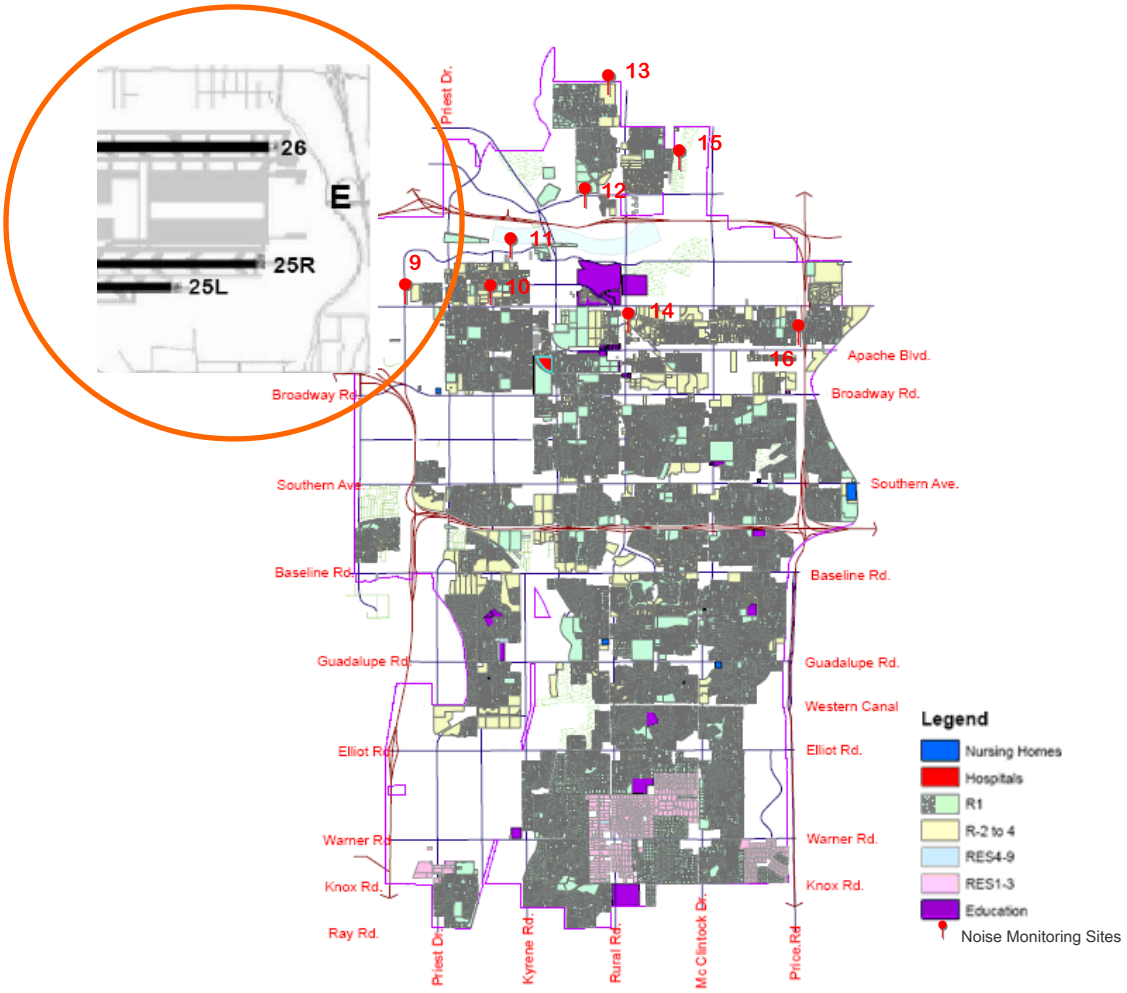
Tempe

2015 2nd Quarter Noise Monitoring Report

PHX East



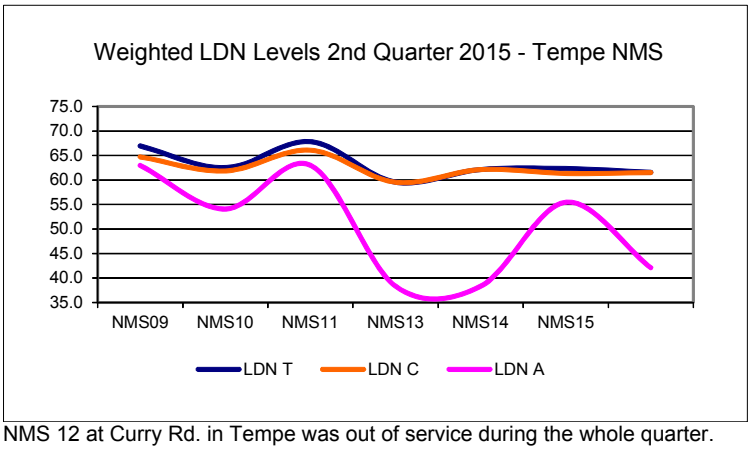
Contents

Aviation Noise Monitoring

The Phoenix Sky Harbor International Airport (PHX) Noise and Flight Track Monitoring System (NFTMS) has eight fixed Noise Monitoring Sites (NMS) in Tempe located in neighborhoods around the Town Lake/ Rio Salado area. Through an agreement made with the City of Phoenix, the City of Tempe can access noise monitoring data collected by the system and use supporting software that filters the data to indentify the noise energy contributions attributed to aircraft operations over areas where the monitors are located.

A. Weighted Sound Exposure Levels

Average monthly sound exposure levels of aircraft events, are calculated from the Ldn or day-night average sound level also called Day Night Level (DNL) that includes a penalty of 10 dB (A) added for nighttime sound events occurring between 22.00-07.00 hours. This summary