

MEMORANDUM

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Director

DEPARTMENT OF AVIATION

TO: DISTRIBUTION

FROM: GEORGE C. SIMS, PLANNER

SUBJECT: JANUARY THROUGH MARCH 2017 NOISE COMPLAINT REPORTS

DATE: APRIL 25, 2017

Attached for your review are the Clark County Department of Aviation's (CCDOA) Monthly Noise Complaint Reports for January through March 2017. 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 (702-261-5600), 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

January 2017: 58 total complaints - a 16% decrease from 2016 and an 89% decrease from 2015. On average, each caller (or household) issued 2.2 calls. The most calls received from one household totaled 27.

Calls by Community - (Exhibits 1 and 3)

Majority (more than 50%): The **Spring Valley** community issued 29 calls (50%). This community is typically impacted by aircraft departing to the west (from Runway 25R and Runway 25L) and by aircraft departing to the north (from Runway 01R and Runway 01L) that turn left (to the west and south).

Minority (between 10% and 50%): The **Paradise and Winchester** communities issued 14 calls (24%). These communities are typically impacted by aircraft departing to the north (from Runway 01R and Runway 01L).

The **City of Henderson** community issued 6 calls (10%). This community is typically impacted by aircraft departing to the east (from Runway 07R and Runway 07L), and helicopter tour operations.

Repeat Caller Impact: One household issued 47% (27 calls) of all the calls received in January 2017.

Calls by Operation - (Exhibit 2)

LAS: 88% of the total calls were due to **LAS** fixed-wing operations.

- 66% were due to departures to the north from Runways 01L and 01R (63% from one household).

VGT: 0% of the total calls were due to **VGT** fixed-wing operations.

HND: 7% of the total calls were due to **HND** fixed-wing operations.

Helos: 5% of the total calls were due to **helicopter** operations.

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

Overall: 482 daily *departures*¹ – a 3% increase from 2016. (see footnote for 2015).

- 60% of departures were to the west, 33% north, 4% east, and 3% south.

475 daily *arrivals* – a 3% increase from 2016 and 9% increase from 2015.

- 78% of arrivals were from the east, 17% from the south, and 4% from the north.

Daytime: 407 daily *departures*² – a 5% increase from 2016. (see footnote for 2015).

- 59% of departures were to the west, 34% north, 4% east, and 3% south.

419 daily *arrivals* – a 2% increase from 2016 and an 8% increase from 2015.

- 78% of arrivals were from the east, 18% south, and 4% from the north.

¹ 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.

² See footnote #1.

Nighttime: 75 daily *departures*³ – a 3% decrease from 2016. (see footnote for 2015).
▪ 67% of departures were to the west, 26% north, 3% south, and 3% west.
56 daily *arrivals* – a 9% increase from 2016 and a 17% increase from 2015.
▪ 80% of arrivals were from the east, 12% south, and 8% from the north.

Daytime vs. Nighttime: Approximately 85% of all *departures* and 88% of all *arrivals* occurred during the daytime hours.

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

Overall: 118 daily *departures*⁴ – a 19% increase from 2016. (see footnote for 2015).
▪ 49% of departures were to the south, 40% north, 6% west, and 5% east.
106 daily *arrivals* – an 11% increase from 2016 and 1% increase from 2015.
▪ 50% of arrivals were from the north, 28% from the south, 19% east, and 3% west.

Daytime: 107 daily *departures*⁵ – a 21% increase from 2016. (see footnote for 2015).
▪ 48% of departures were to the south, 40% north, 6% west, and 5% east.
98 daily *arrivals* – an 11% increase from 2016 and a 1% decrease from 2015.
▪ 50% of arrivals were from the north, 28% south, 19% east, and 3% west.

Nighttime: 10 daily *departures*⁶ – a 5% increase from 2016. (see footnote for 2015).
▪ 57% of departures were to the south, 30% north, 7% east, and 6% west.
7 daily *arrivals* – a 20% increase from 2016 and a 26% increase from 2015.
▪ 56% of arrivals were from the north, 29% south, 13% east, and 2% west.

Daytime vs. Nighttime: Approximately 91% of all *departures* and 93% of all *arrivals* occurred during the daytime hours.

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

Tropicana: 68 daily *departures* - a 2% decrease from 2016 and a 7% decrease from 2015.

Charleston: 67 daily *arrivals* - a 4% decrease from 2016 and a 9% decrease from 2015.

Strip: 46 daily *touch and go's* - a 17% increase from 2016 and a 56% increase from 2015.

Daytime vs. Nighttime: Approximately 97% 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.

³ See footnote #1.

⁴ See footnote #1.

⁵ See footnote #1.

⁶ 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 9% 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 5% of the daily traffic.

Helos: *Touring helicopters* accounted for 17% 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 2017, 60% departed to the *west* (from LAS's primary departure runways). This figure was 1% in 2016 and <1% in 2015.

Secondary: In 2017, 3% departed to the *south* (from LAS's secondary departure runways). This figure was 12% in 2016 and 3% in 2015.

Alternate 1: In 2017, 33% departed to the *north* (from LAS's alternate departure runways). This figure was 85% in 2016 and 90% in 2015.

Alternate 2: In 2017, 4% departed to the *east* (from LAS's alternate departure runways). This figure was 2% in 2016 and 7% in 2015.

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

SVHS: In 2017, 98% 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 93% in 2016 and 95% in 2015.

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 2017, 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 right-hand turn were within 0.3 NM of the intersection of *Peace Way & Summers Shade Street*. This figure was 43% in 2016, and 86% in 2015.

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 2017 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 99% in 2016 and 87% in 2015.

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 2017, 85% 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 91% in 2016 and 83% in 2015.

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, 99% 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 98% in 2016 and 91% in 2015.

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 2017, 76% 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 91% in 2016 and not available in 2015.

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 2017, 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 99% in 2016 and 95% in 2015.

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 2017, 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 98% in 2016 and 99% in 2015.

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 2017, 92% 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 97% in 2016 and 97% in 2015.

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.

February 2017: 62 total complaints - a 23% decrease from 2016 and an 85% decrease from 2015. On average, each caller (or household) issued 2.7 calls. The most calls received from one household totaled 26.

Calls by Community - (Exhibits 1 and 3)

Majority (more than 50%): The **Spring Valley** community issued 35 calls (56%). (See January 2017 synopsis of typical aircraft overflight impacts on this community.)

Minority (between 10% and 50%): The **City of Henderson** community issued 10 calls (16%). (See January 2017 synopsis of typical aircraft overflight impacts on this community.)

The **Paradise and Winchester** communities issued 8 calls (13%). (See January 2017 synopsis of typical aircraft overflight impacts on this community.)

Repeat Caller Impact: One household issued 42% (26 calls) of all the calls received in February 2017.

Calls by Operation - (Exhibit 2)

LAS: 89% of the total calls received were due to **LAS** fixed-wing operations.

- 50% were due to departures to the west from Runways 25L and 25R (58% from one household).
- 21% were due to departures to the north from Runways 01L and 01R (62% from one household, which is also the same household that issued 58% of the calls for LAS Runways 25L and 25R).

VGT: 2% of the total calls received were due to **VGT** fixed-wing operations.

HND: 5% of the total calls received were due to **HND** fixed-wing operations.

Helis: 5% of the total calls received were due to **helicopter** operations.

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

Overall: 478 daily *departures*⁷ – a 1% increase from 2016. (see footnote for 2015).

- 73% of departures were to the west, 19% north, 4% east, and 4% south.

473 daily *arrivals* – a 1% increase from 2016 and 5% increase from 2015.

- 82% of arrivals were from the east, 11% from the south, and 6% from the north.

Daytime: 408 daily *departures*⁸ – a 3% increase from 2016. (see footnote for 2015).

- 72% of departures were to the west, 19% north, 5% east, and 4% south.

422 daily *arrivals* – no change from 2016 and a 6% increase from 2015.

- 82% of arrivals were from the east, 12% from the south, and 6% from the north.

Nighttime: 70 daily *departures*⁹ – an 8% decrease from 2016. (see footnote for 2015).

- 79% of departures were to the west, 17% north, and 4% west.

51 daily *arrivals* – a 4% increase from 2016 and 3% decrease from 2015.

- 84% of arrivals were from the east, 9% north, 6% south, and 1% west.

⁷ See footnote #1.

⁸ See footnote #1.

⁹ See footnote #1.

Daytime vs. Nighttime: Approximately 85% 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:** 98 daily *departures*¹⁰ – a 3% increase from 2016. (see footnote for 2015).
▪ 74% of departures were to the south, 17% north, 6% west, and 4% east.
96 daily *arrivals* – a 3% increase from 2016 and 7% increase from 2015.
▪ 73% of arrivals were from the north, 14% south, 12% east, and 1% west.
- Daytime:** 89 daily *departures*¹¹ – a 3% increase from 2016. (see footnote for 2015).
▪ 73% of departures were to the south, 17% north, 5% west, and 4% east.
90 daily *arrivals* – a 4% increase from 2016 and an 8% increase from 2015.
▪ 73% of arrivals were from the north, 14% south, 12% east, and 1% west.
- Nighttime:** 10 daily *departures*¹² – a 3% increase from 2016. (see footnote for 2015).
▪ 75% of departures were to the south, 17% north, and 8% west.
7 daily *arrivals* – a 5% decrease from 2016 and a 7% decrease from 2015.
▪ 76% of arrivals were from the north, 14% south, and 10% east.

Daytime vs. Nighttime: Approximately 90% of all *departures* and 93% of all *arrivals* occurred during the daytime hours.

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

Tropicana: 78 daily *departures* – a 7% increase from 2016 and a 4% decrease from 2015.

Charleston: 78 daily *arrivals* - a 5% increase from 2016 and a 7% decrease from 2015.

Strip: 65 daily *touch and go's* - a 26% increase from 2016 and a 71% increase from 2015.

Daytime vs. Nighttime: Approximately 98% 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.
- 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.

¹⁰ See footnote #1.

¹¹ See footnote #1.

¹² See footnote #1.

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 5% of the daily traffic.

Helos: *Touring helicopters* accounted for 20% 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 2017, 73% departed to the *west* (from LAS's primary departure runways). This figure was 1% in 2016 and 2% in 2015.

Secondary: In 2017, 4% departed to the *south* (from LAS's secondary departure runways). This figure was 8% in 2016 and 15% in 2015.

Alternate 1: In 2017, 19% departed to the *north* (from LAS's alternate departure runways). This figure was 87% in 2016 and 72% in 2015.

Alternate 2: In 2017, 4% departed to the *east* (from LAS's alternate departure runways). This figure was 3% in 2016 and 11% in 2015.

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

SVHS: In 2017, 98% 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 91% in 2016 and 88% in 2015. (See January 2017 synopsis for specific location of the SVHS gate.)

Peace: In 2017, 95% 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 50% in 2016 and 89% in 2015. (See January 2017 synopsis for specific location of the Peace gate.)

Pebble: In 2017, 99% 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 99% in 2016 and 97% in 2015. (See January 2017 synopsis for specific location of the Pebble gate.)

UNLV: In 2017, 88% 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 90% in 2016 and 91% in 2015. (See January 2017 synopsis for specific location of the UNLV gate.)

Boulder: In 2017, 99% 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 97% in 2016 and 90% in 2015. (See January 2017 synopsis for specific location of the Boulder Hwy. gate.)

Hualapai: In 2017, 80% 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 87% in 2016 and 88% in 2015. (See January 2017 synopsis for specific location of the Hualapai gate.)

Eastern: In 2017, 96% 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 98% in 2016 and 90% in 2015. (See January 2017 synopsis for specific location of the Eastern gate.)

Hollywood: In 2017, 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 97% in 2016 and 99% in 2015. (See January 2017 synopsis for specific location of the Hollywood gate.)

Stratosphere: In 2017, 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 96% in 2016 and 99% in 2015. (See January 2017 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.

March 2017: 65 total complaints - an 8% increase from 2016 and an 88% decrease from 2015. On average, each caller (or household) issued 2.2 calls. The most calls received from one household totaled 25.

Calls by Community - (Exhibits 1 and 3)

Majority (more than 50%): The *Spring Valley* community issued 34 calls (52%). (See January 2017 synopsis of typical aircraft overflight impacts on this community.)

Minority (between 10% and 50%): The *Paradise and Winchester* communities issued 22 calls (34%). (See January 2017 synopsis of typical aircraft overflight impacts on this community.)

Repeat Caller Impact: One household issued 38% (25 calls) of all the calls received in March 2017.

Calls by Operation - (Exhibit 2)

LAS: 95% of the total calls received were due to **LAS** fixed-wing operations.

- 60% were due to departures to the north from Runways 01L and 01R (33% from one household).
- 29% were due to departures to the west from Runways 25L and 25R (63% from one household, which is also the same household that issued 33% of the calls for LAS Runways 01L and 01R).

