

# MEMORANDUM

## DEPARTMENT OF AVIATION

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TO: DISTRIBUTION

FROM: GEORGE C. SIMS, PLANNER

SUBJECT: JULY THROUGH SEPTEMBER 2015 NOISE COMPLAINT REPORTS

DATE: OCTOBER 22, 2015

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Attached for your review are the Clark County Department of Aviation's (CCDOA) Monthly Noise Complaint Reports for July through September 2015. Please note the following airport abbreviations: **McCarran International Airport (LAS)**, **North Las Vegas Airport (VGT)**, and **Henderson Executive Airport (HND)**.

The following reports describe noise complaints and operational data regarding helicopter and fixed-wing aircraft operations at LAS, VGT, and HND. Aircraft noise complaints are received either through the CCDOA's Noise Hotline (261-3694), the Noise Office (261-5600), or calls forwarded from LAS's toll free number (1-800-261-5704). Nellis Air Force Base noise complaints are forwarded to the Nellis Public Affairs Office (652-2750), and noise complaints regarding aircraft operations from the Boulder City Airport are forwarded to the Boulder City Airport Coordinator (293-9405). Individuals who express concerns regarding aircraft operations originating from private facilities (i.e., Valley Hospital, the private helipad located near Las Vegas Blvd. and Larson Lane, or the private helipad located near Cheyenne Road and North 5th Street) are asked to contact the individual property owner directly.

**Exhibit 1** of each Monthly Noise Complaint Report illustrates the number of calls received by community as well as the number of individual callers or households. **Exhibit 2** illustrates the primary nature of the disturbance as identified by the caller. The second page of each monthly report (**Exhibit 3**) graphically illustrates all known origins of the calls received that month. **Exhibits 4 and 5** summarize arrival and departure runway use for large and non-large air carrier aircraft. Arrival and departure corridor use for helicopters are summarized in **Exhibit 6**. **Exhibit 7** provides a complete arrival fleet mix of all aircraft landing at LAS and highlights the two noisier aircraft types, the Boeing 727 series and Boeing 737-100 and 737-200 series. **Exhibit 8** illustrates the general departure direction for large aircraft.

Lastly, **Exhibit 9** summarizes how well large aircraft and helicopters adhered to the preferred, non-regulated departure corridors. Adherence to preferred departure corridors is voluntary, and neither Clark County nor the State of Nevada regulates aircraft in flight. The FAA, through the discretion of Congress, has sole authority over the safe and efficient utilization of the nation's navigable airspace. Therefore, local and state authorities cannot legally enforce the use of these departure corridors, or impose penalties to pilots who opt not to comply with preferred procedures. "Compliance gates" are located along these historical/fly-quietly departure routes. If all aircraft flew with advanced navigational technologies and operated under Required Navigational Precision (RNP) procedures, then it could be expected that up to 95% of all aircraft would be within 0.3 nautical miles (NM) of a fly-over point. Therefore, 0.3 NM is the threshold for compliance for large air carrier aircraft. The compliance threshold for helicopters is 500 feet.

The following provides a synopsis of each monthly noise complaint report and additional noise-related issues addressed during the reporting period. Please refer to each noise complaint report for more detailed information.

## **Monthly Noise Complaint Summaries**

**July 2015:** 92 total complaints - a 66% decrease from 2014 and a 411% increase from 2013. On average, each caller (or household) issued 4.8 calls. The most calls received from one household totaled 70.

### Calls by Community - (Exhibits 1 and 3)

**Majority (more than 50%):** The **Paradise and Winchester** communities issued 79 calls (86%). These communities are typically impacted by aircraft departing to the north (from Runway 01R and Runway 01L) and aircraft arriving from the north (into Runways 19R and 19L).

**Minority (between 10% and 50%):** (Not applicable.)

**Repeat Caller Impact:** One household issued 76% (70 calls) of all the calls received in July 2015.

### Calls by Operation - (Exhibit 2)

**LAS:** 90% of the total calls were due to **LAS** fixed-wing operations.

- 71% were due to departures to the south from Runways 19L and 19R (100% from one household).

**VGT:** 1% of the total calls were due to **VGT** fixed-wing operations.

**HND:** 1% of the total calls were due to **HND** fixed-wing operations.

**Helos:** 8% of the total calls were due to **helicopter** operations (71% from one household, which is the same household that issued 100% of complaint calls for departures to the south from Runways 19L and 19R).

### LAS Operations & Runway Use by Large Air Carriers - (Exhibit 4)

**Overall:** 445 daily *departures*<sup>1</sup> – no change from 2014 and 4% increase from 2013.

- 78% of departures were to the west, 14% east, 5% north, and 3% south.

496 daily *arrivals* – a 3% increase from 2014 and 6% increase from 2013.

- 74% of arrivals were from the east, 18% north, 6% west, and 3% south.

**Daytime:** 348 daily *departures*<sup>2</sup> – a 4% decrease from 2014 and a 2% increase from 2013.

- 74% of departures were to the west, 18% east, 5% north, and 3% south.

416 daily *arrivals* – no change from 2014 and a 3% increase from 2013.

- 71% of arrivals were from the east, 19% north, 6% west, and 4% south.

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<sup>1</sup> Note: Due to the location of the radar south of Sunset Road, and the angle of the radar signal to avoid ground clutter, some aircraft that depart to the north from LAS are not captured until well north of Tropicana Avenue. Therefore, the AirScene application, used to determine runway use and traffic counts, does not tag these operations as either occurring at LAS or as a departure. Thus, total departure counts may be less than what likely occurred.

<sup>2</sup> See footnote #1.

**Nighttime:** 97 daily *departures*<sup>3</sup> – a 17% increase from 2014 and a 14% increase from 2013.  
▪ 91% of departures were to the west, 5% north, 3% south, and 2% east.  
80 daily *arrivals* – a 21% increase from 2014 and a 20% increase from 2013.  
▪ 86% of arrivals were from the east, 12% north, 2% south, and 1% west.

**Daytime vs. Nighttime:** Approximately 78% of all *departures* and 84% of all *arrivals* occurred during the daytime hours.

LAS Operations & Runway Use by **Non-Large Air Carriers** - (Exhibit 5)

**Overall:** 68 daily *departures*<sup>4</sup> – an 11% decrease from 2014 and 4% increase from 2013.  
▪ 68% of departures were to the south, 17% east, 11% west, and 5% north.  
77 daily *arrivals* – an 11% decrease from 2014 and 1% increase from 2013.  
▪ 78% of arrivals were from the north, 9% west, 8% east, and 5% south.

**Daytime:** 59 daily *departures*<sup>5</sup> – a 13% decrease from 2014 and a 5% increase from 2013.  
▪ 67% of departures were to the south, 19% east, 9% west, and 5% north.  
71 daily *arrivals* – a 12% decrease from 2014 and a 1% increase from 2013.  
▪ 77% of arrivals were from the north, 10% west, 8% east, and 5% south.

**Nighttime:** 9 daily *departures*<sup>6</sup> – a 3% increase from 2014 and a 1% increase from 2013.  
▪ 76% of departures were to the south, 18% west, 4% north, and 2% east.  
6 daily *arrivals* – a 3% increase from 2014 and a 2% increase from 2013.  
▪ 88% of arrivals were from the north, 6% east, 5% south, and 2% west.

**Daytime vs. Nighttime:** Approximately 87% of all *departures* and 92% of all *arrivals* occurred during the daytime hours.

Operations by Corridor for **Helicopter Tours** - (Exhibit 6)

**Tropicana:** 124 daily *departures* - a 2% decrease from 2014 and a 5% decrease from 2013.

**Charleston:** 126 daily *arrivals* – no change from 2014 and a 3% decrease from 2013.

**Strip:** 61 daily *touch and go's* - a 49% increase from 2014 and a 57% increase from 2013.

**Daytime vs. Nighttime:** Approximately 91% of all helicopter tour operations occurred during the daytime hours.

LAS Fleet Mix for All Aircraft Types - (Exhibit 7)

**Heavies:** **Very large** air carrier turbine-driven aircraft (those weighing 300,000 lbs. or more) accounted for 2% of the daily traffic.

**Large:** **Large** air carrier turbine-driven aircraft (those weighing more than 75,000 lbs. and less than 300,000 lbs.) accounted for 64% of the daily traffic.

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<sup>3</sup> See footnote #1.

<sup>4</sup> See footnote #1.

<sup>5</sup> See footnote #1.

<sup>6</sup> See footnote #1.

**Medium:** *Medium* turbine-driven aircraft (those weighing more than 41,000 lbs. and less than 75,000 lbs.) accounted for 1% of the daily traffic.

**Small:** *Small* turbine-driven aircraft (those weighing 41,000 lbs. or less) accounted for 7% of the daily traffic.

**Military:** *Military* turbine-driven aircraft accounted for less than 1% of the daily traffic.

**Non-Jet:** *Piston-driven* aircraft and unassigned aircraft types accounted for 2% of the daily traffic.

**Helos:** *Touring helicopters* accounted for 25% of the daily traffic.

**Noisier Aircraft Types:** The hush-kitted Boeing 727 aircraft and Boeing 737 (100 & 200 series) aircraft accounted for no operations per day.

#### LAS General Departure Direction for Large Aircraft - (Exhibit 8)

**Primary:** In 2015, 78% departed to the *west* (from LAS's primary departure runways). This figure was 63% in 2014 and 70% in 2013.

**Secondary:** In 2015, 3% departed to the *south* (from LAS's secondary departure runways). This figure was 2% in 2014 and 1% in 2013.

**Alternate 1:** In 2015, 5% departed to the *north* (from LAS's alternate departure runways). This figure was 4% in 2014 and 4% in 2013.

**Alternate 2:** In 2015, 14% departed to the *east* (from LAS's alternate departure runways). This figure was 31% in 2014 and 25% in 2013.

#### Gate Compliance for Large Aircraft and Helicopters - (Exhibit 9)

**SVHS:** In 2015, 95% of the large air carrier aircraft (excluding those destined to the Nevada National Security Site) that departed to the west from Runway 25L or 25R and made a left-hand turn were within 0.3 NM of *Sierra Vista High School* (SVHS). This figure was 95% in 2014 and 96% in 2013.

The SVHS "compliance gate" is located southwest of Warm Springs Rd. and Buffalo Dr., approximately 5 miles due west and 1.5 miles due south of the extended runway centerline of Runways 25L and 25R. This gate was established along an existing noise abatement flight track which requests pilots to proceed runway heading to 3 nautical miles from the Las Vegas very-high frequency omnidirectional range tactical air navigation (VORTAC) facility before turning left (or towards the south) - where large air carrier aircraft have historically been encouraged to operate. This noise abatement flight track avoids communities impacted by aircraft turning early along this corridor (like the Nevada Trails community) and aircraft turning late along this corridor (like the Rhodes Ranch community).

**Peace:** In 2015, 96% of the large air carrier aircraft (excluding those destined to the Nevada National Security Site) that departed to the west from Runway 25L or 25R and made a right-hand turn were within 0.3 NM of the intersection of *Peace Way & Summers Shade Street*. This figure was 95% in 2014 and 95% in 2013.

The Peace “compliance gate” is located northeast of Tropicana Ave. and I-215, approximately 6 miles due west and 2 miles due north of the extended runway centerline of Runways 25L and 25R. This gate was also established along an existing noise abatement flight track which requests pilots to proceed runway heading to 4 nautical miles from the Las Vegas VORTAC before turning right (or towards the north) - where large air carrier aircraft have historically been encouraged to operate. This noise abatement flight track avoids communities impacted by aircraft turning early along this corridor (like the Spanish Trail community) and aircraft turning late along this corridor (like the Summerlin South community).

**Pebble:** In 2015, 97% of the large air carrier aircraft (excluding those destined to the Nevada National Security Site) that departed to the south from Runway 19L or 19R were within 0.3 NM of the intersection of *Pebble Road & Arville Street*. This figure was 94% in 2014 and 87% in 2013.

The Pebble “compliance gate” is located southeast of Blue Diamond Rd. and Decatur Blvd., approximately 4 miles due south by southwest of the extended runway centerline of Runways 19L and 19R. This gate was also established along an existing noise abatement flight track which requests pilots to proceed runway heading to 3 nautical miles from the Las Vegas VORTAC before turning - where large air carrier aircraft have historically been encouraged to operate. This noise abatement flight track avoids communities impacted by aircraft turning early along this corridor (like the Warm Spring Estates community) and aircraft turning late along this corridor (like the Southern Highlands community).

**UNLV:** In 2015, 80% of the large air carrier aircraft that departed to the north from Runway 01L or 01R were within 0.3 NM of the *UNLV sports complex*. This figure was 80% in 2014 and 82% in 2013.

The UNLV “compliance gate” is located southeast of Flamingo Rd. and Paradise Rd., approximately 1 mile due north by northeast of the extended runway centerline of Runways 01L and 01R. This gate was also established along an existing noise abatement flight track which requests pilots to proceed runway heading to 2 nautical miles from the Las Vegas VORTAC before turning - where large air carrier aircraft have historically been encouraged to operate. This noise abatement flight track avoids communities impacted by aircraft turning early along this corridor, located due east and due west of UNLV.

**Boulder:** In 2015, 93% of the large air carrier aircraft that departed to the north from Runway 07L or 07R were within 0.3 NM of the extended runway centerline, near *Boulder Highway*. This figure was 94% in 2014 and 97% in 2013.

The Boulder Hwy. “compliance gate” is located southeast of Russell Rd. and I-93/95, approximately 7 miles due east of the extended runway centerline of Runways 07L and 07R. This gate was also established along an existing noise abatement flight track which requests pilots to proceed runway heading to 7 nautical miles from the Las Vegas VORTAC before turning - where large air carrier aircraft have historically been encouraged to operate. This noise abatement flight track avoids communities impacted by aircraft turning early along this corridor (like the Green Valley community, located in the City of Henderson, and older neighborhoods located north of Patrick Ln.).

**Hualapai:** In 2015, 89% of the large air carrier aircraft destined to the Nevada Test Site that departed to the west from Runway 25L or 25R were within 0.3 NM of the extended runway centerline, near *Hualapai Way*. This figure was 86% in 2014 and 83% in 2013.

The Hualapai Way “compliance gate” is located northeast of Sunset Rd. and Hualapai Way, approximately 7 miles due west of the extended runway centerline of Runways 25L and 25R. This gate was established in May 2011 along a new noise abatement flight track which requests pilots of aircraft destined to the Nevada Test Site to proceed runway heading to 7 nautical miles from the Las Vegas VORTAC before turning. This noise abatement flight track avoids communities impacted by aircraft turning early along this corridor (like the Spanish Trail community and the Summerlin South community).

**Eastern:** In 2015, 89% of the touring helicopters destined east of the Las Vegas Valley were within 500 feet of the intersection of *Tropicana Avenue & Eastern Avenue*. This figure was 88% in 2014 and 99% in 2013.

The Eastern Ave. “compliance gate” is located at Tropicana Ave. and Eastern Ave., approximately 2 miles due west of the their initial departure route. This gate was also established along an existing noise abatement flight track which requests helicopter pilots to proceed along the centerline of Tropicana Ave. until 10 nautical miles from the Las Vegas VORTAC before turning. This noise abatement flight track avoids communities impacted by helicopters located north and south of the corridor.

**Hollywood:** In 2015, 99% of the touring helicopters returning from areas east of the Las Vegas Valley were within 500 feet of the intersection of *Charleston Boulevard & Hollywood Boulevard*. This figure was 99% in 2014 and 99% in 2013.

The Hollywood Blvd. “compliance gate” is located at Charleston Blvd. and Los Feliz St., where their initial arrival route begins over the urbanized area of the Las Vegas Valley. This gate was also established along an existing noise abatement flight track which requests helicopter pilots to proceed along the centerline of Charleston Blvd. This noise abatement flight track avoids communities impacted by helicopters located north and south of the corridor.

**Stratosphere:** In 2015, 97% of the north-bound helicopters providing tours of the Las Vegas Strip were within 500 feet of the intersection of Oakey Boulevard & Las Vegas Boulevard, *northeast of the Stratosphere Tower*. This figure was 78% in 2014 and 91% in 2013.

The Stratosphere Tower “compliance gate” is located northeast of Sahara Avenue and Las Vegas Blvd., where an important turn in their fly-quietly routing structure begins near a historic portion of the urbanized area of the Las Vegas Valley.

