# APRIL 2016 Update- All things Aviation:

If you'd like additional information, please contact Newport Beach City Manager Dave Kiff at dkiff@newportbeachca.gov.

**Altitude Results**

JWA has completed the requested analysis of commercial aircraft altitudes upon departure from John Wayne Airport. Two different criteria for the report were used. The first criteria used for the report was a six month comparison of the average altitudes at Noise Monitor 6S of the five predominant aircraft types used by each of the commercial air carriers between the months of March 2013 through August 2013 compared to March 2015 through August 2015. The second criteria were compiled for a comparison of the average altitudes at Balboa Avenue on Balboa Island. A discussion of the results will occur at a future Aviation Committee meeting. The full reports are made a part of this update on the pages that follow.

# JOHN WAYNE AIRPORT

## Noise Monitoring System (NMS) 6S
## Average Altitude Comparison
## As Requested by City of Newport Beach

The following data was compiled at the request of the City of Newport Beach to analyze commercial aircraft altitudes departing from John Wayne Airport. The criteria used for the report was a six month comparison of the average altitudes at NMS 6S of the five predominant aircraft types used by each of the commercial air carriers between the months of March 2013 through August 2013 compared to March 2015 through August 2015.

The results conclude there has been no significant reduction in the total average altitude of commercial air carrier departures, but there has been a reduction in the average altitude of commercial aircraft operated by United Airlines. It is important to note, altitude resolution is monitored in 100 ft. increments and a difference in altitude of 100 ft. to 200 ft. is statistically insignificant. Most commercial air carrier departures at JWA are within these measures, however, United Airlines has had a decrease in average altitude in excess of 200 ft. for each of their commercial aircraft types. One of the main factors involved in United Airlines decrease in average altitude is their utilization of a derated thrust/assumed temperature departure procedure which uses lower takeoff thrust settings than 100% thrust takeoff. Despite the lower altitudes, United Airlines and all other commercial air carriers continue to remain in compliance with the noise limits at John Wayne Airport.

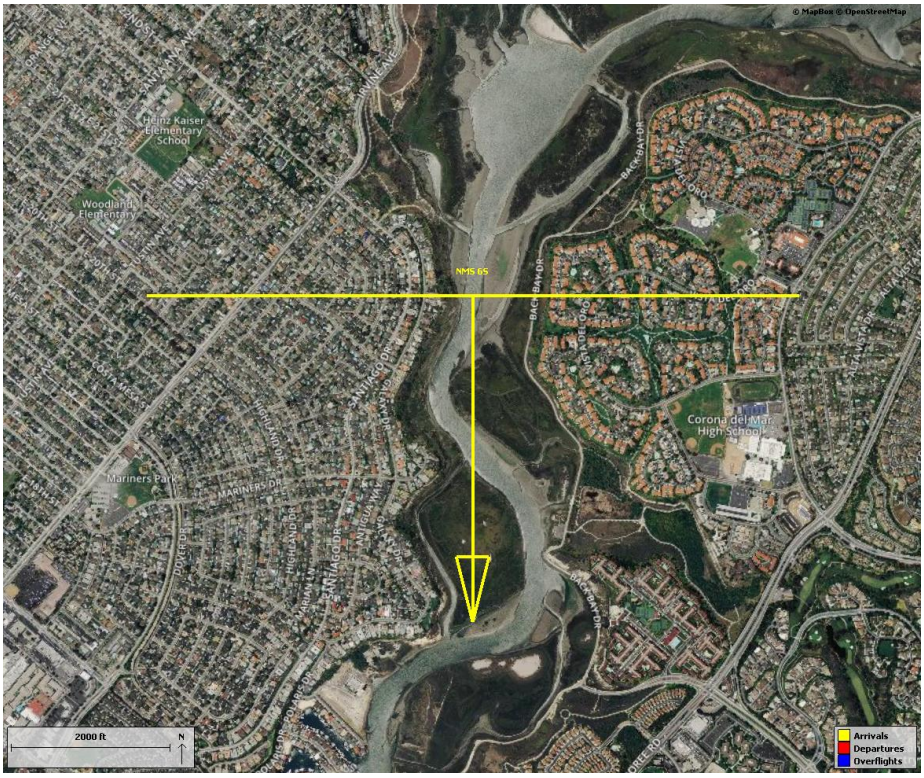
COUNTY OF ORANGE CALIFORNIA

JOHN WAYNE AIRPORT
ORANGE COUNTY

# John Wayne Airport

Center of Gate (0 ft.) = Latitude 33.638742, Longitude -117.889094

Penetration Gate = NMS 6S




| Code | Commercial Air Carriers |
|---|---|
| **5X** | United Parcel Service (UPS) |
| **AA** | American Airlines |
| **AS** | Alaska Airlines |
| **AW** | US Airways |
| **DL** | Delta Air Lines |
| **F9** | Frontier Airlines |
| **UA** | United Airlines |
| **WN** | Southwest Airlines |
| **WS** | WestJet |
| **4O** | InterJet |

