

# MEMORANDUM

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Director

## DEPARTMENT OF AVIATION

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TO: DISTRIBUTION

FROM: GEORGE C. SIMS, PLANNER

SUBJECT: APRIL THROUGH JUNE 2016 NOISE COMPLAINT REPORTS

DATE: JULY 20, 2016

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Attached for your review are the Clark County Department of Aviation's (CCDOA) Monthly Noise Complaint Reports for January through March 2016. 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 (702-261-3694), 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 (702-652-2750), and noise complaints regarding aircraft operations from the Boulder City Airport are forwarded to the Boulder City Airport Coordinator (702-293-9405). Individuals who express concerns regarding aircraft operations originating from private facilities (i.e., Valley Hospital or the private helipad located near Las Vegas Blvd. and Larson Lane 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. (Note that with the change from an FAA-direct feed to an independent radar feed, in October 2015 used by CCDOA's analysis application, the data capture rate for departing aircraft has increased significantly. Therefore, it is inappropriate to compare 2016 data to 2015 and 2014 data.) 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 corridors, or impose penalties to pilots who opt not to comply with preferred procedures. "Compliance gates" are located along historical/fly-quietly 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**

**April 2016:** 85 total complaints - a 68% decrease from 2015 and an 89% decrease from 2014. On average, each caller (or household) issued 1.7 calls. The most calls received from one household totaled 18.

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

**Majority (more than 50%):** (Not applicable.)

**Minority (between 10% and 50%):** The **Paradise and Winchester** communities issued 40 calls (47%). 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).

The **City of Las Vegas** community issued 13 calls (16%). This community is typically impacted by aircraft departing to the west (from Runway 25R and Runway 25L).

**Repeat Caller Impact:** One household issued 21% of the total calls.

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

- LAS:** 88% of the total calls were due to **LAS** fixed-wing operations.
- 64% were due to departures to the north from Runways 01L and 01R (30% from one household).
- VGT:** 2% of the total calls were due to **VGT** fixed-wing operations.
- HND:** 5% of the total calls were due to **HND** fixed-wing operations.
- Helos:** 5% of the total calls were due to **helicopter** operations (50% from one household, which is also the same household noted for complaint calls for departures to the north from Runway 01L and 01R).

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

- Overall:** 499 daily *departures*<sup>1</sup> – (see footnote).
- 58% of departures were to the north, 19% south, 15% west, and 8% east.
- 496 daily *arrivals* – a 2% increase from 2015 and 9% increase from 2014.
- 61% of arrivals were from the east, 29% from the south, and 10% from the north.
- Daytime:** 400 daily *departures*<sup>2</sup> – (see footnote).
- 57% of departures were to the north, 19% south, 14% west, and 10% east.
- 429 daily *arrivals* – a 3% increase from 2015 and a 6% increase from 2014.
- 59% of arrivals were from the east, 31% south, and 10% from the north.

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<sup>1</sup> Note: Runway use and traffic counts totals for 2014 through September 2015 were compiled by the EnvironmentalVue application using a FAA-direct radar feed. 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 EnvironmentalVue 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. Runway use and traffic count totals for October 2015 and later were compiled by the EnvironmentalVue application using an independent NextGen radar feed and the departure capture rate increased significantly. Therefore, it is inappropriate to compare 2016 departure data to 2015 and 2014 departure data.

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

**Nighttime:** 99 daily *departures*<sup>3</sup> – (see footnote).  
▪ 60% of departures were to the north, 21% south, and 18% west.  
67 daily *arrivals* – a 5% decrease from 2015 and a 26% increase from 2014.  
▪ 72% of arrivals were from the east, 18% south, and 9% from the north.

**Daytime vs. Nighttime:** Approximately 80% of all *departures* and 87% of all *arrivals* occurred during the daytime hours.

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

**Overall:** 97 daily *departures*<sup>4</sup> – (see footnote).  
▪ 58% of departures were to the north, 31% south, 8% east, and 3% west.  
93 daily *arrivals* – a 2% decrease from 2015 and 5% increase from 2014.  
▪ 50% of arrivals were from the south, 29% from the north, 20% east, and 1% west.

**Daytime:** 87 daily *departures*<sup>5</sup> – (see footnote).  
▪ 58% of departures were to the north, 30% south, 9% east, and 3% west.  
87 daily *arrivals* – a 1% decrease from 2015 and a 5% increase from 2014.  
▪ 51% of arrivals were from the south, 28% north, 20% east, and 1% west.

**Nighttime:** 10 daily *departures*<sup>6</sup> – (see footnote).  
▪ 55% of departures were to the north, 41% south, and 4% west.  
7 daily *arrivals* – a 14% decrease from 2015 and an 18% increase from 2014.  
▪ 42% of arrivals were from the south, 42% north, 14% east, and 3% west.

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

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

**Tropicana:** 92 daily *departures* - a 19% decrease from 2015 and a 13% decrease from 2014.

**Charleston:** 89 daily *arrivals* - a 22% decrease from 2015 and a 14% decrease from 2014.

**Strip:** 51 daily *touch and go's* - a 12% increase from 2015 and an 84% increase from 2014.

**Daytime vs. Nighttime:** Approximately 95% 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 66% 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 8% of the daily traffic.

**Military:** *Military* turbine-driven aircraft accounted for 0% of the daily traffic.

**Non-Jet:** *Piston-driven* aircraft and unassigned aircraft types accounted for 4% of the daily traffic.

**Helos:** *Touring helicopters* accounted for 19% of the daily traffic.

**Noisier Aircraft Types:** The hush-kitted Boeing 727 aircraft and Boeing 737 (100 & 200 series) aircraft accounted for 0% of the daily traffic.

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

**Primary:** In 2016, 15% departed to the *west* (from LAS's primary departure runways). This figure was 26% in 2015 and 67% in 2014.

**Secondary:** In 2016, 19% departed to the *south* (from LAS's secondary departure runways). This figure was 27% in 2015 and 4% in 2014.

**Alternate 1:** In 2016, 58% departed to the *north* (from LAS's alternate departure runways). This figure was 41% in 2015 and 14% in 2014.

**Alternate 2:** In 2016, 8% departed to the *east* (from LAS's alternate departure runways). This figure was 6% in 2015 and 15% in 2014.

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

**SVHS:** In 2016, 96% of the large air carrier aircraft (excluding those destined to the Nevada National Security Site) that departed to the west from Runways 25L or 25R and made a left-hand turn were within 0.3 NM of *Sierra Vista High School* (SVHS). This figure was 97% in 2015 and 96% in 2014.

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 2016, 92% of the large air carrier aircraft (excluding those destined to the Nevada National Security Site) that departed to the west from Runways 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 94% in 2015 and 95% in 2014.

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 2016 98% of the large air carrier aircraft (excluding those destined to the Nevada National Security Site) that departed to the south from Runways 19L or 19R were within 0.3 NM of the intersection of *Pebble Road & Arville Street*. This figure was 97% in 2015 and 100% in 2014.

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 2016, 91% of the large air carrier aircraft that departed to the north from Runways 01L or 01R were within 0.3 NM of the *UNLV sports complex*. This figure was 82% in 2015 and 81% in 2014.

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 2016, 97% of the large air carrier aircraft that departed to the north from Runways 07L or 07R were within 0.3 NM of the extended runway centerline, near *Boulder Highway*. This figure was 95% in 2015 and 94% in 2014.

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 2016, 88% of the large air carrier aircraft destined to the Nevada National Security Site that departed to the west were within 0.3 NM of the extended runway centerline, near *Hualapai Way*. This figure was 78% in 2015 and 87% in 2014.

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 National Security 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 2016, 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 2015 and 98% in 2014.

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 2016, 97% 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 2015 and 100% in 2014.

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 2016, 56% 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 99% in 2015 and 98% in 2014.

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.



**May 2016:** 98 total complaints - a 62% decrease from 2015 and a 78% decrease from 2014. On average, each caller (or household) issued 1.8 calls. The most calls received from one household totaled 16.

Calls by Community - (Exhibits 1 and 3)

**Majority (more than 50%):** (Not applicable.)

**Minority (between 10% and 50%):** The *Paradise and Winchester* communities issued 41 calls (42%). (See April 2016 synopsis of typical aircraft overflight impacts on this community.)

The *City of Las Vegas* community issued 30 calls (31%). (See April 2016 synopsis of typical aircraft overflight impacts on this community.)

**Repeat Caller Impact:** One household issued 16% of the total calls.

Calls by Operation - (Exhibit 2)

**LAS:** 94% of the total calls were due to *LAS* fixed-wing operations.

- 44% were due to departures to the north from Runways 01L and 01R.
- 39% were due to departures to the west from Runways 25L and 25R (84% from two households).

**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:** 6% of the total calls received were due to *helicopter* operations.

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

**Overall:** 500 daily *departures*<sup>7</sup> – (see footnote).

- 71% of departures were to the west, 20% north, 5% east, and 3% south.

497 daily *arrivals* – a 1% increase from 2015 and 3% increase from 2014.

- 80% of arrivals were from the east, 10% south, 8% north, and 1% west.

**Daytime:** 409 daily *departures*<sup>8</sup> – (see footnote).

- 70% of departures were to the west, 20% north, 7% east, and 3% south.

435 daily *arrivals* – a 4% increase from 2015 and a 2% increase from 2014.

- 79% of arrivals were from the east, 11% south, 9% north, and 1% west.

**Nighttime:** 91 daily *departures*<sup>9</sup> – (see footnote).

- 74% of departures were to the west, 23% north, and 3% south.

62 daily *arrivals* – a 17% decrease from 2015 and an 11% increase from 2014.

- 87% of arrivals were from the east, 7% from the south, and 6% from the north.

**Daytime vs. Nighttime:** Approximately 82% of all *departures* and 88% 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:** 103 daily *departures*<sup>10</sup> – (see footnote).  
▪ 67% of departures were to the south, 18% north, 10% west, and 5% east.  
100 daily *arrivals* – an 8% decrease from 2015 and 1% decrease from 2014.  
▪ 73% of arrivals were from the north, 15% south, 11% east, and 2% west.
- Daytime:** 93 daily *departures*<sup>11</sup> – (see footnote).  
▪ 66% of departures were to the south, 18% north, 10% west, and 6% east.  
92 daily *arrivals* – a 9% decrease from 2015 and a 2% decrease from 2014.  
▪ 72% of arrivals were from the north, 14% south, 11% east, and 2% west.
- Nighttime:** 10 daily *departures*<sup>12</sup> – (see footnote).  
▪ 72% of departures were to the south, 19% north, and 9% west.  
8 daily *arrivals* – a 7% decrease from 2015 and a 7% increase from 2014.  
▪ 76% of arrivals were from the north, 17% south, and 6% east.

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

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

**Tropicana:** 110 daily *departures* – an 8% decrease from 2015 and a 3% increase from 2014.

**Charleston:** 108 daily *arrivals* - an 11% decrease from 2015 and a 1% increase from 2014.

**Strip:** 69 daily *touch and go's* - a 4% increase from 2015 and a 98% increase from 2014.

**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 62% 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 0% of the daily traffic.
- Non-Jet:** **Piston-driven** aircraft and unassigned aircraft types accounted for 4% 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 23% of the daily traffic.

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

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

**Primary:** In 2016, 71% departed to the *west* (from LAS's primary departure runways). This figure was 77% in 2015 and 73% in 2014.

**Secondary:** In 2016, 3% departed to the *south* (from LAS's secondary departure runways). This figure was 4% in 2015 and 3% in 2014.

**Alternate 1:** In 2016, 20% departed to the *north* (from LAS's alternate departure runways). This figure was 2% in 2015 and 10% in 2014.

**Alternate 2:** In 2016, 5% departed to the *east* (from LAS's alternate departure runways). This figure was 17% in 2015 and 14% in 2014.

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

**SVHS:** In 2016, 96% of the large air carrier aircraft (excluding those destined to the Nevada National Security Site) that departed to the west from Runways 25L or 25R and made a left-hand turn were within 0.3 NM of *Sierra Vista High School* (SVHS). This figure was 97% in 2015 and 96% in 2014. (See April 2016 synopsis for specific location of the SVHS gate.)

**Peace:** In 2016, 93% of the large air carrier aircraft (excluding those destined to the Nevada National Security Site) that departed to the west from Runways 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 2015 and 96% in 2014. (See April 2016 synopsis for specific location of the Peace gate.)

**Pebble:** In 2016, 97% of the large air carrier aircraft (excluding those destined to the Nevada National Security Site) that departed to the south from Runways 19L or 19R were within 0.3 NM of the intersection of *Pebble Road & Arville Street*. This figure was 98% in 2015 and 99% in 2014. (See April 2016 synopsis for specific location of the Pebble gate.)

**UNLV:** In 2016, 90% of the large air carrier aircraft that departed to the north from Runways 01L or 01R were within 0.3 NM of the *UNLV sports complex*. This figure was 81% in 2015 and 82% in 2014. (See April 2016 synopsis for specific location of the UNLV gate.)

**Boulder:** In 2016, 97% of the large air carrier aircraft that departed to the north from Runways 07L or 07R were within 0.3 NM of the extended runway centerline, near *Boulder Highway*. This figure was 94% in 2015 and 96% in 2014. (See April 2016 synopsis for specific location of the Boulder Hwy. gate.)

**Hualapai:** In 2016, 93% of the large air carrier aircraft destined to the Nevada National Security Site that departed to the west were within 0.3 NM of the extended runway centerline, near **Hualapai Way**. This figure was 95% in 2015 and 89% in 2014. (See April 2016 synopsis for specific location of the Hualapai gate.)

**Eastern:** In 2016, 98% 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 93% in 2015 and 97% in 2014. (See April 2016 synopsis for specific location of the Eastern gate.)