The information denoted in this monthly summary represents **typical** residential complaints, flight activity, fleet mix, and gate compliance with the exception of increased operations during the night and the number of complaints tied to a single household.

**August 2015:** 54 total complaints - an 86% decrease from 2014 and a 350% increase from 2013. On average, each caller (or household) issued 3.6 calls. The most calls received from one household totaled 31.

Calls by Community - (Exhibits 1 and 3)

**Majority (more than 50%):** The *Paradise and Winchester* communities issued 43 calls (79%). (See July 2015 synopsis of typical aircraft overflight impacts on this community.)



**Minority (between 10% and 50%):** (Not applicable.)

**Repeat Caller Impact:** One household issued 57% (31 calls) of all the calls received in August 2015.

Calls by Operation - (Exhibit 2)

- LAS:** 98% of the total calls received were due to **LAS** fixed-wing operations.
- 56% were due to departures to the south from Runways 19L and 19R (100% from one household).
- VGT:** 0% of the total calls received were due to **VGT** fixed-wing operations.
- HND:** 0% of the total calls received were due to **HND** fixed-wing operations.
- Helis:** 2% of the total calls received were due to **helicopter** operations.

LAS Operations & Runway Use by **Large Air Carriers** - (Exhibit 4)

- Overall:** 438 daily *departures*<sup>7</sup> – a 2% increase from 2014 and 4% increase from 2013.
- 69% of departures were to the west, 26% east, 3% north, and 2% south.
- 490 daily *arrivals* – a 4% increase from 2014 and a 5% increase from 2013.
- 66% of arrivals were from the east, 18% north, 9% west, and 7% south.
- Daytime:** 351 daily *departures*<sup>8</sup> – a 2% decrease from 2014 and no change from 2013.
- 64% of departures were to the west, 30% east, 4% north, and 2% south.
- 418 daily *arrivals* – a 1% increase from 2014 and a 1% increase from 2013.
- 63% of arrivals were from the east, 20% north, 10% west, and 7% south.
- Nighttime:** 87 daily *departures*<sup>9</sup> – a 27% increase from 2014 and 22% increase from 2013.
- 87% of departures were to the west, 9% east, 2% south, and 2% east.
- 72 daily *arrivals* – a 33% increase from 2013 and a 34% increase from 2013.
- 81% of arrivals were from the east, 10% north, 8% south, and 1% west.

**Daytime vs. Nighttime:** Approximately 80% of all *departures* and 85% of all *arrivals* occurred during the daytime hours.

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<sup>7</sup> See footnote #1.

<sup>8</sup> See footnote #1.

<sup>9</sup> See footnote #1.

LAS Operations & Runway Use by **Non-Large Air Carriers** - (Exhibit 5)

- Overall:** 71 daily *departures*<sup>10</sup> – a 9% decrease from 2014 and 3% increase from 2013.  
▪ 58% of departures were to the south, 28% east, 10% west, and 5% north.  
78 daily *arrivals* – a 9% decrease from 2014 and a 3% decrease from 2013.  
▪ 72% of arrivals were from the north, 11% west, 10% south, and 7% east.
- Daytime:** 63 daily *departures*<sup>11</sup> – a 9% decrease from 2014 and a 3% increase from 2013.  
▪ 55% of departures were to the south, 30% east, 9% west, and 5% north.  
71 daily *arrivals* – an 11% decrease from 2014 and a 4% decrease from 2013.  
▪ 71% of arrivals were from the north, 12% west, 10% south, and 7% east.
- Nighttime:** 8 daily *departures*<sup>12</sup> – a 7% decrease from 2014 and a 4% increase from 2013.  
▪ 78% of departures were to the south, 15% west, 5% east, and 2% north.  
7 daily *arrivals* – a 21% increase from 2014 and an 8% increase from 2013.  
▪ 81% of arrivals were from the north, 13% south, and 7% east.

**Daytime vs. Nighttime:** Approximately 89% of all *departures* and 91% of all *arrivals* occurred during the daytime hours.

Operations by Corridor for **Helicopter Tours** - (Exhibit 6)

**Tropicana:** 124 daily *departures* – a 10% decrease from 2014 and an 8% decrease from 2013.

**Charleston:** 125 daily *arrivals* - a 10% decrease from 2014 and a 5% decrease from 2013.

**Strip:** 62 daily *touch and go's* - a 36% increase from 2014 and a 54% increase from 2013.

**Daytime vs. Nighttime:** Approximately 92% of all helicopter tour operations occurred during the daytime hours.

LAS Fleet Mix for All Aircraft Types - (Exhibit 7)

- Heavies:** **Very large** air carrier turbine-driven aircraft (those weighing 300,000 lbs. or more) accounted for 2% of the daily traffic.
- Large:** **Large** air carrier turbine-driven aircraft (those weighing more than 75,000 lbs. and less than 300,000 lbs.) accounted for 63% of the daily traffic.
- Medium:** **Medium** turbine-driven aircraft (those weighing more than 41,000 lbs. and less than 75,000 lbs.) accounted for 1% of the daily traffic.
- Small:** **Small** turbine-driven aircraft (those weighing 41,000 lbs. or less) accounted for 7% of the daily traffic.
- Military:** **Military** turbine-driven aircraft accounted for less than 1% of the daily traffic.
- Non-Jet:** **Piston-driven** aircraft and unassigned aircraft types accounted for 3% of the daily traffic.

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<sup>10</sup> See footnote #1.

<sup>11</sup> See footnote #1.

<sup>12</sup> See footnote #1.



**Helos:** *Touring helicopters* accounted for 25% of the daily traffic.

**Noisier Aircraft Types:** The hush-kitted Boeing 727 aircraft and Boeing 737 (100 & 200 series) aircraft accounted for zero operations per day.

LAS General Departure Direction for Large Aircraft - (Exhibit 8)

**Primary:** In 2015, 69% departed to the *west* (from LAS's primary departure runways). This figure was 72% in 2014 and 82% in 2013.

**Secondary:** In 2015, 2% departed to the *south* (from LAS's secondary departure runways). This figure was 3% in 2014 and 2% in 2013.

**Alternate 1:** In 2015, 3% departed to the *north* (from LAS's alternate departure runways). This figure was 5% in 2014, and 1% in 2013.

**Alternate 2:** In 2015, 26% departed to the *east* (from LAS's alternate departure runways). This figure was 20% in 2014 and 16% in 2013.

Gate Compliance for Large Aircraft and Helicopters - (Exhibit 9)

**SVHS:** In 2015, 96% of the large air carrier aircraft (excluding those destined to the Nevada Test Site) that departed to the west from Runway 25L or 25R and made a left-hand turn were within 0.3 NM of *Sierra Vista High School* (SVHS). This figure was 96% in 2014 and 96% in 2013. (See July 2015 synopsis for specific location of the SVHS gate.)

**Peace:** In 2015, 97% of the large air carrier aircraft (excluding those destined to the Nevada Test Site) that departed to the west from Runway 25L or 25R and made a right-hand turn were within 0.3 NM of the intersection of *Peace Way & Summers Shade Street*. This figure was 96% in 2014 and 96% in 2013. (See July 2015 synopsis for specific location of the Peace gate.)

**Pebble:** In 2015, 96% of the large air carrier aircraft (excluding those destined to the Nevada Test Site) that departed to the south from Runway 19L or 19R were within 0.3 NM of the intersection of *Pebble Road & Arville Street*. This figure was 92% in 2014 and 95% in 2013. (See July 2015 synopsis for specific location of the Pebble gate.)

**UNLV:** In 2015, 80% of the large air carrier aircraft that departed to the north from Runway 01L or 01R were within 0.3 NM of the *UNLV sports complex*. This figure was 82% in 2014, and 75% in 2013. (See July 2015 synopsis for specific location of the UNLV gate.)

**Boulder:** In 2015, 96% of the large air carrier aircraft that departed to the north from Runway 07L or 07R were within 0.3 NM of the extended runway centerline, near *Boulder Highway*. This figure was 95% in 2014 and 97% in 2013. (See July 2015 synopsis for specific location of the Boulder Hwy. gate.)

**Hualapai:** In 2015, 86% of the large air carrier aircraft destined to the Nevada Test Site that departed to the west from Runway 25L or 25R were within 0.3 NM of the extended runway centerline, near *Hualapai Way*. This figure was 91% in 2014, and 95% 2013. (See July 2015 synopsis for specific location of the Hualapai gate.)

**Eastern:** In 2015, 97% of the touring helicopters destined east of the Las Vegas Valley were within 500 feet of the intersection of *Tropicana Avenue & Eastern Avenue*. This figure was 96% in 2014 and 97% in 2013. (See July 2015 synopsis for specific location of the Eastern gate.)

**Hollywood:** In 2015, 99% of the touring helicopters returning from areas east of the Las Vegas Valley were within 500 feet of the intersection of *Charleston Boulevard & Hollywood Boulevard*. This figure was 99% in 2014 and 98% in 2013. (See July 2015 synopsis for specific location of the Hollywood gate.)

**Stratosphere:** In 2015, 88% of the north-bound helicopters providing tours of the Las Vegas Strip were within 500 feet of the intersection of Oakey Boulevard & Las Vegas Boulevard, *northeast of the Stratosphere Tower*. This figure was 92% in 2014 and 84% in 2013. (See July 2015 synopsis for specific location of the Stratosphere gate.)

The information denoted in this monthly summary represents **typical** residential complaints, flight activity, fleet mix, and gate compliance with the exception of increased operations during the night and the number of complaints tied to a single household.

**September 2015:** 481 total complaints – a 175% increase from 2014 and a 1,358% increase from 2013. On average, each caller (or household) issued 25.3 calls. The most calls received from one household totaled 450.

#### Calls by Community - (Exhibits 1 and 3)

**Majority (more than 50%):** The *Paradise and Winchester* communities issued 461 calls (96%). (See July 2015 synopsis of typical aircraft overflight impacts on this community.)

**Minority (between 10% and 50%):** (Not applicable.)

**Repeat Caller Impact:** One household issued 98% (450 calls) of all the calls received in September 2015.

#### Calls by Operation - (Exhibit 2)

**LAS:** 97% of the total calls received were due to *LAS* fixed-wing operations.

- 93% were due to departures to the south from Runways 19L and 19R (100% from one household).

**VGT:** >1% of the total calls received were due to *VGT* fixed-wing operations.

**HND:** 1% of the total calls received were due to *HND* fixed-wing operations.

**Helis:** 2% of the total calls received were due to *helicopter* operations (71% from one household, which is the same household that issued 100% of complaint calls for departures to the south from Runways 19L and 19R).

LAS Operations & Runway Use by **Large Air Carriers** - (Exhibit 4)

- Overall:** 439 daily *departures*<sup>13</sup> – a 1% increase from 2014 and a 3% decrease from 2013.  
▪ 83% of departures were to the west, 12% east, 4% south, and 1% north.  
481 daily *arrivals* – a 2% increase from 2014 and a 2% increase from 2013.  
▪ 79% of arrivals were from the east, 14% north, 4% west and 3% south.
- Daytime:** 363 daily *departures*<sup>14</sup> – a 3% decrease from 2014 and a 2% decrease from 2013.  
▪ 81% of departures were to the west, 13% east, 4% south, and 2% north.  
426 daily *arrivals* – no change from 2014 and 1% decrease from 2013.  
▪ 77% of arrivals were from the east, 15% north, 5% west, and 3% south.
- Nighttime:** 76 daily *departures*<sup>15</sup> – a 28% increase from 2014 and 35% increase from 2013.  
▪ 92% of departures were to the west, 5% south, and 4% east.  
54 daily *arrivals* – a 17% increase from 2014 and 36% increase from 2013.  
▪ 89% of arrivals were from the east, 8% north, and 3% south.

**Daytime vs. Nighttime:** Approximately 83% of all *departures* and 89% of all *arrivals* occurred during the daytime hours.

LAS Operations & Runway Use by **Non-Large Air Carriers** - (Exhibit 5)

- Overall:** 82 daily *departures*<sup>16</sup> – a 6% increase from 2014 and a 3% increase from 2013.  
▪ 74% of departures were to the south, 12% east, 11% west, and 2% north.  
89 daily *arrivals* – no change from 2014 and a 2% decrease from 2013.  
▪ 82% of arrivals were from the north, 7% east, 6% west, and 6% south.
- Daytime:** 74 daily *departures*<sup>17</sup> – a 7% increase from 2014 and a 2% increase from 2013.  
▪ 73% of departures were to the south, 14% east, 11% west, and 2% north.  
82 daily *arrivals* – no change from 2014 and a 3% decrease from 2013.  
▪ 81% of arrivals were from the north, 7% east, 6% west, and 6% south.
- Nighttime:** 8 daily *departures*<sup>18</sup> – a 5% decrease from 2014 and a 4% increase from 2013.  
▪ 83% of departures were to the south, 13% west, and 3% east.  
7 daily *arrivals* – a 9% increase from 2014 and a 6% increase from 2013.  
▪ 87% of arrivals were from the north, 8% south, and 4% east.

**Daytime vs. Nighttime:** Approximately 90% of all *departures* and 92% of all *arrivals* occurred during the daytime hours.

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<sup>13</sup> See footnote #1.

<sup>14</sup> See footnote #1.

<sup>15</sup> See footnote #1.

<sup>16</sup> See footnote #1.

<sup>17</sup> See footnote #1.

<sup>18</sup> See footnote #1.

Operations by Corridor for **Helicopter Tours** - (Exhibit 6)

**Tropicana:** 127 daily *departures* – a 1% increase from 2014 and no change from 2013.

**Charleston:** 131 daily *arrivals* - a 2% increase from 2014 and a 4% increase from 2013.

**Strip:** 62 daily *touch and go's* - a 40% increase from 2013 and 47% increase from 2013.

**Daytime vs. Nighttime:** Approximately 96% of all helicopter tour operations occurred during the daytime hours.

LAS Fleet Mix for All Aircraft Types - (Exhibit 7)

**Heavies:** **Very large** air carrier turbine-driven aircraft (those weighing 300,000 lbs. or more) accounted for 2% of the daily traffic.

**Large:** **Large** air carrier turbine-driven aircraft (those weighing more than 75,000 lbs. and less than 300,000 lbs.) accounted for 61% of the daily traffic.

**Medium:** **Medium** turbine-driven aircraft (those weighing more than 41,000 lbs. and less than 75,000 lbs.) accounted for 1% of the daily traffic.

**Small:** **Small** turbine-driven aircraft (those weighing 41,000 lbs. or less) accounted for 8% of the daily traffic.

**Military:** **Military** turbine-driven aircraft accounted for less than 1% of the daily traffic.

**Non-Jet:** **Piston-driven** aircraft and unassigned aircraft types accounted for 3% of the daily traffic.

**Helos:** **Touring helicopters** accounted for 25% of the daily traffic.

**Noisier Aircraft Types:** The hush-kitted Boeing 727 aircraft and Boeing 737 (100 & 200 series) aircraft accounted for almost no operations per day.

LAS General Departure Direction for Large Aircraft - (Exhibit 8)

**Primary:** In 2015, 83% departed to the **west** (from LAS's primary departure runways). This figure was 78% in 2014 and 78% in 2013.

**Secondary:** In 2015, 4% departed to the **south** (from LAS's secondary departure runways). This figure was 3% in 2014 and 3% in 2013.

**Alternate 1:** In 2015, 1% departed to the **north** (from LAS's alternate departure runways). This figure was 4% in 2014 and 8% in 2013.

**Alternate 2:** In 2015, 12% departed to the **east** (from LAS's alternate departure runways). This figure was 15% in 2014 and 11% in 2013.