VGT: 0% of the total calls received were due to **VGT** fixed-wing operations.

HND: 3% 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** - (Exhibits 4)

- Overall:** 499 daily *departures*¹³ – a 1% increase from 2016. (see footnote for 2015).
▪ 60% of departures were to the west, 34% north, 3% south, and 3% east.
496 daily *arrivals* – a 1% increase from 2016 and 4% increase from 2015.
▪ 79% of arrivals were from the east, 16% south, 5% north, and 1% west.
- Daytime:** 411 daily *departures*¹⁴ – a 3% increase from 2016. (see footnote for 2015).
▪ 59% of departures were to the west, 34% north, 4% east, and 3% south.
426 daily *arrivals* – no change from 2016 and 3% increase from 2015.
▪ 78% of arrivals were from the east, 16% south, 5% north, and 1% west.
- Nighttime:** 88 daily *departures*¹⁵ – a 7% decrease from 2016. (see footnote for 2015).
▪ 64% of departures were to the west, 33% north, and 2% south.
70 daily *arrivals* – a 7% increase from 2016 and 5% increase from 2015.
▪ 82% of arrivals were from the east, 13% south, and 5% north.

Daytime vs. Nighttime: Approximately 82% of all *departures* and 86% of all *arrivals* occurred during the daytime hours.

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

- Overall:** 115 daily *departures*¹⁶ – a 27% increase from 2016. (see footnote for 2015).
▪ 55% of departures were to the south, 32% north, 9% west, and 4% east.
114 daily *arrivals* – a 25% increase from 2016 and a 19% increase from 2015.
▪ 59% of arrivals were from the north, 23% south, 16% east, and 2% west.
- Daytime:** 104 daily *departures*¹⁷ – a 28% increase from 2016. (see footnote for 2015).
▪ 54% of departures were to the south, 32% north, 9% west, and 4% east.
107 daily *arrivals* – a 26% increase from 2016 and a 21% increase from 2015.
▪ 59% of arrivals were from the north, 23% south, 16% east, and 2% west.
- Nighttime:** 11 daily *departures*¹⁸ – a 17% increase from 2016. (see footnote for 2015).
▪ 61% of departures were to the south, 28% north, 10% west, and 1% east.
7 daily *arrivals* – an 8% increase from 2016 and a 7% decrease from 2015.
▪ 63% of arrivals were from the north, 28% south, and 9% east.

Daytime vs. Nighttime: Approximately 91% of all *departures* and 94% of all *arrivals* occurred during the daytime hours.

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

Tropicana: 94 daily *departures* – a 7% increase from 2016 and no change from 2015.

Charleston: 92 daily *arrivals* - a 7% increase from 2016 and a 3% decrease from 2015.

¹³ See footnote #1.

¹⁴ See footnote #1.

¹⁵ See footnote #1.

¹⁶ See footnote #1.

¹⁷ See footnote #1.

¹⁸ See footnote #1.

Strip: 75 daily *touch and go's* - a 25% increase from 2016 and a 53% increase from 2015.

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 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 9% 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 5% of the daily traffic.

Helos: *Touring helicopters* accounted for 22% 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 2017, 60% departed to the *west* (from LAS's primary departure runways). This figure was 4% in 2016 and 3% in 2015.

Secondary: In 2017, 3% departed to the *south* (from LAS's secondary departure runways). This figure was 30% in 2016 and 23% in 2015.

Alternate 1: In 2017, 34% departed to the *north* (from LAS's alternate departure runways). This figure was 63% in 2016 and 61% in 2015.

Alternate 2: In 2017, 3% departed to the *east* (from LAS's alternate departure runways). This figure was 2% in 2016 and 13% in 2015.

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

SVHS: In 2017, 98% 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 95% in 2016 and 96% in 2015. (See January 2017 synopsis for specific location of the SVHS gate.)

- Peace:** In 2017, 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 9% in 2016 and 55% in 2015. (See January 2017 synopsis for specific location of the Peace gate.)
- Pebble:** In 2017, 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 99% in 2016 and 97% in 2015. (See January 2017 synopsis for specific location of the Pebble gate.)
- UNLV:** In 2017, 89% 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 91% in 2016 and 81% in 2015. (See January 2017 synopsis for specific location of the UNLV gate.)
- Boulder:** In 2017, 98% 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 98% in 2016 and 91% in 2015. (See January 2017 synopsis for specific location of the Boulder Hwy. gate.)
- Hualapai:** In 2017, 87% 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 84% in 2016 and 79% in 2015. (See January 2017 synopsis for specific location of the Hualapai gate.)
- Eastern:** In 2017, 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 98% in 2016 and 86% in 2015. (See January 2017 synopsis for specific location of the Eastern gate.)
- Hollywood:** In 2017, 96% 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 97% in 2016 and 99% in 2015. (See January 2017 synopsis for specific location of the Hollywood gate.)
- Stratosphere:** In 2017, 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 95% in 2016 and 99% in 2015. (See January 2017 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

Helicopter Operator Users Meeting: On March 16, 2017, CCDOA met with FAA, local helicopter tour operators, and Las Vegas Metropolitan Police to discuss noise complaints tied to helicopter operations, route compliance, and operational growth. Attendees reviewed the successful helicopter flights to and from the Las Vegas Motor Speedway for the annual NASCAR racing event. All helicopters maintained a high rate of route compliance resulting in zero noise complaints tied to this route for the event.

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

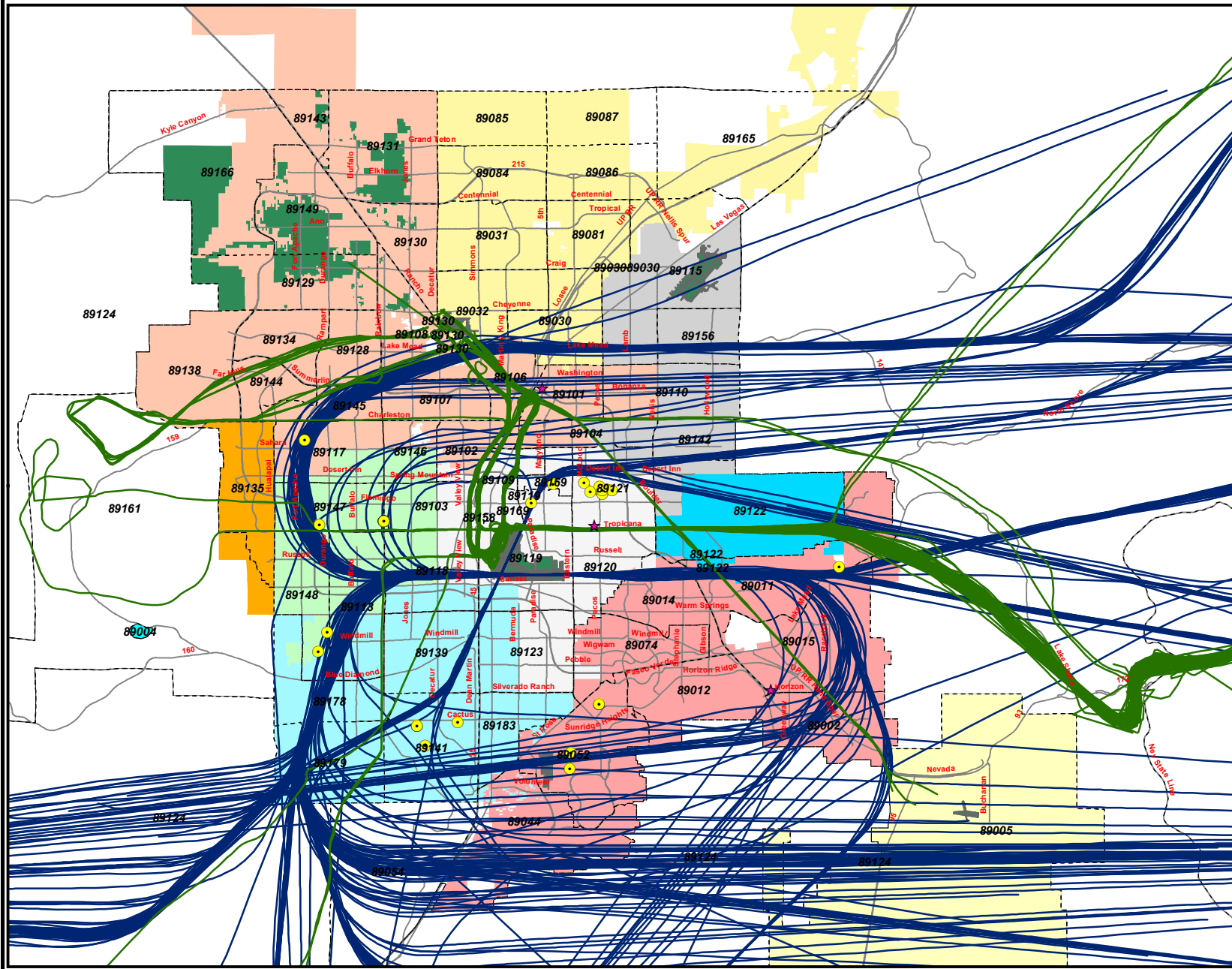
April 25, 2017

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Distribution:

Commissioner Sisolak, Chair	Sean Roebuck
Commissioner Giunchigliani, Vice-Chair	Bruce Daugherty
Commissioner Brager	Kelly Burns
Commissioner Brown	Sam Ingalls
Commissioner Kirkpatrick	Chris Jones
Commissioner Scow	Linda Healey
Commissioner Weekly	Christine Crews
Donald G. Burnette	Tina Frias
Rosemary Vassiliadis	Jeff Jacquart
Saeed Bonabian	Charlie Hall
James Chrisley	Tucker Field
Sandra Cikity	Stephanie Garcia-Vause (COH)
Judy Villalta	Andrew Powell (COH)
Dennis Anderson	William Ruggiero (FAA TRACON)
Ben Czyzewski	Thomas Miller (Nellis AFB)
Donna Bergstrom	Michael Moorer (FAA ATCT)
Curtis Hedgepeth	James Erbeck (CLV)
John Howard (FAA TRACON)	Paul Alukonis (FAA FSDO)
Jon Holman (FAA ATC)	Sydney Lowe (University Libraries)
Charlie Halterman (HND Tower)	Lisa Butterfield (Reno-Tahoe Airport)
Richard Falcon (FAA FSDO)	Andrea Christensen (Denver Airport)
Bristol Ellington (COH)	Jennifer Lewis (Scottsdale Airport)
Josh Reid (COH)	Frank Iacovino (Mass Port Authority)
Elizabeth Fretwell (CLV)	Robert Butler (Papillon Helicopters)
Mayor Carolyn Goodman (CLV)	Christine Gerencher (American Airlines)
Councilman Bob Beers (CLV)	Bert Ganoung (SFO)
Councilman Bob Coffin (CLV)	San Diego Airport Noise Management
Councilwoman L. Tarkanian (CLV)	Jeannie Denham (Citizen)
Councilman S. Anthony (CLV)	Judge Bob Johnston (Citizen)
Councilman Ricki Barlow (CLV)	Roy Fuhrmann (Metro Airports Commission)
Mayor Pro Tem Steven Ross (CLV)	Tom Schaus (Sundance Helicopters)
Bradford Jerbic, (CLV)	Brooke Satern (Port of Portland)
Brok Armantrout (CBC)	Gary Brodt (Citizen)
David Parks (Nevada State Assembly)	James P. Callahan (Nellis AFB)
J. Gordon Arkin (Foley & Lardner)	Stan Shepherd (SEATAC)
John Williams (Ricondo)	Eric Sheng (Long Beach Airport)
Douglas Pomeroy (FAA ADO)	Jason Schwartz (Portland Airport)
La Nea M. Conner (Boeing)	Todd Lobato (Nellis AFB)
Mike Jeck (Metro Wash. Air Auth.)	Steven Peacock (Dallas City Hall)
Karen Everitt (Dallas City Hall)	John Dietz (FAA TRACON)
Samuel Carter (ITT)	William Olivieri (Citizen)

