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 2016 NOISE COMPLAINT REPORTS

DATE: JANUARY 27, 2017

Attached for your review are the Clark County Department of Aviation's (CCDOA) Monthly Noise Complaint Reports for October, November, and December 2016. Also included is the 2016 Annual Noise Complaint Report, covering the period of January through December 2016. 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. 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 2016: 56 total complaints - a 90% decrease from 2015 and an 89% decrease from 2014. On average, each caller (or household) issued 1.8 calls. The most calls received from one household totaled 17.

Calls by Community - (Exhibits 1 and 3)

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

Minority (between 10% and 50%): The ***Spring Valley*** community issued 25 calls (44%). 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).

The ***City of Henderson*** community issued 9 calls (16%). 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 ***Paradise and Winchester*** communities issued 6 calls (11%). These communities are typically impacted by aircraft departing to the north (from Runway 01R and Runway 01L) and aircraft arriving from the north (into Runways 19R and 19L).

The ***Enterprise*** community issued 6 calls (11%). This community is typically impacted by aircraft departing to the south (from Runway 19L and Runway 19R).

The ***City of Las Vegas*** community issued 6 calls (11%). This community is typically impacted by aircraft departing to the west (from Runway 25R and Runway 25L).

Repeat Caller Impact: One household issued 30% (17 calls) of all the calls received in October 2016.

Calls by Operation - (Exhibit 2)

LAS: 80% of the total calls were due to ***LAS*** fixed-wing operations.
- 54% were due to departures to the west from Runways 25L and 25R (33% from one household).
- 21% were due to departures to the north from Runways 01L and 01R (58% from one household, which is also the same household that issued 33% of the calls for LAS Runways 25L and 25R).

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

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

Helis: 9% of the total calls were due to ***helicopter*** operations.

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

Overall: 511 daily *departures*[1] – (see footnote).
- 80% of departures were to the west, 13% north, 4% south, and 3% east.

508 daily *arrivals* – a 4% increase from 2015 and 5% increase from 2014.
- 84% of arrivals were from the east, 9% north, 6% south, and 1% west.

Daytime: 433 daily *departures*[2] – (see footnote).
- 80% of departures were to the west, 12% north, 4% east, and 3% south.

453 daily *arrivals* – a 4% increase from 2015 and a 4% increase from 2014.
- 84% of arrivals were from the east, 9% north, 6% south, and 1% west.

Nighttime: 78 daily *departures*[3] – (see footnote).
- 81% of departures were to the west, 15% north, and 4% south.

55 daily *arrivals* – a 3% increase from 2015 and a 12% increase from 2014.
- 84% of arrivals were from the east, 12% north, and 5% south.

Daytime vs. Nighttime: Approximately 85% of all *departures* and 89% of all *arrivals* occurred during the daytime hours.

[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.

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

Overall: 100 daily *departures*[4] – (see footnote).
- 77% of departures were to the south, 13% north, 7% west, and 3% east.

97 daily *arrivals* – a 4% increase from 2015 and 11% increase from 2014.
- 78% of arrivals were from the north, 11% south, 10% east, and 2% west.

Daytime: 89 daily *departures*[5] – (see footnote).
- 77% of departures were to the south, 12% north, 7% west, and 3% east.

89 daily *arrivals* – a 4% increase from 2015 and a 10% increase from 2014.
- 78% of arrivals were from the north, 10% south, 10% east, and 2% west.

Nighttime: 11 daily *departures*[6] – (see footnote).
- 75% of departures were to the south, 16% north, and 9% west.

8 daily *arrivals* – no change from 2015 and a 16% increase from 2014.
- 75% of arrivals were from the north, 17% south, 7% east, and 1% west.

Daytime vs. Nighttime: Approximately 89% of all *departures* and 92% of all *arrivals* occurred during the daytime hours.

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

Tropicana: 121 daily *departures (estimated)* - a 12% decrease from 2015 and a 2% increase from 2014.

Charleston: 122 daily *arrivals (estimated)* – an 11% decrease from 2015 and no change from 2014.

Strip: 75 daily *touch and go's (estimated)* - a 25% increase from 2015 and a 95% increase from 2014.

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

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

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

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

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

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[4] 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.

[5] See footnote #1.

[6] See footnote #1.

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 0% of the daily traffic.

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

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

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

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

Primary: In 2016, 81% departed to the ***west*** (from LAS's primary departure runways). This figure was 58% in 2015 and 66% in 2014.

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

Alternate 1: In 2016, 13% departed to the ***north*** (from LAS's alternate departure runways). This figure was 34% in 2015 and 19% in 2014.

Alternate 2: In 2016, 3% departed to the ***east*** (from LAS's alternate departure runways). This figure was 5% in 2015 and 11% in 2014.

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

SVHS: In 2016, 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 96% in 2015 and 96% in 2014.

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

Peace: In 2016, 93% of the large air carrier aircraft (excluding those destined to the Nevada National Security Site) that departed to the west from Runways 25L or 25R and made a right-hand turn were within 0.3 NM of the intersection of ***Peace Way & Summers Shade Street***. This figure was 95% in 2015 and 97% in 2014.

The Peace "compliance gate" is located northeast of Tropicana Ave. and I-215, approximately 6 miles due west and 2 miles due north of the extended runway centerline of Runways 25L and 25R. This gate was also established along an existing noise

abatement flight track which requests pilots to proceed runway heading to 4 nautical miles from the Las Vegas VORTAC before turning right (or towards the north) - where large air carrier aircraft have historically been encouraged to operate. This noise abatement flight track avoids communities impacted by aircraft turning early along this corridor (like the Spanish Trail community) and aircraft turning late along this corridor (like the Summerlin South community).

Pebble: In 2016, 98% of the large air carrier aircraft (excluding those destined to the Nevada National Security Site) that departed to the south from Runways 19L or 19R were within 0.3 NM of the intersection of ***Pebble Road & Arville Street***. This figure was 100% in 2015 and 99% in 2014.

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

UNLV: In 2016, 90% of the large air carrier aircraft that departed to the north from Runways 01L or 01R were within 0.3 NM of the ***UNLV sports complex***. This figure was 92% in 2015 and 82% in 2014.

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

Boulder: In 2016, 97% of the large air carrier aircraft that departed to the north from Runways 07L or 07R were within 0.3 NM of the extended runway centerline, near ***Boulder Highway***. This figure was 99% in 2015 and 97% in 2014.

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

Hualapai: In 2016, 90% 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 92% in 2015 and 92% in 2014.

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

Eastern: In 2016, 98% of the touring helicopters destined east of the Las Vegas Valley were within 500 feet of the intersection of ***Tropicana Avenue & Eastern Avenue***. This figure was 98% in 2015 and 93% in 2014.

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 2016, 97% of the touring helicopters returning from areas east of the Las Vegas Valley were within 500 feet of the intersection of ***Charleston Boulevard & Hollywood Boulevard***. This figure was 96% in 2015 and 99% in 2014.

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

Stratosphere: In 2016, 99% of the north-bound helicopters providing tours of the Las Vegas Strip were within 500 feet of the intersection of Oakey Boulevard & Las Vegas Boulevard, ***northeast of the Stratosphere Tower***. This figure was 99% in 2015 and 99% in 2014.

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

The information denoted in this monthly summary represents **typical** residential complaints, flight activity, fleet mix, and gate compliance.

November 2016: 55 total complaints - an 89% decrease from 2015 and a 95% decrease from 2014. On average, each caller (or household) issued 2.3 calls. The most calls received from one household totaled 20.

Calls by Community - (Exhibits 1 and 3)

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

Minority (between 10% and 50%): The ***Spring Valley*** community issued 26 calls (47%). (See October 2016 synopsis of typical aircraft overflight impacts on this community.)

The ***Paradise and Winchester*** communities issued 18 calls (33%). (See October 2016 synopsis of typical aircraft overflight impacts on this community.)

Repeat Caller Impact: One household issued 36% (20 calls) of all the calls received in November 2016.

Calls by Operation - (Exhibit 2)

LAS: 95% of the total calls received were due to ***LAS*** fixed-wing operations.
- 51% were due to departures to the north from Runways 01L and 01R. (39% from one household).
- 33% were due to departures to the west from Runways 25L and 25R. (50% from one household, which is the same household that issued 39% of the calls for LAS Runways 01L and 01R).

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

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

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

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

Overall: 487 daily *departures*[7] – (see footnote).
- 75% of departures were to the west, 17% north, 5% east, and 3% south.

483 daily *arrivals* – a 2% increase from 2015 and 7% increase from 2014.
- 82% of arrivals were from the east, 13% south, and 5% north.

Daytime: 411 daily *departures*[8] – (see footnote).
- 75% of departures were to the west, 16% north, 6% east, and 3% south.

429 daily *arrivals* – a 3% increase from 2015 and a 5% increase from 2014.
- 82% of arrivals were from the east, 13% south, and 5% north.

[7] 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.

[8] See footnote #1.

Nighttime: 76 daily *departures*[9] – (see footnote).
- 75% of departures were to the west, 20% north, 3% south, and 1% east.

54 daily *arrivals* – a 2% decrease from 2015 and a 21% increase from 2014.
- 82% of arrivals were from the east, 12% south, and 6% north.

Daytime vs. Nighttime: Approximately 84% of all *departures* and 89% of all *arrivals* occurred during the daytime hours.

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

Overall: 94 daily *departures*[10] – (see footnote).
- 68% of departures were to the south, 20% north, 7% west, and 6% east.

91 daily *arrivals* – a 9% decrease from 2015 and 3% increase from 2014.
- 71% of arrivals were from the north, 19% south, 10% east, and 1% west.

Daytime: 85 daily *departures*[11] – (see footnote).
- 68% of departures were to the south, 19% north, 6% east, and 6% west.

86 daily *arrivals* – a 9% decrease from 2015 and a 4% increase from 2014.
- 70% of arrivals were from the north, 19% south, 10% east, and 1% west.

Nighttime: 9 daily *departures*[12] – (see footnote).
- 62% of departures were to the south, 27% north, 9% west, and 2% east.

5 daily *arrivals* – a 16% decrease from 2015 and an 18% decrease from 2014.
- 72% of arrivals were from the north, 16% south, 11% east, and 1% west.

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

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

Tropicana: 91 daily *departures (estimated)* - a 15% decrease from 2015 and no change from 2014.

Charleston: 92 daily *arrivals (estimated)* – an 18% decrease from 2015 and no change from 2014.

Strip: 67 daily *touch and go's (estimated)* - a 27% increase from 2015 and a 97% increase from 2014.

Daytime vs. Nighttime: Approximately 98% of all helicopter tour operations occurred during the daytime hours.

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[9] See footnote #1.

[10] 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.

[11] See footnote #1.

[12] 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 2% of the daily traffic.

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

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

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

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

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

Helos: ***Touring helicopters*** accounted for 22% of the daily traffic.

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

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

Primary: In 2016, 75% departed to the ***west*** (from LAS's primary departure runways). This figure was 3% in 2015 and 2% in 2014.

Secondary: In 2016, 3% departed to the ***south*** (from LAS's secondary departure runways). This figure was 18% in 2015 and 16% in 2014.

Alternate 1: In 2016, 17% departed to the ***north*** (from LAS's alternate departure runways). This figure was 76% in 2015 and 75% in 2014.

Alternate 2: In 2016, 5% departed to the ***east*** (from LAS's alternate departure runways). This figure was 3% in 2015 and 7% in 2014.

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

SVHS: In 2016, 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 92% in 2015 and 94% in 2014. (See October 2016 synopsis for specific location of the SVHS gate.)

Peace: In 2016, 94% of the large air carrier aircraft (excluding those destined to the Nevada 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 41% in 2015 and 92% in 2014. (See October 2016 synopsis for specific location of the Peace gate.)

Pebble: In 2016, 99% 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 2015 and 98% in 2014. (See October 2016 synopsis for specific location of the Pebble gate.)

UNLV: In 2016, 85% of the large air carrier aircraft that departed to the north from Runways 01L or 01R were within 0.3 NM of the ***UNLV sports complex***. This figure was 92% in 2015 and 83% in 2014. (See October 2016 synopsis for specific location of the UNLV gate.)

Boulder: In 2016, 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 2015 and 90% in 2014. (See October 2016 synopsis for specific location of the Boulder Hwy. gate.)

Hualapai: In 2016, 86% 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 82% in 2015 and 90% in 2014. (See October 2016 synopsis for specific location of the Hualapai gate.)

Eastern: In 2016, 97% of the touring helicopters destined east of the Las Vegas Valley were within 500 feet of the intersection of ***Tropicana Avenue & Eastern Avenue***. This figure was 98% in 2015 and 89% in 2014. (See October 2016 synopsis for specific location of the Eastern gate.)

Hollywood: In 2016, 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 95% in 2015 and 96% in 2014. (See October 2016 synopsis for specific location of the Hollywood gate.)

Stratosphere: In 2016, 99% of the north-bound helicopters providing tours of the Las Vegas Strip were within 500 feet of the intersection of Oakey Boulevard & Las Vegas Boulevard, ***northeast of the Stratosphere Tower***. This figure was 99% in 2015 and 99% in 2014. (See October 2016 synopsis for specific location of the Stratosphere gate.)

The information denoted in this monthly summary represents **typical** residential complaints, flight activity, fleet mix, and gate compliance with the exception of increased northbound departures.

December 2016: 40 total complaints – a 79% decrease from 2015 and a 94% decrease from 2014. On average, each caller (or household) issued 2.7 calls. The most calls received from one household totaled 16.

Calls by Community - (Exhibits 1 and 3)

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

Minority (between 10% and 50%): The ***Spring Valley*** community issued 17 calls (43%). (See October 2016 synopsis of typical aircraft overflight impacts on this community.)

The ***Paradise and Winchester*** communities issued 16 calls (40%). (See October 2016 synopsis of typical aircraft overflight impacts on this community.)

The ***City of Las Vegas*** community issued 4 calls (10%). (See October 2016 synopsis of typical aircraft overflight impacts on this community.)

Repeat Caller Impact: One household issued 40% (16 calls) of all the calls received in December 2016.

Calls by Operation - (Exhibit 2)

LAS: 90% of the total calls received were due to ***LAS*** fixed-wing operations.
- 65% were due to departures to the north from Runways 01L and 01R (50% from one household).
- 25% were due to departures to the west from Runways 25L and 25R.

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

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

Helis: 10% of the total calls received were due to ***helicopter*** operations.

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

Overall: 470 daily *departures*[13] – (see footnote).
- 67% of departures were to the west, 28% north, 3% south, and 2% east.

465 daily *arrivals* – no change from 2015 and 5% increase from 2014.
- 82% of arrivals were from the east, 13% south, and 5% north.

Daytime: 392 daily *departures*[14] – (see footnote).
- 66% of departures were to the west, 29% north, 3% east, and 3% south.

402 daily *arrivals* – a 2% decrease from 2015 and a 3% increase from 2014.
- 81% of arrivals were from the east, 14% south, and 5% north.

Nighttime: 79 daily *departures*[15] – (see footnote).
- 73% of departures were to the west, 23% north, and 3% south.

62 daily *arrivals* – an 18% increase from 2015 and a 23% increase from 2014.
- 86% of arrivals were from the east, 8% south, and 5% north.

Daytime vs. Nighttime: Approximately 83% of all *departures* and 87% of all *arrivals* occurred during the daytime hours.

[13] 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.

[14] See footnote #1.

[15] See footnote #1.

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

Overall: 85 daily *departures*[16] – (see footnote).
- 60% of departures were to the south, 30% north, 7% west, and 4% east.

86 daily *arrivals* – a 1% decrease from 2015 and 4% increase from 2014.
- 57% of arrivals were from the north, 26% south, and 17% east.

Daytime: 77 daily *departures*[17] – (see footnote).
- 58% of departures were to the south, 31% north, 7% west, and 4% east.

80 daily *arrivals* – a 1% decrease from 2015 and a 4% increase from 2014.
- 56% of arrivals were from the north, 26% south, and 17% east.

Nighttime: 8 daily *departures*[18] – (see footnote).
- 73% of departures were to the south, 22% north, 4% west, and 1% east.

5 daily *arrivals* – a 5% decrease from 2015 and a 2% increase from 2014.
- 63% of arrivals were from the north, 28% south, and 9% east.

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

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

Tropicana: 67 daily *departures (estimated)* - an 18% decrease from 2015 and a 2% decrease from 2014.

Charleston: 69 daily *arrivals (estimated)* – a 25% decrease from 2015 and a 3% decrease from 2014.

Strip: 56 daily *touch and go's (estimated)* - a 19% increase from 2015 and a 79% increase from 2014.

Daytime vs. Nighttime: Approximately 98% of all helicopter tour operations occurred during the daytime hours.

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

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

Large: ***Large*** air carrier turbine-driven aircraft (those weighing more than 75,000 lbs. and less than 300,000 lbs.) accounted for 67% of the daily traffic.

[16] 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.

[17] See footnote #1.

[18] See footnote #1.

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

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

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

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

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

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

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

Primary: In 2016, 52% departed to the ***west*** (from LAS's primary departure runways). This figure was 2% in 2015 and 1% in 2014.

Secondary: In 2016, 8% departed to the ***south*** (from LAS's secondary departure runways). This figure was 8% in 2015 and 6% in 2014.

Alternate 1: In 2016, 28% departed to the ***north*** (from LAS's alternate departure runways). This figure was 89% in 2015 and 86% in 2014.

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

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

SVHS: In 2016, 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 93% in 2015 and 89% in 2014. (See October 2016 synopsis for specific location of the SVHS gate.)

Peace: In 2016, 94% of the large air carrier aircraft (excluding those destined to the Nevada 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 64% in 2015 and 100% in 2014. (See October 2016 synopsis for specific location of the Peace gate.)

Pebble: In 2016, 97% of the large air carrier aircraft (excluding those destined to the Nevada 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 2015 and 93% in 2014. (See October 2016 synopsis for specific location of the Pebble gate.)

UNLV: In 2016, 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 91% in 2015 and 84% in 2014. (See October 2016 synopsis for specific location of the UNLV gate.)

Boulder: In 2016, 99% of the large air carrier aircraft that departed to the north from Runways 07L or 07R were within 0.3 NM of the extended runway centerline, near ***Boulder Highway***. This figure was 98% in 2015 and 89% in 2014. (See October 2016 synopsis for specific location of the Boulder Hwy. gate.)

Hualapai: In 2016, 86% 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 71% in 2015 and 89% in 2014. (See October 2016 synopsis for specific location of the Hualapai gate.)

Eastern: In 2016, 98% of the touring helicopters destined east of the Las Vegas Valley were within 500 feet of the intersection of ***Tropicana Avenue & Eastern Avenue***. This figure was 99% in 2015 and 85% in 2014. (See October 2016 synopsis for specific location of the Eastern gate.)

Hollywood: In 2016, 97% of the touring helicopters returning from areas east of the Las Vegas Valley were within 500 feet of the intersection of ***Charleston Boulevard & Hollywood Boulevard***. This figure was 98% in 2015 and 99% in 2014. (See October 2016 synopsis for specific location of the Hollywood gate.)