**Hollywood:** In 2016, 97% 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 2015 and 100% in 2014. (See April 2016 synopsis for specific location of the Hollywood gate.)

**Stratosphere:** In 2016, 55% 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 2015 and 94% in 2013. (See April 2016 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.

**June 2016:** 17 total complaints – an 85% decrease from 2015 and an 88% decrease from 2014. On average, each caller (or household) issued 1.4 calls. The most calls received from one household totaled 5.

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

**Majority (more than 50%):** The **Paradise and Winchester** communities issued 13 calls (76%). (See April 2016 synopsis of typical aircraft overflight impacts on this community.)

**Minority (between 10% and 50%):** The **City of Henderson** community issued 2 calls (12%). This community is typically impacted by LAS aircraft departing to the east (from Runway 07R and Runway 07L), some helicopter operations, and operations at HND.

**Repeat Caller Impact:** One household issued 29% of the total calls.

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

**LAS:** 65% of the total calls received were due to **LAS** fixed-wing operations.

- 29% were due to departures to the east from Runways 07L and 07R.
- 18% were due to departures to the west from Runways 25L and 25R. (67% 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:** 35% of the total calls received were due to **helicopter** operations (50% from one household, which is also the same household noted for complaint calls for departures to the west from Runway 25L and 25R).

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

- Overall:** 510 daily *departures*<sup>13</sup> – (see footnote).  
▪ 78% of departures were to the west, 17% east, 3% south, and 2% north.  
505 daily *arrivals* – a 1% increase from 2015 and 4% increase from 2014.  
▪ 75% of arrivals were from the east, 17% north, 6% west, and 2% south.
- Daytime:** 407 daily *departures*<sup>14</sup> – (see footnote).  
▪ 75% of departures were to the west, 20% east, 3% south, and 2% north.  
430 daily *arrivals* – a 3% increase from 2015 and 2% increase from 2014.  
▪ 72% of arrivals were from the east, 18% north, 7% west, and 2% south.
- Nighttime:** 103 daily *departures*<sup>15</sup> – (see footnote).  
▪ 94% of departures were to the west, 3% south, 2% east and 1% north.  
75 daily *arrivals* – a 9% decrease from 2015 and 19% increase from 2014.  
▪ 87% of arrivals were from the east, 9% north, and 3% south.

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

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

- Overall:** 87 daily *departures*<sup>16</sup> – (see footnote).  
▪ 67% of departures were to the south, 20% east, 11% west, and 2% north.  
80 daily *arrivals* – a 6% increase from 2015 and a 4% decrease from 2014.  
▪ 83% of arrivals were from the north, 9% west, 6% east, and 3% south.
- Daytime:** 77 daily *departures*<sup>17</sup> – (see footnote).  
▪ 65% of departures were to the south, 22% east, 11% west, and 2% north.  
72 daily *arrivals* – a 3% increase from 2015 and a 7% decrease from 2014.  
▪ 81% of arrivals were from the north, 10% west, 6% east, and 3% south.
- Nighttime:** 10 daily *departures*<sup>18</sup> – (see footnote).  
▪ 83% of departures were to the south, 14% west, 2% north, and 1% east.  
8 daily *arrivals* – a 36% increase from 2015 and 34% increase from 2014.  
▪ 92% of arrivals were from the north, 5% south, and 2% east.

**Daytime vs. Nighttime:** Approximately 89% of all *departures* and 90% of all *arrivals* occurred during the daytime hours.

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

- Tropicana:** 108 daily *departures* – no change from 2015 and a 6% increase from 2014.
- Charleston:** 107 daily *arrivals* - a 2% decrease from 2015 and a 4% increase from 2014.

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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.

**Strip:** 100 daily *touch and go's* - a 19% increase from 2015 and a 121% increase from 2014.

**Daytime vs. Nighttime:** Approximately 86% 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 62% 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 6% of the daily traffic.

**Military:** *Military* turbine-driven aircraft accounted for 0% 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 26% 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 2016, 78% departed to the *west* (from LAS's primary departure runways). This figure was 76% in 2015 and 72% in 2014.

**Secondary:** In 2016, 3% departed to the *south* (from LAS's secondary departure runways). This figure was 3% in 2015 and 3% in 2014.

**Alternate 1:** In 2016, 2% departed to the *north* (from LAS's alternate departure runways). This figure was 3% in 2015 and 6% in 2014.

**Alternate 2:** In 2016, 17% departed to the *east* (from LAS's alternate departure runways). This figure was 17% in 2015 and 19% in 2014.

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

**SVHS:** In 2016, 96% of the large air carrier aircraft (excluding those destined to the Nevada National Security Site) that departed to the west from Runways 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 2015 and 95% in 2014. (See April 2016 synopsis for specific location of the SVHS gate.)

- Peace:** In 2016, 94% of the large air carrier aircraft (excluding those destined to the Nevada National Security Site) that departed to the west from Runways 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 2015 and 96% in 2014. (See April 2016 synopsis for specific location of the Peace gate.)
- Pebble:** In 2016, 96% of the large air carrier aircraft (excluding those destined to the Nevada National Security Site) that departed to the south from Runways 19L or 19R were within 0.3 NM of the intersection of *Pebble Road & Arville Street*. This figure was 98% in 2015 and 99% in 2014. (See April 2016 synopsis for specific location of the Pebble gate.)
- UNLV:** In 2016, 83% of the large air carrier aircraft that departed to the north from Runways 01L or 01R were within 0.3 NM of the *UNLV sports complex*. This figure was 80% in 2015 and 80% in 2014. (See April 2016 synopsis for specific location of the UNLV gate.)
- Boulder:** In 2016, 97% of the large air carrier aircraft that departed to the north from Runways 07L or 07R were within 0.3 NM of the extended runway centerline, near *Boulder Highway*. This figure was 93% in 2015 and 93% in 2014. (See April 2016 synopsis for specific location of the Boulder Hwy. gate.)
- Hualapai:** In 2016, 91% of the large air carrier aircraft destined to the Nevada National Security Site that departed to the west were within 0.3 NM of the extended runway centerline, near *Hualapai Way*. This figure was 94% in 2015 and 86% in 2014. (See April 2016 synopsis for specific location of the Hualapai gate.)
- Eastern:** In 2016, 88% 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 90% in 2015 and 97% in 2014. (See April 2016 synopsis for specific location of the Eastern gate.)
- Hollywood:** In 2016, 97% 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 100% in 2015 and 100% in 2014. (See April 2016 synopsis for specific location of the Hollywood gate.)
- Stratosphere:** In 2016, 99% 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 99% in 2015 and 91% in 2014. (See April 2016 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.

**Other Notable Issues**

**Runway Renovation Completed:** On April 22, 2016, the Clark County Department of Aviation completed work on the most significant capital improvement project to occur at McCarran International Airport since the opening of Terminal 3. LAS Runway 25R/07L was closed to air traffic as part of a \$67 million project which replaced the runway's previous asphalt surface with more durable concrete. This project was financed through a combination of Federal Aviation Administration (FAA) grants and airport-generated funds, no local tax dollars, and supported approximately 250 full-time equivalent construction jobs, including surveyors, contractors, fabricators, engineers and other service providers. LAS Runway 25R/07L typically handles one-third of all takeoffs and landings annually. The timing of the construction project was carefully planned to occur during the expected shift in runway use normally experienced during the winter months. Runway use during the October-through-May period shifts many flights to the north-south runways due to changing weather patterns.

**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

July 20, 2016

Page 15 of 30

Distribution: Commissioner Sisolak, Chair  
Commissioner Brown, Vice-Chair  
Commissioner Brager  
Commissioner Giunchigliani  
Commissioner Kirkpatrick  
Commissioner Scow  
Commissioner Weekly  
Donald G. Burnette  
Rosemary Vassiliadis  
Saeed Bonabian  
James Chrisley  
Sandra Cikity  
Judy Villalta  
Dennis Anderson  
Ben Czyzewski  
Donna Bergstrom  
Curtis Hedgepeth

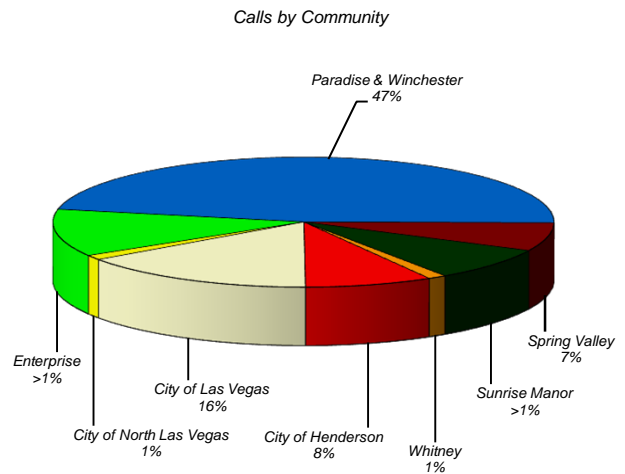
John Howard (FAA TRACON)  
Jon Holman (FAA ATC)  
Charlie Halterman (HND Tower)  
Richard Falcon (FAA FSDO)  
Bristol Ellington (COH)  
Josh Reid (COH)  
Elizabeth Fretwell (CLV)  
Mayor Carolyn Goodman (CLV)  
Councilman Bob Beers (CLV)  
Councilman Bob Coffin (CLV)  
Councilwoman L. Tarkanian (CLV)  
Councilman S. Anthony (CLV)  
Councilman Ricki Barlow (CLV)  
Mayor Pro Tem Steven Ross (CLV)  
Bradford Jerbic, (CLV)  
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.)  
Karen Everitt (Dallas City Hall)  
William Olivieri (Citizen)  
Samuel Carter (ITT)

Sean Roebuck  
Bruce Daugherty  
Kelly Burns  
Sam Ingalls  
Chris Jones  
Linda Healey  
Christine Crews  
Tina Frias  
Teresa Motley  
Jeff Jacquart  
Charlie Hall  
Tucker Field  
Mark Silverstein  
Stephanie Garcia-Vause (COH)  
Andrew Powell (COH)  
William Ruggiero (FAA TRACON)  
Thomas Miller (Nellis AFB)

Michael Moorer (FAA ATCT)  
James Erbeck (CLV)  
Paul Alukonis (FAA FSDO)  
Sydney Lowe (University Libraries)  
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)  
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)  
Steven Peacock (Dallas City Hall)  
John Dietz (FAA TRACON)

### Exhibit 1: Noise Complaint Calls by Community\* - April 2016

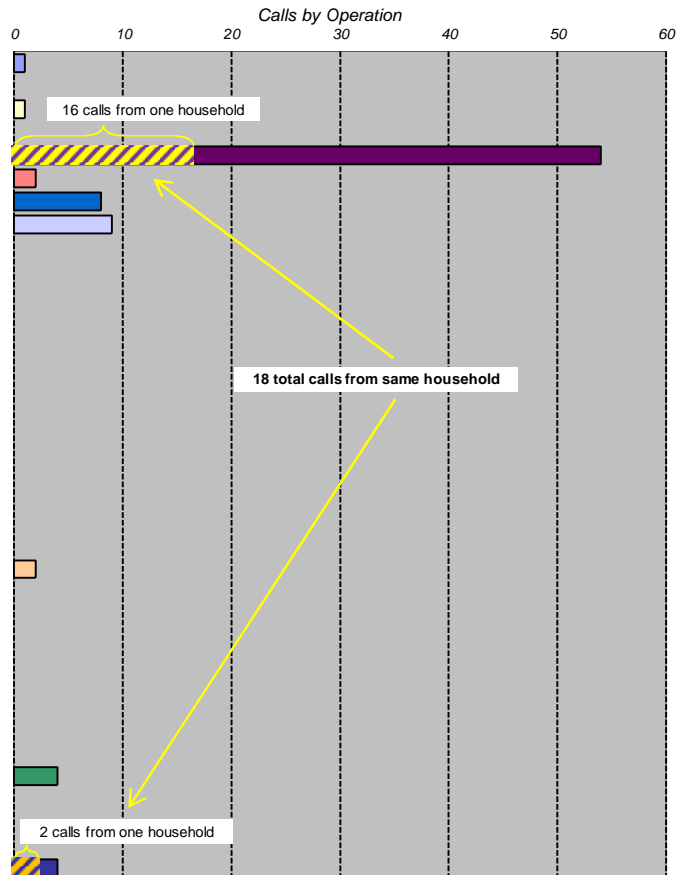
Community	No. of Calls in 2016	No. of Callers in 2016	No. of Calls in 2015	No. of Calls in 2014
City of Boulder City	7	6	2	6
City of Henderson	13	9		4
City of Las Vegas	1	1		
City of North Las Vegas	10	9	7	3
Enterprise				
Lone Mountain	40	15	256	751
Paradise & Winchester	6	4	3	8
Spring Valley			1	
Summerlin South	7	4		1
Sunrise Manor	1	1		
Whitney				
Location unknown				
<b>Overall Total</b>	<b>85</b>	<b>49</b>	<b>269</b>	<b>773</b>
Difference between 2016 and 2015 Total Calls:				-68%
Difference between 2016 and 2014 Total Calls:				-89%
Average Number of Calls per Caller:				1.7
Most calls received from one household:				18



