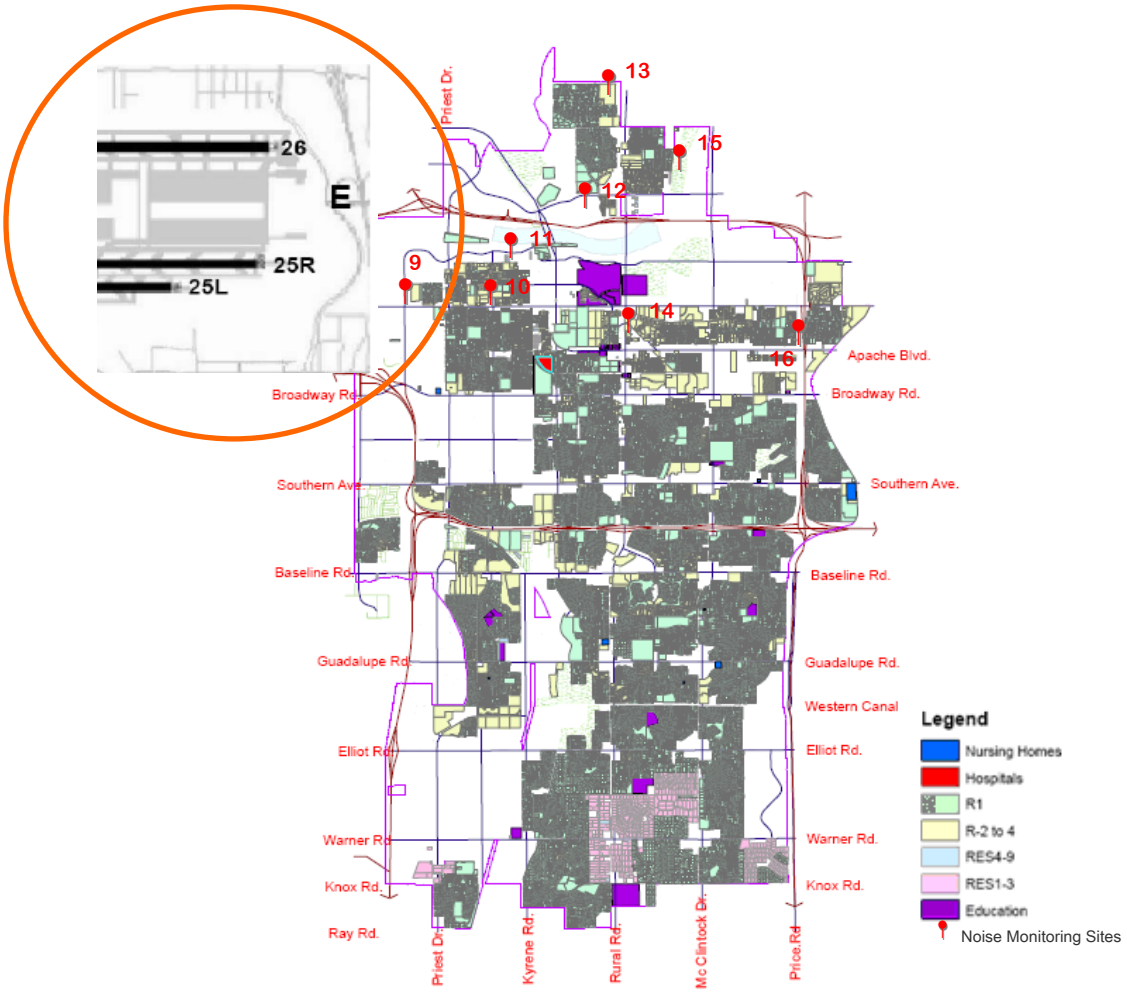
Tempe

2014 2nd Quarter Noise Monitoring Report

PHX East



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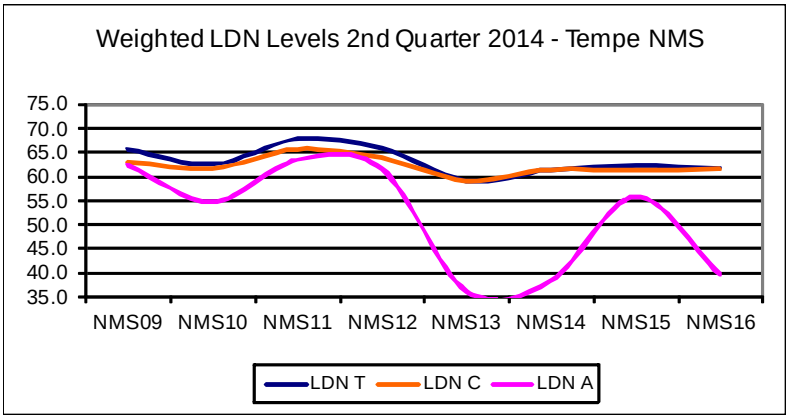
Aviation Noise Monitoring

The Phoenix Sky Harbor International Airport 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 in proximity of the 65 DNL noise exposure contour line for the airport. 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). This is a summary description of noise based on long-term equivalent level (Leq) with a penalty of 10 dB (A) added for nighttime sound occurring between 22.00-07.00 hours. Average sound levels created by aircraft, Ldn A, are a product of detection tools built in to the NFTMS, which separate 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.



