MEMORANDUM

ROSEMARY A. VASSILIADIS
Director

DEPARTMENT OF AVIATION

TO: DISTRIBUTION

Digitally signed by George C. Sims

FROM: GEORGE C. SIMS, PLANNER

SUBJECT: OCTOBER, NOVEMBER, DECEMBER AND ANNUAL 2017 NOISE COMPLAINT REPORTS

DATE: FEBRUARY 6, 2018

Attached for your review are the Clark County Department of Aviation's (CCDOA) Monthly Noise Complaint Reports for October, November, and December 2017. Also included is the 2017 Annual Noise Complaint Report, covering the period of January through December 2017. Please note the following Clark County 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 2017 and 2016 data to 2015 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 departure corridors, or impose penalties to pilots who opt not to comply with preferred procedures. "Compliance gates" are located along these historical/fly-quietly departure routes. If all aircraft flew with advanced navigational technologies and operated under Required Navigational Precision (RNP) procedures, then it could be expected that up to 95% of all aircraft would be within 0.3 nautical miles (NM) of a fly-over point. Therefore, 0.3 NM is the threshold for compliance for large air carrier aircraft. The compliance threshold for helicopters is 500 feet.

The Annual Noise Complaint Report includes additional information that is not provided in each monthly report. These additional illustrations (Exhibits 10 through 14) are helpful in assessing seasonal trends, comparisons of noise issues between various CCDOA facilities, noise complaint patterns between communities, long-term runway use trends, and long-term compliance determinations with the preferred departure corridors. **Exhibit 10** of the annual report illustrates the number of calls and callers by month, between 2014 and 2016. **Exhibit 11** illustrates the general time when the complaint was received by the CCDOA. Monthly calls by airport or helicopter operation are depicted on **Exhibit 12**. **Exhibit 13** depicts monthly calls by community. The final annual report, **Exhibit 14**, summarizes monthly calls by specific LAS operation.

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

October 2018: 85 total complaints - a 52% increase 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 20.

Calls by Community - (Exhibits 1 and 3)

Majority (more than 50%): The ***Paradise and Winchester*** communities issued 43 calls (51%). These communities are typically impacted by aircraft departing to the north (from Runway 01R and Runway 01L) and aircraft arriving from the north (into Runways 19R and 19L).

Minority (between 10% and 50%): The ***Spring Valley*** community issued 24 calls (28%). This community is typically impacted by aircraft departing to the west (from Runway 25R and Runway 25L). This community is also impacted by aircraft departing to the north (from Runway 01R and Runway 01L) that turn left (to the west and south).

Repeat Caller Impact: Two households issued 46% (39 calls) of all the calls received in October 2017.

Calls by Operation - (Exhibit 2)

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

- 72% were due to departures to the north from Runways 01L and 01R (52% from two households).
- 15% were due to departures to the west from Runways 26L and 26R (54% from one household, which is also one of the same households that issued 52% of the calls for LAS Runways 01L and 01R).

VGT: 2% of the total calls were due to ***VGT*** fixed-wing operations (100% from one household).

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

Helis: 2% of the total calls were due to ***helicopter*** operations.

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

Overall: 514 daily *departures*[1] – a 1% increase from 2016. (See footnote).
- 64% of departures were to the west, 26% north, 8% east, and 2% south.

525 daily *arrivals* – a 3% increase from 2016 and 8% increase from 2015.
- 76% of arrivals were from the east, 18% south, and 6% north.

Daytime: 426 daily *departures*[2] – a 2% decrease from 2016. (See footnote).
- 62% of departures were to the west, 26% north, 10% east, and 2% south.

456 daily *arrivals* – a 1% increase from 2016 and a 5% increase from 2015.
- 75% of arrivals were from the east, 20% south, and 5% north.

Nighttime: 89 daily *departures*[3] – a 14% increase from 2016. (See footnote).
- 71% of departures were to the west, 25% north, 3% south and 1% east.

69 daily *arrivals* – a 27% increase from 2016 and a 30% increase from 2015.
- 84% of arrivals were from the east, 10% south, and 6% north.

Daytime vs. Nighttime: Approximately 83% 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: 111 daily *departures*[4] – a 12% increase from 2016. (See footnote).
- 55% of departures were to the south, 27% north, 11% west, and 7% east.

102 daily *arrivals* – a 5% increase from 2016 and a 9% increase from 2015.
- 59% of arrivals were from the north, 29% south, 12% east, and 1% west.

Daytime: 101 daily *departures*[5] – a 14% increase from 2016. (See footnote).
- 54% of departures were to the south, 28% north, 11% west, and 7% east.

95 daily *arrivals* – a 6% increase from 2016 and an 11% increase from 2015.
- 58% of arrivals were from the north, 29% south, 12% east, and 1% west.

Nighttime: 10 daily *departures*[6] – a 9% decrease from 2016. (See footnote).
- 62% of departures were to the south, 25% north, and 13% west.

7 daily *arrivals* – a 6% decrease from 2016 and a 6% decrease from 2015.
- 65% of arrivals were from the north, 26% south, 8% east, and 1% west.

Daytime vs. Nighttime: Approximately 92% of all *departures* and 93% of all *arrivals* occurred during the daytime hours.

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[1] Note: Runway use and traffic count 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.

[3] See footnote #1.

[4] See footnote #1.

[5] See footnote #1.

[6] See footnote #1.

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

Tropicana: 99 daily *departures* - a 19% decrease from 2016 and a 29% decrease from 2015.

Charleston: 95 daily *arrivals* – a 22% decrease from 2016 and a 30% decrease from 2015.

Strip: 69 daily *touch and go's* - a 9% decrease from 2016 and a 14% 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 4% 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 1% 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 21% 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, 64% departed to the ***west*** (from LAS's primary departure runways). This figure was 81% in 2016 and 58% in 2015.

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

Alternate 1: In 2017, 26% departed to the ***north*** (from LAS's alternate departure runways). This figure was 13% in 2016 and 34% in 2015.

Alternate 2: In 2017, 8% departed to the ***east*** (from LAS's alternate departure runways). This figure was 3% in 2016 and 5% in 2015.

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

SVHS: In 2017, 97% 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 2016 and 96% 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, 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 93% in 2016 and 95% 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, 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 2016 and 100% 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 Springs Estates community) and aircraft turning late along this corridor (like the Southern Highlands community).

UNLV: In 2017, 94% 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 92% 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 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 99% 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, 70% of the large air carrier aircraft destined to the Nevada National Security Site that departed to the west from Runways 25L or 25R were within 0.3 NM of the extended runway centerline, near ***Hualapai Way***. This figure was 90% in 2016 and 92% 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, 99% 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 98% in 2015.

The Eastern Ave. "compliance gate" is located at Tropicana Ave. and Eastern Ave, approximately 2 miles due west of 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 97% in 2016 and 96% 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, 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 2016 and 99% 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, (with the exception of increased departures to the north), fleet mix, and gate compliance. The northbound departure increase was a result of a direction change of winds from the north, necessitating increased use of the north/south runways for departures.

November 2017: 24 total complaints - a 56% decrease from 2016 and a 95% decrease from 2015. On average, each caller (or household) issued 1.4 calls. The most calls received from one household totaled 7.

Calls by Community - (Exhibits 1 and 3)

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

Minority (between 10% and 50%): The ***Spring Valley*** community issued 10 calls (42%). (See October 2017 synopsis of typical aircraft overflight impacts on this community.)

The ***Paradise and Winchester*** communities issued 5 calls (21%). (See October 2017 synopsis of typical aircraft overflight impacts on this community.)

The ***Enterprise*** community issued 5 calls (21%). This community is typically impacted by aircraft departing to the south (from Runway 19L and Runway 19R).

Repeat Caller Impact: One household issued 29% (7 calls) of all the calls received in November 2017.

Calls by Operation - (Exhibit 2)

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

- 42% were due to departures to the west from Runways 26L and 26R. (40% from one household).
- 29% were due to departures to the north from Runways 01L and 01R. (43% from one household, which is the same household that issued 40% of the calls for LAS Runways 26L and 26R).

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

HND: 8% of the total calls received were due to ***HND*** fixed-wing operations.

Helis: 4% of the total calls received were due to ***helicopter*** operations.

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

Overall: 483 daily *departures*[7] – a 1% decrease from 2016. (See footnote).
- 86% of departures were to the west, 10% north, 4% south, and 1% east.

485 daily *arrivals* – no change from 2016 and 3% increase from 2015.
- 88% of arrivals were from the east, 6% north, and 5% south.

Daytime: 394 daily *departures*[8] – a 4% decrease from 2016. (See footnote).
- 86% of departures were to the west, 10% north, 4% south, and 1% east.

413 daily *arrivals* – a 4% decrease from 2016 and a 1% decrease from 2015.
- 89% of arrivals were from the east, 6% north, and 5% south.

Nighttime: 90 daily *departures*[9] – an 18% increase from 2016. (See footnote).
- 84% of departures were to the west, 12% north, 4% south, and 1% east.

71 daily *arrivals* – a 32% increase from 2016 and a 29% increase from 2015.
- 86% of arrivals were from the east, 7% south, and 7% north.

Daytime vs. Nighttime: Approximately 82% 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: 99 daily *departures*[10] – a 5% increase from 2016. (See footnote).
- 79% of departures were to the south, 10% west, 9% north, and 1% east.

91 daily *arrivals* – no change from 2016 and 9% decrease from 2015.
- 81% of arrivals were from the north, 10% east, 8% south, and 1% west.

Daytime: 90 daily *departures*[11] – a 5% increase from 2016. (See footnote).
- 80% of departures were to the south, 10% west, 9% north, and 1% east.

85 daily *arrivals* – a 1% decrease from 2016 and a 10% decrease from 2015.
- 82% of arrivals were from the north, 10% east, 7% south, and 1% west.

Nighttime: 9 daily *departures*[12] – a 1% increase from 2016. (See footnote).
- 71% of departures were to the south, 15% north, 13% west, and 1% east.

6 daily *arrivals* – a 24% decrease from 2016 and a 3% increase from 2015.
- 80% of arrivals were from the north, 14% south, 5% east, and 1% west.

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

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7 See footnote #1.
8 See footnote #1.
9 See footnote #1.
10 See footnote #1.
11 See footnote #1.
12 See footnote #1.

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

Tropicana: 78 daily *departures* - a 14% decrease from 2016 and 27% decrease from 2015.

Charleston: 78 daily *arrivals* – a 15% decrease from 2016 and 31% decrease from 2015.

Strip: 67 daily *touch and go's* – no change from 2016 and a 28% 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 3% 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 7% of the daily traffic.

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

Non-Jet: ***Piston-driven*** aircraft and unassigned aircraft types accounted for 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 zero operations per day.

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

Primary: In 2017, 86% departed to the ***west*** (from LAS's primary departure runways). This figure was 75% in 2016 and 3% in 2015.

Secondary: In 2017, 4% departed to the ***south*** (from LAS's secondary departure runways). This figure was 3% in 2016 and 18% in 2015.

Alternate 1: In 2017, 10% departed to the ***north*** (from LAS's alternate departure runways). This figure was 17% in 2016 and 76% in 2015.

Alternate 2: In 2017, 1% departed to the ***east*** (from LAS's alternate departure runways). This figure was 5% in 2016 and 3% in 2015.

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

SVHS: In 2017, 97% of the large air carrier aircraft (excluding those destined to the Nevada Test 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 2016 and 92% in 2015. (See October 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 Test 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 2016 and 41% in 2015. (See October 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 Test 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 99% in 2015. (See October 2017 synopsis for specific location of the Pebble gate.)

UNLV: In 2017, 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 85% in 2016 and 92% in 2015. (See October 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 99% in 2016 and 99% in 2015. (See October 2017 synopsis for specific location of the Boulder Hwy. gate.)

Hualapai: In 2017, 77% of the large air carrier aircraft destined to the Nevada Test Site that departed to the west from Runways 25L or 25R were within 0.3 NM of the extended runway centerline, near ***Hualapai Way***. This figure was 86% in 2016 and 82% in 2015. (See October 2017 synopsis for specific location of the Hualapai gate.)

Eastern: In 2017, 99% 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 97% in 2016 and 98% in 2015. (See October 2017 synopsis for specific location of the Eastern gate.)

Hollywood: In 2017, 94% 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 94% in 2016 and 95% in 2015. (See October 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 99% in 2016 and 99% in 2015. (See October 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.

December 2017: 27 total complaints – a 33% decrease from 2016 and an 86% decrease from 2015. On average, each caller (or household) issued 1.9 calls. The most calls received from one household totaled 6.

Calls by Community - (Exhibits 1 and 3)

Majority (more than 50%): The ***Paradise and Winchester*** communities issued 15 calls (56%). (See October 2017 synopsis of typical aircraft overflight impacts on this community.)

Minority (between 10% and 50%): The ***Spring Valley*** community issued 6 calls (22%). (See October 2017 synopsis of typical aircraft overflight impacts on this community.)

The ***City of Henderson*** community issued 3 calls (11%). 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.

The ***Enterprise*** community issued 5 calls (21%). This community is typically impacted by aircraft departing to the south (from Runway 19L and Runway 19R). (See November 2017 synopsis of typical aircraft overflight impacts on this community.)

Repeat Caller Impact: Two households issued 33% (9 calls) of all the calls received in December 2017.

Calls by Operation - (Exhibit 2)

LAS: 93% of the total calls received were due to ***LAS*** fixed-wing operations.
- 67% were due to departures to the north from Runways 01L and 01R (50% from two households).
- 15% were due to departures to the west from Runways 26L and 26R (50% from one household which is also one of the same households that issued 50% of the calls for LAS Runways 01L and 01R).

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

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

Helis: 0% of the total calls received were due to ***helicopter*** operations.

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

Overall: 472 daily *departures*[13] – no change from 2016. (See footnote).
- 72% of departures were to the west, 24% north, 2% south, and 1% east.

473 daily *arrivals* – a 2% increase from 2016 and 2% increase from 2015.
- 85% of arrivals were from the east, 11% south, and 5% north.

Daytime: 387 daily *departures*[14] – a 1% decrease from 2016. (See footnote).
- 73% of departures were to the west, 24% north, 2% east, and 2% south.

405 daily *arrivals* – a 1% increase from 2016 and a 1% decrease from 2015.
- 85% of arrivals were from the east, 11% south, and 5% north.

[13] See footnote #1.
[14] See footnote #1.

Nighttime: 85 daily *departures*[15] – a 9% increase from 2016. (See footnote).
- 70% of departures were to the west, 28% north, and 2% south.

69 daily *arrivals* – a 10% increase from 2016 and a 30% increase from 2015.
- 84% of arrivals were from the east, 12% south, and 4% 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: 89 daily *departures*[16] – a 5% increase from 2016. (See footnote).
- 64% of departures were to the south, 24% north, 11% west, and 2% east.

85 daily *arrivals* – a 1% decrease from 2016 and 2% decrease from 2015.
- 68% of arrivals were from the north, 18% south, 13% east, and 1% west.

Daytime: 82 daily *departures*[17] – a 6% increase from 2016. (See footnote).
- 65% of departures were to the south, 23% north, 11% west, and 2% east.

79 daily *arrivals* – a 2% decrease from 2016 and a 3% decrease from 2015.
- 69% of arrivals were from the north, 18% south, and 13% east.

Nighttime: 8 daily *departures*[18] – a 3% decrease from 2016. (See footnote).
- 59% of departures were to the south, 28% north, and 12% west.

6 daily *arrivals* – a 7% increase from 2016 and a 2% increase from 2015.
- 63% of arrivals were from the north, 24% south, 12% 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: 63 daily *departures* - a 7% decrease from 2016 and a 23% decrease from 2015.

Charleston: 61 daily *arrivals* – a 12% decrease from 2016 and a 34% decrease from 2015.

Strip: 64 daily *touch and go's* - a 14% increase from 2016 and a 36% increase from 2015.

Daytime vs. Nighttime: Approximately 97% of all helicopter tour operations occurred during the daytime hours.

[15] See footnote #1.
[16] See footnote #1.
[17] See footnote #1.
[18] See footnote #1.

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 4% 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.

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

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

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

Non-Jet: ***Piston-driven*** aircraft and unassigned aircraft types accounted for 5% of the daily traffic.

Helos: ***Touring helicopters*** accounted for 18% 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, 72% departed to the ***west*** (from LAS's primary departure runways). This figure was 52% in 2016 and 2% in 2015.

Secondary: In 2017, 2% departed to the ***south*** (from LAS's secondary departure runways). This figure was 8% in 2016 and 8% in 2015.

Alternate 1: In 2017, 24% departed to the ***north*** (from LAS's alternate departure runways). This figure was 28% in 2016 and 89% in 2015.

Alternate 2: In 2017, 1% departed to the ***east*** (from LAS's alternate departure runways). This figure was 2% in 2016 and 2% in 2015.

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

SVHS: In 2017, 97% of the large air carrier aircraft (excluding those destined to the Nevada Test 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 2016 and 93% in 2015. (See October 2017 synopsis for specific location of the SVHS gate.)

Peace: In 2017, 96% of the large air carrier aircraft (excluding those destined to the Nevada Test 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 2016 and 64% in 2015. (See October 2017 synopsis for specific location of the Peace gate.)

Pebble: In 2017, 95% of the large air carrier aircraft (excluding those destined to the Nevada Test 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 2016 and 99% in 2015. (See October 2017 synopsis for specific location of the Pebble gate.)

UNLV: In 2017, 86% 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 86% in 2016 and 91% in 2015. (See October 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 99% in 2016 and 98% in 2015. (See October 2017 synopsis for specific location of the Boulder Hwy. gate.)

Hualapai: In 2017, 82% of the large air carrier aircraft destined to the Nevada Test Site that departed to the west from Runways 25L or 25R were within 0.3 NM of the extended runway centerline, near ***Hualapai Way***. This figure was 86% in 2016 and 71% in 2015. (See October 2017 synopsis for specific location of the Hualapai gate.)

Eastern: In 2017, 99% 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 99% in 2015. (See October 2017 synopsis for specific location of the Eastern gate.)

Hollywood: In 2017, 99% of the touring helicopters returning from areas east of the Las Vegas Valley were within 500 feet of the intersection of ***Charleston Boulevard & Hollywood Boulevard***. This figure was 97% in 2016 and 98% in 2015. (See October 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 99% in 2016 and 99% in 2015. (See October 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.

Annual Noise Complaint Summaries

2017: 594 total complaints – a 6% decrease from 2016 and an 85% decrease from 2015. On average, each caller (or household) issued 3.4 calls. The most calls received from one household totaled 156.

Calls by Community - (Exhibits 1 and 3)

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

Minority (between 10% and 50%): The ***Spring Valley*** community issued 223 calls (38%). (See October 2017 synopsis of typical aircraft overflight impacts on this community.)

The ***Paradise and Winchester*** communities issued 188 calls (32%). (See October 2017 synopsis of typical aircraft overflight impacts on this community.)

Repeat Caller Impact: Two households issued 32% (188 calls) of all the calls received in 2017.

Calls by Operation - (Exhibit 2)

LAS: 85% of the total calls received were due to ***LAS*** fixed-wing operations.
- 45% were due to departures to the north from Runways 01L and 01R (43% from two households).
- 28% were due to departures to the west from Runways 26L and 26R (45% from one household, which is one of the same two households that issued 43% of the calls for LAS Runways 01L and 01R).

VGT: 3% of the total calls received were due to ***VGT*** fixed-wing operations (68% from one household).

HND: 4% of the total calls received were due to ***HND*** fixed-wing operations.

Helis: 8% of the total calls received were due to ***helicopter*** operations (47% from one household).

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

Overall: 497 daily *departures*[19] – a 1% increase from 2016. (See footnote).
- 66% of departures were to the west, 18% north, 12% east, and 3% south.