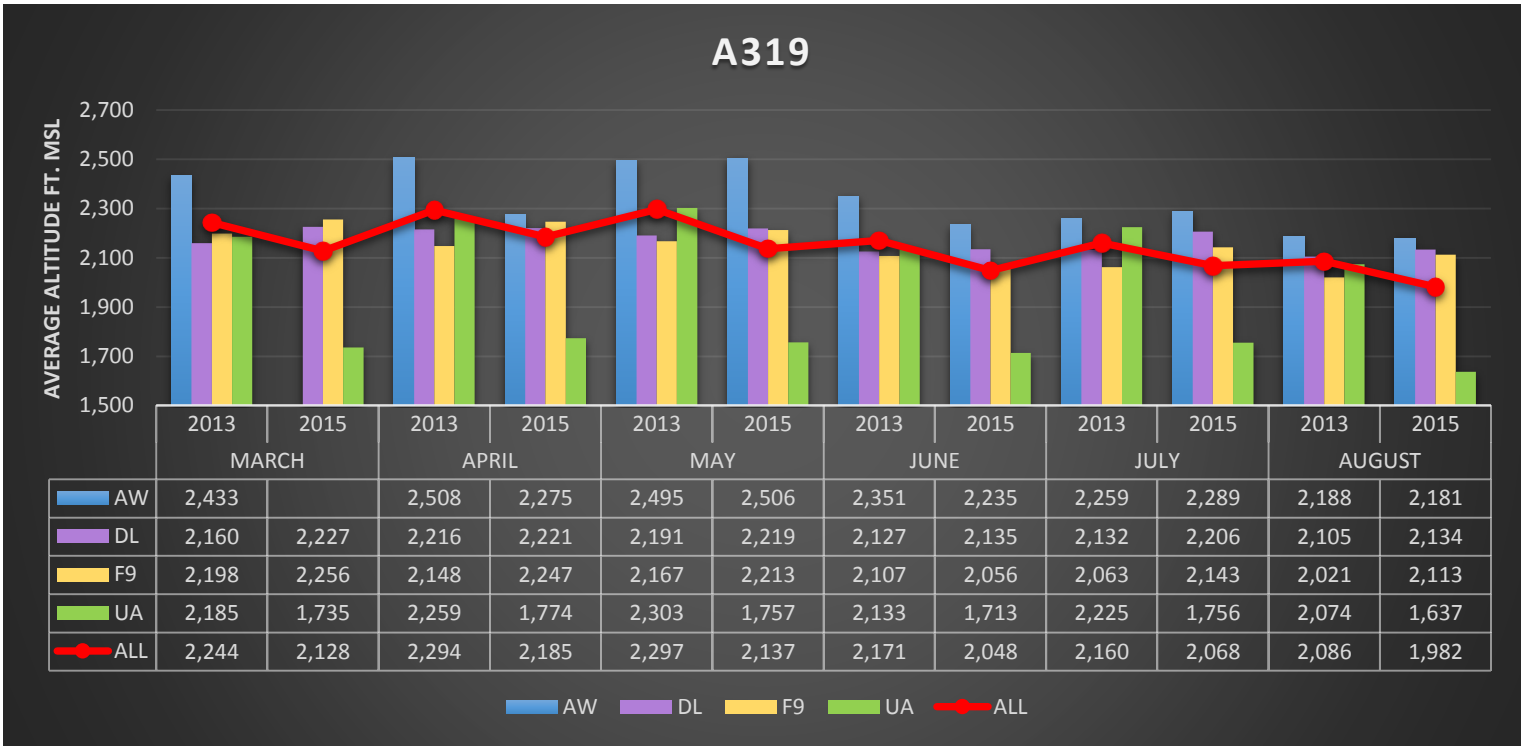
# John Wayne Airport

## Summary of Commercial Aircraft Altitude at NMS 6S

## March to August of 2013 Compared to March to August of 2015

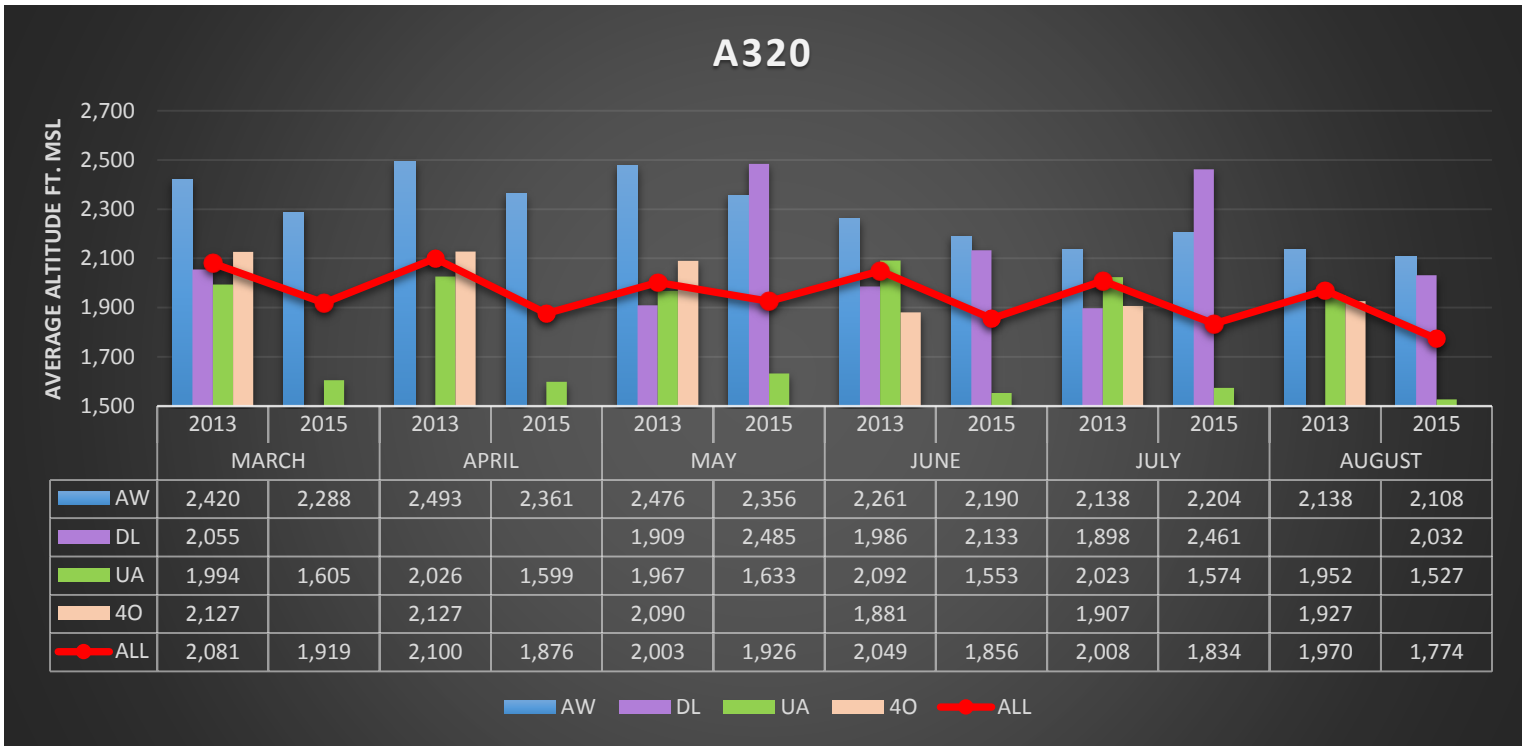
| Change in Altitude in Feet, 2013 to 2015* | | | | | | | |
|---|---|---|---|---|---|---|---|
| | March | April | May | June | July | August | 6-Month Avg. |
| A319 | | | | | | | |
| AW | | -233 | 11 | -116 | 31 | -8 | -63 |
| DL | 67 | 5 | 28 | 8 | 74 | 28 | 35 |
| F9 | 58 | 99 | 46 | -51 | 80 | 92 | 54 |
| **UA** | **-450** | **-486** | **-546** | **-420** | **-469** | **-437** | **-468** |
| ALL | -116 | -109 | -160 | -123 | -92 | -104 | -117 |
| Total Avg. | -110 | -145 | -124 | -140 | -75 | -86 | -112 |
| | | | | | | | |
| A320 | | | | | | | |
| AW | -132 | -132 | -120 | -72 | 66 | -30 | -70 |
| DL | | | 575 | 147 | 563 | | 428 |
| **UA** | **-389** | **-427** | **-334** | **-538** | **-449** | **-425** | **-427** |
| 4O | | | | | | | |
| ALL | -162 | -224 | -77 | -193 | -174 | -196 | -171 |
| Total Avg. | **-228** | **-261** | 11 | -164 | 2 | -217 | -60 |
| | | | | | | | |
| B737 | | | | | | | |
| AS | | 2 | 98 | 28 | 126 | 73 | 66 |
| DL | | | | | | | |
| **UA** | **-261** | **-336** | -118 | **-200** | -103 | -170 | -198 |
| WN | -39 | -59 | -3 | -88 | -27 | -66 | -47 |
| WS | 52 | 69 | 63 | 44 | 64 | 57 | 58 |
| ALL | -41 | -63 | 0 | -92 | -16 | -52 | -44 |
| Total Avg. | -72 | -78 | 8 | -62 | 9 | -31 | -33 |
| | | | | | | | |
| B738 | | | | | | | |
| AA | -92 | -56 | -31 | -49 | 29 | 17 | -30 |
| AS | -102 | 47 | 111 | 45 | 114 | 68 | 47 |
| DL | | | | | | | |
| **UA** | **-491** | **-357** | **-318** | **-364** | **-362** | **-349** | **-374** |
| WN | -104 | -21 | 101 | | | 21 | -1 |
| ALL | | | | | | | |
| Total Avg. | -197 | -97 | -34 | -123 | -73 | -61 | -89 |
| | | | | | | | |
| B752 | | | | | | | |
| 5X | -70 | -34 | 126 | -70 | -16 | -45 | -18 |
| AA | | | | | | | |
| AW | | | | | 378 | | 378 |
| DL | -78 | -157 | 39 | -53 | 112 | 32 | -17 |
| **UA** | 127 | | | **-352** | | | -113 |
| ALL | -46 | -47 | 45 | -60 | 82 | 3 | -4 |
| Total Avg. | -17 | -79 | 70 | -134 | 139 | -3 | 45 |
| Overall Ave: | -125 | -132 | -14 | -125 | 0 | -80 | -50 |
| * Positive number means altitude in higher in 2015 than it was in 2013. | | | | | | | |

