Dallas Love Field Voluntary Noise Program

Noise Stakeholder Meeting
Date: 08/25/2022

Welcome, the presentation will start shortly.
Thank you for joining us!

Opening Remarks

Mark Duebner, Director
Department of Aviation
City of Dallas

City of Dallas

Meeting Agenda

- Introductions
- Facilitator
- HMMH
  - Aircraft noise regulation in the U.S.
  - Introduction to aircraft noise
  - The existing Dallas Love Field (DAL) voluntary noise control program
  - Historical DNL contours
- Open Discussion
- Adjourn

Key G-R-O-W Questions

Reality

- What is the situation right now? What are you basing that on?
- What have you done so far? What is stopping you?

Goal

- What would you like to achieve?
- What specifically do you want?
- What would you like to focus on?
- How can I support you right now?

Options

- What could you do to reach your goals?
- What other action could you take?
- What has worked for you already?
- What support do you need?

Will

- On a scale from 1-10, how committed are you to this action?
- What will you do first
- What might get in your way?
- How will you know when you are done?

Dallas Love Field
Voluntary Noise Control Program Update

August 25, 2022

Purpose / Goal

- The Department of Aviation (DOA) is hosting a series of stakeholder meetings to review the Voluntary Noise Control Program (NCP).
- Future meetings will:
  - Solicit stakeholder ideas and feedback on the current NCP
  - Discuss possible modifications to the NCP
  - Provide initial analysis of potential modifications to the NCP
  - Coordinate with FAA before presenting to City Council
- The final recommendations will be presented to City Council for approval before submitting to FAA

Noise Regulation - Federal

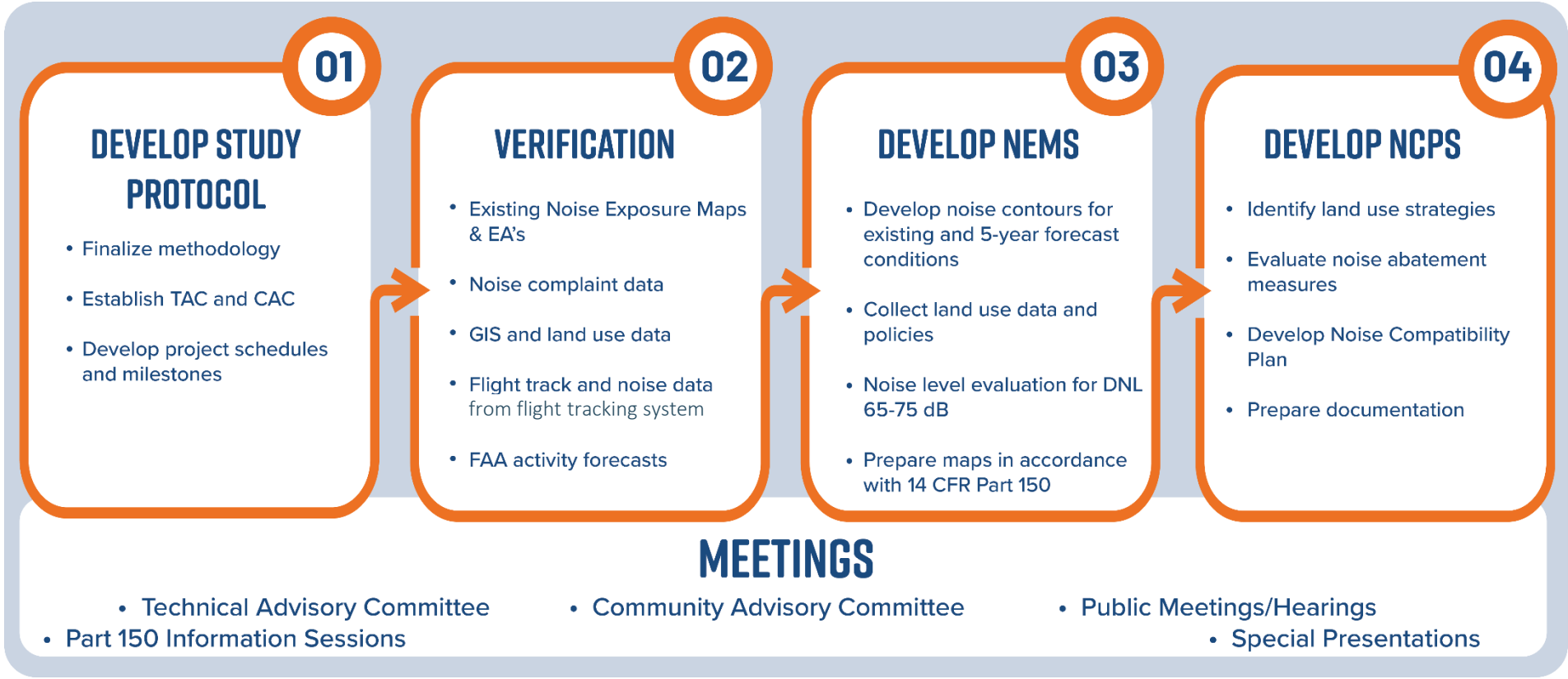
Statute	Aircraft Noise Related Purpose	Most Relevant FAA Regulation(s)
Aircraft Noise and Sonic Boom Act of 1968	Authorizes FAA to prescribe standards for measurement of aircraft noise and establish regulations to abate noise	14 CFR parts 36 and 91
National Environmental Policy Act of 1969 (NEPA)	Directs all federal executive agencies to assess all environmental effects of proposed federal agency actions	FAA Orders 1050.1F, 5050.4B
The Noise Control Act of 1972 (Noise Act)	Amends 1968 act to add consideration of public health and welfare and to add EPA to the rulemaking process for aircraft noise and sonic boom standards	None directly; EPA responsibility
Aviation Safety and Noise Abatement Act of 1979 (ASNA)	Directs FAA to establish single system to measure noise and determine exposure of people to noise, and identify land uses normally compatible with various noise levels	14 CFR part 150
Airport and Airway Improvement Act of 1982	Authorizes FAA funding for noise mitigation/compatibility planning and projects and establishes noise compatibility requirements for FAA-funded airport development	FAA Airport Improvement Program
Airport Noise and Capacity Act of 1990 (ANCA)	Mandates phase out of Stage 2 jet aircraft over 75,000 pounds, and established requirements regarding airport noise and access restrictions for Stage 2 and 3 aircraft	14 CFR part 161
Section 506 of the FAA Modernization and Reform Act of 2012	Prohibition after 12/31/2015 of operation of civil subsonic jet airplanes with maximum weights of 75,000 pounds or less that do not meet stage 3 noise standards	14 CFR part 91
FAA Reauthorization, 2018	Reauthorizes FAA through 2023	None yet

Federal Regulation – Part 150

- Federal Aviation Administration (FAA) developed the Part 150 Program in response to the federal Aviation Safety and Noise Abatement Act of 1979 ("ASNA")
- Codified under Title 14 of the Code of Federal Regulations (CFR) Part 150
  - Formal *citation* is "14 CFR Part 150," informal is "Part 150"
  - Formal *title* is "**Airport Noise Compatibility Planning**"
- *Voluntary* FAA-defined process for airport noise studies
- Two primary elements
  - Noise Exposure Map (NEM)
  - Noise Compatibility Program (NCP)
  - Detailed FAA guidance at www.faa.gov/airports/environmental/airport_noise/

Airports participate in Part 150 to gain access to federal funding to implement their NCP measures