498 daily *arrivals* – a 2% increase from 2016 and 4% increase from 2015.
- 75% of arrivals were from the east, 12% south, 10% north, and 4% west.

Daytime: 409 daily *departures*[20] – a 1% increase from 2016. (See footnote).
- 64% of departures were to the west, 19% north, 14% east, and 3% south.

428 daily *arrivals* – no change from 2016 and a 3% increase from 2015.
- 73% of arrivals were from the east, 12% south, 11% north, and 4% west.

Nighttime: 88 daily *departures*[21] – a 3% increase from 2016. (See footnote).
- 77% of departures were to the west, 17% north, 4% south, and 3% east.

70 daily *arrivals* – a 14% increase from 2016 and a 9% increase from 2015.
- 84% of arrivals were from the east, 8% north, 7% south, and 1% west.

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: 101 daily *departures*[22] – an 8% increase from 2016. (See footnote).
- 58% of departures were to the south, 21% north, 13% east, and 8% west.

95 daily *arrivals* – a 5% increase from 2016 and 4% increase from 2015.
- 65% of arrivals were from the north, 19% south, 11% east, and 5% west.

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[19] See footnote #1.
[20] See footnote #1.
[21] See footnote #1.
[22] See footnote #1.

Daytime: 91 daily *departures*[23] – an 8% increase from 2016. (See footnote).
- 57% of departures were to the south, 21% north, 14% east, and 8% west.

88 daily *arrivals* – a 5% increase from 2016 and a 4% increase from 2015.
- 64% of arrivals were from the north, 19% south, 12% east, and 5% west.

Nighttime: 10 daily *departures*[24] – a 5% increase from 2016. (See footnote).
- 65% of departures were to the south, 19% north, 13% west, and 2% east.

7 daily *arrivals* – a 6% decrease from 2016 and a 3% increase from 2015.
- 72% of arrivals were from the north, 18% south, 8% east, and 2% west.

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: 94 daily *departures* – a 6% decrease from 2016 and 12% decrease from 2015.

Charleston: 94 daily *arrivals* - a 6% decrease from 2016 and 15% decrease from 2015.

Strip: 74 daily *touch and go's* - an 11% increase from 2016 and 36% increase from 2015.

Daytime vs. Nighttime: Approximately 93% 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 3% 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 7% of the daily traffic.

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

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

[23] See footnote #1.
[24] See footnote #1.

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

Primary: In 2017, 66% departed to the ***west*** (from LAS's primary departure runways). This figure was 52% in 2016 and 42% in 2015.

Secondary: In 2017, 3% departed to the ***south*** (from LAS's secondary departure runways). This figure was 8% in 2016 and 9% in 2015.

Alternate 1: In 2017, 18% departed to the ***north*** (from LAS's alternate departure runways). This figure was 32% in 2016 and 39% in 2015.

Alternate 2: In 2017, 12% departed to the ***east*** (from LAS's alternate departure runways). This figure was 8% in 2016 and 11% in 2015.

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

SVHS: In 2017, 97% of the large air carrier aircraft (excluding those destined to the Nevada Test 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 2016 and 96% in 2015. (See October 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 Test 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 2016 and 96% in 2015. (See October 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 Test 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 October 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 90% in 2016 and 86% in 2015. (See October 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 96% in 2016 and 94% in 2015. (See October 2017 synopsis for specific location of the Boulder Hwy. gate.)

Hualapai: In 2017, 81% of the large air carrier aircraft destined to the Nevada Test Site that departed to the west from Runways 25L or 25R were within 0.3 NM of the extended runway centerline, near ***Hualapai Way***. This figure was 90% in 2016 and 89% in 2015. (See October 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 96% in 2016 and 81% in 2015. (See October 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 October 2017 synopsis for specific location of the Hollywood gate.)

Stratosphere: In 2017, 97% of the north-bound helicopters providing tours of the Las Vegas Strip were within 500 feet of the intersection of Oakey Boulevard & Las Vegas Boulevard, ***northeast of the Stratosphere Tower***. This figure was 99% in 2016 and 97% in 2015. (See October 2017 synopsis for specific location of the Stratosphere gate.)

Calls by Month - (Exhibit 10)

Seasonal Trends: The majority of the calls received for 2017 occurred January through March, May, September and October (69% of the total number of complaint calls received). The vast majority of calls received were associated with departures to the north and west, with 30% of the calls originating from one household. While historical weather conditions for the Las Vegas Valley reflect the majority of departures from LAS will utilize Runway 26L and Runway 26R, whenever wind and weather conditions dictate, the FAA will utilize a variety of runway configurations to better manage traffic levels in a safe and efficient manner. Additionally, when weather conditions are temperate and residents opt to leave their windows and doors open during the spring and fall months, the number of noise complaints tends to increase, as indicated on the exhibit.

Calls by Time of Day - (Exhibit 11)

Daytime versus Nighttime: Approximately 81% of the total calls received by the CCDOA were issued between the hours of 7 AM and 10 PM (26% from one household) while the remaining 19% were received between the hours of 10 PM and 7 AM (28% from one household, which is the same household that issued 26% of the calls between the hours of 7 AM and 10 PM).

Calls by Airport/Operation - (Exhibit 12)

Airport Trends: A majority (85%) of the total calls received in 2017 were attributed to LAS operations (31% from one household, which is the same household that issued 26% of the calls between 7 AM and 10 PM, and 28% of the calls between 10 PM and 7 AM).

Calls by Community - (Exhibit 13)

Community Trends: A majority of the total calls (38%) originated from the *Spring Valley* community. Calls received from *Spring Valley* were attributed to westbound departures from Runway 26R. However, 70% of the total 223 calls received from this community were from a single household.

Calls by LAS Operations - (Exhibit 14)

LAS Trends: The majority (53%) of the total calls received were associated with typical increased departures to the north from Runways 01R and 01L (31% from one household, which is the same household that issued 26% of the calls between 7 AM and 10 PM, and 28% of the calls between 10 PM and 7 AM, and 31% of the total calls attributed to LAS operations).

Other Notable Issues

Runway Numbering Change: On August 16, 2017, LAS renumbered runways 7L/25R and 7R/25L due to a magnetic variation change (MAGVAR). The airport's two longest runways were re-designated to Runway 8L/26R and Runway 8R/26L. Runway numbering, navigational aids and flight procedures are based on magnetic headings. True magnetic headings change over time, so every five years the FAA reevaluates shifts in the poles, which is known as magnetic variation. If the true heading changes more than 3 degrees at any airport, it has to renumber its runways. The FAA also takes a number of actions when the magnetic headings change, including but not limited to updating airport directories and charts used by pilots, and alerting pilots to the planned changes so a pilot looking to land on Runway 25 isn't surprised to see a "26" painted on the runway, for example. The FAA has standard procedures and checklists it goes through when making these changes which McCarran staff utilized for the transition. In the last few years, magnetic variation has required renumbering runways at several other U.S. airports, including in Tampa, Fla., and Orange County, Calif.

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

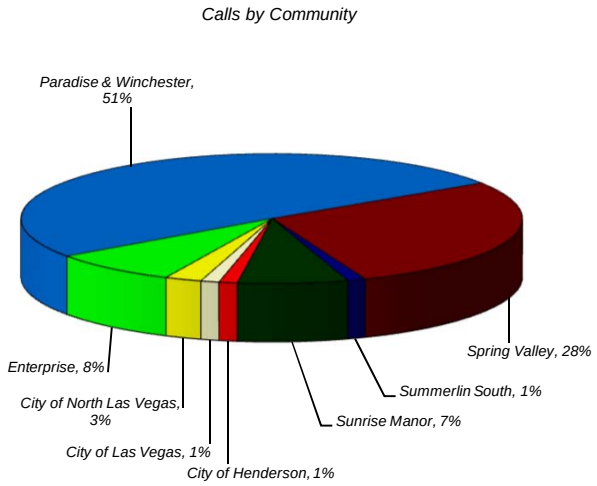
Attachments

Distribution:
Commissioner Sisolak, Chair
Commissioner Giunchigliani, Vice-Chair
Commissioner Brager
Commissioner Brown
Commissioner Kirkpatrick
Commissioner Gibson
Commissioner Weekly
Donald G. Burnette
Rosemary Vassiliadis
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)
Samuel Carter (ITT)
Sean Roebuck
Bruce Daugherty
Kelly Burns
Sam Ingalls
Chris Jones
Linda Healey
Christine Crews
Tina Frias
Jeff Jacquart
Charlie Hall
Tucker Field
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)
William Olivieri (Citizen)

Exhibit 1: Noise Complaint Calls by Community* - October 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				
City of Henderson	1	1	9	10
City of Las Vegas	1	1	6	6
City of North Las Vegas	2	1	2	
Enterprise	7	5	6	1
Lone Mountain				
Paradise & Winchester	43	17	6	529
Spring Valley	24	4	25	28
Summerlin South	1	1	1	
Sunrise Manor	6	2		5
Whitney			1	
Location unknown				
Overall Total	**85**	**32**	**56**	**579**

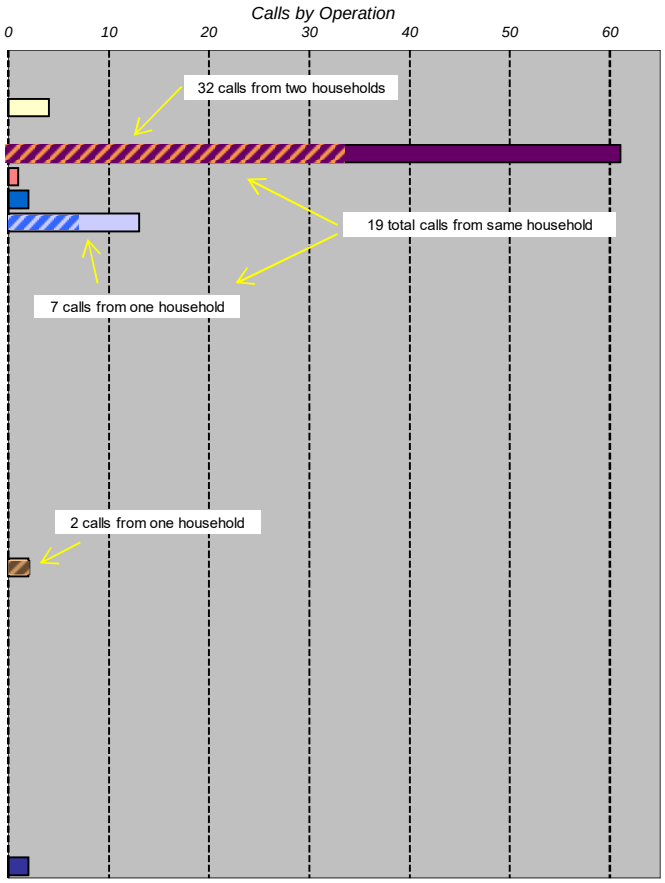
Difference between 2017 and 2016 Total Calls:	**52%**
Difference between 2017 and 2015 Total Calls:	**-85%**
Average Number of Calls per Caller:	**2.7**
Most calls received from one household:	**20**



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

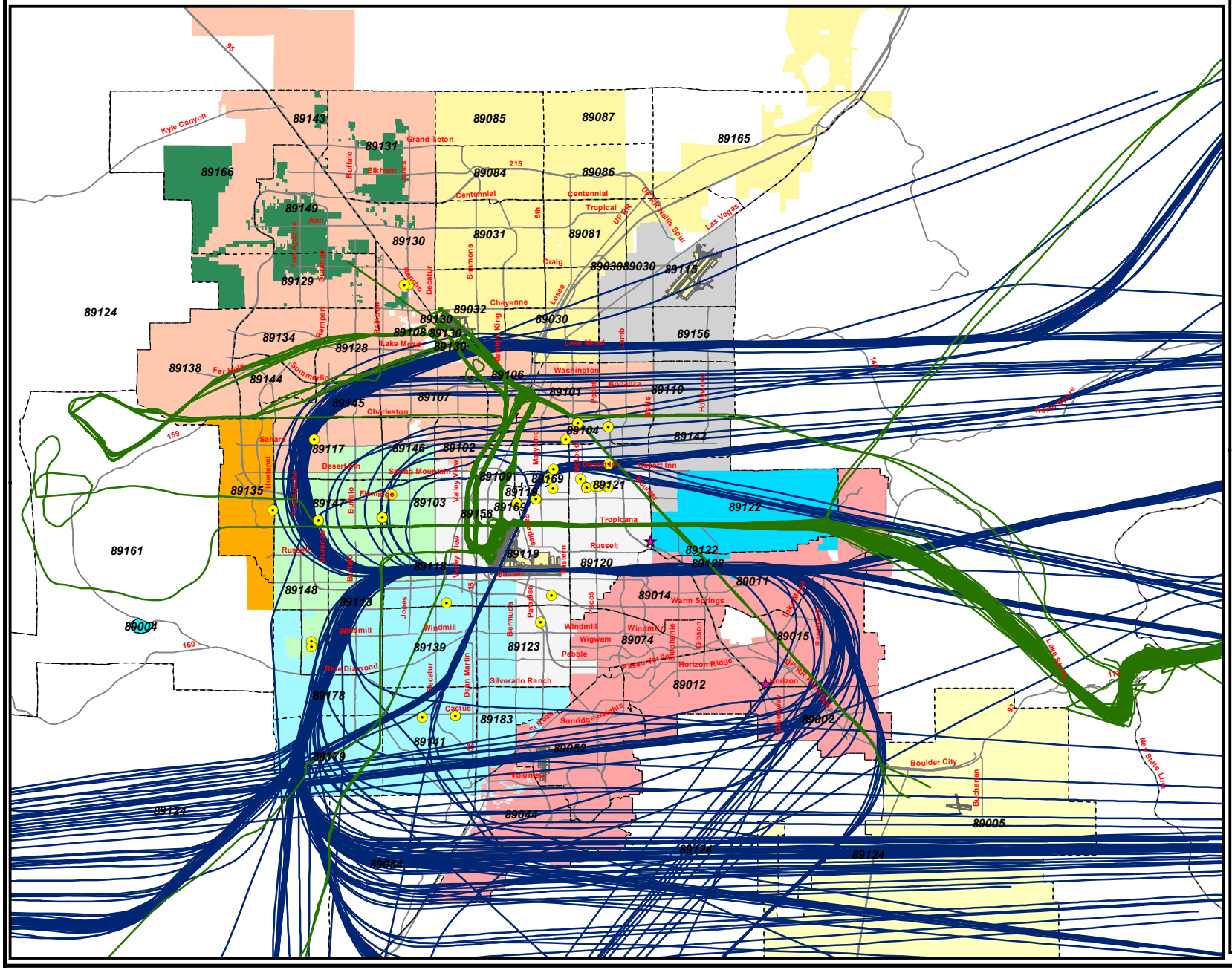
Exhibit 2: Noise Complaint Calls by Type of Operation - October 2017

Operation	No. of Calls in 2017	Percent of Overall Total	No. of Calls in 2016	No. of Calls in 2015
LAS 01R/L Arrivals				
LAS 08R/L Arrivals				
LAS 19R/L Arrivals	4	4.7%	1	2
LAS 26R/L Arrivals			1	
LAS 01R/L Departures	61	71.8%	12	34
LAS 08R/L Departures	1	1.2%	1	9
LAS 19R/L Departures	2	2.4%		510
LAS 26R/L Departures	13	15.3%	30	7
LAS Run-ups				
LAS GA				
LAS Other				
LAS Total	**81**	**95.3%**	**45**	**562**
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%	2	1
VGT Other				
VGT Total	**2**	**2.4%**	**2**	**1**
HND 17R/L Arrivals				
HND 35R/L Arrivals				
HND 17R/L Departures				
HND 35R/L Departures				
HND Run-ups				
HND GA			4	7
HND Other				
HND Total	**0**	**0.0%**	**4**	**7**
Helicopters**	**2**	**2.4%**	**5**	**9**
Overall Total	**85**	**100%**	**56**	**579**



** 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 - Oct 2017



Legend

Oct 2017
Total Complaints: 85

- Aircraft Complaints Received 83 Mapped 83
- Helicopter Complaints Received 2 Mapped 2
- 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

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Jan 10, 2018

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

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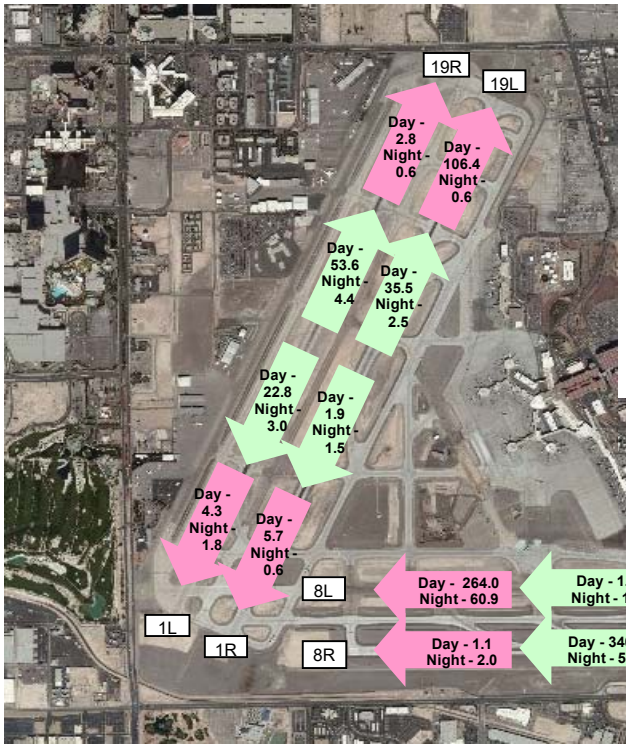
2017 Noise Complaint Report

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

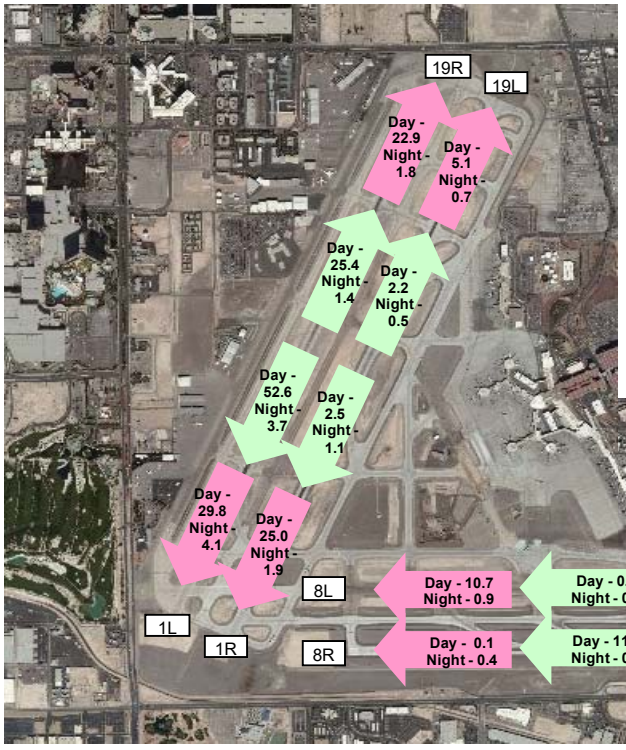


Year	2017		2016		2015	
Daytime Departures	426	83%	433	85%	N/A	N/A
Nighttime Departures	89	17%	78	15%	N/A	N/A
Total Departures	**514**	**100%**	**511**	**100%**	**N/A**	**N/A**
Daytime Arrivals	456	87%	453	89%	435	89%
Nighttime Arrivals	69	13%	55	11%	53	11%
Total Arrivals	**525**	**100%**	**508**	**100%**	**488**	**100%**

