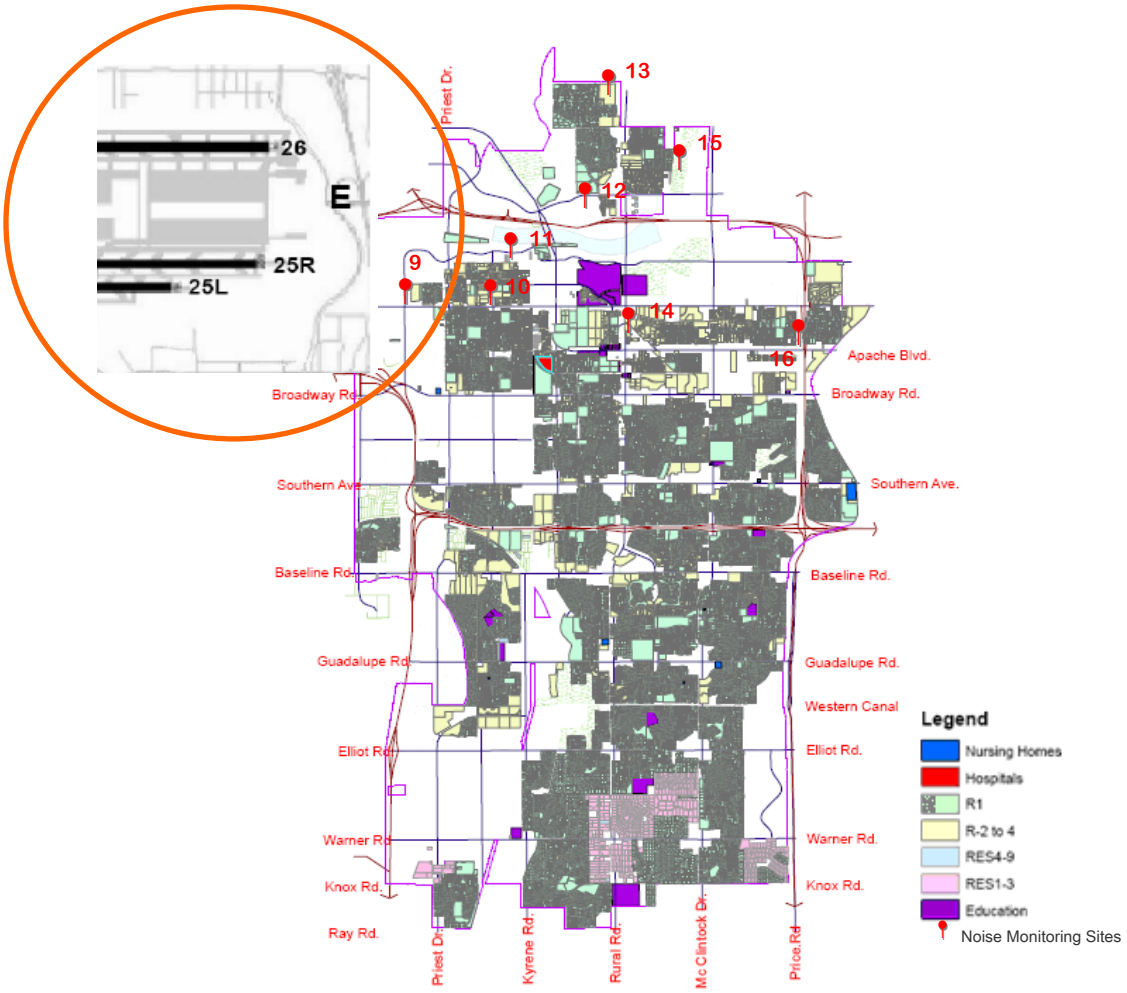
Tempe

2011 2nd Quarterly Noise Monitoring Report

PHX East



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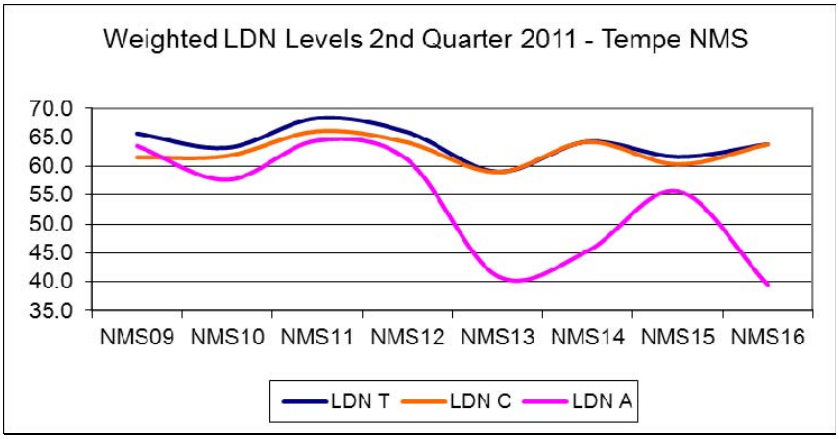
Aviation Noise Monitoring

The Phoenix Sky Harbor International Airport Noise and Flight Track Monitoring System (NFTMS) has 8 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 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 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 sources picked up at a monitoring site, the Ldn C and events attributed to an aircraft over flight, the Ldn A. Ldn T is an expression of the total sound.