Federal Regulations – Part 150 Generalized Study Process



DAL Annual Contours are developed following FAA Part 150 Guidelines

Federal Regulations – Part 150
Noise Compatibility Program Measures

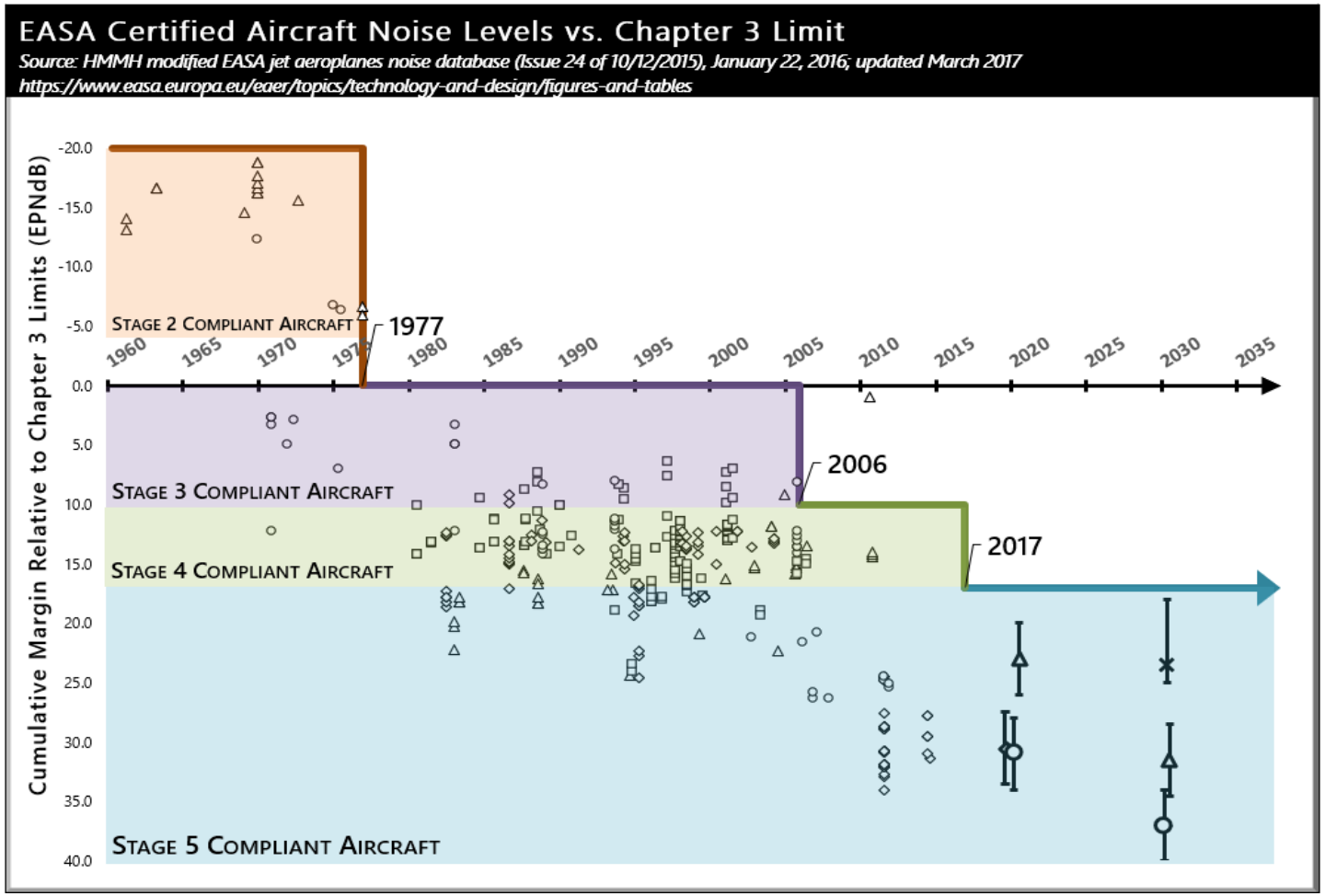
- Noise abatement measures
  - Shrink noise contours or move them away from noncompatible uses
  - Aircraft operational, airport layout, flight track and runway use, etc.
- Compatible land use measures
  - To address existing noncompatible uses
  - To prevent introduction of new noncompatible uses
- Program implementation
  - Required actions, responsible parties, costs
  - NEM and NCP review and update processes

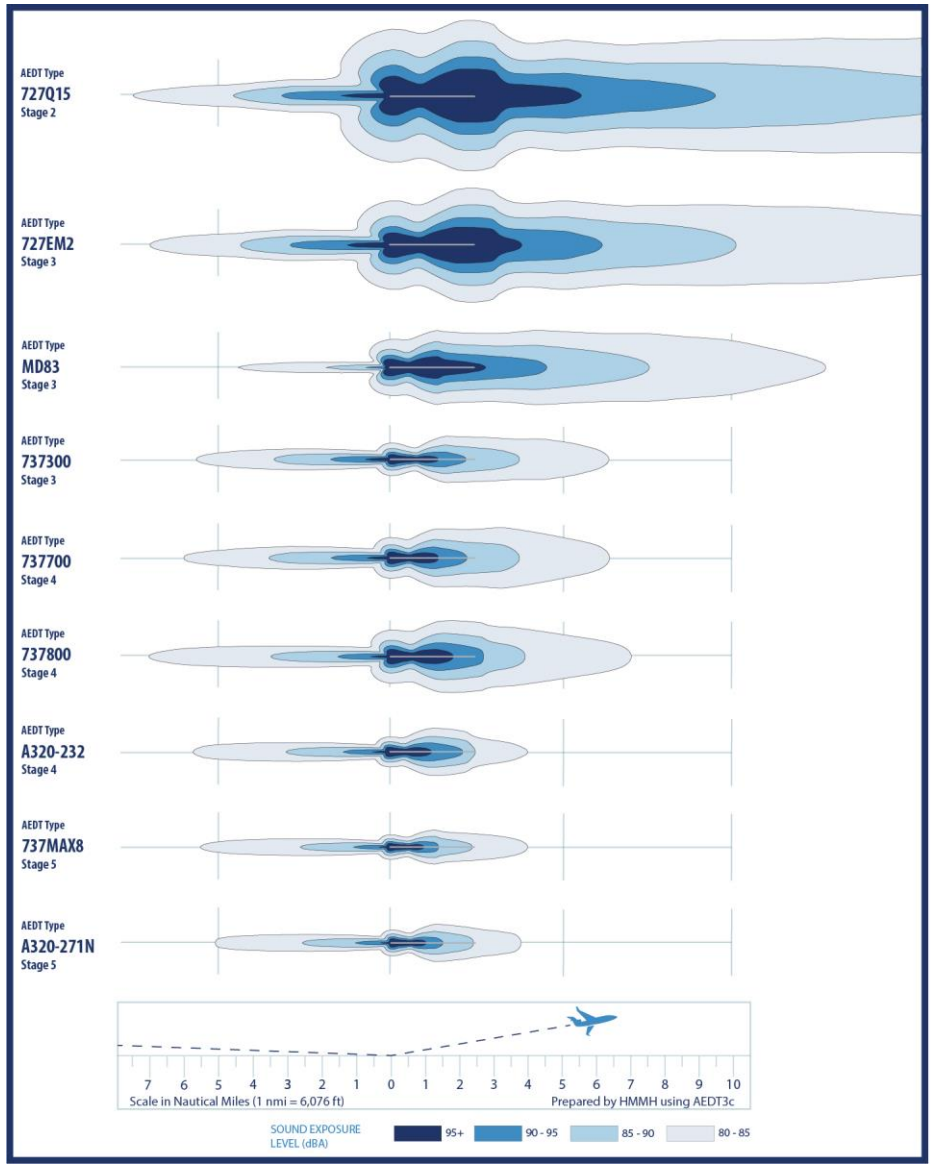
Federal Regulation – Part 161

- Federal Aviation Administration (FAA) developed the Part 161 Program in response to the federal Airport Noise and Capacity Act of 1990 ("ANCA")
- Codified under Title 14 of the Code of Federal Regulations (CFR) Part 161
  - Formal *citation* is "14 CFR Part 161," informal is "Part 161"
  - Formal *title* is "**Notice and Approval of Airport Noise and Access Restrictions**"
- Establishes the federal program for reviewing noise and access restrictions on the use of Stage 2 and 3 aircraft (and perhaps beyond)
  - Requires extensive benefit cost analyses
  - Requires extensive notice process
  - Requires different level of analysis for Stage 2 and 3
  - Requires separate analysis of effects on aircraft less than 75,000 pounds
  - Encourages voluntary agreements

Study of last resort – only two restrictions in place since law enacted; both stage 2 bans

Federal Regulation – Aircraft Noise Stages





All aircraft manufactured today must meet Stage 5 regulations; most aircraft operating today meet Stage 4 or 5 regulations

Federal Regulations – Noise Compatibility Roles and Responsibilities

Defined by "FAA Noise Abatement Policy Statement" (November 1976)

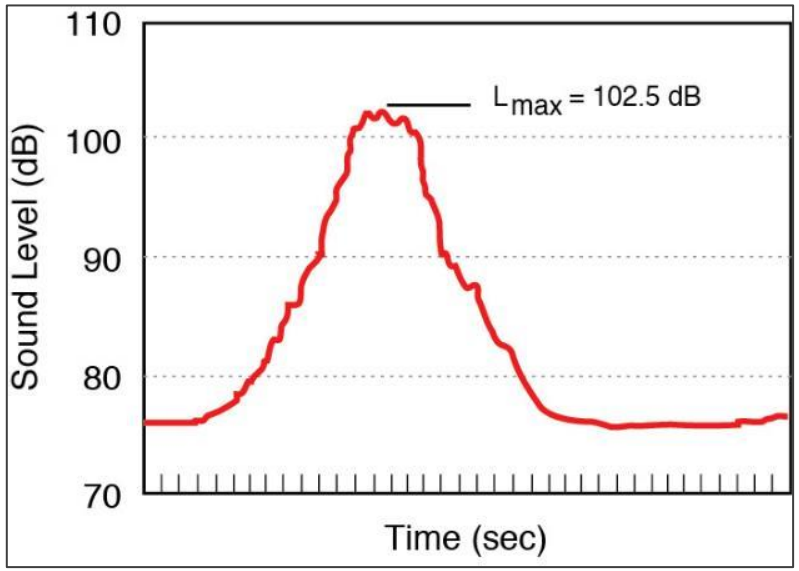
- Federal government
  - Source emissions, air traffic control, funding, and safety oversight
- State and local government
  - Compatible land use planning and control
- Aircraft operators
  - Noise-sensitive schedules, cockpit procedures, and fleet improvements
- Air travelers and shippers
  - Bear the costs
- Current and potential residents
  - Seek to act in an informed manner
- Airport operators
  - Plan and implement noise compatibility measures