Growth	Overall	Daytime	Nighttime
Depts. 2017 vs 2016	1%	-2%	14%
Depts. 2017 vs 2015	N/A	N/A	N/A
Arrivals 2017 vs 2016	3%	1%	27%
Arrivals 2017 vs 2015	8%	5%	30%

* 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** - October 2017

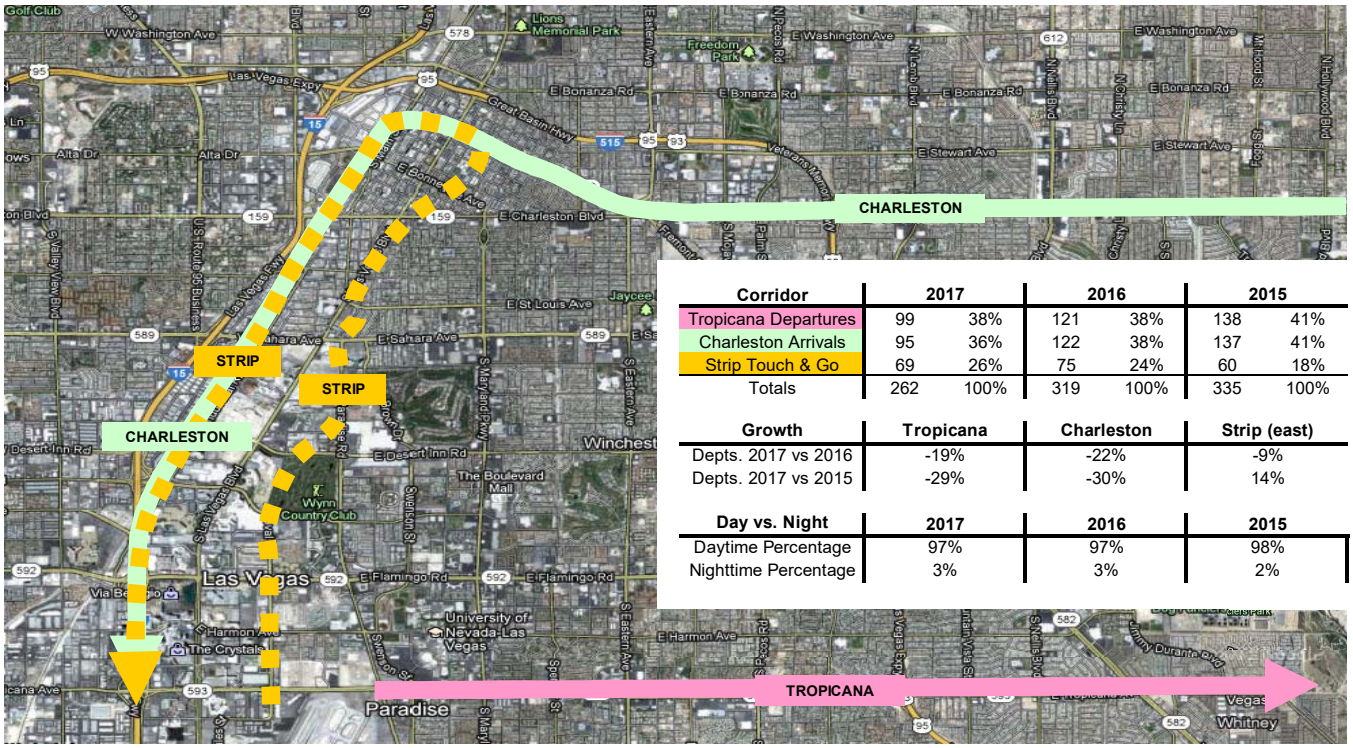


Year	2017		2016		2015	
Daytime Departures	101	91%	89	89%	N/A	N/A
Nighttime Departures	10	9%	11	11%	N/A	N/A
Total Departures	**111**	**100%**	**100**	**100%**	**N/A**	**N/A**
Daytime Arrivals	95	93%	89	92%	86	92%
Nighttime Arrivals	7	7%	8	8%	8	8%
Total Arrivals	**102**	**100%**	**97**	**100%**	**93**	**100%**

Growth	Overall	Daytime	Nighttime
Depts. 2017 vs 2016	12%	14%	-9%
Depts. 2017 vs 2015	N/A	N/A	N/A
Arrivals 2017 vs 2016	5%	6%	-6%
Arrivals 2017 vs 2015	9%	11%	-6%

** 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* - October 2017



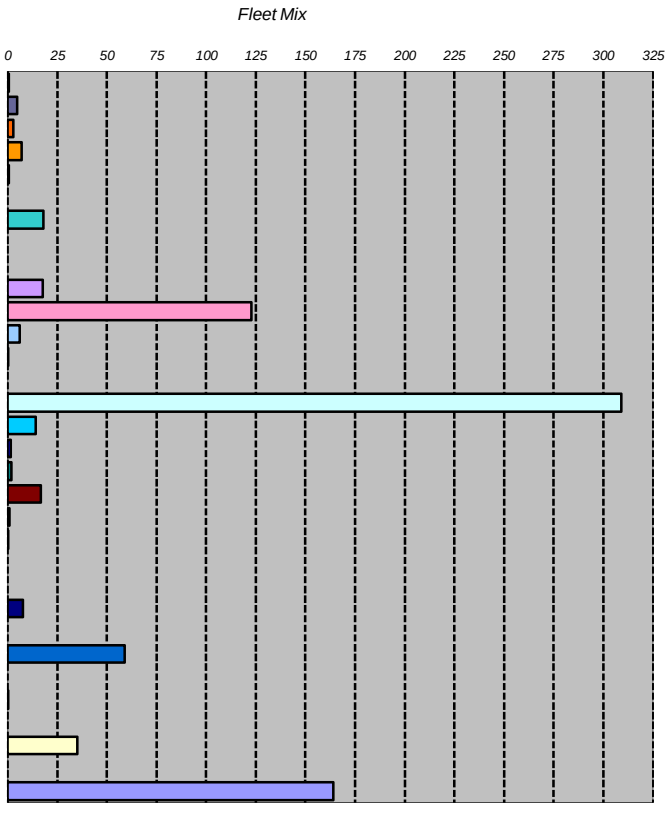
Corridor	2017		2016		2015	
Tropicana Departures	99	38%	121	38%	138	41%
Charleston Arrivals	95	36%	122	38%	137	41%
Strip Touch & Go	69	26%	75	24%	60	18%
Totals	262	100%	319	100%	335	100%

Growth	Tropicana	Charleston	Strip (east)
Depts. 2017 vs 2016	-19%	-22%	-9%
Depts. 2017 vs 2015	-29%	-30%	14%

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

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

Operation	Daily Average in 2017	Percent of Overall Total	Daily Average in 2016	Daily Average in 2015
A300s, A310s	0.71	0.1%	0.87	0.81
A330s, A340s	4.68	0.6%	4.03	3.61
B747s	2.84	0.4%	3.03	2.32
B767s	7.06	0.9%	5.77	7.48
B777s	0.71	0.1%	0.58	1.00
DC10, L1011, MD11	0.00	0.0%	0.13	0.00
Misc. (B707s, DC8s, etc.)	17.87	2.3%	0.00	0.00
Heavy Jets (>300,000 lbs.)	**33.87**	**4.3%**	**14.42**	**15.23**
A318s, A319s	17.58	2.2%	30.97	28.00
A320s, A321s	122.87	15.5%	98.00	84.48
B717s	5.94	0.8%	7.77	5.58
B727s	0.13	0.0%	0.19	0.03
B737-100s, -200s	0.00	0.0%	0.00	0.06
B737-300s to -900s	309.06	39.1%	313.55	305.39
B757s	14.23	1.8%	13.13	18.84
BAC 111s, E170s, E190s	1.52	0.2%	1.81	6.55
CRJ7s, CRJ9s	2.00	0.3%	0.87	4.23
MD80s	16.71	2.1%	18.52	18.52
MD90s	1.00	0.1%	1.81	0.90
Misc. (Bae 146s, DC9s)	0.26	0.0%	0.29	0.19
Large Jets (>75,000 lbs.)	**491.29**	**62.1%**	**486.90**	**472.77**
Medium Jets (>41,000	**7.77**	**1.0%**	**8.26**	**7.45**
Small Jets (<41,000 lbs.)	**58.94**	**7.5%**	**59.03**	**58.19**
Military Jets	**0.06**	**0.0%**	**0.03**	**0.00**
Non-Jets & Unknowns	**35.10**	**4.4%**	**29.39**	**27.58**
Helicopter Tours	**163.90**	**20.7%**	**197.60**	**196.80**
Overall Total*	**791**	**100%**	**796**	**778**



** Overall Total: Note that operation type and runway use counts are estimated by Harris Corp. EnvironmentalVue Noise and Monitoring Operations 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* - October 2017 to 2015

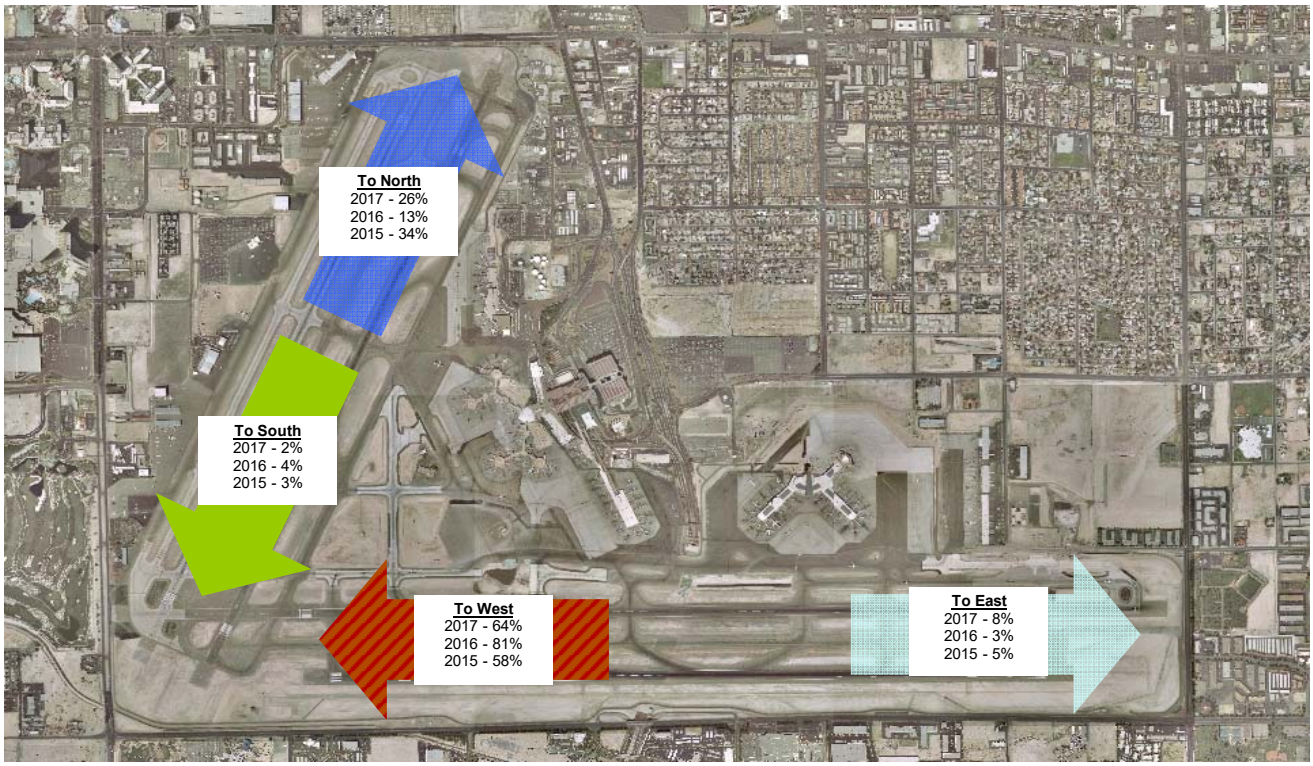
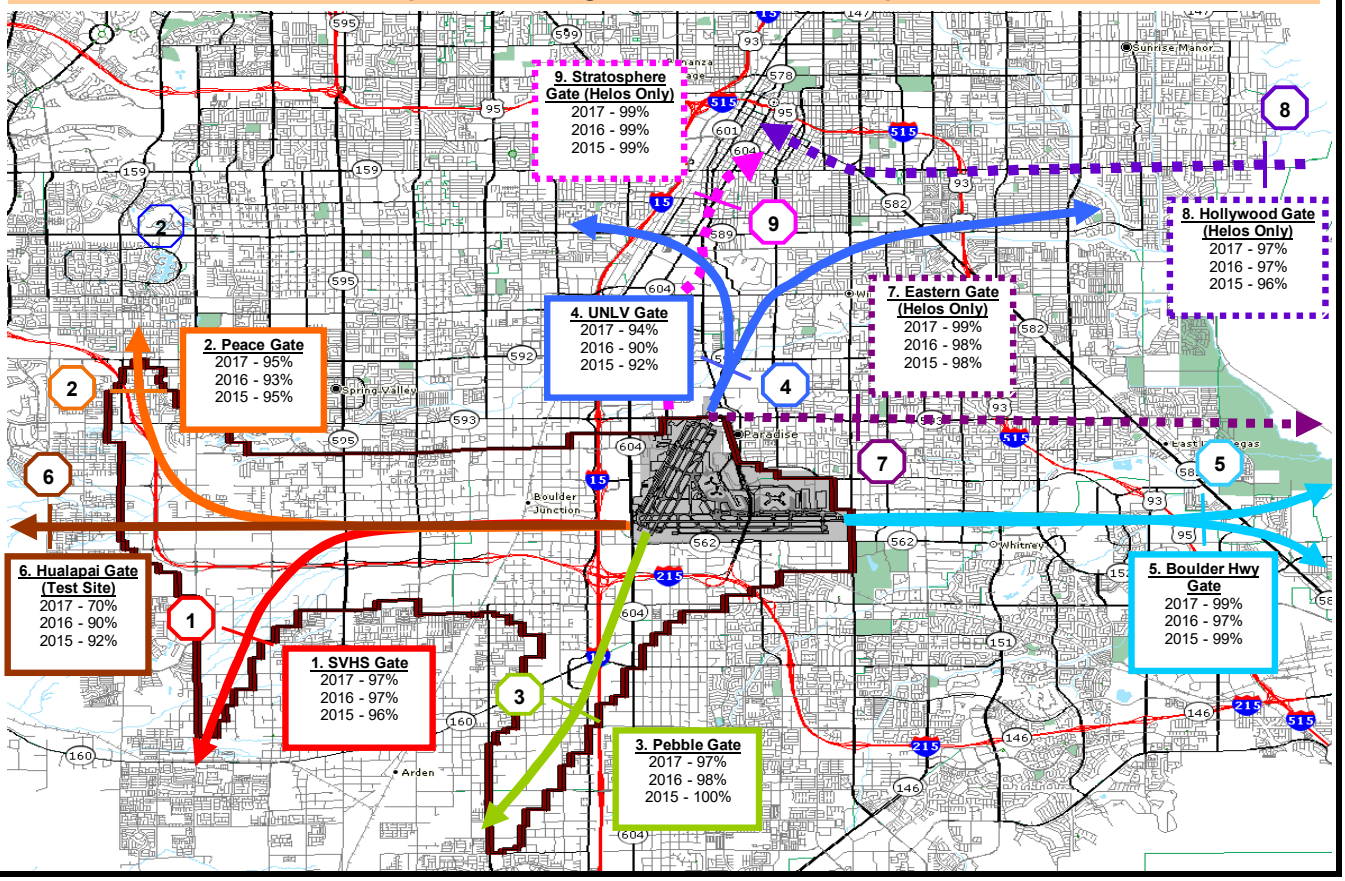


Exhibit 9: "Gate" Compliance for Large Aircraft* & LAS Helicopter Tours - October 2017



* 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, A340, 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* - November 2017

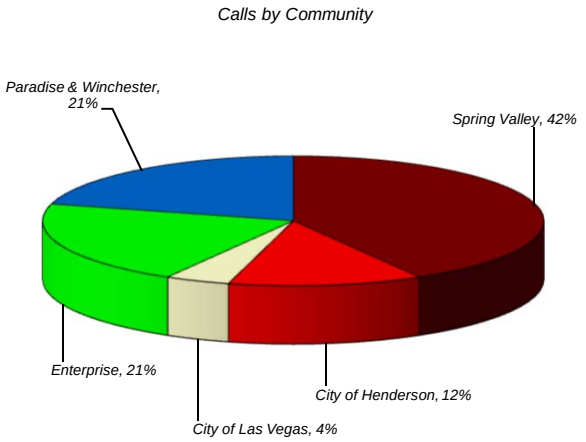
Community	No. of Calls in 2017	No. of Callers in 2017	No. of Calls in 2016	No. of Calls in 2015
City of Boulder City				
City of Henderson	3	3	2	5
City of Las Vegas	1	1	4	2
City of North Las Vegas				
Enterprise	5	5	5	6
Lone Mountain				
Paradise & Winchester	5	4	18	428
Spring Valley	10	4	26	47
Summerlin South				
Sunrise Manor				1
Whitney				
Location unknown				
Overall Total	**24**	**17**	**55**	**489**

Difference between 2017 and 2016 Total Calls: -56%

Difference between 2017 and 2015 Total Calls: -95%

Average Number of Calls per Caller: 1.4

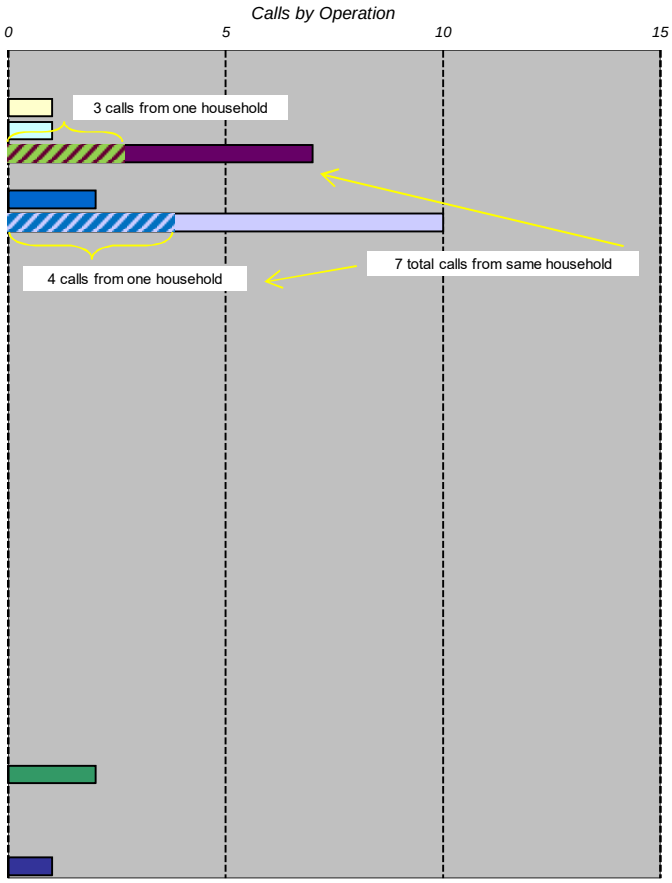
Most calls received from one household: 7