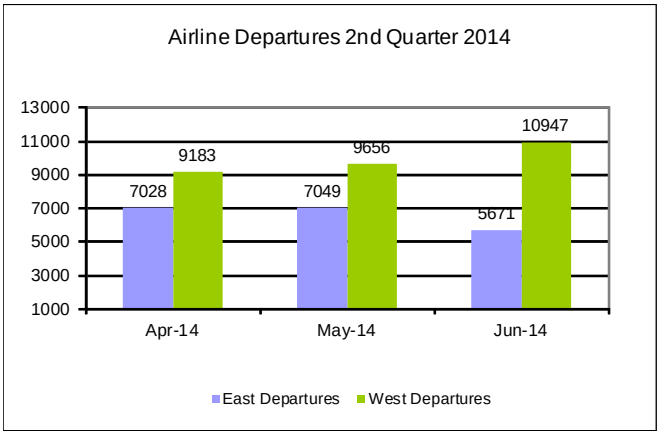
Ldn A decreases with the distance to the airport's runways. The monitored standard deviations are naturally higher for the monitors located at sites in Tempe located outside the downtown area where the distances to the aircraft are greater and noise from other sources than aircraft operations makes attribution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

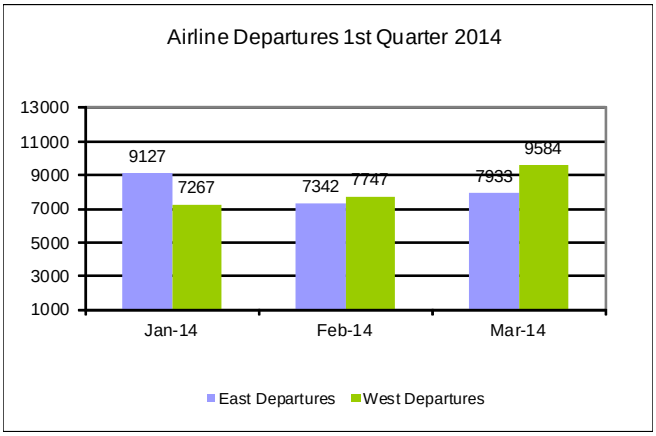
B. East – West Equalization of Noise Burden

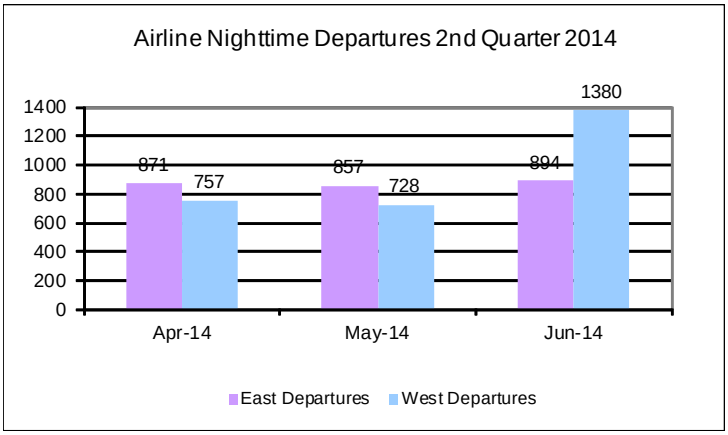
The airport Air Traffic Control Tower is directing large carrier departure traffic with the goal of accomplishing a 50/50 annualized east west split. A procedure for noise mitigation over Tempe delay air carrier turns away from the Salt River to the airspace over the Highway 202/ 101 intersection.

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.