Exhibit 3: Aircraft Noise Complaints by Community - Jan 2017



Legend

Jan 2017
Total Complaints: 58

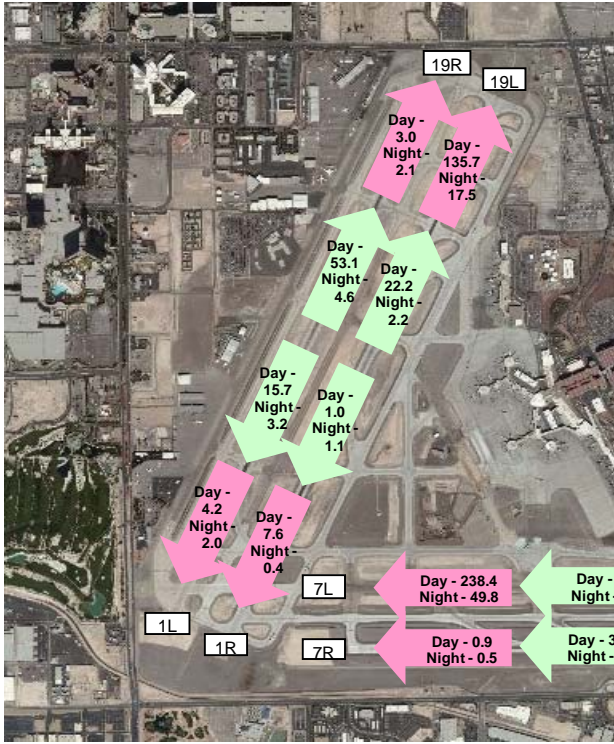
- Aircraft Complaints Received 55 Mapped 55
- ★ Helicopter Complaints Received 3 Mapped 3
- Major Streets
- Airports
- - - Zip Code Boundaries
- Typical Large Air Carrier Departure Tracks
- Typical Touring Helicopter Tracks
- Unincorporated Clark County
- Boulder City
- Whitney
- Henderson
- Las Vegas
- North Las Vegas
- Paradise/Winchester
- Summerlin
- Spring Valley
- Sunrise Manor
- Winchester
- Enterprise
- Lone Mountain

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Geographic Information Systems

April 14, 2017

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

Exhibit 4: LAS Daily Average Operations Runway for Large Air Carrier Aircraft* - January 2017

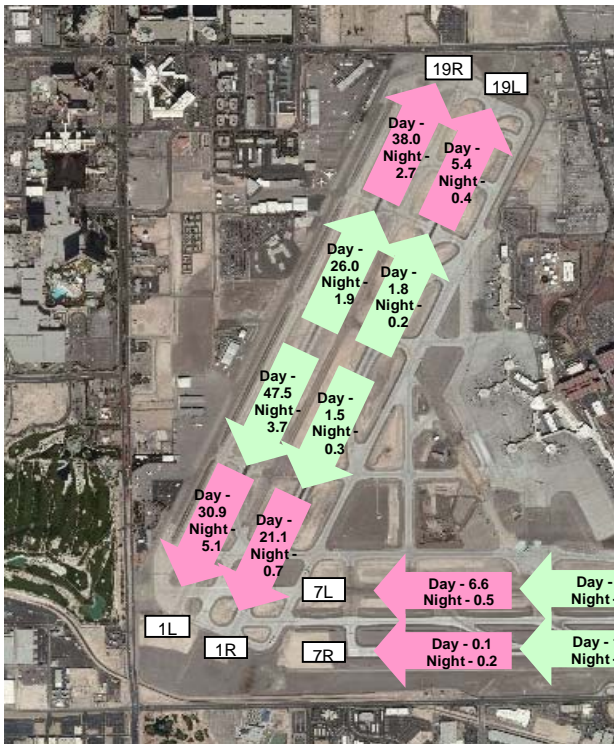


Year	2017		2016		2015	
Daytime Departures	407	84%	389	83%	N/A	N/A
Nighttime Departures	75	16%	77	17%	N/A	N/A
Total Departures	482	100%	466	100%	N/A	N/A
Daytime Arrivals	419	88%	411	89%	389	89%
Nighttime Arrivals	56	12%	52	11%	48	11%
Total Arrivals	475	100%	463	100%	437	100%

Growth	Overall	Daytime	Nighttime
Depts. 2017 vs 2016	3%	5%	-3%
Depts. 2017 vs 2015	N/A	N/A	N/A
Arrivals 2017 vs 2016	3%	2%	9%
Arrivals 2017 vs 2015	9%	8%	17%

* 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** - January 2017

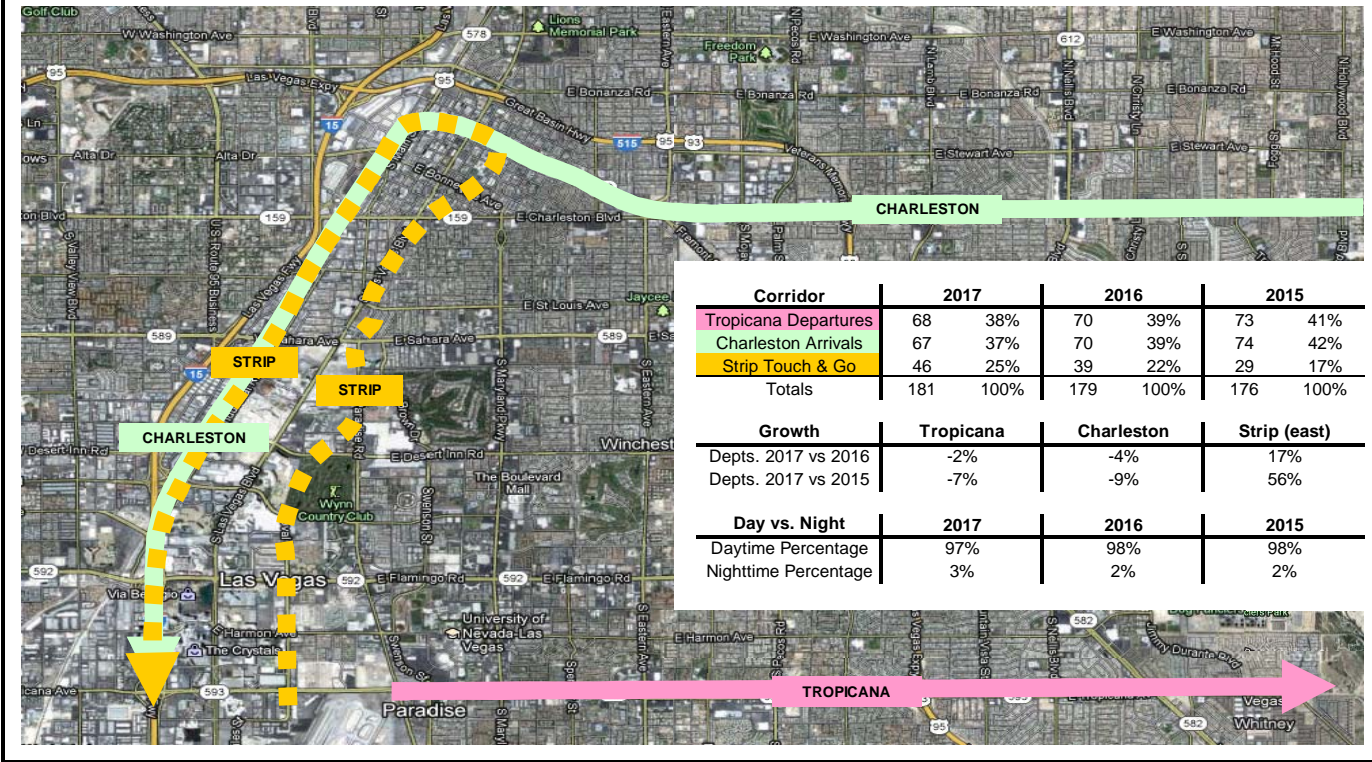


Year	2017		2016		2015	
Daytime Departures	107	91%	89	90%	N/A	N/A
Nighttime Departures	10	9%	10	10%	N/A	N/A
Total Departures	118	100%	99	100%	N/A	N/A
Daytime Arrivals	98	93%	89	94%	99	95%
Nighttime Arrivals	7	7%	6	6%	6	5%
Total Arrivals	106	100%	95	100%	105	100%

Growth	Overall	Daytime	Nighttime
Depts. 2017 vs 2016	19%	21%	5%
Depts. 2017 vs 2015	N/A	N/A	N/A
Arrivals 2017 vs 2016	11%	11%	20%
Arrivals 2017 vs 2015	1%	-1%	26%

** 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 - January 2017

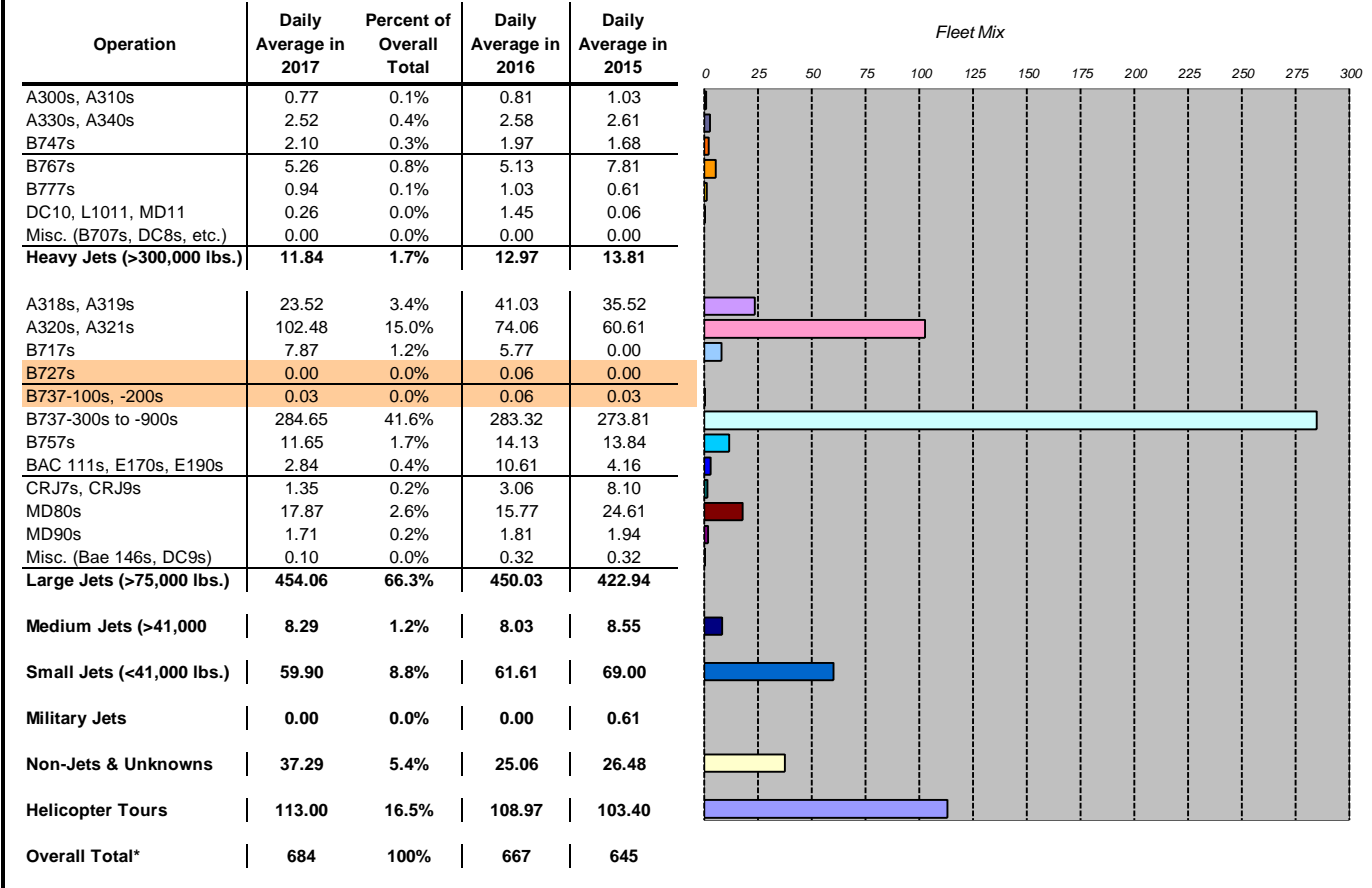


Corridor	2017		2016		2015	
Tropicana Departures	68	38%	70	39%	73	41%
Charleston Arrivals	67	37%	70	39%	74	42%
Strip Touch & Go	46	25%	39	22%	29	17%
Totals	181	100%	179	100%	176	100%

Growth	Tropicana	Charleston	Strip (east)
Depts. 2017 vs 2016	-2%	-4%	17%
Depts. 2017 vs 2015	-7%	-9%	56%

Day vs. Night	2017	2016	2015
Daytime Percentage	97%	98%	98%
Nighttime Percentage	3%	2%	2%