Gate Compliance for Large Aircraft and Helicopters - (Exhibit 9)

- SVHS:** In 2015, 97% of the large air carrier aircraft (excluding those destined to the Nevada Test Site) that departed to the west from Runway 25L or 25R and made a left-hand turn were within 0.3 NM of *Sierra Vista High School* (SVHS). This figure was 95% in 2014 and 95% in 2013. (See July 2015 synopsis for specific location of the SVHS gate.)
- Peace:** In 2015, 97% of the large air carrier aircraft (excluding those destined to the Nevada Test Site) that departed to the west from Runway 25L or 25R and made a right-hand turn were within 0.3 NM of the intersection of *Peace Way & Summers Shade Street*. This figure was 96% in 2014 and 96% in 2013. (See July 2015 synopsis for specific location of the Peace gate.)
- Pebble:** In 2015, 91% of the large air carrier aircraft (excluding those destined to the Nevada Test Site) that departed to the south from Runway 19L or 19R were within 0.3 NM of the intersection of *Pebble Road & Arville Street*. This figure was 95% in 2014 and 99% in 2013. (See July 2015 synopsis for specific location of the Pebble gate.)
- UNLV:** In 2015, 71% of the large air carrier aircraft that departed to the north from Runway 01L or 01R were within 0.3 NM of the *UNLV sports complex*. This figure was 81% in 2014 and 83% in 2013. (See July 2015 synopsis for specific location of the UNLV gate.)
- Boulder:** In 2015, 94% of the large air carrier aircraft that departed to the north from Runway 07L or 07R were within 0.3 NM of the extended runway centerline, near *Boulder Highway*. This figure was 97% in 2014 and 96% in 2013. (See July 2015 synopsis for specific location of the Boulder Hwy. gate.)
- Hualapai:** In 2015, 90% of the large air carrier aircraft destined to the Nevada Test Site that departed to the west from Runway 25L or 25R were within 0.3 NM of the extended runway centerline, near *Hualapai Way*. This figure was 93% in 2014 and 90% in 2013. (See July 2015 synopsis for specific location of the Hualapai gate.)
- Eastern:** In 2015, 94% of the touring helicopters destined east of the Las Vegas Valley were within 500 feet of the intersection of *Tropicana Avenue & Eastern Avenue*. This figure was 94% in 2014 and 89% in 2013. (See July 2015 synopsis for specific location of the Eastern gate.)
- Hollywood:** In 2015, 99% of the touring helicopters returning from areas east of the Las Vegas Valley were within 500 feet of the intersection of *Charleston Boulevard & Hollywood Boulevard*. This figure was 99% in 2014 and 99% in 2013. (See July 2015 synopsis for specific location of the Hollywood gate.)
- Stratosphere:** In 2015, 81% of the north-bound helicopters providing tours of the Las Vegas Strip were within 500 feet of the intersection of Oakey Boulevard & Las Vegas Boulevard, *northeast of the Stratosphere Tower*. This figure was 98% in 2014 and 98% in 2013. (See July 2015 synopsis for specific location of the Stratosphere gate.)

The information denoted in this monthly summary represents **typical** residential complaints, flight activity, fleet mix, and gate compliance with the exception of increased operations during the night and the number of complaints tied to a single household.

**Other Notable Issues**

**Jets Under 75,000 LBS Must Meet Stage-3 Standard By End Of 2015:** The FAA issued a notice on July 16 reminding operators of jet aircraft weighing 75,000 lb. or less (mainly business jets) that after December 31, 2015, their aircraft must comply with more stringent Stage-3 noise standards. Operators failing to meet this requirement may be subject to civil penalties. Certain operations of aircraft not meeting Stage-3 standards may be conducted under “special flight authorizations” granted by FAA on a case-by-case basis.

**Helicopter Operator Users Meeting:** On September 10, 2015, DOA staff members met with FAA and local helicopter tour operators to discuss noise complaints tied to helicopter operations, route compliance, and operational growth. Operators were briefed on residential complaints received as a result of recent increased tour operations in the Red Rock canyon area. With the increase of these operations, all routes and procedures were carefully reviewed and discussed with the FAA to maintain safety and compliance.

**Aircraft Engine Fire:** A British Airways flight caught fire on the runway at the Las Vegas airport Tuesday, September 8, 2015, sending 13 people to local hospitals for treatment. The majority of the injuries came as passengers slid down the inflatable chutes to evacuate the Boeing 777, according to Clark County Fire Department Deputy Chief Jon Klassen. The incident occurred shortly after 4 p.m. involved British Airways Flight 2276, which was bound for London's Gatwick Airport. The flight had 159 passengers and 13 crew members aboard.

**Safety and Security Threats:** Any threats to DOA staff or an aircraft in flight are taken seriously, and such threats will be forwarded to the appropriate law enforcement agencies.

GCS:jj

Attachments



Airport Noise Report

October 22, 2015

Page 15 of 30

Distribution: Commissioner Sisolak, Chair  
Commissioner Brager  
Commissioner Collins  
Commissioner Weekly  
Saeed Bonabian  
Donald G. Burnette  
Sam Ingalls  
Teresa Motley  
Dan Kezar  
Linda Healey  
Tucker Field  
Tina Frias  
Judy Villalta  
Sandra Cikity  
Donna Bergstrom  
John Esch  
Sean Roebuck

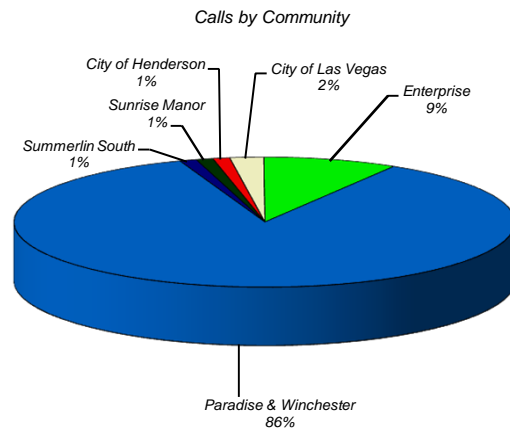
Commissioner Brown, Vice-Chair  
Commissioner Giunchigliani  
Commissioner Scow  
Rosemary Vassiliadis  
James Chrisley  
Ralph LePore  
Timothy Baldwin  
Chris Jones  
Christine Crews  
Jeff Jacquart  
Charlie Hall  
Ben Czyzewski  
Dennis Anderson  
Tom Peterson  
Mark Silverstein  
Curtis Hedgepeth

John Howard (FAA TRACON)  
Jon Holman (FAA ATC)  
Charlie Halterman (HND Tower)  
Richard Falcon (FAA FSDO)  
Bristol Ellington (COH)  
Josh Reid (COH)  
Elizabeth Fretwell (CLV)  
Vicki Mayes (CBC)  
Mayor Carolyn Goodman (CLV)  
Councilman Bob Beers (CLV)  
Councilman Bob Coffin (CLV)  
Councilwoman L. Tarkanian (CLV)  
Mayor Pro Tem S. Anthony (CLV)  
Councilman Ricki Barlow (CLV)  
Councilman Steven Ross (CLV)  
Bradford Jerbic, (CLV)  
Mayor Roger Tobler (CBC)  
Brok Armantrout (CBC)  
David Parks (Nevada State Assembly)  
J. Gordon Arkin (Foley & Lardner)  
John Williams (Ricondo)  
Douglas Pomeroy (FAA ADO)  
La Nea M. Conner (Boeing)  
Mike Jeck (Metro Wash. Air Auth.)  
Frank Fiori (CNLV)  
James Davies (Sky Harbor Airport)  
Karen Everitt (Dallas City Hall)  
Thomas Miller (Nellis AFB)  
Stephanie Garcia-Vause (COH)  
Andrew Powell (COH)  
William Ruggiero (FAA TRACON)

Michael Moorer (FAA ATCT)  
James Erbeck (CLV)  
Wayne M. Niimi (FAA ATC)  
Paul Alukonis (FAA FSDO)  
Sydney Lowe (University Libraries)  
Bob Brown (BBA)  
Lisa Butterfield (Reno-Tahoe Airport)  
Andrea Christensen (Denver Airport)  
Jennifer Lewis (Scottsdale Airport)  
Frank Iacovino (Mass Port Authority)  
Robert Butler (Papillon Helicopters)  
Christine Gerencher (American Airlines)  
Bert Ganoung (SFO)  
Nigel Turner (Heli USA Airways)  
San Diego Airport Noise Management  
Jeannie Denham (Citizen)  
Judge Bob Johnston (Citizen)  
Roy Fuhrmann (Metro Airports Commission)  
Tom Schaus (Sundance Helicopters)  
Brooke Satern (Port of Portland)  
Gary Brodt (Citizen)  
James P. Callahan (Nellis AFB)  
Stan Shepherd (SEATAC)  
Eric Sheng (Long Beach Airport)  
Jason Schwartz (Portland Airport)  
Todd Lobato (Nellis AFB)  
William Olivieri (Citizen)  
Samuel Carter (ITT)  
Steven Peacock (Dallas City Hall)  
Jacob Snow (COH)  
John Dietz (FAA TRACON)

### Exhibit 1: Noise Complaint Calls by Community\* - July 2015

Community	No. of Calls in 2015	No. of Callers in 2015	No. of Calls in 2014	No. of Calls in 2013
City of Boulder City	1	1	1	2
City of Henderson	2	2	1	2
City of Las Vegas				1
City of North Las Vegas				1
Enterprise	8	8	1	5
Lone Mountain				
Paradise & Winchester	79	6	263	7
Spring Valley			6	
Summerlin South	1	1		1
Sunrise Manor	1	1	1	
Whitney				
Location unknown				
<b>Overall Total</b>	<b>92</b>	<b>19</b>	<b>273</b>	<b>18</b>



Difference between 2015 and 2014 Total Calls: -66%

Difference between 2015 and 2013 Total Calls: 411%

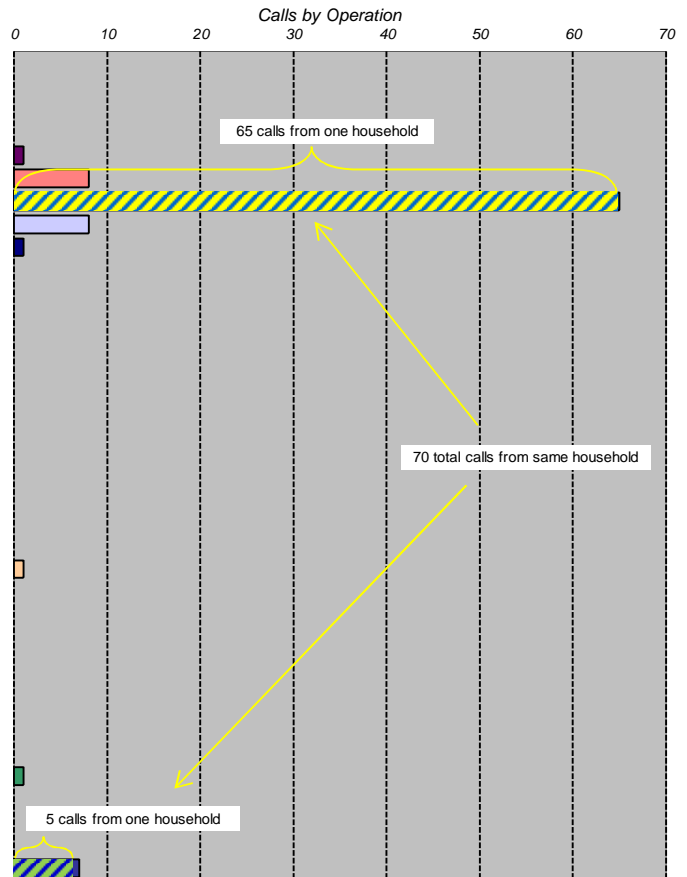
Average Number of Calls per Caller: 4.8

Most calls received from one household: 70

\* See map on reverse side for community boundaries and location of known noise complaints.

### Exhibit 2: Noise Complaint Calls by Type of Operation - July 2015

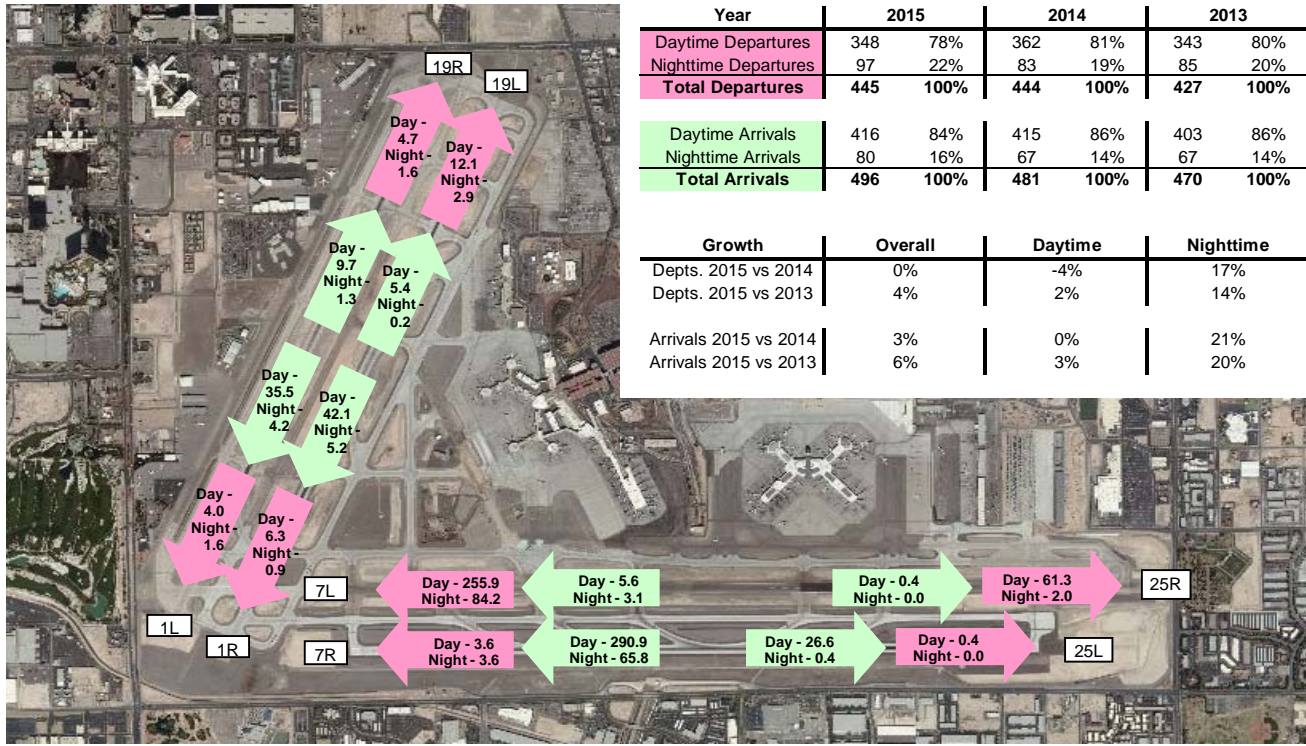
Operation	No. of Calls in 2015	Percent of Overall Total	No. of Calls in 2014	No. of Calls in 2013
LAS 01R/L Arrivals				1
LAS 07R/L Arrivals				
LAS 19R/L Arrivals				
LAS 25R/L Arrivals				2
LAS 01R/L Departures	1	1.1%	2	
LAS 07R/L Departures	8	8.7%	34	6
LAS 19R/L Departures	65	70.7%		1
LAS 25R/L Departures	8	8.7%	228	2
LAS Run-ups	1	1.1%		
LAS GA				
LAS Other				
<b>LAS Total</b>	<b>83</b>	<b>90.2%</b>	<b>264</b>	<b>12</b>
VGT 07 Arrivals				
VGT 12R/L Arrivals				
VGT 25 Arrivals				
VGT 30R/L Arrivals				
VGT 07 Departures				
VGT 12R/L Departures				
VGT 25 Departures				
VGT 30R/L Departures				
VGT Run-ups				
VGT GA	1	1.1%		2
VGT Other				
<b>VGT Total</b>	<b>1</b>	<b>1.1%</b>	<b>0</b>	<b>2</b>
HND 17R/L Arrivals				
HND 35R/L Arrivals				
HND 17R/L Departures				
HND 35R/L Departures				
HND Run-ups				
HND GA	1	1.1%	1	1
HND Other				
<b>HND Total</b>	<b>1</b>	<b>1.1%</b>	<b>1</b>	<b>1</b>
<b>Helicopters**</b>	<b>7</b>	<b>7.6%</b>	<b>8</b>	<b>3</b>
<b>Overall Total</b>	<b>92</b>	<b>100%</b>	<b>273</b>	<b>18</b>



\*\* Note that helicopter noise complaints are not tied to a specific facility since the operation cannot always be associated to a specific airport. Additionally, helicopter calls do not include those associated with operations conducted by the Metropolitan Police Department or those associated with operations conducted at non-DOA facilities.