# John Wayne Airport
## Average Altitude Comparison
## Airbus A319



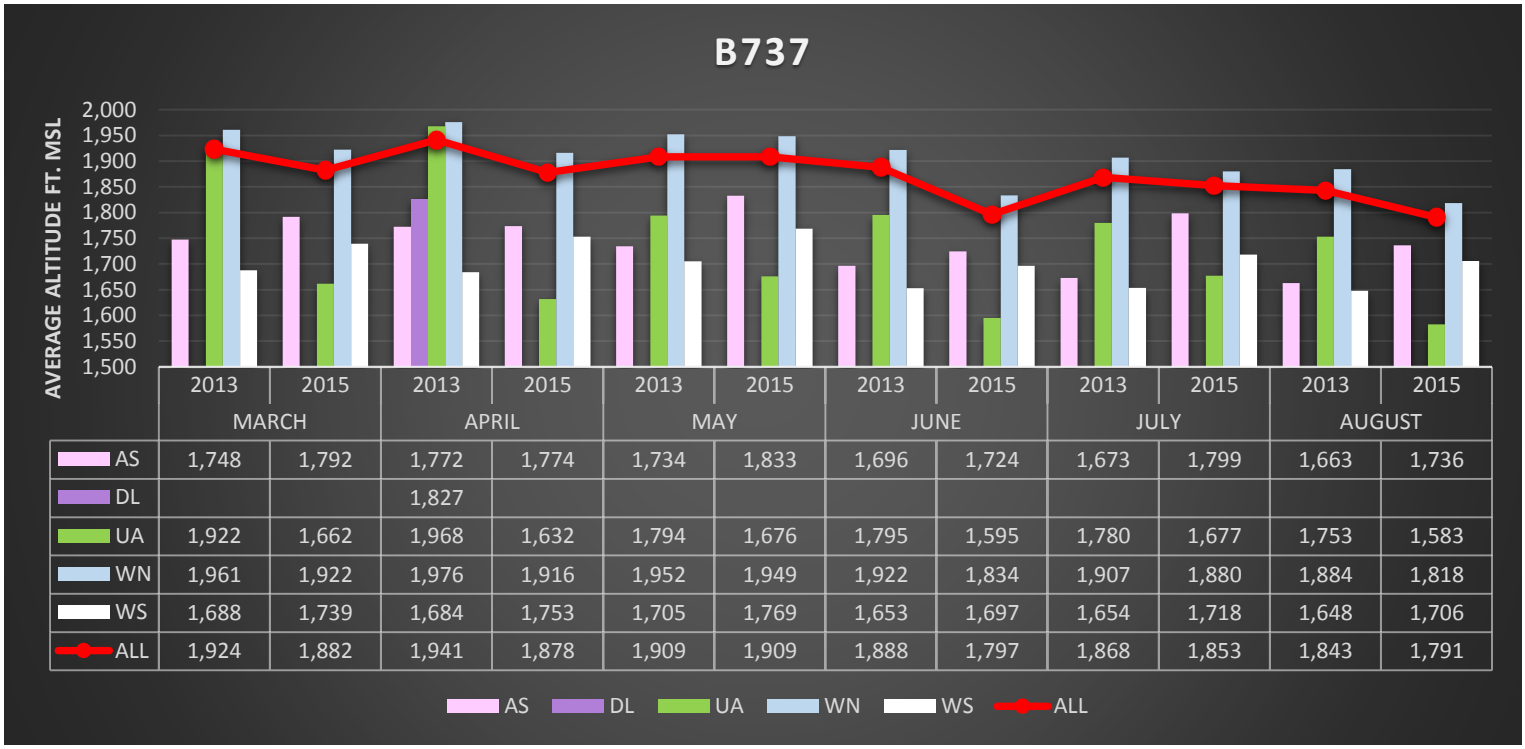

| | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MARCH | | APRIL | | MAY | | JUNE | | JULY | | AUGUST | |
| AW | 2,433 | | 2,508 | 2,275 | 2,495 | 2,506 | 2,351 | 2,235 | 2,259 | 2,289 | 2,188 | 2,181 |
| DL | 2,160 | 2,227 | 2,216 | 2,221 | 2,191 | 2,219 | 2,127 | 2,135 | 2,132 | 2,206 | 2,105 | 2,134 |
| F9 | 2,198 | 2,256 | 2,148 | 2,247 | 2,167 | 2,213 | 2,107 | 2,056 | 2,063 | 2,143 | 2,021 | 2,113 |
| UA | 2,185 | 1,735 | 2,259 | 1,774 | 2,303 | 1,757 | 2,133 | 1,713 | 2,225 | 1,756 | 2,074 | 1,637 |
| ALL | 2,244 | 2,128 | 2,294 | 2,185 | 2,297 | 2,137 | 2,171 | 2,048 | 2,160 | 2,068 | 2,086 | 1,982 |

# John Wayne Airport
## Average Altitude Comparison
## Airbus A320



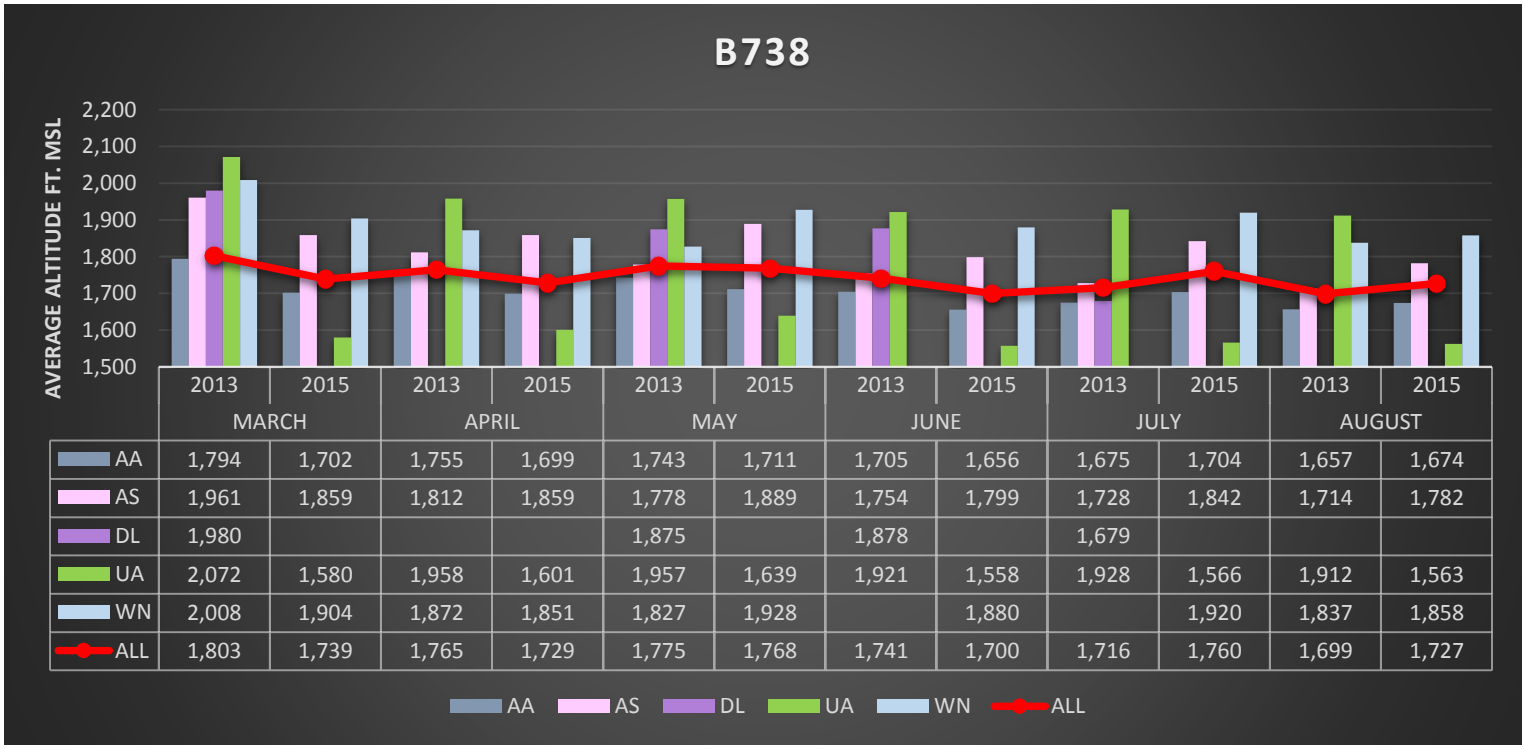

| | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MARCH | | APRIL | | MAY | | JUNE | | JULY | | AUGUST | |
| AW | 2,420 | 2,288 | 2,493 | 2,361 | 2,476 | 2,356 | 2,261 | 2,190 | 2,138 | 2,204 | 2,138 | 2,108 |
| DL | 2,055 | | | | 1,909 | 2,485 | 1,986 | 2,133 | 1,898 | 2,461 | | 2,032 |
| UA | 1,994 | 1,605 | 2,026 | 1,599 | 1,967 | 1,633 | 2,092 | 1,553 | 2,023 | 1,574 | 1,952 | 1,527 |
| 4O | 2,127 | | 2,127 | | 2,090 | | 1,881 | | 1,907 | | 1,927 | |
| ALL | 2,081 | 1,919 | 2,100 | 1,876 | 2,003 | 1,926 | 2,049 | 1,856 | 2,008 | 1,834 | 1,970 | 1,774 |