Stratosphere: In 2016, 99% of the north-bound helicopters providing tours of the Las Vegas Strip were within 500 feet of the intersection of Oakey Boulevard & Las Vegas Boulevard, ***northeast of the Stratosphere Tower***. This figure was 99% in 2015 and 99% in 2014. (See October 2016 synopsis for specific location of the Stratosphere gate.)

The information denoted in this monthly summary represents **typical** residential complaints, flight activity, fleet mix, and gate compliance with the exception of increased northbound departures.

Annual Noise Complaint Summaries

2016: 629 total complaints – an 84% decrease from 2015 and a 90% decrease from 2014. On average, each caller (or household) issued 3.0 calls. The most calls received from one household totaled 149.

Calls by Community - (Exhibits 1 and 3)

Majority (more than 50%): The ***Paradise and Winchester*** communities issued 312 calls (50%). (See October 2016 synopsis of typical aircraft overflight impacts on this community.)

Minority (between 10% and 50%): The ***Spring Valley*** community issued 108 calls (17%). (See October 2016 synopsis of typical aircraft overflight impacts on this community.)

The ***City of Las Vegas*** community issued 76 calls (12%). (See October 2016 synopsis of typical aircraft overflight impacts on this community.)

The ***Enterprise*** community issued 66 calls (11%). (See October 2016 synopsis of typical aircraft overflight impacts on this community.)

Repeat Caller Impact: One household issued 24% (149 calls) of all the calls received in 2016.

Calls by Operation - (Exhibit 2)

LAS: 85% of the total calls received were due to ***LAS*** fixed-wing operations.
- 52% were due to departures to the north from Runways 01L and 01R (48% from two households).
- 20% were due to departures to the west from Runways 25L and 25R (44% from two households, which are the same two households that issued 48% of the calls for LAS Runways 01L and 01R).

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

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

Helis: 12% of the total calls received were due to ***helicopter*** operations.
- 55% from two households, one of which is part of the same two households that issued 48% of the calls from LAS Runways 01L and 01R and 44% of the calls from LAS Runways 25L and 25R.

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

Overall: 492 daily *departures*[19] – (see footnote).
- 52% of departures were to the west, 32% north, 8% south, and 8% east.

489 daily *arrivals* – a 2% increase from 2015 and 5% increase from 2014.
- 73% of arrivals were from the east, 15% south, 10% north, and 2% west.

Daytime: 406 daily *departures*[20] – (see footnote).
- 51% of departures were to the west, 32% north, 10% east, and 8% south.

428 daily *arrivals* – a 3% increase from 2015 and a 4% increase from 2014.
- 71% of arrivals were from the east, 16% south, 10% north, and 2% west.

Nighttime: 86 daily *departures*[21] – (see footnote).
- 58% of departures were to the west, 32% north, 9% south, and 1% east.

61 daily *arrivals* – a 5% decrease from 2015 and a 15% increase from 2014.
- 80% of arrivals were from the east, 12% south, and 8% north.

Daytime vs. Nighttime: Approximately 83% of all *departures* and 88% of all *arrivals* occurred during the daytime hours.

[19] 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.

[20] See footnote #1.

[21] See footnote #1.

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

Overall: 93 daily *departures*[22] – (see footnote).
- 52% of departures were to the south, 34% north, 9% east, and 6% west.

91 daily *arrivals* – a 1% decrease from 2015 and 2% decrease from 2014.
- 55% of arrivals were from the north, 27% south, 15% east, and 3% west.

Daytime: 84 daily *departures*[23] – (see footnote).
- 51% of departures were to the south, 34% north, 9% east, and 6% west.

84 daily *arrivals* – a 1% decrease from 2015 and a 2% decrease from 2014.
- 55% of arrivals were from the north, 26% south, 15% east, and 4% west.

Nighttime: 10 daily *departures*[24] – (see footnote).
- 59% of departures were to the south, 32% north, 8% west, and 1% east.

7 daily *arrivals* – a 3% decrease from 2015 and a 5% increase from 2014.
- 62% of arrivals were from the north, 29% south, 9% east, and 1% 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: 101 daily *departures* – a 7% decrease from 2015 and 7% decrease from 2014.

Charleston: 100 daily *arrivals* - a 10% decrease from 2015 and 8% decrease from 2014.

Strip: 67 daily *touch and go's* - a 22% increase from 2015 and 72% increase from 2014.

Daytime vs. Nighttime: Approximately 94% of all helicopter tour operations occurred during the daytime hours.

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

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

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

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

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[22] 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.

[23] See footnote #1.

[24] See footnote #1.

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 22% of the daily traffic.

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

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

Primary: In 2016, 52% departed to the ***west*** (from LAS's primary departure runways). This figure was 42% in 2015 and 60% in 2014.

Secondary: In 2016, 8% departed to the ***south*** (from LAS's secondary departure runways). This figure was 9% in 2015 and 4% in 2014.

Alternate 1: In 2016, 32% departed to the ***north*** (from LAS's alternate departure runways). This figure was 39% in 2015 and 22% in 2014.

Alternate 2: In 2016, 8% departed to the ***east*** (from LAS's alternate departure runways). This figure was 11% in 2015 and 14% in 2014.

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

SVHS: In 2016, 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 96% in 2015 and 95% in 2014. (See October 2016 synopsis for specific location of the SVHS gate.)

Peace: In 2016, 94% of the large air carrier aircraft (excluding those destined to the Nevada 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 96% in 2015 and 96% in 2014. (See October 2016 synopsis for specific location of the Peace gate.)

Pebble: In 2016, 99% 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 2015 and 97% in 2014. (See October 2016 synopsis for specific location of the Pebble gate.)

UNLV: In 2016, 90% of the large air carrier aircraft that departed to the north from Runways 01L or 01R were within 0.3 NM of the ***UNLV sports complex***. This figure was 86% in 2015 and 82% in 2014. (See October 2016 synopsis for specific location of the UNLV gate.)

Boulder: In 2016, 96% of the large air carrier aircraft that departed to the north from Runways 07L or 07R were within 0.3 NM of the extended runway centerline, near ***Boulder Highway***. This figure was 94% in 2015 and 95% in 2014. (See October 2016 synopsis for specific location of the Boulder Hwy. gate.)

Hualapai: In 2016, 90% 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 89% in 2015 and 90% in 2014. (See October 2016 synopsis for specific location of the Hualapai gate.)

Eastern: In 2016, 96% of the touring helicopters destined east of the Las Vegas Valley were within 500 feet of the intersection of ***Tropicana Avenue & Eastern Avenue***. This figure was 81% in 2015 and 94% in 2014. (See October 2016 synopsis for specific location of the Eastern gate.)

Hollywood: In 2016, 97% of the touring helicopters returning from areas east of the Las Vegas Valley were within 500 feet of the intersection of ***Charleston Boulevard & Hollywood Boulevard***. This figure was 99% in 2015 and 99% in 2014. (See October 2016 synopsis for specific location of the Hollywood gate.)

Stratosphere: In 2016, 99% of the north-bound helicopters providing tours of the Las Vegas Strip were within 500 feet of the intersection of Oakey Boulevard & Las Vegas Boulevard, ***northeast of the Stratosphere Tower***. This figure was 97% in 2015 and 96% in 2014. (See October 2016 synopsis for specific location of the Stratosphere gate.)

Calls by Month - (Exhibit 10)

Seasonal Trends: The majority of the calls received for 2016 occurred January through May, during the second phase of the runway renovation project for LAS Runway 25R/07L (62% of the total number of complaint calls received). The vast majority of calls received were associated with departures to the north and west, with most of the calls originating from three households. While historical weather conditions for the Las Vegas Valley reflect the majority of departures from LAS will utilize Runway 25L and Runway 25R, 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 78% of the total calls received by the CCDOA were issued between the hours of 7 AM and 10 PM (32% from three households) while the remaining 22% were received between the hours of 10 PM and 7 AM (65% from three households, which are the same households that issued 32% 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 2016 were attributed to LAS operations (42% from three households, which are the same households that issued 32% of the calls between 7 AM and 10 PM, and 65% of the calls between 10 PM and 7 AM).

Calls by Community - (Exhibit 13)

Community Trends: A majority of the total calls (50%) originated from the *Paradise and Winchester* communities. Calls received from *Paradise and Winchester* were attributed to northbound departures from Runway 01R. However, 48% of the total 149 calls received from these two communities were from a single household.

Calls by LAS Operations - (Exhibit 14)

LAS Trends: The majority (61%) of the total calls received were associated with typical increased departures to the north from Runways 01R and 01L (48% from two households, which are two of the three same households that issued 32% of the calls between 7 AM and 10 PM, and 65% of the calls between 10 PM and 7 AM, and 42% of the total calls attributed to LAS operations).

Other Notable Issues

Runway Renovation: On April 23, 2016, the Clark County Department of Aviation completed the second phase of the most significant capital improvement project to occur at McCarran International Airport since the opening of Terminal 3. LAS Runway 25R/07L was closed to air traffic as crews began the demolition portion of the $67 million project that will replace the runway's current asphalt with more durable concrete. This project is financed through a combination of Federal Aviation Administration (FAA) grants and airport-generated funds, no local tax dollars, and will support approximately 250 full-time equivalent construction jobs, including surveyors, contractors, fabricators, engineers and other service providers. The project was completed in two, six-month-long periods, (October 2014 to April 2015 and October 2015 to April 2016, respectively). The timing of the construction project was carefully planned to occur during the expected shift in runway use normally experienced during the winter months. Runway use during the October-through-May period shifts many flights to the north-south runways due to changing weather patterns.

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

GCS:jj

Attachments

Distribution:

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

Exhibit 1: Noise Complaint Calls by Community* - October 2016

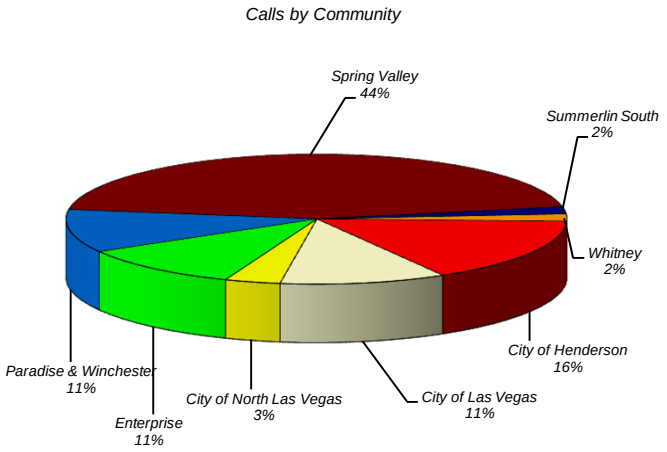
Community	No. of Calls in 2016	No. of Callers in 2016	No. of Calls in 2015	No. of Calls in 2014
City of Boulder City				
City of Henderson	9	8	10	13
City of Las Vegas	6	2	6	1
City of North Las Vegas	2	2		1
Enterprise	6	6	1	
Lone Mountain				
Paradise & Winchester	6	5	529	477
Spring Valley	25	7	28	15
Summerlin South	1	1		
Sunrise Manor			5	3
Whitney	1	1		
Location unknown				
Overall Total	**56**	**32**	**579**	**510**

Difference between 2016 and 2015 Total Calls: -90%

Difference between 2016 and 2014 Total Calls: -89%

Average Number of Calls per Caller: 1.8

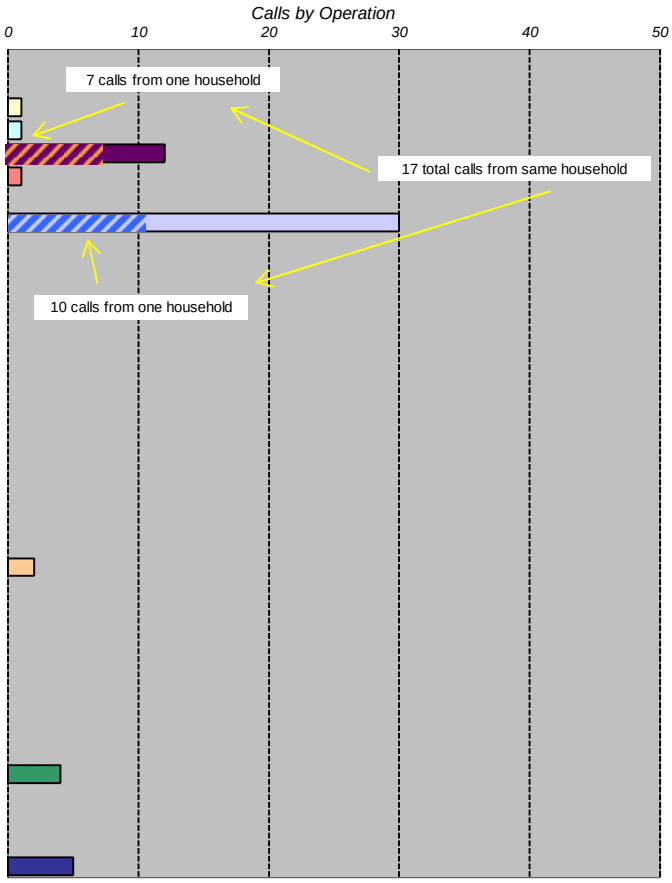
Most calls received from one household: 17



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

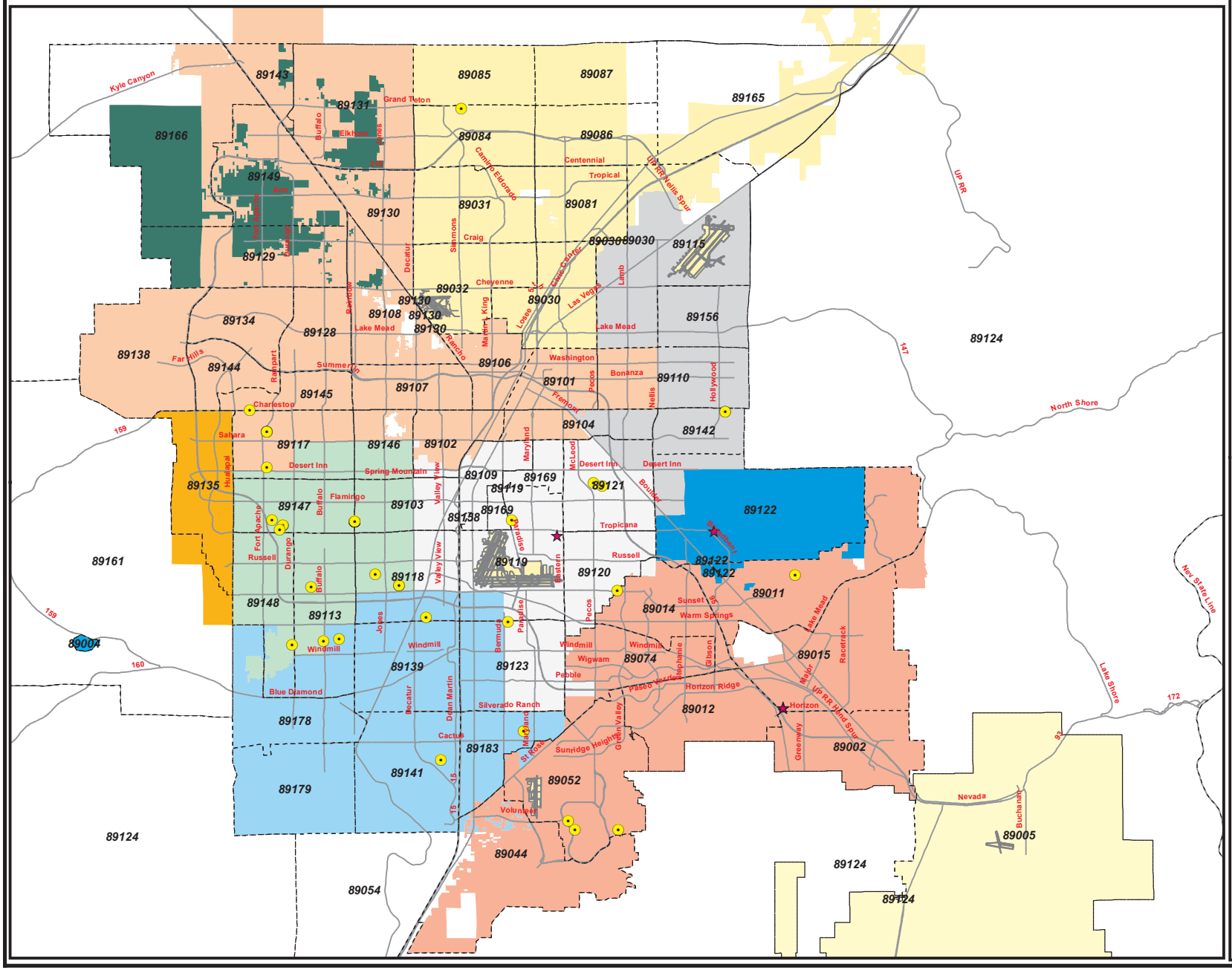
Exhibit 2: Noise Complaint Calls by Type of Operation - October 2016

Operation	No. of Calls in 2016	Percent of Overall Total	No. of Calls in 2015	No. of Calls in 2014
LAS 01R/L Arrivals				
LAS 07R/L Arrivals				
LAS 19R/L Arrivals	1	1.8%	2	
LAS 25R/L Arrivals	1	1.8%		1
LAS 01R/L Departures	12	21.4%	34	40
LAS 07R/L Departures	1	1.8%	9	9
LAS 19R/L Departures			510	1
LAS 25R/L Departures	30	53.6%	7	441
LAS Run-ups				
LAS GA				
LAS Other				
LAS Total	**45**	**80.4%**	**562**	**492**
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	3.6%	1	1
VGT Other				
VGT Total	**2**	**3.6%**	**1**	**1**
HND 17R/L Arrivals				
HND 35R/L Arrivals				
HND 17R/L Departures				
HND 35R/L Departures				
HND Run-ups				
HND GA	4	7.1%	7	10
HND Other				
HND Total	**4**	**7.1%**	**7**	**10**
Helicopters**	**5**	**8.9%**	**9**	**7**
Overall Total	**56**	**100%**	**579**	**510**



** 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 2016



Legend

Oct 2016
Total Complaints: 56

Aircraft Complaints
Received 51
Mapped 51

Helicopter Complaints
Received 5
Mapped 5

Major Streets

Airports

Zip Code Boundaries

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

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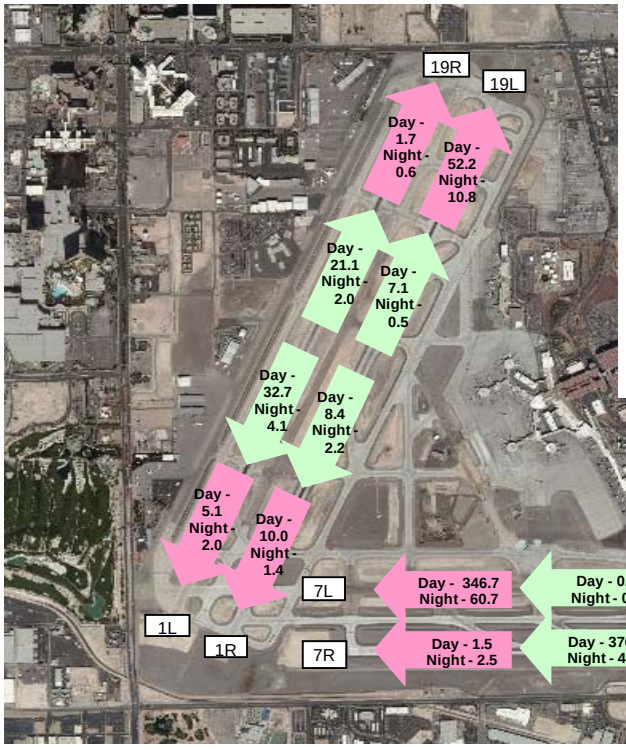
Note:
This information is for display purposes only. No liability is assumed as to the accuracy of the data delineated hereon.