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

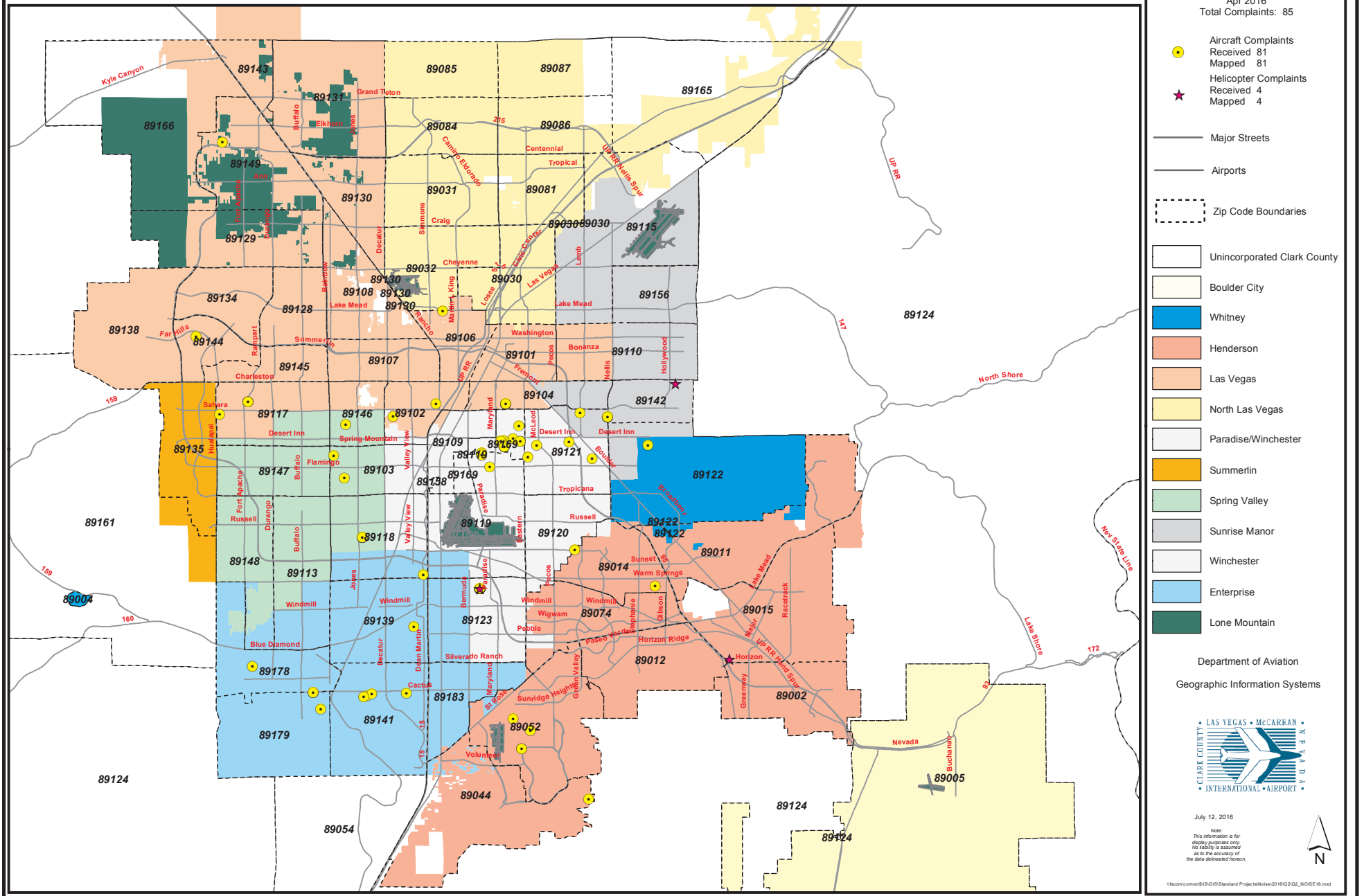
### Exhibit 2: Noise Complaint Calls by Type of Operation - April 2016

Operation	No. of Calls in 2016	Percent of Overall Total	No. of Calls in 2015	No. of Calls in 2014
LAS 01R/L Arrivals	1	1.2%	1	1
LAS 07R/L Arrivals				
LAS 19R/L Arrivals	1	1.2%		
LAS 25R/L Arrivals				1
LAS 01R/L Departures	54	63.5%	104	409
LAS 07R/L Departures	2	2.4%		40
LAS 19R/L Departures	8	9.4%	160	1
LAS 25R/L Departures	9	10.6%	4	314
LAS Run-ups				1
LAS GA				
LAS Other				
<b>LAS Total</b>	<b>75</b>	<b>88.2%</b>	<b>269</b>	<b>767</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	2	2.4%		
VGT Other				
<b>VGT Total</b>	<b>2</b>	<b>2.4%</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	4	4.7%		3
HND Other				
<b>HND Total</b>	<b>4</b>	<b>4.7%</b>	<b>0</b>	<b>3</b>
<b>Helicopters**</b>	<b>4</b>	<b>4.7%</b>		<b>3</b>
<b>Overall Total</b>	<b>85</b>	<b>100%</b>	<b>269</b>	<b>773</b>

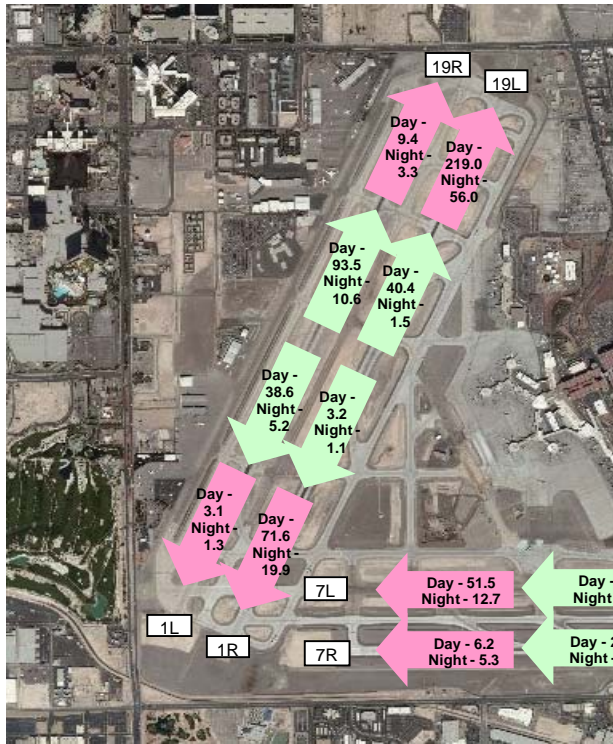


\*\* Note that helicopter noise complaints are not tied to a specific facility since the operation cannot always be associated to a specific airport. Additionally, helicopter calls do not include those associated with operations conducted by the Metropolitan Police Department or those associated with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

### Exhibit 3: Aircraft Noise Complaints by Community - Apr 2016



#### Exhibit 4: LAS Daily Average Operations Runway for Large Air Carrier Aircraft\* - April 2016



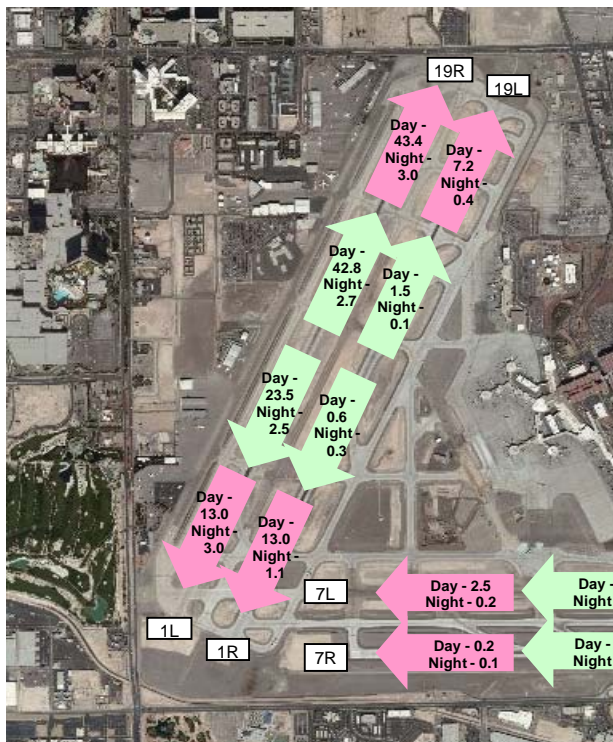
Year	2016		2015		2014	
Daytime Departures	400	80%	N/A	N/A	N/A	N/A
Nighttime Departures	99	20%	N/A	N/A	N/A	N/A
<b>Total Departures</b>	<b>499</b>	<b>100%</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

Daytime Arrivals	429	87%	417	86%	404	88%
Nighttime Arrivals	67	13%	70	14%	53	12%
<b>Total Arrivals</b>	<b>496</b>	<b>100%</b>	<b>487</b>	<b>100%</b>	<b>457</b>	<b>100%</b>

Growth	Overall	Daytime	Nighttime
Depts. 2016 vs 2015	N/A	N/A	N/A
Depts. 2016 vs 2014	N/A	N/A	N/A
Arrivals 2016 vs 2015	2%	3%	-5%
Arrivals 2016 vs 2014	9%	6%	26%

\* 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\*\* - April 2016



Year	2016		2015		2014	
Daytime Departures	87	90%	N/A	N/A	N/A	N/A
Nighttime Departures	10	10%	N/A	N/A	N/A	N/A
<b>Total Departures</b>	<b>97</b>	<b>100%</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

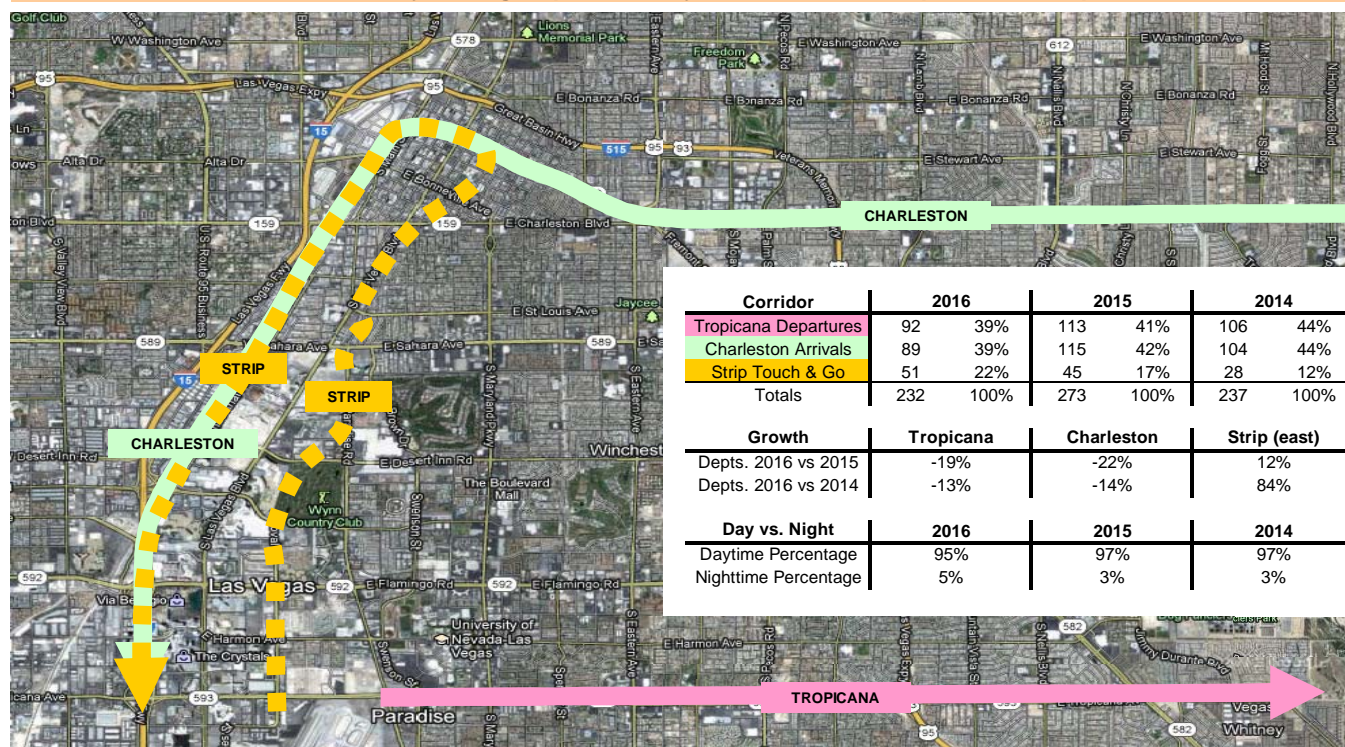
Daytime Arrivals	87	93%	88	92%	83	94%
Nighttime Arrivals	7	7%	8	8%	6	6%
<b>Total Arrivals</b>	<b>93</b>	<b>100%</b>	<b>96</b>	<b>100%</b>	<b>89</b>	<b>100%</b>

Growth	Overall	Daytime	Nighttime
Depts. 2016 vs 2015	N/A	N/A	N/A
Depts. 2016 vs 2014	N/A	N/A	N/A
Arrivals 2016 vs 2015	-2%	-1%	-14%
Arrivals 2016 vs 2014	5%	5%	18%