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

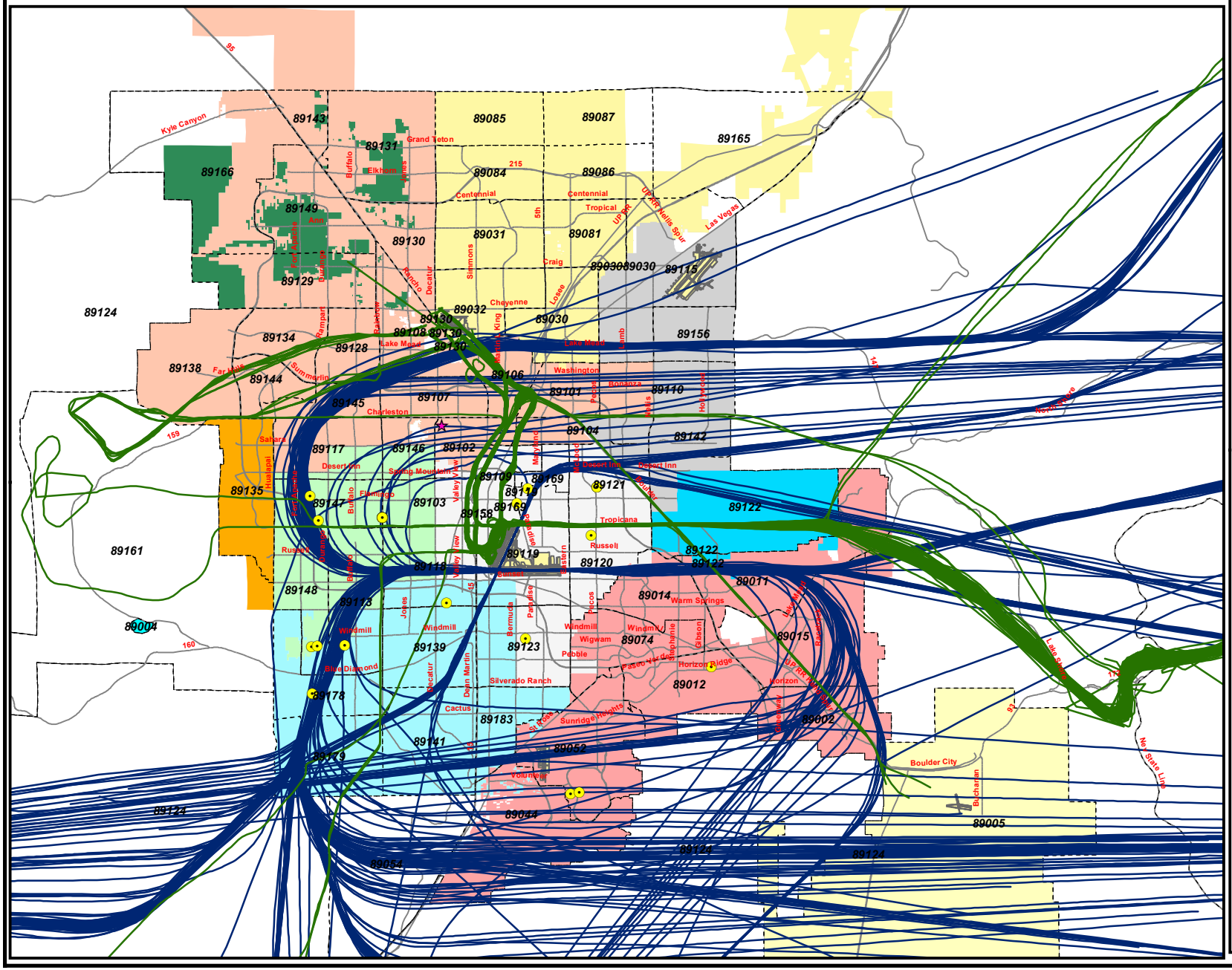
Exhibit 2: Noise Complaint Calls by Type of Operation - November 2017

Operation	No. of Calls in 2017	Percent of Overall Total	No. of Calls in 2016	No. of Calls in 2015
LAS 01R/L Arrivals				
LAS 08R/L Arrivals				
LAS 19R/L Arrivals	1	4.2%	3	
LAS 26R/L Arrivals	1	4.2%	1	1
LAS 01R/L Departures	7	29.2%	28	108
LAS 08R/L Departures			1	
LAS 19R/L Departures	2	8.3%	1	367
LAS 26R/L Departures	10	41.7%	18	
LAS Run-ups				
LAS GA				
LAS Other				
LAS Total	**21**	**87.5%**	**52**	**476**
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	8.3%		4
HND Other				
HND Total	**2**	**8.3%**	**0**	**4**
Helicopters**	**1**	**4.2%**	**3**	**9**
Overall Total	**24**	**100%**	**55**	**489**



** 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 - Nov 2017



Legend

Nov 2017
Total Complaints: 24

- Aircraft Complaints
  Received 23
  Mapped 23
- 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

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

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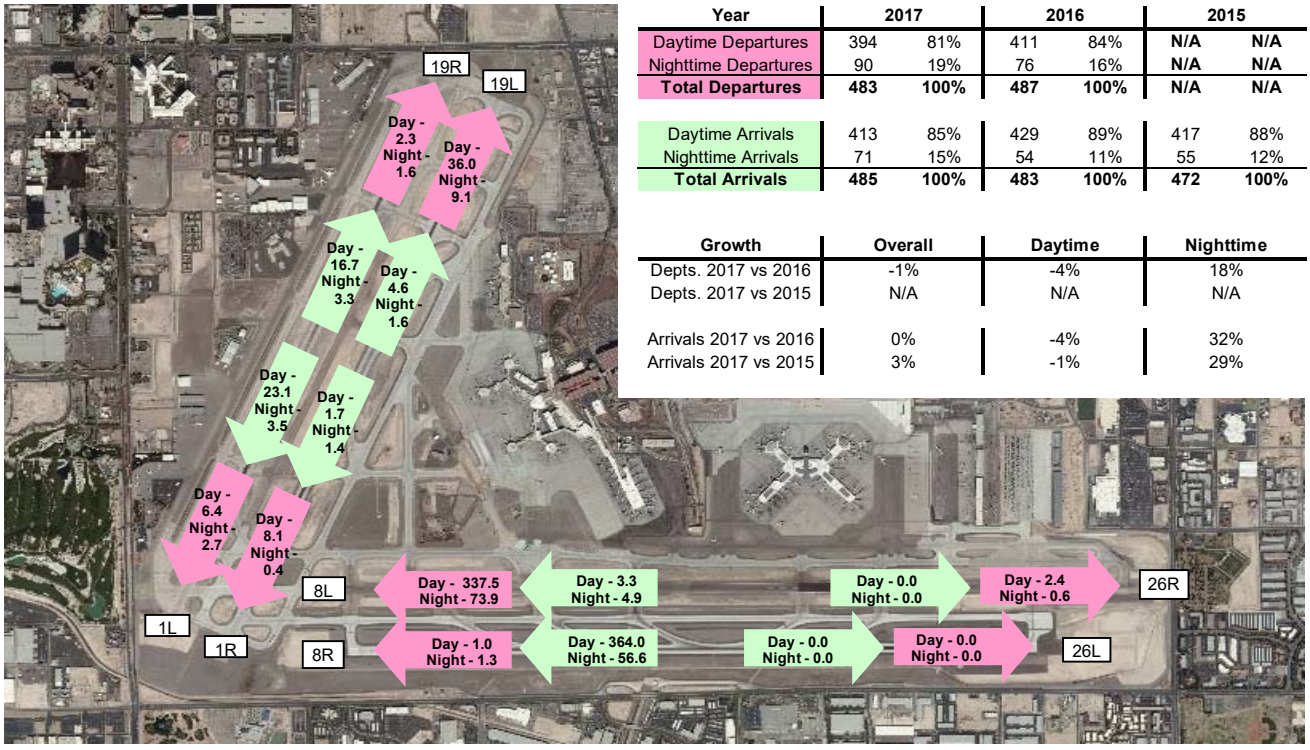
2017 Noise Complaint Report

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

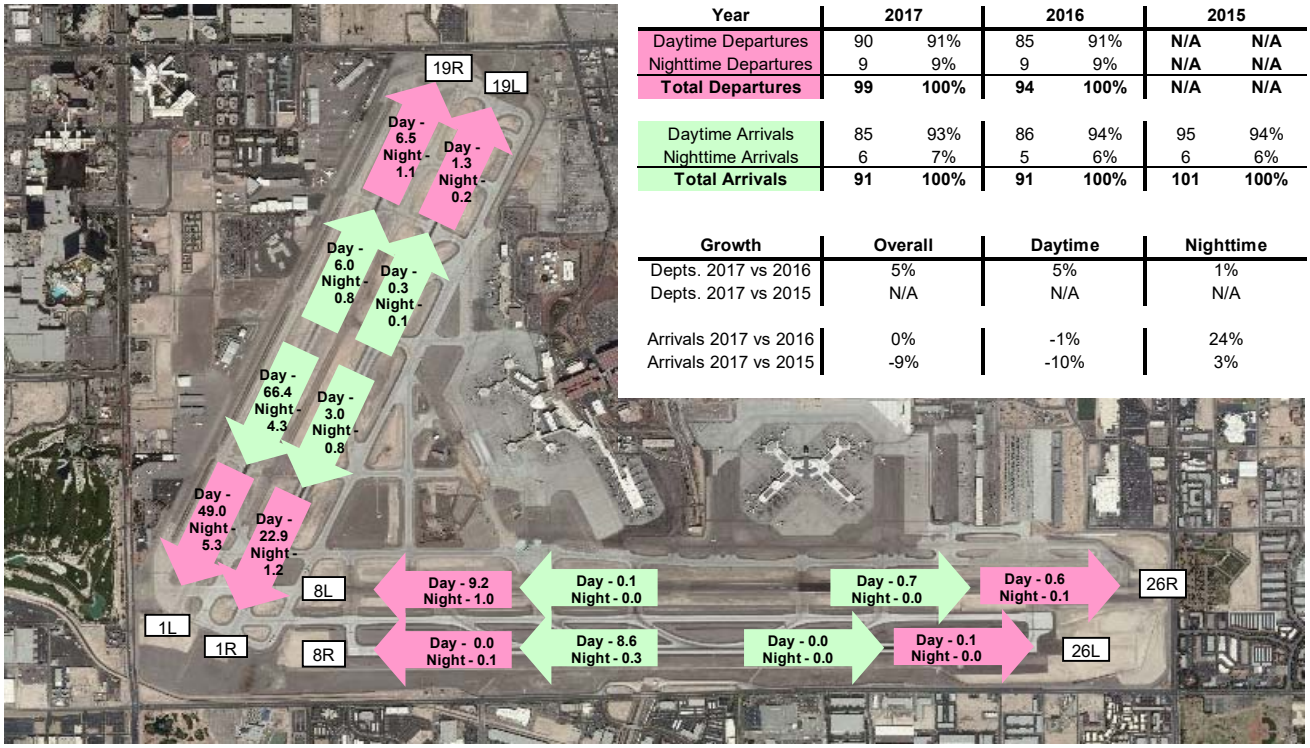


Year	2017		2016		2015	
Daytime Departures	394	81%	411	84%	N/A	N/A
Nighttime Departures	90	19%	76	16%	N/A	N/A
Total Departures	**483**	**100%**	**487**	**100%**	**N/A**	**N/A**
Daytime Arrivals	413	85%	429	89%	417	88%
Nighttime Arrivals	71	15%	54	11%	55	12%
Total Arrivals	**485**	**100%**	**483**	**100%**	**472**	**100%**

Growth	Overall	Daytime	Nighttime
Depts. 2017 vs 2016	-1%	-4%	18%
Depts. 2017 vs 2015	N/A	N/A	N/A
Arrivals 2017 vs 2016	0%	-4%	32%
Arrivals 2017 vs 2015	3%	-1%	29%

* 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** - November 2017

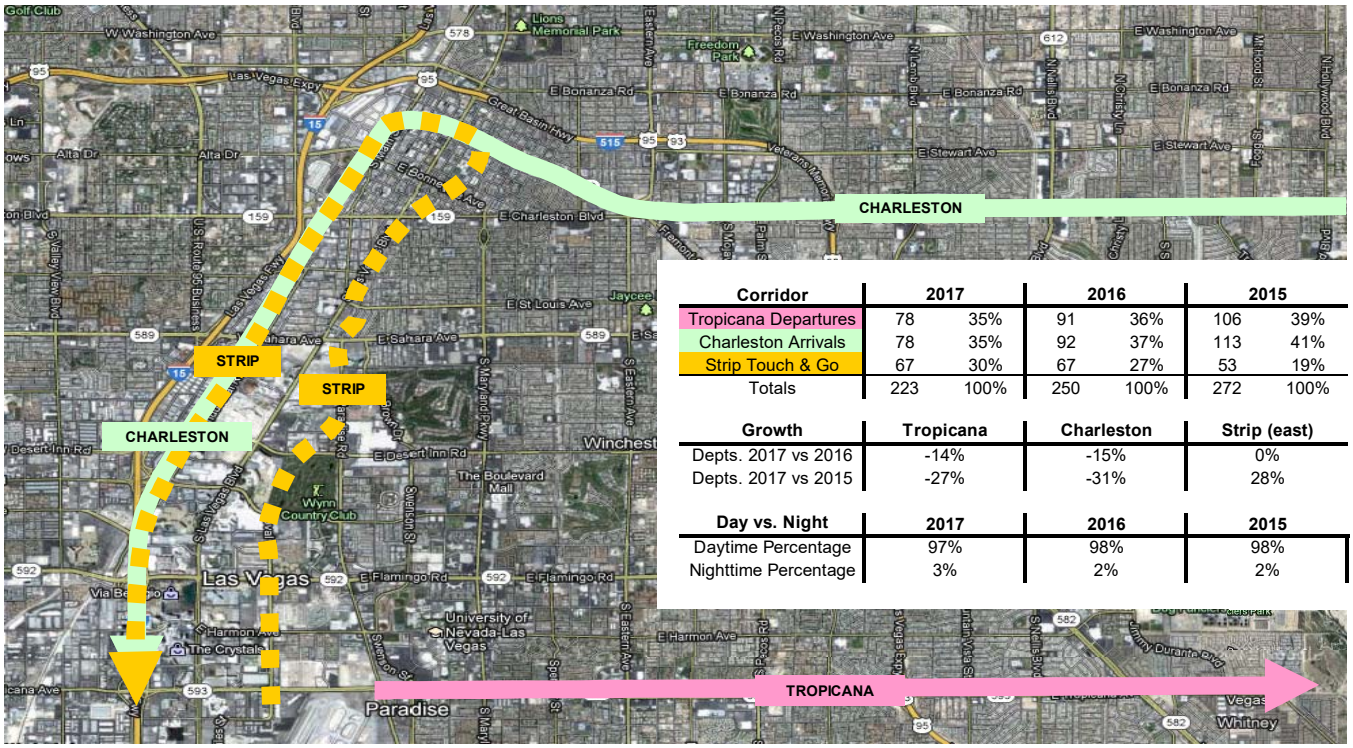


Year	2017		2016		2015	
Daytime Departures	90	91%	85	91%	N/A	N/A
Nighttime Departures	9	9%	9	9%	N/A	N/A
Total Departures	**99**	**100%**	**94**	**100%**	**N/A**	**N/A**
Daytime Arrivals	85	93%	86	94%	95	94%
Nighttime Arrivals	6	7%	5	6%	6	6%
Total Arrivals	**91**	**100%**	**91**	**100%**	**101**	**100%**

Growth	Overall	Daytime	Nighttime
Depts. 2017 vs 2016	5%	5%	1%
Depts. 2017 vs 2015	N/A	N/A	N/A
Arrivals 2017 vs 2016	0%	-1%	24%
Arrivals 2017 vs 2015	-9%	-10%	3%

** 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* - November 2017



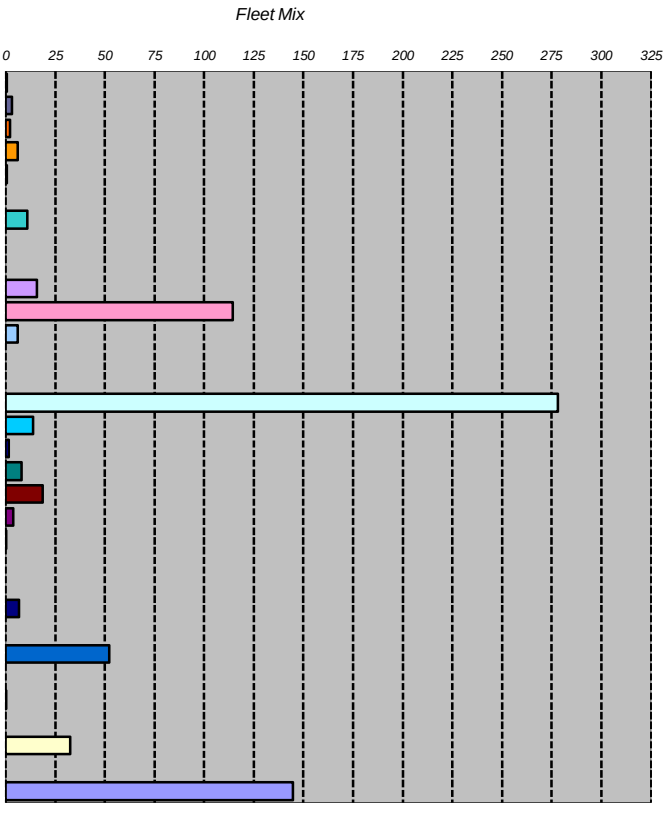
Corridor	2017		2016		2015	
Tropicana Departures	78	35%	91	36%	106	39%
Charleston Arrivals	78	35%	92	37%	113	41%
Strip Touch & Go	67	30%	67	27%	53	19%
Totals	223	100%	250	100%	272	100%

Growth	Tropicana	Charleston	Strip (east)
Depts. 2017 vs 2016	-14%	-15%	0%
Depts. 2017 vs 2015	-27%	-31%	28%

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

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

Operation	Daily Average in 2016	Percent of Overall Total	Daily Average in 2015	Daily Average in 2014
A300s, A310s	0.70	0.1%	0.97	0.87
A330s, A340s	3.17	0.4%	2.67	3.00
B747s	2.33	0.3%	2.67	1.87
B767s	6.10	0.8%	5.67	7.40
B777s	0.73	0.1%	0.57	1.07
DC10, L1011, MD11	0.00	0.0%	0.17	0.00
Misc. (B707s, DC8s, etc.)	11.03	1.5%	0.00	0.00
Heavy Jets (>300,000 lbs.)	**24.07**	**3.3%**	**12.70**	**14.20**
A318s, A319s	15.90	2.2%	27.00	34.17
A320s, A321s	114.43	15.9%	98.63	72.80
B717s	6.07	0.8%	7.63	5.77
B727s	0.00	0.0%	0.03	0.03
B737-100s, -200s	0.00	0.0%	0.00	0.03
B737-300s to -900s	278.10	38.6%	293.27	295.37
B757s	13.70	1.9%	13.90	18.57
BAC 111s, E170s, E190s	1.67	0.2%	1.50	7.63
CRJ7s, CRJ9s	8.17	1.1%	2.20	3.03
MD80s	18.63	2.6%	17.83	18.50
MD90s	3.87	0.5%	1.50	1.70
Misc. (Bae 146s, DC9s)	0.17	0.0%	0.10	0.27
Large Jets (>75,000 lbs.)	**460.70**	**63.9%**	**463.60**	**457.87**
Medium Jets (>41,000	**6.83**	**0.9%**	**7.23**	**7.60**
Small Jets (<41,000 lbs.)	**52.03**	**7.2%**	**55.17**	**63.80**
Military Jets	**0.03**	**0.0%**	**0.03**	**0.00**
Non-Jets & Unknowns	**32.53**	**4.5%**	**28.80**	**29.40**
Helicopter Tours	**144.83**	**20.1%**	**158.70**	**165.20**
Overall Total*	**721**	**100%**	**726**	**738**



** Overall Total: Note that operation type and runway use counts are estimated by Harris Corp. EnvironmentalVue Noise and Monitoring Operations 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* - November 2017 to 2015