2016 Noise Complaint Report

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

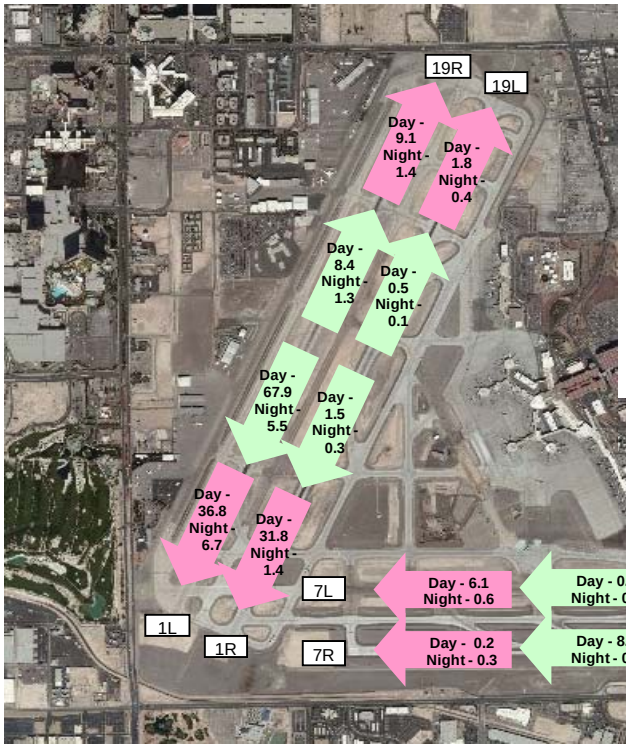


Year	2016		2015		2014	
Daytime Departures	433	85%	N/A	N/A	N/A	N/A
Nighttime Departures	78	15%	N/A	N/A	N/A	N/A
Total Departures	**511**	**100%**	**N/A**	**N/A**	**N/A**	**N/A**
Daytime Arrivals	453	89%	435	89%	435	90%
Nighttime Arrivals	55	11%	53	11%	49	10%
Total Arrivals	**508**	**100%**	**488**	**100%**	**483**	**100%**

Growth	Overall	Daytime	Nighttime
Depts. 2016 vs 2015	N/A	N/A	N/A
Depts. 2016 vs 2014	N/A	N/A	N/A
Arrivals 2016 vs 2015	4%	4%	3%
Arrivals 2016 vs 2014	5%	4%	12%

* 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 2016

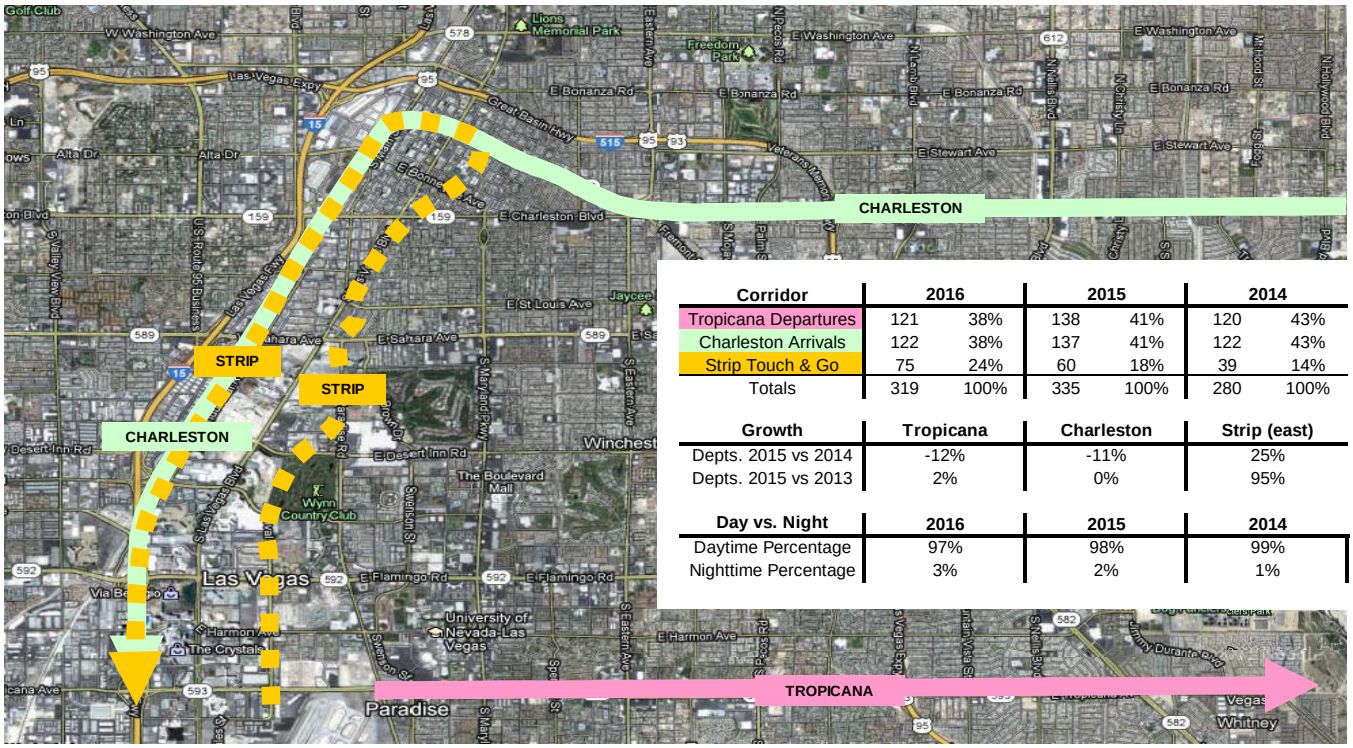


Year	2016		2015		2014	
Daytime Departures	89	89%	N/A	N/A	N/A	N/A
Nighttime Departures	11	11%	N/A	N/A	N/A	N/A
Total Departures	**100**	**100%**	**N/A**	**N/A**	**N/A**	**N/A**
Daytime Arrivals	89	92%	86	92%	81	92%
Nighttime Arrivals	8	8%	8	8%	7	8%
Total Arrivals	**97**	**100%**	**93**	**100%**	**87**	**100%**

Growth	Overall	Daytime	Nighttime
Depts. 2016 vs 2015	N/A	N/A	N/A
Depts. 2016 vs 2014	N/A	N/A	N/A
Arrivals 2016 vs 2015	4%	4%	0%
Arrivals 2016 vs 2014	11%	10%	16%

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

Exhibit 6: Las Vegas Valley Wide Daily Average Operations by Corridor for Helicopter Tours - October 2016



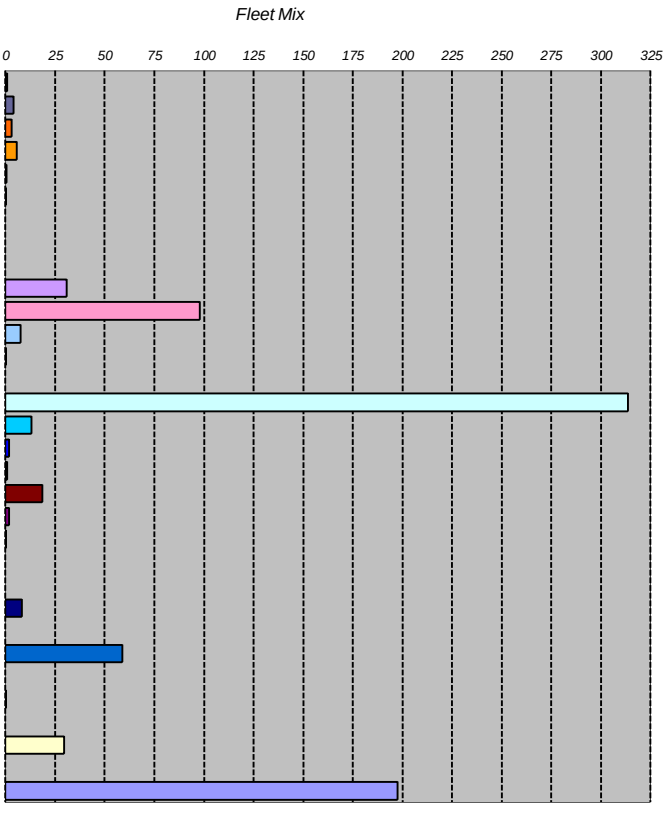
Corridor	2016		2015		2014	
Tropicana Departures	121	38%	138	41%	120	43%
Charleston Arrivals	122	38%	137	41%	122	43%
Strip Touch & Go	75	24%	60	18%	39	14%
Totals	319	100%	335	100%	280	100%

Growth	Tropicana	Charleston	Strip (east)
Depts. 2015 vs 2014	-12%	-11%	25%
Depts. 2015 vs 2013	2%	0%	95%

Day vs. Night	2016	2015	2014
Daytime Percentage	97%	98%	99%
Nighttime Percentage	3%	2%	1%

Exhibit 7: LAS Aircraft Arrival Fleet Mix* - October 2016

Operation	Daily Average in 2016	Percent of Overall Total	Daily Average in 2015	Daily Average in 2014
A300s, A310s	0.87	0.1%	0.81	0.77
A330s, A340s	4.03	0.5%	3.61	3.19
B747s	3.03	0.4%	2.32	2.29
B767s	5.77	0.7%	7.48	5.06
B777s	0.58	0.1%	1.00	0.90
DC10, L1011, MD11	0.13	0.0%	0.00	1.52
Misc. (B707s, DC8s, etc.)	0.00	0.0%	0.00	0.00
Heavy Jets (>300,000 lbs.)	**14.42**	**1.8%**	**15.23**	**13.74**
A318s, A319s	30.97	3.9%	28.00	26.65
A320s, A321s	98.00	12.3%	84.48	73.55
B717s	7.77	1.0%	5.58	0.00
B727s	0.19	0.0%	0.03	0.00
B737-100s, -200s	0.00	0.0%	0.06	0.03
B737-300s to -900s	313.55	39.4%	305.39	309.35
B757s	13.13	1.7%	18.84	22.55
BAC 111s, E170s, E190s	1.81	0.2%	6.55	0.06
CRJ7s, CRJ9s	0.87	0.1%	4.23	11.61
MD80s	18.52	2.3%	18.52	23.03
MD90s	1.81	0.2%	0.90	2.23
Misc. (Bae 146s, DC9s)	0.29	0.0%	0.19	0.23
Large Jets (>75,000 lbs.)	**486.90**	**61.2%**	**472.77**	**469.29**
Medium Jets (>41,000	**8.26**	**1.0%**	**7.45**	**6.03**
Small Jets (<41,000 lbs.)	**59.03**	**7.4%**	**58.19**	**56.90**
Military Jets	**0.03**	**0.0%**	**0.00**	**0.16**
Non-Jets & Unknowns	**29.39**	**3.7%**	**27.58**	**24.13**
Helicopter Tours	**197.60**	**24.8%**	**196.80**	**160.20**
Overall Total*	**796**	**100%**	**778**	**730**



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

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

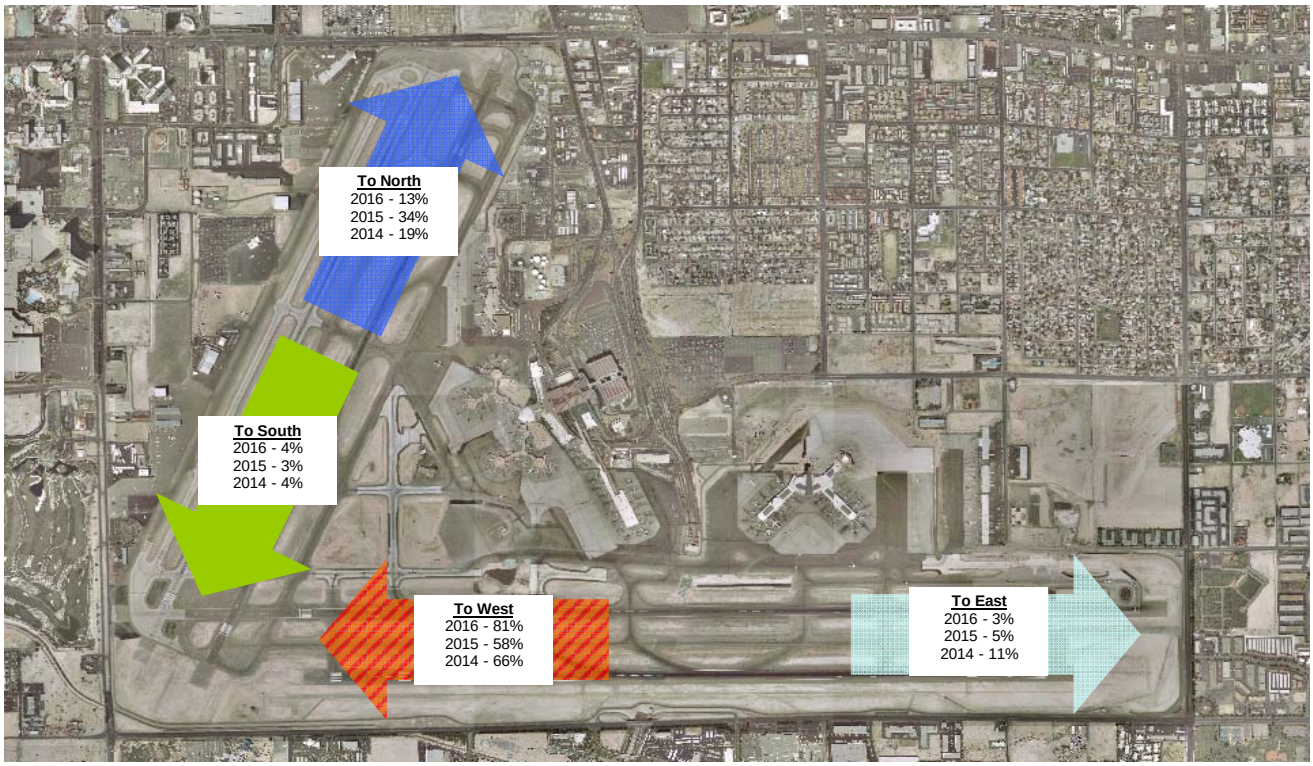
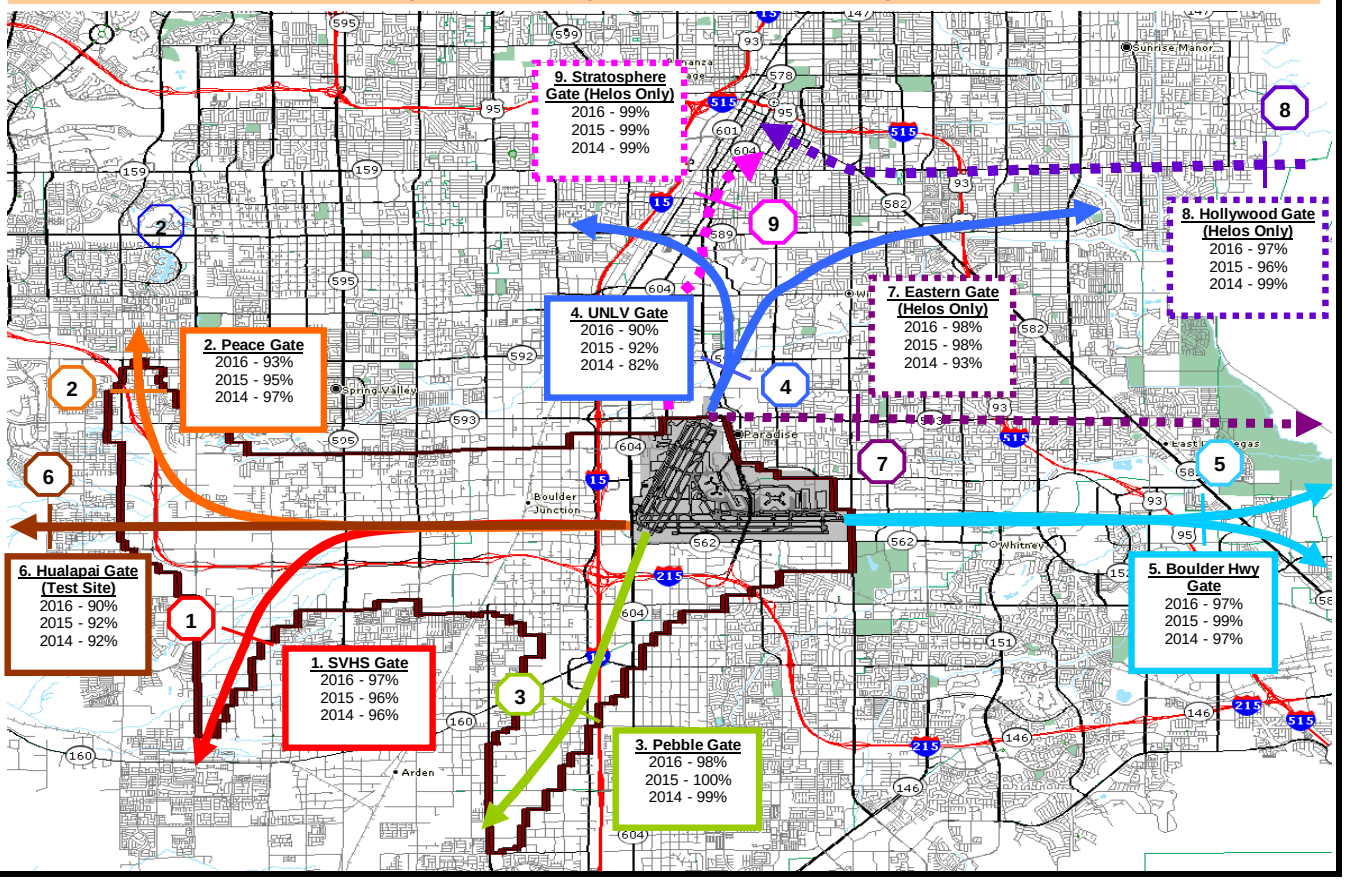


Exhibit 9: "Gate" Compliance for Large Aircraft* & LAS Helicopter Tours - October 2016