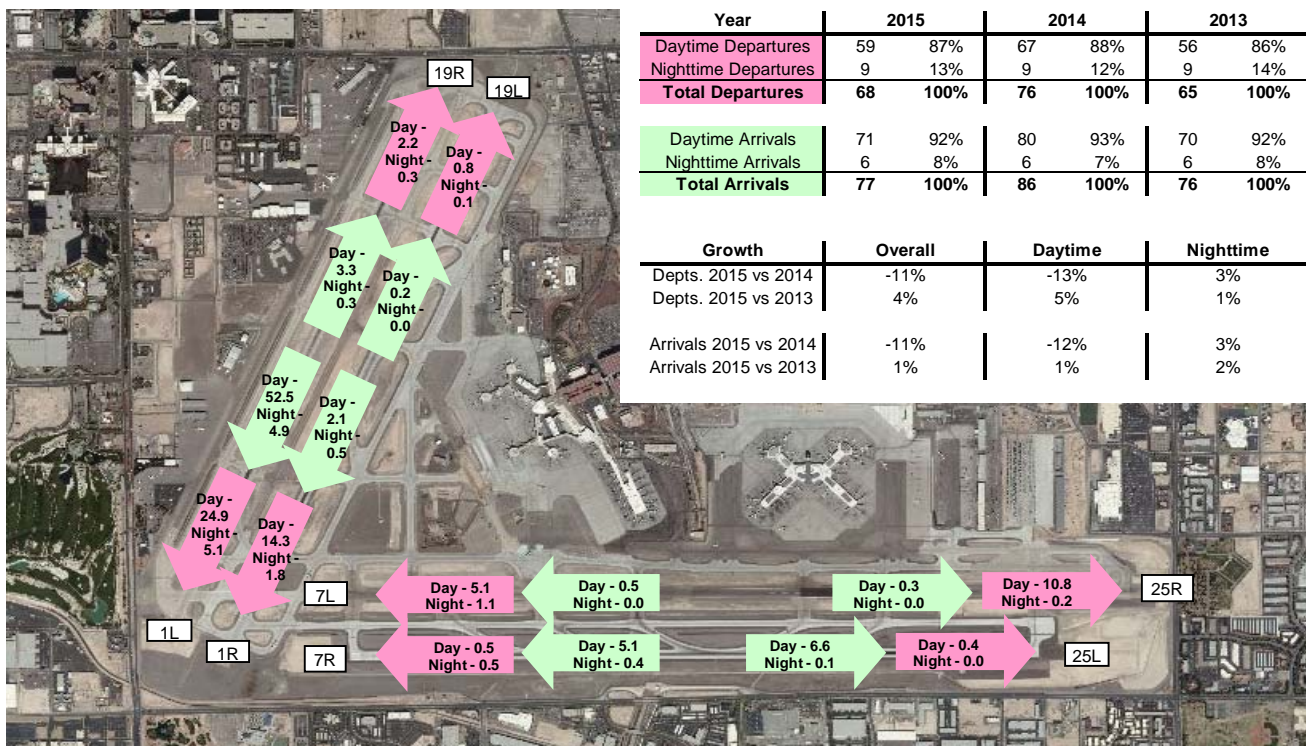


### Exhibit 4: LAS Daily Average Operations Runway for Large Air Carrier Aircraft\* - July 2015



\* Aircraft types: All aircraft with a maximum gross take of weight of at least 75,000 pounds, including but not limited to, A306, A310, A311, A318, A319, A320, A330, A340, B707, B717, B727, B737, B747, B757, B767, B777, CRJ7, CRJ9, DC8, DC9, DC10, E170, E190, HA4T, L1011, MD80, MD90, MD10, MD11, VC10.

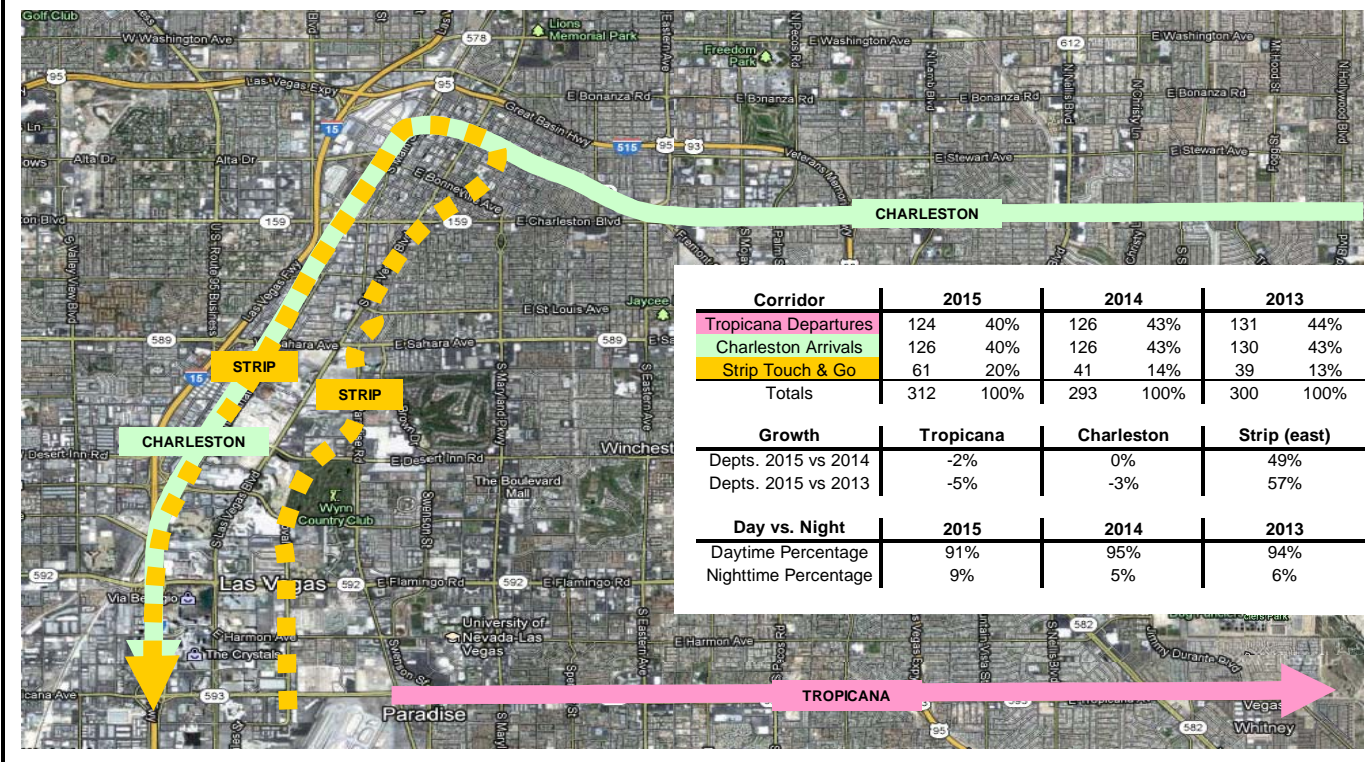
### Exhibit 5: LAS Daily Average Operations by Runway for Non-Large Air Carrier Aircraft\*\* - July 2015



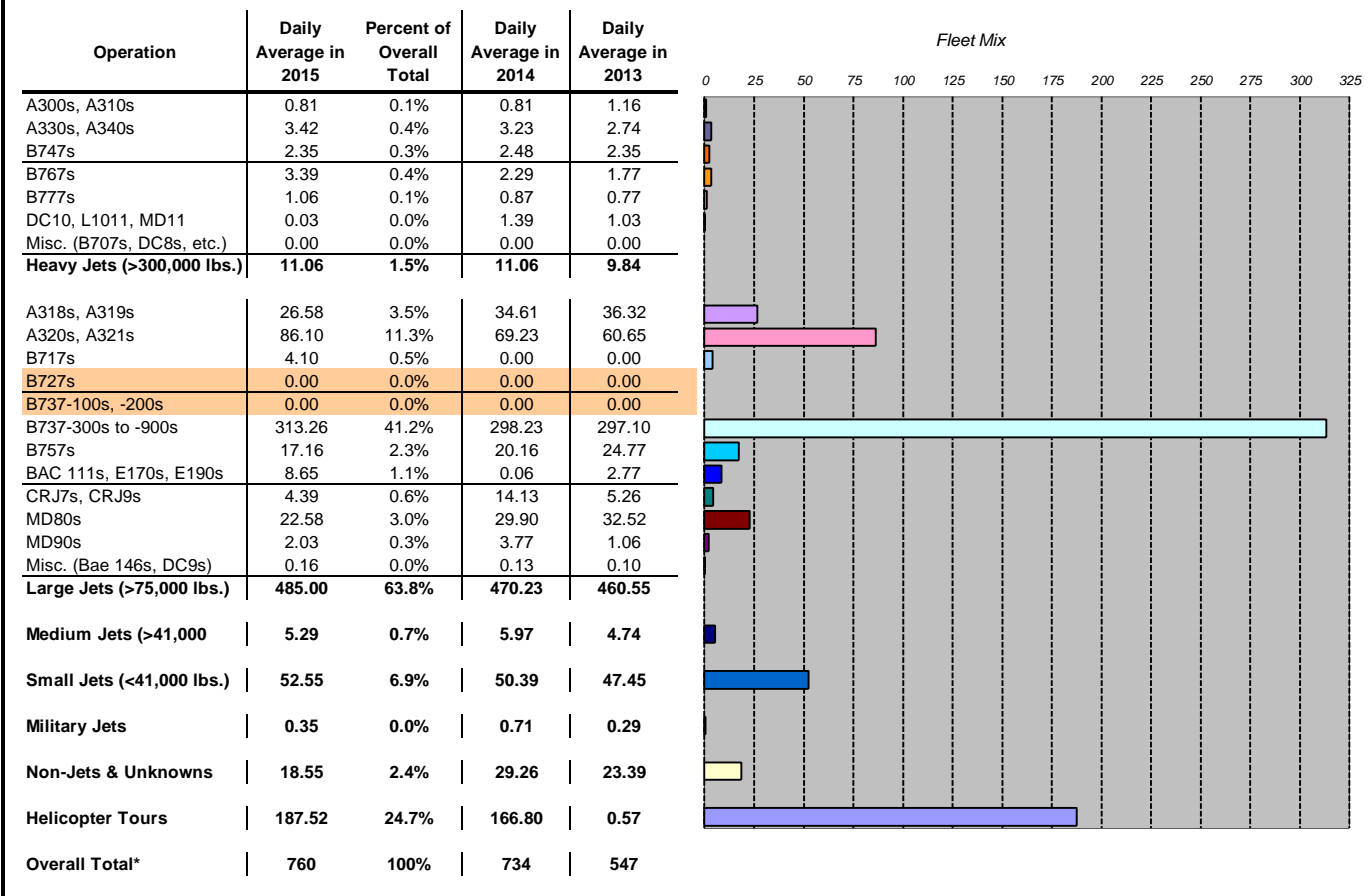
\*\* Aircraft types: All aircraft with a maximum gross take of weight less than 75,000 pounds, excluding helicopters.



### Exhibit 6: LAS Daily Average Operations by Corridor for Helicopter Tours - July 2015



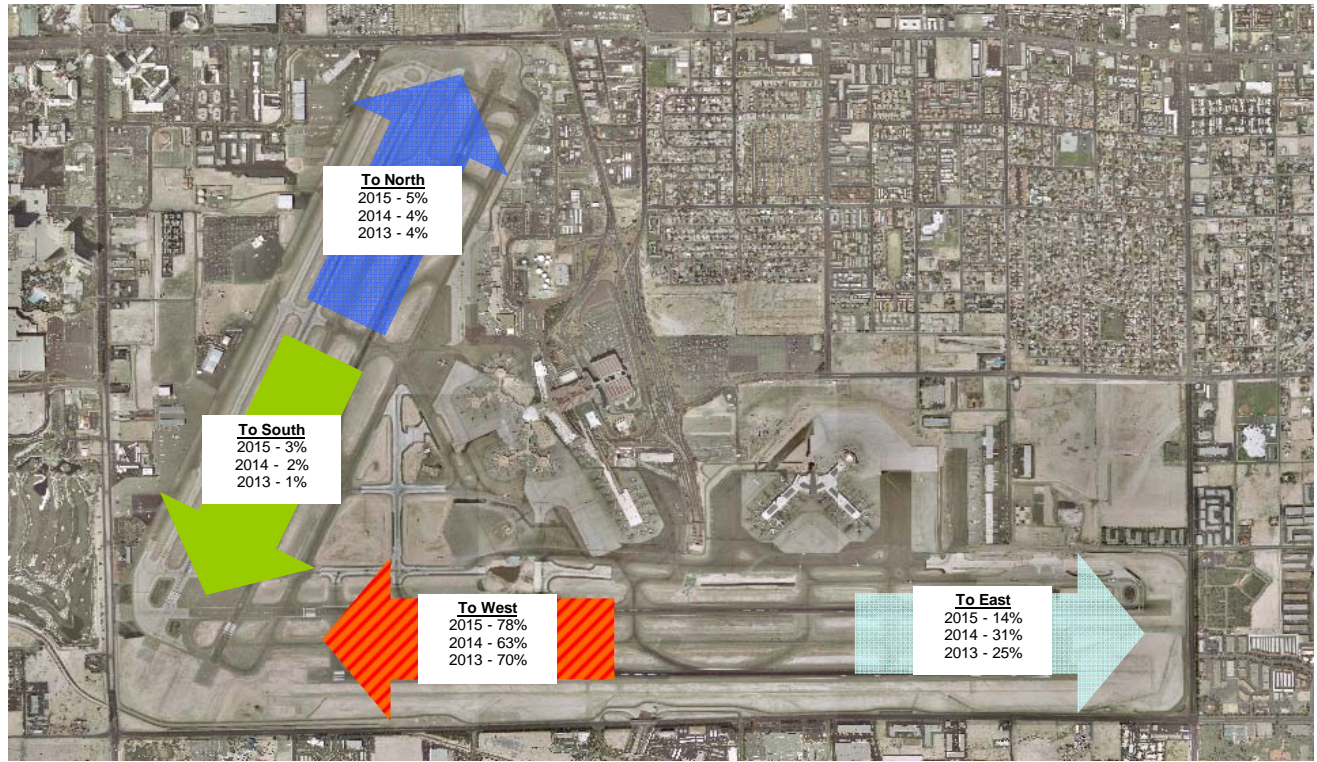
### Exhibit 7: LAS Aircraft Arrival Fleet Mix\* - July 2015



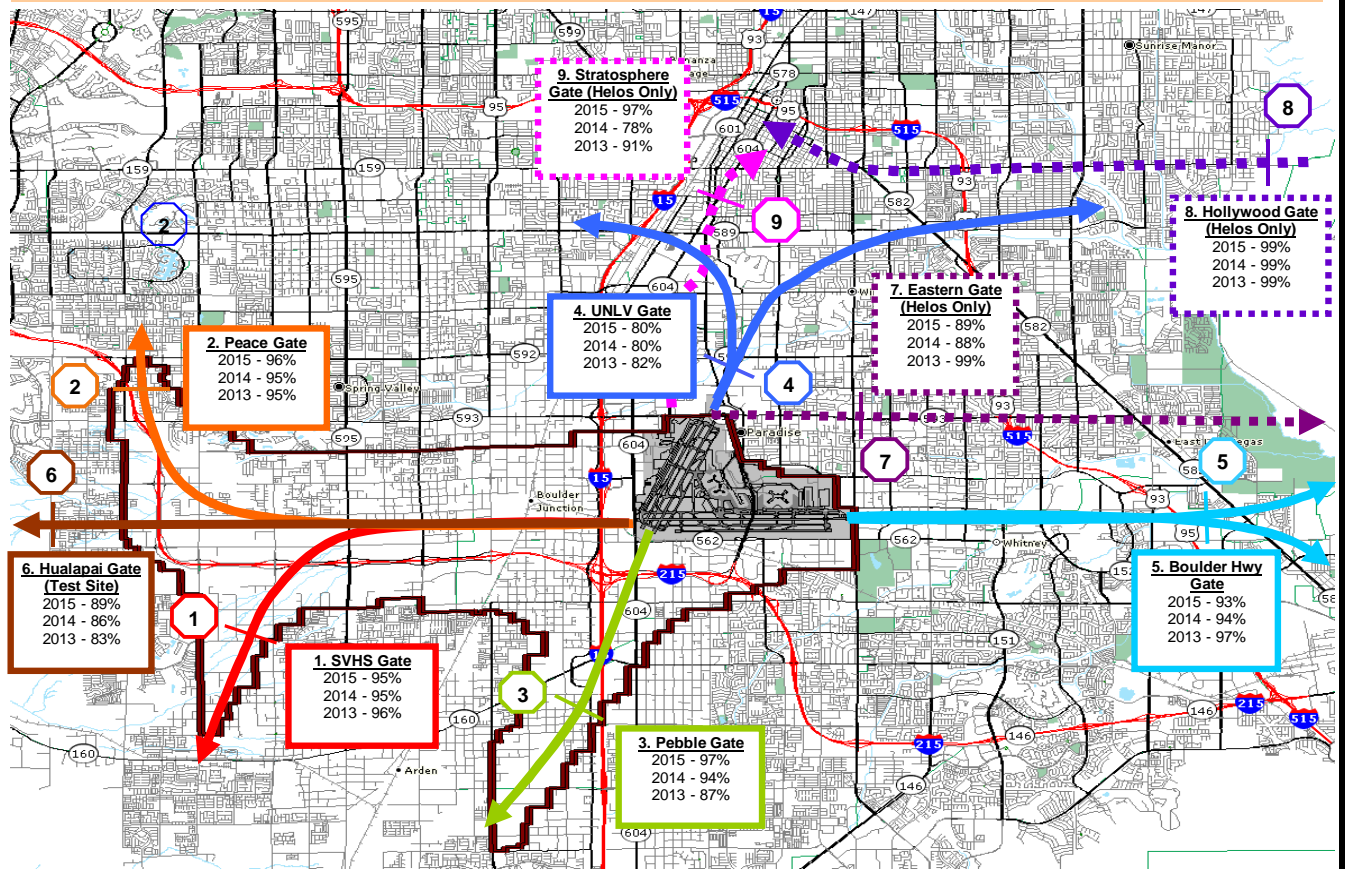
\* Overall Total: Note that operation type and runway use counts are estimated by ITT Exelis AirScene.com Noise and Monitoring Operations (NOMS) system based on radar data. Due to limitations of radar data, information for aircraft weighing less than 75,000 lbs. is inexact.