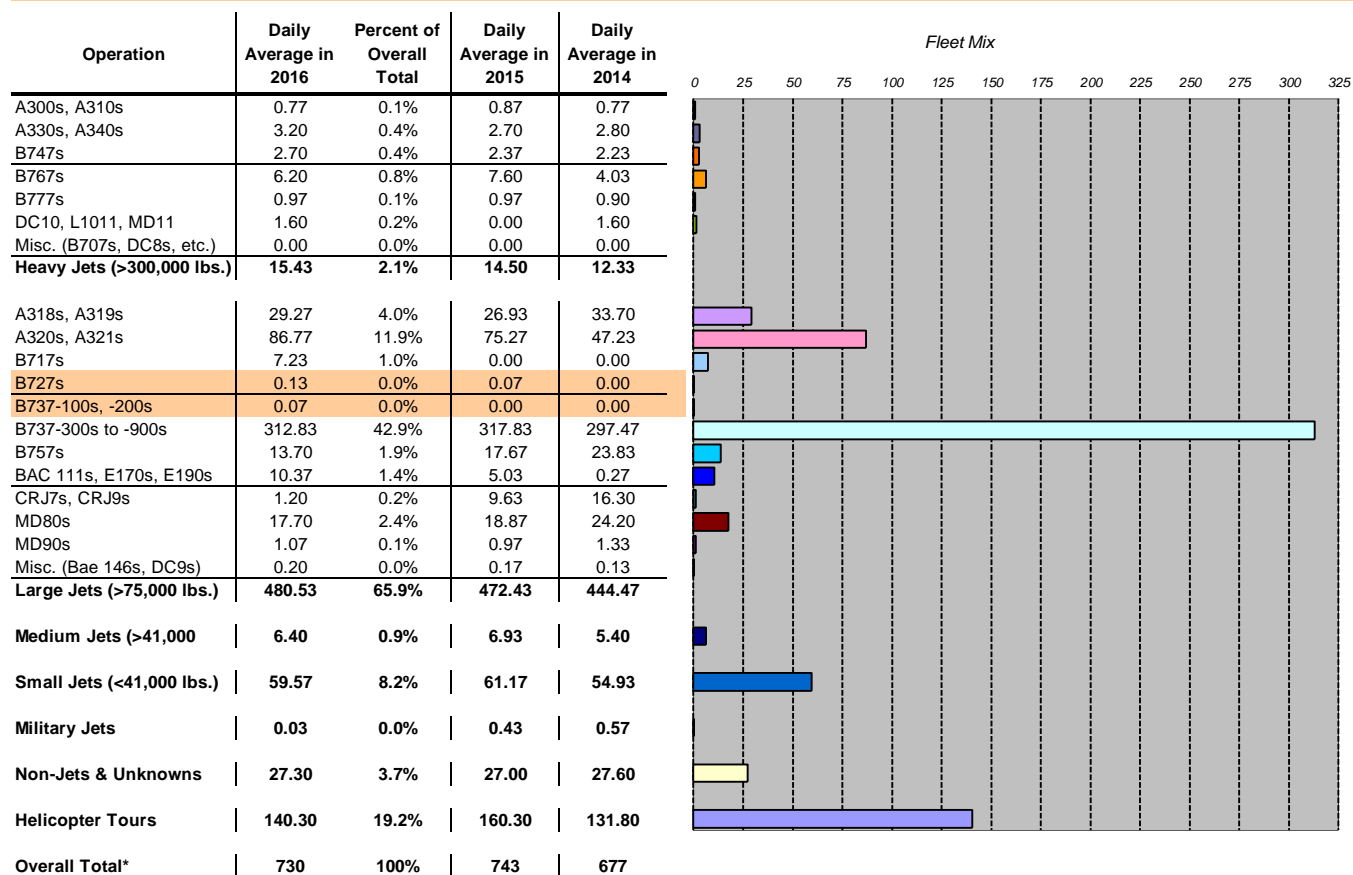
\*\* Aircraft types: All aircraft with a maximum gross take off weight less than 75,000 pounds, excluding helicopters.



### Exhibit 6: LAS Daily Average Operations by Corridor for Helicopter Tours - April 2016



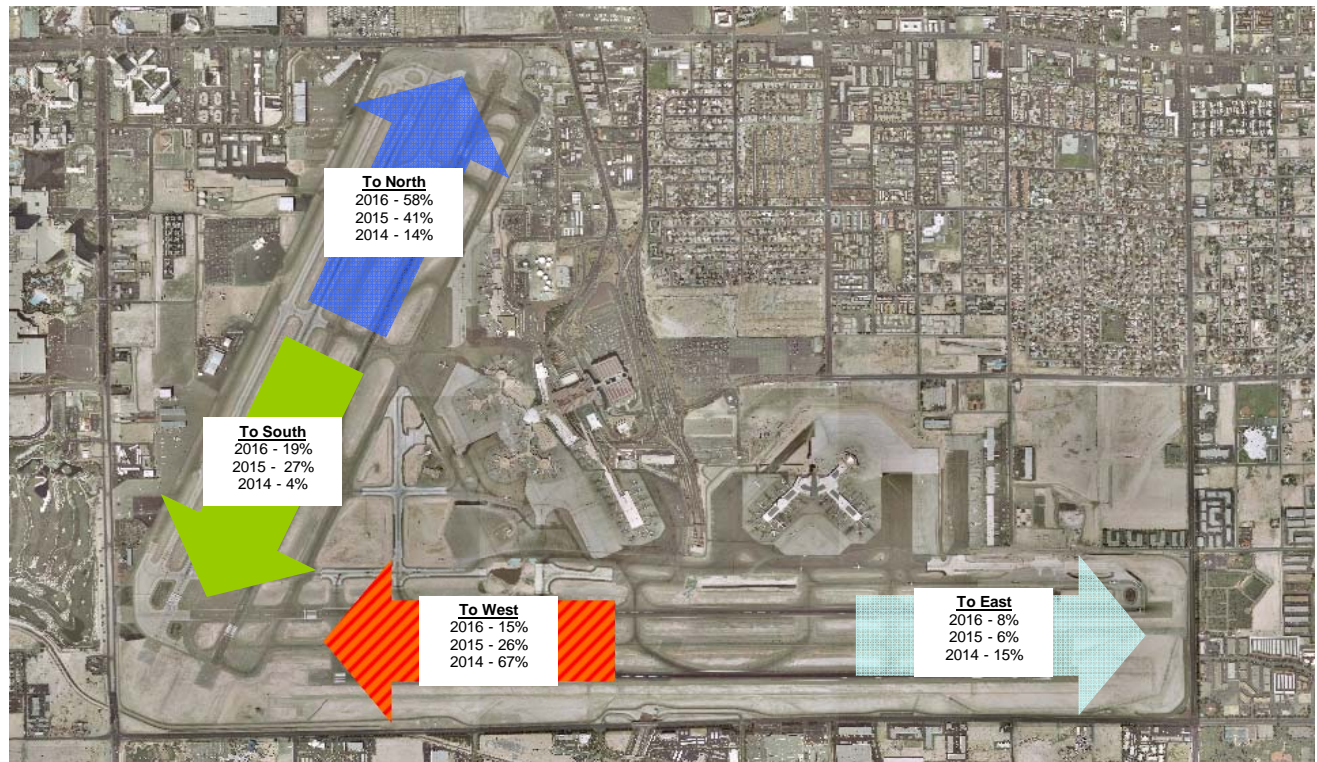
### Exhibit 7: LAS Aircraft Arrival Fleet Mix\* - April 2016



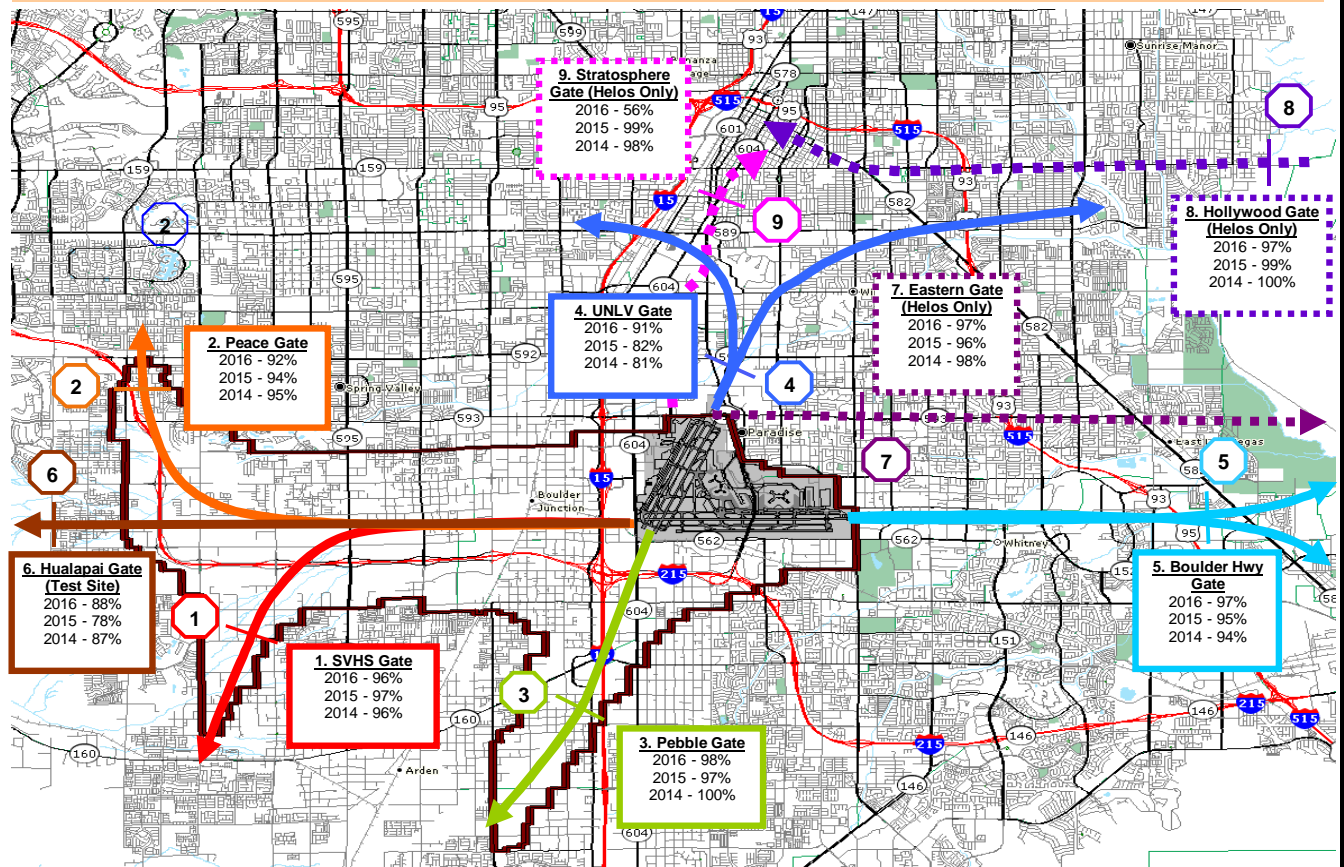
\* Overall Total: Note that operation type and runway use counts are estimated by ITT Exelis AirScene.com Noise and Monitoring Operations (NOMS) system based on radar data. Due to limitations of radar data, information for aircraft weighing less than 75,000 lbs. is inexact.



**Exhibit 8: LAS General Departure Direction for Large Air Carrier Aircraft\* - April 2016 to 2014**



**Exhibit 9: "Gate" Compliance for Large Aircraft\* & LAS Helicopter Tours - April 2016**



\* 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, A350, 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\* - May 2016

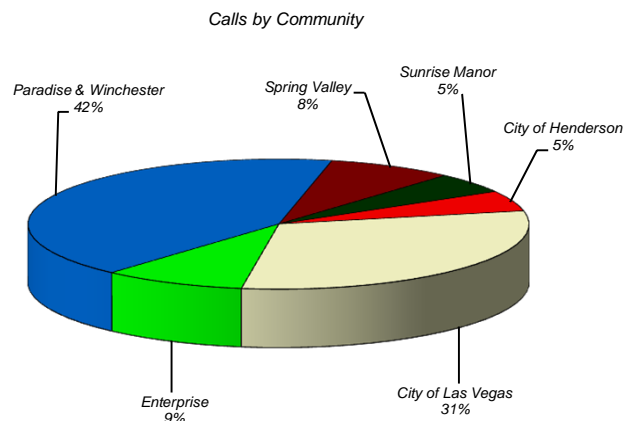
Community	No. of Calls in 2016	No. of Callers in 2016	No. of Calls in 2015	No. of Calls in 2014
City of Boulder City	5	5	5	6
City of Henderson	30	13	5	4
City of Las Vegas			1	
City of North Las Vegas				
Enterprise	9	6	7	7
Lone Mountain				
Paradise & Winchester	41	20	235	432
Spring Valley	8	8	2	4
Summerlin South			1	
Sunrise Manor	5	2		
Whitney				
Location unknown				
<b>Overall Total</b>	<b>98</b>	<b>54</b>	<b>256</b>	<b>453</b>

Difference between 2016 and 2015 Total Calls: -62%

Difference between 2016 and 2014 Total Calls: -78%

Average Number of Calls per Caller: 1.8

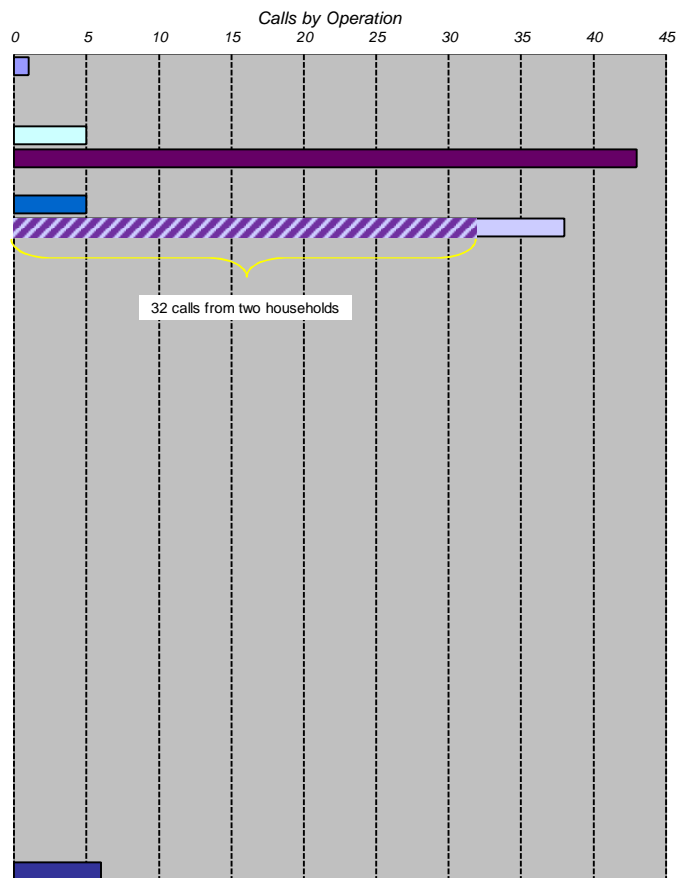
Most calls received from one household: 16