* 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 2016

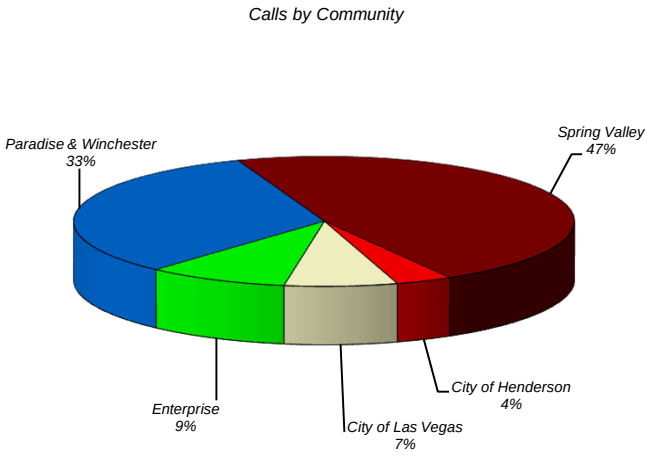
Community	No. of Calls in 2016	No. of Callers in 2016	No. of Calls in 2015	No. of Calls in 2014
City of Boulder City				
City of Henderson	2	2	5	12
City of Las Vegas	4	3	2	6
City of North Las Vegas				2
Enterprise	5	3	6	59
Lone Mountain				
Paradise & Winchester	18	9	428	1108
Spring Valley	26	7	47	10
Summerlin South				1
Sunrise Manor			1	6
Whitney				
Location unknown				
Overall Total	**55**	**24**	**489**	**1204**

Difference between 2016 and 2015 Total Calls: **-89%**

Difference between 2016 and 2014 Total Calls: **-95%**

Average Number of Calls per Caller: **2.3**

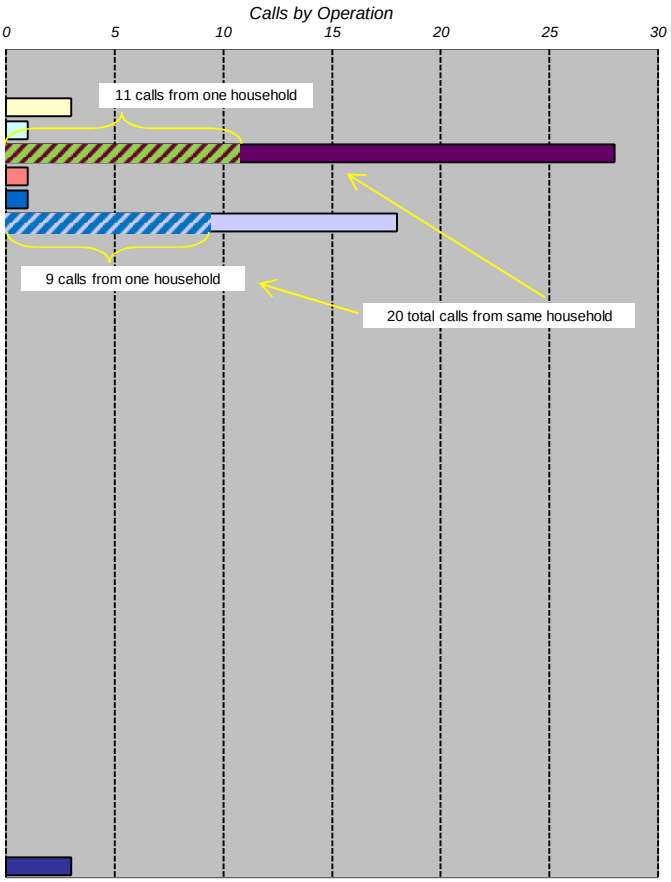
Most calls received from one household: **20**



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

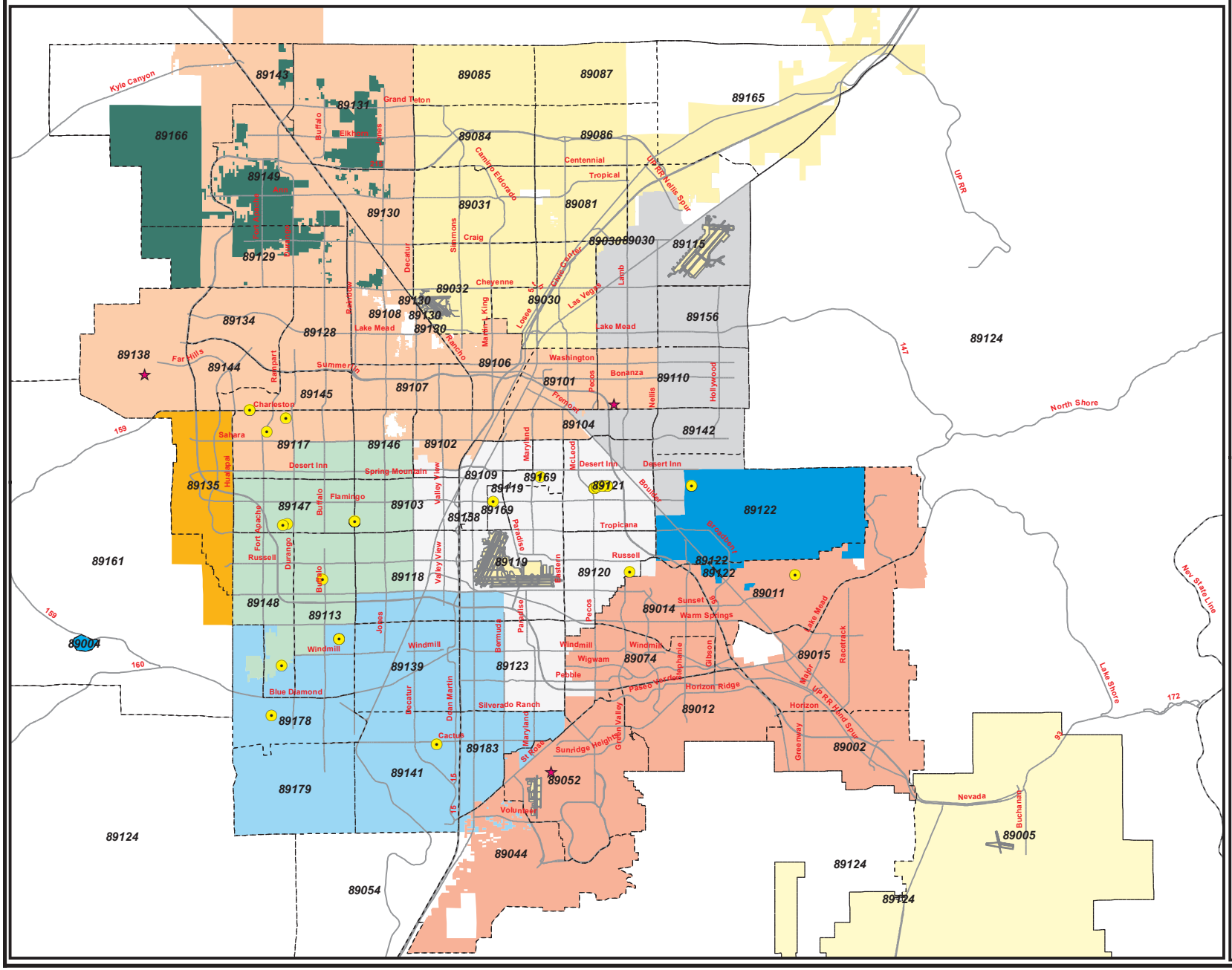
Exhibit 2: Noise Complaint Calls by Type of Operation - November 2016

Operation	No. of Calls in 2016	Percent of Overall Total	No. of Calls in 2015	No. of Calls in 2014
LAS 01R/L Arrivals				2
LAS 07R/L Arrivals				
LAS 19R/L Arrivals	3	5.5%		2
LAS 25R/L Arrivals	1	1.8%	1	
LAS 01R/L Departures	28	50.9%	108	764
LAS 07R/L Departures	1	1.8%		4
LAS 19R/L Departures	1	1.8%	367	416
LAS 25R/L Departures	18	32.7%		
LAS Run-ups				
LAS GA				
LAS Other				1
LAS Total	**52**	**94.5%**	**476**	**1,189**
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				3
VGT Other				
VGT Total	**0**	**0.0%**	**0**	**3**
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**	**3**	**5.5%**	**9**	**5**
Overall Total	**55**	**100%**	**489**	**1204**



** 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 2016



Legend

Nov 2016
Total Complaints: 55

Aircraft Complaints
Received 52
Mapped 52

Helicopter Complaints
Received 3
Mapped 3

Major Streets

Airports

Zip Code Boundaries

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

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Jan 23, 2016

Note:
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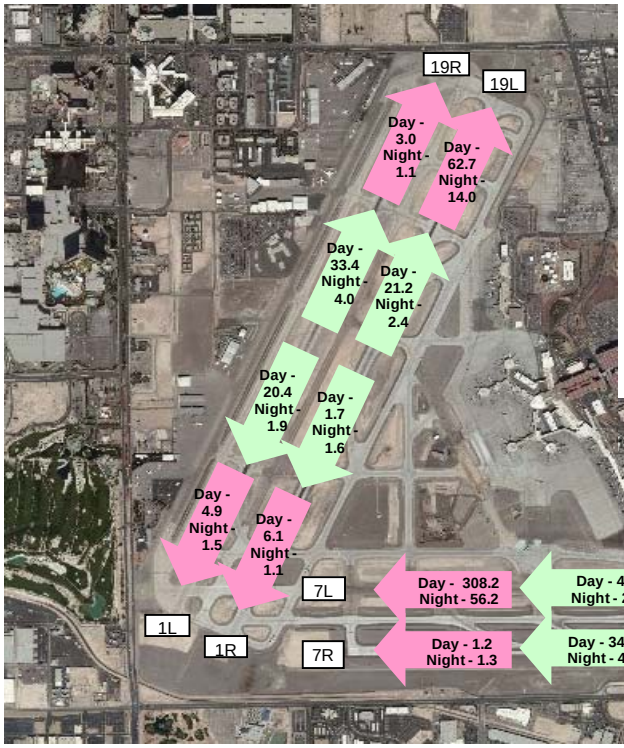
2016 Noise Complaint Report

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

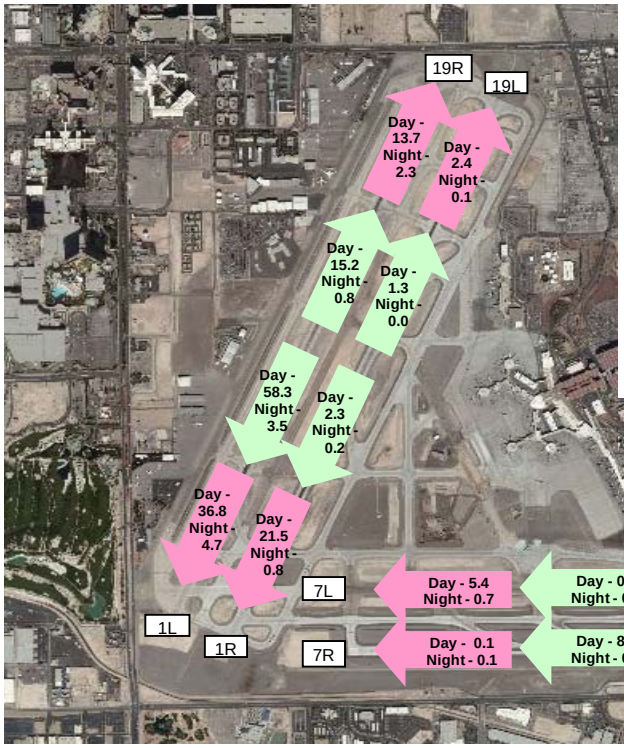


Year	2016		2015		2014	
Daytime Departures	411	84%	N/A	N/A	N/A	N/A
Nighttime Departures	76	16%	N/A	N/A	N/A	N/A
Total Departures	**487**	**100%**	**N/A**	**N/A**	**N/A**	**N/A**
Daytime Arrivals	429	89%	417	88%	407	90%
Nighttime Arrivals	54	11%	55	12%	45	10%
Total Arrivals	**483**	**100%**	**472**	**100%**	**451**	**100%**

Growth	Overall	Daytime	Nighttime
Depts. 2016 vs 2015	N/A	N/A	N/A
Depts. 2016 vs 2014	N/A	N/A	N/A
Arrivals 2016 vs 2015	2%	3%	-2%
Arrivals 2016 vs 2014	7%	5%	21%

* 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 2016

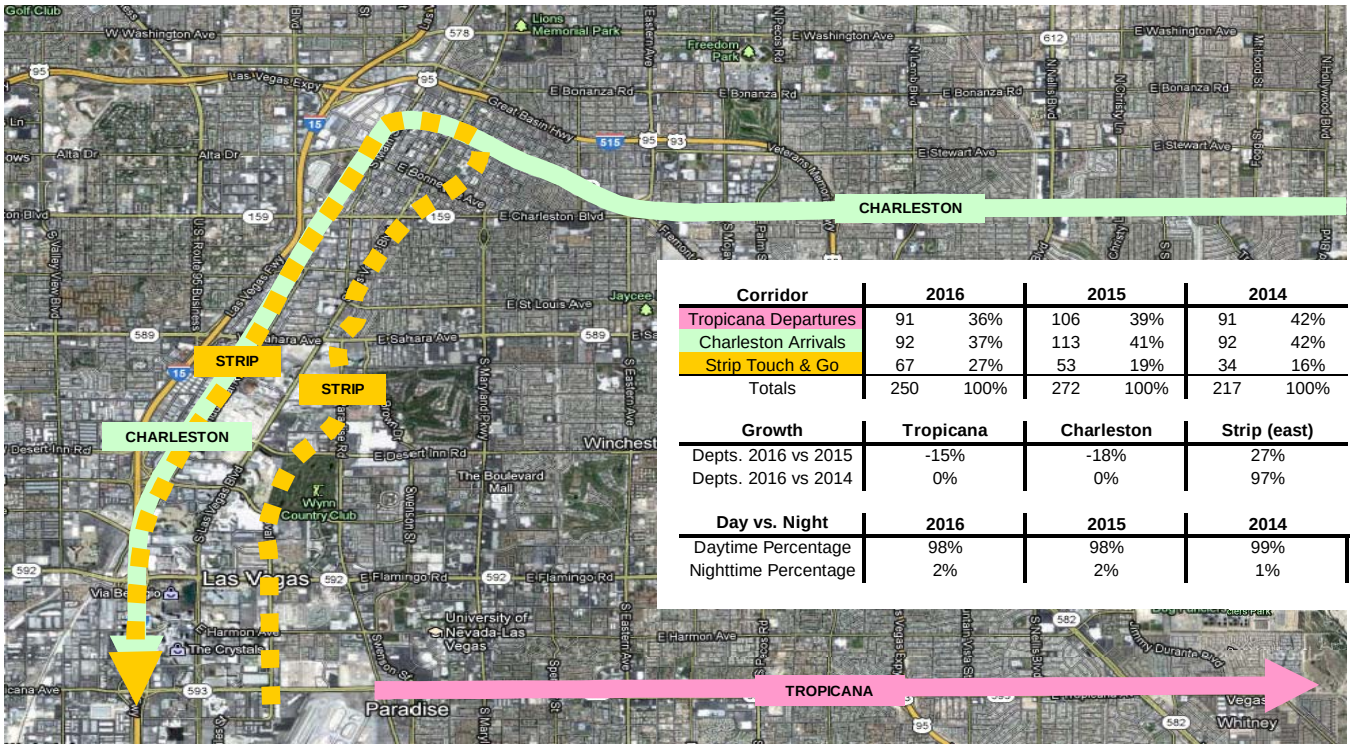


Year	2016		2015		2014	
Daytime Departures	85	91%	N/A	N/A	N/A	N/A
Nighttime Departures	9	9%	N/A	N/A	N/A	N/A
Total Departures	**94**	**100%**	**N/A**	**N/A**	**N/A**	**N/A**
Daytime Arrivals	86	94%	95	94%	83	93%
Nighttime Arrivals	5	6%	6	6%	6	7%
Total Arrivals	**91**	**100%**	**101**	**100%**	**89**	**100%**

Growth	Overall	Daytime	Nighttime
Depts. 2016 vs 2015	N/A	N/A	N/A
Depts. 2016 vs 2014	N/A	N/A	N/A
Arrivals 2016 vs 2015	-9%	-9%	-16%
Arrivals 2016 vs 2014	3%	4%	-18%

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

Exhibit 6: Las Vegas Valley Wide Daily Average Operations by Corridor for Helicopter Tours - November 2016



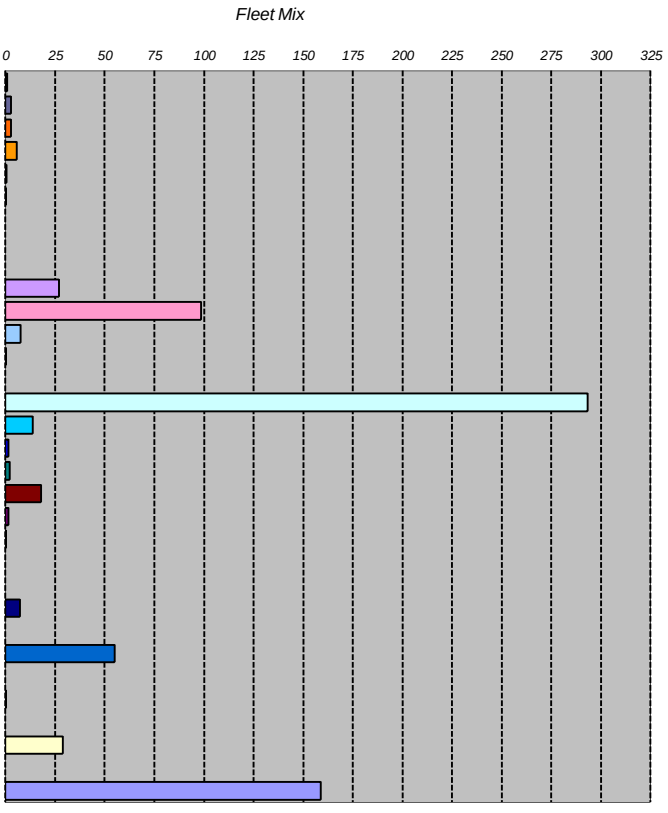
Corridor	2016		2015		2014	
Tropicana Departures	91	36%	106	39%	91	42%
Charleston Arrivals	92	37%	113	41%	92	42%
Strip Touch & Go	67	27%	53	19%	34	16%
Totals	250	100%	272	100%	217	100%

Growth	Tropicana	Charleston	Strip (east)
Depts. 2016 vs 2015	-15%	-18%	27%
Depts. 2016 vs 2014	0%	0%	97%

Day vs. Night	2016	2015	2014
Daytime Percentage	98%	98%	99%
Nighttime Percentage	2%	2%	1%