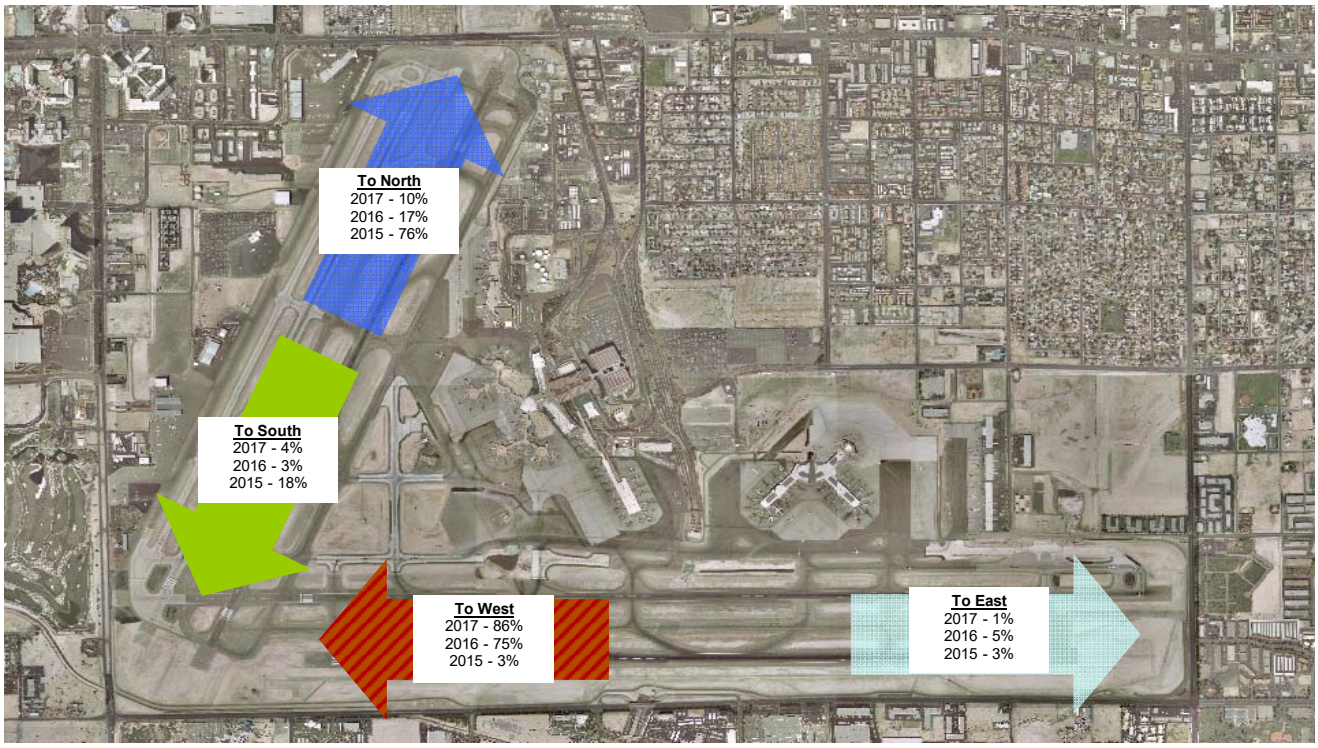
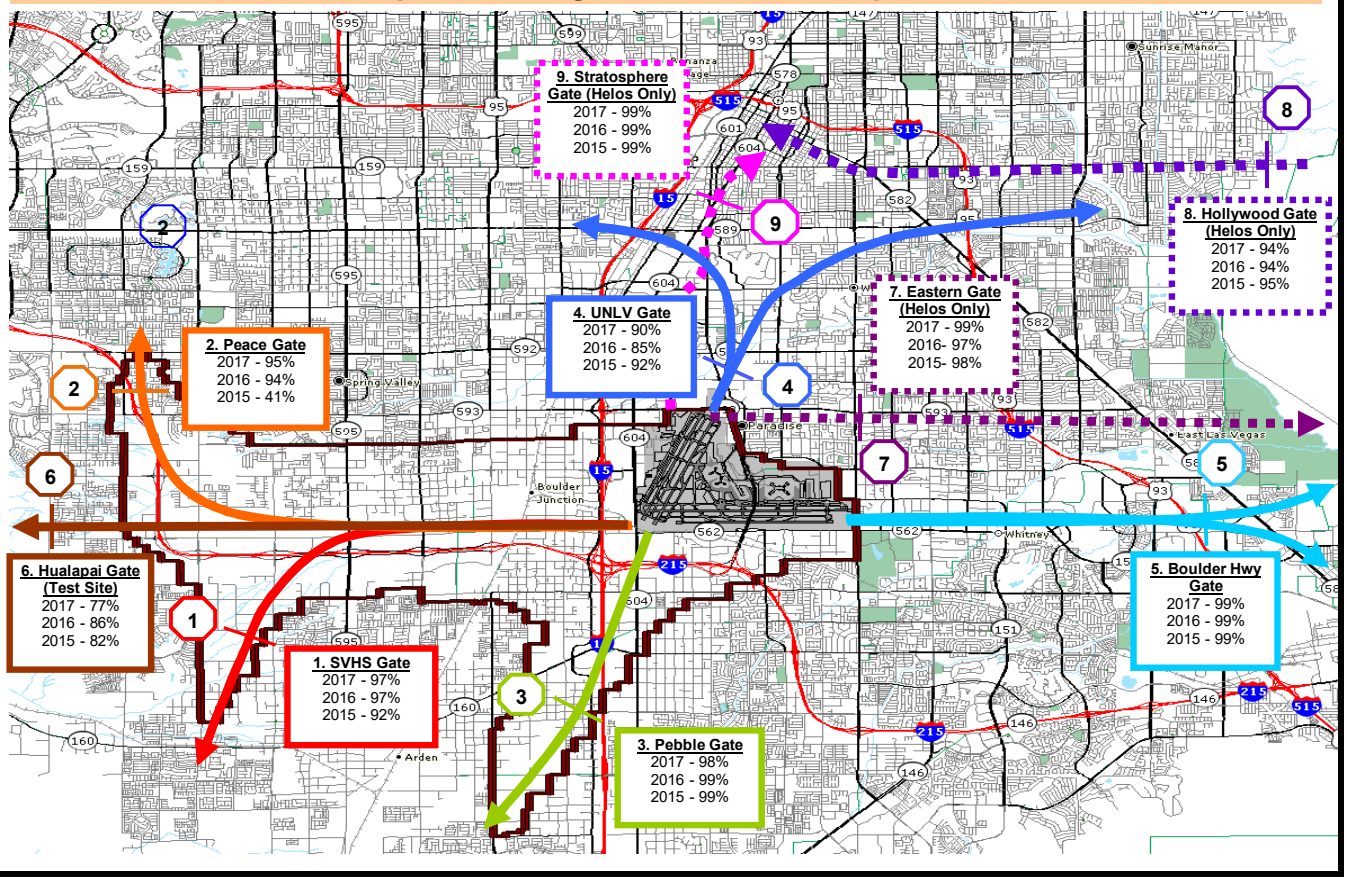


Exhibit 9: "Gate" Compliance for Large Aircraft* & LAS Helicopter Tours - November 2017



* 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, A
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* - December 2017

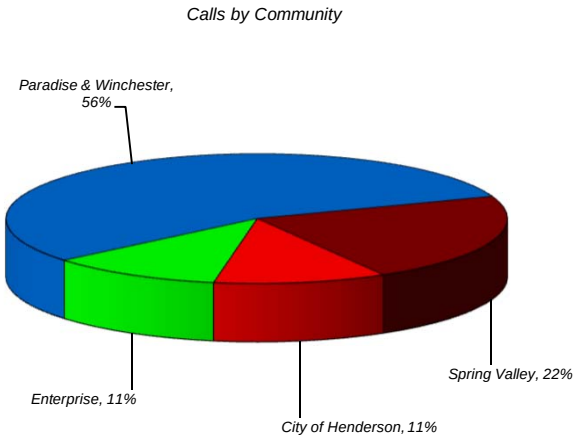
Community	No. of Calls in 2017	No. of Callers in 2017	No. of Calls in 2016	No. of Calls in 2015
City of Boulder City				
City of Henderson	3	3	1	1
City of Las Vegas			4	4
City of North Las Vegas				1
Enterprise	3	2	2	1
Lone Mountain				
Paradise & Winchester	15	7	16	140
Spring Valley	6	2	17	41
Summerlin South				
Sunrise Manor				1
Whitney				
Location unknown				
Overall Total	**27**	**14**	**40**	**189**

Difference between 2017 and 2016 Total Calls: -33%

Difference between 2017 and 2015 Total Calls: -86%

Average Number of Calls per Caller: 1.9

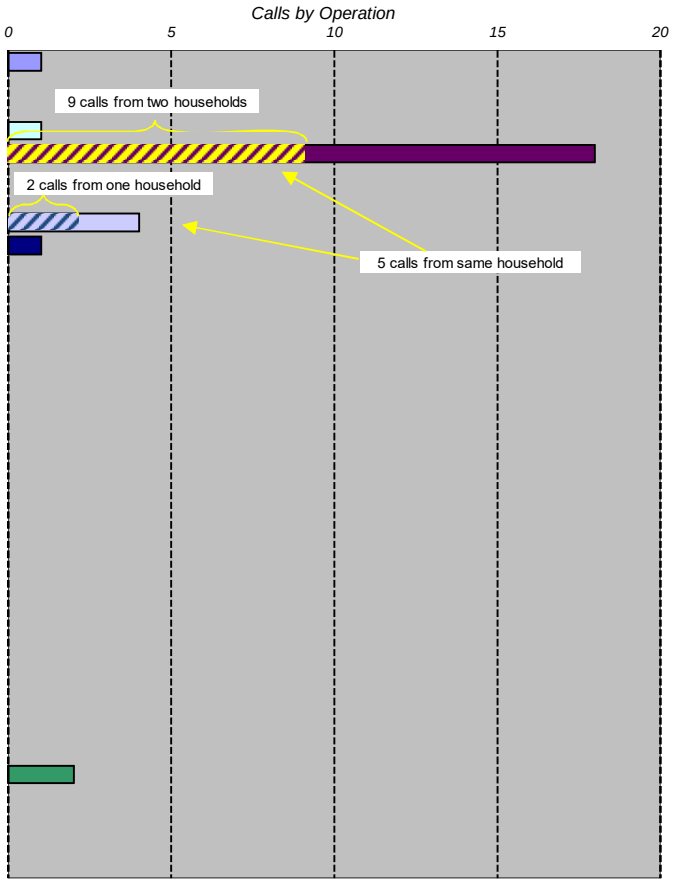
Most calls received from one household: 6



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

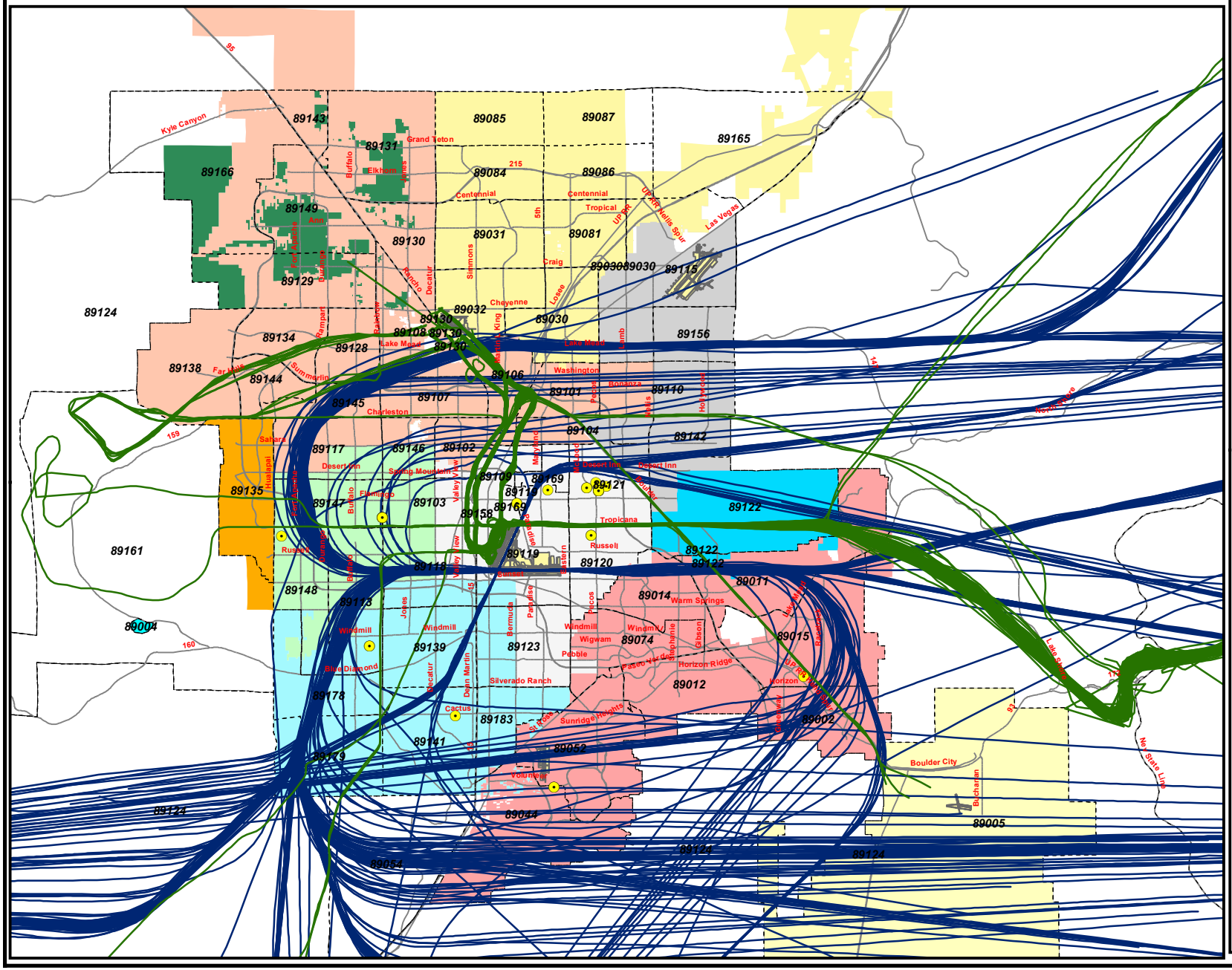
Exhibit 2: Noise Complaint Calls by Type of Operation - December 2017

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	3.7%		
LAS 08R/L Arrivals				
LAS 19R/L Arrivals				
LAS 26R/L Arrivals	1	3.7%		
LAS 01R/L Departures	18	66.7%	26	140
LAS 08R/L Departures				
LAS 19R/L Departures				42
LAS 26R/L Departures	4	14.8%	10	
LAS Run-ups	1	3.7%		
LAS GA				
LAS Other				
LAS Total	**25**	**92.6%**	**36**	**182**
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
VGT Other				
VGT Total	**0**	**0.0%**	**0**	**2**
HND 17R/L Arrivals				
HND 35R/L Arrivals				
HND 17R/L Departures				
HND 35R/L Departures				
HND Run-ups				
HND GA	2	7.4%		2
HND Other				
HND Total	**2**	**7.4%**	**0**	**2**
Helicopters**			**4**	**3**
Overall Total	**27**	**100%**	**40**	**189**



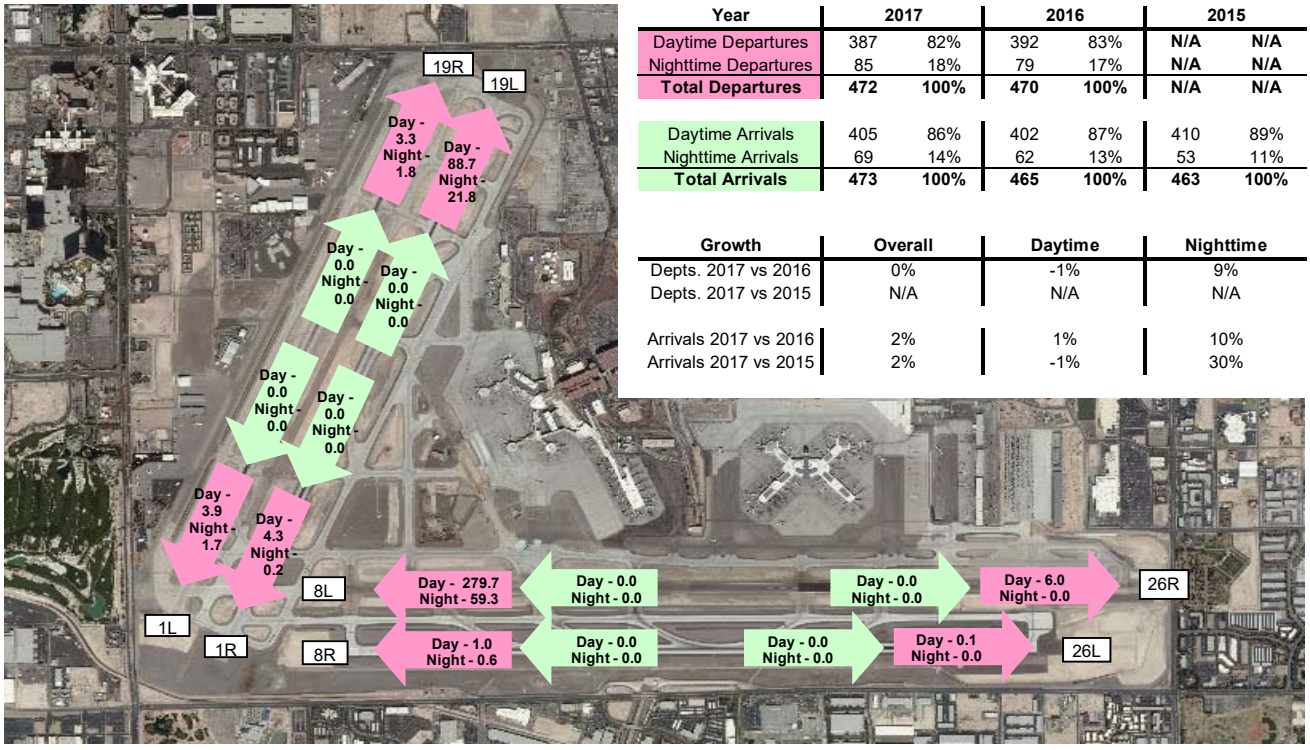
** Note that helicopter noise complaints are not tied to a specific facility since the operation cannot always be associated to a specific airport. Additionally, helicopter calls do not include those associated with operations conducted by the Metropolitan Police Department or those associated with operations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