also includes a description of noise based on long-term equivalent level (Leq) Average sound levels created by aircraft, DNL or Ldn are a product of detection tools built in to the PHX NFTMS, which separate sound events registered at the monitoring site. The ambient sound events from all sources picked up at a monitoring site other than from aviation is the Ldn C. The sound events the NFTMS attributes to aircraft sound is the Ldn A. Ldn T is an expression of the total sound from all sources including aircraft noise.



NMS 12 at Curry Rd. in Tempe was out of service during the whole quarter.

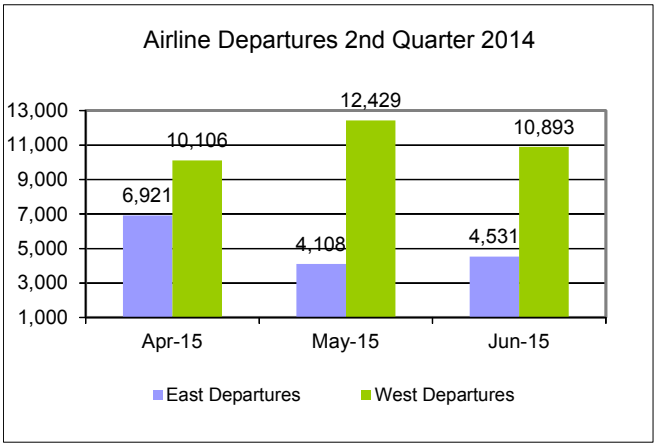
Ldn A decreases with the distance to the airport's runways. The monitored standard deviations are naturally higher for the monitors located at sites in Tempe located outside the downtown area where the distances to the aircraft are greater and noise from other sources than aircraft operations makes attribution of noise to aircraft operations more complicated.