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

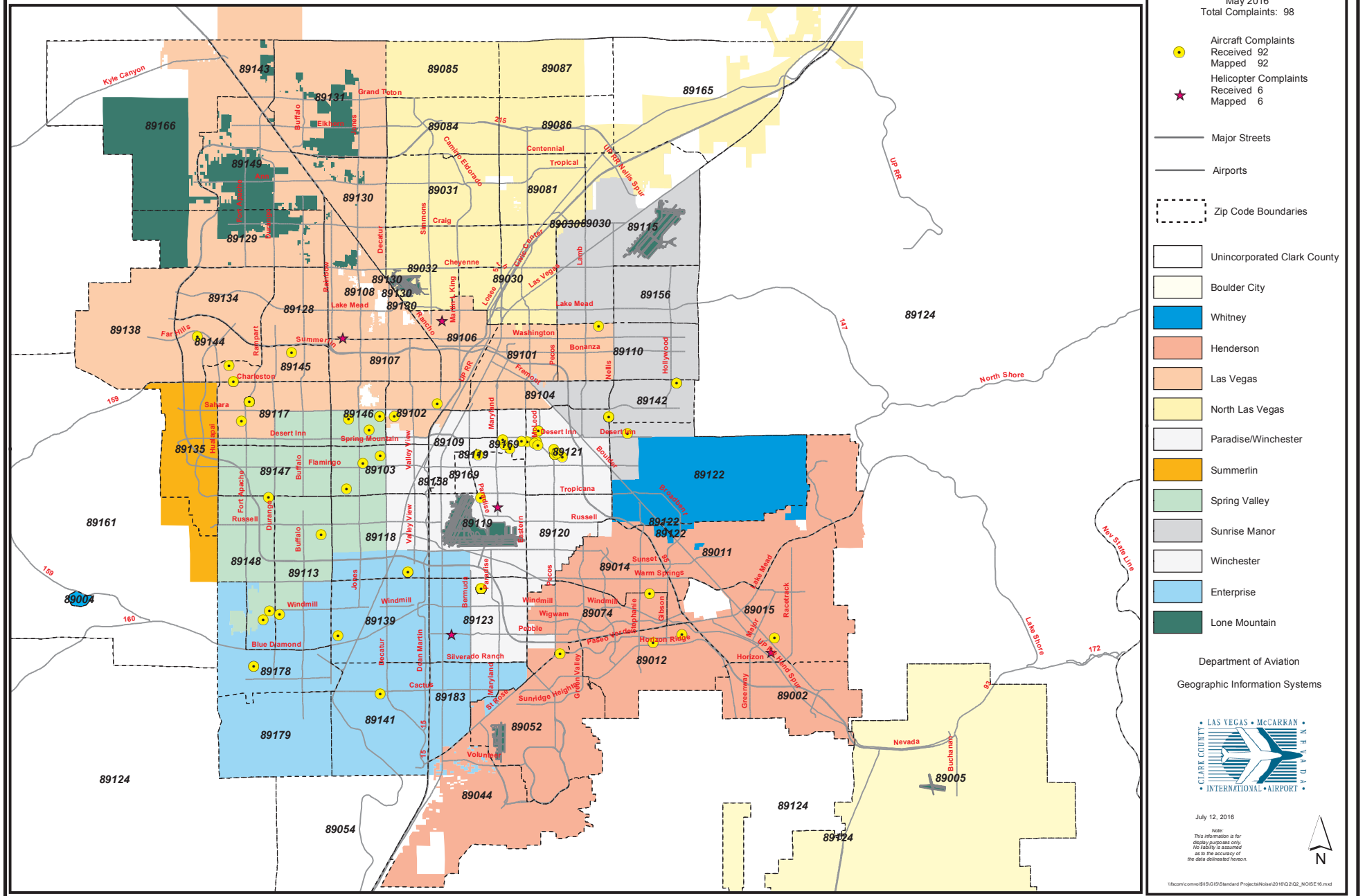
### Exhibit 2: Noise Complaint Calls by Type of Operation - May 2016

Operation	No. of Calls in 2016	Percent of Overall Total	No. of Calls in 2015	No. of Calls in 2014
LAS 01R/L Arrivals	1	1.0%		3
LAS 07R/L Arrivals			1	1
LAS 19R/L Arrivals				
LAS 25R/L Arrivals	5	5.1%		
LAS 01R/L Departures	43	43.9%	2	169
LAS 07R/L Departures			13	8
LAS 19R/L Departures	5	5.1%	221	37
LAS 25R/L Departures	38	38.8%	10	227
LAS Run-ups		0.0%		1
LAS GA				
LAS Other				
<b>LAS Total</b>	<b>92</b>	<b>93.9%</b>	<b>247</b>	<b>446</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			2	1
VGT Other				
<b>VGT Total</b>	<b>0</b>	<b>0.0%</b>	<b>2</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			5	5
HND Other				
<b>HND Total</b>	<b>0</b>	<b>0.0%</b>	<b>5</b>	<b>5</b>
<b>Helicopters**</b>	<b>6</b>	<b>6.1%</b>	<b>2</b>	<b>1</b>
<b>Overall Total</b>	<b>98</b>	<b>100%</b>	<b>256</b>	<b>453</b>

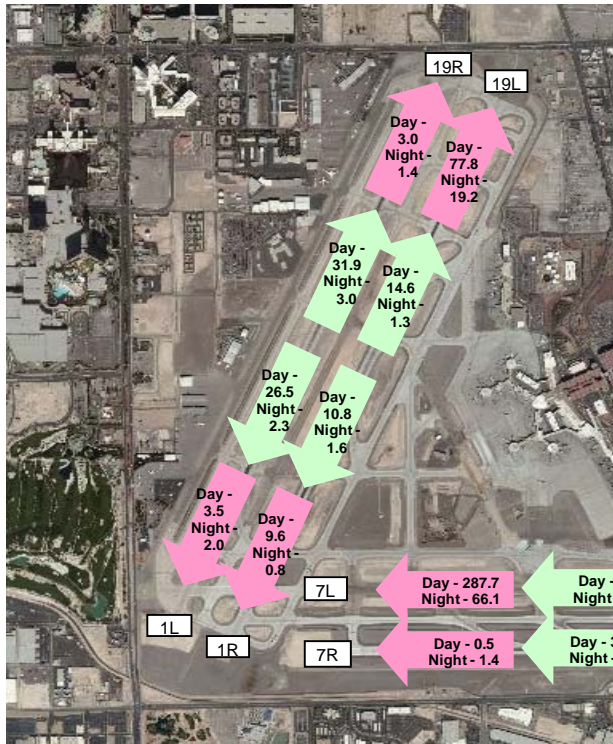


\*\* Note that helicopter noise complaints are not tied to a specific facility since the operation cannot always be associated to a specific airport. Additionally, helicopter calls do not include those associated with operations conducted by the Metropolitan Police Department or those associated with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

### Exhibit 3: Aircraft Noise Complaints by Community - May 2016



#### Exhibit 4: LAS Daily Average Operations Runway for Large Air Carrier Aircraft\* - May 2016



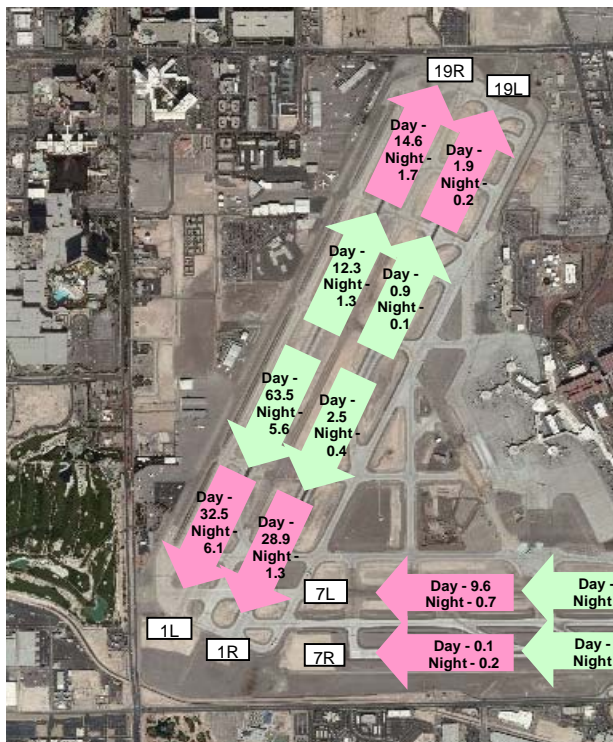
Year	2016		2015		2014	
Daytime Departures	409	82%	N/A	N/A	N/A	N/A
Nighttime Departures	91	18%	N/A	N/A	N/A	N/A
<b>Total Departures</b>	<b>500</b>	<b>100%</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

Daytime Arrivals	435	87%	416	85%	425	88%
Nighttime Arrivals	62	13%	75	15%	56	12%
<b>Total Arrivals</b>	<b>497</b>	<b>100%</b>	<b>492</b>	<b>100%</b>	<b>481</b>	<b>100%</b>

Growth	Overall	Daytime	Nighttime
Depts. 2016 vs 2015	N/A	N/A	N/A
Depts. 2016 vs 2014	N/A	N/A	N/A
Arrivals 2016 vs 2015	1%	4%	-17%
Arrivals 2016 vs 2014	3%	2%	11%

\* 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\*\* - May 2016



Year	2016		2015		2014	
Daytime Departures	93	90%	N/A	N/A	N/A	N/A
Nighttime Departures	10	10%	N/A	N/A	N/A	N/A
<b>Total Departures</b>	<b>103</b>	<b>100%</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

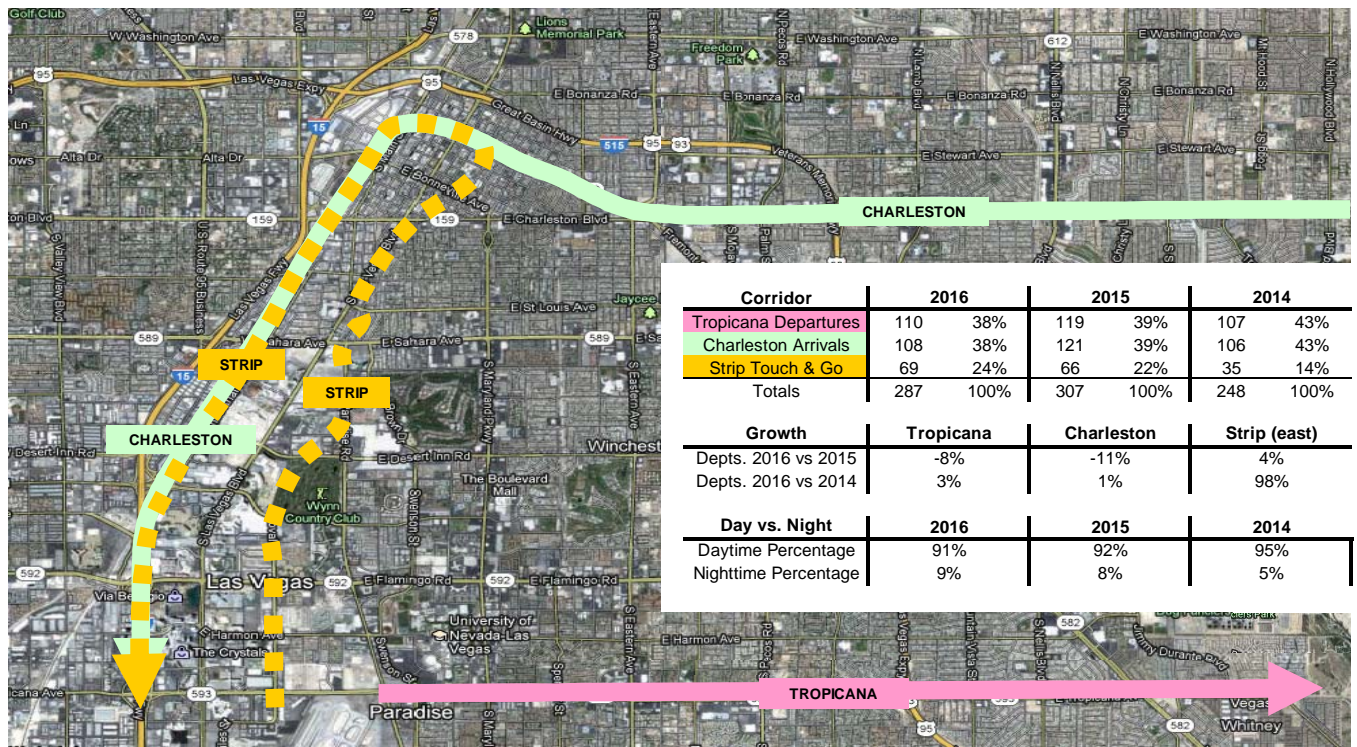
Daytime Arrivals	92	92%	100	92%	93	93%
Nighttime Arrivals	8	8%	9	8%	8	7%
<b>Total Arrivals</b>	<b>100</b>	<b>100%</b>	<b>109</b>	<b>100%</b>	<b>100</b>	<b>100%</b>