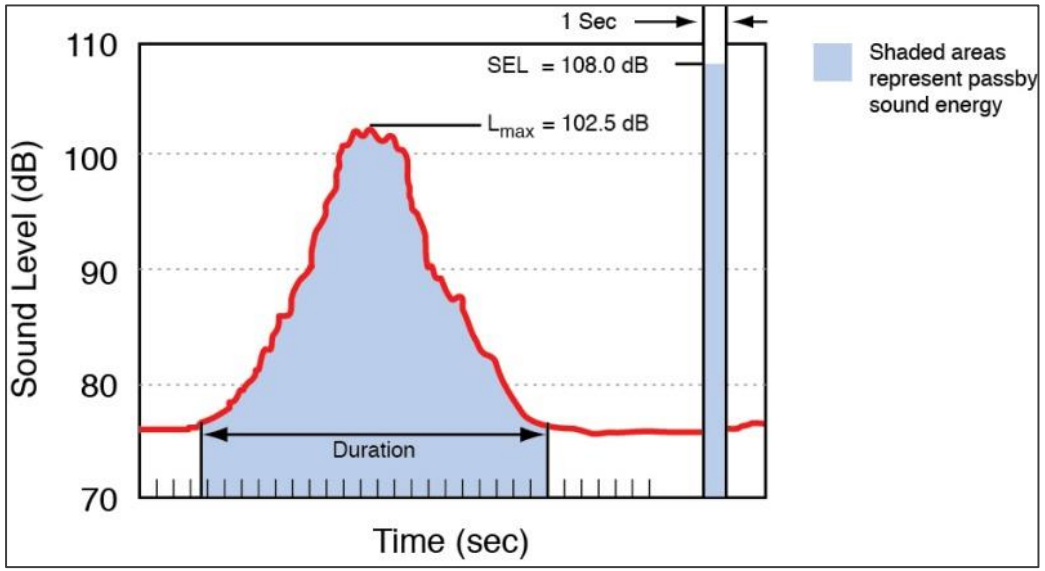
Federal Regulations – Application of FAA Policy to this Process

- **Airport**
  - Directs meetings and evaluations
  - Coordinates possible measures with FAA and relevant stakeholders
  - Submits program to City Council for approval
- **FAA**
  - Provides input to, reviews, and assists with analysis of noise abatement flight procedures
  - Responsible for implementation of noise abatement flight procedures
- **Local governments**
  - Provide input to recommended land use measures
  - Implement and enforce land use measures to maintain and improve noise compatibility
- **All stakeholders, including aviation interests, residents, and other interested parties**
  - Monitor study process, provide input, assist with implementation

Aircraft Noise Introduction Terminology – Single Event

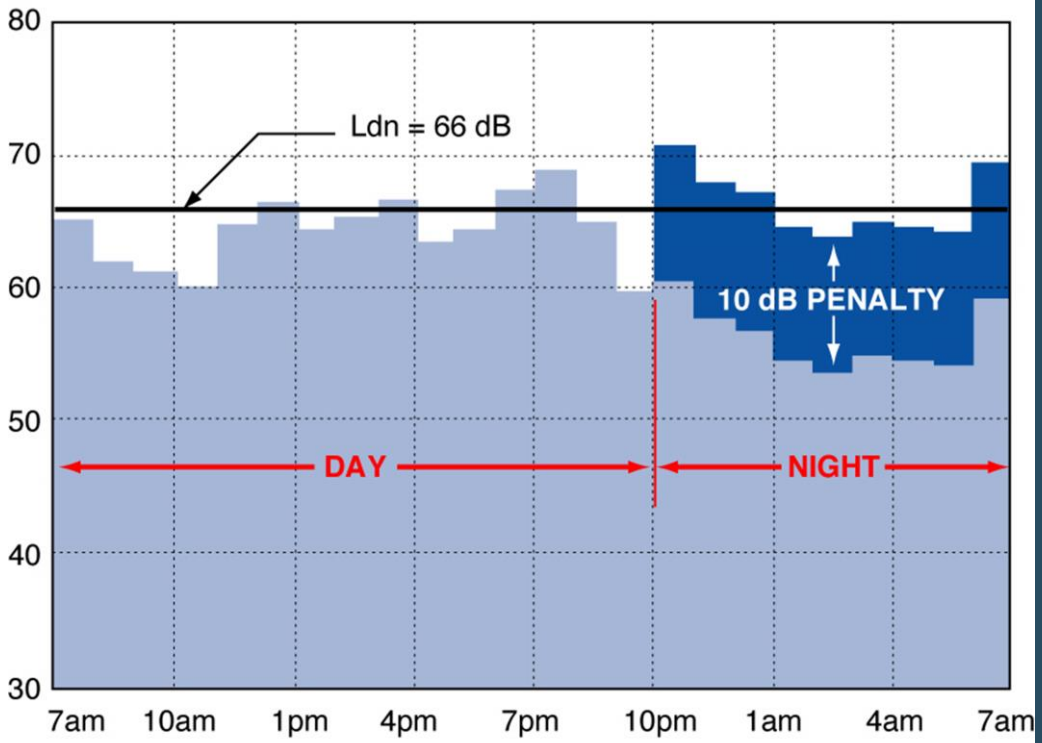
- Maximum A-weighted Sound Level (Lmax)
- Sound Exposure Level (SEL)





Aircraft Noise Introduction Terminology – Cumulative

- Day Night Average Sound Level (DNL)
  - Describes the noise dose for a 24-hour period
  - Accounts for event "noisiness" (SEL)
  - Accounts for number of noise events
  - Provides an additional weighting for nighttime operations
    - Daytime is defined as 7:00 am to 10:00pm
    - Nighttime is defined as 10:00pm to 7:00am
- DNL is the only metric Part 150 requires for land use compatibility assessments
  - All land uses are compatible with aircraft noise exposure less than 65 dB DNL



Love Field Existing Voluntary Noise Control Program

- Established in 1981
  (around same time as Part 150)
- Voluntary noise abatement measures
- Voluntary preferential runway program
- Turbojet take-off profile optimization
- Maintenance run-up orientation, times
- Limited hours for training and touch & go operations
- Updated noise complaint procedures
- Distribution of noise abatement information

DAL NCP – Program Measures

- **Nighttime Preferential Runway:**
  - Use runway 13R/31L rather than runway 13L/31R between 9:00 p.m. and 6:00 a.m.
    - Unless flight safety requires otherwise
  - Applies to all turbojet aircraft and any aircraft weighing over 12,500 pounds
  - Caveats
    - Pilots can request any runway
    - Ultimately air traffic controllers make the decision about which runway to assign
- **Trinity Departure:**
  - Departure route over the Trinity River, which is adjacent to less densely populated areas
  - Southbound night departures on runway 13R
  - Applies to all turbojet aircraft and any aircraft weighing over 12,500 lbs.
- **Restrictions on Engine Run-Ups:**
  - Aircraft engine maintenance run-ups prohibited between the hours of midnight and 6:00 a.m.
  - Voluntary moratorium between 10:00 p.m. and midnight
- **Optimal Take-Off Profile:**
  - Use of a flight departure profile designed to reduce noise.

Measures are voluntary; the City is unable to enforce these measures.