Exhibit 3: Aircraft Noise Complaints by Community - Dec 2017



2017 Noise Complaint Report

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

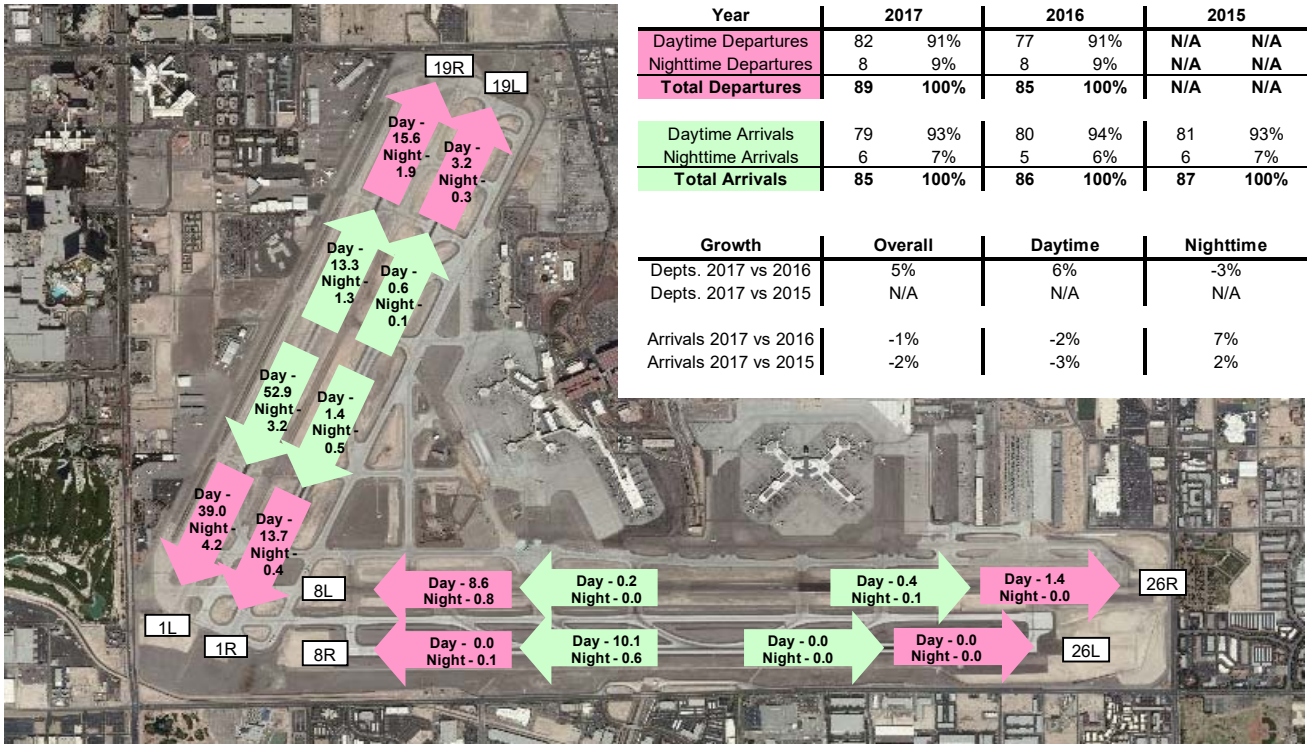


Year	2017		2016		2015	
Daytime Departures	387	82%	392	83%	N/A	N/A
Nighttime Departures	85	18%	79	17%	N/A	N/A
Total Departures	**472**	**100%**	**470**	**100%**	**N/A**	**N/A**
Daytime Arrivals	405	86%	402	87%	410	89%
Nighttime Arrivals	69	14%	62	13%	53	11%
Total Arrivals	**473**	**100%**	**465**	**100%**	**463**	**100%**

Growth	Overall	Daytime	Nighttime
Depts. 2017 vs 2016	0%	-1%	9%
Depts. 2017 vs 2015	N/A	N/A	N/A
Arrivals 2017 vs 2016	2%	1%	10%
Arrivals 2017 vs 2015	2%	-1%	30%

* 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** - December 2017

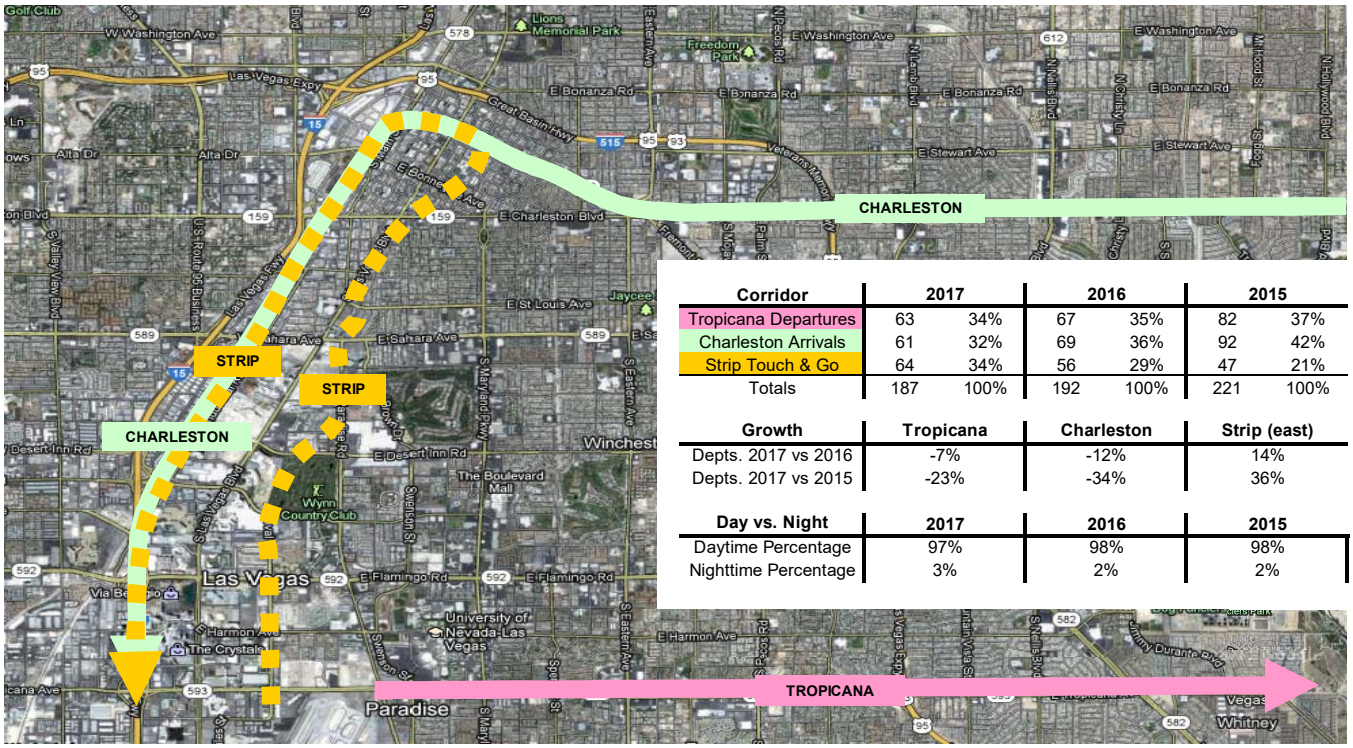


Year	2017		2016		2015	
Daytime Departures	82	91%	77	91%	N/A	N/A
Nighttime Departures	8	9%	8	9%	N/A	N/A
Total Departures	**89**	**100%**	**85**	**100%**	**N/A**	**N/A**
Daytime Arrivals	79	93%	80	94%	81	93%
Nighttime Arrivals	6	7%	5	6%	6	7%
Total Arrivals	**85**	**100%**	**86**	**100%**	**87**	**100%**

Growth	Overall	Daytime	Nighttime
Depts. 2017 vs 2016	5%	6%	-3%
Depts. 2017 vs 2015	N/A	N/A	N/A
Arrivals 2017 vs 2016	-1%	-2%	7%
Arrivals 2017 vs 2015	-2%	-3%	2%

** 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* - December 2017



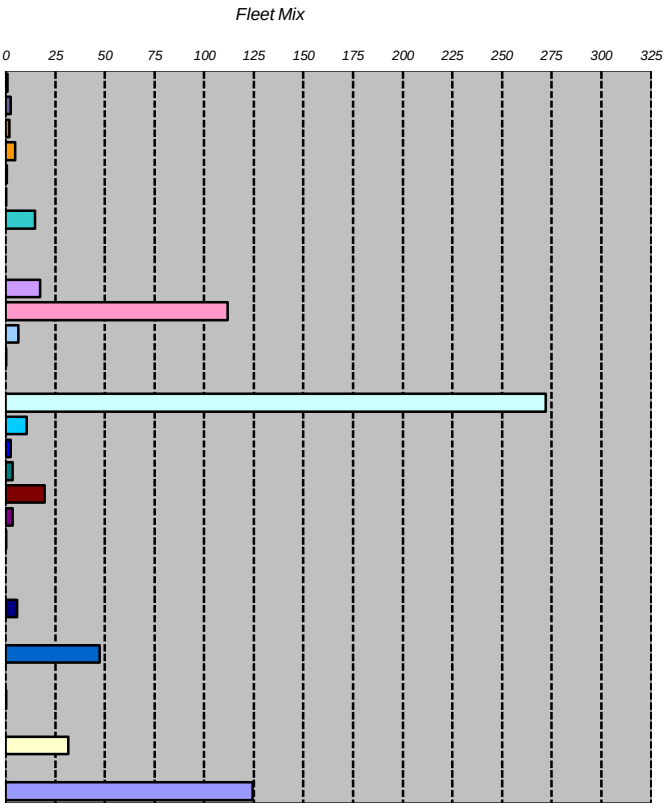
Corridor	2017		2016		2015	
Tropicana Departures	63	34%	67	35%	82	37%
Charleston Arrivals	61	32%	69	36%	92	42%
Strip Touch & Go	64	34%	56	29%	47	21%
Totals	187	100%	192	100%	221	100%

Growth	Tropicana	Charleston	Strip (east)
Depts. 2017 vs 2016	-7%	-12%	14%
Depts. 2017 vs 2015	-23%	-34%	36%

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

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

Operation	Daily Average in 2017	Percent of Overall Total	Daily Average in 2016	Daily Average in 2015
A300s, A310s	1.03	0.2%	0.94	0.84
A330s, A340s	2.55	0.4%	2.35	2.52
B747s	1.87	0.3%	2.03	1.61
B767s	4.84	0.7%	3.45	6.61
B777s	0.71	0.1%	0.71	0.94
DC10, L1011, MD11	0.23	0.0%	1.55	0.06
Misc. (B707s, DC8s, etc.)	14.71	2.2%	0.00	0.00
Heavy Jets (>300,000 lbs.)	**25.94**	**3.8%**	**11.03**	**12.58**
A318s, A319s	17.29	2.5%	25.97	38.32
A320s, A321s	111.97	16.4%	99.61	71.03
B717s	6.42	0.9%	7.00	5.13
B727s	0.03	0.0%	0.00	0.03
B737-100s, -200s	0.00	0.0%	0.03	0.03
B737-300s to -900s	272.06	39.9%	275.00	291.06
B757s	10.52	1.5%	12.23	12.35
BAC 111s, E170s, E190s	2.39	0.3%	2.52	7.84
CRJ7s, CRJ9s	3.42	0.5%	2.00	2.77
MD80s	19.58	2.9%	19.16	19.23
MD90s	3.48	0.5%	2.19	2.58
Misc. (Bae 146s, DC9s)	0.19	0.0%	0.10	0.23
Large Jets (>75,000 lbs.)	**447.35**	**65.6%**	**445.81**	**450.61**
Medium Jets (>41,000	**5.61**	**0.8%**	**5.74**	**6.29**
Small Jets (<41,000 lbs.)	**47.45**	**7.0%**	**53.23**	**55.42**
Military Jets	**0.13**	**0.0%**	**0.00**	**0.06**
Non-Jets & Unknowns	**31.48**	**4.6%**	**26.52**	**25.06**
Helicopter Tours	**124.45**	**18.2%**	**124.70**	**138.70**
Overall Total*	**682**	**100%**	**667**	**689**



** Overall Total: Note that operation type and runway use counts are estimated by Harris Corp. EnvironmentalVue Noise and Monitoring Operations 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* - December 2017 to 2015

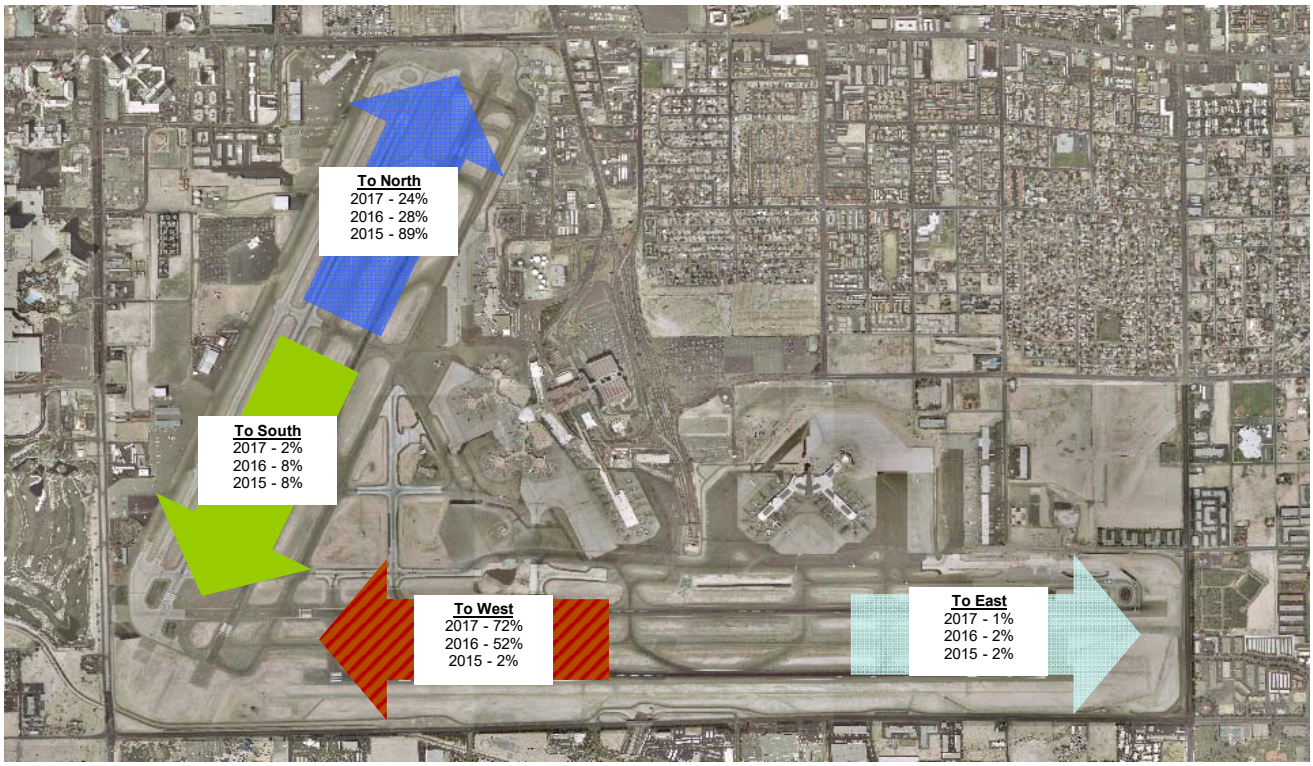
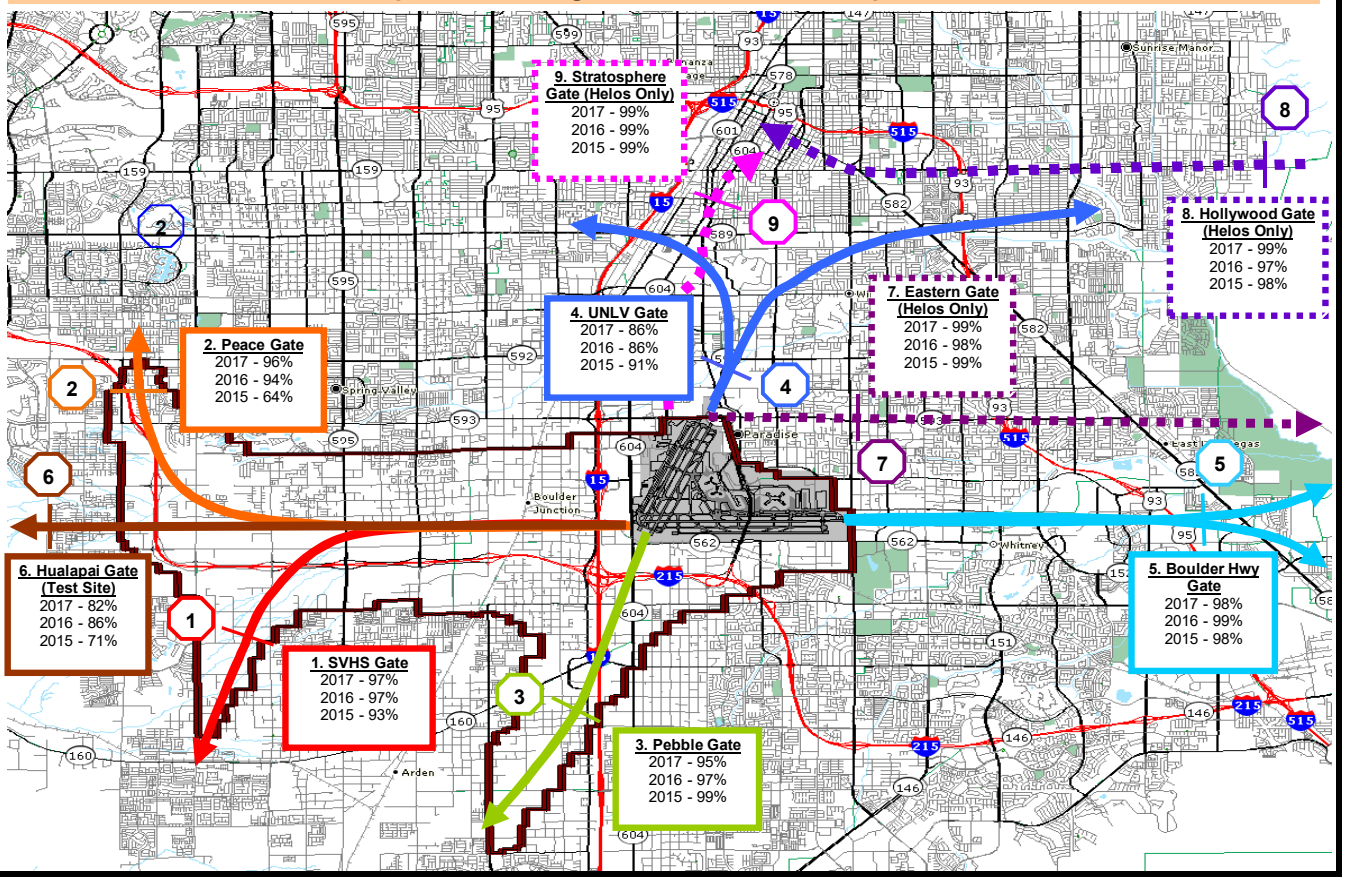


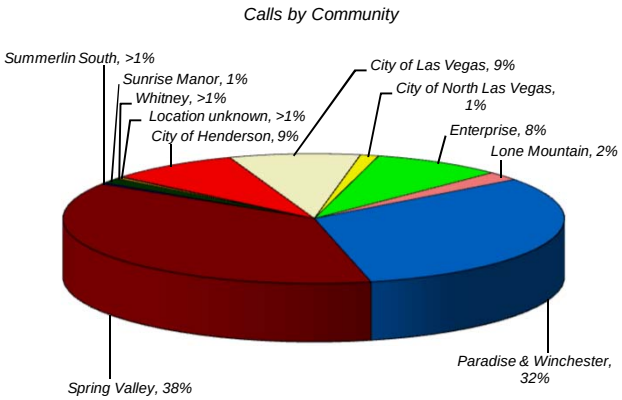
Exhibit 9: "Gate" Compliance for Large Aircraft* & LAS Helicopter Tours - December 2017



* 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, A
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* - Annual 2017