Growth	Overall	Daytime	Nighttime
Depts. 2016 vs 2015	N/A	N/A	N/A
Depts. 2016 vs 2014	N/A	N/A	N/A
Arrivals 2016 vs 2015	-8%	-9%	-7%
Arrivals 2016 vs 2014	-1%	-2%	7%

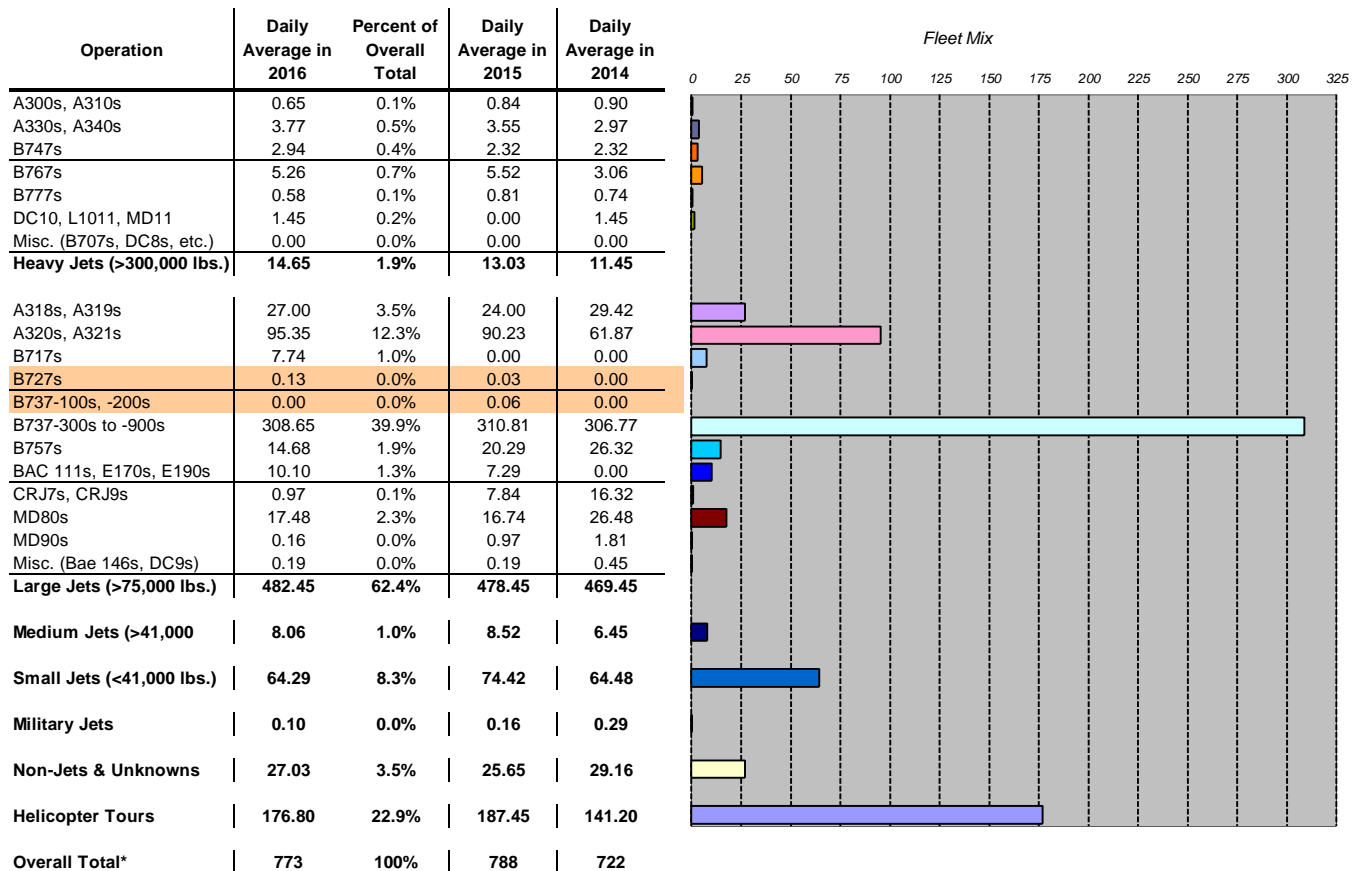
\*\* Aircraft types: All aircraft with a maximum gross take off weight less than 75,000 pounds, excluding helicopters.



### Exhibit 6: LAS Daily Average Operations by Corridor for Helicopter Tours - May 2016



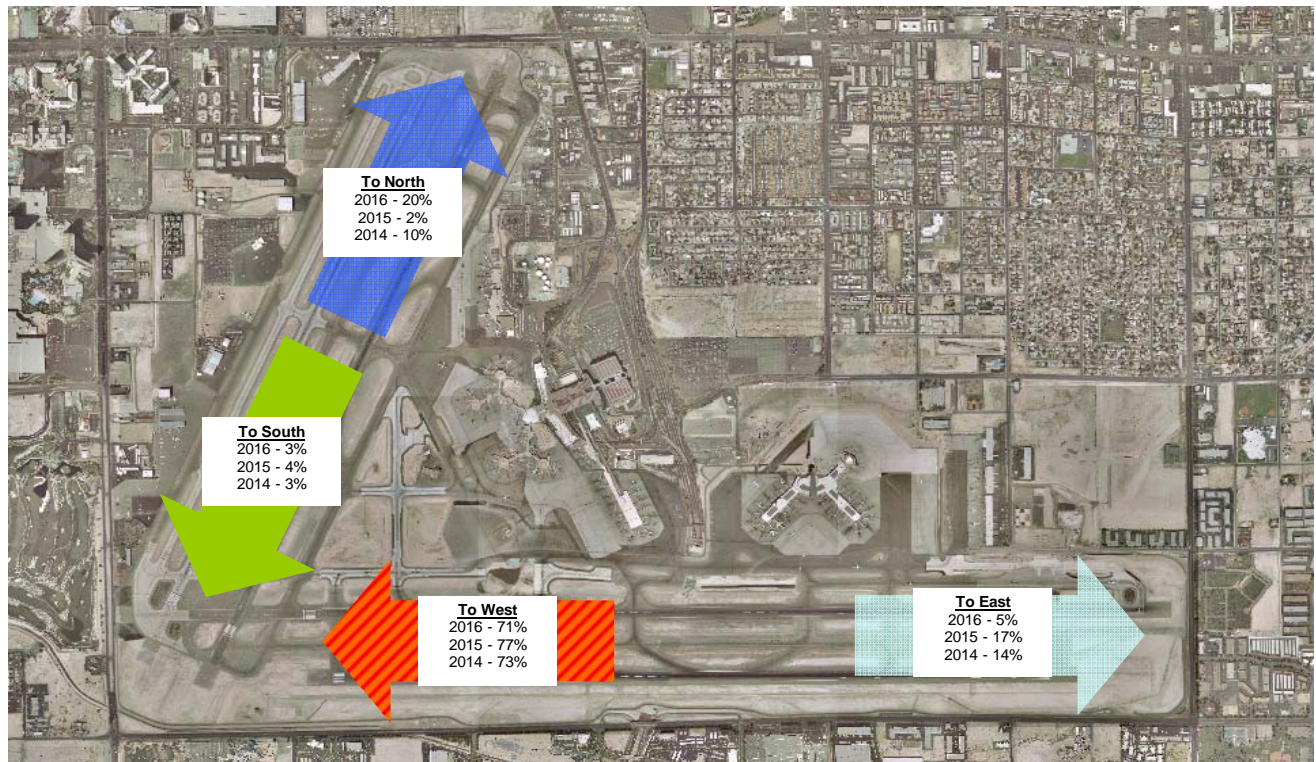
### Exhibit 7: LAS Aircraft Arrival Fleet Mix\* - May 2016



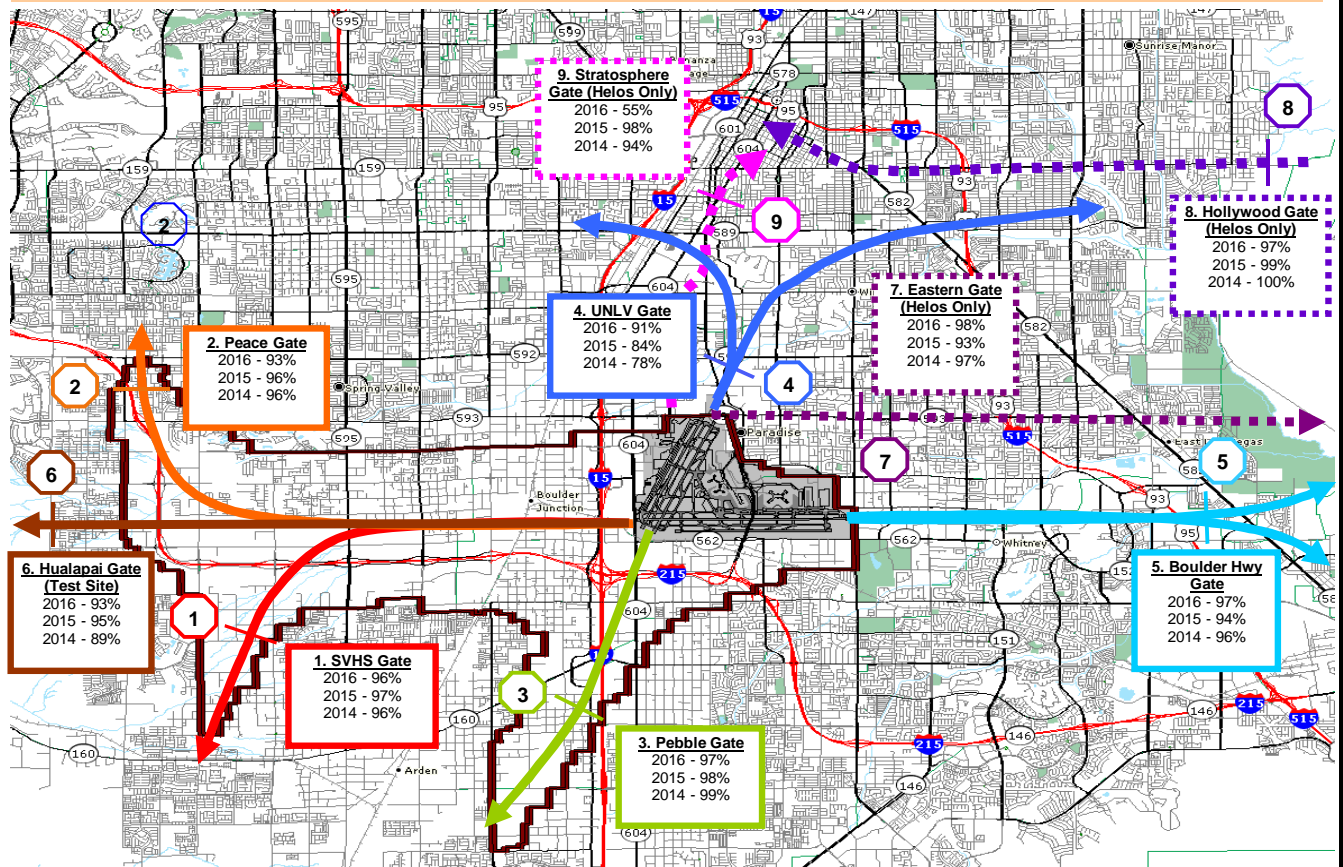
\* Overall Total: Note that operation type and runway use counts are estimated by ITT Exelis AirScene.com Noise and Monitoring Operations (NOMS) system based on radar data. Due to limitations of radar data, information for aircraft weighing less than 75,000 lbs. is inexact.