# John Wayne Airport
## Average Altitude Comparison
## Boeing 737-700



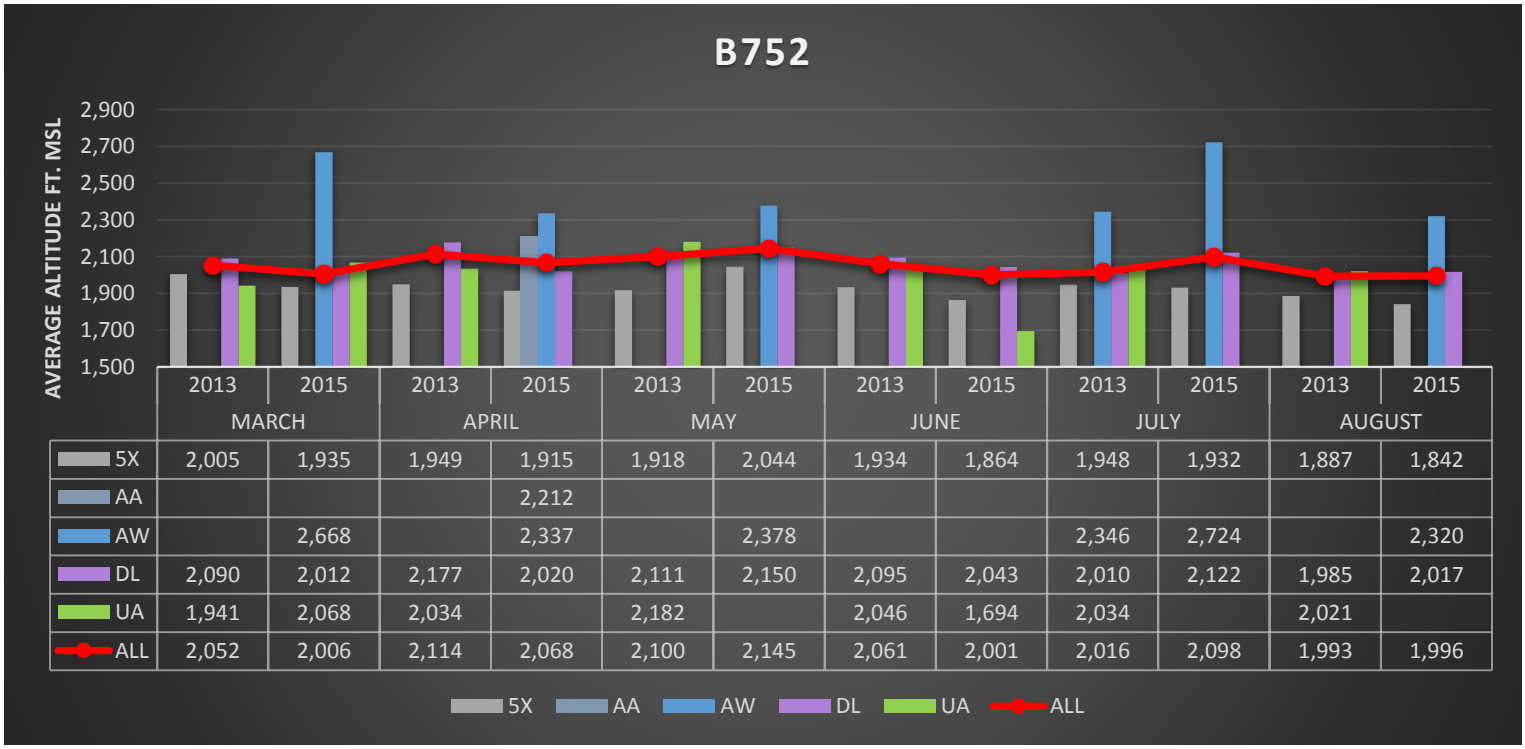

| | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MARCH | | APRIL | | MAY | | JUNE | | JULY | | AUGUST | |
| AS | 1,748 | 1,792 | 1,772 | 1,774 | 1,734 | 1,833 | 1,696 | 1,724 | 1,673 | 1,799 | 1,663 | 1,736 |
| DL | | | 1,827 | | | | | | | | | |
| UA | 1,922 | 1,662 | 1,968 | 1,632 | 1,794 | 1,676 | 1,795 | 1,595 | 1,780 | 1,677 | 1,753 | 1,583 |
| WN | 1,961 | 1,922 | 1,976 | 1,916 | 1,952 | 1,949 | 1,922 | 1,834 | 1,907 | 1,880 | 1,884 | 1,818 |
| WS | 1,688 | 1,739 | 1,684 | 1,753 | 1,705 | 1,769 | 1,653 | 1,697 | 1,654 | 1,718 | 1,648 | 1,706 |
| ALL | 1,924 | 1,882 | 1,941 | 1,878 | 1,909 | 1,909 | 1,888 | 1,797 | 1,868 | 1,853 | 1,843 | 1,791 |

# John Wayne Airport
## Average Altitude Comparison
## Boeing 737-800




| | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MARCH | | APRIL | | MAY | | JUNE | | JULY | | AUGUST | |
| AA | 1,794 | 1,702 | 1,755 | 1,699 | 1,743 | 1,711 | 1,705 | 1,656 | 1,675 | 1,704 | 1,657 | 1,674 |
| AS | 1,961 | 1,859 | 1,812 | 1,859 | 1,778 | 1,889 | 1,754 | 1,799 | 1,728 | 1,842 | 1,714 | 1,782 |
| DL | 1,980 | | | | 1,875 | | 1,878 | | 1,679 | | | |
| UA | 2,072 | 1,580 | 1,958 | 1,601 | 1,957 | 1,639 | 1,921 | 1,558 | 1,928 | 1,566 | 1,912 | 1,563 |
| WN | 2,008 | 1,904 | 1,872 | 1,851 | 1,827 | 1,928 | | 1,880 | | 1,920 | 1,837 | 1,858 |
| ALL | 1,803 | 1,739 | 1,765 | 1,729 | 1,775 | 1,768 | 1,741 | 1,700 | 1,716 | 1,760 | 1,699 | 1,727 |

# John Wayne Airport
## Average Altitude Comparison
## Boeing 757-200




| | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MARCH | | APRIL | | MAY | | JUNE | | JULY | | AUGUST | |
| 5X | 2,005 | 1,935 | 1,949 | 1,915 | 1,918 | 2,044 | 1,934 | 1,864 | 1,948 | 1,932 | 1,887 | 1,842 |
| AA | | | | 2,212 | | | | | | | | |
| AW | | 2,668 | | 2,337 | | 2,378 | | | 2,346 | 2,724 | | 2,320 |
| DL | 2,090 | 2,012 | 2,177 | 2,020 | 2,111 | 2,150 | 2,095 | 2,043 | 2,010 | 2,122 | 1,985 | 2,017 |
| UA | 1,941 | 2,068 | 2,034 | | 2,182 | | 2,046 | 1,694 | 2,034 | | 2,021 | |
| ALL | 2,052 | 2,006 | 2,114 | 2,068 | 2,100 | 2,145 | 2,061 | 2,001 | 2,016 | 2,098 | 1,993 | 1,996 |

# JOHN WAYNE AIRPORT

## Balboa Avenue
## Average Altitude Comparison
## As Requested by City of Newport Beach

The following data was compiled at the request of the City of Newport Beach to analyze commercial aircraft altitudes departing from John Wayne Airport. The criteria used for the report was a six month comparison of the average altitudes at Balboa Avenue of the five predominant aircraft types used by each of the commercial air carriers between the months of March 2013 through August 2013 compared to March 2015 through August 2015.

The results conclude there has been no significant reduction in the total average altitude of commercial air carrier departures, but there has been a reduction in the average altitude of commercial aircraft operated by United Airlines. It is important to note, altitude resolution is monitored in 100 ft. increments and a difference in altitude of 100 ft. to 200 ft. is statistically insignificant. Most commercial air carrier departures at JWA are within these measures, however, United Airlines has had a decrease in average altitude in excess of 200 ft. for each of their commercial aircraft types. One of the main factors involved in United Airlines decrease in average altitude is their utilization of a derated thrust/assumed temperature departure procedure which uses lower takeoff thrust settings than 100% thrust takeoff. Despite the lower altitudes, United Airlines and all other commercial air carriers continue to remain in compliance with the noise limits at John Wayne Airport.

COUNTY OF ORANGE CALIFORNIA

JOHN WAYNE AIRPORT
ORANGE COUNTY

# John Wayne Airport

## Center of Gate (0 ft.) = Between Collins Ave (West) & Ruby Ave (East)

## Penetration Gate = Balboa Ave


| Code | Commercial Air Carriers |
|---|---|
| **5X** | United Parcel Service (UPS) |
| **AA** | American Airlines |
| **AS** | Alaska Airlines |
| **AW** | US Airways |
| **DL** | Delta Air Lines |
| **F9** | Frontier Airlines |
| **UA** | United Airlines |
| **WN** | Southwest Airlines |
| **WS** | WestJet |
| **4O** | InterJet |

# John Wayne Airport

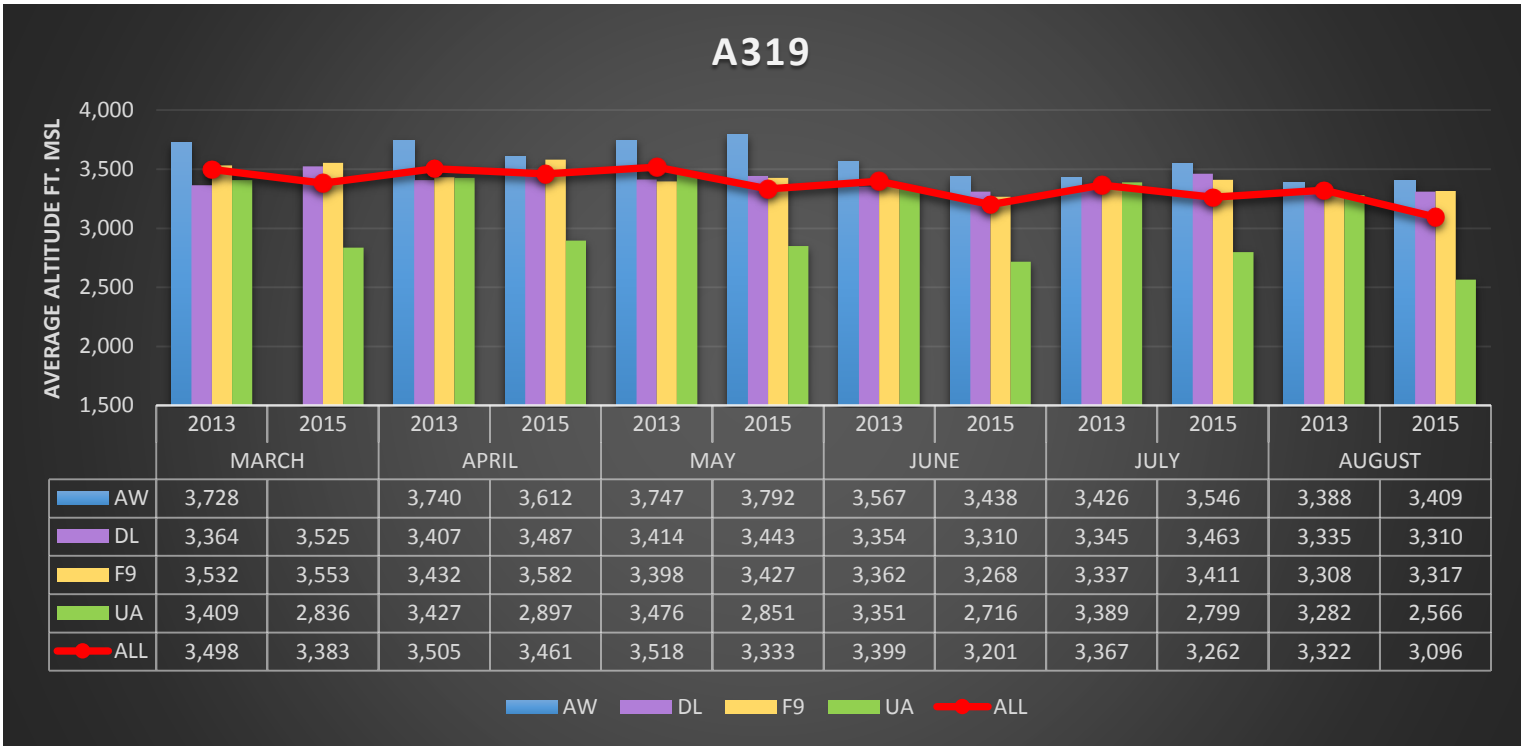
## Summary of Commercial Aircraft Altitude at Balboa Avenue