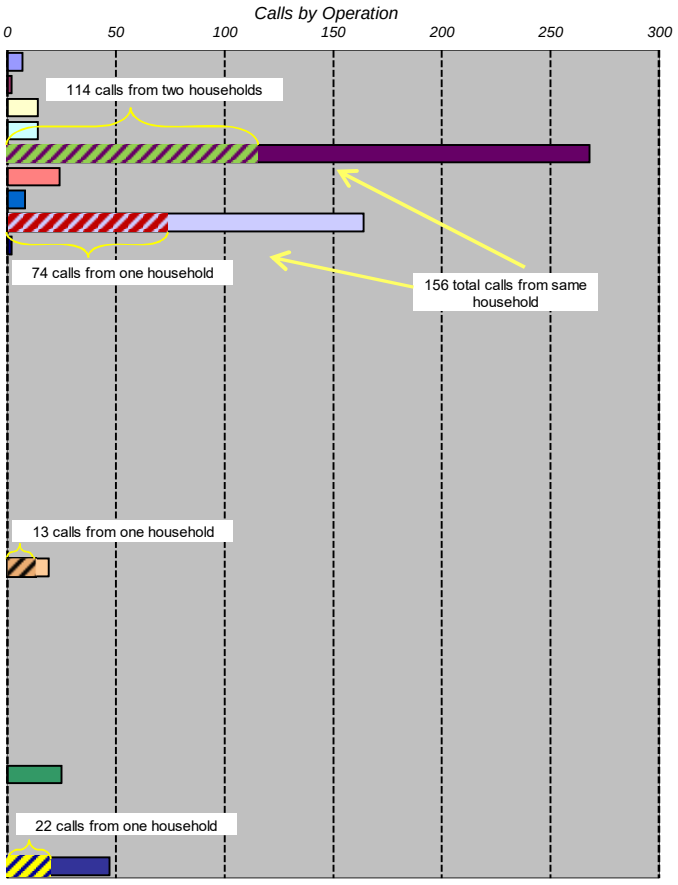
Community	No. of Calls in 2017	No. of Callers in 2017	No. of Calls in 2016	No. of Calls in 2015
City of Boulder City			2	3
City of Henderson	50	34	37	60
City of Las Vegas	50	15	76	33
City of North Las Vegas	7	5	2	4
Enterprise	50	28	66	82
Lone Mountain	13	1	1	
Paradise & Winchester	188	64	312	3615
Spring Valley	223	20	108	138
Summerlin South	2	2	3	7
Sunrise Manor	8	4	19	17
Whitney	2	1	3	4
Location unknown	1	1		
Overall Total	**594**	**175**	**629**	**3963**
	Difference between 2017 and 2016 Total Calls:			**-6%**
	Difference between 2017 and 2015 Total Calls:			**-85%**
	Average Number of Calls per Caller:			**3.4**
	Most calls received from one household:			**156**



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

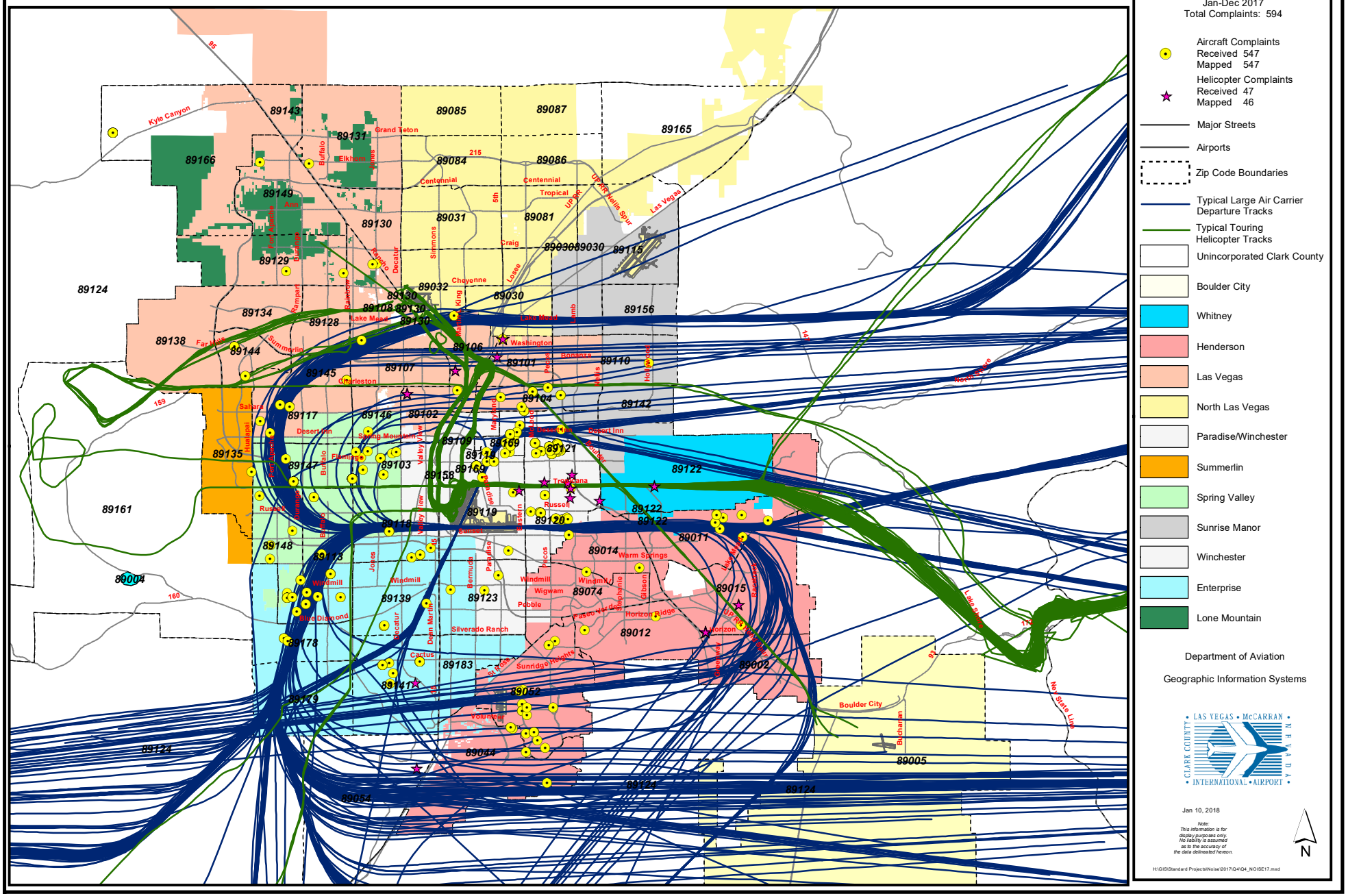
Exhibit 2: Noise Complaint Calls by Type of Operation - Annual 2017

Operation	No. of Calls in 2017	Percent of Overall Total	No. of Calls in 2016	No. of Calls in 2015
LAS 01R/L Arrivals	7	1.2%	3	6
LAS 08R/L Arrivals	2	0.3%	1	
LAS 19R/L Arrivals	14	2.4%	6	6
LAS 26R/L Arrivals	14	2.4%	10	10
LAS 01R/L Departures	268	45.1%	326	1,683
LAS 08R/L Departures	24	4.0%	22	62
LAS 19R/L Departures	8	1.3%	43	2,028
LAS 26R/L Departures	164	27.6%	125	57
LAS Run-ups	2	0.3%	1	2
LAS GA				
LAS Other				
LAS Total	**503**	**84.7%**	**537**	**3,854**
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	19	3.2%	8	9
VGT Other				
VGT Total	**19**	**3.2%**	**8**	**9**
HND 17R/L Arrivals				
HND 35R/L Arrivals				
HND 17R/L Departures				
HND 35R/L Departures				
HND Run-ups				
HND GA	25	4.2%	11	41
HND Other				
HND Total	**25**	**4.2%**	**11**	**41**
Helicopters**	**47**	**7.9%**	**73**	**59**
Overall Total	**594**	**100%**	**629**	**3963**



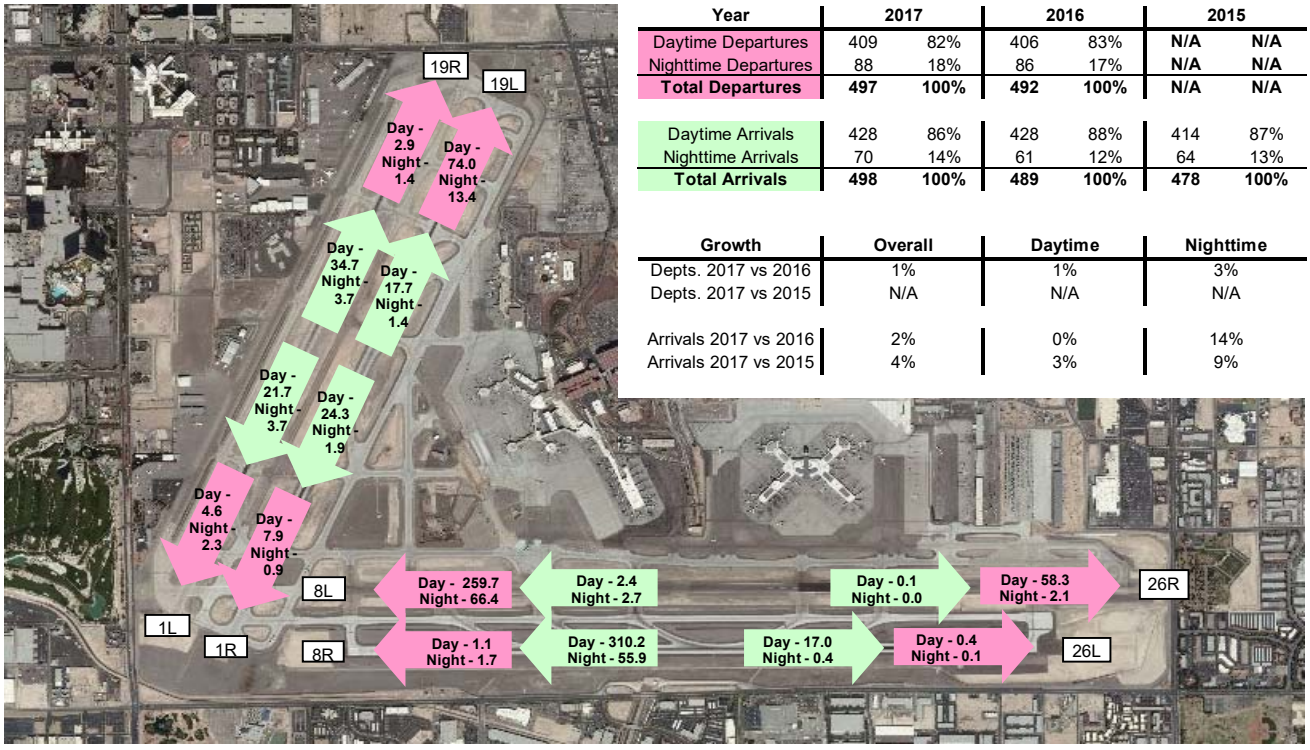
** Note that helicopter noise complaints are not tied to a specific facility since the operation cannot always be associated to a specific airport. Additionally, helicopter calls do not include those associated with operations conducted by the Metropolitan Police Department or those associated with operations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

Exhibit 3: Aircraft Noise Complaints by Community - Jan-Dec 2017



2017 Noise Complaint Report

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

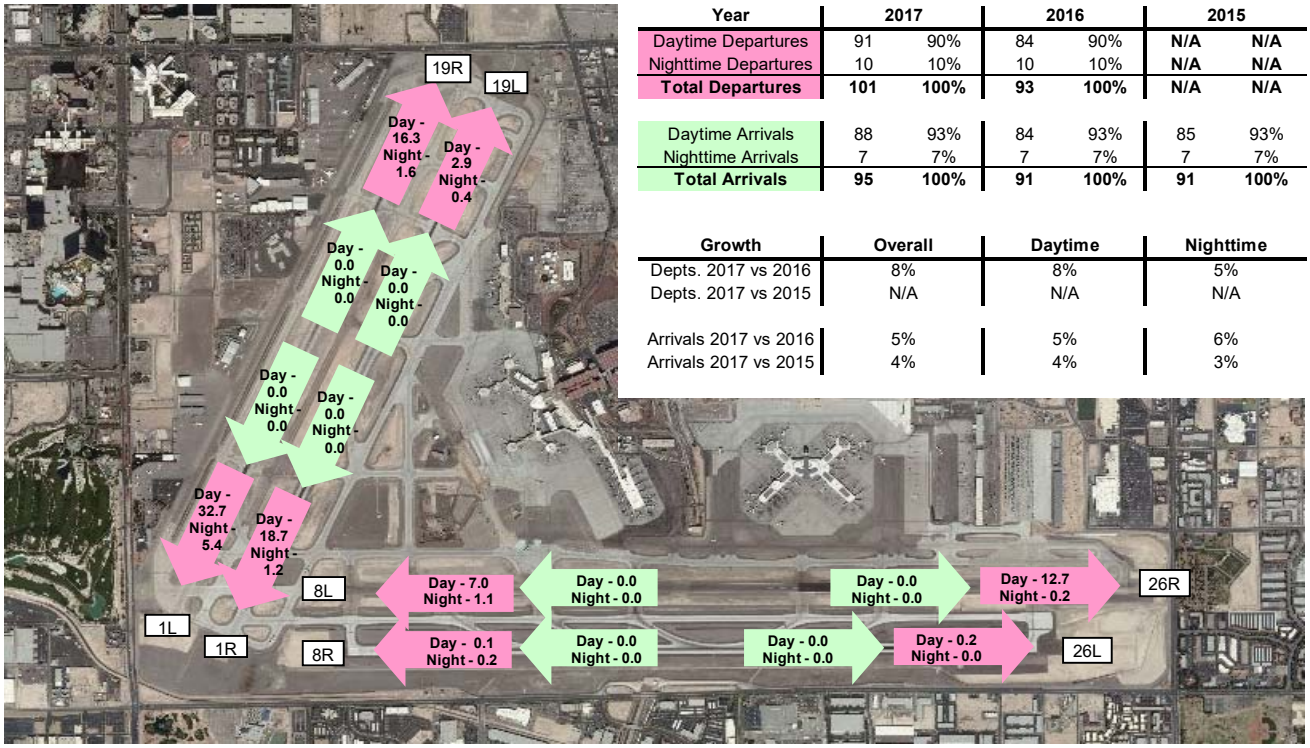


Year	2017		2016		2015	
Daytime Departures	409	82%	406	83%	N/A	N/A
Nighttime Departures	88	18%	86	17%	N/A	N/A
Total Departures	**497**	**100%**	**492**	**100%**	**N/A**	**N/A**
Daytime Arrivals	428	86%	428	88%	414	87%
Nighttime Arrivals	70	14%	61	12%	64	13%
Total Arrivals	**498**	**100%**	**489**	**100%**	**478**	**100%**

Growth	Overall	Daytime	Nighttime
Depts. 2017 vs 2016	1%	1%	3%
Depts. 2017 vs 2015	N/A	N/A	N/A
Arrivals 2017 vs 2016	2%	0%	14%
Arrivals 2017 vs 2015	4%	3%	9%

* 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** - Annual 2017

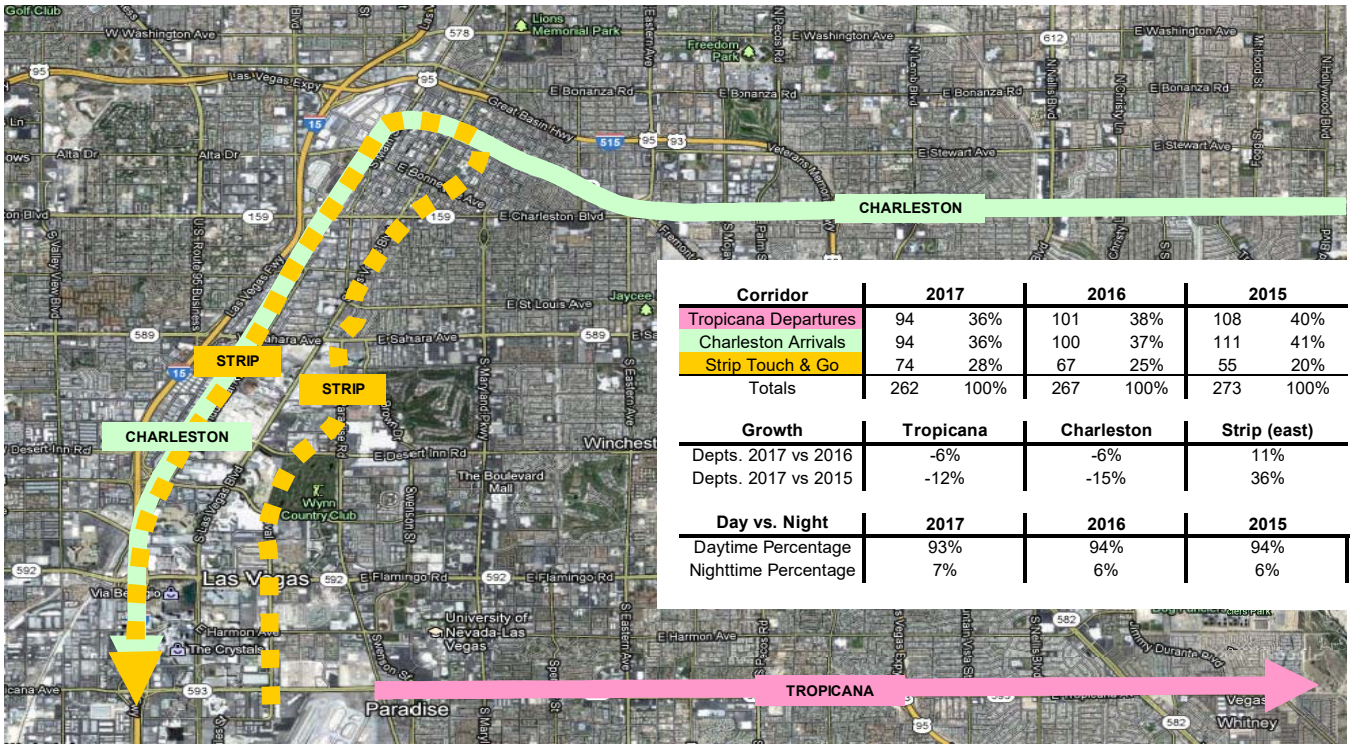


Year	2017		2016		2015	
Daytime Departures	91	90%	84	90%	N/A	N/A
Nighttime Departures	10	10%	10	10%	N/A	N/A
Total Departures	**101**	**100%**	**93**	**100%**	**N/A**	**N/A**
Daytime Arrivals	88	93%	84	93%	85	93%
Nighttime Arrivals	7	7%	7	7%	7	7%
Total Arrivals	**95**	**100%**	**91**	**100%**	**91**	**100%**

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

** 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* - Annual 2017



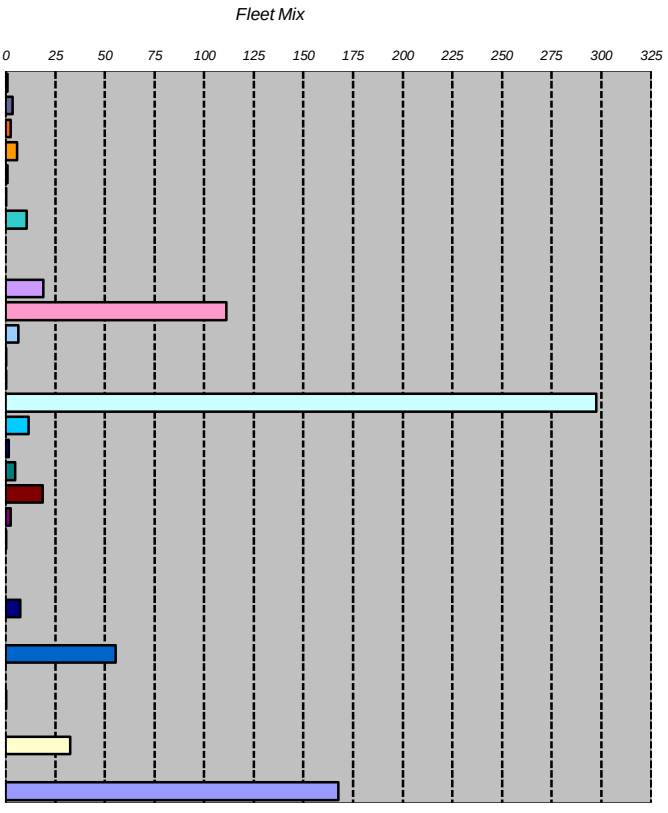
Corridor	2017		2016		2015	
Tropicana Departures	94	36%	101	38%	108	40%
Charleston Arrivals	94	36%	100	37%	111	41%
Strip Touch & Go	74	28%	67	25%	55	20%
Totals	262	100%	267	100%	273	100%