**Exhibit 8: LAS General Departure Direction for Large Air Carrier Aircraft\* - July 2015 to 2013**



**Exhibit 9: "Gate" Compliance for Large Aircraft\* & Helicopter Tours - July 2015**

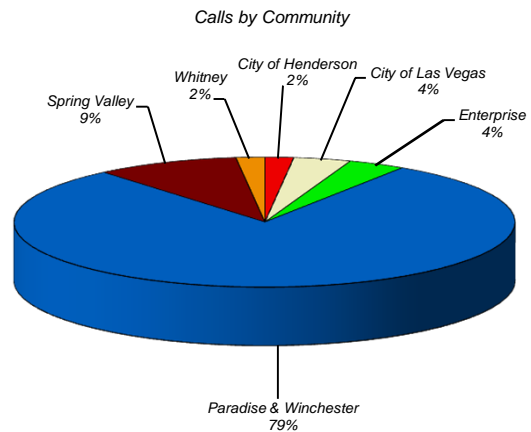


\* Aircraft types: All aircraft with a maximum gross take of weight of at least 75,000 pounds, including but not limited to, A306, A310, A311, A318, A319, A320, A330, A370, B707, B717, B727, B737, B747, B757, B767, B777, CRJ7, CRJ9, DC8, DC9, DC10, E170, E190, HA4T, L1011, MD80, MD90, MD10, MD11, VC10.



### Exhibit 1: Noise Complaint Calls by Community\* - August 2015

Community	No. of Calls in 2015	No. of Callers in 2015	No. of Calls in 2014	No. of Calls in 2013
City of Boulder City	1	1	1	2
City of Henderson	2	1	3	1
City of Las Vegas				
City of North Las Vegas				
Enterprise	2	1	2	1
Lone Mountain				
Paradise & Winchester	43	9	372	8
Spring Valley	5	2	1	
Summerlin South				
Sunrise Manor				
Whitney	1	1		
Location unknown				
<b>Overall Total</b>	<b>54</b>	<b>15</b>	<b>379</b>	<b>12</b>



Difference between 2015 and 2014 Total Calls: -86%

Difference between 2015 and 2013 Total Calls: 350%

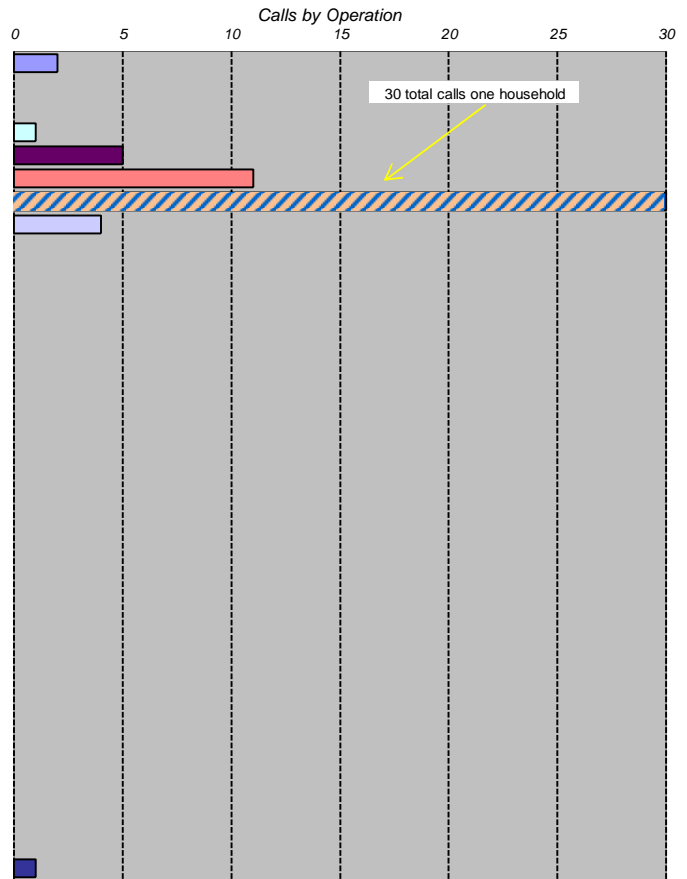
Average Number of Calls per Caller: 3.6

Most calls received from one household: 31

\* See map on reverse side for community boundaries and location of known noise complaints.

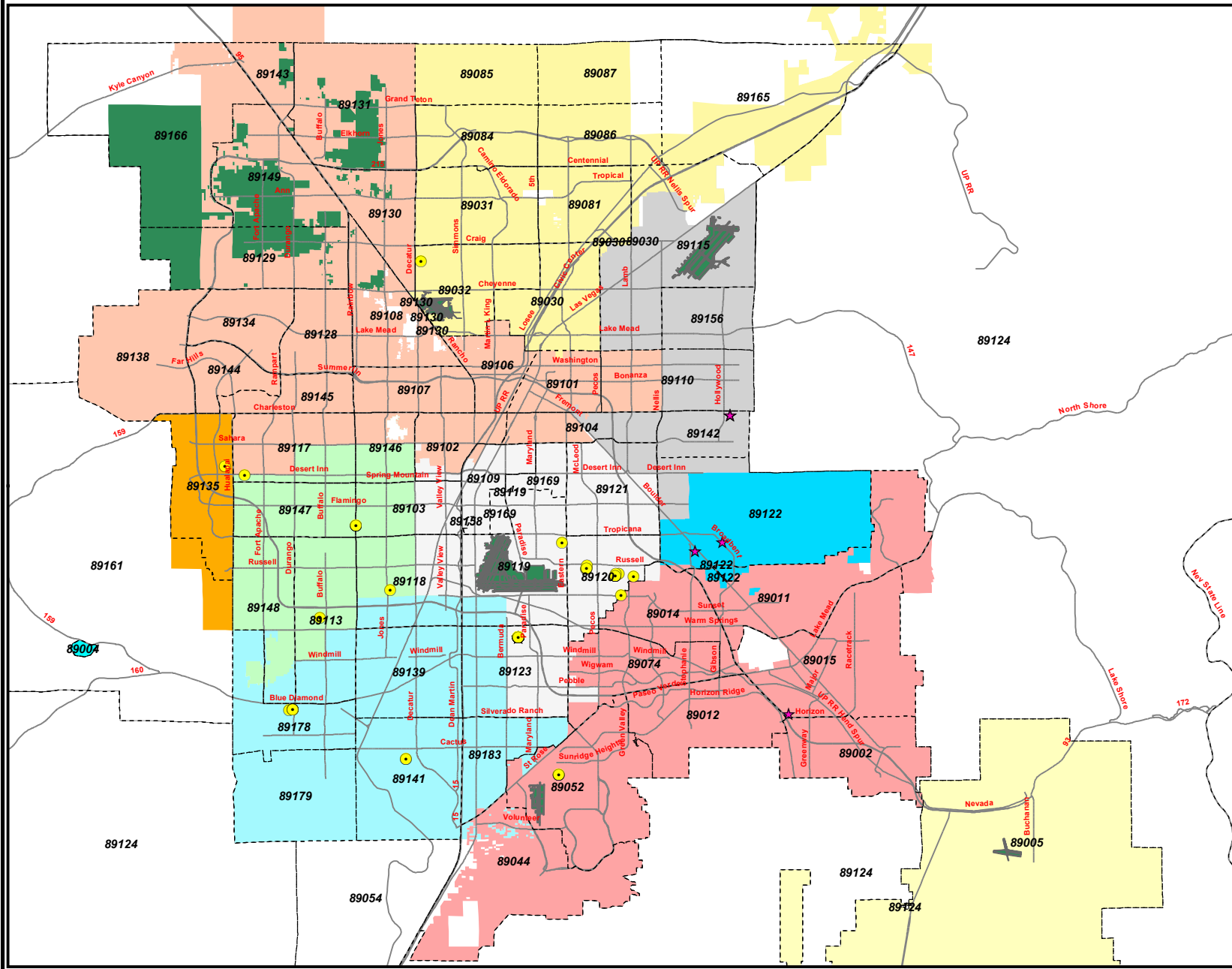
### Exhibit 2: Noise Complaint Calls by Type of Operation - August 2015

Operation	No. of Calls in 2015	Percent of Overall Total	No. of Calls in 2014	No. of Calls in 2013
LAS 01R/L Arrivals	2	3.7%		
LAS 07R/L Arrivals				1
LAS 19R/L Arrivals				
LAS 25R/L Arrivals	1	1.9%		
LAS 01R/L Departures	5	9.3%	73	1
LAS 07R/L Departures	11	20.4%	17	3
LAS 19R/L Departures	30	55.6%	2	1
LAS 25R/L Departures	4	7.4%	277	
LAS Run-ups				
LAS GA				
LAS Other				
<b>LAS Total</b>	<b>53</b>	<b>98.1%</b>	<b>369</b>	<b>6</b>
VGT 07 Arrivals				
VGT 12R/L Arrivals				
VGT 25 Arrivals				
VGT 30R/L Arrivals				
VGT 07 Departures				
VGT 12R/L Departures				
VGT 25 Departures				
VGT 30R/L Departures				
VGT Run-ups				
VGT GA				
VGT Other				
<b>VGT Total</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0</b>
HND 17R/L Arrivals				
HND 35R/L Arrivals				
HND 17R/L Departures				
HND 35R/L Departures				
HND Run-ups				
HND GA				
HND Other				
<b>HND Total</b>	<b>0</b>	<b>0.0%</b>	<b>0</b>	<b>0</b>
<b>Helicopters**</b>	<b>1</b>	<b>1.9%</b>	<b>10</b>	<b>6</b>
<b>Overall Total</b>	<b>54</b>	<b>100%</b>	<b>379</b>	<b>12</b>



\*\* Note that helicopter noise complaints are not tied to a specific facility since the operation cannot always be associated to a specific airport. Additionally, helicopter calls do not include those associated with operations conducted by the Metropolitan Police Department or those associated with operations conducted at non-DOA facilities.

### Exhibit 3: Aircraft Noise Complaints by Community - August 2015



**Legend**

August 2015  
Total Complaints: 54

- Aircraft Complaints Received 53 Mapped 51
- ★ Helicopter Complaints Received 1 Mapped 1

- Major Streets
- Airports
- - - Zip Code Boundaries

- Unincorporated Clark County
- Boulder City
- Whitney
- Henderson
- Las Vegas
- North Las Vegas
- Paradise/Winchester
- Summerlin
- Spring Valley
- Sunrise Manor
- Winchester
- Enterprise
- Lone Mountain

Department of Aviation  
I.S. Division

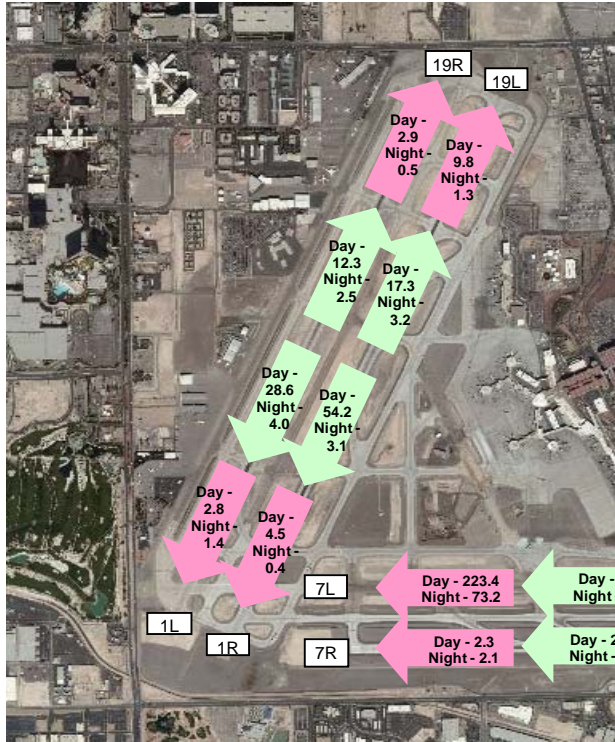
Geographic Information Systems

October 16, 2015

Note: This information is for display purposes only. No liability is assumed as to the accuracy of the data delineated hereon.

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### Exhibit 4: LAS Daily Average Operations Runway for Large Air Carrier Aircraft\* - August 2015

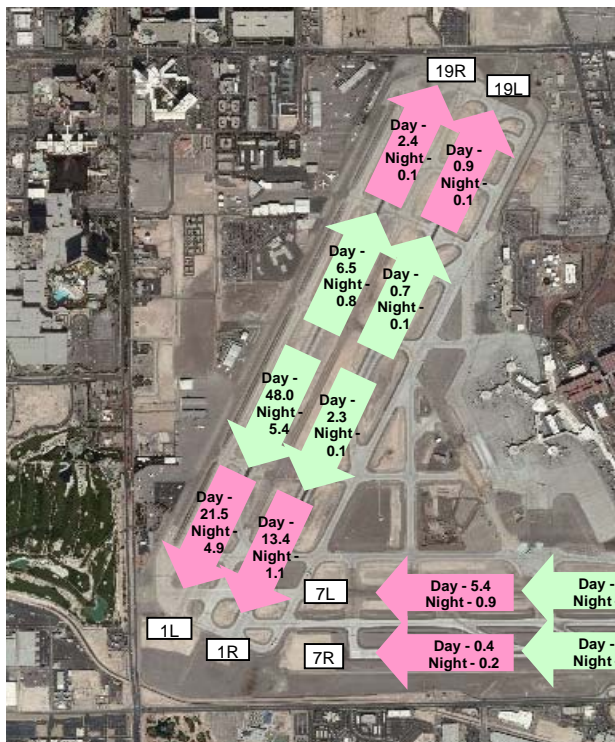


Year	2015		2014		2013	
Daytime Departures	351	80%	360	84%	351	83%
Nighttime Departures	87	20%	68	16%	71	17%
<b>Total Departures</b>	<b>438</b>	<b>100%</b>	<b>428</b>	<b>100%</b>	<b>422</b>	<b>100%</b>
Daytime Arrivals	418	85%	416	88%	414	89%
Nighttime Arrivals	72	15%	54	12%	54	11%
<b>Total Arrivals</b>	<b>490</b>	<b>100%</b>	<b>470</b>	<b>100%</b>	<b>468</b>	<b>100%</b>

Growth	Overall	Daytime	Nighttime
Depts. 2015 vs 2014	2%	-2%	27%
Depts. 2015 vs 2013	4%	0%	22%
Arrivals 2015 vs 2014	4%	1%	33%
Arrivals 2015 vs 2013	5%	1%	34%

\* Aircraft types: All aircraft with a maximum gross take of weight of at least 75,000 pounds, including but not limited to, A306, A310, A311, A318, A319, A320, A330, A340, B707, B717, B727, B737, B747, B757, B767, B777, CRJ7, CRJ9, DC8, DC9, DC10, E170, E190, HA4T, L1011, MD80, MD90, MD10, MD11, VC10.