Exhibit 7: LAS Aircraft Arrival Fleet Mix* - January 2017



* 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* - January 2017 to 2015

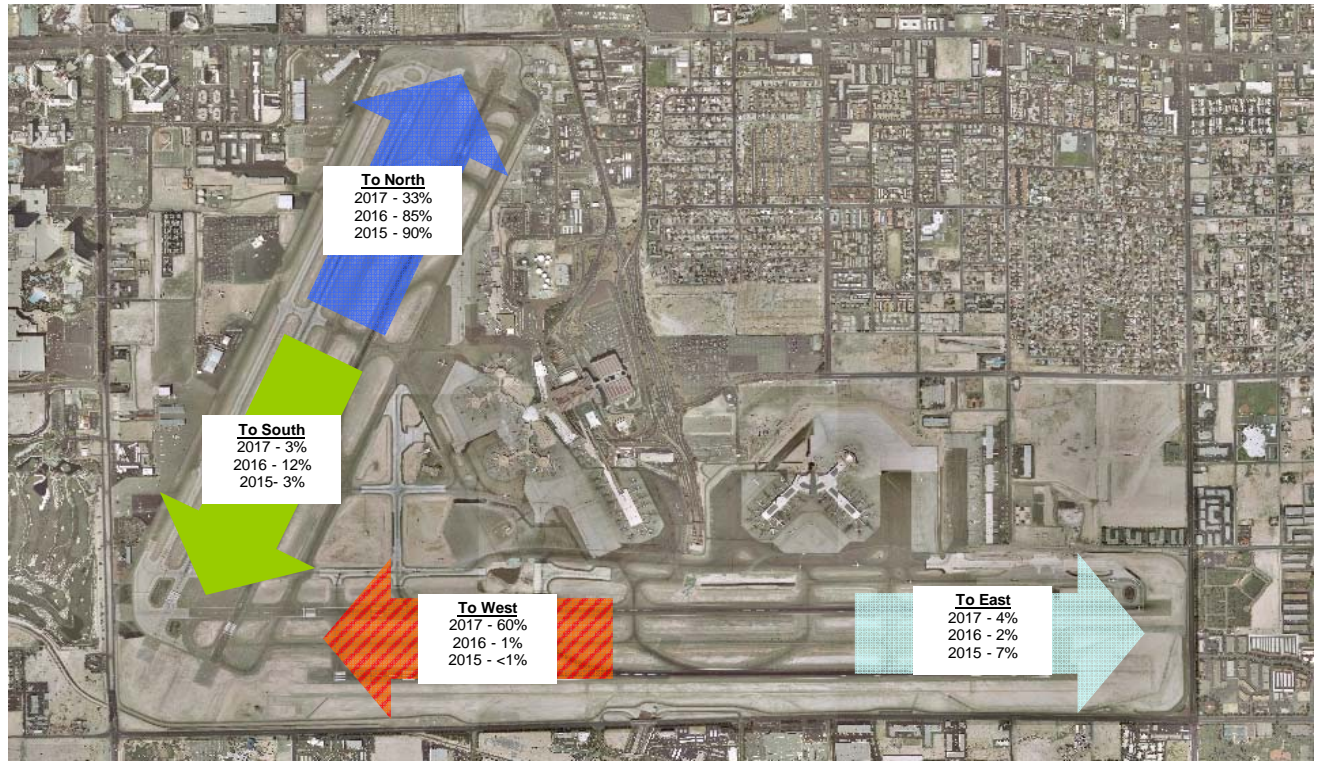
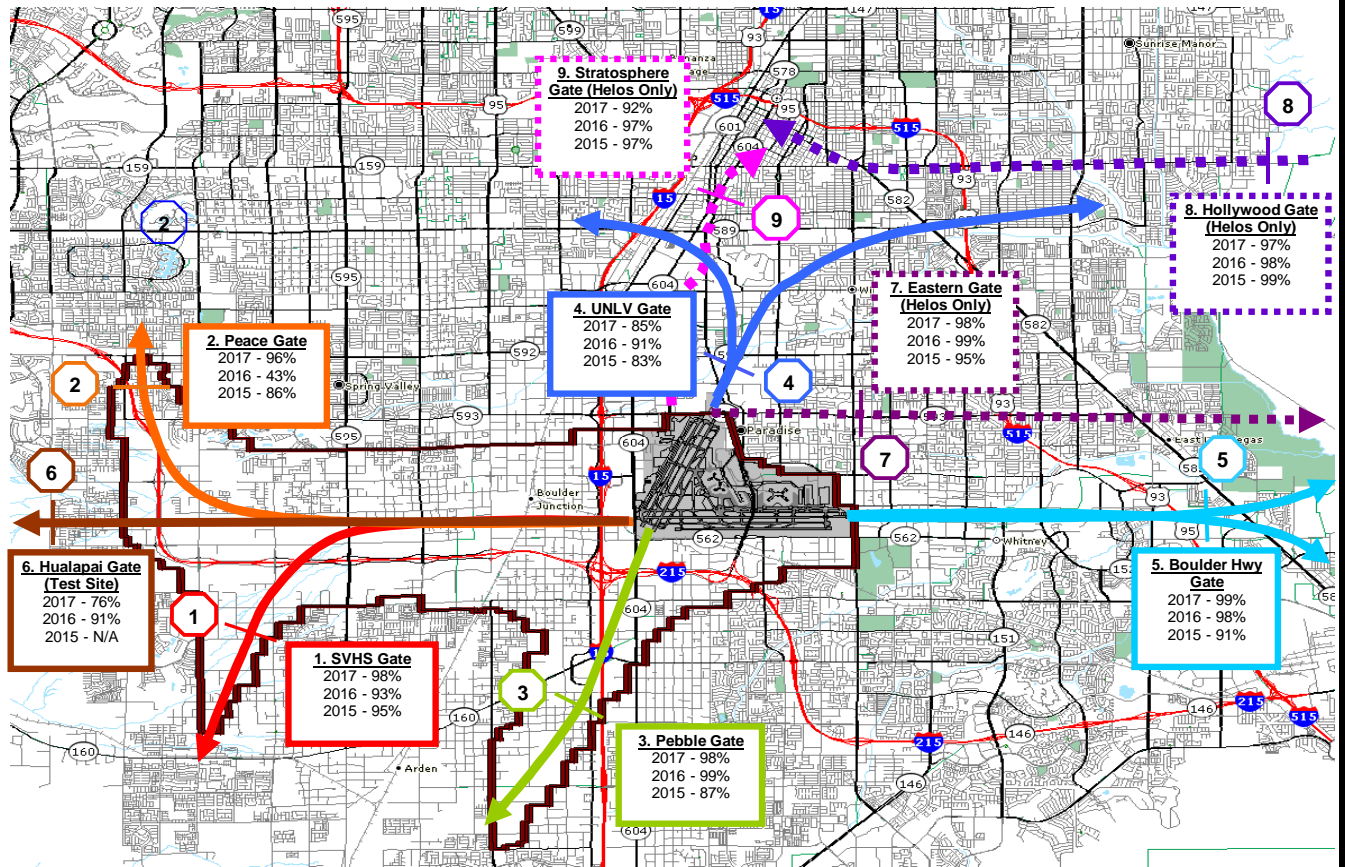


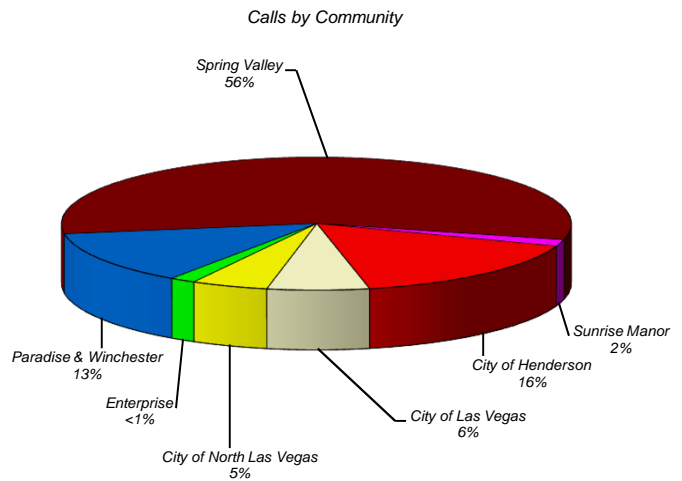
Exhibit 9: "Gate" Compliance for Large Aircraft* & LAS Helicopter Tours - January 2017



* 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* - February 2017

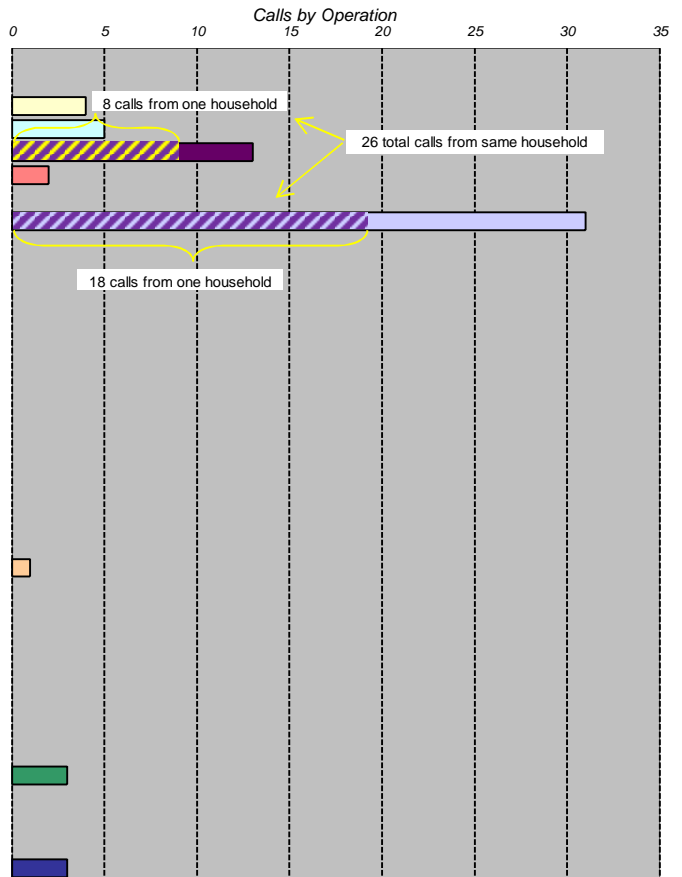
Community	No. of Calls in 2017	No. of Callers in 2017	No. of Calls in 2016	No. of Calls in 2015
City of Boulder City	10	9	4	1
City of Henderson	4	3	5	3
City of Las Vegas	3	2		4
City of North Las Vegas	1	1	1	12
Enterprise	8	4	69	376
Lone Mountain	35	3	2	
Paradise & Winchester				1
Spring Valley	1	1		4
Summerlin South				
Sunrise Manor				
Whitney				
Location unknown				
Overall Total	62	23	81	401
Difference between 2017 and 2016 Total Calls:				-23%
Difference between 2017 and 2015 Total Calls:				-85%
Average Number of Calls per Caller:				2.7
Most calls received from one household:				26



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

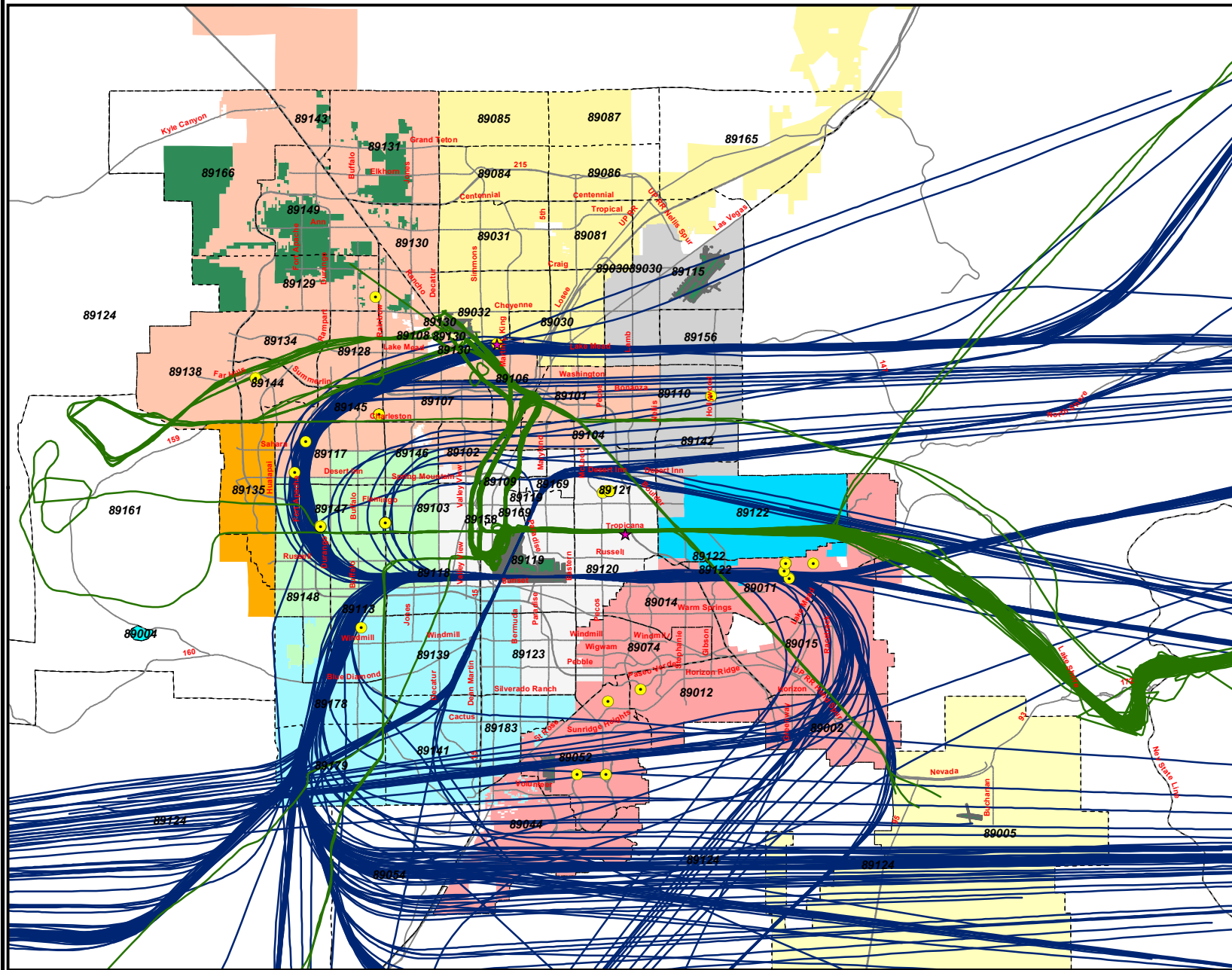
Exhibit 2: Noise Complaint Calls by Type of Operation - February 2017