Growth	Tropicana	Charleston	Strip (east)
Depts. 2017 vs 2016	-6%	-6%	11%
Depts. 2017 vs 2015	-12%	-15%	36%

Day vs. Night	2017	2016	2015
Daytime Percentage	93%	94%	94%
Nighttime Percentage	7%	6%	6%

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

Operation	Daily Average in 2017	Percent of Overall Total	Daily Average in 2016	Daily Average in 2015
A300s, A310s	0.79	0.1%	0.87	0.84
A330s, A340s	3.63	0.5%	3.31	3.15
B747s	2.62	0.3%	2.57	2.10
B767s	5.79	0.8%	4.97	5.95
B777s	0.77	0.1%	0.74	0.93
DC10, L1011, MD11	0.10	0.0%	1.27	0.04
Misc. (B707s, DC8s, etc.)	10.66	1.4%	0.00	0.00
Heavy Jets (>300,000 lbs.)	**24.36**	**3.2%**	**13.74**	**13.00**
A318s, A319s	18.93	2.5%	32.05	30.04
A320s, A321s	111.13	14.6%	91.84	77.16
B717s	6.37	0.8%	7.25	2.85
B727s	0.04	0.0%	0.07	0.03
B737-100s, -200s	0.00	0.0%	1.02	1.02
B737-300s to -900s	297.64	39.1%	300.30	302.65
B757s	11.61	1.5%	12.42	17.27
BAC 111s, E170s, E190s	1.59	0.2%	6.49	6.47
CRJ7s, CRJ9s	4.86	0.6%	1.68	5.99
MD80s	18.53	2.4%	18.25	20.84
MD90s	2.50	0.3%	1.68	1.50
Misc. (Bae 146s, DC9s)	0.22	0.0%	0.20	0.21
Large Jets (>75,000 lbs.)	**473.42**	**62.2%**	**473.25**	**466.03**
Medium Jets (>41,000	**7.45**	**1.0%**	**6.71**	**6.76**
Small Jets (<41,000 lbs.)	**55.32**	**7.3%**	**56.23**	**59.50**
Military Jets	**0.06**	**0.0%**	**0.03**	**0.30**
Non-Jets & Unknowns	**32.38**	**4.3%**	**26.59**	**23.73**
Helicopter Tours	**167.54**	**22.0%**	**166.50**	**165.00**
Overall Total*	**761**	**100%**	**743**	**734**



** Overall Total: Note that operation type and runway use counts are estimated by Harris Corp. EnvironmentalVue Noise and Monitoring Operations 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* - Annual 2017 to 2015

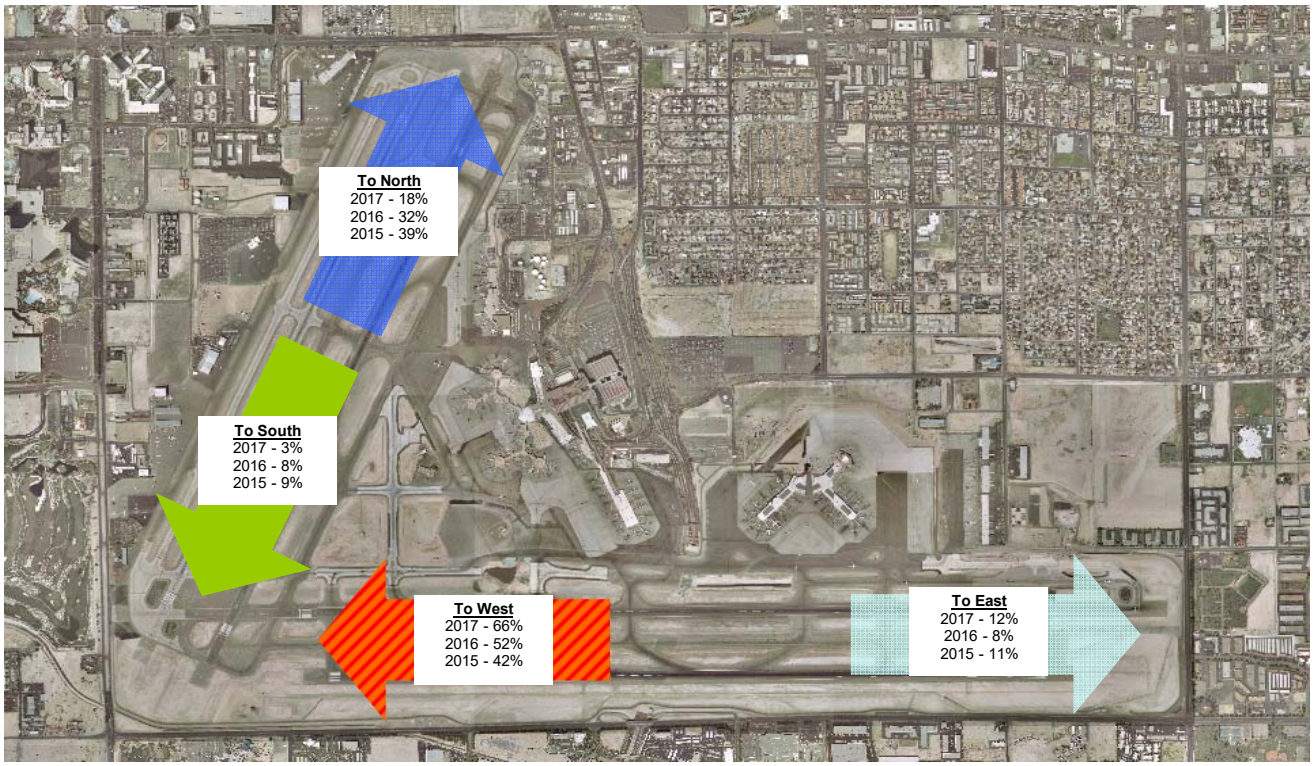
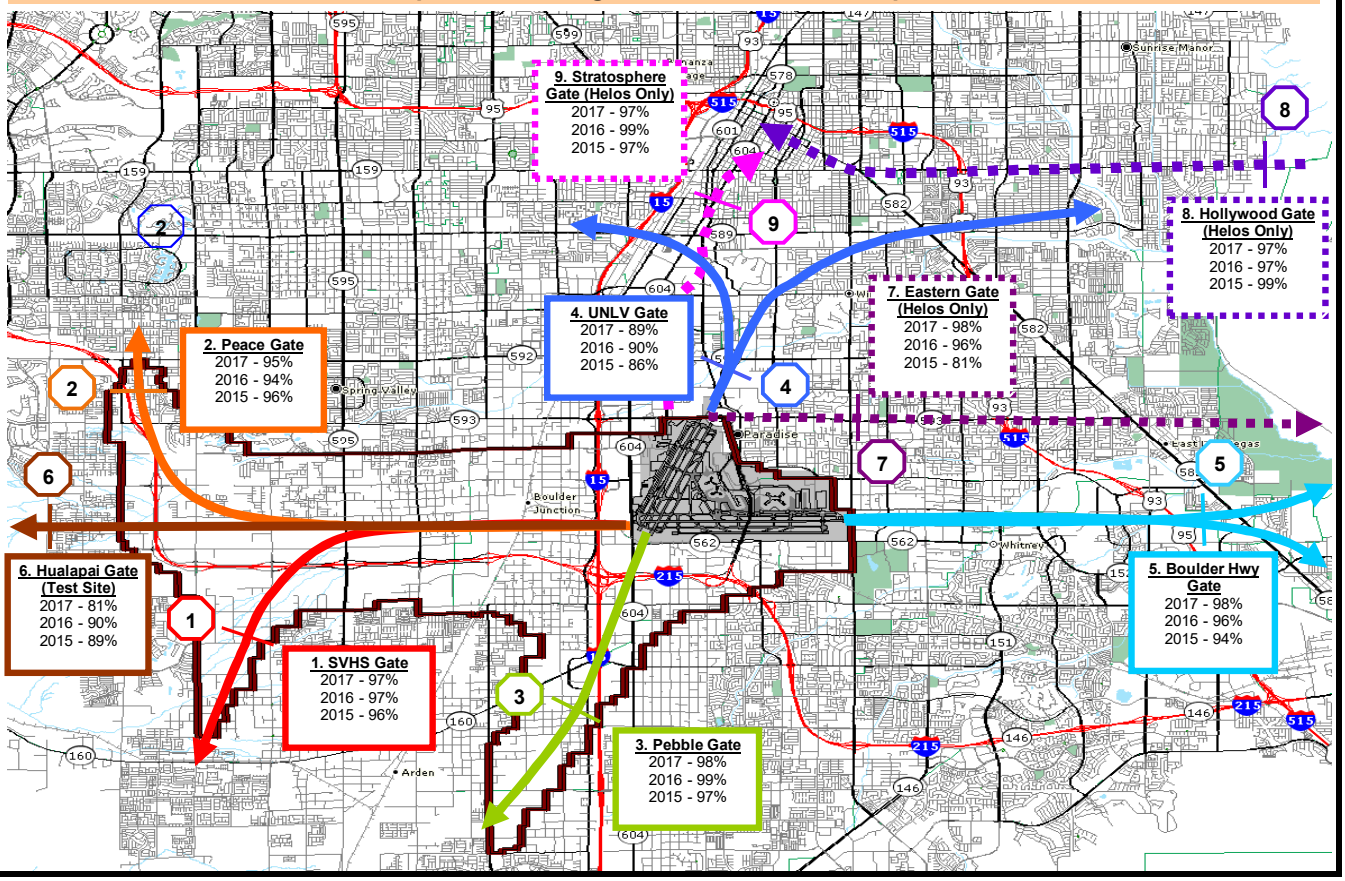


Exhibit 9: "Gate" Compliance for Large Aircraft* & LAS Helicopter Tours - Annual 2017



* 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, A340, B707, B717, B727, B737, B747, B757, B767, B777, CRJ7, CRJ9, DC8, DC9, DC10, E170, E190, HA4T, L1011, MD80, MD90, MD10, MD11, VC10.

Exhibit 10: Total Calls/Callers by Month - 2015 through 2017

Year	January	February	March	April	May	June	July	August	September	October	November	December	January through December Total	Average No. of Calls per Caller
2017 Number of Calls	58	62	65	46	62	26	24	38	77	85	24	27	594	3.5
2017 Number of Callers	26	23	30	28	31	9	13	20	39	32	17	14	169	
2016 Number of Calls	69	81	60	85	98	17	14	25	29	56	55	40	629	3.1
2016 Number of Callers	28	20	33	48	54	12	10	22	17	31	24	15	205	
2015 Number of Calls	518	401	524	269	256	111	92	54	481	579	489	189	3,963	18.3
2015 Number of Callers	50	29	48	16	26	17	19	15	19	35	23	15	217	

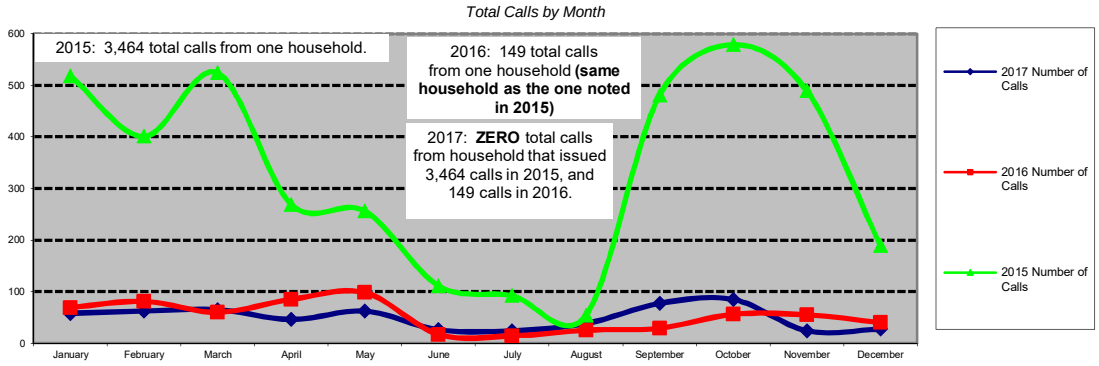


Exhibit 11: Total Monthly Calls by Time of Day - Annual 2017

Time Complaint Received	January	February	March	April	May	June	July	August	September	October	November	December	January through December Total	Percent
Day Hours (7:00 a.m. to 9:59 p.m.)	51	49	50	36	50	21	19	36	68	61	22	17	480	80.8%
Night Hours (10:00 p.m. to 6:59 a.m.)	7	13	15	10	12	5	5	2	9	24	2	10	114	19.2%
Total	**58**	**62**	**65**	**46**	**62**	**26**	**24**	**38**	**77**	**85**	**24**	**27**	**594**	**100.0%**

Exhibit 12: Total Monthly Calls by Airport/Operation - Annual 2017

Airport	January	February	March	April	May	June	July	August	September	October	November	December	January through December Total	Percent
McCarran International	51	55	62	39	40	7	16	34	72	81	21	25	503	84.7%
North Las Vegas	0	1	0	2	12	0	2	0	0	2	0	0	19	3.2%
Henderson Executive	4	3	2	1	6	0	0	4	1	0	2	2	25	4.2%
Helicopter	3	3	1	4	4	19	6	0	4	2	1	0	47	7.9%
Total	**58**	**62**	**65**	**46**	**62**	**26**	**24**	**38**	**77**	**85**	**24**	**27**	**594**	**100.0%**

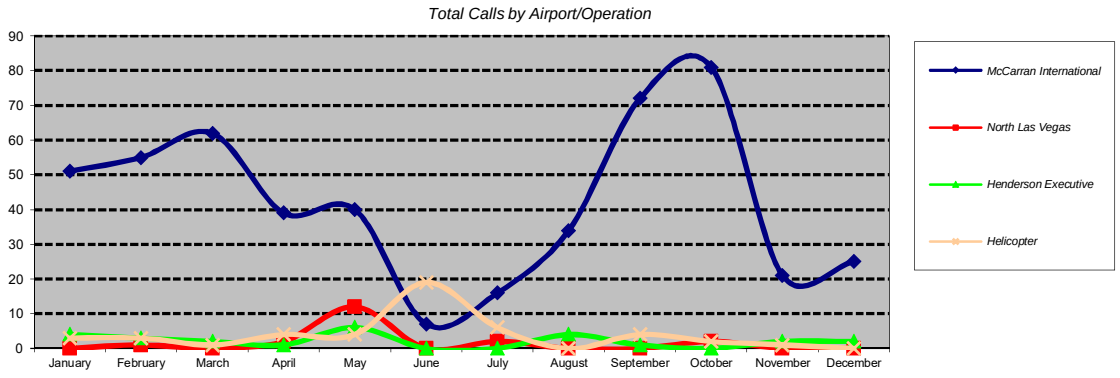


Exhibit 13: Total Monthly Calls by Community - Annual 2017

Community	January	February	March	April	May	June	July	August	September	October	November	December	January through December Total	Perrcent
City of Boulder City	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
City of Henderson	6	10	3	3	9	1	0	7	4	1	3	3	50	8.4%
City of Las Vegas	4	4	2	2	7	18	7	1	3	1	1	0	50	8.4%
City of North Las Vegas	0	3	0	0	0	0	2	0	0	2	0	0	7	1.2%
Enterprise	5	1	4	5	7	4	2	3	4	7	5	3	50	8.4%
Lone Mountain	0	0	0	2	11	0	0	0	0	0	0	0	13	2.2%
Paradise & Winchester	14	8	22	26	15	1	5	8	26	43	5	15	188	31.6%
Spring Valley	29	35	34	6	12	2	8	18	39	24	10	6	223	37.5%
Summerlin	0	0	0	0	0	0	0	0	1	1	0	0	2	0.3%
Sunrise Manor	0	1	0	0	0	0	0	1	0	6	0	0	8	1.3%
Whitney	0	0	0	1	1	0	0	0	0	0	0	0	2	0.3%
Location unknown	0	0	0	1	0	0	0	0	0	0	0	0	1	0.2%
Overall Total	**58**	**62**	**65**	**46**	**62**	**26**	**24**	**38**	**77**	**85**	**24**	**27**	**594**	**100%**

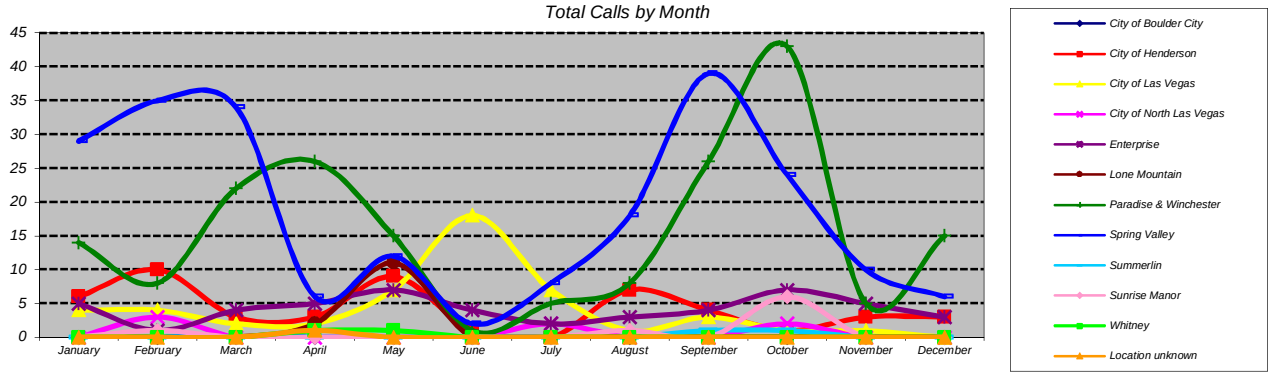


Exhibit 14: Total Monthly Calls by LAS Operation - Annual 2017

LAS Operations	January	February	March	April	May	June	July	August	September	October	November	December	January through December Total	Perrcent
LAS 01R/L Arrivals	3	0	0	1	1	0	0	0	1	0	0	1	7	1.4%
LAS 08R/L Arrivals	0	0	0	0	0	0	1	1	0	0	0	0	2	0.4%
LAS 19R/L Arrivals	0	4	1	2	1	0	0	1	0	4	1	0	14	2.8%
LAS 26R/L Arrivals	1	5	2	1	0	0	0	2	1	0	1	1	14	2.8%
LAS 01R/L Departures	38	13	39	30	21	1	3	3	34	61	7	18	268	53.3%
LAS 08R/L Departures	0	2	1	1	2	1	2	7	7	1	0	0	24	4.8%
LAS 19R/L Departures	0	0	0	1	2	0	0	0	1	2	2	0	8	1.6%
LAS 26R/L Departures	9	31	19	3	13	5	9	20	28	13	10	4	164	32.6%
LAS Run-ups	0	0	0	0	0	0	1	0	0	0	0	1	2	0.4%
LAS GA	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
LAS Canyon	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
LAS Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
LAS Total	**51**	**55**	**62**	**39**	**40**	**7**	**16**	**34**	**72**	**81**	**21**	**25**	**503**	**100.0%**