Exhibit 7: LAS Aircraft Arrival Fleet Mix* - November 2016

Operation	Daily Average in 2016	Percent of Overall Total	Daily Average in 2015	Daily Average in 2014
A300s, A310s	0.97	0.1%	0.87	0.80
A330s, A340s	2.67	0.4%	3.00	2.63
B747s	2.67	0.4%	1.87	2.00
B767s	5.67	0.8%	7.40	8.43
B777s	0.57	0.1%	1.07	0.87
DC10, L1011, MD11	0.17	0.0%	0.00	0.17
Misc. (B707s, DC8s, etc.)	0.00	0.0%	0.00	0.00
Heavy Jets (>300,000 lbs.)	**12.70**	**1.7%**	**14.20**	**14.90**
A318s, A319s	27.00	3.7%	34.17	36.17
A320s, A321s	98.63	13.6%	72.80	57.73
B717s	7.63	1.1%	5.77	0.00
B727s	0.03	0.0%	0.03	0.00
B737-100s, -200s	0.00	0.0%	0.03	0.03
B737-300s to -900s	293.27	40.4%	295.37	282.53
B757s	13.90	1.9%	18.57	17.97
BAC 111s, E170s, E190s	1.50	0.2%	7.63	1.40
CRJ7s, CRJ9s	2.20	0.3%	3.03	13.23
MD80s	17.83	2.5%	18.50	25.57
MD90s	1.50	0.2%	1.70	1.80
Misc. (Bae 146s, DC9s)	0.10	0.0%	0.27	0.10
Large Jets (>75,000 lbs.)	**463.60**	**63.8%**	**457.87**	**436.53**
Medium Jets (>41,000	**7.23**	**1.0%**	**7.60**	**4.97**
Small Jets (<41,000 lbs.)	**55.17**	**7.6%**	**63.80**	**59.27**
Military Jets	**0.03**	**0.0%**	**0.00**	**0.63**
Non-Jets & Unknowns	**28.80**	**4.0%**	**29.40**	**24.03**
Helicopter Tours	**158.70**	**21.9%**	**165.20**	**126.00**
Overall Total*	**726**	**100%**	**738**	**666**



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

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

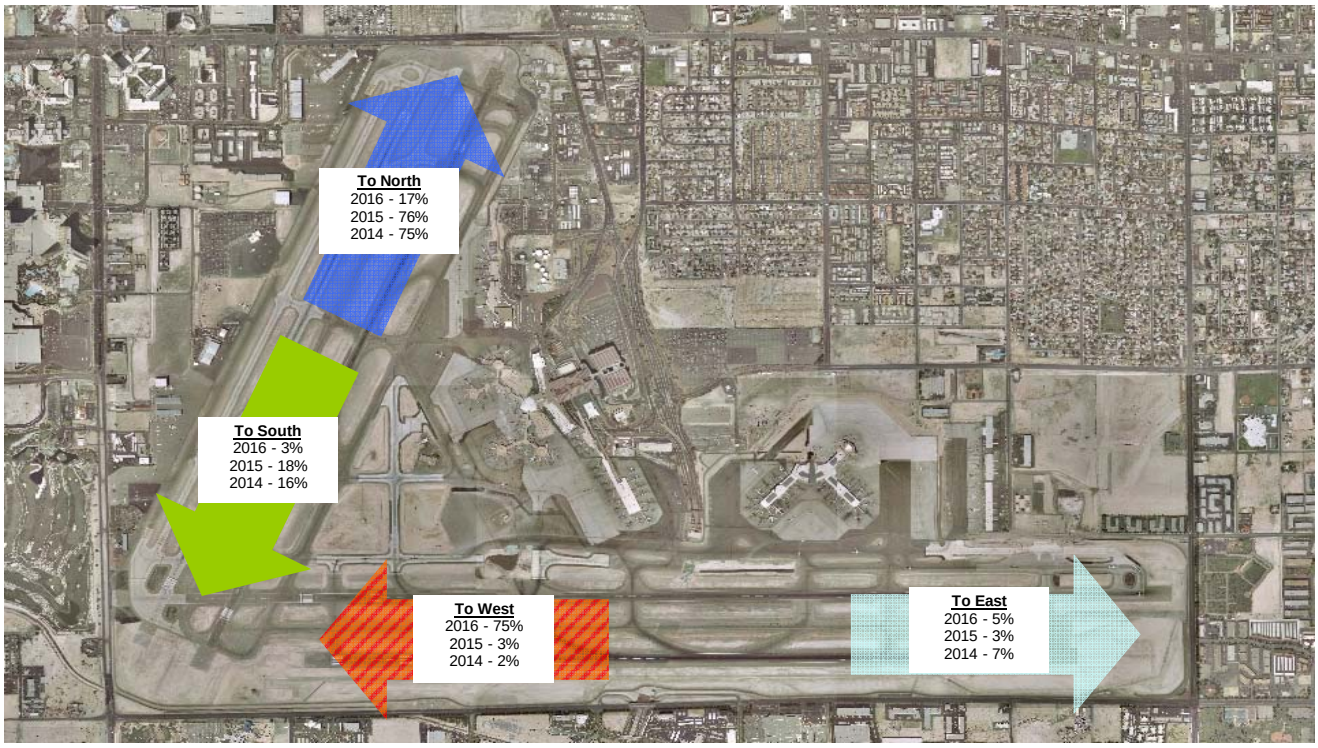
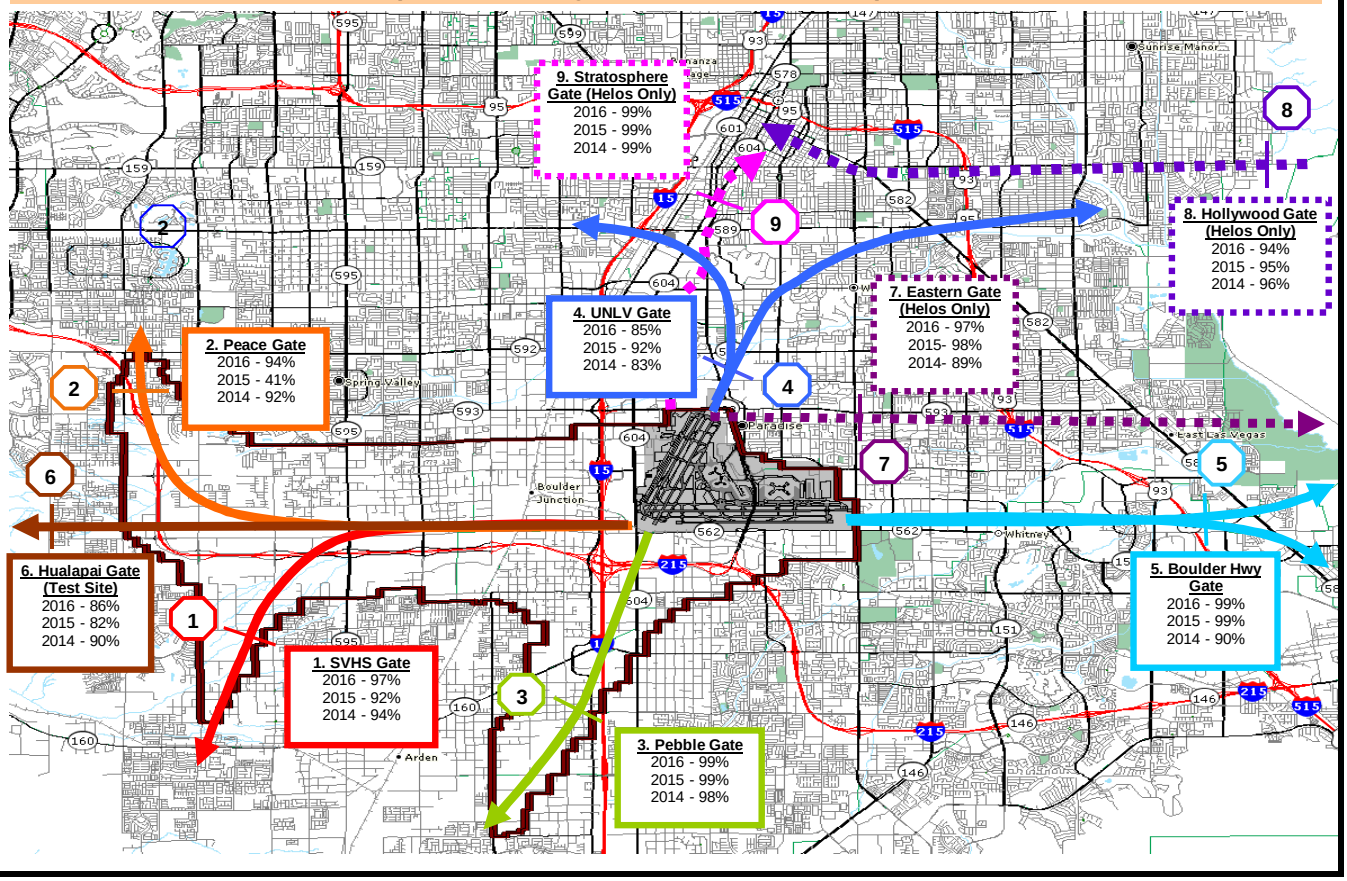


Exhibit 9: "Gate" Compliance for Large Aircraft* & LAS Helicopter Tours - November 2016

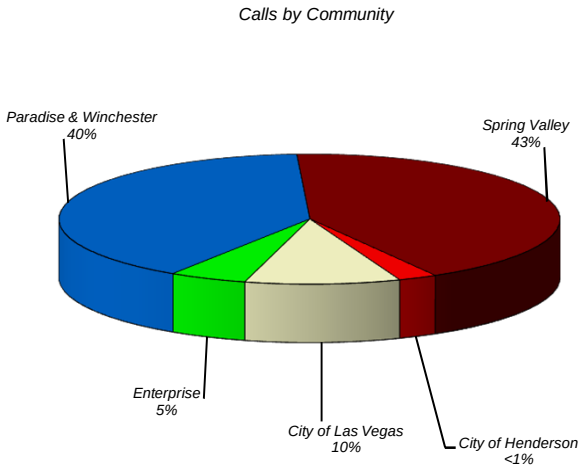


* Aircraft types: All aircraft with a maximum gross take of weight of at least 75,000 pounds, including but not limited to, A306, A310, A311, A318, A319, A320, A330, A
B707, B717, B727, B737, B747, B757, B767, B777, CRJ7, CRJ9, DC8, DC9, DC10, E170, E190, HA4T, L1011, MD80, MD90, MD10, MD11, VC10.

Exhibit 1: Noise Complaint Calls by Community* - December 2016

Community	No. of Calls in 2016	No. of Callers in 2016	No. of Calls in 2015	No. of Calls in 2014
City of Boulder City				
City of Henderson	1	1	1	12
City of Las Vegas	4	3	4	5
City of North Las Vegas			1	1
Enterprise	2	1	1	17
Lone Mountain				
Paradise & Winchester	16	8	140	616
Spring Valley	17	2	41	6
Summerlin South				
Sunrise Manor			1	4
Whitney				3
Location unknown				
Overall Total	**40**	**15**	**189**	**664**

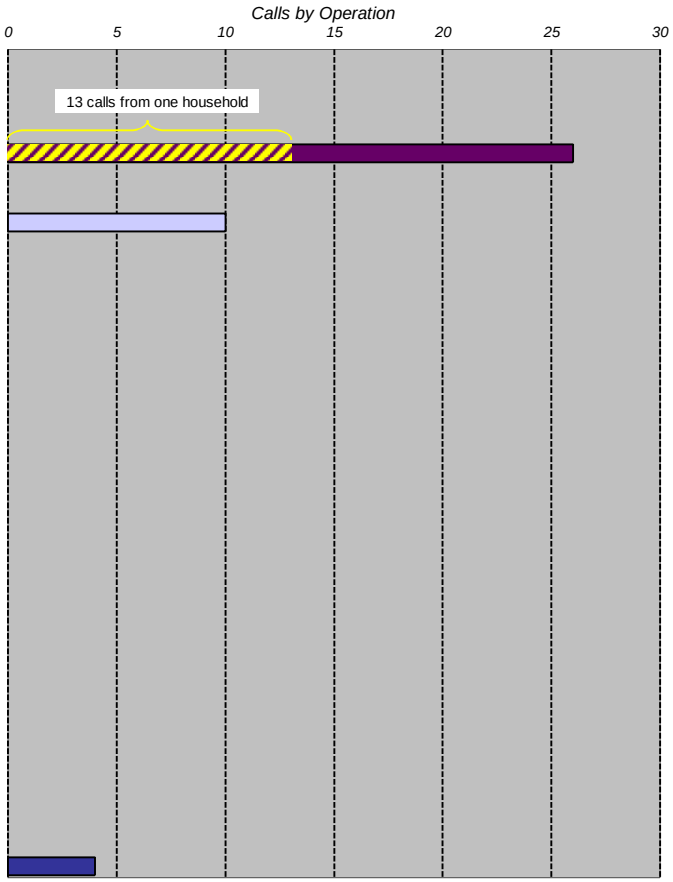
Difference between 2016 and 2015 Total Calls:	**-79%**
Difference between 2016 and 2014 Total Calls:	**-94%**
Average Number of Calls per Caller:	**2.7**
Most calls received from one household:	**16**



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

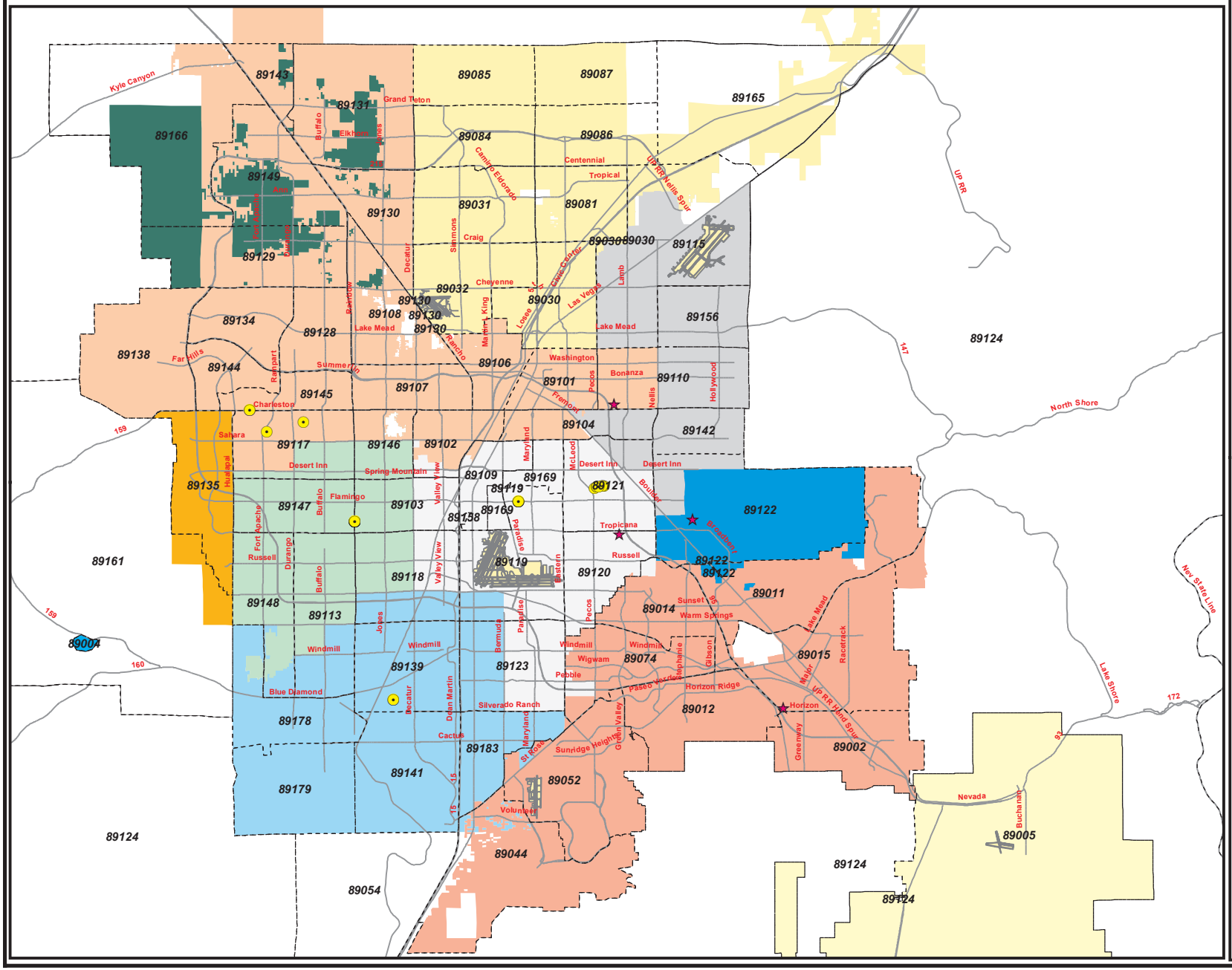
Exhibit 2: Noise Complaint Calls by Type of Operation - December 2016

Operation	No. of Calls in 2016	Percent of Overall Total	No. of Calls in 2015	No. of Calls in 2014
LAS 01R/L Arrivals				
LAS 07R/L Arrivals				
LAS 19R/L Arrivals				
LAS 25R/L Arrivals				
LAS 01R/L Departures	26	65.0%	140	627
LAS 07R/L Departures				
LAS 19R/L Departures			42	20
LAS 25R/L Departures	10	25.0%		
LAS Run-ups				
LAS GA				
LAS Other				
LAS Total	**36**	**90.0%**	**182**	**647**
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
VGT Other				
VGT Total	**0**	**0.0%**	**2**	**2**
HND 17R/L Arrivals				
HND 35R/L Arrivals				
HND 17R/L Departures				
HND 35R/L Departures				
HND Run-ups				
HND GA			2	5
HND Other				
HND Total	**0**	**0.0%**	**2**	**5**
Helicopters**	**4**	**10.0%**	**3**	**10**
Overall Total	**40**	**100%**	**189**	**664**



** 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 2016



Legend

Nov 2016
Total Complaints: 40

Aircraft Complaints
Received 36
Mapped 36

Helicopter Complaints
Received 4
Mapped 4

Major Streets

Airports

Zip Code Boundaries

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

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Jan 23, 2016

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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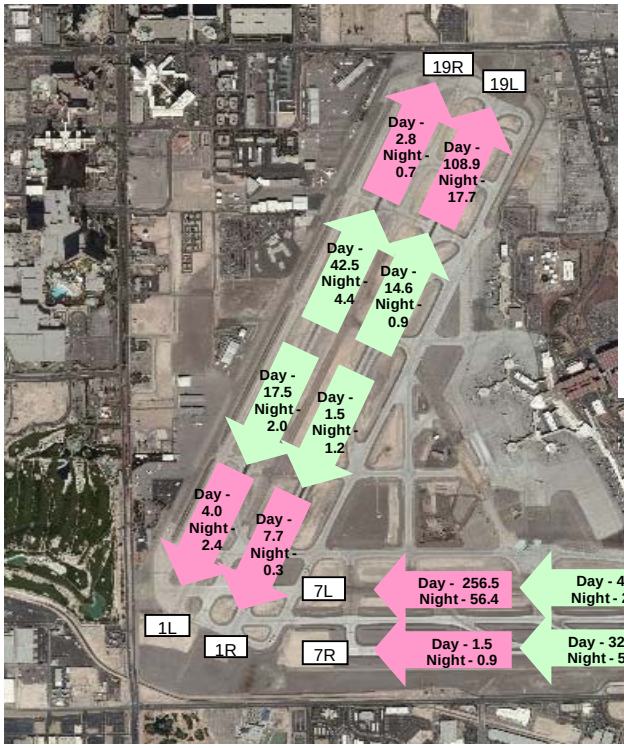
2016 Noise Complaint Report