### Exhibit 5: LAS Daily Average Operations by Runway for Non-Large Air Carrier Aircraft\*\* - August 2015



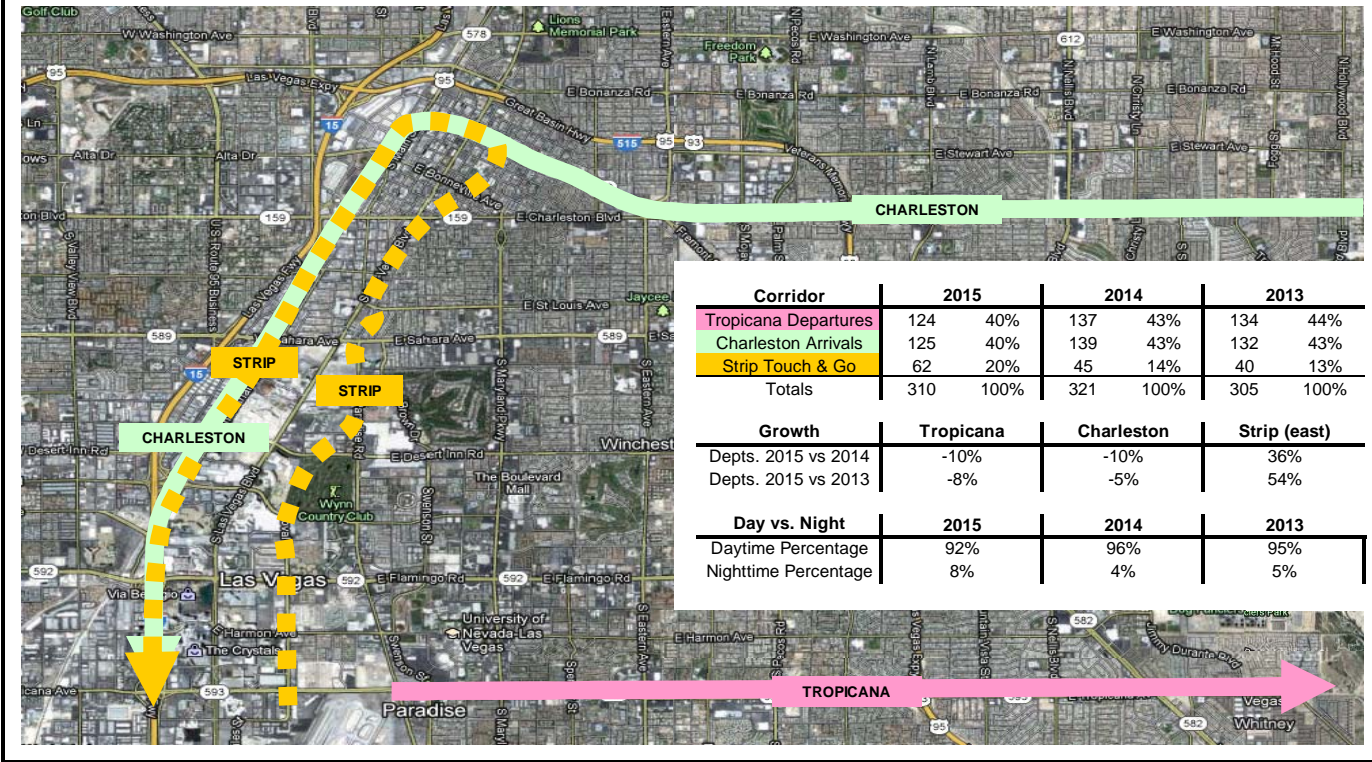
Year	2015		2014		2013	
Daytime Departures	63	89%	70	89%	61	89%
Nighttime Departures	8	11%	8	11%	7	11%
<b>Total Departures</b>	<b>71</b>	<b>100%</b>	<b>78</b>	<b>100%</b>	<b>69</b>	<b>100%</b>
Daytime Arrivals	71	91%	80	93%	75	92%
Nighttime Arrivals	7	9%	6	7%	6	8%
<b>Total Arrivals</b>	<b>78</b>	<b>100%</b>	<b>86</b>	<b>100%</b>	<b>81</b>	<b>100%</b>

Growth	Overall	Daytime	Nighttime
Depts. 2015 vs 2014	-9%	-9%	-7%
Depts. 2015 vs 2013	3%	3%	4%
Arrivals 2015 vs 2014	-9%	-11%	21%
Arrivals 2015 vs 2013	-3%	-4%	8%

\*\* Aircraft types: All aircraft with a maximum gross take of weight less than 75,000 pounds, excluding helicopters.



### Exhibit 6: LAS Daily Average Operations by Corridor for Helicopter Tours - August 2015



Corridor	2015	2014	2013
Tropicana Departures	124 40%	137 43%	134 44%
Charleston Arrivals	125 40%	139 43%	132 43%
Strip Touch & Go	62 20%	45 14%	40 13%
<b>Totals</b>	<b>310 100%</b>	<b>321 100%</b>	<b>305 100%</b>

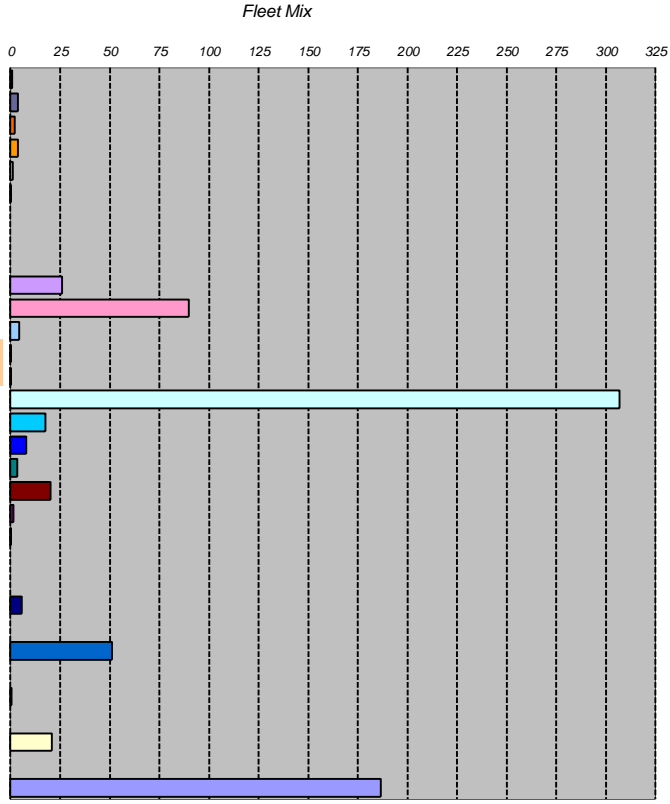
Growth	Tropicana	Charleston	Strip (east)
Depts. 2015 vs 2014	-10%	-10%	36%
Depts. 2015 vs 2013	-8%	-5%	54%

Day vs. Night	2015	2014	2013
Daytime Percentage	92%	96%	95%
Nighttime Percentage	8%	4%	5%

### Exhibit 7: LAS Aircraft Arrival Fleet Mix\* - August 2015

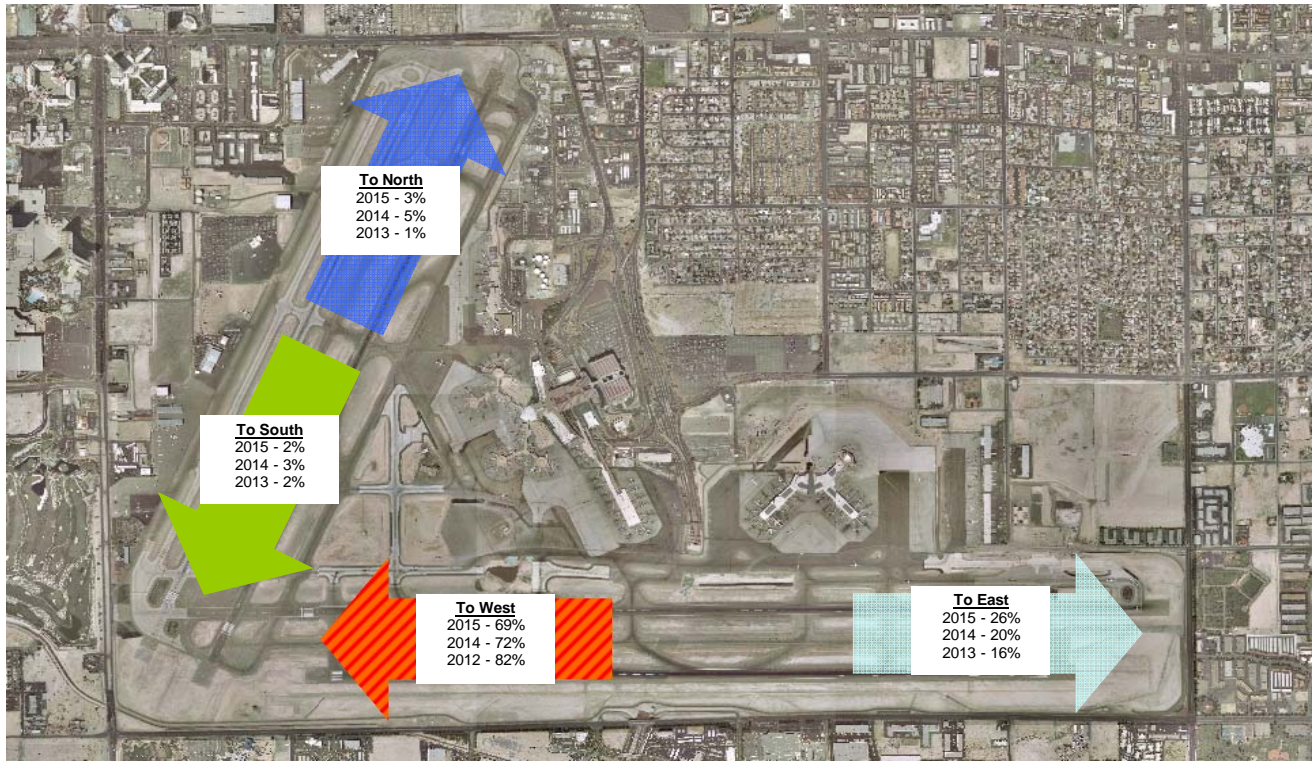
Operation	Daily Average in 2014	Percent of Overall Total	Daily Average in 2013	Daily Average in 2012
A300s, A310s	0.71	0.1%	0.94	1.19
A330s, A340s	3.58	0.5%	3.52	2.68
B747s	2.06	0.3%	2.29	2.26
B767s	3.74	0.5%	1.77	2.19
B777s	1.06	0.1%	0.97	0.94
DC10, L1011, MD11	0.06	0.0%	1.35	1.16
Misc. (B707s, DC8s, etc.)	0.00	0.0%	0.00	0.00
<b>Heavy Jets (&gt;300,000 lbs.)</b>	<b>11.23</b>	<b>1.5%</b>	<b>10.84</b>	<b>10.42</b>
A318s, A319s	26.03	3.5%	32.23	36.61
A320s, A321s	89.84	11.9%	69.23	58.32
B717s	4.35	0.6%	0.00	0.00
B727s	0.03	0.0%	0.00	0.00
B737-100s, -200s	0.03	0.0%	0.00	0.00
B737-300s to -900s	306.81	40.7%	294.71	297.16
B757s	17.52	2.3%	20.13	26.52
BAC 111s, E170s, E190s	7.94	1.1%	0.13	2.06
CRJ7s, CRJ9s	3.52	0.5%	12.00	5.90
MD80s	20.26	2.7%	26.87	29.87
MD90s	1.61	0.2%	3.74	1.03
Misc. (Bae 146s, DC9s)	0.26	0.0%	0.10	0.13
<b>Large Jets (&gt;75,000 lbs.)</b>	<b>478.19</b>	<b>63.4%</b>	<b>459.13</b>	<b>457.61</b>
<b>Medium Jets (&gt;41,000)</b>	<b>5.71</b>	<b>0.8%</b>	<b>6.48</b>	<b>4.48</b>
<b>Small Jets (&lt;41,000 lbs.)</b>	<b>50.97</b>	<b>6.8%</b>	<b>52.48</b>	<b>52.94</b>
<b>Military Jets</b>	<b>0.52</b>	<b>0.1%</b>	<b>0.16</b>	<b>0.23</b>
<b>Non-Jets &amp; Unknowns</b>	<b>20.87</b>	<b>2.8%</b>	<b>26.71</b>	<b>23.06</b>
<b>Helicopter Tours</b>	<b>186.60</b>	<b>24.7%</b>	<b>184.20</b>	<b>171.60</b>
<b>Overall Total*</b>	<b>754</b>	<b>100%</b>	<b>740</b>	<b>720</b>



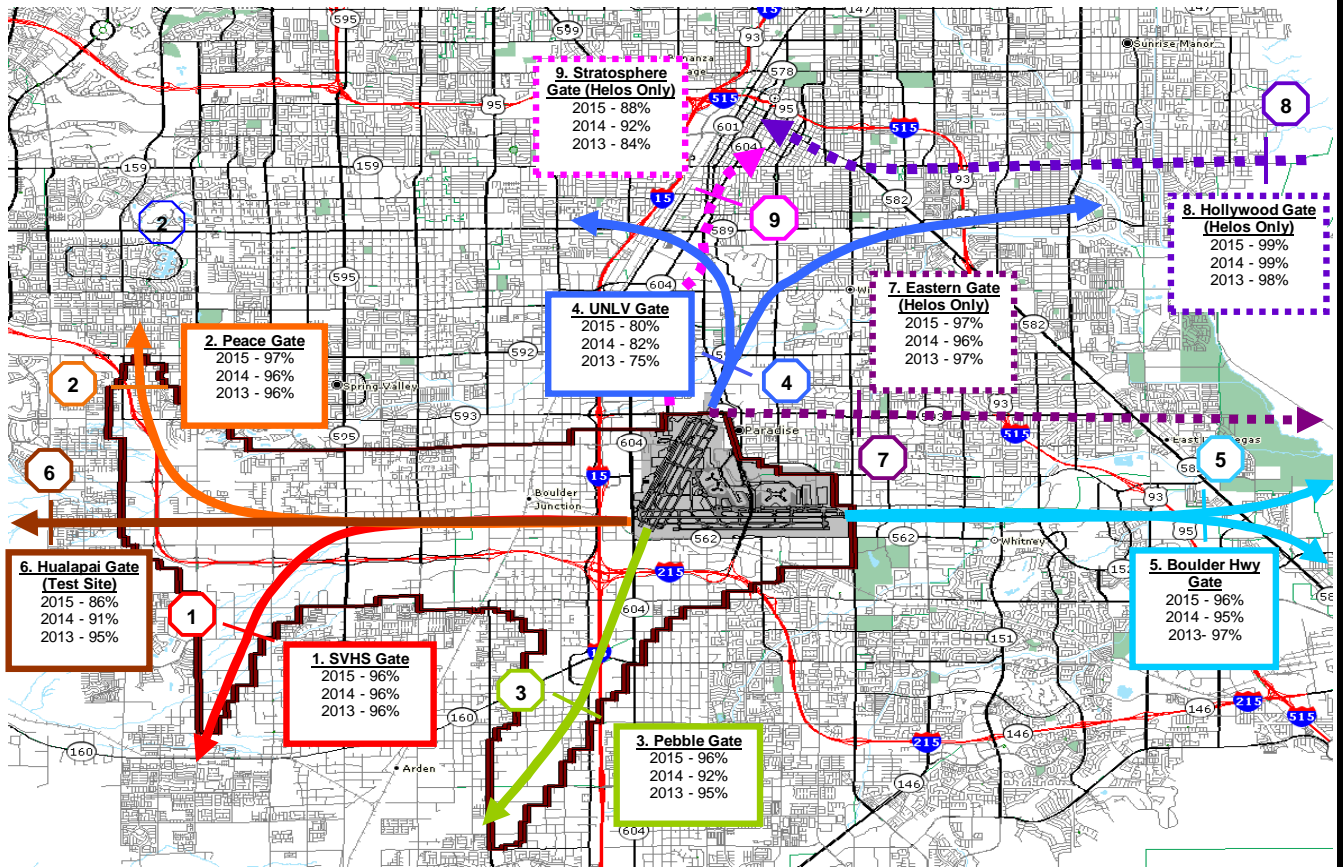
\* Overall Total: Note that operation type and runway use counts are estimated by ITT Exelis AirScene.com Noise and Monitoring Operations (NOMS) system based on radar data. Due to limitations of radar data, information for aircraft weighing less than 75,000 lbs. is inexact.