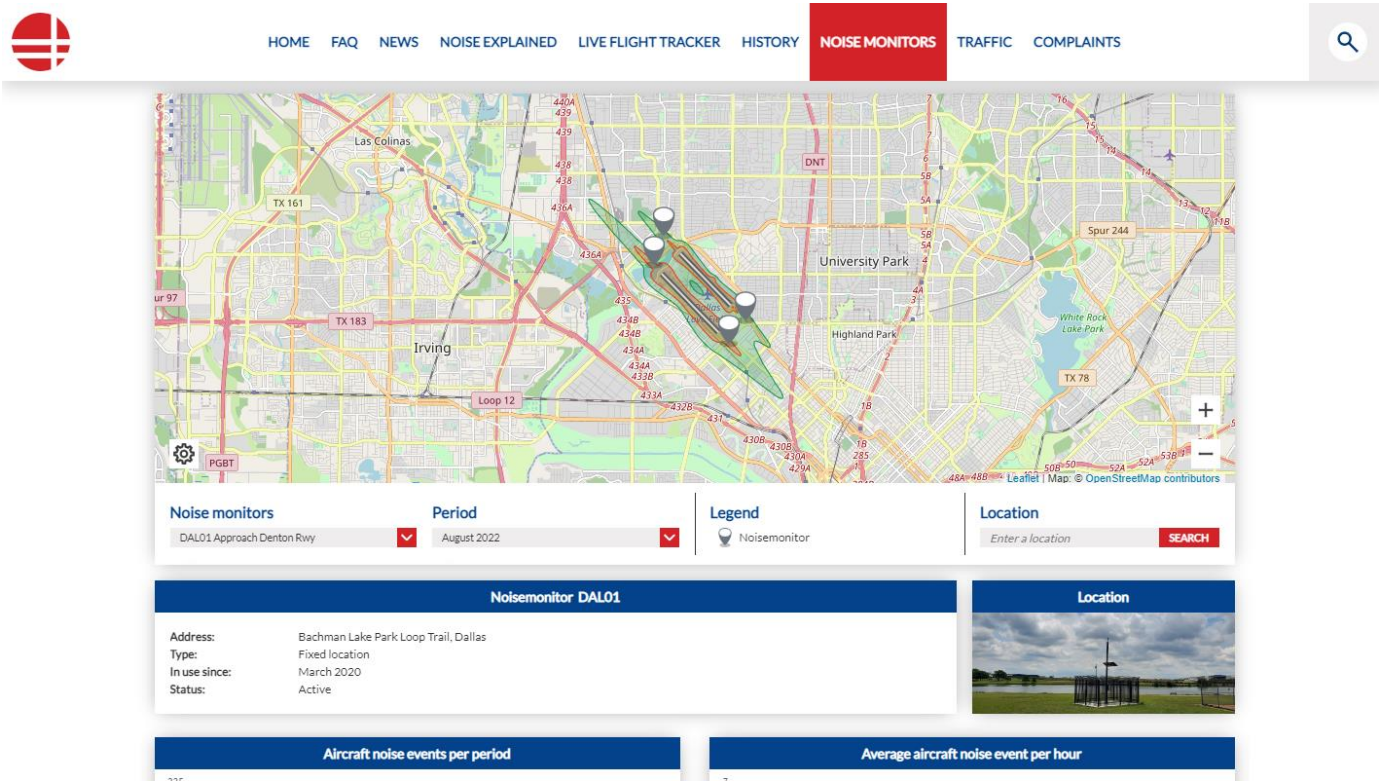
DAL NCP – Other Measures

- **Voluntary Agreement**
  - On June 15, 2006, the City of Dallas, the City of Fort Worth, Southwest Airlines, American Airlines, Inc, and DFW International Airport entered a joint agreement to resolve the Wright Amendment issues.
  - In the agreement, the City of Dallas agrees that it will negotiate a voluntary noise agreement at Dallas Love Field, precluding scheduled airline flights between 11:00 p.m. and 6:00 a.m.
  - Subsequently, in the Dallas Love Field Airport Use and Lease Agreement executed on February 13, 2009, Southwest Airlines agreed to adhere to a voluntary noise agreement at the Airport.

- **Airport restricted to 20 gates**
  - Operations are limited to what can be accommodated through 20 gates

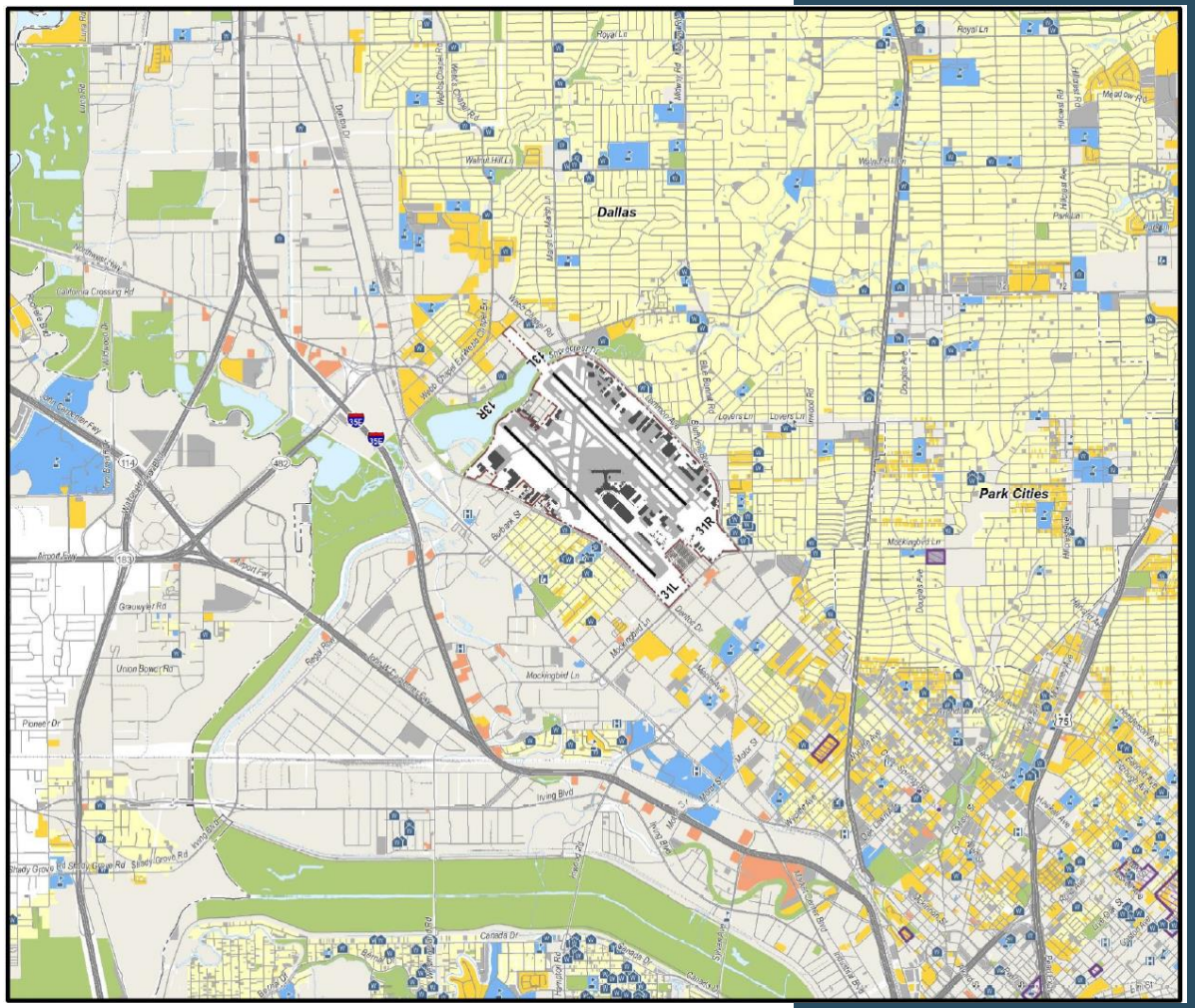
DAL Initiatives

- Additional measures undertaken by the City
- Airport Noise Team
- Noise and Flight Tracking System
  - State-of-the-Art Casper NoiseLab system
  - Noise complaint reporting system
- Ongoing Public Outreach
  - LFEAC Meetings
  - Annual DNL Noise Reports
- Zoning Reviews



DAL – Historical Contours

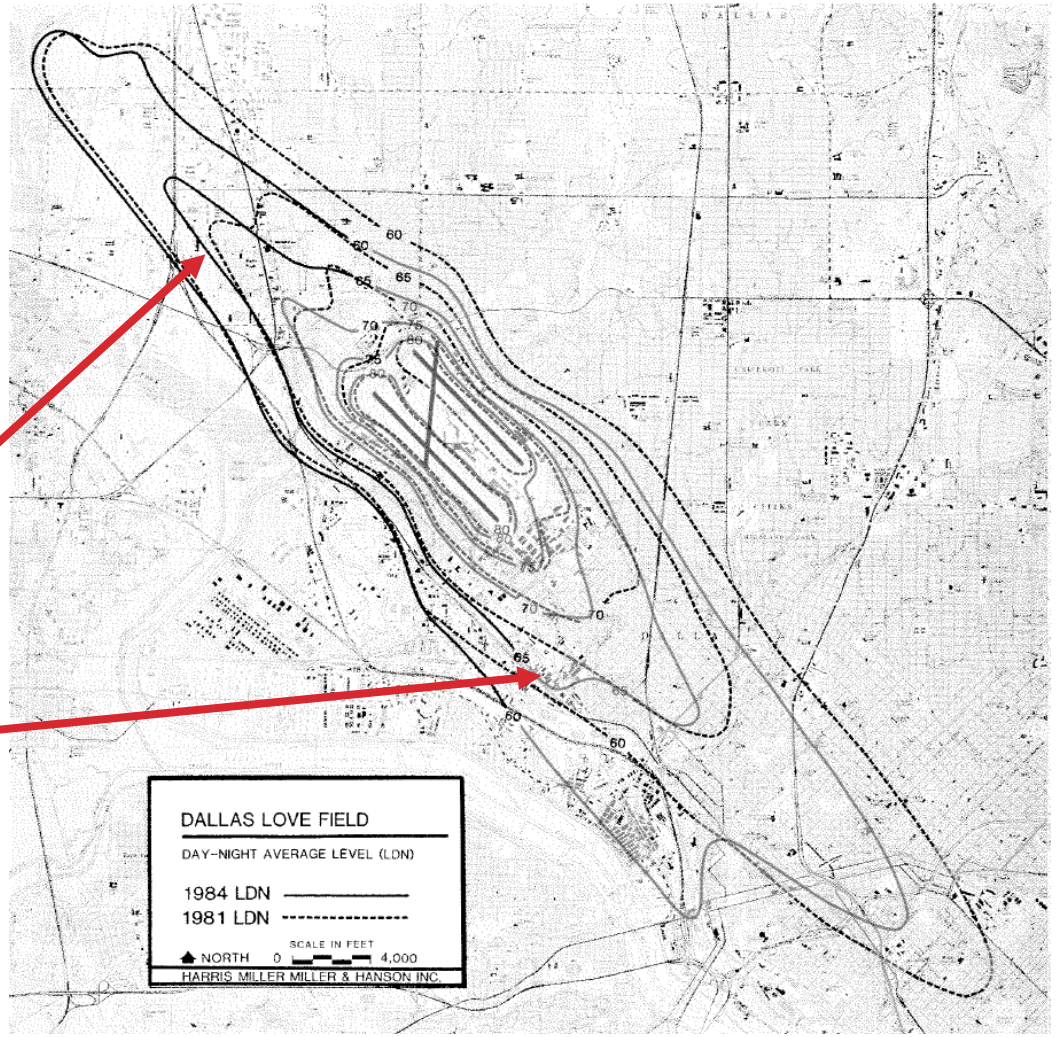
- DNL Contours were prepared for:
  - 1981 – before NCP
  - 1983
  - 1984
  - 1985
  - 1986 Noise Program Review
  - 1989 Interim Year Review
  - 1992 Noise Program Review
  - 1998 Noise Program Review
  - 2001 Master Plan
  - 2006 Wright Impact Report
  - 2013 - 2020 Annual Contours



