides access for emergency services, general aviation, flight training and medical services such as Angel Flight, a non-profit which transports patients to get medical treatment.

Hollywood Hills

Hollywood Hills is just west of the Hollywood Bowl and lies beneath the BUR Class C airspace which extends from 3,000-4,800' and just north of the boundary of the LAX Class B airspace. Hollywood Hills is used as a VFR reporting point for Burbank ATCT; VFR fixed-wing aircraft navigating over the valley and nearby freeways are typically observed flying at 1,800' and helicopters at 1200'.

Freeways

The Los Angeles Basin consists of 15 public-use and 11 private-use airports, and 138 heliports. The air traffic over the freeway system will vary depending on the overlying airspace, aircraft operations, and terrain. Many published voluntary helicopter routes overfly freeways since they are easily navigated by VFR pilots. Allowing helicopters to fly the freeways at lower altitudes also allows them to safely pass under the numerous approach and departure paths that exist throughout Southern California.

Freeways are heavily used by the police department during high-speed chases. They are also used by media to provide the public with live traffic coverage.

Plane Spotting Activities at LAX

Helicopters operating in this airspace are required to be in contact with LAX ATCT. Helicopter photography flights (other than those contracted by LAWA) are required to give 24 hour advance notice to orbit over LAX airport. This allows LAX ATCT to ensure they have the staffing to provide additional advisories to helicopters and allows them to prioritize LAWA flights.

Notice of Availability of the Draft 2014 Public Participation Plan WE INVITE YOUR INPUT!

SCAG's 2014 Draft Public Participation Plan has been released for public review and comment from January 22, 2014 through March 7, 2014

Deadline to submit comments is MARCH 7, 2014

As the Southern California Association of Governments (SCAG) prepares to develop the 2016–2040 Regional Transportation Plan/ Sustainable Communities Strategy, the agency is updating its Public Participation Plan and invites your input.

Consistent with federal and state requirements, SCAG regularly reviews and evaluates its public participation and outreach activities to ensure that the public and interested parties are given early, meaningful and substantive opportunities to be involved in SCAG's decision-making. To that end, SCAG released the 2014 Draft Public Participation Plan on January 22, 2014 for a mandatory 45–day public review and comment period, which ends at **5:00 p.m. on March 7, 2014**. SCAG invites your review and comments on the draft plan which is available to download at **www.scag.ca.gov/participate/Pages/PublicParticipationPlan.aspx**.

HOW TO SUBMIT COMMENTS ON SCAG'S 2014 DRAFT PUBLIC PARTICIPATION PLAN

SCAG provides a variety of ways for you to submit your comments on the 2014 Draft Public Participation Plan. Choose the method most convenient for you:

1. Complete the Public Participation Comment form at: www.scag.ca.gov/participate/Pages/PublicComment.aspx
2. Email your comments to: contactus@scag.ca.gov
3. Fax your comments to: 213-236-1961 – ATTENTION: Media & Public Affairs
4. Mail or drop off your written comments at any SCAG Office:

Main Office
818 W. 7th Street, 12th Floor
Los Angeles, CA 90017

Riverside County Office
3403 10th Street, Suite 805
Riverside, CA 92501

Imperial County Office
1405 N. Imperial Avenue, Suite 1
El Centro, CA 92243

San Bernardino County Office
1170 W. 3rd Street, Suite 140
San Bernardino, CA 92410

Orange County Office
600 S. Main Street, Suite 906
Orange, CA 92863

Ventura County Office
950 County Square Drive, Suite 101
Ventura, CA 93003

WHAT HAPPENS NEXT?

At the conclusion of the comment period, staff will review, address and incorporate as appropriate all comments received into a final, draft Public Participation Plan that will be presented to SCAG's Legislative/Communications & Membership Committee (LCMC) at its meeting on March 18, 2014. Upon approval by the LCMC, staff will present the 2014 Final Public Participation Plan to the SCAG Regional Council for adoption on April 3, 2014.

Questions? Please contact Angela Rushen Ross, Manager of Media & Public Affairs at ross@scag.ca.gov or call 213-236-1809.

We value and look forward to receiving your input on the 2014 Draft Public Participation Plan.

SOUTHERN CALIFORNIA
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