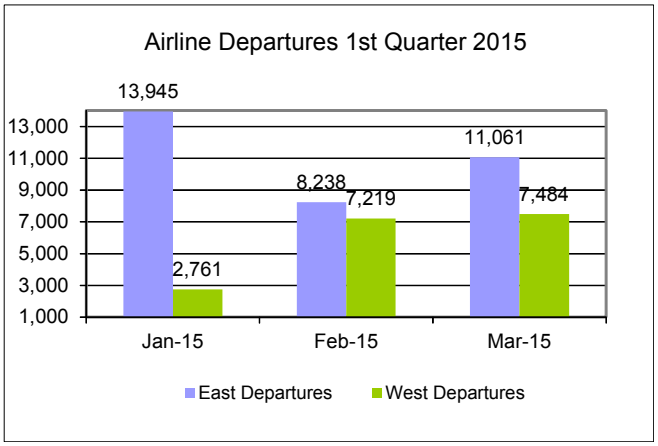
B. East – West Equalization of Noise Burden

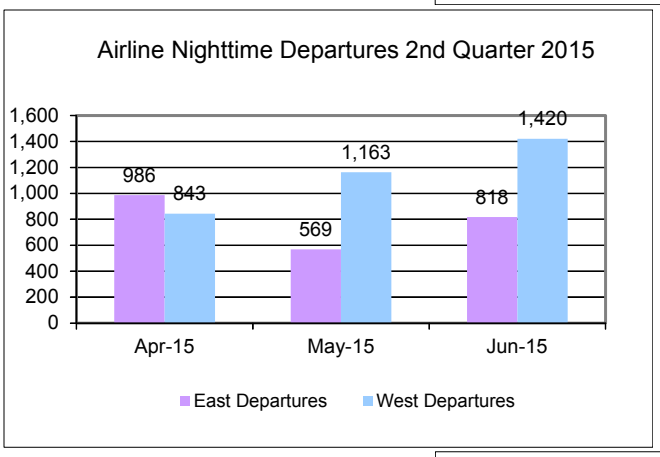
The airport Air Traffic Control Tower is directing large carrier departure traffic with the goal of accomplishing a 50/50 annualized east west split. A procedure for noise mitigation over Tempe delay air carrier turns away from the Salt River to the airspace over the Highway 202/ 101 intersection.

Departure flow east and west are determined over the year by daily and seasonal changes in wind directions, and the cities of Tempe and Phoenix have agreed that airport should attempt to distribute the noise burden from departing large commercial aircraft equally east and west on an annual basis including both day-and nighttime operations.

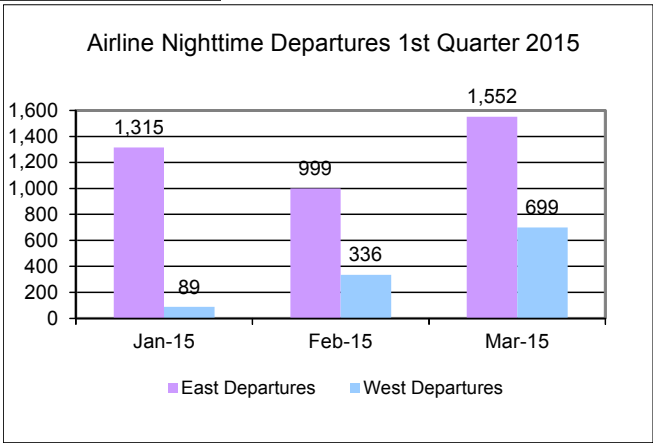
The flow of air carrier and corporate jet departures went predominantly west during the 2nd quarter of 2015. There was a total increase in departures to the west by 31.4% and departures to the east decreased by 36.2% compared to the first quarter of 2015.