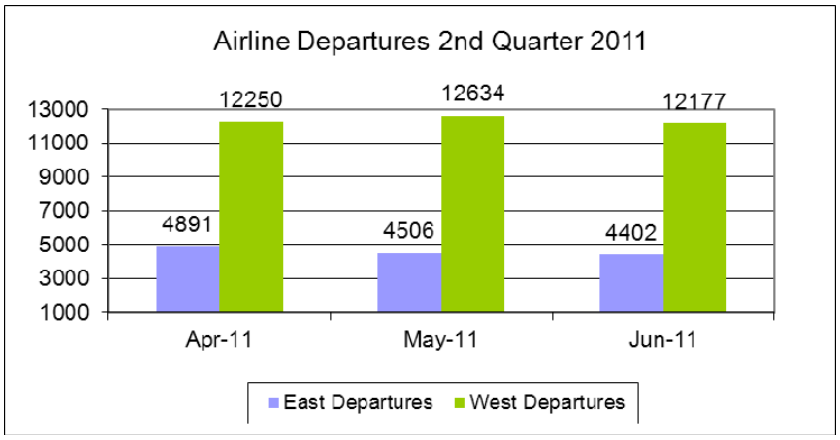
Ldn A decreases with the distance to the airport's runways. The standard deviation was somewhat higher at NMS13 and NMS16 than other monitors in Tempe bringing the average energy levels down compared to the first quarter of 2011.

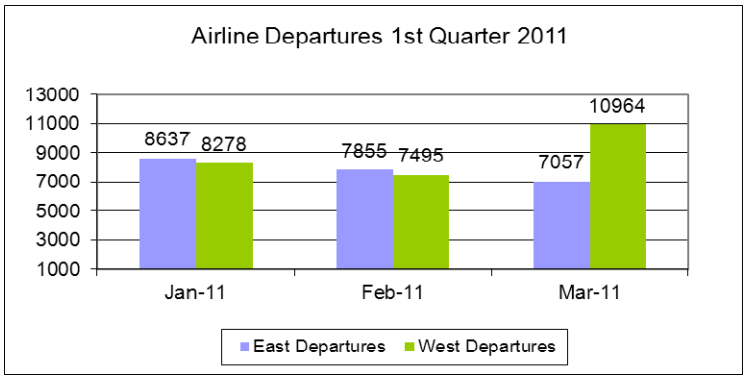
B. East – West Equalization of Noise Burden

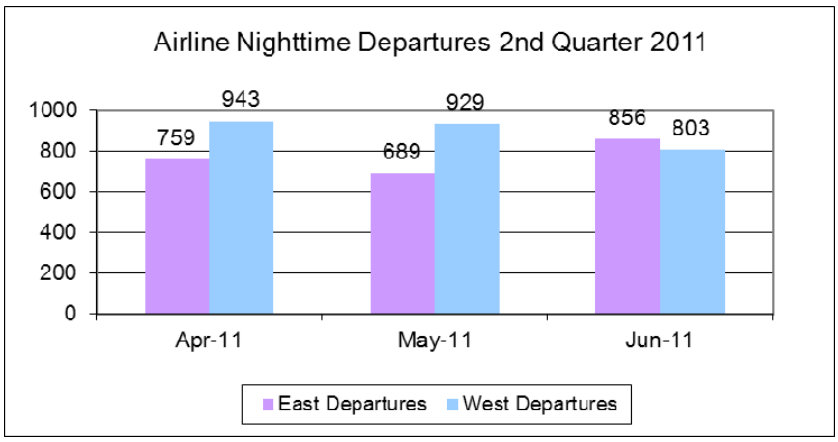
The airport Air Traffic Control Tower is directing large carrier departure traffic with the goal of accomplishing a 50/50 annualized east west split. A procedure for noise mitigation over Tempe delay air carrier turns away from the Salt River to the airspace over the Highway 202/ 101 intersection. There is no similar constraint for departure headings towards the west.

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 has agreed that airport should attempt to distribute the noise burden from departing large commercial aircraft equally east and west on an annual basis.