## March to August of 2013 Compared to March to August of 2015

| | Change in Altitude in Feet, 2013 to 2015* | | | | | | |
|---|---|---|---|---|---|---|---|
| | March | April | May | June | July | August | 6-Month Avg. |
| A319 | | | | | | | |
| AW | | -128 | 45 | -129 | 121 | 21 | -14 |
| DL | 160 | 80 | 28 | -43 | 118 | -25 | 53 |
| F9 | 20 | 150 | 28 | -94 | 74 | 9 | 31 |
| **UA** | **-573** | **-531** | **-625** | **-635** | **-590** | **-715** | **-612** |
| ALL | -115 | -44 | -185 | -198 | -105 | **-226** | -146 |
| Total Avg. | -127 | -95 | -142 | **-220** | -76 | -187 | -137 |
| | | | | | | | |
| A320 | | | | | | | |
| AW | -123 | -23 | -194 | -67 | 77 | -31 | -60 |
| DL | | | 746 | 79 | 56 | | 294 |
| **UA** | **-737** | **-702** | **-575** | **-889** | **-753** | **-912** | **-761** |
| 4O | | | | | | | |
| ALL | 65 | 94 | 287 | 31 | 230 | 106 | 136 |
| Total Avg. | **-265** | **-210** | 66 | **-212** | -98 | **-279** | -98 |
| | | | | | | | |
| B737 | | | | | | | |
| AS | 60 | 71 | 162 | 60 | 189 | 86 | 105 |
| DL | | | | | | | |
| **UA** | -52 | -145 | 100 | -75 | 105 | **-223** | -48 |
| WN | -4 | -1 | 48 | -93 | 43 | -82 | -15 |
| WS | 185 | 186 | 203 | 46 | 167 | 73 | 143 |
| ALL | 16 | 12 | 76 | -78 | 71 | -66 | 5 |
| Total Avg. | 41 | 25 | 118 | -28 | 115 | -42 | 38 |
| | | | | | | | |
| B738 | | | | | | | |
| AA | -125 | -91 | -23 | -81 | 42 | -17 | -49 |
| AS | 73 | 220 | 449 | 142 | 277 | 170 | 222 |
| DL | | | | | | | |
| **UA** | **-672** | **-430** | **-336** | **-541** | **-520** | **-570** | **-512** |
| WN | -109 | 12 | 194 | | | 78 | 44 |
| ALL | 45 | 106 | 114 | -25 | 130 | 66 | 73 |
| Total Avg. | -158 | -37 | 80 | -126 | -18 | -55 | -44 |
| | | | | | | | |
| B752 | | | | | | | |
| 5X | -73 | -7 | 150 | **-212** | -13 | -60 | -36 |
| AA | | | | | | | |
| AW | | | | | 392 | | 392 |
| DL | 106 | 73 | 57 | -16 | 202 | 26 | 75 |
| **UA** | 76 | | | **-565** | | | **-245** |
| ALL | -5 | -20 | 79 | -83 | 112 | -41 | 7 |
| Total Avg. | 26 | 15 | 95 | **-219** | 173 | -25 | 39 |
| Overall Ave: | -97 | -60 | 43 | -161 | 19 | -118 | -41 |

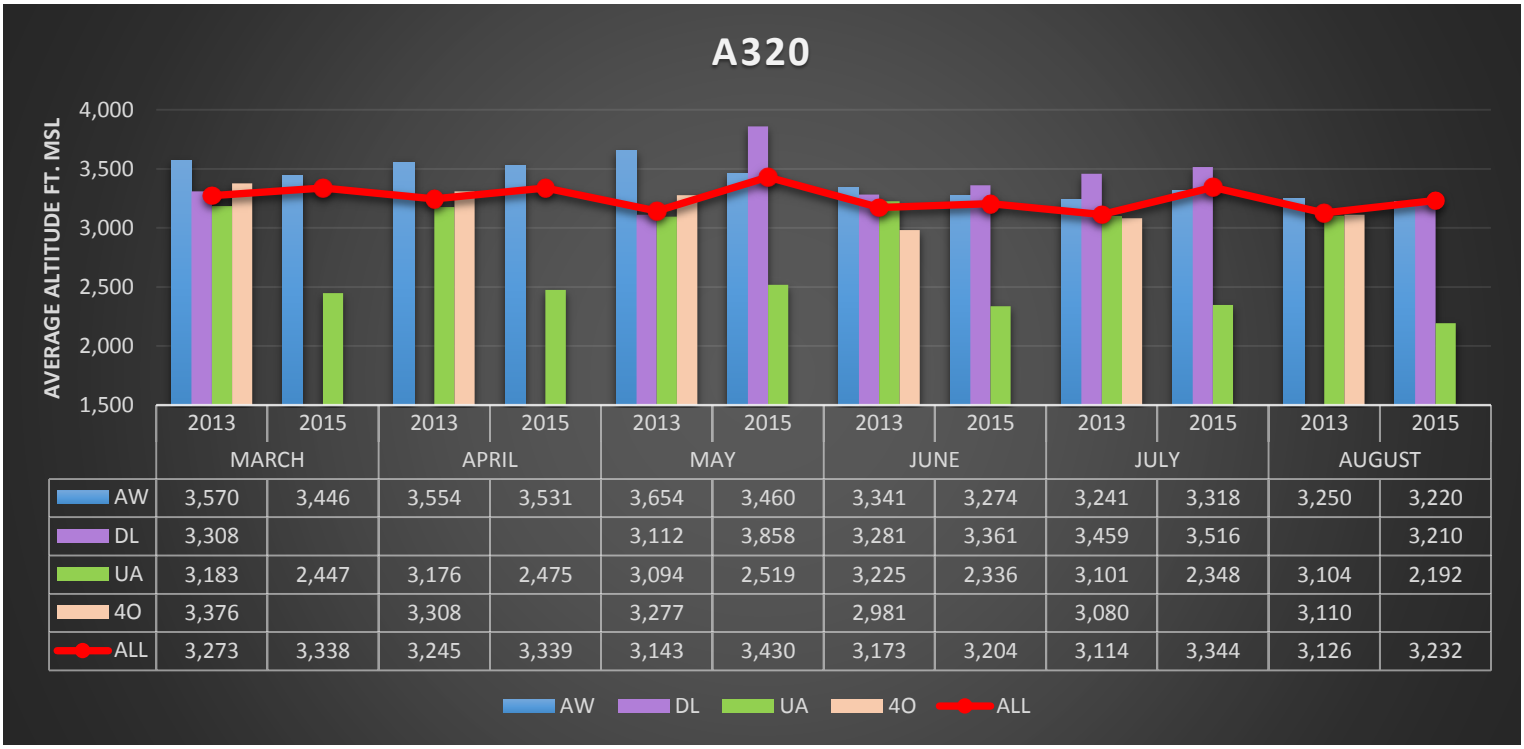
* Positive number means altitude was higher in 2015 than it was in 2013.