**Exhibit 8: LAS General Departure Direction for Large Air Carrier Aircraft\* - August 2015 to 2013**



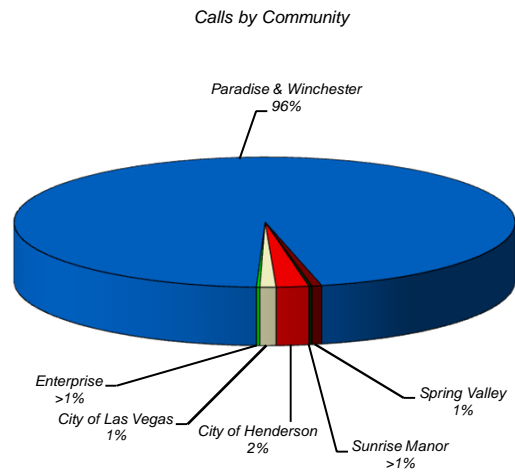
**Exhibit 9: "Gate" Compliance for Large Aircraft\* & Helicopter Tours - August 2015**



\* Aircraft types: All aircraft with a maximum gross take of weight of at least 75,000 pounds, including but not limited to, A306, A310, A311, A318, A319, A320, A330, A370, B707, B717, B727, B737, B747, B757, B767, B777, CRJ7, CRJ9, DC8, DC9, DC10, E170, E190, HA4T, L1011, MD80, MD90, MD10, MD11, VC10.

### Exhibit 1: Noise Complaint Calls by Community\* - September 2015

Community	No. of Calls in 2015	No. of Callers in 2015	No. of Calls in 2014	No. of Calls in 2013
City of Boulder City	10	6	7	6
City of Henderson	5	2	3	6
City of Las Vegas	1	1	3	4
City of North Las Vegas	1	1	3	4
Enterprise	1	1	3	4
Lone Mountain				
Paradise & Winchester	461	6	152	10
Spring Valley	3	3	9	5
Summerlin South			1	
Sunrise Manor	1	1		1
Whitney				1
Location unknown				
<b>Overall Total</b>	<b>481</b>	<b>19</b>	<b>175</b>	<b>33</b>



Difference between 2015 and 2014 Total Calls: 175%

Difference between 2015 and 2013 Total Calls: 1,358%

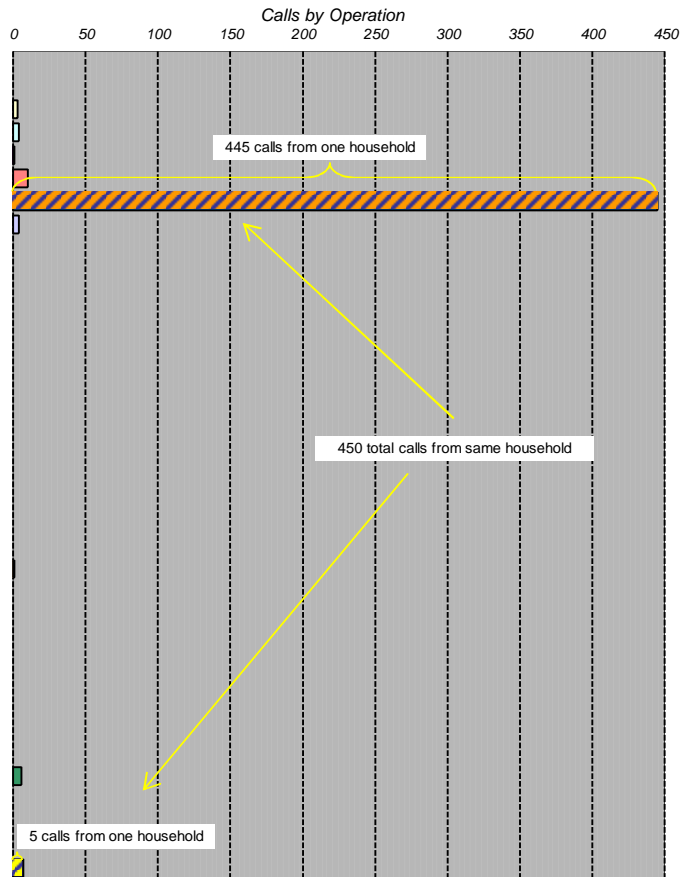
Average Number of Calls per Caller: 25.3

Most calls received from one household: 450

\* See map on reverse side for community boundaries and location of known noise complaints.

### Exhibit 2: Noise Complaint Calls by Type of Operation - September 2015

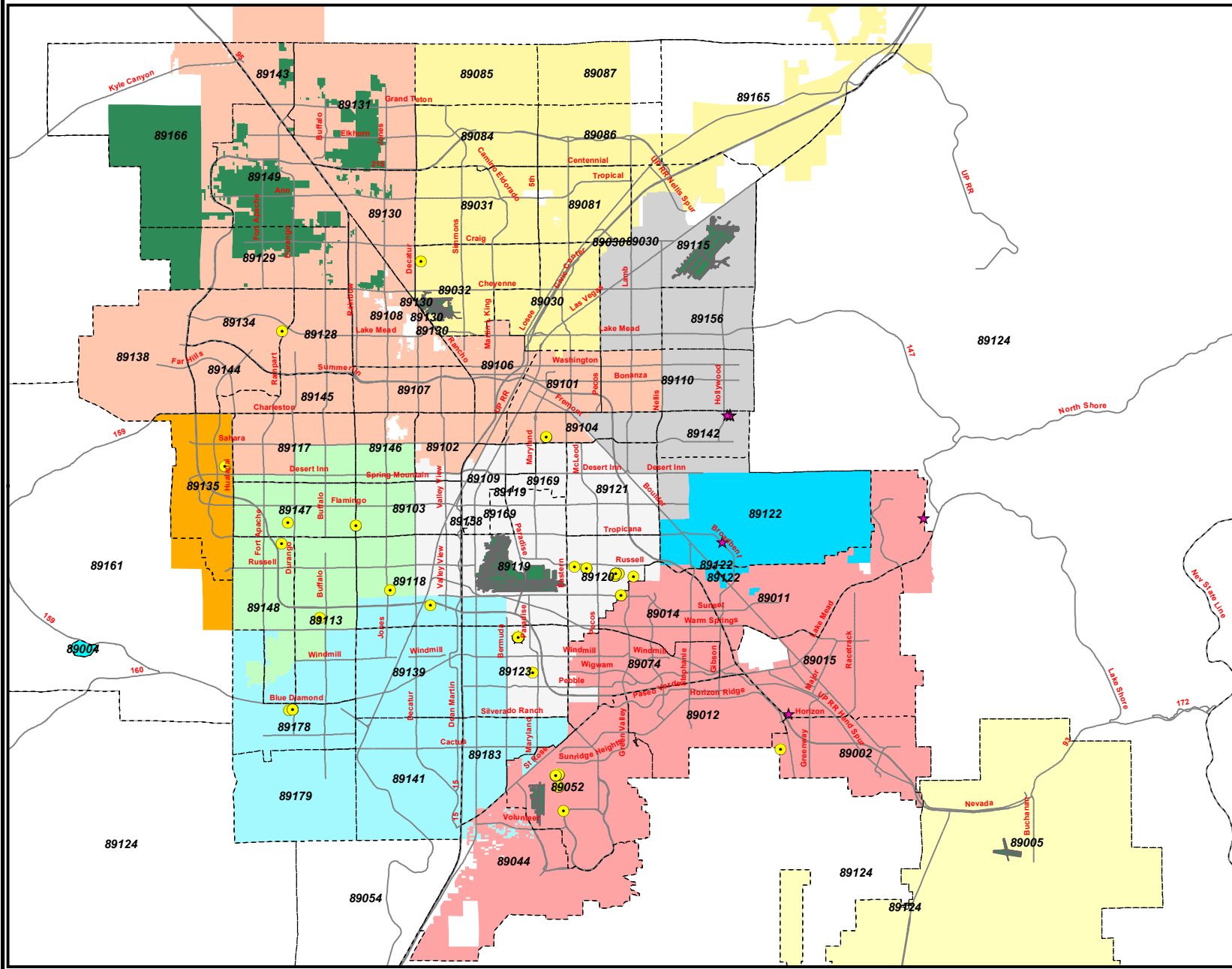
Operation	No. of Calls in 2015	Percent of Overall Total	No. of Calls in 2014	No. of Calls in 2013
LAS 01R/L Arrivals				
LAS 07R/L Arrivals				
LAS 19R/L Arrivals	3	0.6%		
LAS 25R/L Arrivals	4	0.8%		1
LAS 01R/L Departures	1	0.2%	11	9
LAS 07R/L Departures	10	2.1%	9	6
LAS 19R/L Departures	445	92.5%	3	5
LAS 25R/L Departures	4	0.8%	145	6
LAS Run-ups				
LAS GA				
LAS Other				
<b>LAS Total</b>	<b>467</b>	<b>97.1%</b>	<b>168</b>	<b>27</b>
VGT 07 Arrivals				
VGT 12R/L Arrivals				
VGT 25 Arrivals				
VGT 30R/L Arrivals				
VGT 07 Departures				
VGT 12R/L Departures				
VGT 25 Departures				
VGT 30R/L Departures				
VGT Run-ups				
VGT GA	1	0.2%		1
VGT Other				
<b>VGT Total</b>	<b>1</b>	<b>0.2%</b>	<b>0</b>	<b>1</b>
HND 17R/L Arrivals				
HND 35R/L Arrivals				
HND 17R/L Departures				
HND 35R/L Departures				
HND Run-ups				
HND GA	6	1.2%	3	3
HND Other				
<b>HND Total</b>	<b>6</b>	<b>1.2%</b>	<b>3</b>	<b>3</b>
<b>Helicopters**</b>	<b>7</b>	<b>1.5%</b>	<b>4</b>	<b>2</b>
<b>Overall Total</b>	<b>481</b>	<b>100%</b>	<b>175</b>	<b>33</b>



\*\* Note that helicopter noise complaints are not tied to a specific facility since the operation cannot always be associated to a specific airport. Additionally, helicopter calls do not include those associated with operations conducted by the Metropolitan Police Department or those associated with operations conducted at non-DOA facilities.



# Exhibit 3: Aircraft Noise Complaints by Community - September 2015



### Legend

September 2015  
Total Complaints: 481

- Aircraft Complaints Received 474 Mapped 474
- ★ Helicopter Complaints Received 7 Mapped 7
- Major Streets
- Airports
- - - Zip Code Boundaries
- Unincorporated Clark County
- Boulder City
- Whitney
- Henderson
- Las Vegas
- North Las Vegas
- Paradise/Winchester
- Summerlin
- Spring Valley
- Sunrise Manor
- Winchester
- Enterprise
- Lone Mountain

Department of Aviation  
I.S. Division

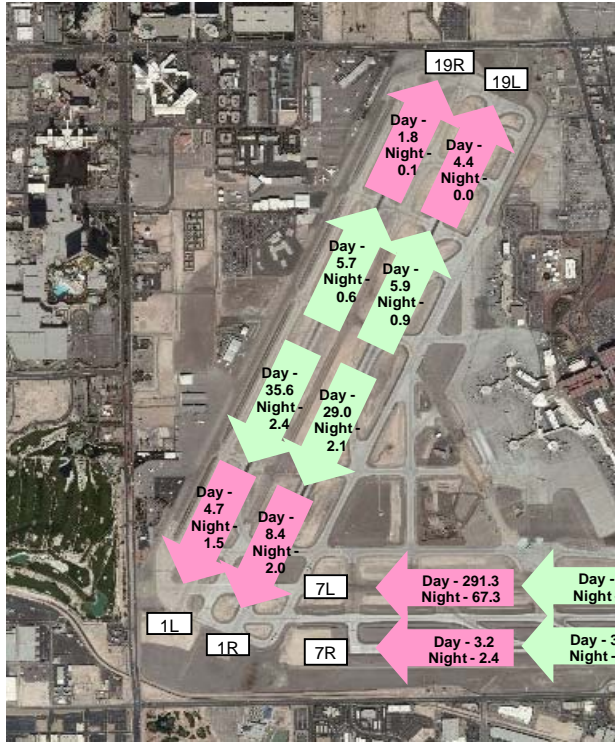
Geographic Information Systems

October 16, 2015

Note: This information is for display purposes only. No liability is assumed as to the accuracy of the data delineated hereon.

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### Exhibit 4: LAS Daily Average Operations Runway for Large Air Carrier Aircraft\* - September 2015

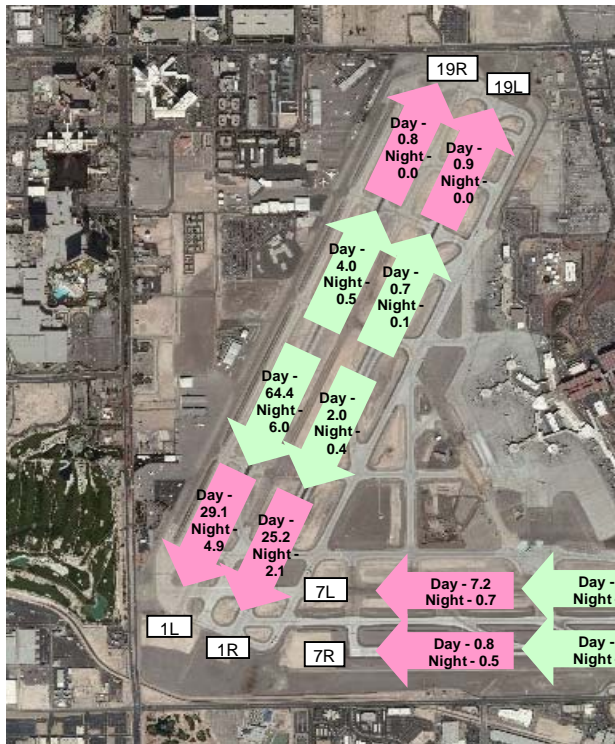


Year	2015		2014		2013	
Daytime Departures	363	83%	374	86%	369	87%
Nighttime Departures	76	17%	60	14%	56	13%
<b>Total Departures</b>	<b>439</b>	<b>100%</b>	<b>433</b>	<b>100%</b>	<b>425</b>	<b>100%</b>
Daytime Arrivals	426	89%	425	90%	429	91%
Nighttime Arrivals	54	11%	46	10%	40	9%
<b>Total Arrivals</b>	<b>481</b>	<b>100%</b>	<b>471</b>	<b>100%</b>	<b>469</b>	<b>100%</b>

Growth	Overall	Daytime	Nighttime
Depts. 2015 vs 2014	1%	-3%	28%
Depts. 2015 vs 2013	3%	-2%	35%
Arrivals 2015 vs 2014	2%	0%	17%
Arrivals 2015 vs 2013	2%	-1%	36%

\* Aircraft types: All aircraft with a maximum gross take off weight of at least 75,000 pounds, including but not limited to, A306, A310, A311, A318, A319, A320, A330, A340, B707, B717, B727, B737, B747, B757, B767, B777, CRJ7, CRJ9, DC8, DC9, DC10, E170, E190, HA4T, L1011, MD80, MD90, MD10, MD11, VC10.

