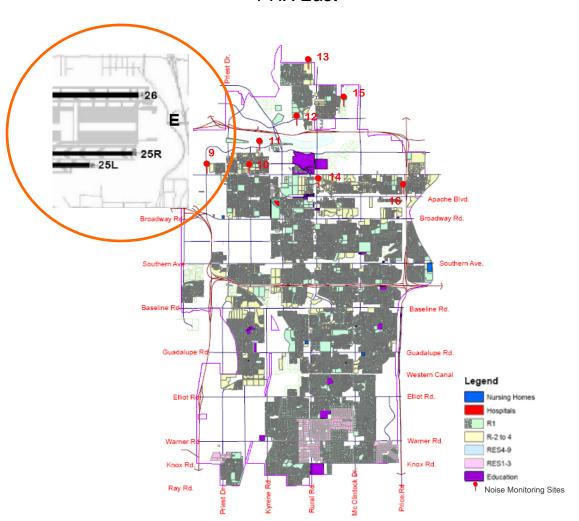


# 2015 3rd Quarter Noise Monitoring Report

## **PHX** East



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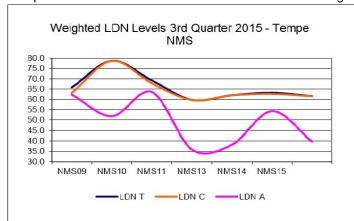
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#### **Aviation Noise Monitoring**

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.

Unusually high levels of community noise, Ldn C, in September were registered at NMS 10 due to noise from construction work in close vicinity to the monitoring site. 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

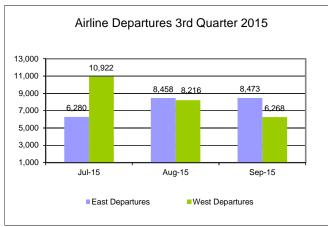
greater and noise from other sources than aircraft operations makes attribution of noise to aircraft operations more complicated.

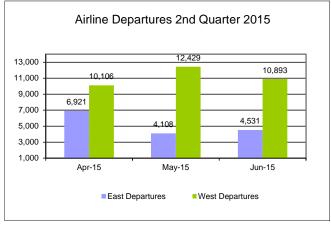
#### B. East – West Equalization of Noise Burden

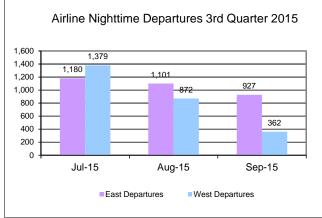
The airport Air Traffic Control Tower is directing large carrier departure traffic with the goal of accomplishing a 50/50 annualized east west split. A procedure for noise mitigation over Tempe delay air carrier turns away from the Salt River to the airspace over the Highway 202/101 intersection.

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.

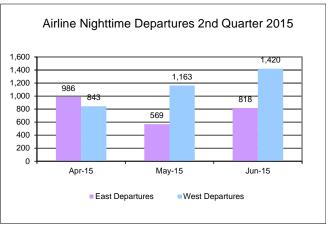
The flow of air carrier and corporate jet departures went predominantly east during the last two months of the 3rd quarter of 2015. There was a total increase in departures to the east by 19.7% and departures to the west decreased by 13.6% compared to the second quarter of 2015.

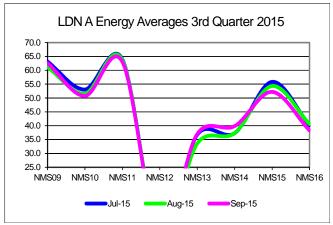




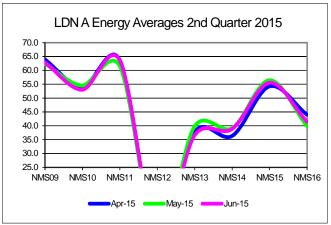


Night time departures occurring between 10:00 p.m. to 7:00 a.m. increased by 17.6%, towards the east compared to second quarter of 2015.



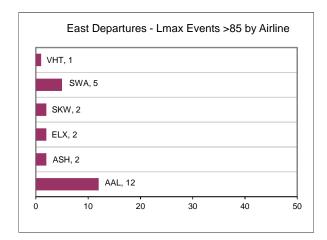


The day-night average noise levels registered at the nosie monitoring sites in Tempe were on average lower than the second quarter when the volume of departures going towards the east were higher.



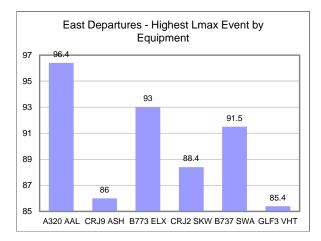
#### C. Registered Maximum Sound Energy Levels

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.

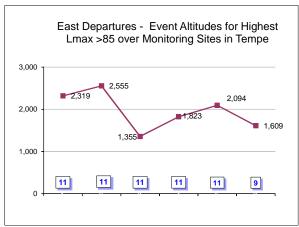


Fewer registered events where aircraft noise reached or exceeded Lmax 85dB.

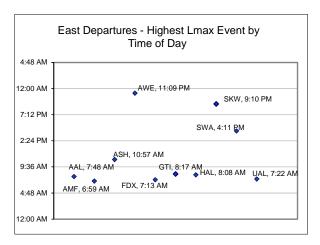
VHT: Corporate Flight SWA: Southwest SKW: Sky West ELX: Elan Express DAL: Delta Airlines ASH: Mesa Airlines AAL: American Airlines



The highest event registered during the first quarter was registered to 96.4 dB, (Lmax) by an American Airlines Airbus A320.



An Elan Express smaller Gulfstream created Lmax above 85 dB over the Tempe Beach park monitoring site at the lowest departure altitude during the third quarter of 2015.



Information about the NFTMS and the City of Tempe agreement with the City of Tempe are available at <a href="https://www.tempe.gov/aircraftnoise">www.tempe.gov/aircraftnoise</a>.