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

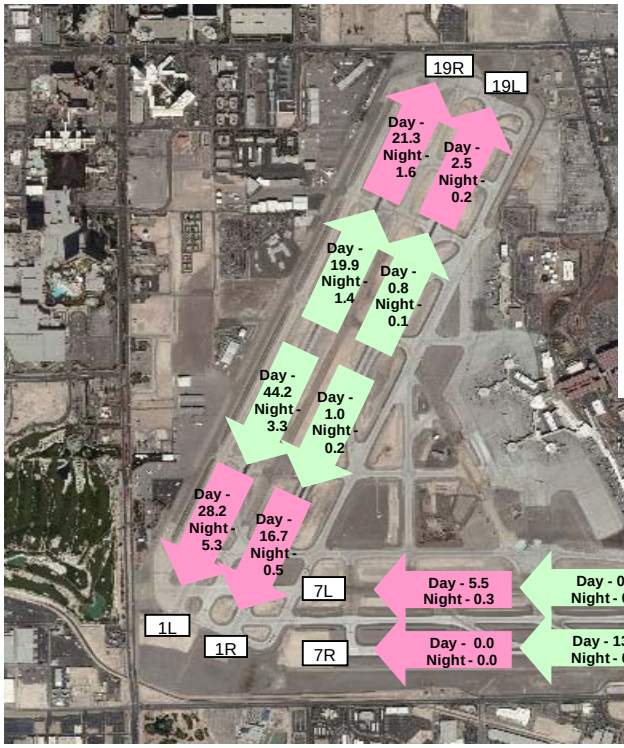


Year	2016		2015		2014	
Daytime Departures	392	83%	N/A	N/A	N/A	N/A
Nighttime Departures	79	17%	N/A	N/A	N/A	N/A
Total Departures	**470**	**100%**	**N/A**	**N/A**	**N/A**	**N/A**
Daytime Arrivals	402	87%	410	89%	392	89%
Nighttime Arrivals	62	13%	53	11%	51	11%
Total Arrivals	**465**	**100%**	**463**	**100%**	**443**	**100%**

Growth	Overall	Daytime	Nighttime
Depts. 2016 vs 2015	N/A	N/A	N/A
Depts. 2016 vs 2014	N/A	N/A	N/A
Arrivals 2016 vs 2015	0%	-2%	18%
Arrivals 2016 vs 2014	5%	3%	23%

* 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 2016

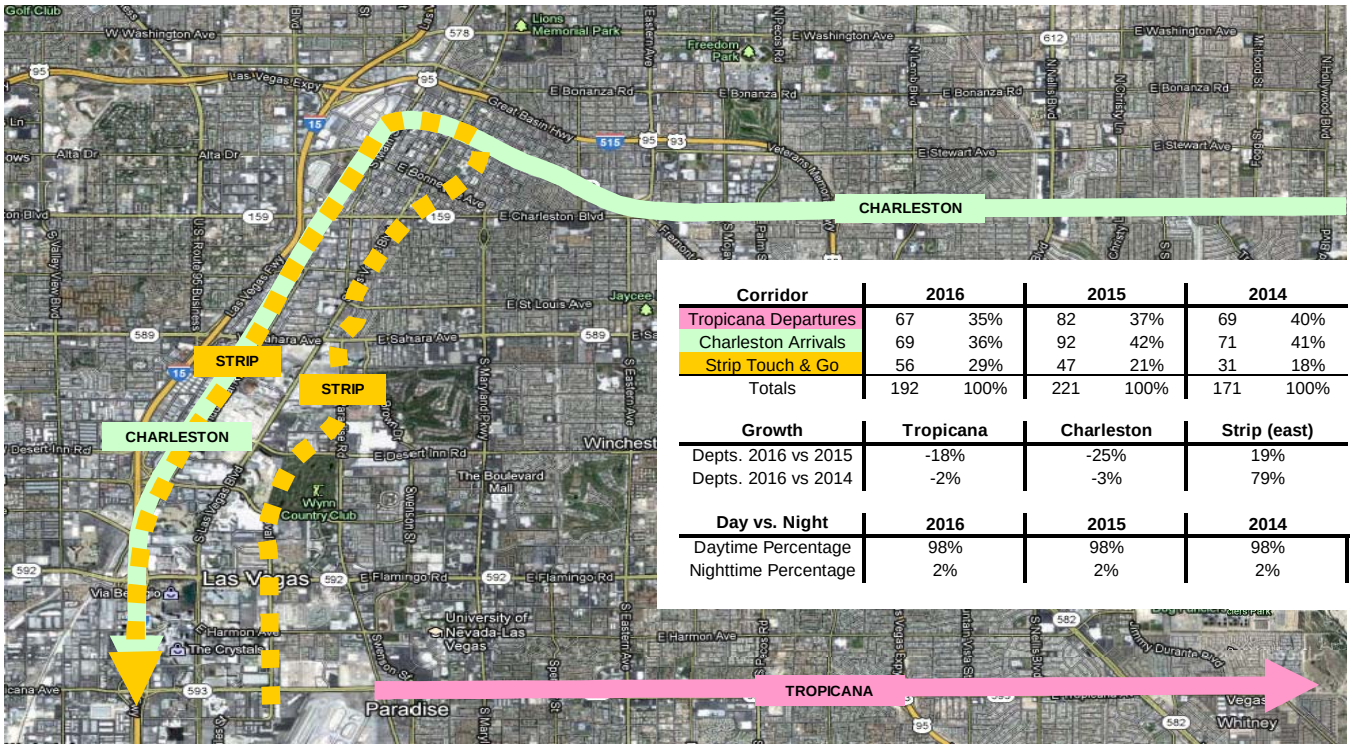


Year	2016		2015		2014	
Daytime Departures	77	91%	N/A	N/A	N/A	N/A
Nighttime Departures	8	9%	N/A	N/A	N/A	N/A
Total Departures	**85**	**100%**	**N/A**	**N/A**	**N/A**	**N/A**
Daytime Arrivals	80	94%	81	93%	77	94%
Nighttime Arrivals	5	6%	6	7%	5	6%
Total Arrivals	**86**	**100%**	**87**	**100%**	**83**	**100%**

Growth	Overall	Daytime	Nighttime
Depts. 2016 vs 2015	N/A	N/A	N/A
Depts. 2016 vs 2014	N/A	N/A	N/A
Arrivals 2016 vs 2015	-1%	-1%	-5%
Arrivals 2016 vs 2014	4%	4%	2%

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

Exhibit 6: Las Vegas Valley Wide Daily Average Operations by Corridor for Helicopter Tours - December 2016



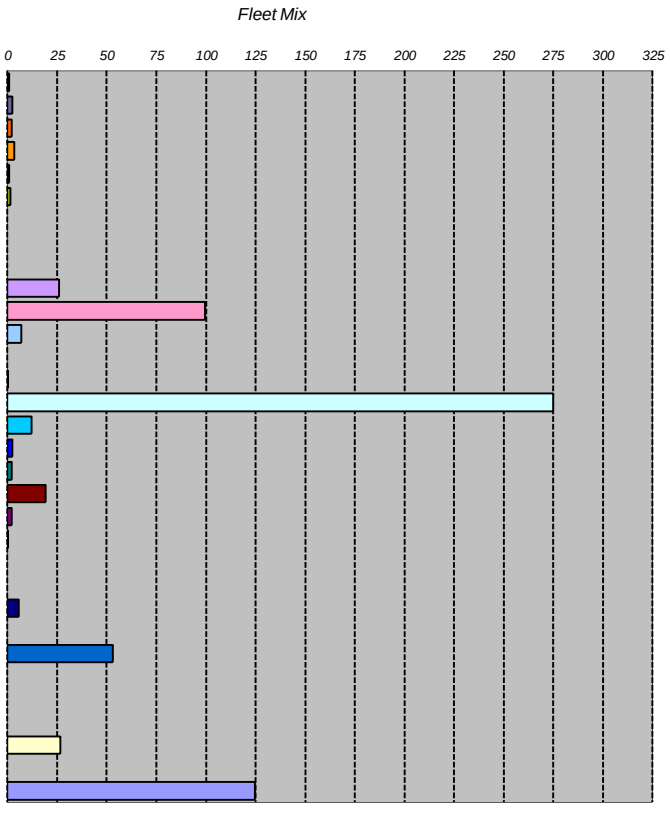
Corridor	2016		2015		2014	
Tropicana Departures	67	35%	82	37%	69	40%
Charleston Arrivals	69	36%	92	42%	71	41%
Strip Touch & Go	56	29%	47	21%	31	18%
Totals	192	100%	221	100%	171	100%

Growth	Tropicana	Charleston	Strip (east)
Depts. 2016 vs 2015	-18%	-25%	19%
Depts. 2016 vs 2014	-2%	-3%	79%

Day vs. Night	2016	2015	2014
Daytime Percentage	98%	98%	98%
Nighttime Percentage	2%	2%	2%

Exhibit 7: LAS Aircraft Arrival Fleet Mix* - December 2016

Operation	Daily Average in 2016	Percent of Overall Total	Daily Average in 2015	Daily Average in 2014
A300s, A310s	0.94	0.1%	0.84	1.32
A330s, A340s	2.35	0.4%	2.52	2.61
B747s	2.03	0.3%	1.61	1.61
B767s	3.45	0.5%	6.61	7.32
B777s	0.71	0.1%	0.94	0.58
DC10, L1011, MD11	1.55	0.2%	0.06	0.19
Misc. (B707s, DC8s, etc.)	0.00	0.0%	0.00	0.00
Heavy Jets (>300,000 lbs.)	**11.03**	**1.7%**	**12.58**	**13.65**
A318s, A319s	25.97	3.9%	38.32	35.65
A320s, A321s	99.61	14.9%	71.03	59.13
B717s	7.00	1.0%	5.13	0.00
B727s	0.00	0.0%	0.03	0.00
B737-100s, -200s	0.03	0.0%	0.03	0.00
B737-300s to -900s	275.00	41.2%	291.06	276.55
B757s	12.23	1.8%	12.35	15.06
BAC 111s, E170s, E190s	2.52	0.4%	7.84	2.13
CRJ7s, CRJ9s	2.00	0.3%	2.77	12.06
MD80s	19.16	2.9%	19.23	27.16
MD90s	2.19	0.3%	2.58	0.90
Misc. (Bae 146s, DC9s)	0.10	0.0%	0.23	0.10
Large Jets (>75,000 lbs.)	**445.81**	**66.8%**	**450.61**	**428.74**
Medium Jets (>41,000	**5.74**	**0.9%**	**6.29**	**5.52**
Small Jets (<41,000 lbs.)	**53.23**	**8.0%**	**55.42**	**55.32**
Military Jets	**0.00**	**0.0%**	**0.06**	**0.29**
Non-Jets & Unknowns	**26.52**	**4.0%**	**25.06**	**21.55**
Helicopter Tours	**124.70**	**18.7%**	**138.70**	**102.00**
Overall Total*	**667**	**100%**	**689**	**627**



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

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

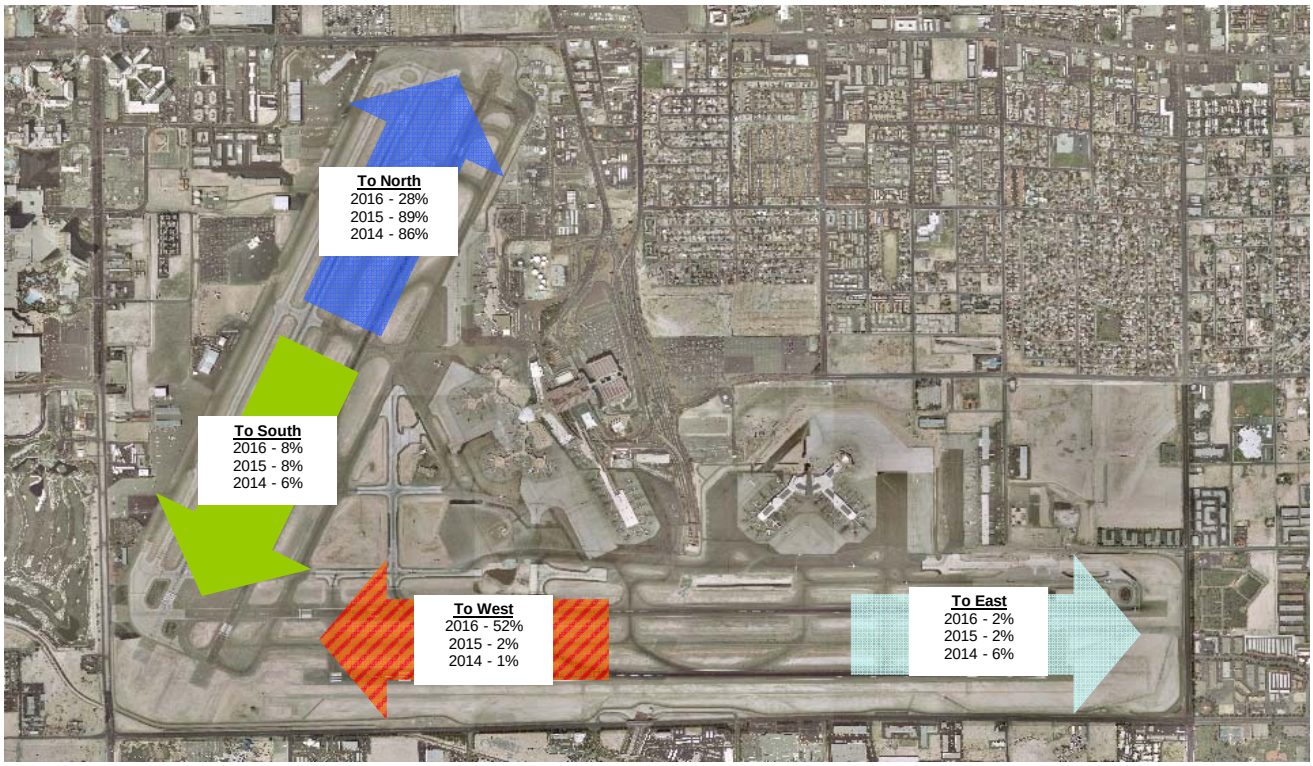
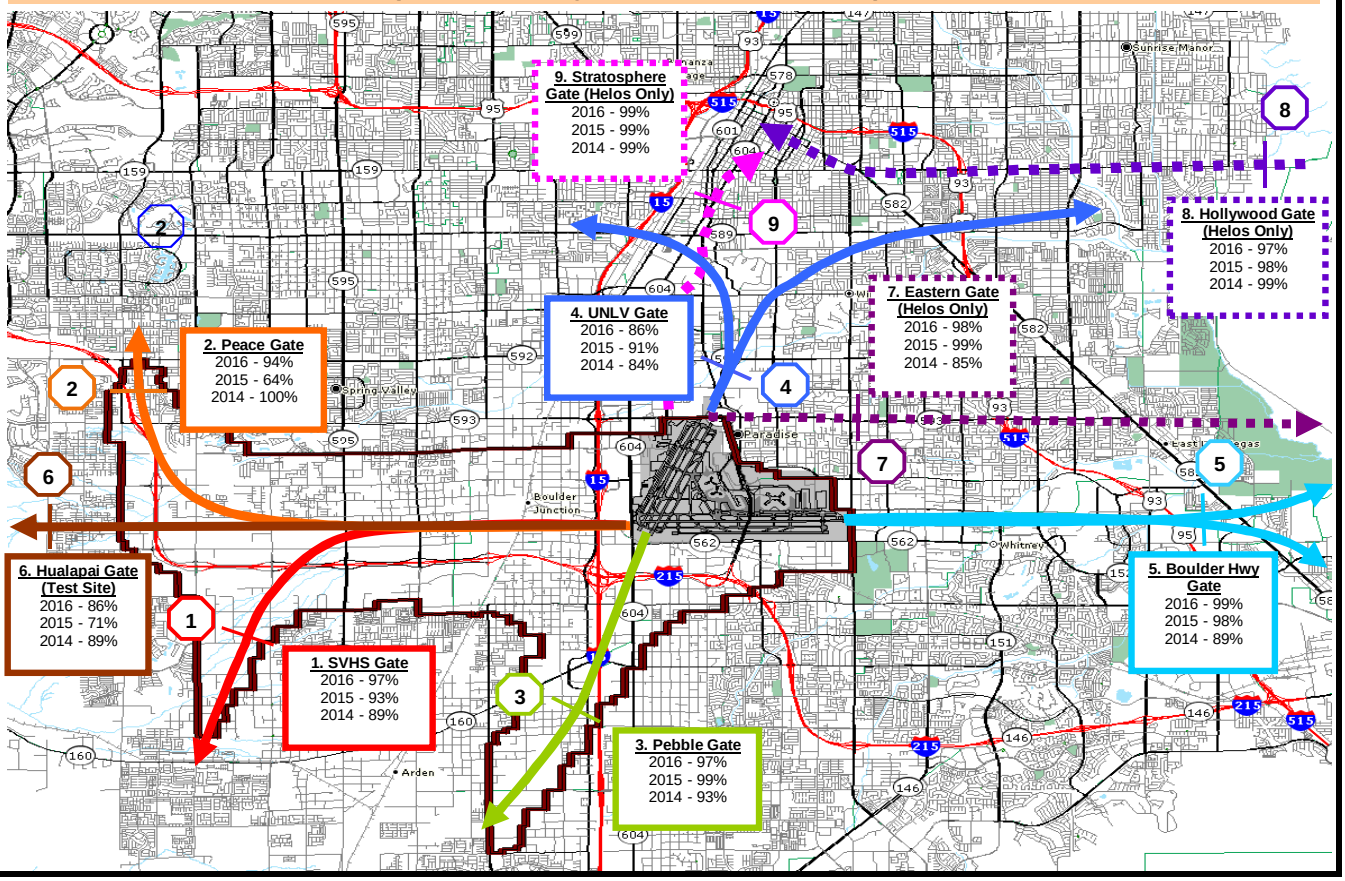


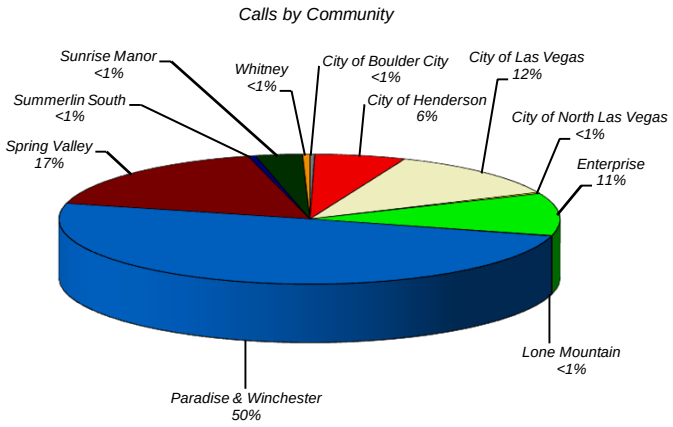
Exhibit 9: "Gate" Compliance for Large Aircraft* & LAS Helicopter Tours - December 2016