Current Land Use near Love Field

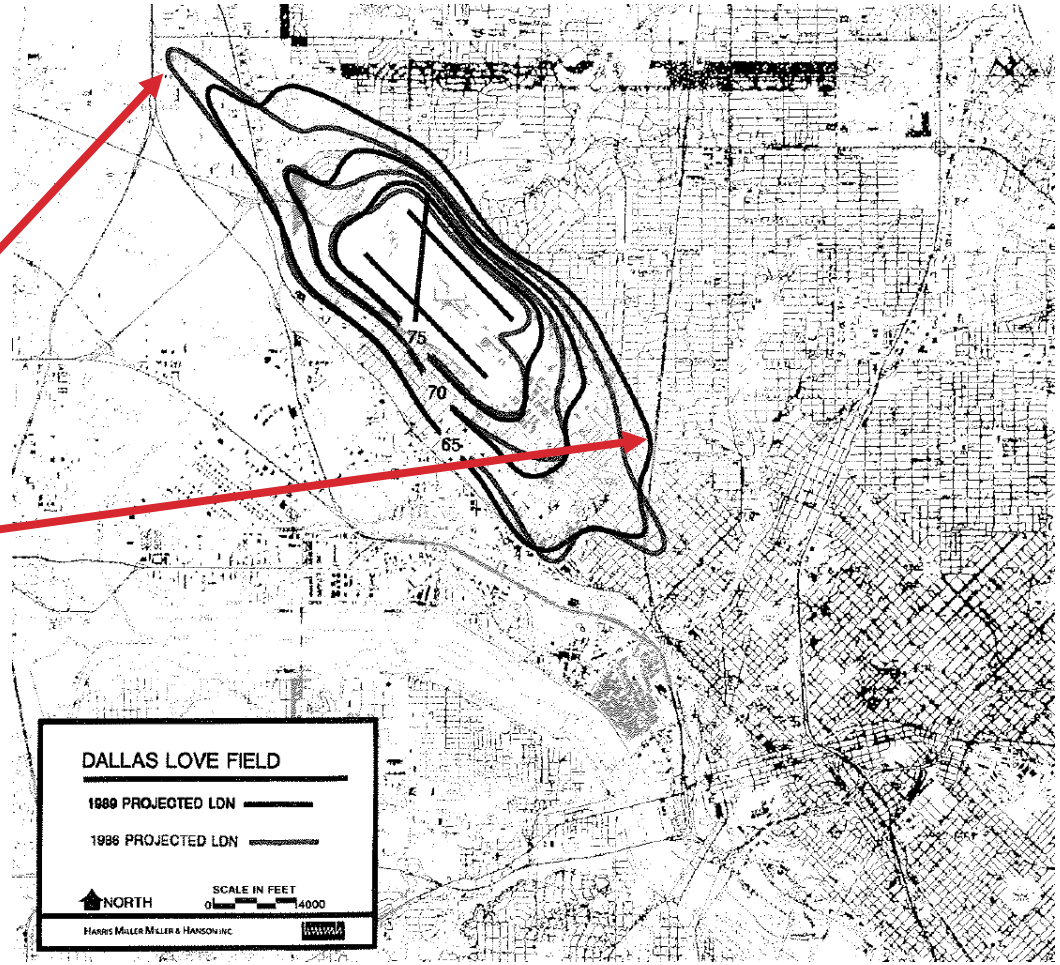
DAL – Historical Contours

- 1984 Noise Contour Update
- 1984 compared to 1981
  - 1984 65 DNL extends 2.5 nmi to the northwest and 2.5 nmi to the southeast
  - 1984 reflects implementation of Preferential nighttime use of 13R/31L and the TRINITY Departure procedure.



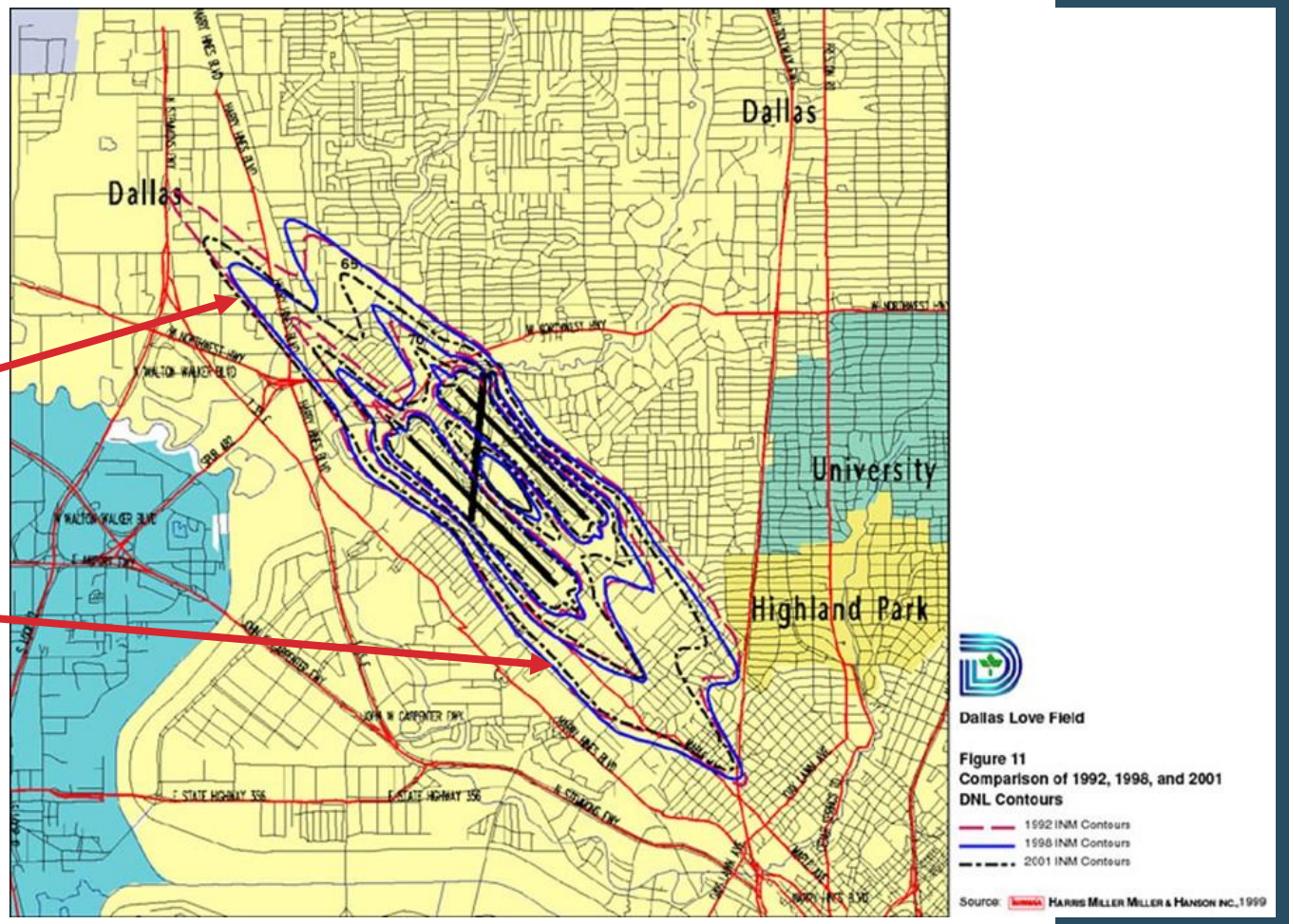
DAL – Historical Contours

- 1989 Noise Contour Update
- 1989 compared to 1986
  - 1986 similar shape to 1984 but smaller due to SWA increased use of 737-300 “Stage 3” aircraft (~45%) even with 18% increase in overall Jet operations
  - 1989 reflects increases along Rwy 13L/31R due to increases in “Stage 2” GA and Air Taxi Jets
  - SWA continues to maximize use of 737-300 “Stage 3” jets (~60%).