Operation	No. of Calls in 2017	Percent of Overall Total	No. of Calls in 2016	No. of Calls in 2015
LAS 01R/L Arrivals				1
LAS 07R/L Arrivals				
LAS 19R/L Arrivals	4	6.5%		
LAS 25R/L Arrivals	5	8.1%	1	
LAS 01R/L Departures	13	21.0%	58	301
LAS 07R/L Departures	2	3.2%		2
LAS 19R/L Departures			3	83
LAS 25R/L Departures	31	50.0%		8
LAS Run-ups				
LAS GA				
LAS Other				
LAS Total	55	88.7%	62	395
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	1.6%		
VGT Other				
VGT Total	1	1.6%	0	0
HND 17R/L Arrivals				
HND 35R/L Arrivals				
HND 17R/L Departures				
HND 35R/L Departures				
HND Run-ups				
HND GA	3	4.8%		1
HND Other				
HND Total	3	4.8%	0	1
Helicopters**	3	4.8%	19	5
Overall Total	62	100%	81	401



** 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 - Feb 2017



Legend

Feb 2017
Total Complaints: 62

- Aircraft Complaints Received 59 Mapped 59
- ★ Helicopter Complaints Received 3 Mapped 3
- Major Streets
- Airports
- - - Zip Code Boundaries
- Typical Large Air Carrier Departure Tracks
- Typical Touring Helicopter Tracks
- Unincorporated Clark County
- Boulder City
- Whitney
- Henderson
- Las Vegas
- North Las Vegas
- Paradise/Winchester
- Summerlin
- Spring Valley
- Sunrise Manor
- Winchester
- Enterprise
- Lone Mountain

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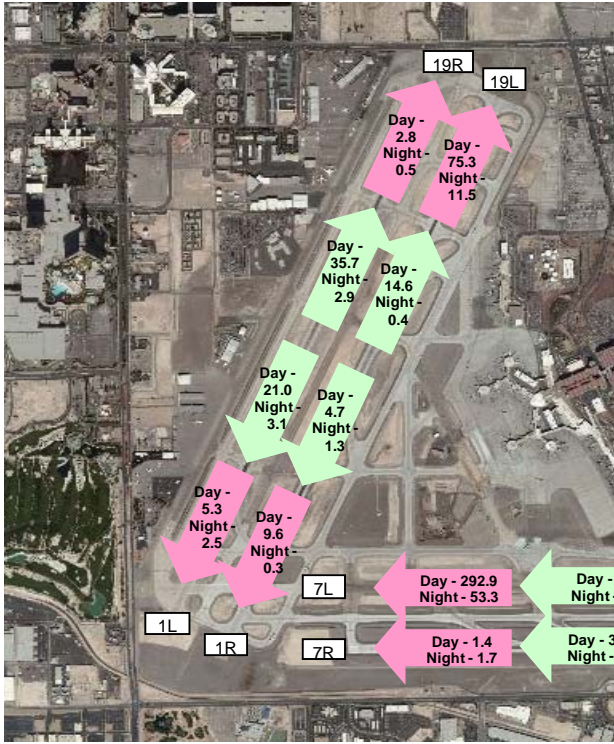


April 14, 2017

Note:
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No liability is assumed
as to the accuracy of
the data delineated hereon.



Exhibit 4: LAS Daily Average Operations by Runway for Large Air Carrier Aircraft* - February 2017

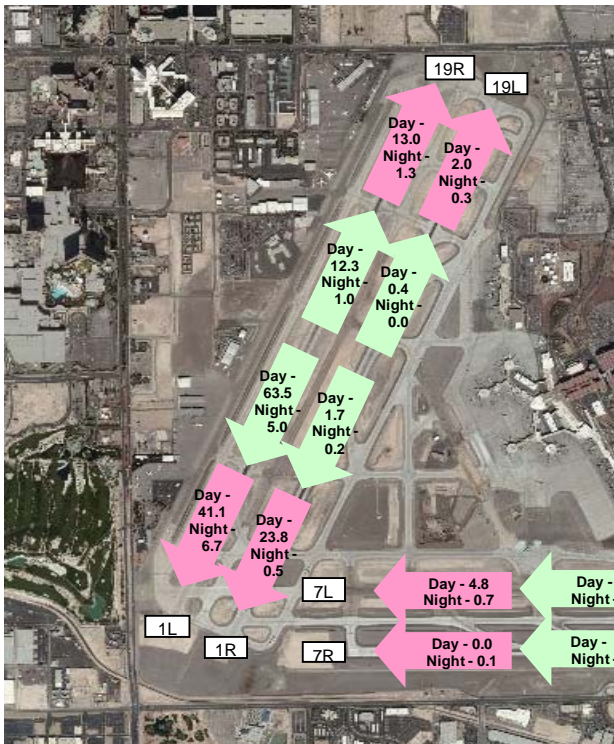


Year	2017		2016		2015	
Daytime Departures	408	85%	397	84%	N/A	N/A
Nighttime Departures	70	15%	76	16%	N/A	N/A
Total Departures	478	100%	473	100%	N/A	N/A
Daytime Arrivals	422	89%	421	90%	400	88%
Nighttime Arrivals	51	11%	49	10%	53	12%
Total Arrivals	473	100%	470	100%	452	100%

Growth	Overall	Daytime	Nighttime
Depts. 2017 vs 2016	1%	3%	-8%
Depts. 2017 vs 2015	N/A	N/A	N/A
Arrivals 2017 vs 2016	1%	0%	4%
Arrivals 2017 vs 2015	5%	6%	-3%

* 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** - February 2017

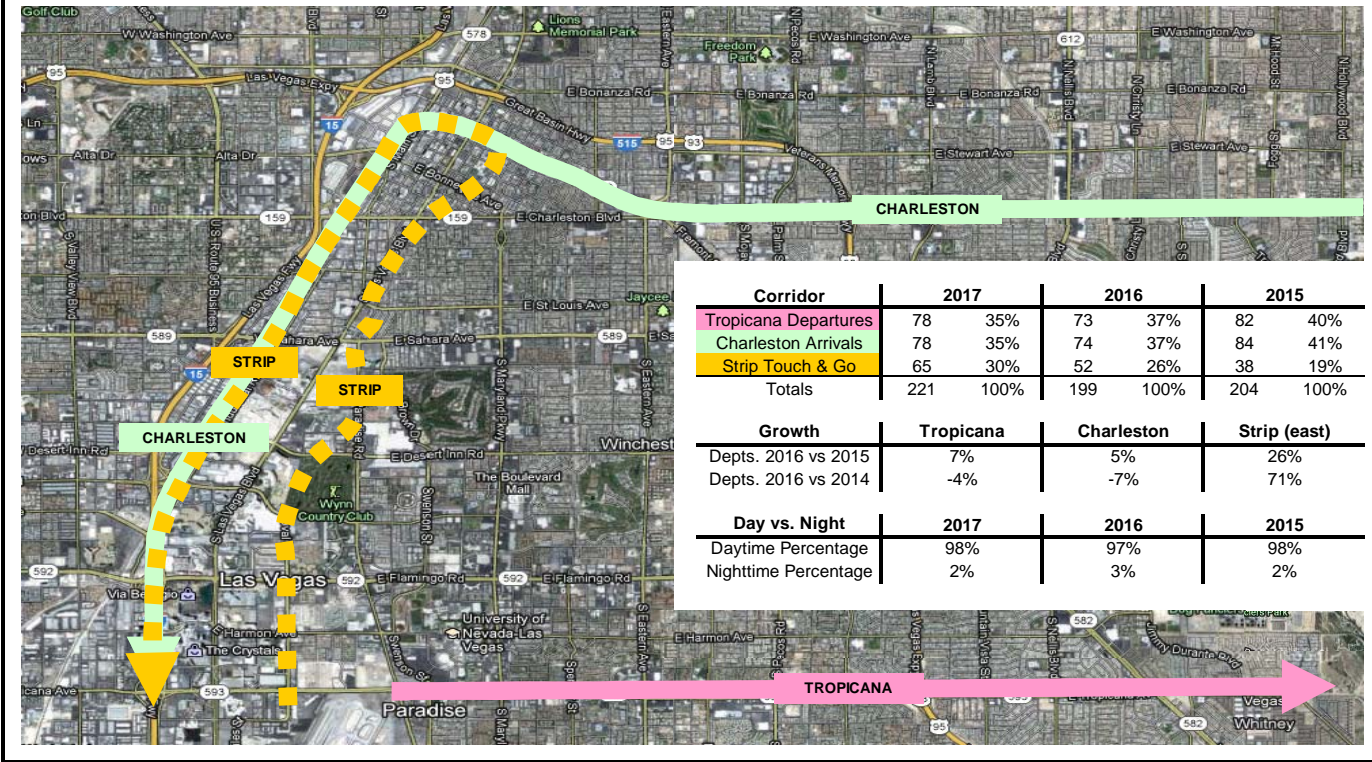


Year	2017		2016		2015	
Daytime Departures	89	90%	86	90%	N/A	N/A
Nighttime Departures	10	10%	9	10%	N/A	N/A
Total Departures	98	100%	95	100%	N/A	N/A
Daytime Arrivals	90	93%	86	92%	83	92%
Nighttime Arrivals	7	7%	7	8%	7	8%
Total Arrivals	96	100%	93	100%	90	100%

Growth	Overall	Daytime	Nighttime
Depts. 2017 vs 2016	3%	3%	3%
Depts. 2017 vs 2015	N/A	N/A	N/A
Arrivals 2017 vs 2016	3%	4%	-5%
Arrivals 2017 vs 2015	7%	8%	-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 - February 2017