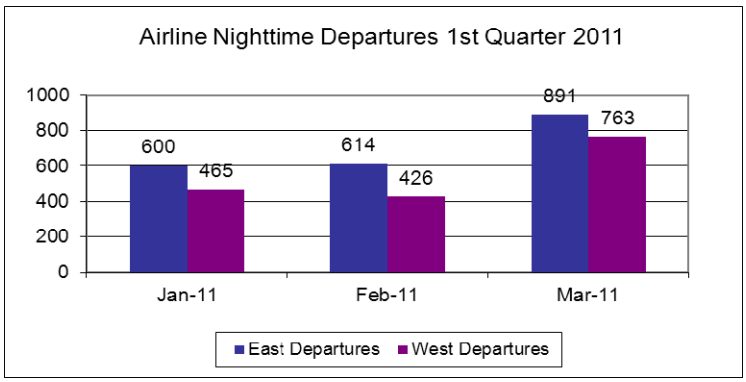
Commercial air carrier and corporate jet departures were heavily concentrated towards the west during the second quarter amounting to a reduction in east departure flows compared to the first quarter by 26%, and an increase in west departure flow of 16%.



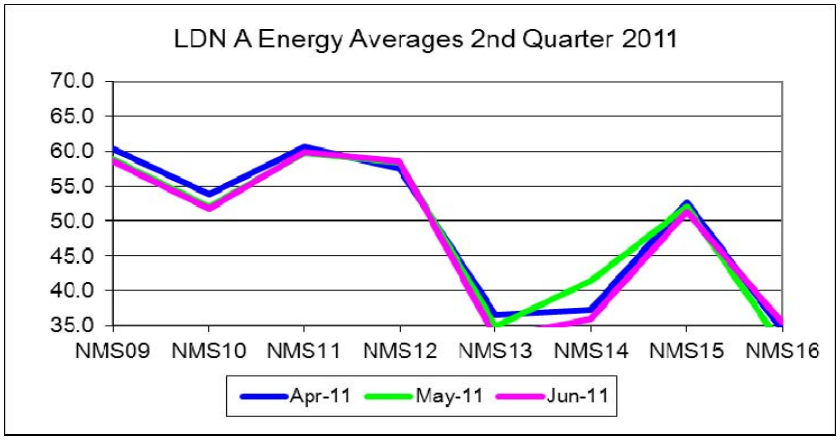


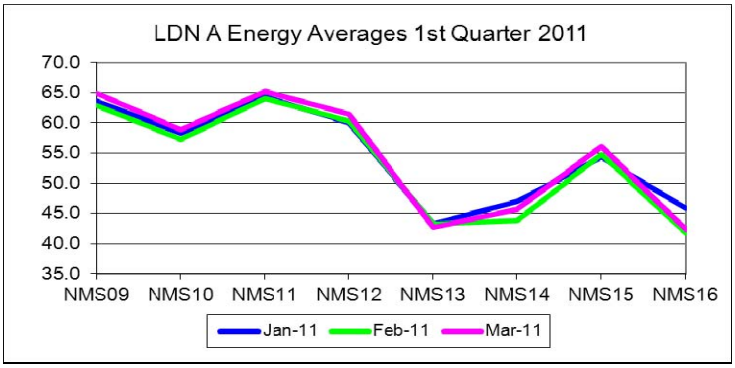


Departures occurring between 10:00 p.m. to 7:00 a.m. increased towards the west with 25% and towards the east with 4.5% compared to the first quarter of 2011.



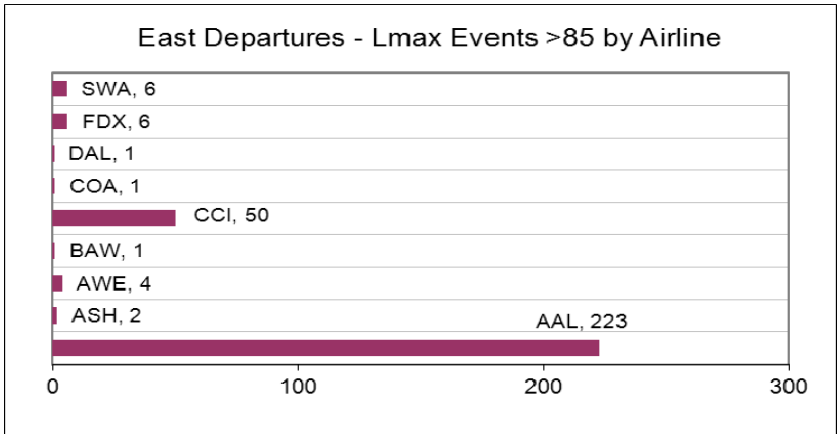
The average monthly Ldn A sound energy levels decreased significantly during the second quarter. NMS 11 located at Tempe Beech Park across the U.S. Airways building, which registered 65 Ldn A in March, dropped to 60 Ldn A in June 2011.