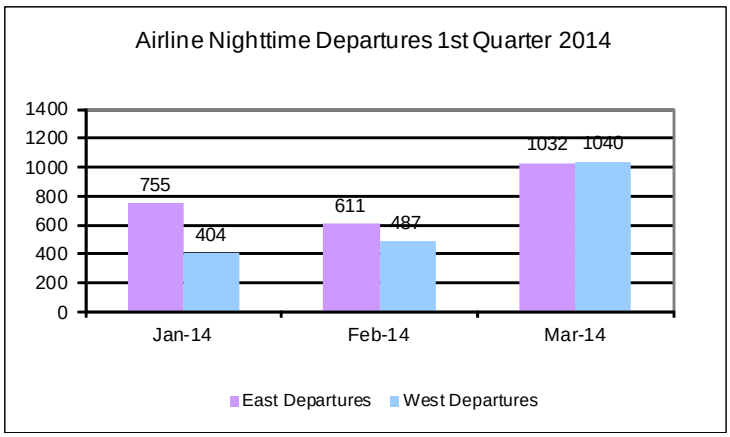
The flow of commercial air carrier and corporate jet departures turned back to west flow directions the second quarter of 2014. There was a total increase in departures to the west by 9.5% and a decrease towards the east by 10.5% compared to the first quarter of 2014.



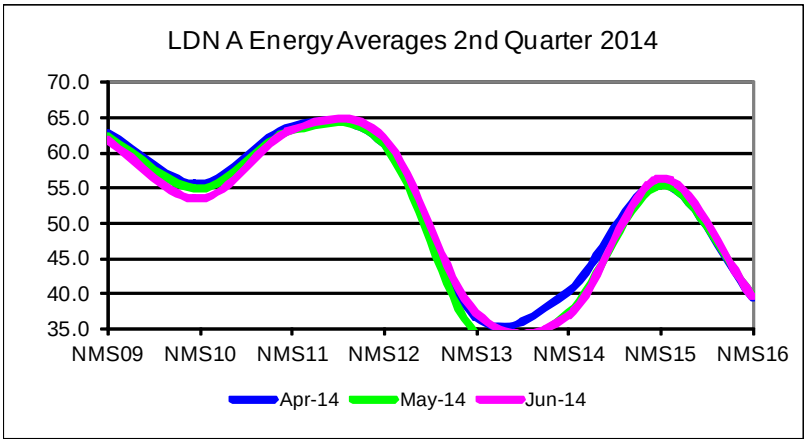


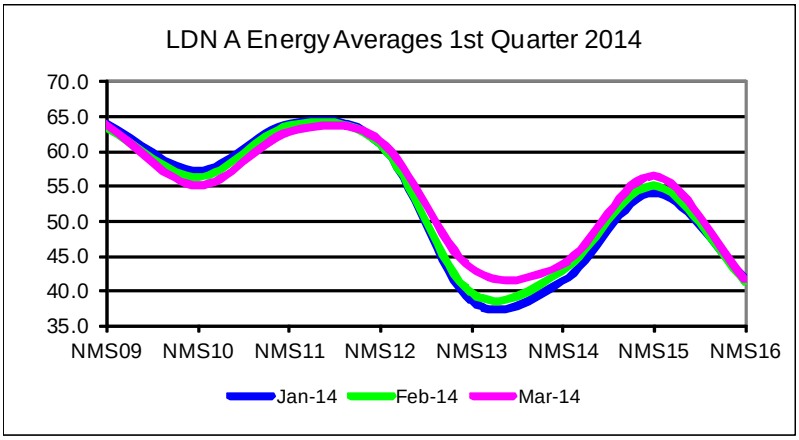


Night time departures occurring between 10:00 p.m. to 7:00 a.m. increased by 19.5%, towards the west and with 4.5%, towards the east compared to first quarter of 2014.



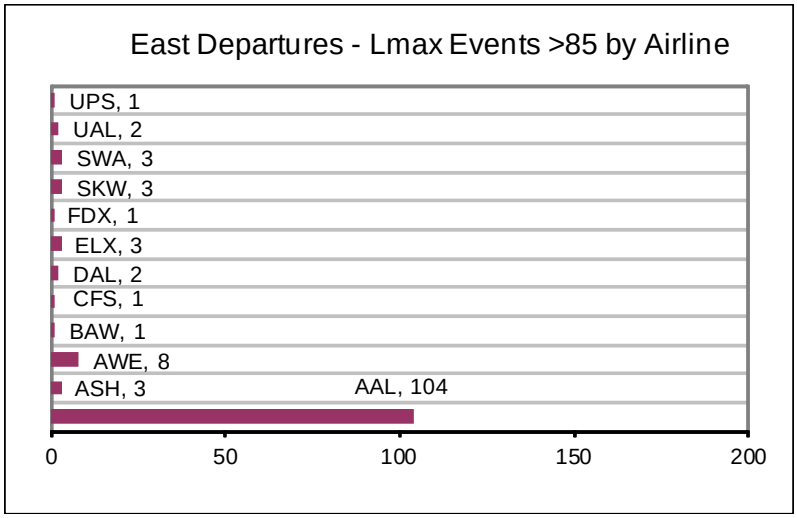
Lower number of operations towards the east during the 2nd quarter contributed to lower noise energy averages. Most noticeable registered during the two last months of the 2nd quarter by the NMS 13 close to Scottsdale Road in north east Tempe and by the NMS 14 south of the riverbed close to University Drive and Rural Road.