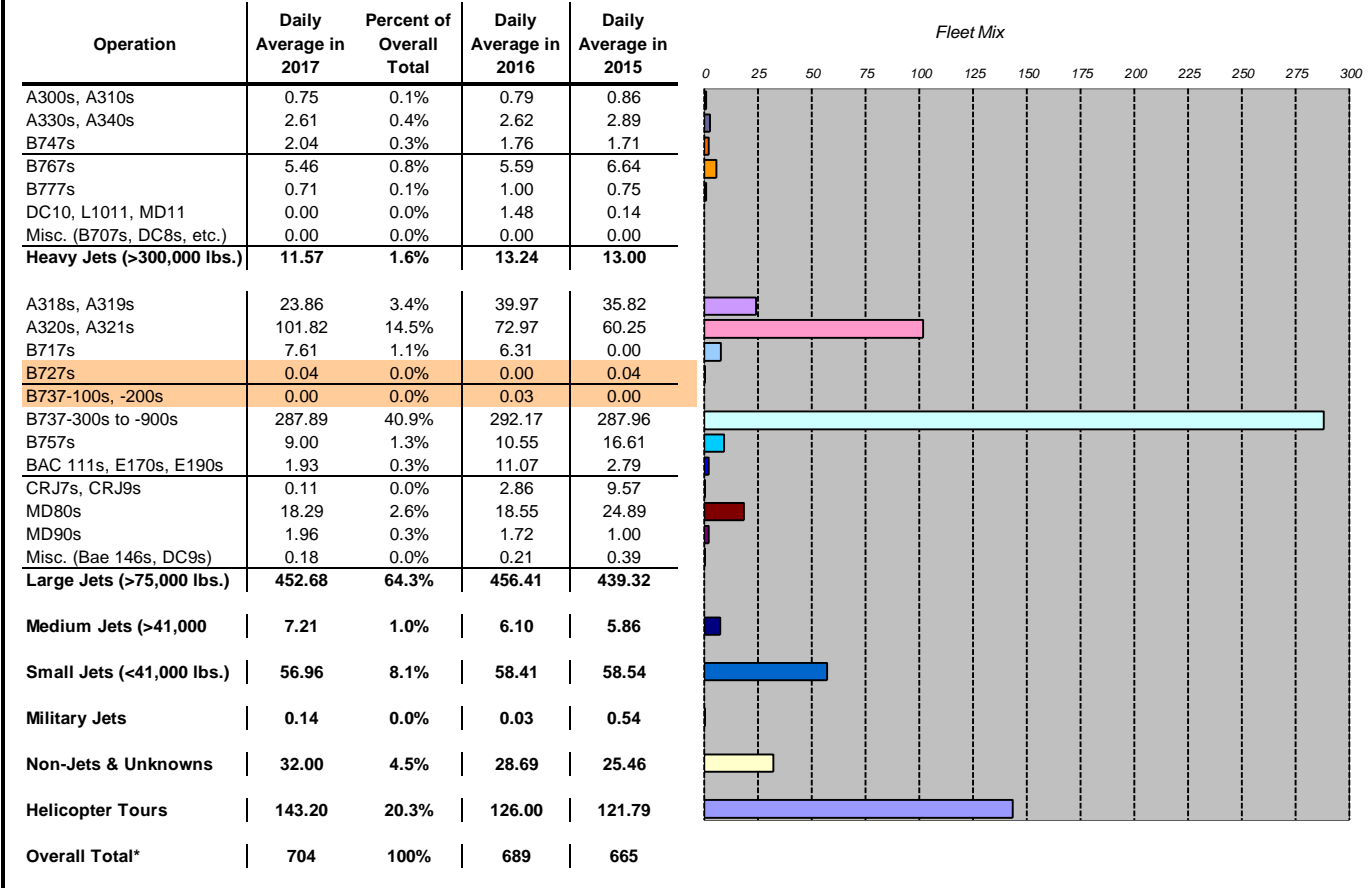


Corridor	2017		2016		2015	
Tropicana Departures	78	35%	73	37%	82	40%
Charleston Arrivals	78	35%	74	37%	84	41%
Strip Touch & Go	65	30%	52	26%	38	19%
Totals	221	100%	199	100%	204	100%

Growth	Tropicana	Charleston	Strip (east)
Depts. 2016 vs 2015	7%	5%	26%
Depts. 2016 vs 2014	-4%	-7%	71%

Day vs. Night	2017	2016	2015
Daytime Percentage	98%	97%	98%
Nighttime Percentage	2%	3%	2%

Exhibit 7: LAS Aircraft Arrival Fleet Mix* - February 2017



* 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* - February 2017 to 2015

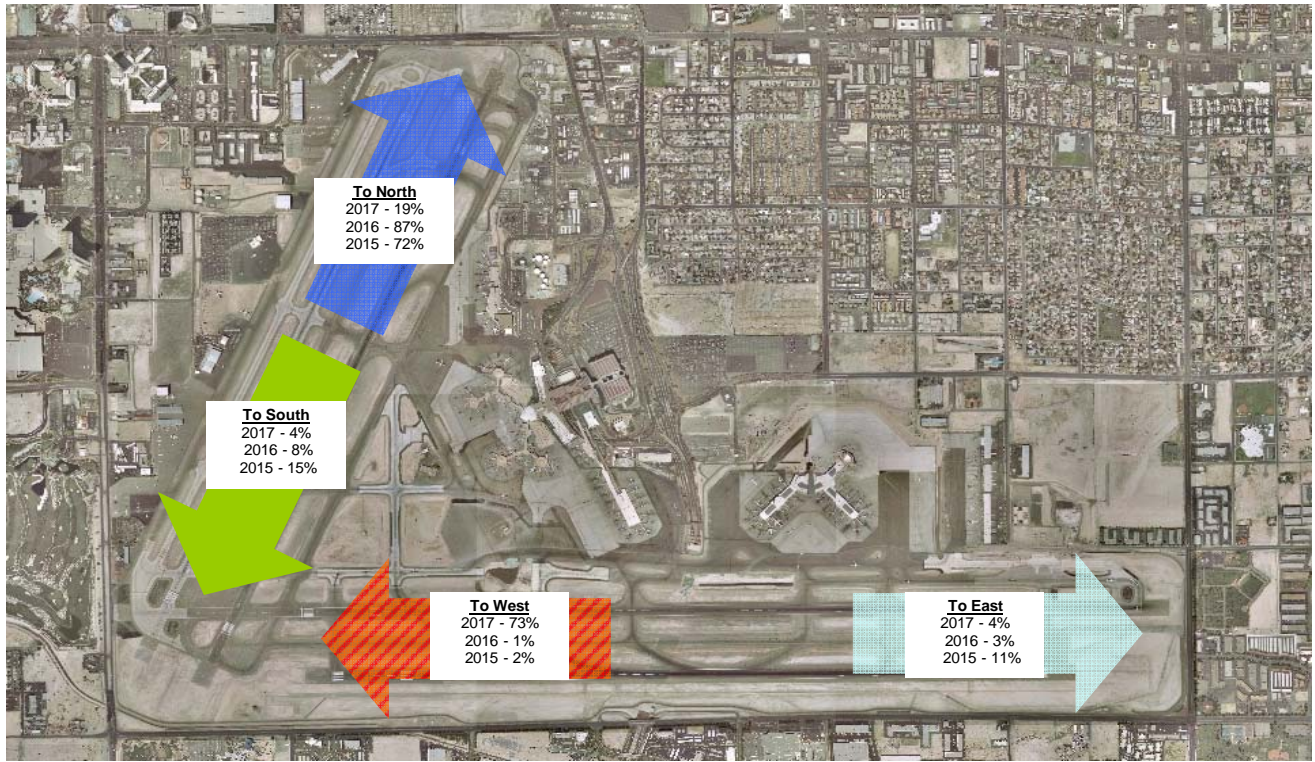
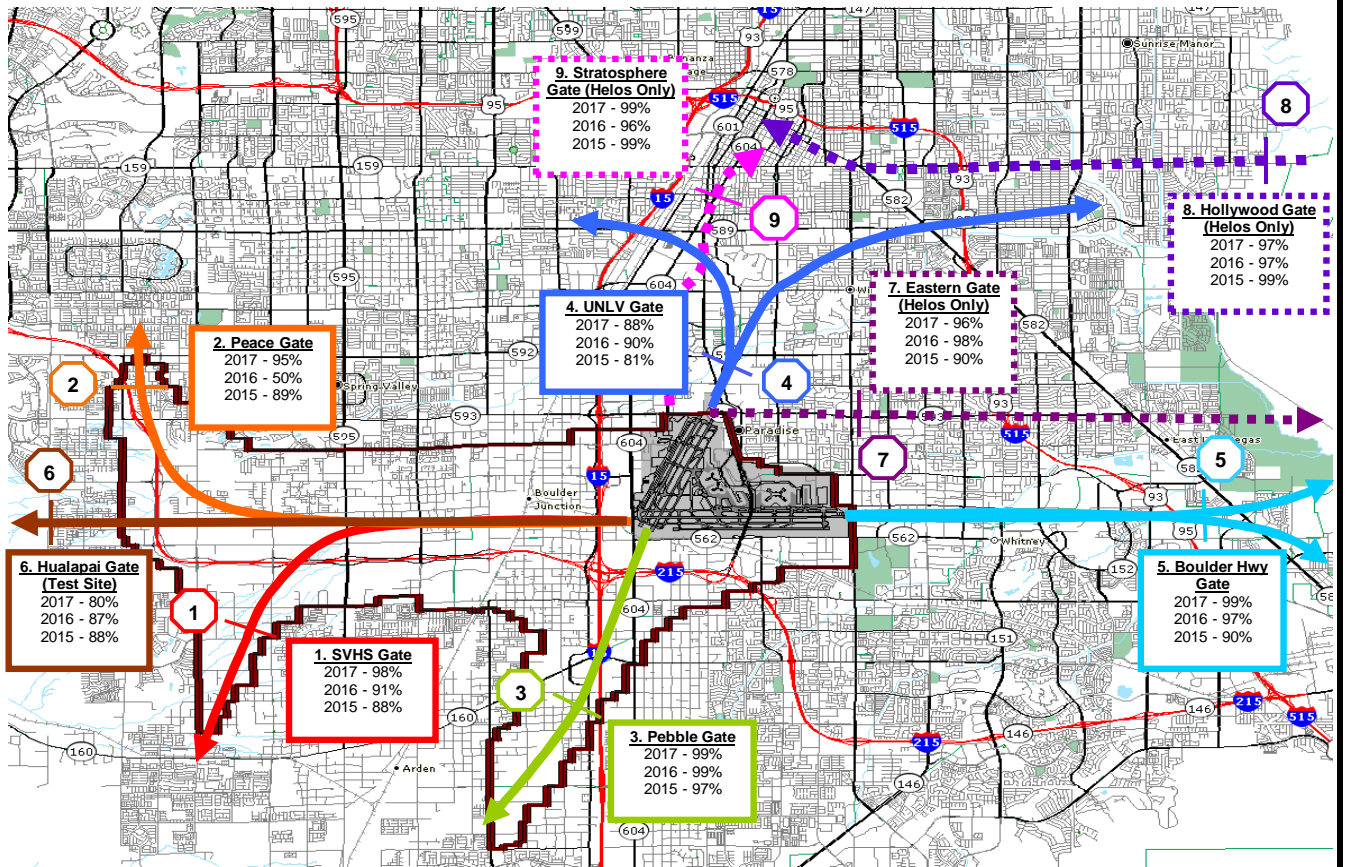


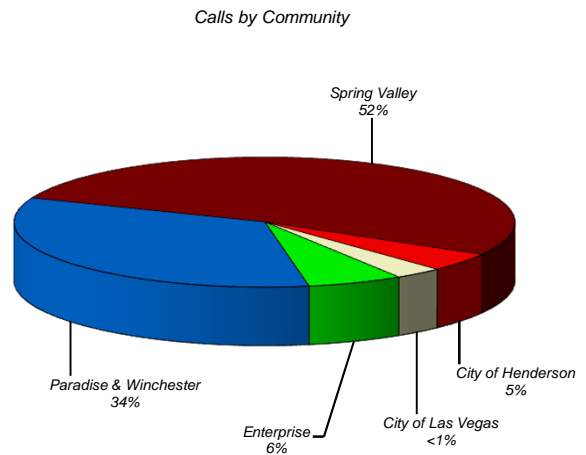
Exhibit 9: "Gate" Compliance for Large Aircraft* & LAS Helicopter Tours - February 2017



* 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* - March 2017

Community	No. of Calls in 2017	No. of Callers in 2017	No. of Calls in 2016	No. of Calls in 2015
City of Boulder City	3	3	3	2
City of Henderson	2	2	3	13
City of Las Vegas	2	2	3	3
City of North Las Vegas				
Enterprise	4	4	13	21
Lone Mountain			1	
Paradise & Winchester	22	15	37	482
Spring Valley	34	6		
Summerlin South				
Sunrise Manor			3	3
Whitney				
Location unknown				
Overall Total	65	30	60	524