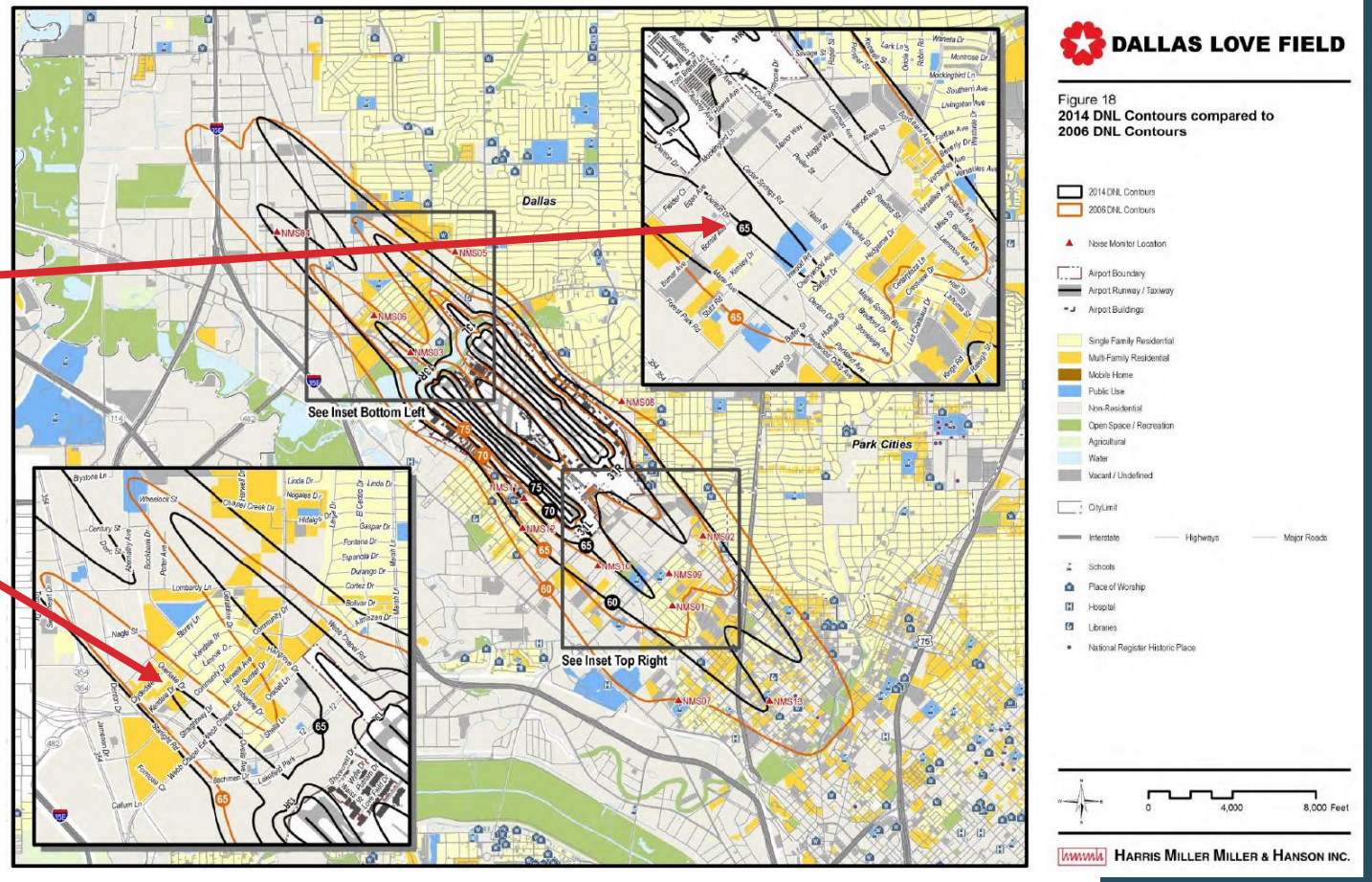
DAL – Historical Contours

- 1998 Noise Contour Update
- 1998 compared to 1992
  - 1998 DNL - SWA continues to maximize use of 737-300 “Stage 3” jets (~74%).
  - Forecast 2001 DNL contours reflect nationwide “Stage 2” phase out



DAL – Historical Contours

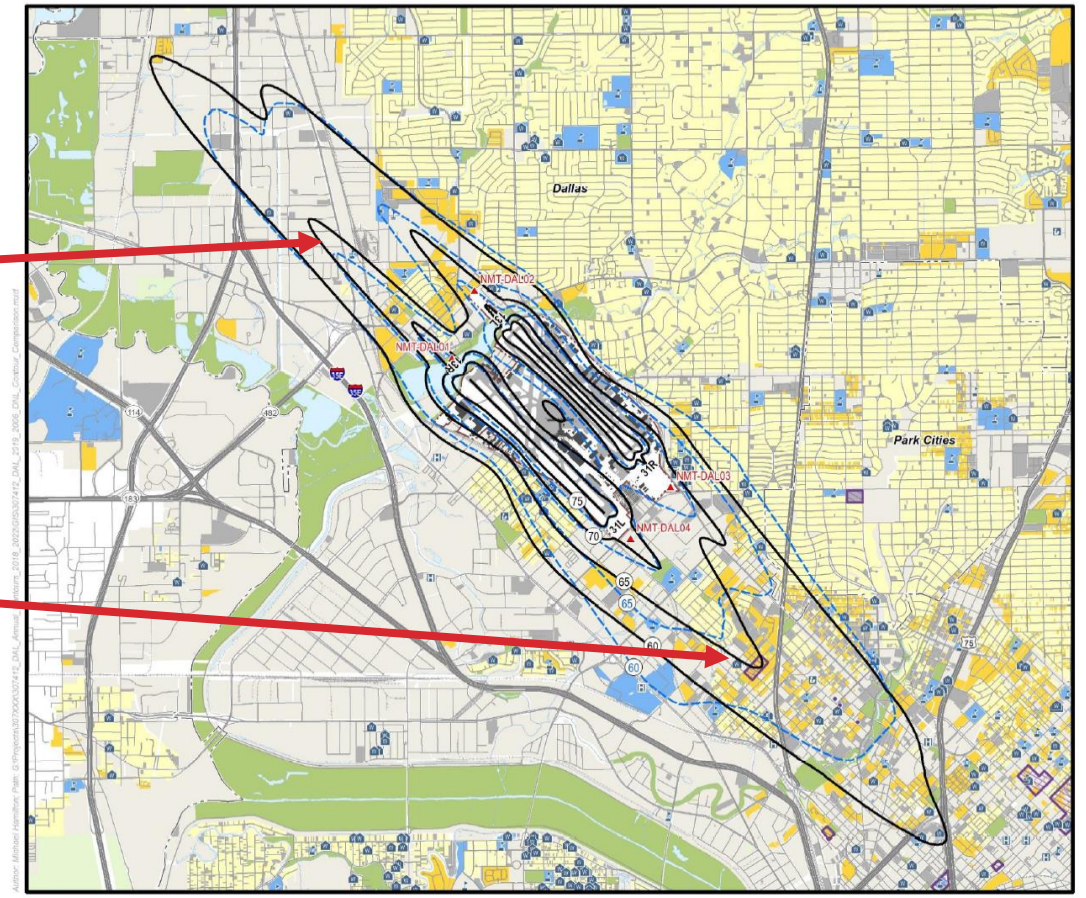
- 2014 Noise Contour
- 2014 compared to 2006
  - 65 DNL contour significantly smaller to the south
  - 65 DNL significantly smaller than 2006 to the north
  - Wright Amendment expired in Oct 2014