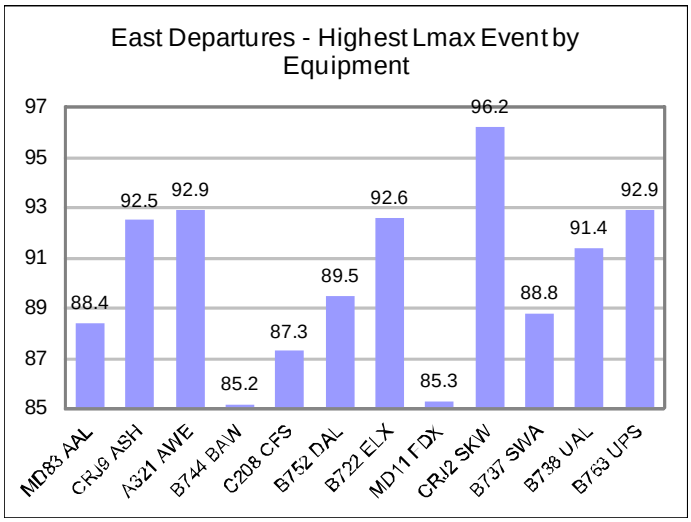


C. Registered Maximum Sound Energy Levels

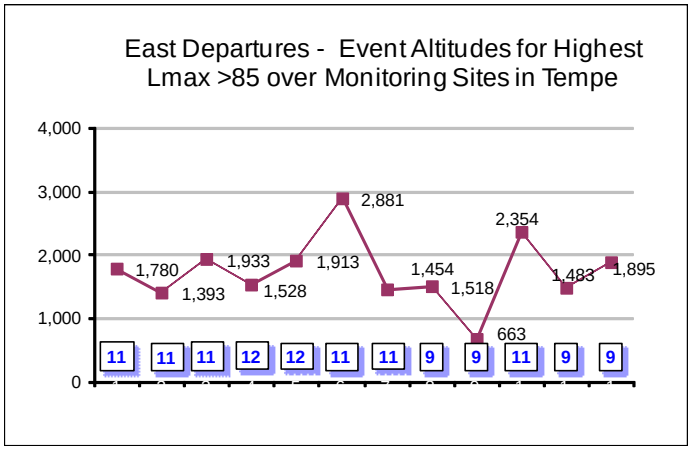
The number of higher sound energy level events attributed to airline operations varies each month, which influences monthly Ldn average levels. Lmax is the maximum A- weighted sound level, dB (A) registered during a particular sound event. A-weighted means the sound is measured at frequencies that reflect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



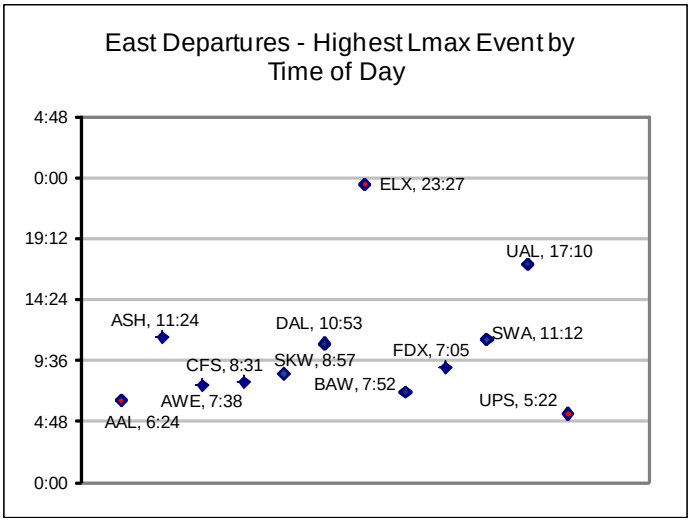
UPS: US Postal Service
UAL: United
SWA: Southwest
SKW: Sky West
FDX: FedEx
ELX: Elan Express
DAL: Delta
CFS: Empire
BAW: British Airways
AWE: US Airways (American)
ASH: Mesa
AAL: American



The highest event registered during the first quarter was registered to 96.2 dB A, (Lmax) by a Sky West CRJ2 over the monitor at 5th Street close to Priest Drive.



The Sky West CRJ2 created the highest Lmax at the lowest altitude on climb south of the riverbed.



The highest nighttime event for each airline over 85 dB A Lmax, are depicted in red.

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