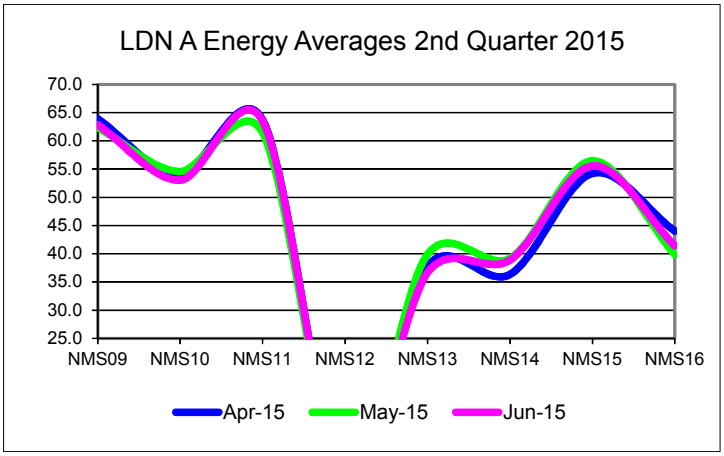




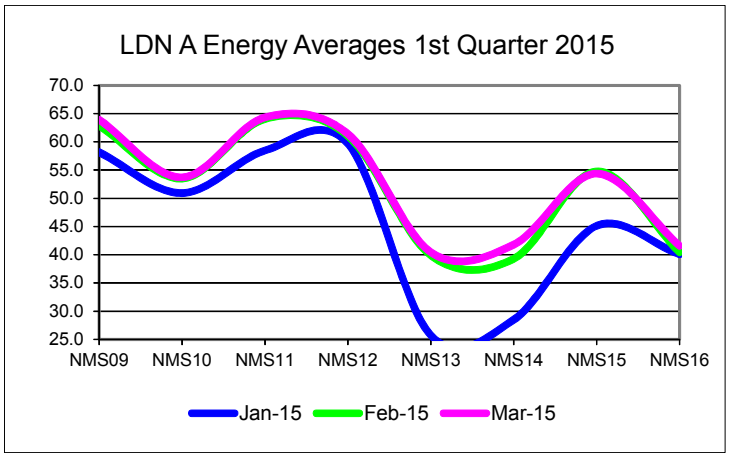


Night time departures occurring between 10:00 p.m. to 7:00 a.m. decreased by 23.9%, towards the east compared to first quarter of 2015.



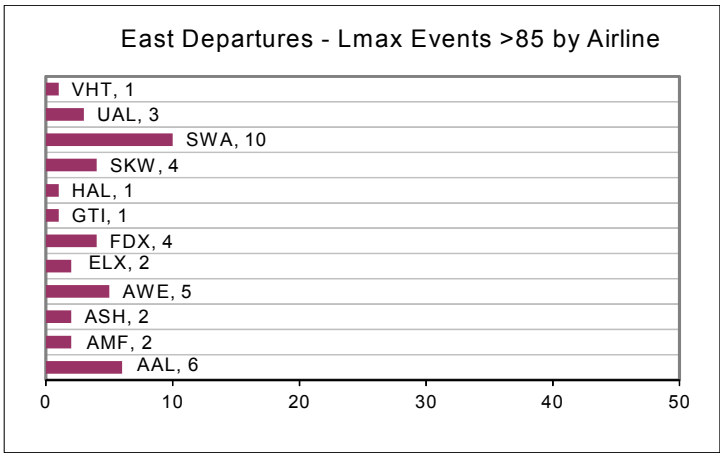


The day-night average noise levels registered at the nosie monitoring sites in Tempe were back to more even numbers compared to the first quarter when the high amounts of departure traffic directed towards the east during January lowered the day-night quarterly average sound level at most of the sites in Tempe.