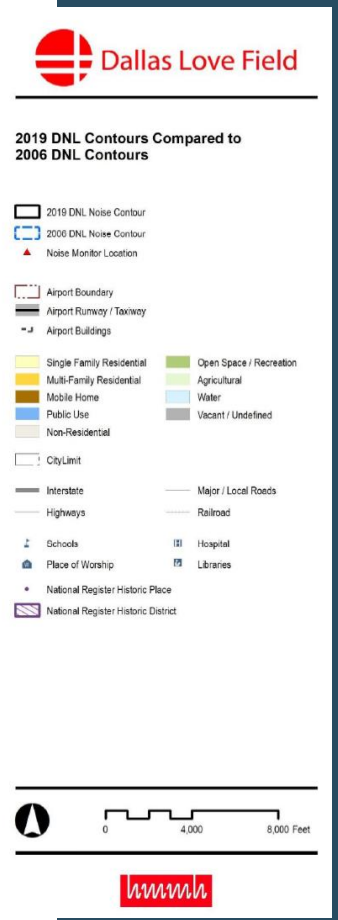


Benchmark 2006 DNL contours from Wright Amendment Report

DAL – Historical Contours

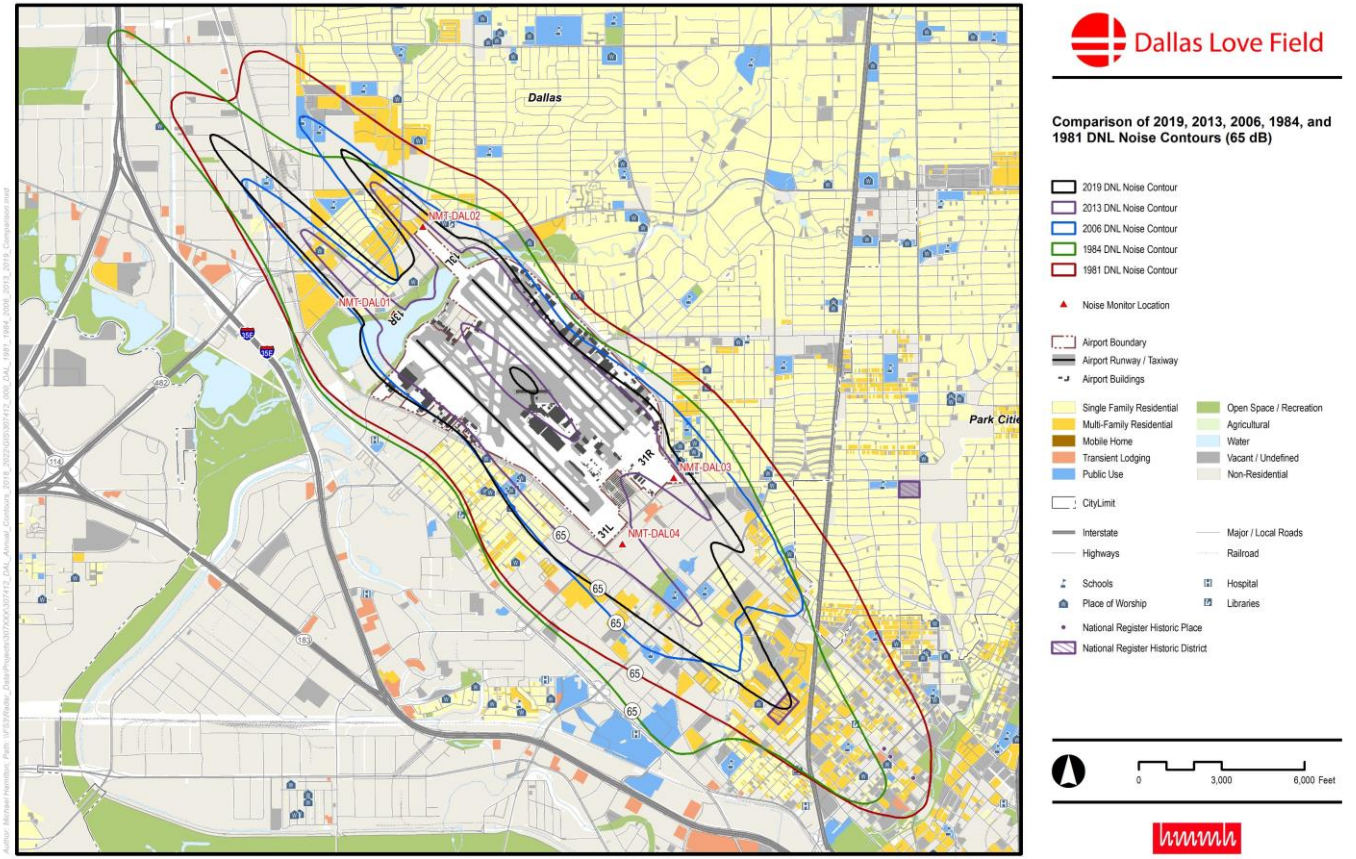
- 2019 Noise Contour
- 2019 compared to 2006
  - 65 DNL contour extends further to the northwest from Runway 13R/31L
  - 65 DNL contour smaller along Runway 13L/31R
  - 65 DNL extends further southeast from Runway 13R/31L than 2006
  - Operations have increased since 2014





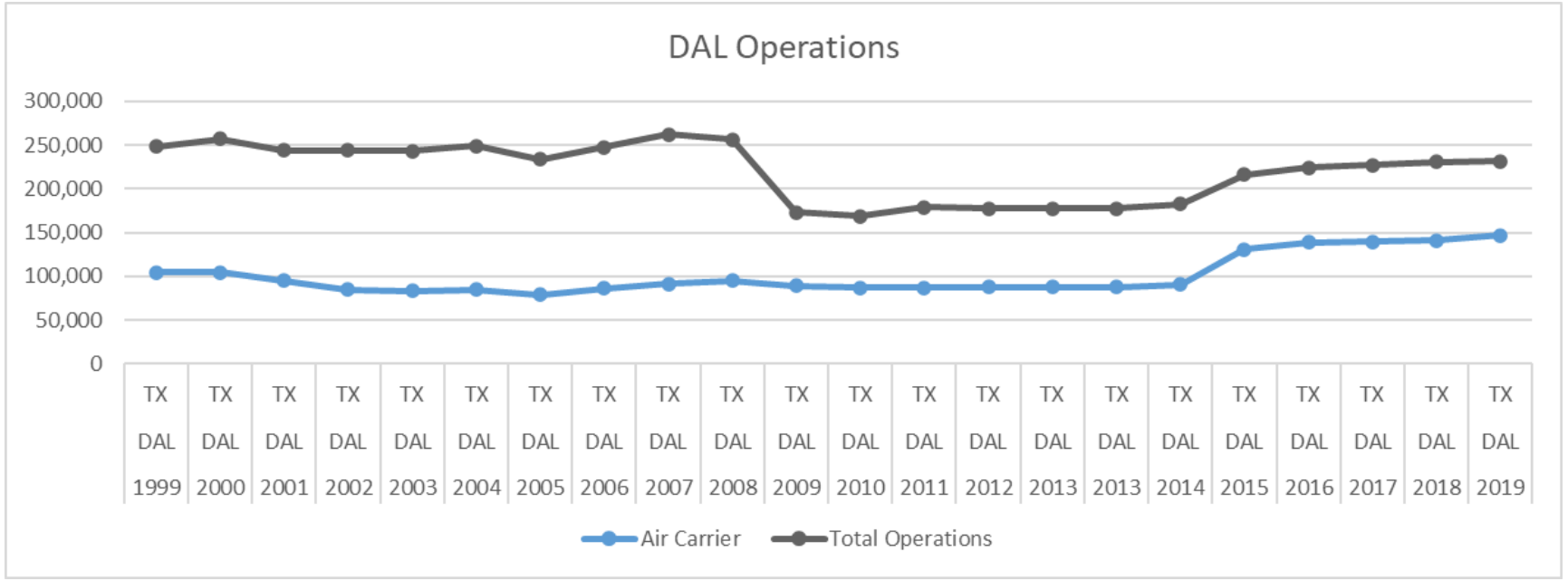
DAL DNL Contours

- 65 dB DNL contour comparison for 1981, 1984, 2006, 2013, 2019
- Overall, recent contours are smaller than 1981 and 1984
- Recent contours show lobes for each runway
- Pre-Wright Amendment expiration contours (2013) are smallest



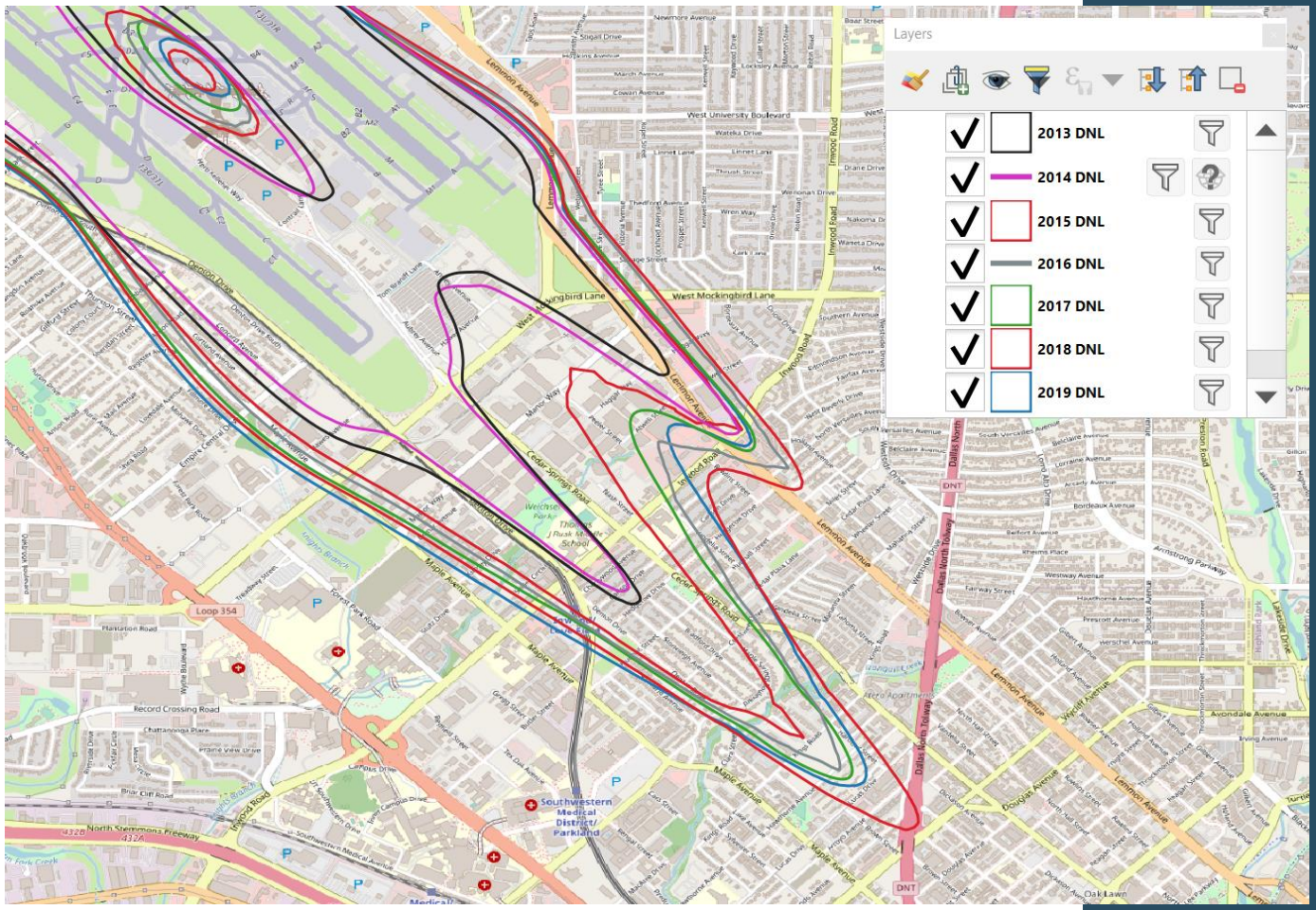
DAL Operations

- Current operations are below historical levels
- Air Carrier operations have increased over historical levels