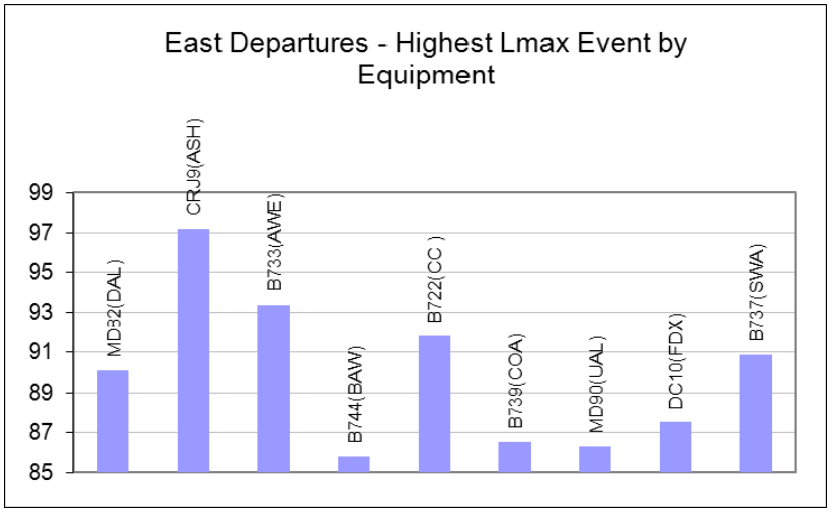


C. Registered Maximum Sound Energy Levels

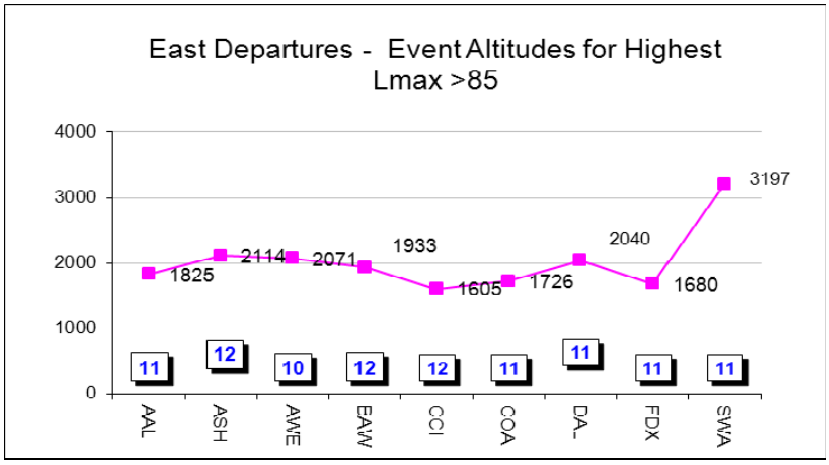
The number of higher sound energy level events attributed to airline operations varies each month, which influences monthly Ldn average levels. Lmax is the maximum A- weighted sound level, dB (A) registered during a particular sound event. A-weighted means the sound is measured at frequencies that reflect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



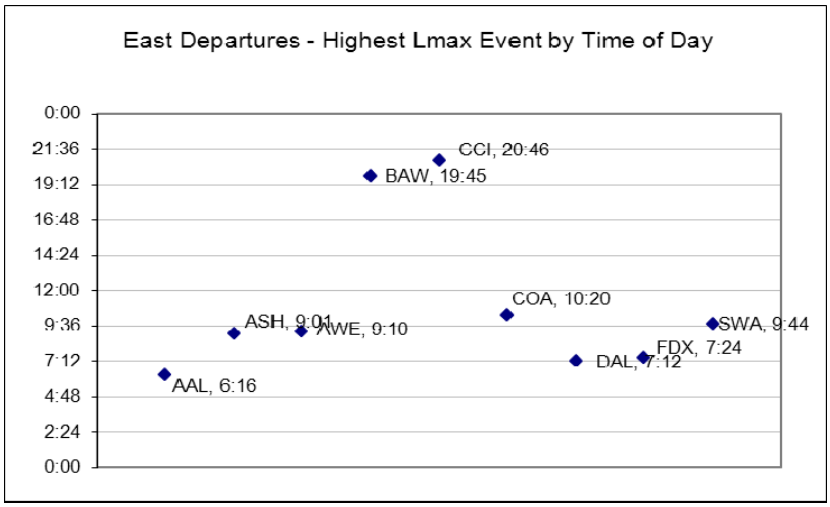
American Airlines and Capital Cargo had as usual the most registrations of high Lmax levels. The chart displays events correlated to radar track data for the second quarter of 2011.



A Mesa Airlines CRJ9 regional jet created the highest Lmax level among civil aircraft departing towards the east. The plane was climbing at 1605 feet altitude close to NMS 12 at Curry Road at 8:46 p.m. on April 6th, 2011.



The highest Lmax registered for Southwest occurred at higher departure altitudes on climb out over Tempe compared altitudes where the monitors registered the highest Lmax for other airlines.



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