**Exhibit 8: LAS General Departure Direction for Large Air Carrier Aircraft\* - May 2016 to 2014**



**Exhibit 9: "Gate" Compliance for Large Aircraft\* & LAS Helicopter Tours - May 2016**



\* 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, A350, 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\* - June 2016

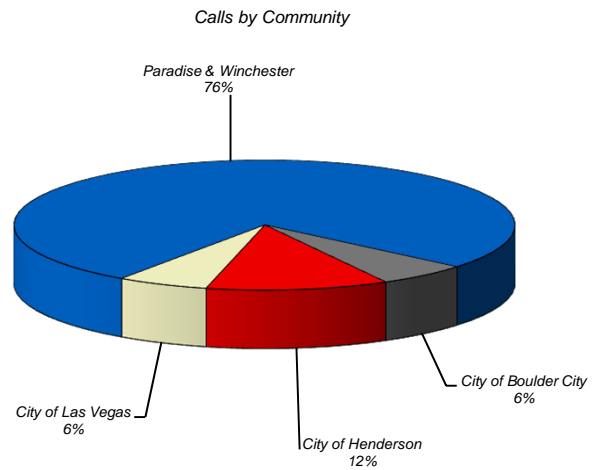
Community	No. of Calls in 2016	No. of Callers in 2016	No. of Calls in 2015	No. of Calls in 2014
City of Boulder City	1	1		
City of Henderson	2	2	5	
City of Las Vegas	1	1		
City of North Las Vegas			1	
Enterprise			10	1
Lone Mountain				
Paradise & Winchester	13	8	90	142
Spring Valley			3	2
Summerlin South			1	
Sunrise Manor				1
Whitney			1	
Location unknown				
<b>Overall Total</b>	<b>17</b>	<b>12</b>	<b>111</b>	<b>146</b>

Difference between 2016 and 2015 Total Calls: -85%

Difference between 2016 and 2014 Total Calls: -88%

Average Number of Calls per Caller: 1.4

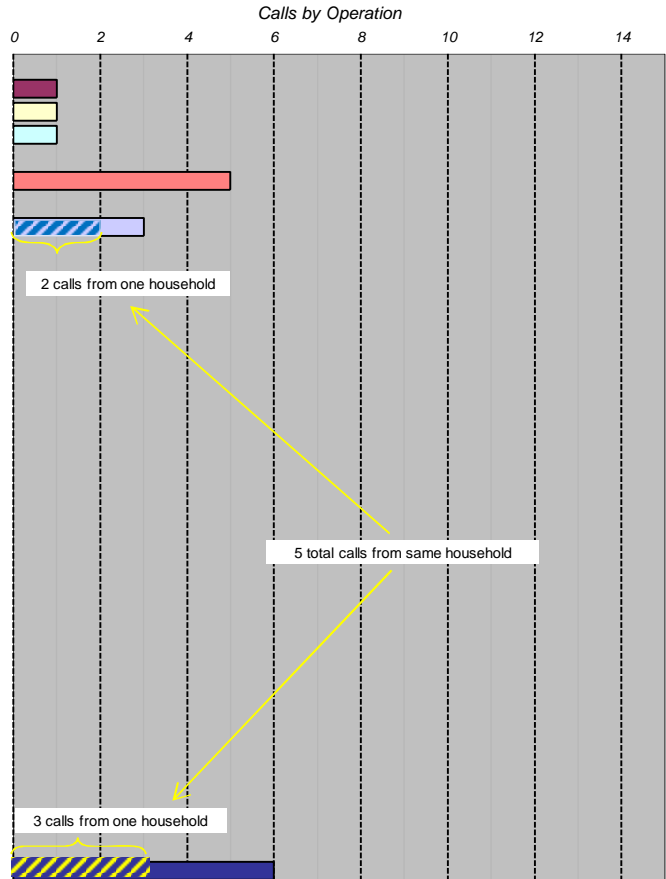
Most calls received from one household: 5



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

### Exhibit 2: Noise Complaint Calls by Type of Operation - June 2016

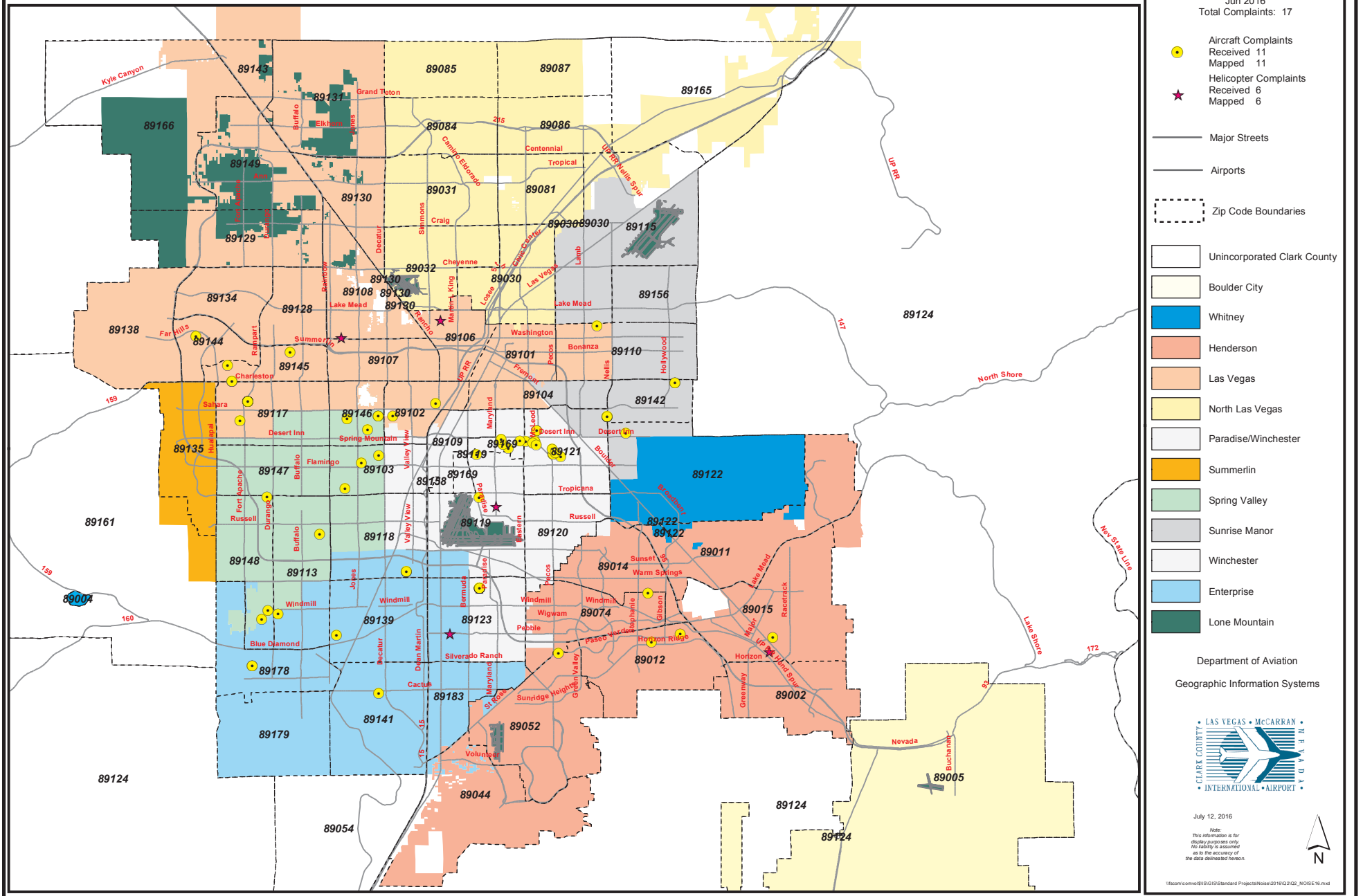
Operation	No. of Calls in 2016	Percent of Overall Total	No. of Calls in 2015	No. of Calls in 2014
LAS 01R/L Arrivals	1	5.9%		
LAS 07R/L Arrivals	1	5.9%		
LAS 19R/L Arrivals	1	5.9%		
LAS 25R/L Arrivals	1	5.9%	1	
LAS 01R/L Departures			1	1
LAS 07R/L Departures	5	29.4%	6	
LAS 19R/L Departures			76	
LAS 25R/L Departures	3	17.6%	12	135
LAS Run-ups				
LAS GA				
LAS Other				
<b>LAS Total</b>	<b>11</b>	<b>64.7%</b>	<b>96</b>	<b>136</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	
VGT Other				
<b>VGT Total</b>	<b>0</b>	<b>0.0%</b>	<b>1</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			4	
HND Other				
<b>HND Total</b>	<b>0</b>	<b>0.0%</b>	<b>4</b>	<b>0</b>
<b>Helicopters**</b>	<b>6</b>	<b>35.3%</b>	<b>10</b>	<b>10</b>
<b>Overall Total</b>	<b>17</b>	<b>100%</b>	<b>111</b>	<b>146</b>



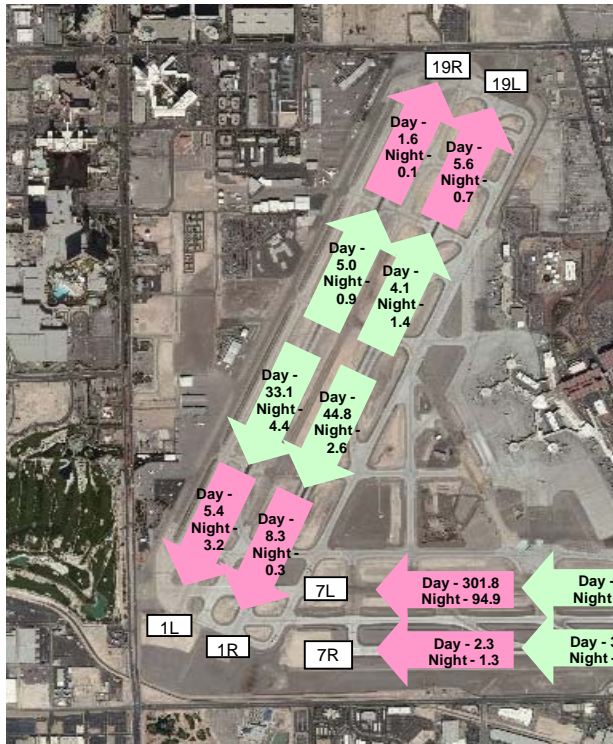
\*\* Note that helicopter noise complaints are not tied to a specific facility since the operation cannot always be associated to a specific airport. Additionally, helicopter calls do not include those associated with operations conducted by the Metropolitan Police Department or those associated with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



### Exhibit 3: Aircraft Noise Complaints by Community - Jun 2016



#### Exhibit 4: LAS Daily Average Operations Runway for Large Air Carrier Aircraft\* - June 2016



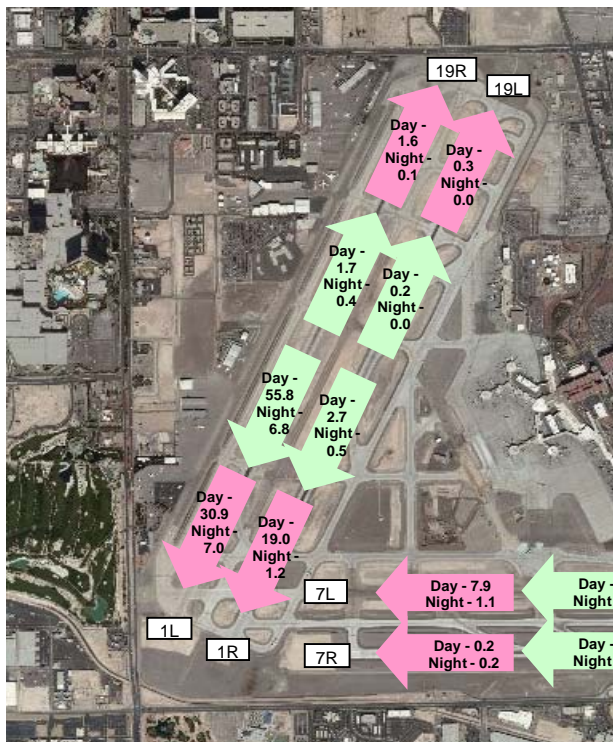
Year	2016		2015		2014	
Daytime Departures	407	80%	N/A	N/A	N/A	N/A
Nighttime Departures	103	20%	N/A	N/A	N/A	N/A
<b>Total Departures</b>	<b>510</b>	<b>100%</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

Daytime Arrivals	430	85%	416	84%	424	87%
Nighttime Arrivals	75	15%	82	16%	63	13%
<b>Total Arrivals</b>	<b>505</b>	<b>100%</b>	<b>498</b>	<b>100%</b>	<b>487</b>	<b>100%</b>

Growth	Overall	Daytime	Nighttime
Depts. 2016 vs 2015	N/A	N/A	N/A
Depts. 2016 vs 2014	N/A	N/A	N/A
Arrivals 2016 vs 2015	1%	3%	-9%
Arrivals 2016 vs 2014	4%	2%	19%

\* 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\*\* - June 2016



Year	2016		2015		2014	
Daytime Departures	77	89%	N/A	N/A	N/A	N/A
Nighttime Departures	10	11%	N/A	N/A	N/A	N/A
<b>Total Departures</b>	<b>87</b>	<b>100%</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>

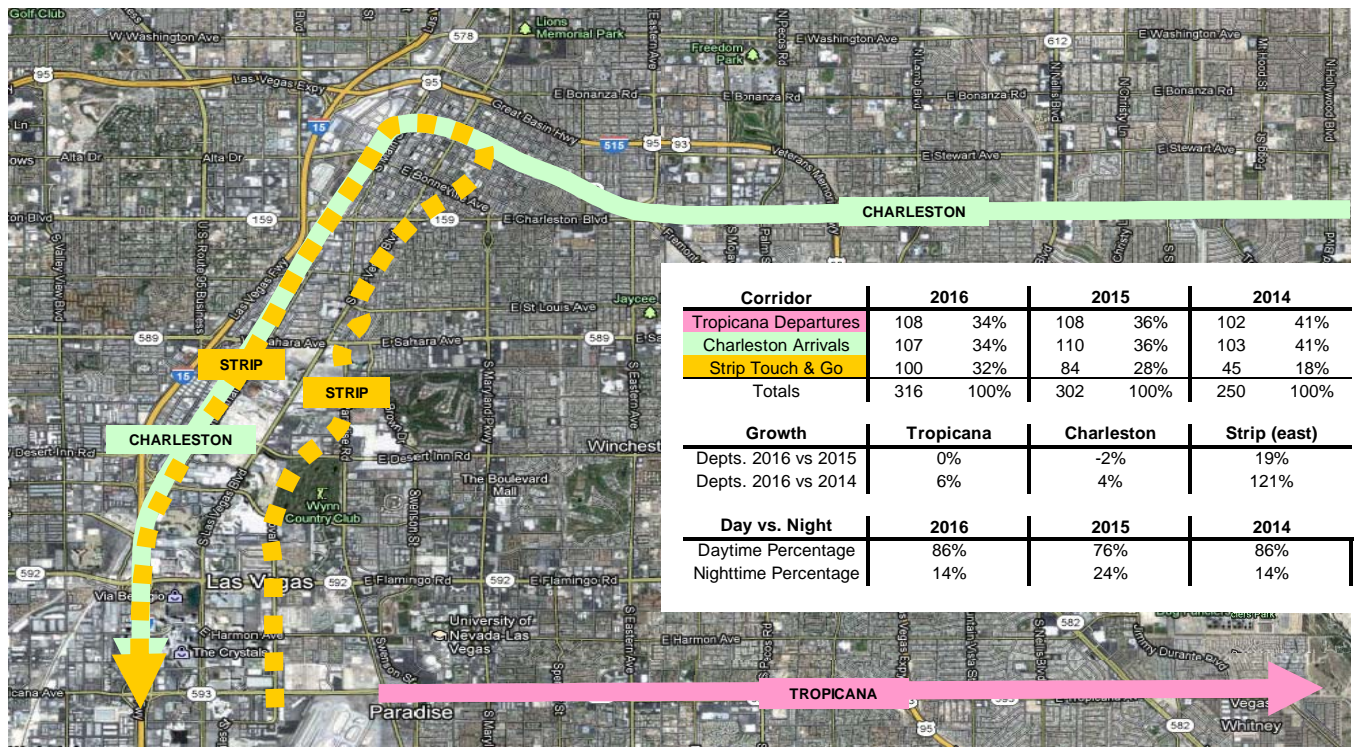
Daytime Arrivals	72	90%	70	92%	77	93%
Nighttime Arrivals	8	10%	6	8%	6	7%
<b>Total Arrivals</b>	<b>80</b>	<b>100%</b>	<b>75</b>	<b>100%</b>	<b>83</b>	<b>100%</b>