# John Wayne Airport
## Average Altitude Comparison
## Airbus A319



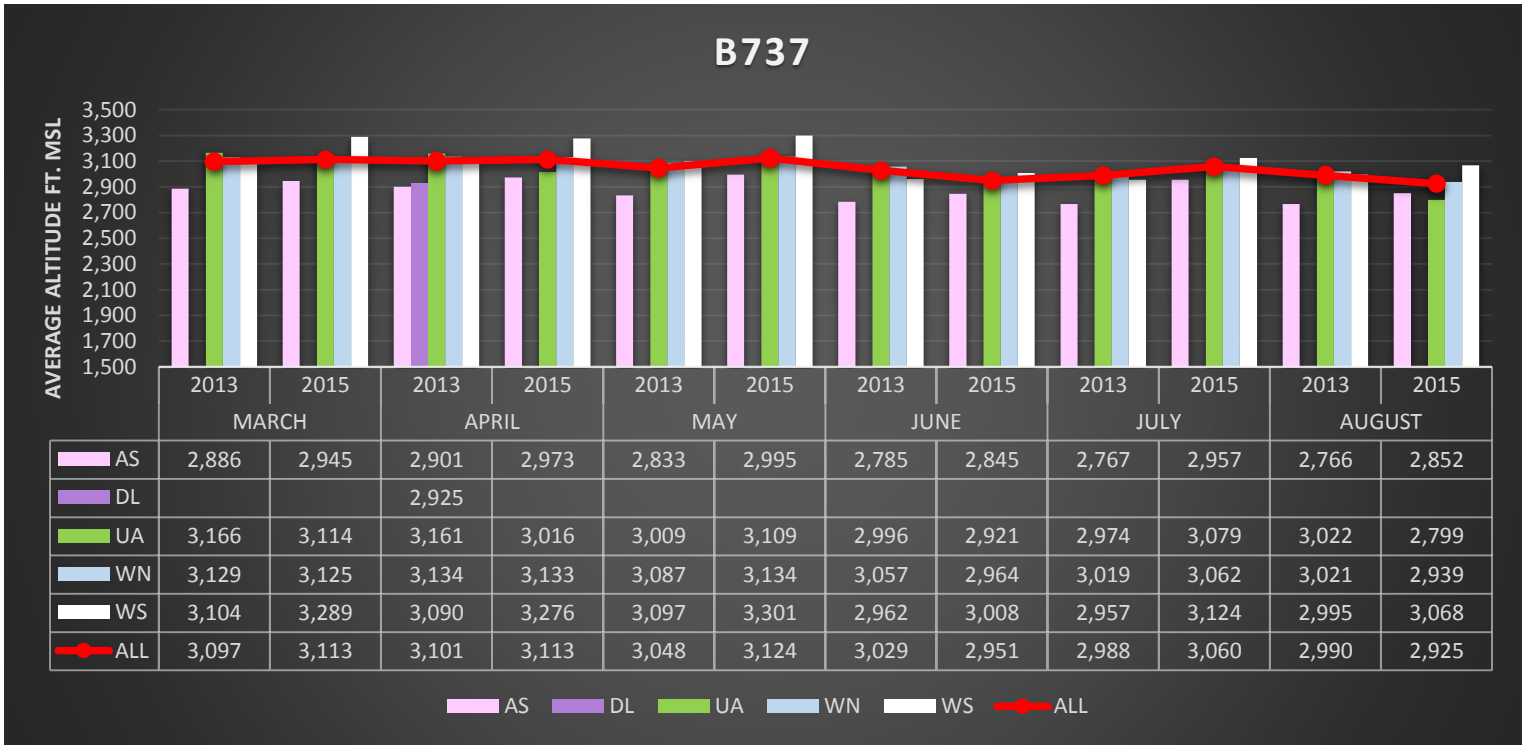

| | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MARCH | | APRIL | | MAY | | JUNE | | JULY | | AUGUST | |
| AW | 3,728 | | 3,740 | 3,612 | 3,747 | 3,792 | 3,567 | 3,438 | 3,426 | 3,546 | 3,388 | 3,409 |
| DL | 3,364 | 3,525 | 3,407 | 3,487 | 3,414 | 3,443 | 3,354 | 3,310 | 3,345 | 3,463 | 3,335 | 3,310 |
| F9 | 3,532 | 3,553 | 3,432 | 3,582 | 3,398 | 3,427 | 3,362 | 3,268 | 3,337 | 3,411 | 3,308 | 3,317 |
| UA | 3,409 | 2,836 | 3,427 | 2,897 | 3,476 | 2,851 | 3,351 | 2,716 | 3,389 | 2,799 | 3,282 | 2,566 |
| ALL | 3,498 | 3,383 | 3,505 | 3,461 | 3,518 | 3,333 | 3,399 | 3,201 | 3,367 | 3,262 | 3,322 | 3,096 |

# John Wayne Airport
## Average Altitude Comparison
## Airbus A320



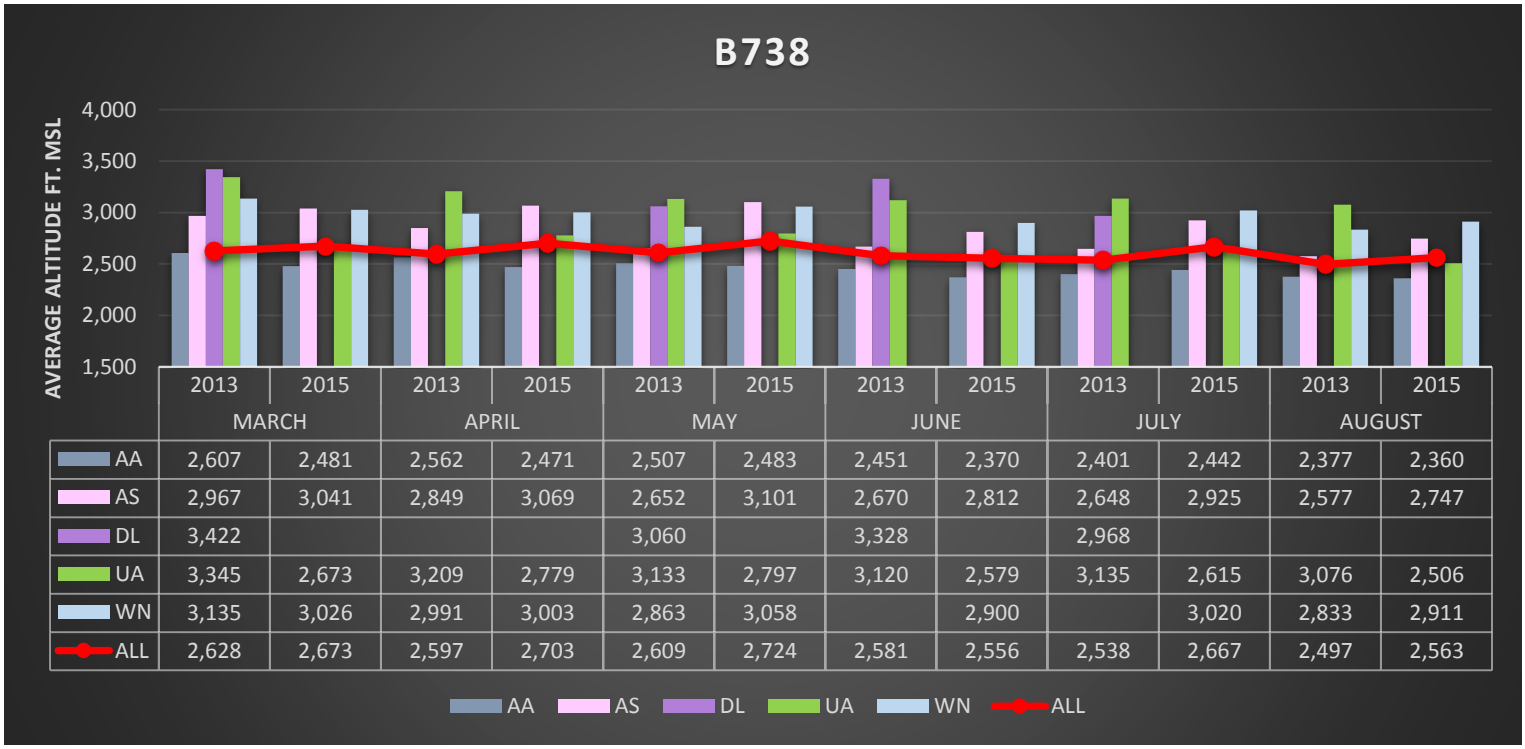

| | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MARCH | | APRIL | | MAY | | JUNE | | JULY | | AUGUST | |
| AW | 3,570 | 3,446 | 3,554 | 3,531 | 3,654 | 3,460 | 3,341 | 3,274 | 3,241 | 3,318 | 3,250 | 3,220 |
| DL | 3,308 | | | | 3,112 | 3,858 | 3,281 | 3,361 | 3,459 | 3,516 | | 3,210 |
| UA | 3,183 | 2,447 | 3,176 | 2,475 | 3,094 | 2,519 | 3,225 | 2,336 | 3,101 | 2,348 | 3,104 | 2,192 |
| 4O | 3,376 | | 3,308 | | 3,277 | | 2,981 | | 3,080 | | 3,110 | |
| ALL | 3,273 | 3,338 | 3,245 | 3,339 | 3,143 | 3,430 | 3,173 | 3,204 | 3,114 | 3,344 | 3,126 | 3,232 |