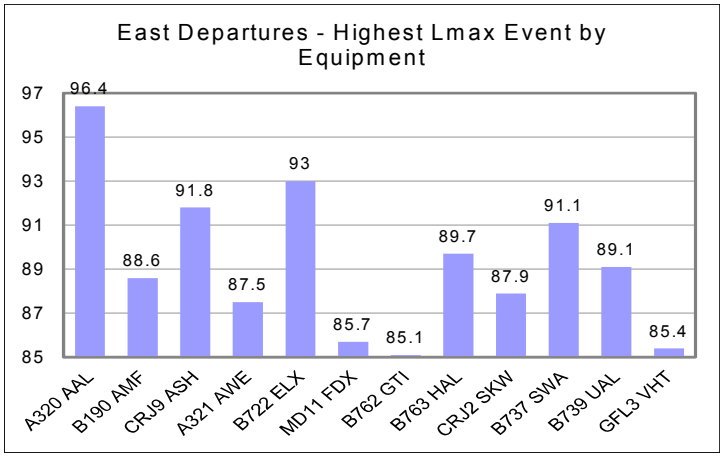


C. Registered Maximum Sound Energy Levels

The number of higher sound energy level events attributed to airline operations varies each month, which influences monthly Ldn average levels. Lmax is the maximum A- weighted sound level, dB (A) registered during a particular sound event. A-weighted means the sound is measured at frequencies that reflect the sensitivity ranges of the human ear.

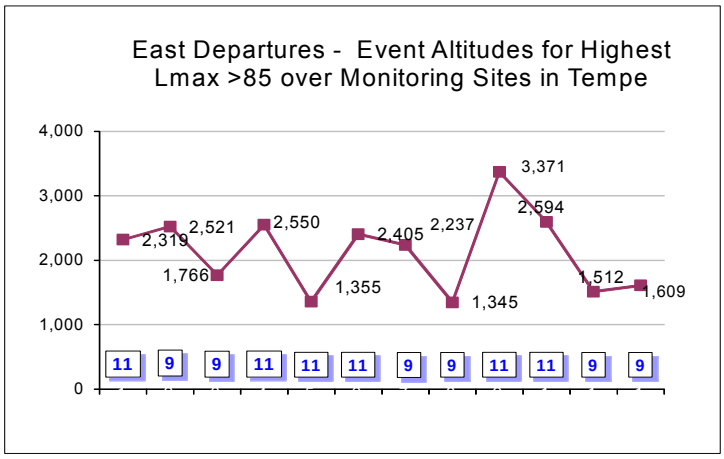


VHT: Corporate Flight
UAL: United
SWA: Southwest
SKW: Sky West
HAL: Hawaiian
GTI: Atlas Air
FDX: Federal Express
ELX: Elan Express
DAL: Delta Airlines
AWE: American Airlines (American)
ASH: Mesa Airlines
AAL: American Airlines

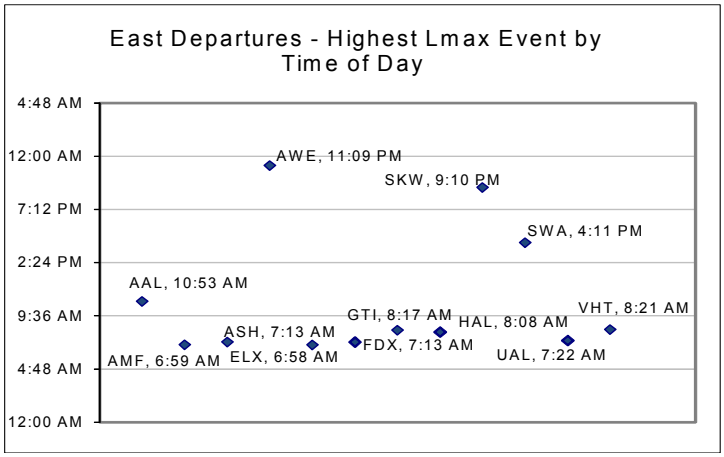


No American MD80 series aircraft departures towards the east were registered during the 2nd quarter

The highest event registered during the first quarter was registered to 96.3 dB, (Lmax) by an American Airbus A320.



A Hawaiian B767 created 89.7 dB Lmax over a monitoring site in Tempe located about 1,5 miles from the airport. The ≥85 dB single noise event created at the lowest departure altitude during the second quarter of 2015.



Information about the NFTMS and the City of Tempe agreement with the City of Tempe are available at www.tempe.gov/aircraftnoise.