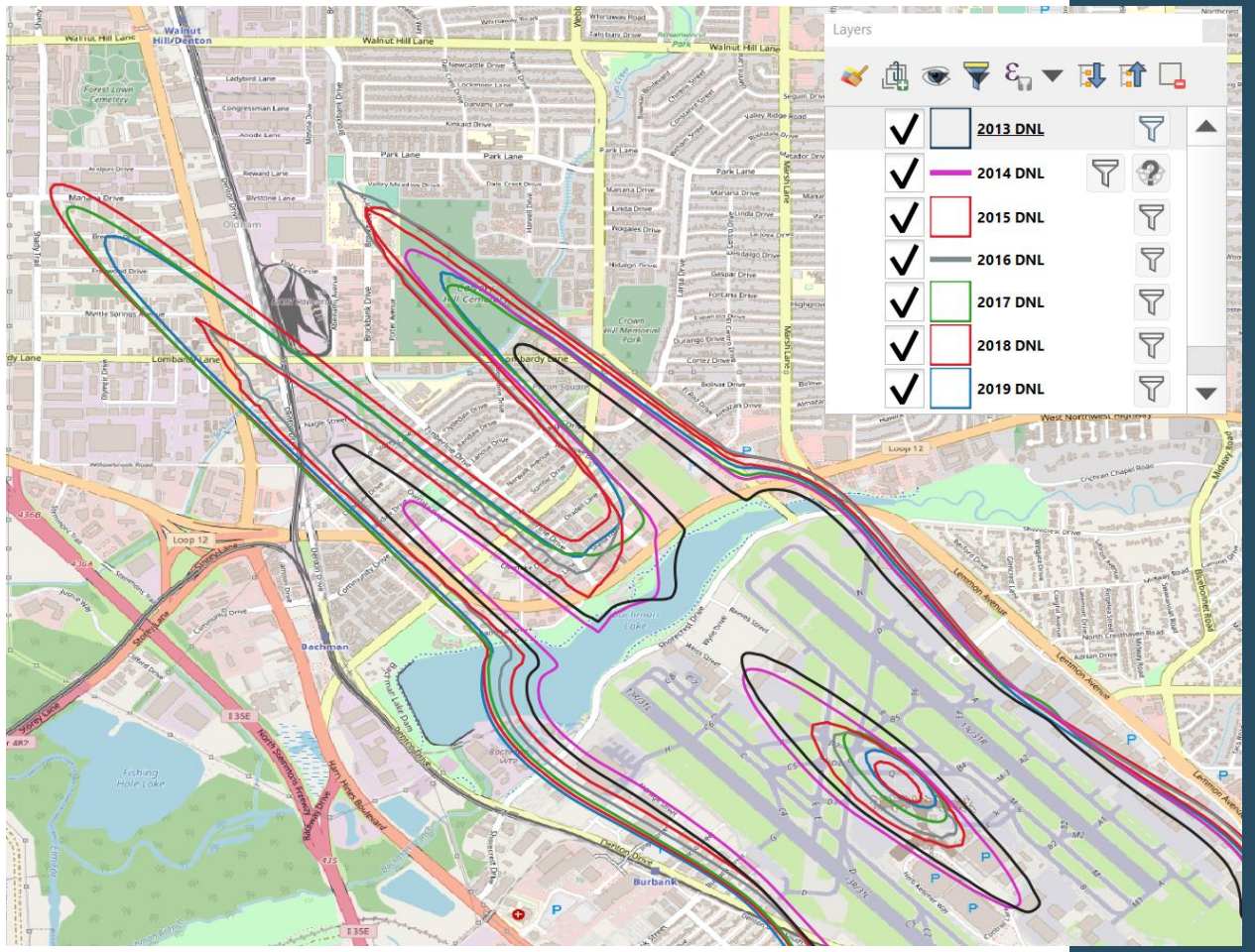
DAL Recent DNL Contours

- 65 dB DNL contour - 2013 to 2019 (Southeast View)
- 2015 and later are larger due to increase in operations and trip length
- 2019 contours are smaller than 2018
  - Fleet improvements / slight reduction in night ops



DAL Recent DNL Contours

- 65 dB DNL contour - 2013 to 2019 (Northwest View)
- 2015 and later are larger due to increase in operations and trip length
- 2019 contours are smaller than 2018
  - Fleet improvements / slight reduction in night ops

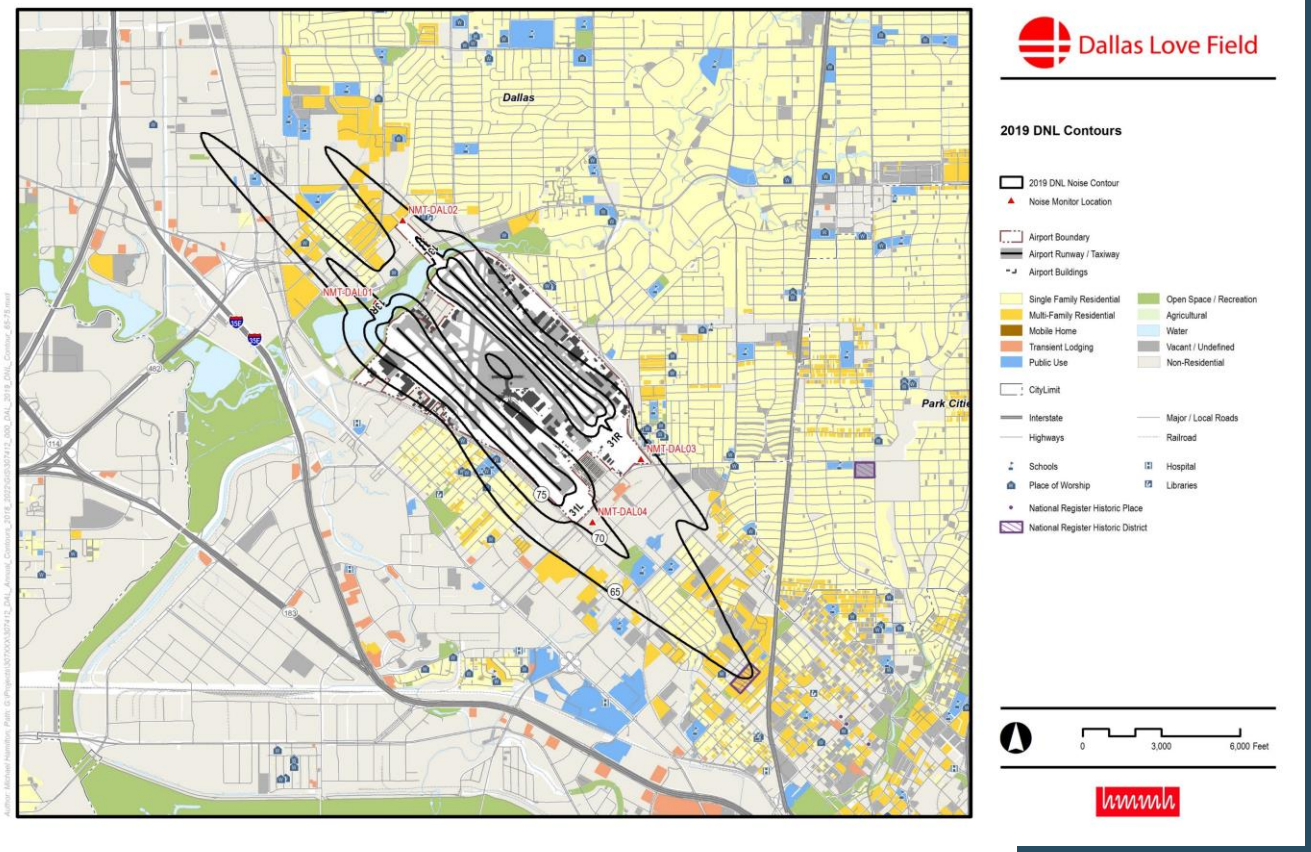


DAL DNL Contours

- 2019 DNL Contours

DNL Contour	Population > 65 DNL	Census Data
1981	39,350	1980
1984	31,430	1980
1992	28,100	1990
1998	26,800	1990
2006	16,798	2010
2013	3,091	2010
2019	11,639	2010

- Population within the >70 DNL dropped from 13,060 in 1981 to just 307 in 2019
- 2019 population is lower than Wright Amendment Report



Discussion

Adjourn

Next Meeting
on
Date: 09/29/2022

For noise concerns visit
https://dal.noiselab.casper.aero/

For noise inquires email
AVINoise@dallascityhall.com