* 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 2016

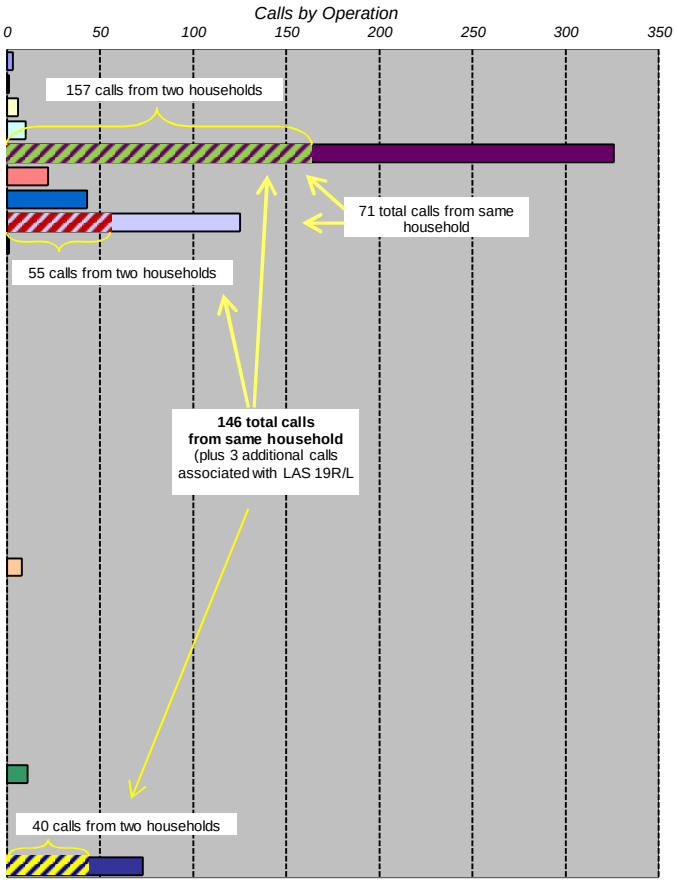
Community	No. of Calls in 2016	No. of Callers in 2016	No. of Calls in 2015	No. of Calls in 2014
City of Boulder City	2	1	3	
City of Henderson	37	22	60	71
City of Las Vegas	76	29	33	34
City of North Las Vegas	2	2	4	5
Enterprise	66	39	82	105
Lone Mountain	1	1		
Paradise & Winchester	312	71	3615	6220
Spring Valley	108	29	138	98
Summerlin South	3	3	7	2
Sunrise Manor	19	10	17	19
Whitney	3	3	4	3
Location unknown				
Overall Total	**629**	**210**	**3,963**	**6557**
Difference between 2016 and 2015 Total Calls:				**-84%**
Difference between 2016 and 2014 Total Calls:				**-90%**
Average Number of Calls per Caller:				**3.0**
Most calls received from one household:				**149**



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

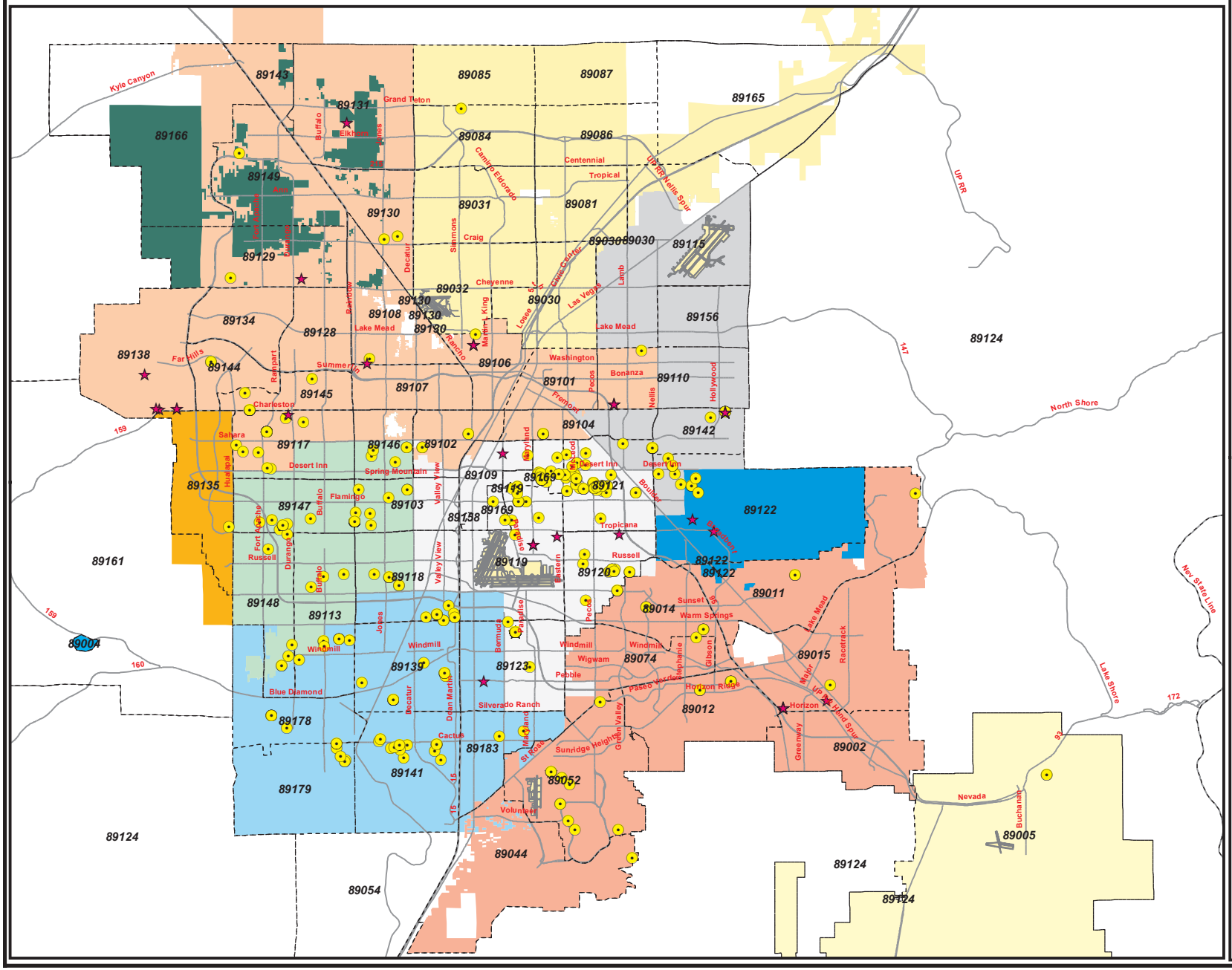
Exhibit 2: Noise Complaint Calls by Type of Operation - Annual 2016

Operation	No. of Calls in 2016	Percent of Overall Total	No. of Calls in 2015	No. of Calls in 2014
LAS 01R/L Arrivals	3	0.5%	6	6
LAS 07R/L Arrivals	1	0.2%		
LAS 19R/L Arrivals	6	1.0%	6	3
LAS 25R/L Arrivals	10	1.6%	10	3
LAS 01R/L Departures	326	51.8%	1,683	3,189
LAS 07R/L Departures	22	3.5%	62	124
LAS 19R/L Departures	43	6.8%	2,028	485
LAS 25R/L Departures	125	19.9%	57	2,609
LAS Run-ups	1	0.2%	2	2
LAS GA				
LAS Other				1
LAS Total	**537**	**85.4%**	**3,854**	**6,422**
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	8	1.3%	9	11
VGT Other				
VGT Total	**8**	**1.3%**	**9**	**11**
HND 17R/L Arrivals				
HND 35R/L Arrivals				
HND 17R/L Departures				
HND 35R/L Departures				
HND Run-ups				
HND GA	11	1.7%	41	43
HND Other				
HND Total	**11**	**1.7%**	**41**	**43**
Helicopters**	**73**	**11.6%**	**59**	**81**
Overall Total	**629**	**100%**	**3,963**	**6557**



** 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 2016



Legend

Jan - Dec 2016
Total Complaints: 629

Aircraft Complaints
Received 556
Mapped 556

Helicopter Complaints
Received 73
Mapped 73

Major Streets

Airports

Zip Code Boundaries

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

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Jan 23, 2016

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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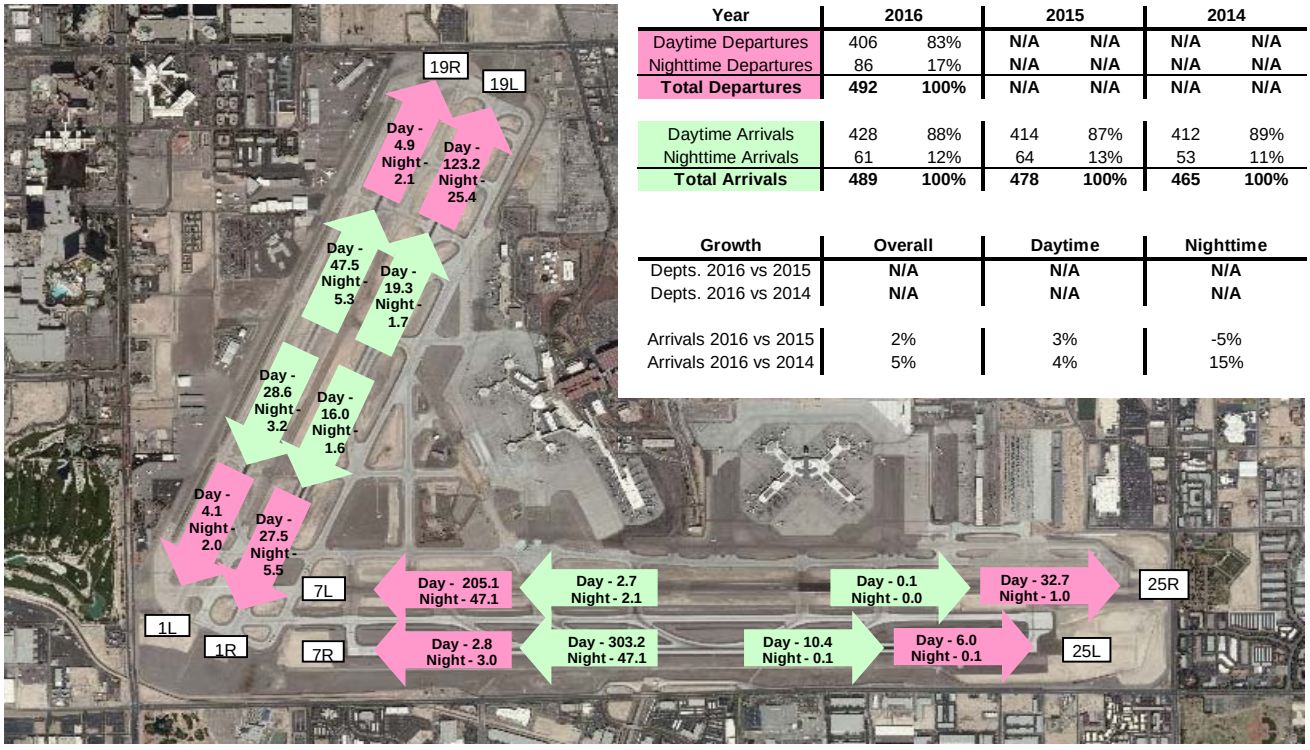
2016 Noise Complaint Report

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

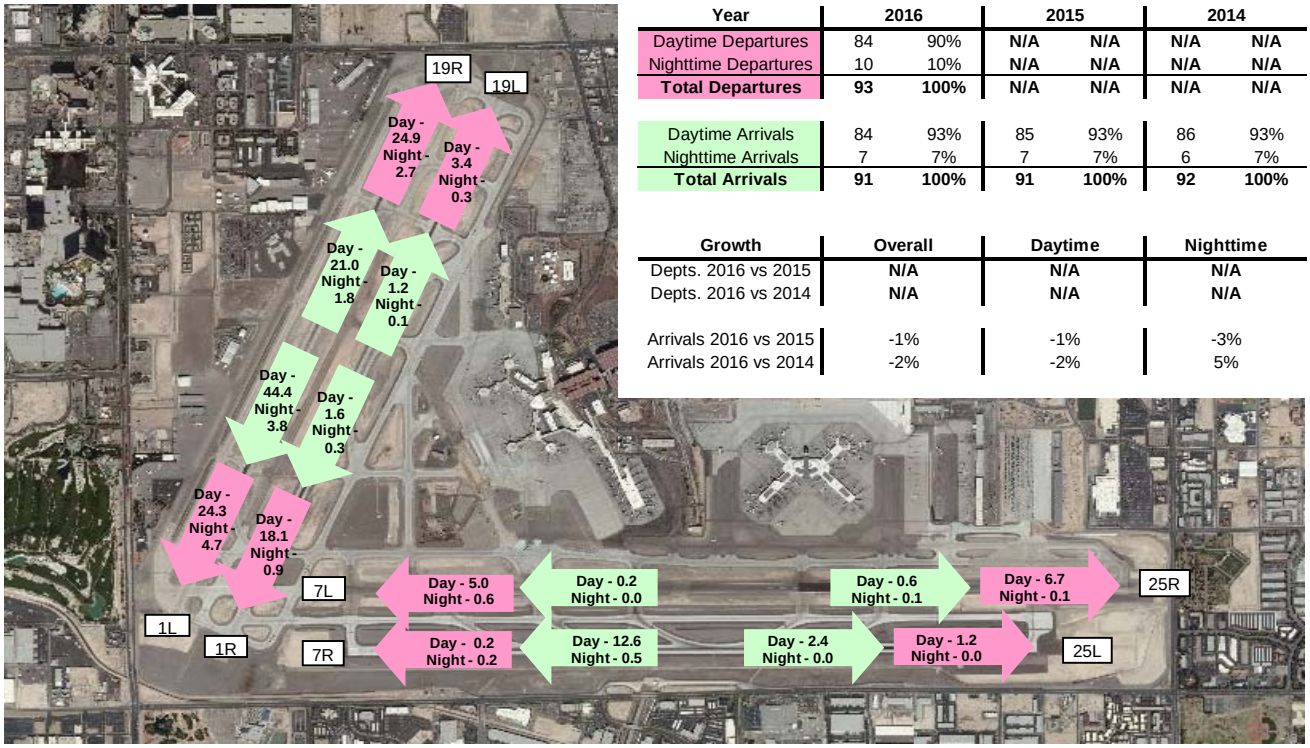


Year	2016		2015		2014	
Daytime Departures	406	83%	N/A	N/A	N/A	N/A
Nighttime Departures	86	17%	N/A	N/A	N/A	N/A
Total Departures	**492**	**100%**	**N/A**	**N/A**	**N/A**	**N/A**
Daytime Arrivals	428	88%	414	87%	412	89%
Nighttime Arrivals	61	12%	64	13%	53	11%
Total Arrivals	**489**	**100%**	**478**	**100%**	**465**	**100%**

Growth	Overall	Daytime	Nighttime
Depts. 2016 vs 2015	N/A	N/A	N/A
Depts. 2016 vs 2014	N/A	N/A	N/A
Arrivals 2016 vs 2015	2%	3%	-5%
Arrivals 2016 vs 2014	5%	4%	15%

* 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 2016

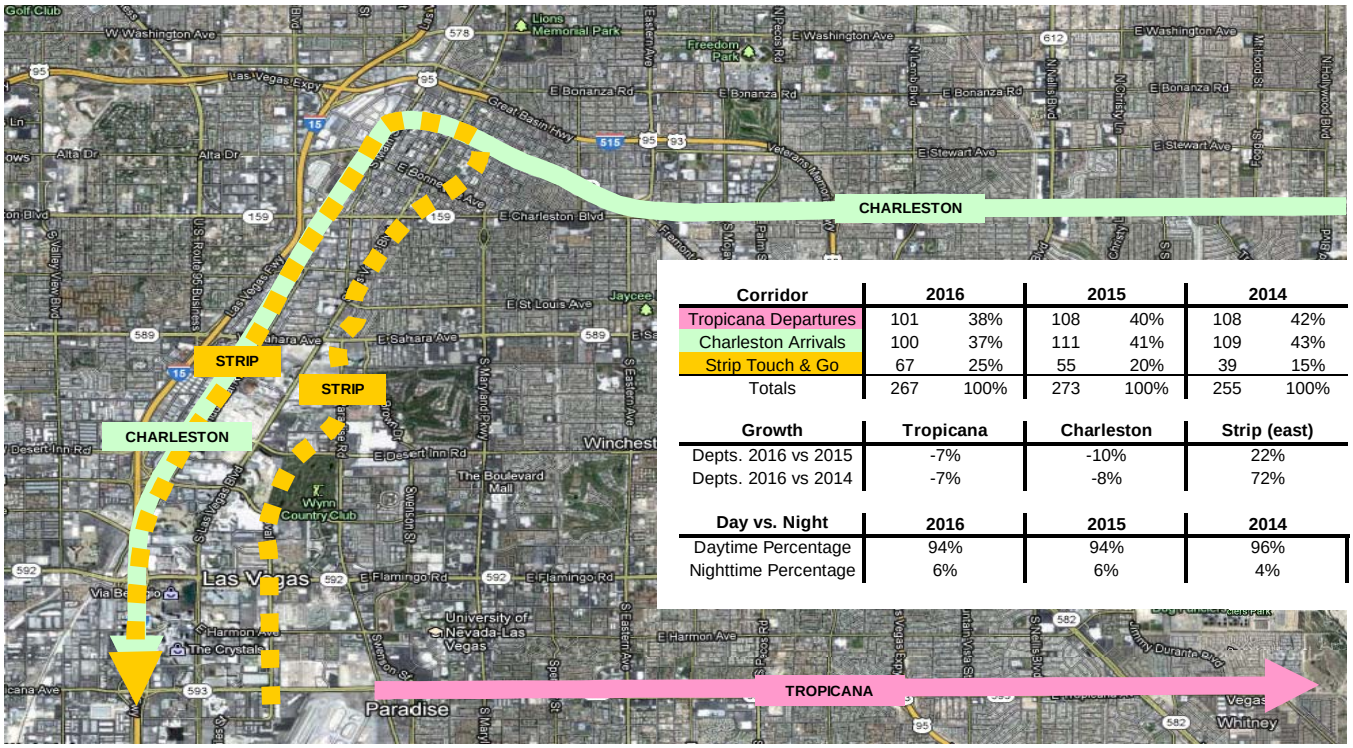


Year	2016		2015		2014	
Daytime Departures	84	90%	N/A	N/A	N/A	N/A
Nighttime Departures	10	10%	N/A	N/A	N/A	N/A
Total Departures	**93**	**100%**	**N/A**	**N/A**	**N/A**	**N/A**
Daytime Arrivals	84	93%	85	93%	86	93%
Nighttime Arrivals	7	7%	7	7%	6	7%
Total Arrivals	**91**	**100%**	**91**	**100%**	**92**	**100%**

Growth	Overall	Daytime	Nighttime
Depts. 2016 vs 2015	N/A	N/A	N/A
Depts. 2016 vs 2014	N/A	N/A	N/A
Arrivals 2016 vs 2015	-1%	-1%	-3%
Arrivals 2016 vs 2014	-2%	-2%	5%

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

Exhibit 6: Las Vegas Valley Wide Daily Average Operations by Corridor for Helicopter Tours - Annual 2016