Difference between 2017 and 2016 Total Calls: 8%

Difference between 2017 and 2015 Total Calls: -88%

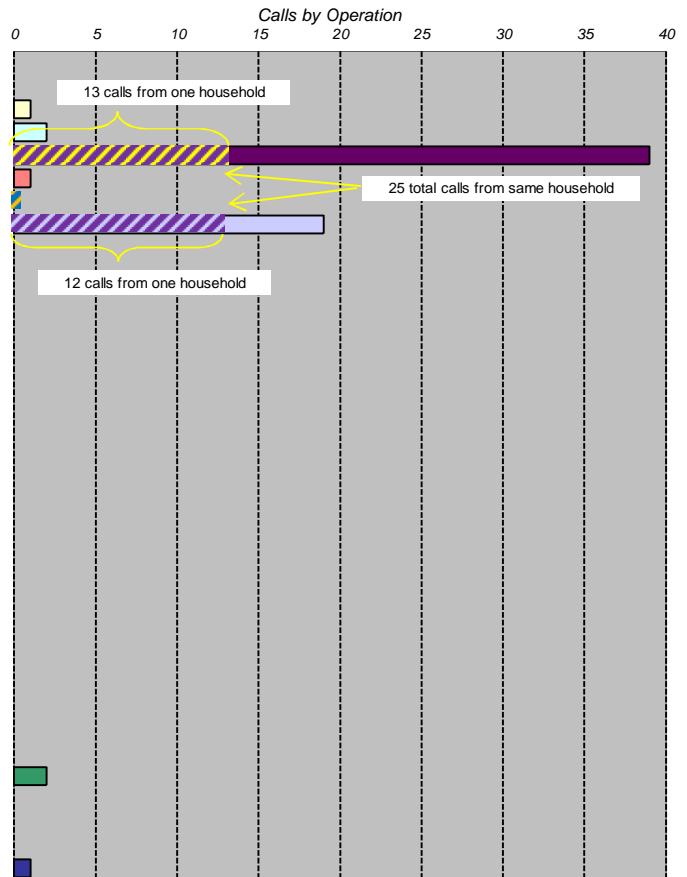
Average Number of Calls per Caller: 2.2

Most calls received from one household: 25

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

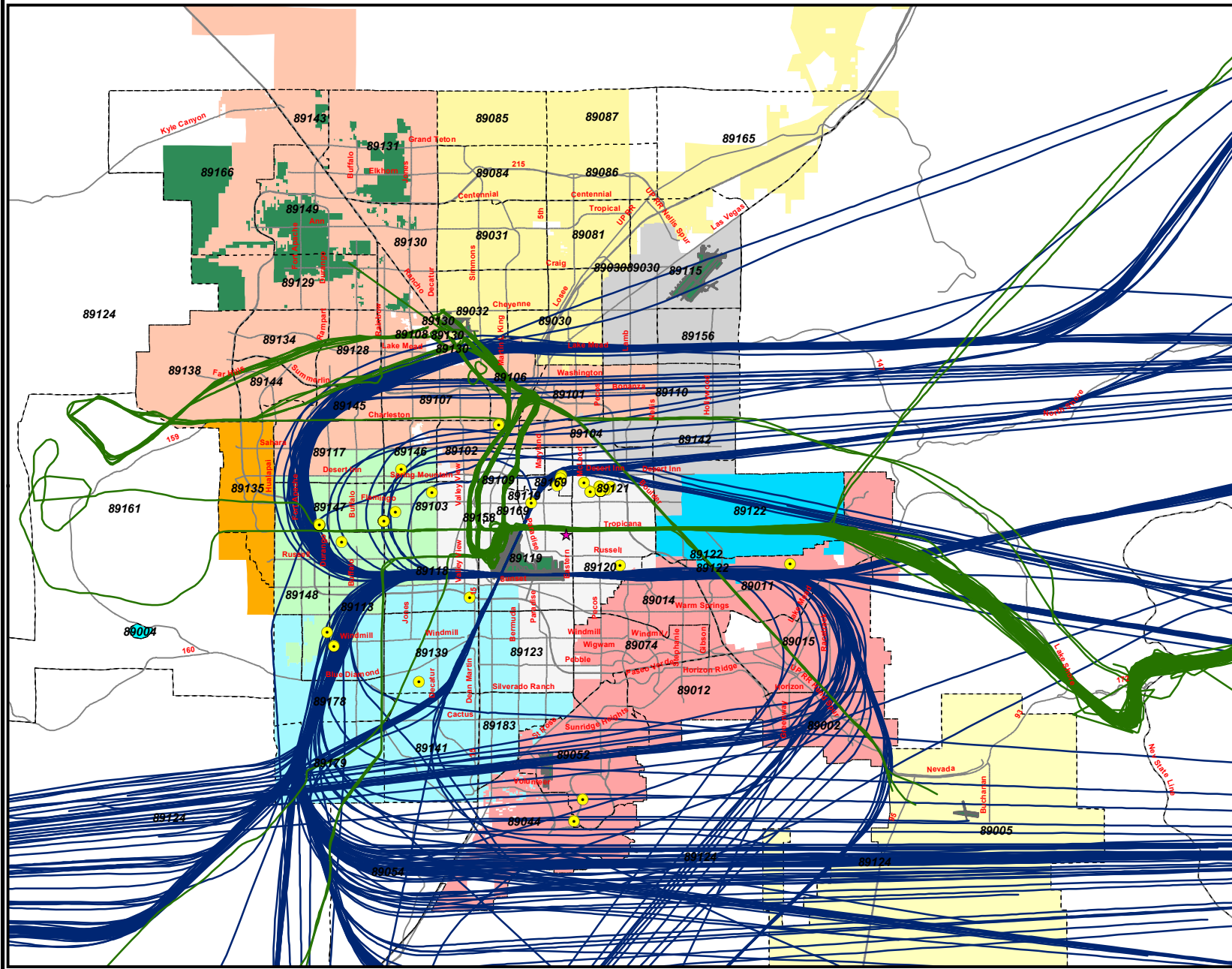
Exhibit 2: Noise Complaint Calls by Type of Operation - March 2017

Operation	No. of Calls in 2017	Percent of Overall Total	No. of Calls in 2016	No. of Calls in 2015
LAS 01R/L Arrivals				2
LAS 07R/L Arrivals				
LAS 19R/L Arrivals	1	1.5%		
LAS 25R/L Arrivals	2	3.1%		1
LAS 01R/L Departures	39	60.0%	25	478
LAS 07R/L Departures	1	1.5%	2	3
LAS 19R/L Departures			15	27
LAS 25R/L Departures	19	29.2%		
LAS Run-ups			1	1
LAS GA				
LAS Other				
LAS Total	62	95.4%	43	512
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				
VGT Total	0	0.0%	0	0
HND 17R/L Arrivals				
HND 35R/L Arrivals				
HND 17R/L Departures				
HND 35R/L Departures				
HND Run-ups				
HND GA	2	3.1%	1	9
HND Other				
HND Total	2	3.1%	1	9
Helicopters**	1	1.5%	16	3
Overall Total	65	100%	60	524



** 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 - Mar 2017



Legend

Mar 2017
Total Complaints: 65

- Aircraft Complaints Received 64 Mapped 64
- ★ Helicopter Complaints Received 1 Mapped 1
- Major Streets
- Airports
- - - Zip Code Boundaries
- Typical Large Air Carrier Departure Tracks
- Typical Touring Helicopter Tracks
- 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
Geographic Information Systems

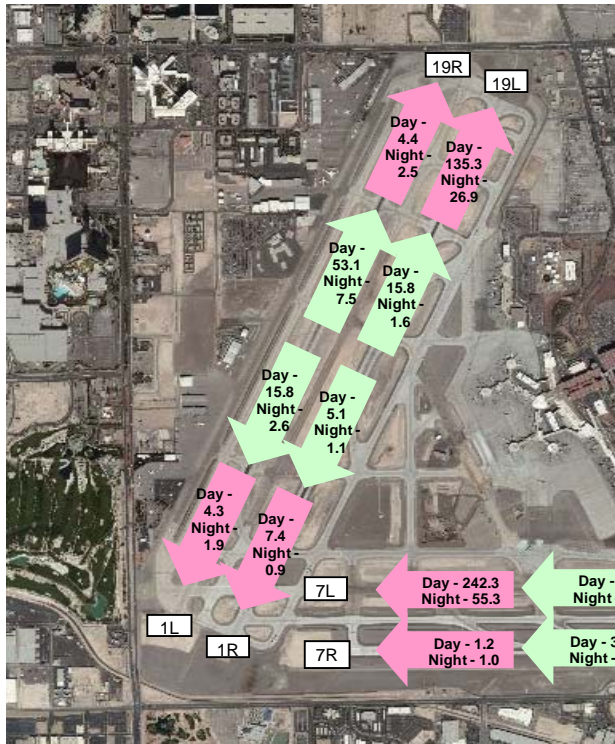


April 14, 2017

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



Exhibit 4: LAS Daily Average Operations by Runway for Large Air Carrier Aircraft* - March 2017

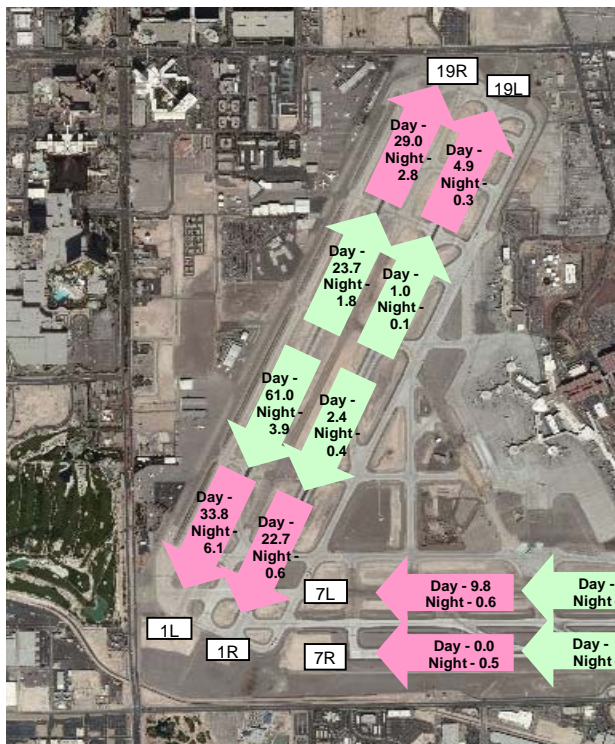


Year	2017		2016		2015	
Daytime Departures	411	82%	399	81%	N/A	N/A
Nighttime Departures	88	18%	94	19%	N/A	N/A
Total Departures	499	100%	493	100%	N/A	N/A
Daytime Arrivals	426	86%	426	87%	412	86%
Nighttime Arrivals	70	14%	65	13%	67	14%
Total Arrivals	496	100%	491	100%	479	100%

Growth	Overall	Daytime	Nighttime
Depts. 2017 vs 2016	1%	3%	-7%
Depts. 2017 vs 2015	N/A	N/A	N/A
Arrivals 2017 vs 2016	1%	0%	7%
Arrivals 2017 vs 2015	4%	3%	5%

* 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** - March 2017

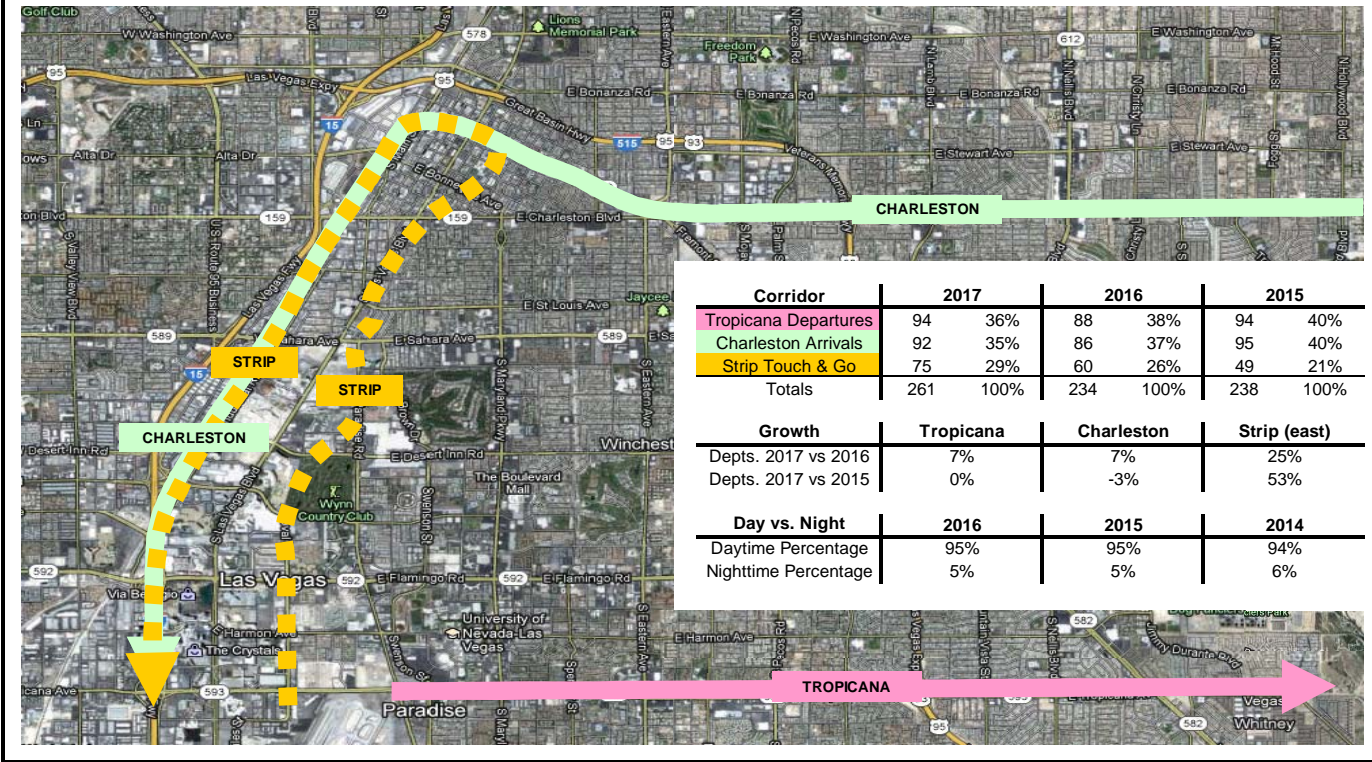


Year	2017		2016		2015	
Daytime Departures	104	91%	82	90%	N/A	N/A
Nighttime Departures	11	9%	9	10%	N/A	N/A
Total Departures	115	100%	91	100%	N/A	N/A
Daytime Arrivals	107	94%	85	93%	89	92%
Nighttime Arrivals	7	6%	6	7%	7	8%
Total Arrivals	114	100%	91	100%	96	100%