### Exhibit 5: LAS Daily Average Operations by Runway for Non-Large Air Carrier Aircraft\*\* - September 2015



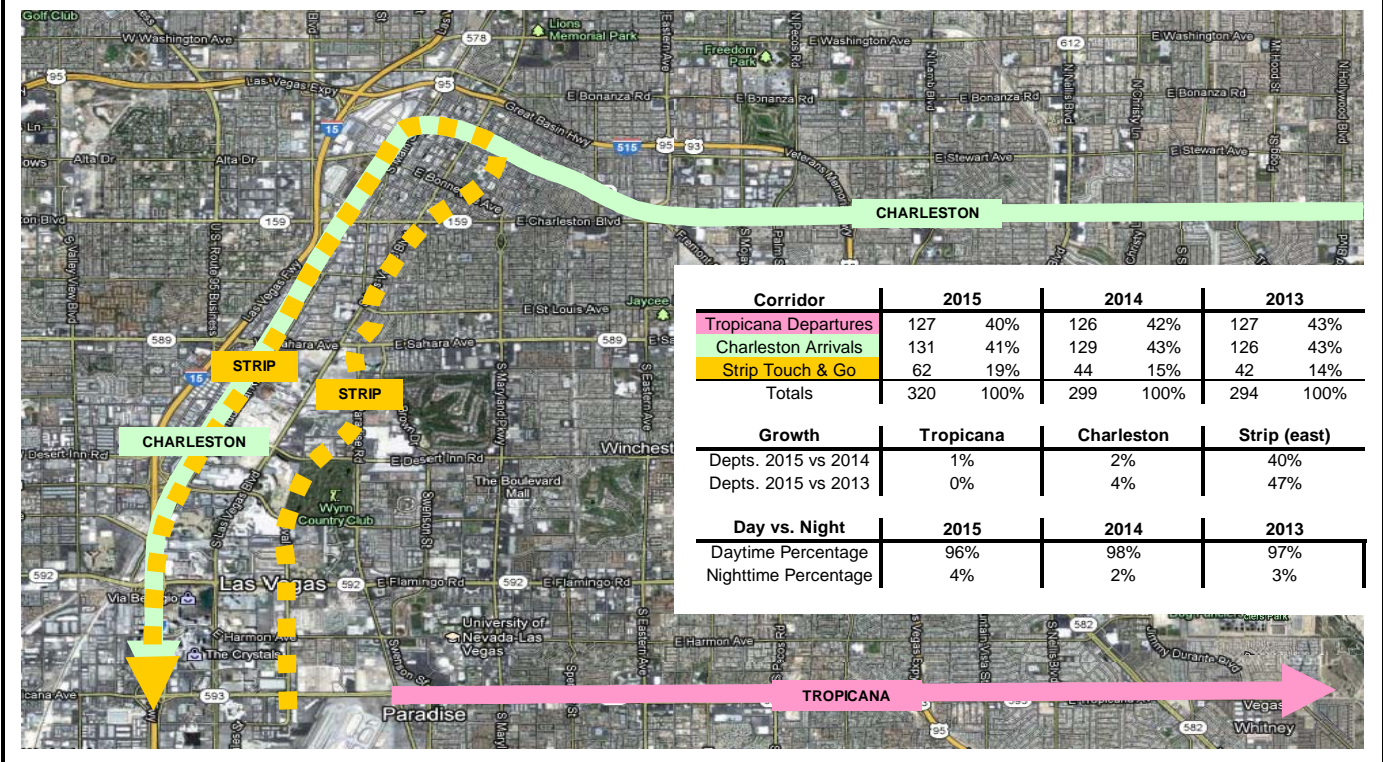
Year	2015		2014		2013	
Daytime Departures	74	90%	69	89%	72	90%
Nighttime Departures	8	10%	9	11%	8	10%
<b>Total Departures</b>	<b>82</b>	<b>100%</b>	<b>78</b>	<b>100%</b>	<b>80</b>	<b>100%</b>
Daytime Arrivals	82	92%	82	92%	84	92%
Nighttime Arrivals	7	8%	7	8%	7	8%
<b>Total Arrivals</b>	<b>89</b>	<b>100%</b>	<b>89</b>	<b>100%</b>	<b>91</b>	<b>100%</b>

Growth	Overall	Daytime	Nighttime
Depts. 2015 vs 2014	6%	7%	-5%
Depts. 2015 vs 2013	3%	2%	4%
Arrivals 2015 vs 2014	0%	0%	9%
Arrivals 2015 vs 2013	-2%	-3%	6%

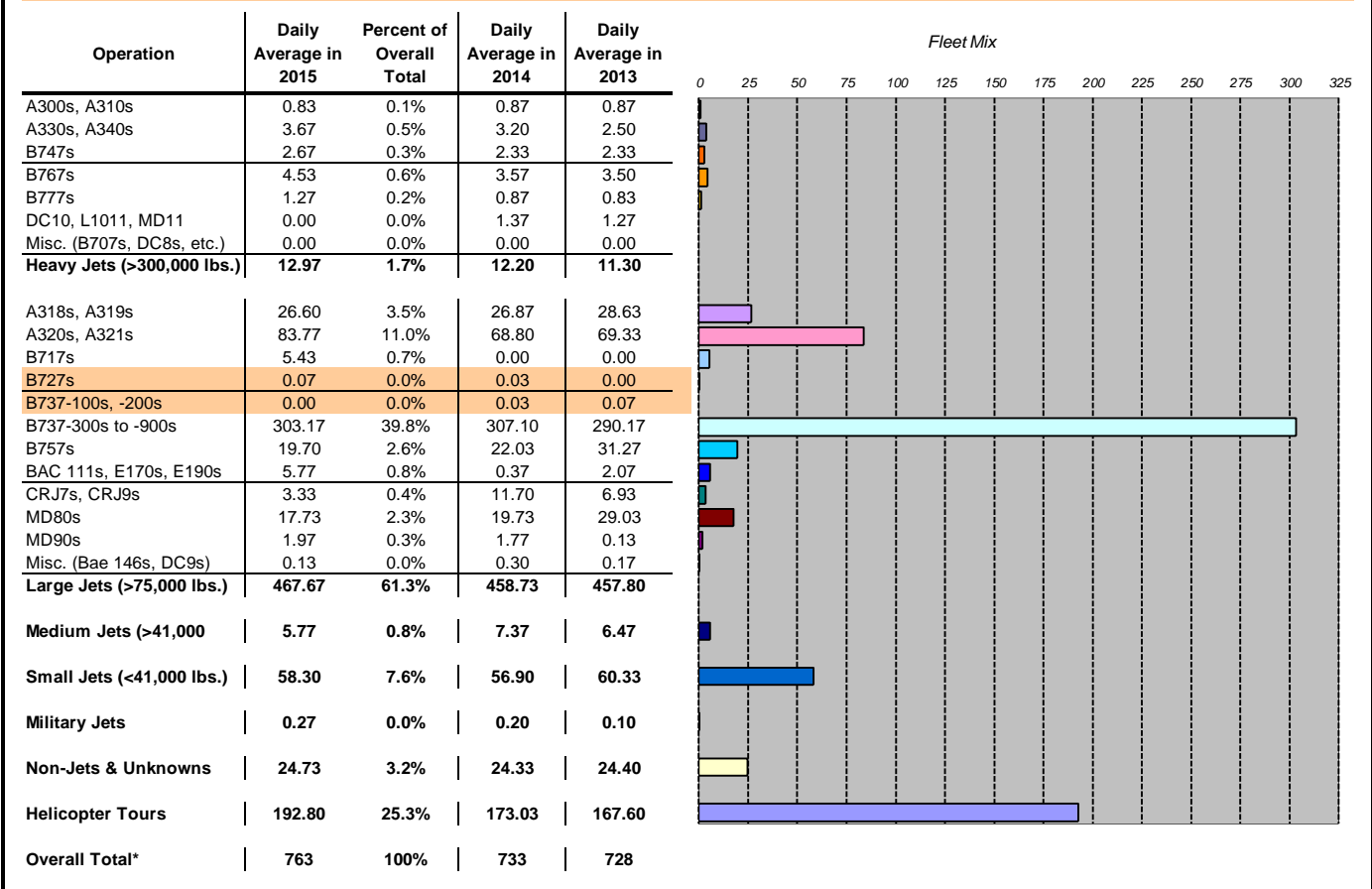
\*\* Aircraft types: All aircraft with a maximum gross take off weight less than 75,000 pounds, excluding helicopters.



### Exhibit 6: LAS Daily Average Operations by Corridor for Helicopter Tours - September 2015



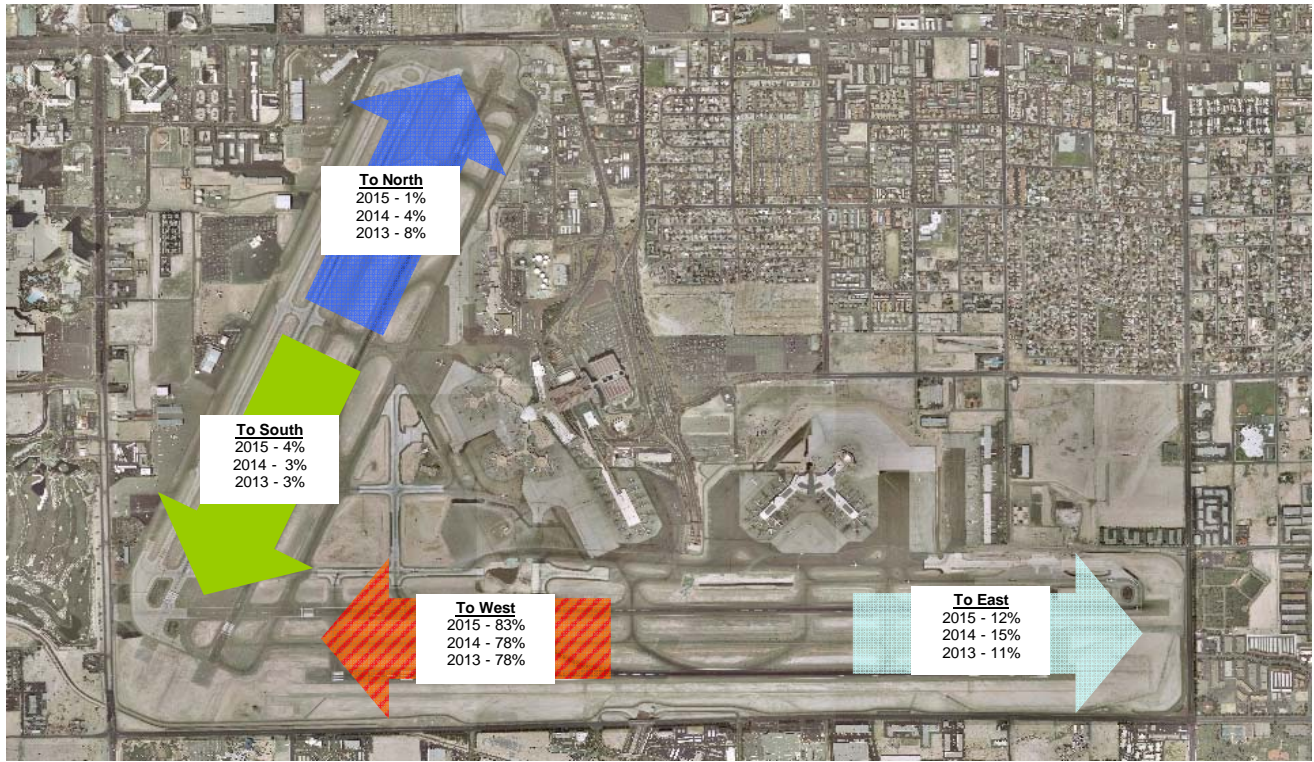
### Exhibit 7: LAS Aircraft Arrival Fleet Mix\* - September 2015



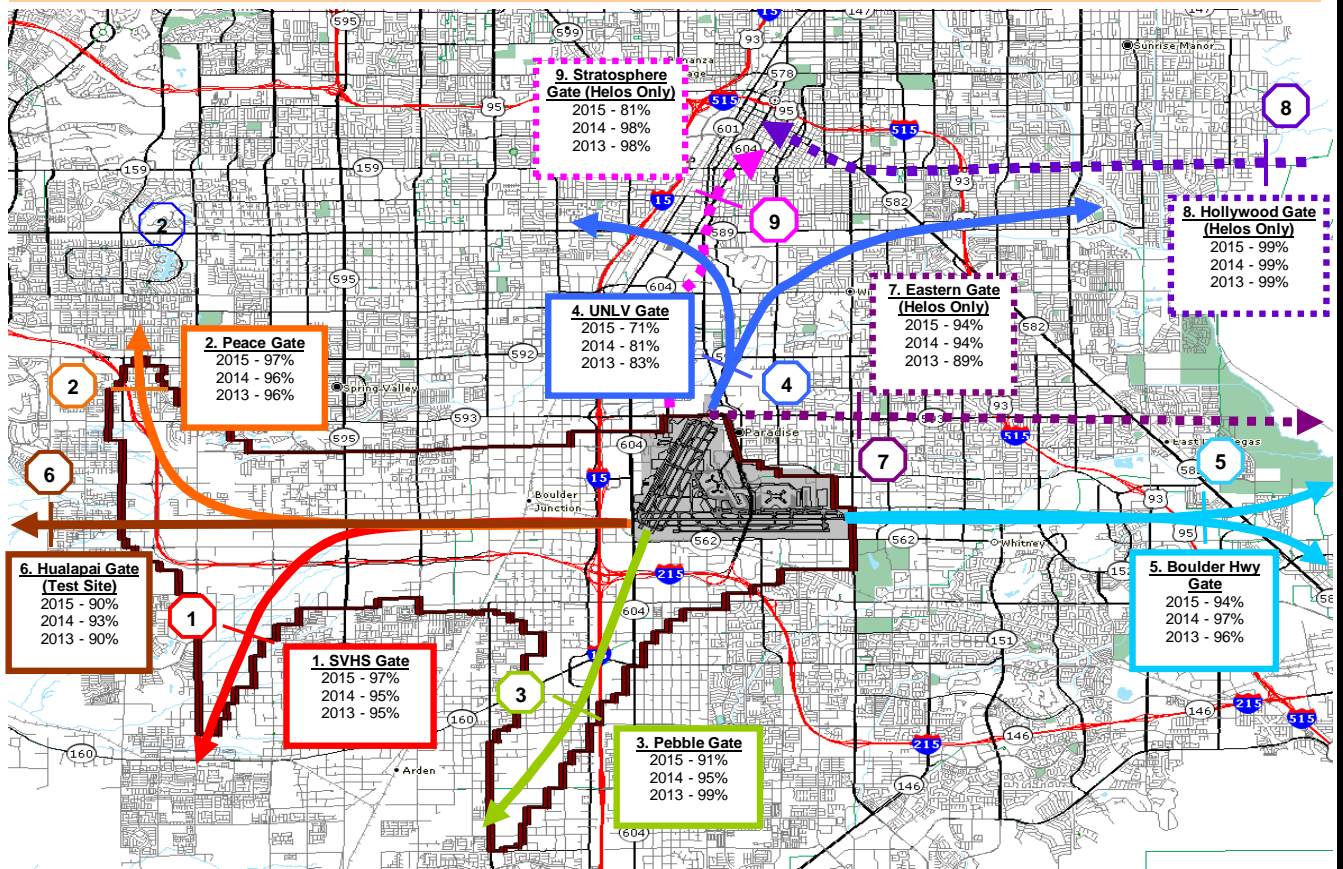
\* Overall Total: Note that operation type and runway use counts are estimated by ITT Exelis AirScene.com Noise and Monitoring Operations (NOMS) system based on radar data. Due to limitations of radar data, information for aircraft weighing less than 75,000 lbs. is inexact.



**Exhibit 8: LAS General Departure Direction for Large Air Carrier Aircraft\* - September 2015 to 2013**



**Exhibit 9: "Gate" Compliance for Large Aircraft\* & Helicopter Tours - September 2015**



\* Aircraft types: All aircraft with a maximum gross take of weight of at least 75,000 pounds, including but not limited to, A306, A310, A311, A318, A319, A320, A330, A370, B707, B717, B727, B737, B747, B757, B767, B777, CRJ7, CRJ9, DC8, DC9, DC10, E170, E190, HA4T, L1011, MD80, MD90, MD10, MD11, VC10.