# John Wayne Airport
## Average Altitude Comparison
## Boeing 737-700



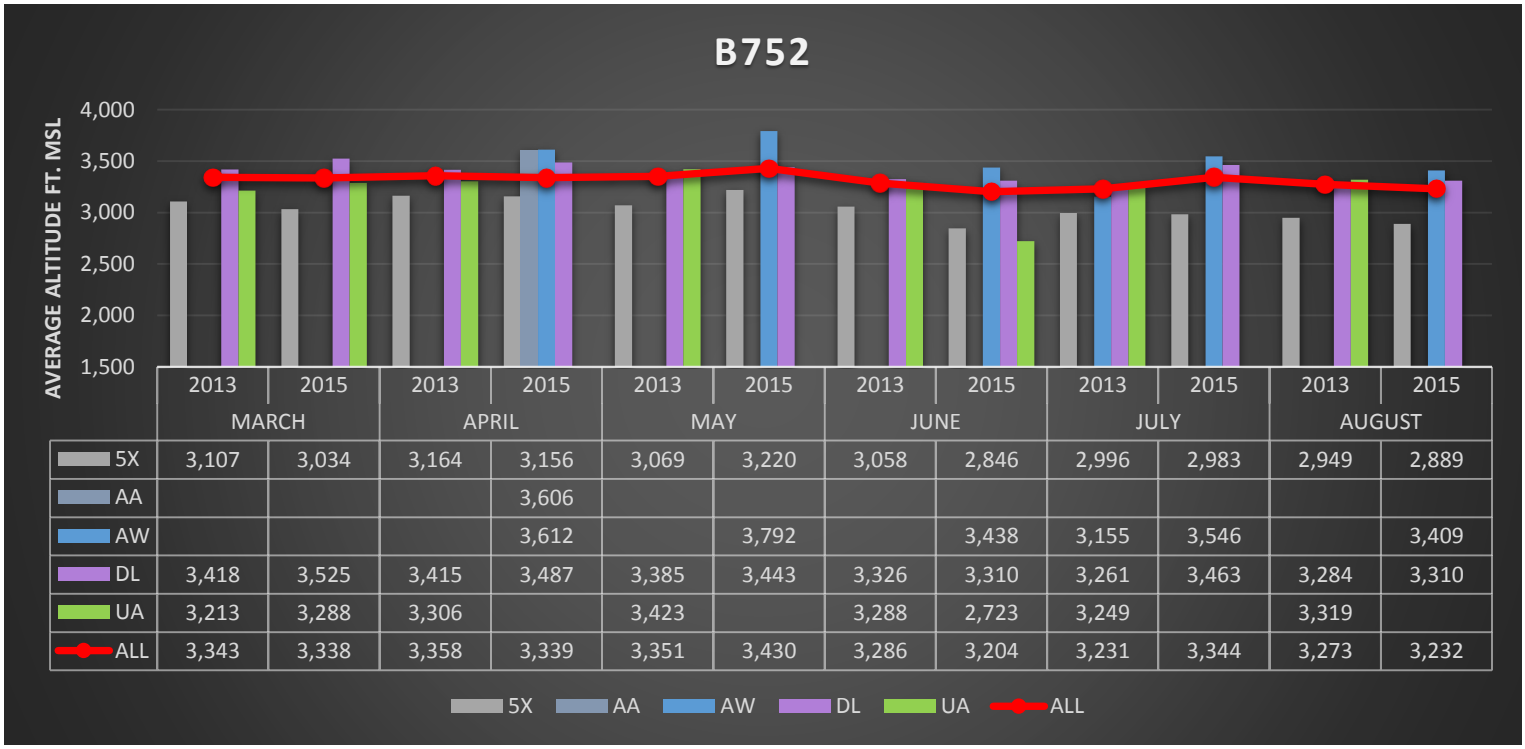

| | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MARCH | | APRIL | | MAY | | JUNE | | JULY | | AUGUST | |
| AS | 2,886 | 2,945 | 2,901 | 2,973 | 2,833 | 2,995 | 2,785 | 2,845 | 2,767 | 2,957 | 2,766 | 2,852 |
| DL | | | 2,925 | | | | | | | | | |
| UA | 3,166 | 3,114 | 3,161 | 3,016 | 3,009 | 3,109 | 2,996 | 2,921 | 2,974 | 3,079 | 3,022 | 2,799 |
| WN | 3,129 | 3,125 | 3,134 | 3,133 | 3,087 | 3,134 | 3,057 | 2,964 | 3,019 | 3,062 | 3,021 | 2,939 |
| WS | 3,104 | 3,289 | 3,090 | 3,276 | 3,097 | 3,301 | 2,962 | 3,008 | 2,957 | 3,124 | 2,995 | 3,068 |
| ALL | 3,097 | 3,113 | 3,101 | 3,113 | 3,048 | 3,124 | 3,029 | 2,951 | 2,988 | 3,060 | 2,990 | 2,925 |

# John Wayne Airport
## Average Altitude Comparison
## Boeing 737-800




| | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MARCH | | APRIL | | MAY | | JUNE | | JULY | | AUGUST | |
| AA | 2,607 | 2,481 | 2,562 | 2,471 | 2,507 | 2,483 | 2,451 | 2,370 | 2,401 | 2,442 | 2,377 | 2,360 |
| AS | 2,967 | 3,041 | 2,849 | 3,069 | 2,652 | 3,101 | 2,670 | 2,812 | 2,648 | 2,925 | 2,577 | 2,747 |
| DL | 3,422 | | | | 3,060 | | 3,328 | | 2,968 | | | |
| UA | 3,345 | 2,673 | 3,209 | 2,779 | 3,133 | 2,797 | 3,120 | 2,579 | 3,135 | 2,615 | 3,076 | 2,506 |
| WN | 3,135 | 3,026 | 2,991 | 3,003 | 2,863 | 3,058 | | 2,900 | | 3,020 | 2,833 | 2,911 |
| ALL | 2,628 | 2,673 | 2,597 | 2,703 | 2,609 | 2,724 | 2,581 | 2,556 | 2,538 | 2,667 | 2,497 | 2,563 |

# John Wayne Airport
## Average Altitude Comparison
## Boeing 757-200




| | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 | 2013 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MARCH | | APRIL | | MAY | | JUNE | | JULY | | AUGUST | |
| 5X | 3,107 | 3,034 | 3,164 | 3,156 | 3,069 | 3,220 | 3,058 | 2,846 | 2,996 | 2,983 | 2,949 | 2,889 |
| AA | | | | 3,606 | | | | | | | | |
| AW | | | | 3,612 | | 3,792 | | 3,438 | 3,155 | 3,546 | | 3,409 |
| DL | 3,418 | 3,525 | 3,415 | 3,487 | 3,385 | 3,443 | 3,326 | 3,310 | 3,261 | 3,463 | 3,284 | 3,310 |
| UA | 3,213 | 3,288 | 3,306 | | 3,423 | | 3,288 | 2,723 | 3,249 | | 3,319 | |
| ALL | 3,343 | 3,338 | 3,358 | 3,339 | 3,351 | 3,430 | 3,286 | 3,204 | 3,231 | 3,344 | 3,273 | 3,232 |

*JWA- Traffic Figures-February and March*

February[1] 2016 saw a passenger increase of +11.9% over February 2015. Year to date the airport with 1.61 MAP is 11.1% ahead of last year. International traffic for February showed an increase of +94.1%% versus the same period last year. Meanwhile the ADDs for February 2016 were 119.17 versus 107.57 for February 2015. International ADDs for the month of February were 5.14 versus 3.02 ADDs for February 2015.

March also saw an increase of +9.0% for 2016 versus 2015. For the first three (3) quarters of the year, the passenger levels are +10.3% ahead of 2015, with a total passenger count of 2.53 MAP. ADDs for March 2016 were 122.73 versus 112.45 for 2015. The top three airlines in March 2016 based on passenger count were Southwest Airlines (446,452[2]), American Airlines (138,869) and United Airlines (107,483).

*Comparison of 2009 and 2015*

With the release of the 4th Quarter of 2015 Noise Report, you will find a comparison of two of the major carriers at JWA for 2015 and 2009 below as well as the CNEL, which is the acronym for Community Noise Equivalent Level for the two periods. CNEL is the average sound level over a 24 hour period, with a penalty for operations between 7 pm and 10 pm. and for the nighttime hours of 10 pm to 7 am.

*4th Quarter 2015 Operations JWA*

Comparison American Airlines and Southwest Airlines Class A Departures

| Carrier | Aircraft Type | #Flts | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|---|
| American | A320 | 191 | Average | 94.0 | 93.6 | 91.4 | 85.0 | 84.7 | 85.0 | 81.6 |
| Class A | | | Count | (183) | (177) | (179) | (181) | (184) | (177) | (171) |
| | A321 | 163 | Average | 98.2 | 97.6 | 95.5 | 87.8 | 87.2 | 87.4 | 84.5 |
| | | | Count | (152) | (148) | (149) | (152) | (153) | (154) | (153) |
| | B738 | 1059 | Average | 99.1 | 97.6 | 97.6 | 89.1 | 89.0 | 89.6 | 86.4 |
| | | | Count | (987) | (955) | (952) | (924) | (943) | (913) | (923) |
| Southwest | B737 | 2146 | Average | 92.7 | 92.0 | 89.3 | 83.4 | 83.6 | 84.6 | 81.5 |
| Class A | | | Count | (2018) | (1959) | (1943) | (1855) | (1891) | (1862) | (1795) |
| | B738 | 420 | Average | 93.5 | 92.7 | 90.1 | 84.9 | 84.3 | 85.6 | 83.0 |
| | | | Count | (390) | (379) | (377) | (373) | (382) | (373) | (372) |
| **Class A Noise Limits dB** | | | | **102.5** | **101.8** | **101.1** | **94.8** | **95.3** | **96.8** | **93.7** |

[1] Remember February 2016 had 29 as opposed to 28 days in 2015.
[2] That is 49.2% of the passengers at JWA.

## *Operations October –December 2015*

LANDING AND
TAKEOFF OPERATIONS
October - December 2015

| Period | Air Carriers | | GA Jet ) | Total Operations | Average Daily Jet Operations |
|---|---|---|---|---|---|
| | Jet | Prop | | | |
| October | 7,425 | 0 | 2,409 | 22,874 | 317 |
| November | 7,263 | 0 | 2,031 | 22,391 | 309 |
| December | 7,463 | 0 | 2,230 | 21,970 | 312 |
| Fourth Quarter | 22,151 | 0 | 6,670 | 67,235 | 313 |
| Twelve Months 01/01/15 - 12/31/15 | 84,844 | 0 | 27,545 | 260,689 | 307 |

The Commercial ADDs for the 4th Quarter 2015 were 120.39 and 116.22 ADDS for the year of 2015. If you include General Aviation Jets the ADDs for the quarter would be 156.64 and 153.5 ADDs for the year of 2015.