Growth	Overall	Daytime	Nighttime
Depts. 2017 vs 2016	27%	28%	17%
Depts. 2017 vs 2015	N/A	N/A	N/A
Arrivals 2017 vs 2016	25%	26%	8%
Arrivals 2017 vs 2015	19%	21%	-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 - March 2017

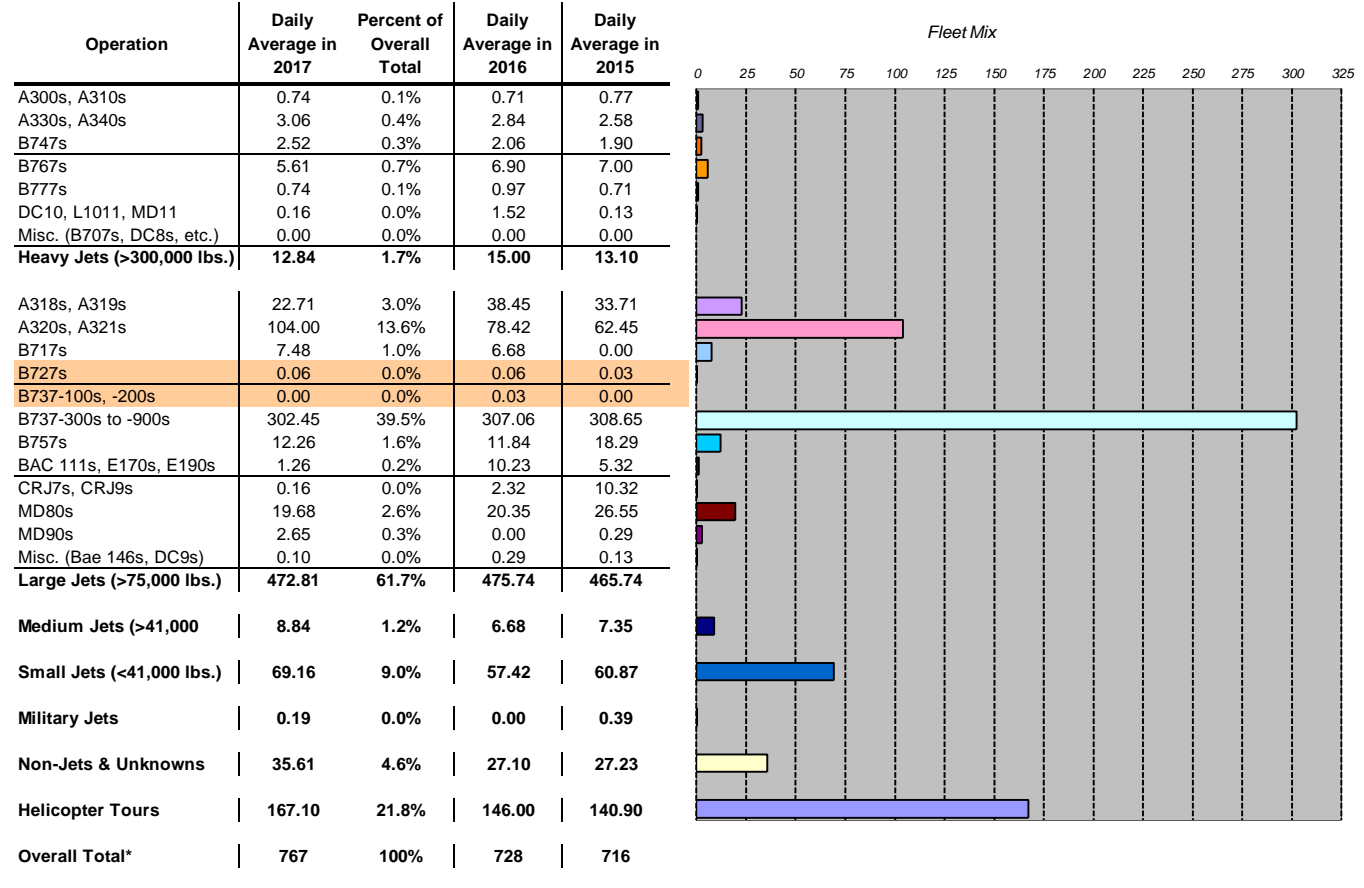


Corridor	2017	2016	2015
Tropicana Departures	94 36%	88 38%	94 40%
Charleston Arrivals	92 35%	86 37%	95 40%
Strip Touch & Go	75 29%	60 26%	49 21%
Totals	261 100%	234 100%	238 100%

Growth	Tropicana	Charleston	Strip (east)
Depts. 2017 vs 2016	7%	7%	25%
Depts. 2017 vs 2015	0%	-3%	53%

Day vs. Night	2016	2015	2014
Daytime Percentage	95%	95%	94%
Nighttime Percentage	5%	5%	6%

Exhibit 7: LAS Aircraft Arrival Fleet Mix* - March 2017



* 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* - March 2017 to 2015

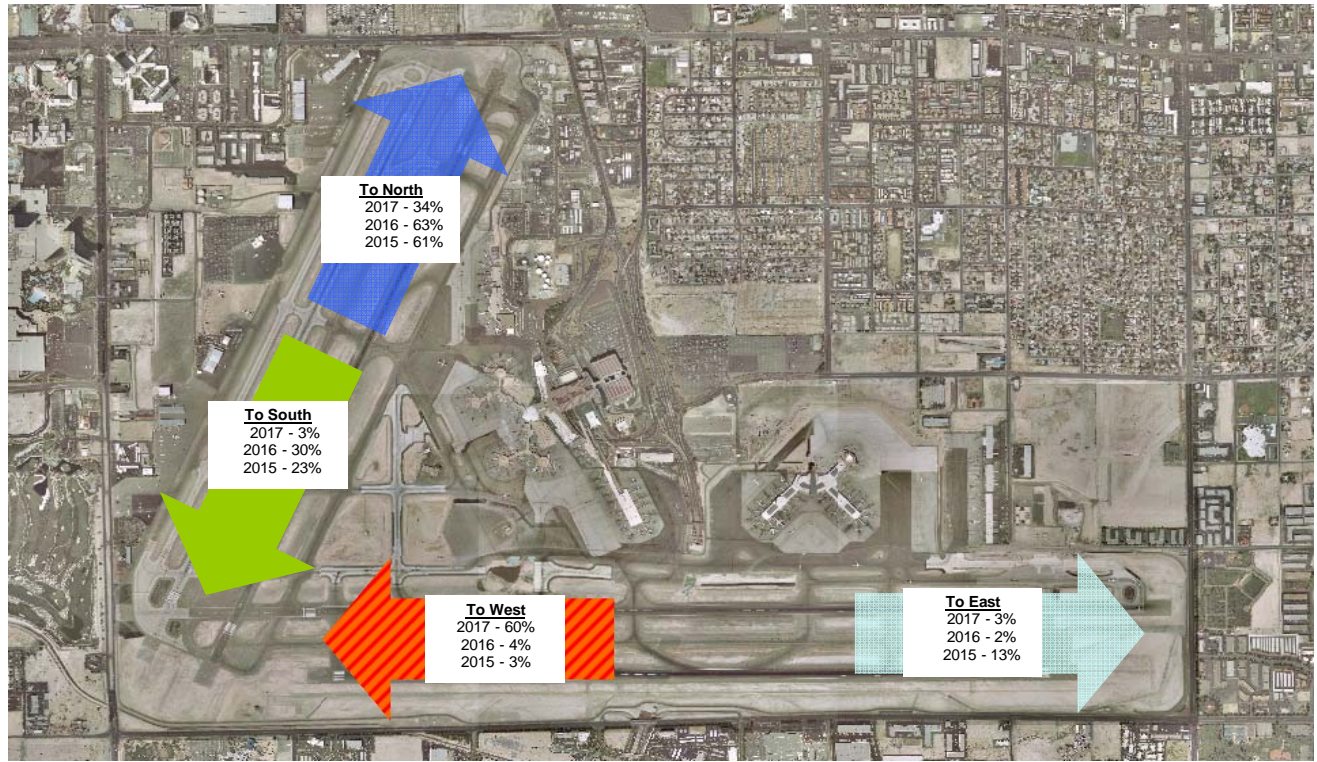
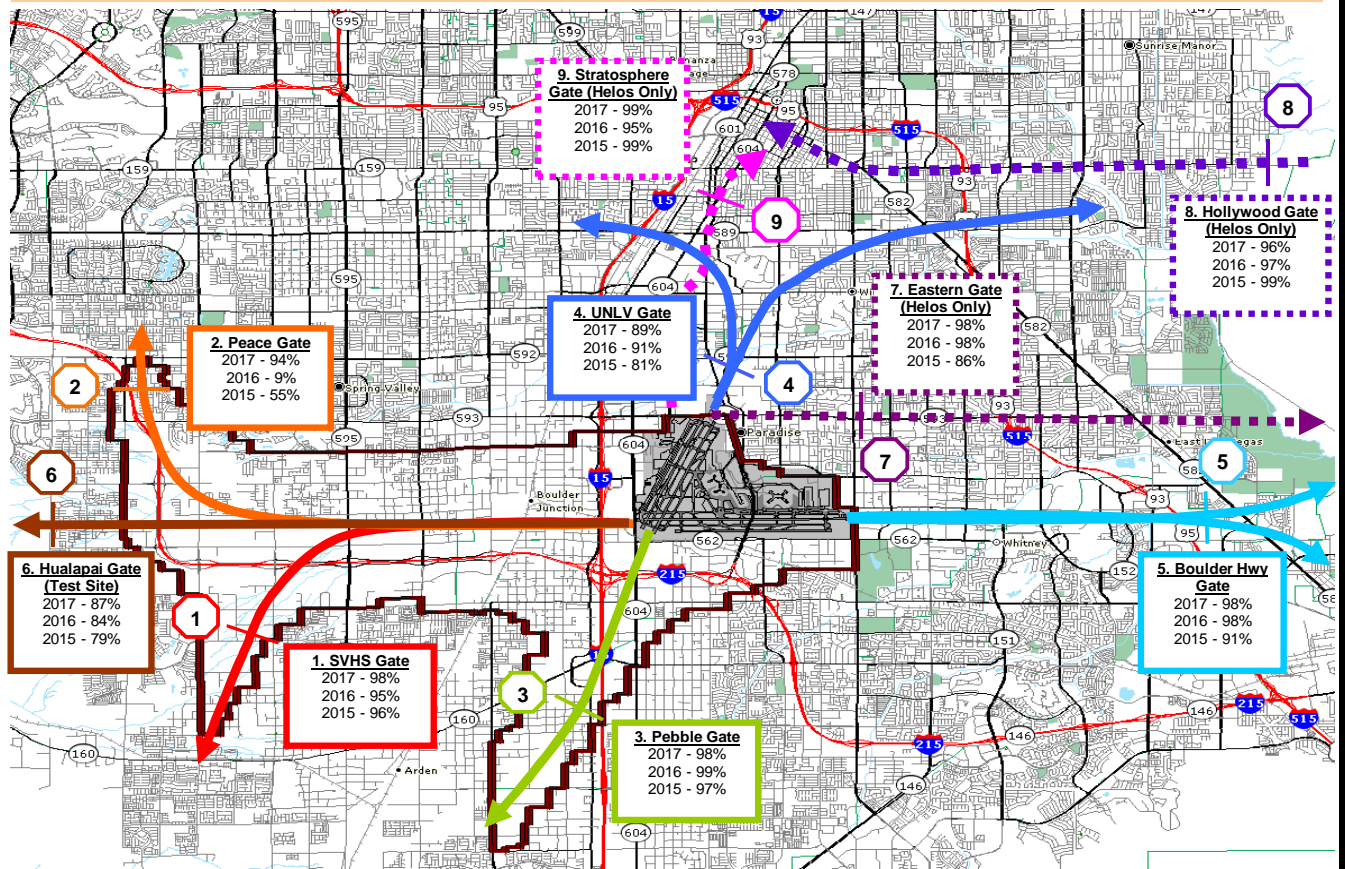


Exhibit 9: "Gate" Compliance for Large Aircraft* & LAS Helicopter Tours - March 2017



* 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.