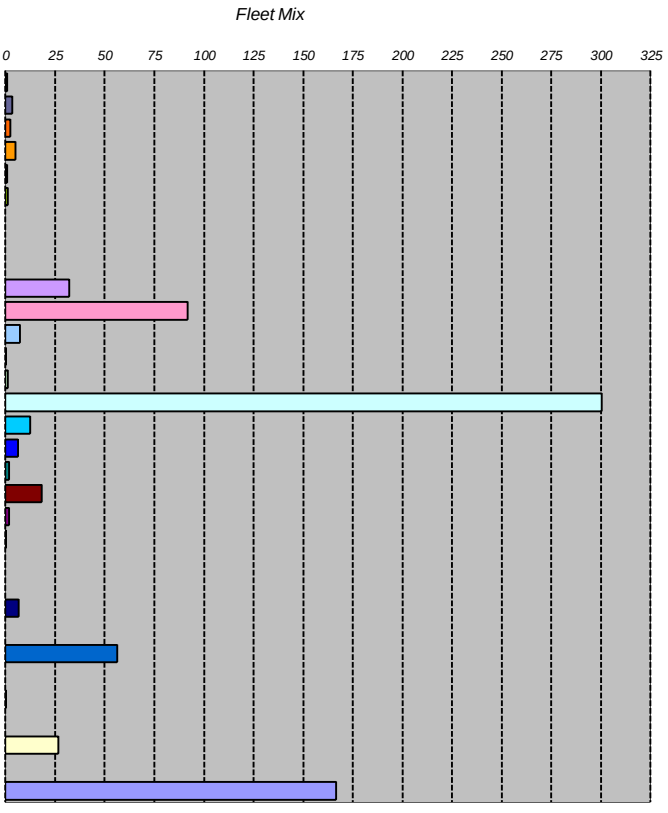
Corridor	2016		2015		2014	
Tropicana Departures	101	38%	108	40%	108	42%
Charleston Arrivals	100	37%	111	41%	109	43%
Strip Touch & Go	67	25%	55	20%	39	15%
Totals	267	100%	273	100%	255	100%

Growth	Tropicana	Charleston	Strip (east)
Depts. 2016 vs 2015	-7%	-10%	22%
Depts. 2016 vs 2014	-7%	-8%	72%

Day vs. Night	2016	2015	2014
Daytime Percentage	94%	94%	96%
Nighttime Percentage	6%	6%	4%

Exhibit 7: LAS Aircraft Arrival Fleet Mix* - Annual 2016

Operation	Daily Average in 2016	Percent of Overall Total	Daily Average in 2015	Daily Average in 2014
A300s, A310s	0.87	0.1%	0.84	0.83
A330s, A340s	3.31	0.4%	3.15	2.92
B747s	2.57	0.3%	2.10	2.12
B767s	4.97	0.7%	5.95	4.06
B777s	0.74	0.1%	0.93	0.85
DC10, L1011, MD11	1.27	0.2%	0.04	1.28
Misc. (B707s, DC8s, etc.)	0.00	0.0%	0.00	0.00
Heavy Jets (>300,000 lbs.)	**13.74**	**1.8%**	**13.00**	**12.05**
A318s, A319s	32.05	4.3%	30.04	33.20
A320s, A321s	91.84	12.4%	77.16	60.72
B717s	7.25	1.0%	2.85	0.00
B727s	0.07	0.0%	0.03	0.02
B737-100s, -200s	1.02	0.1%	1.02	1.01
B737-300s to -900s	300.30	40.4%	302.65	294.95
B757s	12.42	1.7%	17.27	22.13
BAC 111s, E170s, E190s	6.49	0.9%	6.47	0.40
CRJ7s, CRJ9s	1.68	0.2%	5.99	13.45
MD80s	18.25	2.5%	20.84	26.29
MD90s	1.68	0.2%	1.50	1.76
Misc. (Bae 146s, DC9s)	0.20	0.0%	0.21	0.20
Large Jets (>75,000 lbs.)	**473.25**	**63.7%**	**466.03**	**454.14**
Medium Jets (>41,000	**6.71**	**0.9%**	**6.76**	**6.17**
Small Jets (<41,000 lbs.)	**56.23**	**7.6%**	**59.50**	**58.62**
Military Jets	**0.03**	**0.0%**	**0.30**	**0.36**
Non-Jets & Unknowns	**26.59**	**3.6%**	**23.73**	**25.71**
Helicopter Tours	**166.50**	**22.4%**	**165.00**	**147.10**
Overall Total*	**743**	**100%**	**734**	**704**



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

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

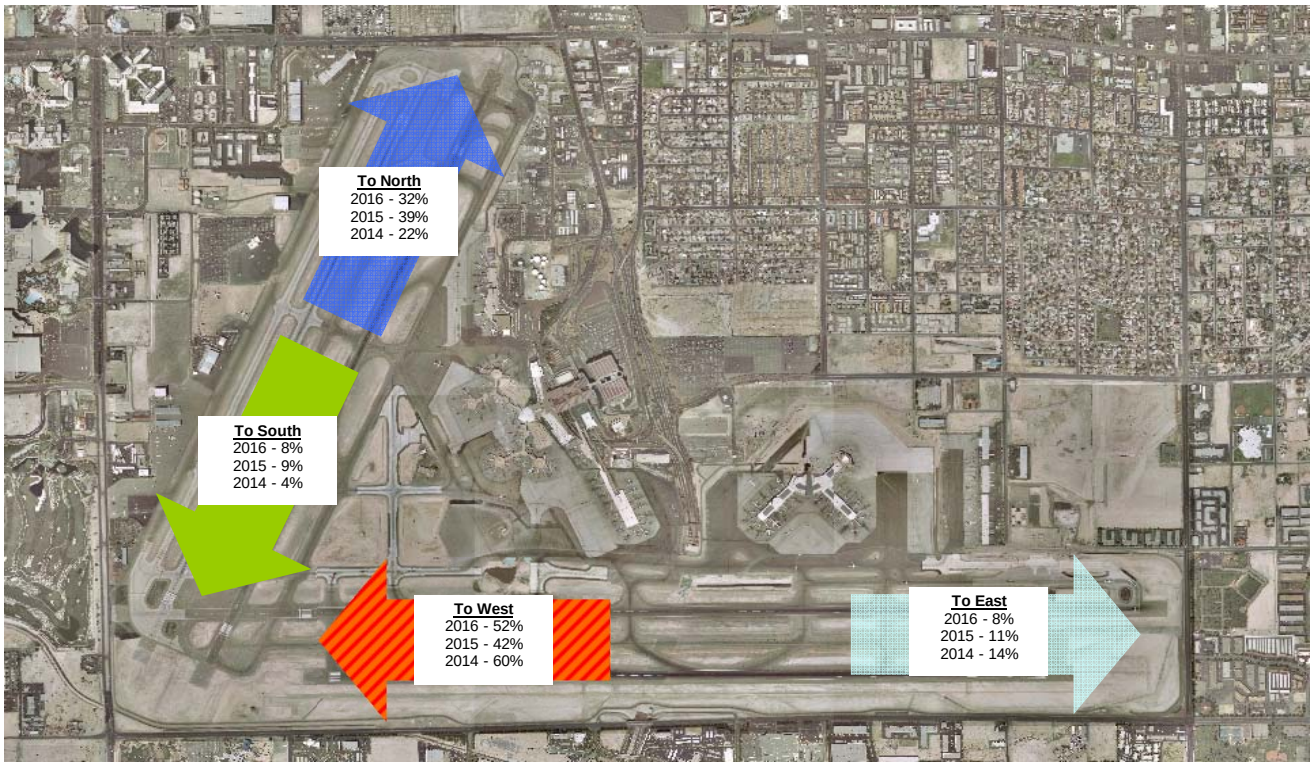
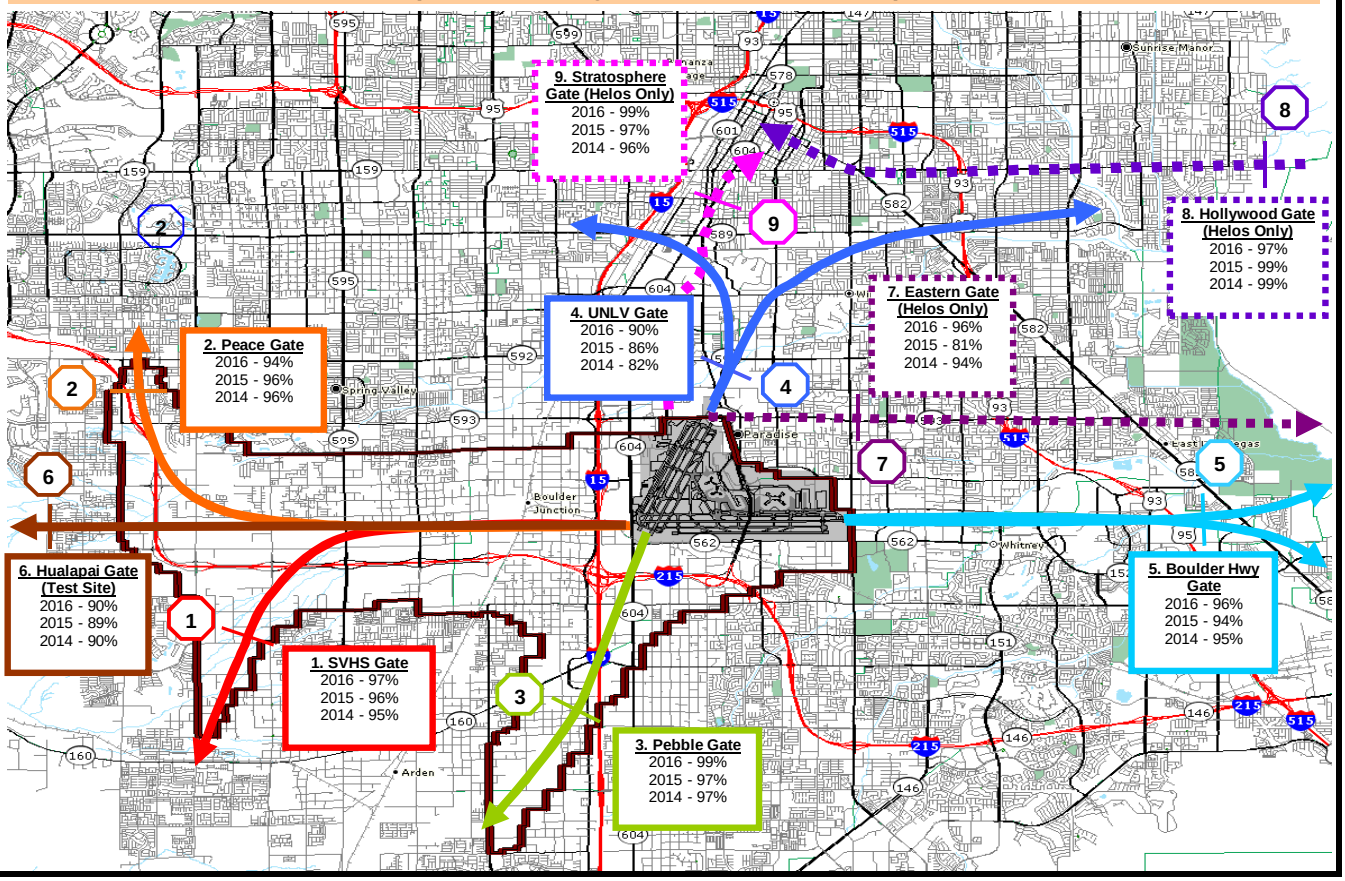


Exhibit 9: "Gate" Compliance for Large Aircraft* & LAS Helicopter Tours - Annual 2016



* 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 - 2014 through 2016

Year	January	February	March	April	May	June	July	August	September	October	November	December	January through December Total	Average No. of Calls per Caller
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	
2014 Number of Calls	254	862	864	773	453	146	273	379	175	510	1,204	664	6,557	32.1
2014 Number of Callers	16	21	21	22	21	7	13	20	16	23	56	60	204	

Total Calls by Month

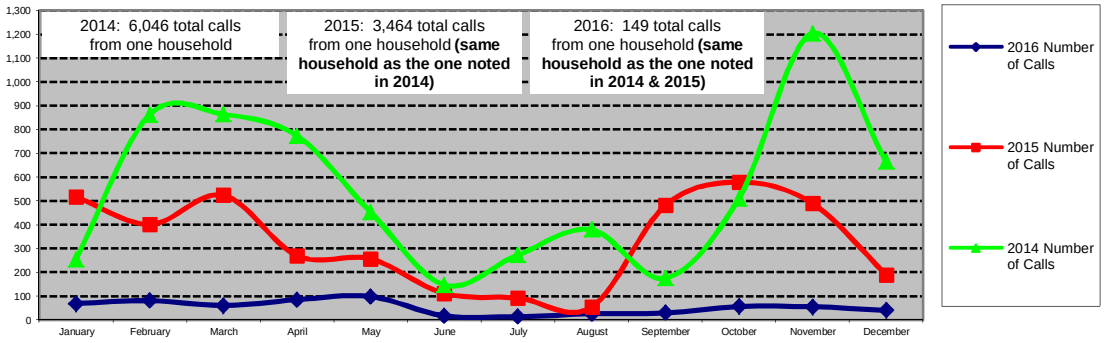


Exhibit 11: Total Monthly Calls by Time of Day - Annual 2016

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.)	45	55	47	64	88	14	13	23	25	40	44	35	493	78.4%
Night Hours (10:00 p.m. to 6:59 a.m.)	24	26	13	21	10	3	1	2	4	16	11	5	136	21.6%
Total	**69**	**81**	**60**	**85**	**98**	**17**	**14**	**25**	**29**	**56**	**55**	**40**	**629**	**100.0%**

Exhibit 12: Total Monthly Calls by Airport/Operation - Annual 2016

Airport	January	February	March	April	May	June	July	August	September	October	November	December	January through December Total	Percent
McCarran International	61	62	43	75	92	11	11	23	26	45	52	36	537	85.4%
North Las Vegas	2	0	0	2	0	0	0	1	2	2	0	0	9	1.4%
Henderson Executive	0	0	1	4	0	0	1	1	0	4	0	0	11	1.7%
Helicopter	6	19	16	4	6	6	2	0	1	5	3	4	72	11.4%
Total	**69**	**81**	**60**	**85**	**98**	**17**	**14**	**25**	**29**	**56**	**55**	**40**	**629**	**100.0%**

Total Calls by Airport/Operation

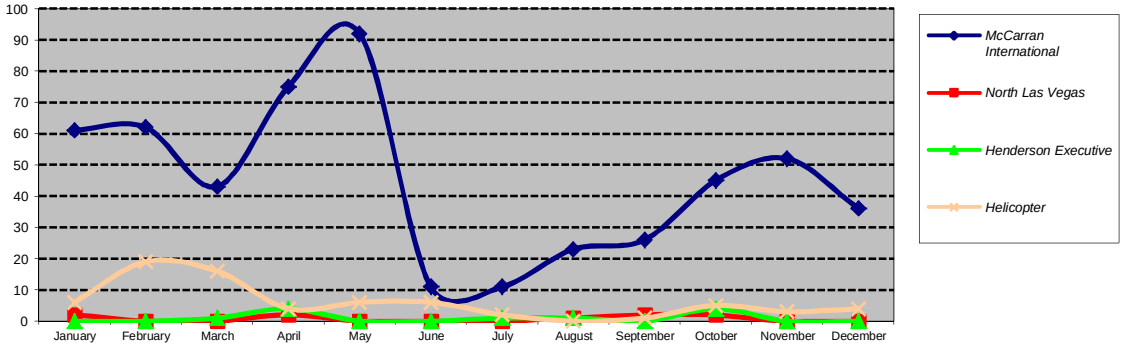


Exhibit 13: Total Monthly Calls by Community - Annual 2016

Community	January	February	March	April	May	June	July	August	September	October	November	December	January through December Total	Perrcent
City of Boulder City						1	1						2	0.3%
City of Henderson		4	3	7	5	2	1	1	2	9	2	1	37	5.9%
City of Las Vegas	4	5	3	13	30	1		1	5	6	4	4	76	12.1%
City of North Las Vegas				1						1			2	0.3%
Enterprise	10	1	13	10	9		2	5	2	7	5	2	66	10.5%
Lone Mountain			1										1	0.2%
Paradise & Winchester	46	69	37	40	41	13	4	13	9	6	18	16	312	49.6%
Spring Valley	5	2		6	8		6	3	11	25	25	17	108	17.2%
Summerlin								1		1	1		3	0.5%
Sunrise Manor	3		3	7	5			1					19	3.0%
Whitney	1			1						1			3	0.5%
Location unknown													0	0.0%
Overall Total	**69**	**81**	**60**	**85**	**98**	**17**	**14**	**25**	**29**	**56**	**55**	**40**	**629**	**100%**

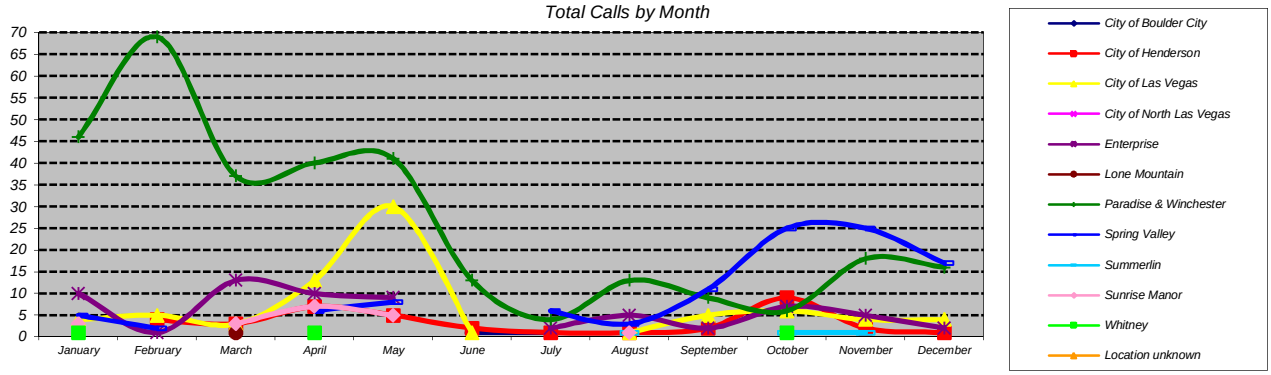


Exhibit 14: Total Monthly Calls by LAS Operation - Annual 2016

LAS Operations	January	February	March	April	May	June	July	August	September	October	November	December	January through December Total	Perrcent
LAS 01R/L Arrivals	1			1	1								3	0.6%
LAS 07R/L Arrivals						1							1	0.2%
LAS 19R/L Arrivals				1		1				1	3		6	1.1%
LAS 25R/L Arrivals		1			5	1		1		1	1		10	1.9%
LAS 01R/L Departures	51	58	25	54	43		3	12	14	12	28	26	326	60.7%
LAS 07R/L Departures			2	2		5	3	5	3	1	1		22	4.1%
LAS 19R/L Departures	9	3	15	8	5		1		1		1		43	8.0%
LAS 25R/L Departures				9	38	3	4	5	8	30	18	10	125	23.3%
LAS Run-ups			1										1	0.2%
LAS GA													0	0.0%
LAS Canyon													0	0.0%
LAS Other													0	0.0%
LAS Total	**61**	**62**	**43**	**75**	**92**	**11**	**11**	**23**	**26**	**45**	**52**	**36**	**537**	**100.0%**