## *4th Quarter 2009 Operations JWA for Comparison*

Comparison American Airlines and Southwest Airlines Class A Departures

| Carrier | AC type | Ops | NMS | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|---|
| American | B7378 | 1029 | Average | 98.0 | 96.2 | 95.6 | 86.9 | 88.1 | 88.4 | 84.5 |
| | | | Count | (961) | (953) | (967) | (965) | (920) | (926) | (971) |
| | B757 | 166 | Average | 95.1 | 93.8 | 91.9 | 85.4 | 86.3 | 86.5 | 83.5 |
| | | | Count | (155) | (154) | (157) | (156) | (151) | (151) | (157) |
| Southwest | B7377 | 642 | Average | 90.8 | 90.2 | 86.0 | 81.2 | 80.7 | 81.7 | 78.8 |
| | | | Count | (615) | (611) | (614) | (592) | (562) | (602) | (481) |
| Class A Noise Limits 2009[3] dB | | | | 101.8 | 101.1 | 100.7 | 94.1 | 94.6 | 96.1 | 93 |

## *Operations October –December 2009*

LANDING AND
TAKEOFF OPERATIONS

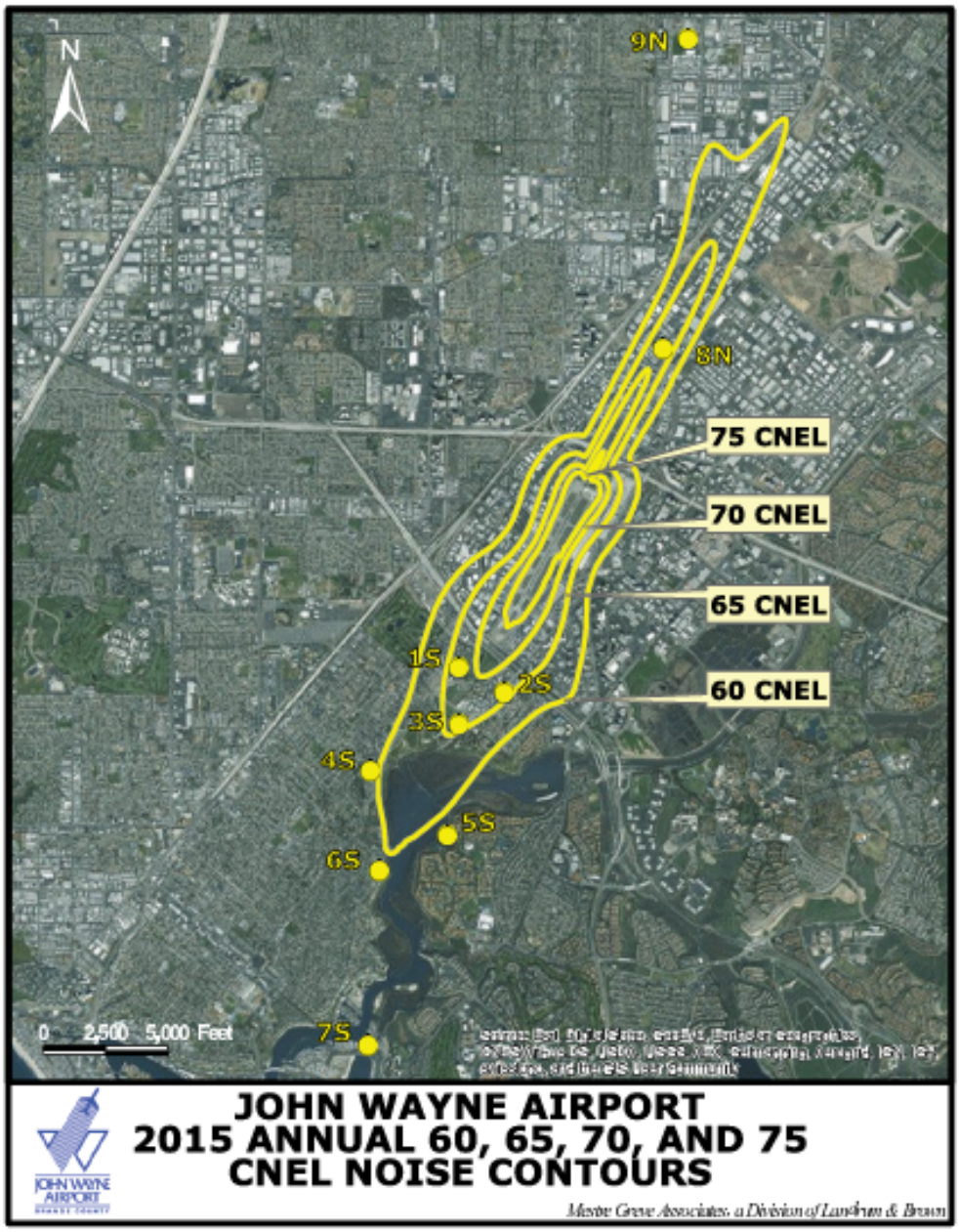
October - December 2009

| Period | Air Carriers | | GA Jet | Total Operations | Average Daily Jet Operations |
|---|---|---|---|---|---|
| | Jet | Prop | | | |
| October | 8,012 | 0 | 2,239 | 19,227 | 331 |
| November | 7,506 | 0 | 1,924 | 17,754 | 314 |
| December | 7,529 | 0 | 2,094 | 17,427 | 310 |
| Fourth Quarter | 23,047 | 0 | 6,257 | 54,408 | 319 |
| Twelve Months 01/01/09 - 12/31/09 | 94,248 | 0 | 24,602 | 218,157 | 326 |

[3] Noise limits were modified effective September 1, 2015.

The Commercial ADDs for the 4th Quarter 2009 were 125.26 and 129.11 ADDS for the year of 2009. If you include General Aviation Jets the ADDs for the quarter would be 159.26 and 162.81 ADDs for the year of 2009.

**An Historical Comparison of the CNEL Contours for JWA**
**2009 vs. 2015**



CNEL 2009


*CNEL is the acronym for Community Noise Equivalent Level. CNEL is the average sound level over a 24 hour period, with a penalty for operations between 7 pm and 10 pm. and for the nighttime hours of 10 pm to 7 am.

## MetroPlex

It appears there is another change regarding the redesign of departures at JWA. The HAYLO departure which was initially intended to replace the CHANNEL departure as part of the MetroPlex redesign of Southern California airspace has been replaced by SID HHERO which is currently scheduled for April 27, 2017.

### *FAA Response to City*

As you may recall, on March 23, 2016, the City Manager forwarded correspondence to the Federal Aviation Administration (FAA) concerning the development of an RNP departure procedure for JWA. RNAV, area navigation, airspace generally mandates a certain level of equipment and assumes you have a 95% chance of keeping to a stated level of navigation accuracy. RNP is a part of Performance Based Navigation (PBN) which adds to the same RNAV accuracy standards a level of system monitoring and alerting. RNAV 1 and RNP 1 both say you have a 0.95 probability of staying within 1 nm of course. RNP will let you know when the probability of you staying within 2 nm of that position goes below 0.99999.

On or about April 5, the City received a response, indicating that the FAA was interested in looking at this possibility and the City is currently following up with the FAA.

## Airports in the Region

### *LAX and ONT*

LAX passenger figures for March 2016 show an overall increase by +5.8% and +8.14% for the first quarter of the year versus the same time periods last year for both domestic and international passengers, while ONT showed an increase for March of +.67% and +1.87% for the year over 2015.

### *Long Beach*

Long Beach showed an increase of passenger traffic for March of +1.4% and is +3.2% ahead of 2015 for the first three months of 2016. At month-end, Long Beach

Airport had 50 allocated Air Carrier flight slots - JetBlue (35), American (5), Delta (4), Southwest (4), FedEx (1), UPS (1) in addition there are three allocated Commuter Carrier flight slots - Delta (3).

*Southwest and Long Beach Airport*

As most of you are aware, Southwest Airlines has previously announced plans to begin flying to Long Beach Airport. This would give Southwest a presence at all five commercial airports in the Los Angeles area. Moreover, it also means that Southwest will challenge the long-running dominance of JetBlue. Apparently Southwest believes this is a battle worth waging. Initially based upon a 1995 noise ordinance commercial airlines have been limited to 41 daily departures at Long Beach Airport, excluding small commuter planes. In 2001, JetBlue saw an opportunity to make Long Beach a mini-hub, as most of these slots were unused. JetBlue holds most of the slots for large jet flights at Long Beach Airport. As it began to expand in Long Beach, JetBlue snapped up all 27 remaining commercial airline slots. It briefly had to return some of those slots, but JetBlue has since amassed 32 of the 41 slots available for large jets. The remaining slots are scattered among several other airlines.

However, last year, officials announced that Long Beach Airport would add nine new commercial airline slots, as the industry shift to newer, quieter airplanes meant that the airport was not using its full "noise budget." This was the first time in more than a decade that such a large block of slots became available -- creating an opportunity for Southwest. How and in what manner Southwest will compete with JetBlue remains to be seen.

*Flight Noise Comparison*

For those of you who are interested in comparing the new A320neo and the B737Max, which are the latest new aircraft on the horizon, you may be interested in comparing the two and can do so at the following website:
http://airinsight.com/2016/02/01/comparing-engine-noise/