Growth	Overall	Daytime	Nighttime
Depts. 2016 vs 2015	N/A	N/A	N/A
Depts. 2016 vs 2014	N/A	N/A	N/A
Arrivals 2016 vs 2015	6%	3%	36%
Arrivals 2016 vs 2014	-4%	-7%	34%

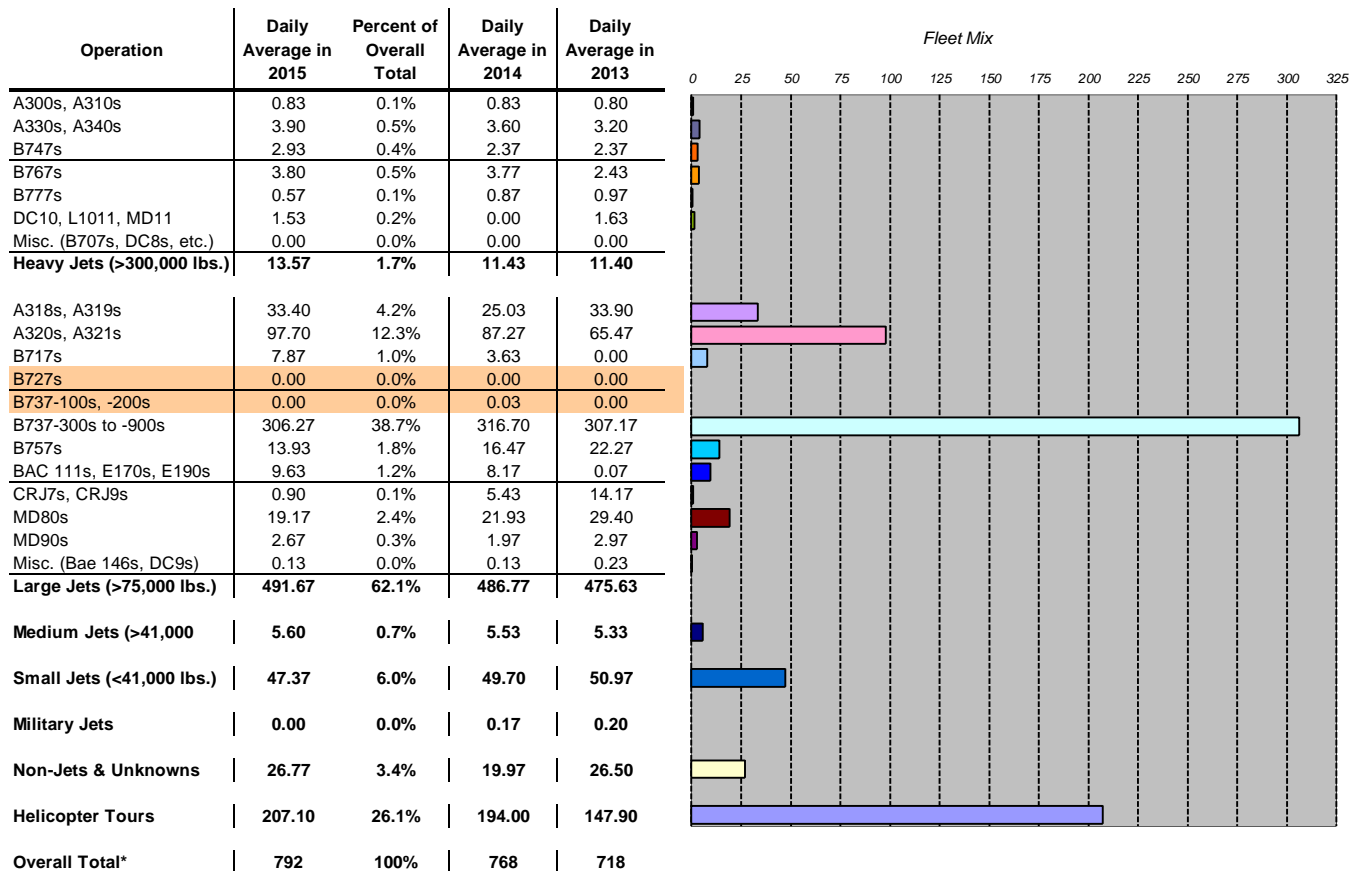
\*\* Aircraft types: All aircraft with a maximum gross take off weight less than 75,000 pounds, excluding helicopters.



### Exhibit 6: LAS Daily Average Operations by Corridor for Helicopter Tours - June 2016



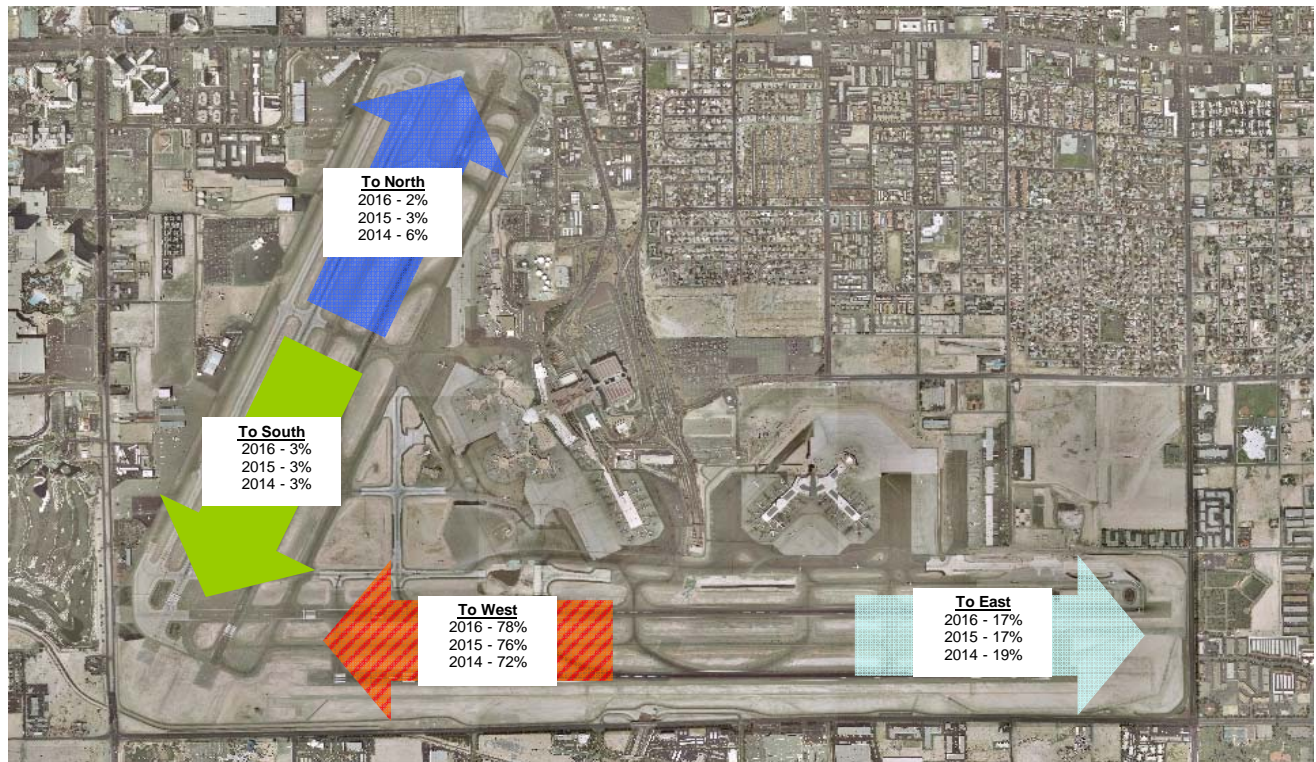
### Exhibit 7: LAS Aircraft Arrival Fleet Mix\* - June 2016



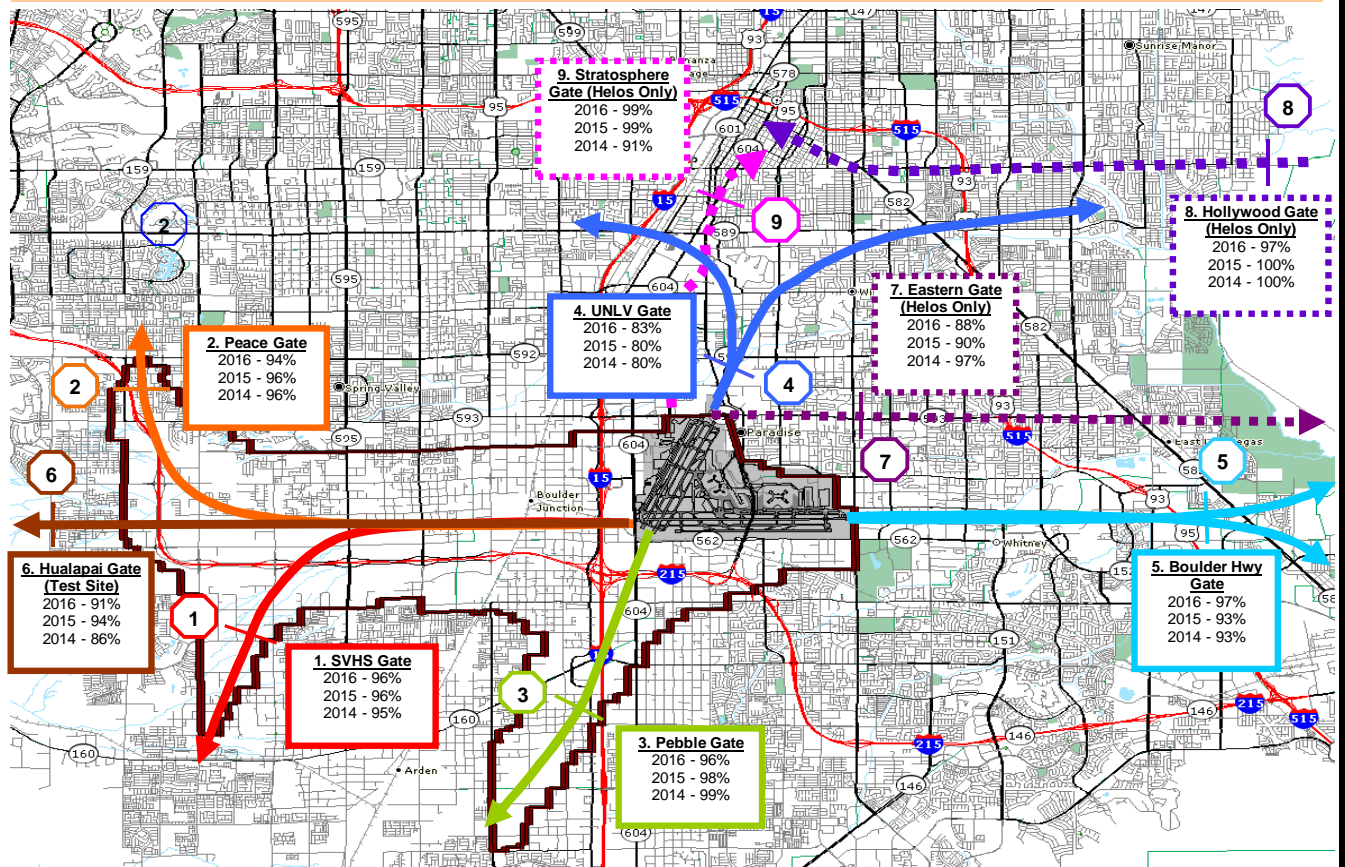
\* Overall Total: Note that operation type and runway use counts are estimated by ITT Exelis AirScene.com Noise and Monitoring Operations (NOMS) system based on radar data. Due to limitations of radar data, information for aircraft weighing less than 75,000 lbs. is inexact.



**Exhibit 8: LAS General Departure Direction for Large Air Carrier Aircraft\* - June 2016 to 2014**



**Exhibit 9: "Gate" Compliance for Large Aircraft\* & LAS Helicopter Tours - June 2016**



\* 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, A350, B707, B717, B727, B737, B747, B757, B767, B777, CRJ7, CRJ9, DC8, DC9, DC10, E170, E190, HA4T, L1011, MD80, MD90, MD10, MD11, VC10.