

MEMORANDUM

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Director

DEPARTMENT OF AVIATION

TO: DISTRIBUTION

FROM: GEORGE C. SIMS, PLANNER

SUBJECT: JANUARY THROUGH MARCH 2016 NOISE COMPLAINT REPORTS

DATE: APRIL 15, 2016

Attached for your review are the Clark County Department of Aviation's (CCDOA) Monthly Noise Complaint Reports for January through March 2016. Please note the following airport abbreviations: **McCarran International Airport (LAS)**, **North Las Vegas Airport (VGT)**, and **Henderson Executive Airport (HND)**.

The following reports describe noise complaints and operational data regarding helicopter and fixed-wing aircraft operations at LAS, VGT, and HND. Aircraft noise complaints are received either through the CCDOA's Noise Hotline (702-261-3694), the Noise Office (261-5600), or calls forwarded from LAS's toll free number (1-800-261-5704). Nellis Air Force Base noise complaints are forwarded to the Nellis Public Affairs Office (702-652-2750), and noise complaints regarding aircraft operations from the Boulder City Airport are forwarded to the Boulder City Airport Coordinator (702-293-9405). Individuals who express concerns regarding aircraft operations originating from private facilities (i.e., Valley Hospital or the private helipad located near Las Vegas Blvd. and Larson Lane) are asked to contact the individual property owner directly.

Exhibit 1 of each Monthly Noise Complaint Report illustrates the number of calls received by community as well as the number of individual callers or households. **Exhibit 2** illustrates the primary nature of the disturbance as identified by the caller. The second page of each monthly report (**Exhibit 3**) graphically illustrates all known origins of the calls received that month. **Exhibits 4 and 5** summarize arrival and departure runway use for large and non-large air carrier aircraft. (Note that with the change from an FAA-direct feed to an independent radar feed, in October 2015 used by CCDOA's analysis application, the data capture rate for departing aircraft has increased significantly. Therefore, it is inappropriate to compare 2016 data to 2015 and 2014 data.) Arrival and departure corridor use for helicopters are summarized in **Exhibit 6**. **Exhibit 7** provides a complete arrival fleet mix of all aircraft landing at LAS and highlights the two noisier aircraft types, the Boeing 727 series and Boeing 737-100 and 737-200 series. **Exhibit 8** illustrates the general departure direction for large aircraft.

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

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

Monthly Noise Complaint Summaries

January 2016: 69 total complaints - an 87% decrease from 2015 and a 73% decrease from 2014. On average, each caller (or household) issued 2.5 calls. The most calls received from one household totaled 34.

Calls by Community - (Exhibits 1 and 3)

Majority (more than 50%): The **Paradise and Winchester** communities issued 46 calls (67%). These communities are typically impacted by aircraft departing to the north (from Runway 01R and Runway 01L).

Minority (between 10% and 50%): The **Enterprise** community issued 10 calls (15%). This community is typically impacted by aircraft departing to the south (from Runway 19L and Runway 19R).

Repeat Caller Impact: One household issued 49% (34 calls) of all the calls received in January 2016.

Calls by Operation - (Exhibit 2)

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

- 74% were due to departures to the north from Runways 01L and 01R (63% from one household).

VGT: 3% of the total calls were due to **VGT** fixed-wing operations.

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

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

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

Overall: 466 daily *departures*¹ – (see footnote).

- 85% of departures were to the north, 12% south, 2% east, and 1% west.

463 daily *arrivals* – a 6% increase from 2015 and 5% increase from 2014.

- 62% of arrivals were from the east, 33% from the south, and 4% from the north.

Daytime: 389 daily *departures*² – (see footnote).

- 85% of departures were to the north, 12% south, 2% east, and 1% west.

411 daily *arrivals* – a 6% increase from 2015 and a 4% increase from 2014.

- 61% of arrivals were from the east, 34% south, and 5% from the north.

¹ Note: Runway use and traffic counts totals for 2014 through September 2015 were compiled by the EnvironmentalVue application using a FAA-direct radar feed. Due to the location of the radar south of Sunset Road, and the angle of the radar signal to avoid ground clutter, some aircraft that depart to the north from LAS are not captured until well north of Tropicana Avenue. Therefore, the EnvironmentalVue application, used to determine runway use and traffic counts, does not tag these operations as either occurring at LAS or as a departure. Thus, total departure counts may be less than what likely occurred. Runway use and traffic count totals for October 2015 and later were compiled by the EnvironmentalVue application using an independent NextGen radar feed and the departure capture rate increased significantly. Therefore, it is inappropriate to compare 2016 departure data to 2015 and 2014 departure data.

² See footnote #1.

- Nighttime:** 77 daily *departures*³ – (see footnote).
▪ 89% of departures were to the north, 8% south, and 2% west.
52 daily *arrivals* – an 8% increase from 2015 and a 14% increase from 2014.
▪ 71% of arrivals were from the east, 25% south, and 3% from the north.

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

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

- Overall:** 99 daily *departures*⁴ – (see footnote).
▪ 84% of departures were to the north, 13% south, 2% east, and 1% west.
95 daily *arrivals* – a 9% decrease from 2015 and 11% decrease from 2014.
▪ 56% of arrivals were from the south, 30% from the east, 13% north, and 1% west.

- Daytime:** 89 daily *departures*⁵ – (see footnote).
▪ 84% of departures were to the north, 13% south, 2% east, and 1% west.
89 daily *arrivals* – a 10% decrease from 2015 and an 11% decrease from 2014.
▪ 56% of arrivals were from the south, 31% east, 13% north, and 1% west.

- Nighttime:** 10 daily *departures*⁶ – (see footnote).
▪ 84% of departures were to the north, 14% south, 1% east, and 1% west.
6 daily *arrivals* – a 5% increase from 2015 and a 13% decrease from 2014.
▪ 67% of arrivals were from the south, 16% east, 16% north, and 1% west.

Daytime vs. Nighttime: Approximately 90% of all *departures* and 94% of all *arrivals* occurred during the daytime hours.

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

Tropicana: 70 daily *departures* - a 5% decrease from 2015 and a 21% decrease from 2014.

Charleston: 70 daily *arrivals* - a 5% decrease from 2015 and a 20% decrease from 2014.

Strip: 39 daily *touch and go's* - a 33% increase from 2015 and a 49% 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 68% of the daily traffic.

³ See footnote #1.

⁴ See footnote #1.

⁵ See footnote #1.

⁶ See footnote #1.

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

Small: *Small* turbine-driven aircraft (those weighing 41,000 lbs. or less) accounted for 9% of the daily traffic.

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

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

Helos: *Touring helicopters* accounted for 16% 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, 1% departed to the *west* (from LAS's primary departure runways). This figure was <1% in 2015 and 74% in 2014.

Secondary: In 2016, 12% departed to the *south* (from LAS's secondary departure runways). This figure was 3% in 2015 and 4% in 2014.

Alternate 1: In 2016, 85% departed to the *north* (from LAS's alternate departure runways). This figure was 90% in 2015 and 21% in 2014.

Alternate 2: In 2016, 2% departed to the *east* (from LAS's alternate departure runways). This figure was 7% in 2015 and 1% in 2014.

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

SVHS: 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 left-hand turn were within 0.3 NM of *Sierra Vista High School* (SVHS). This figure was 95% in 2015 and 95% 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, due to an unusually low number of western departures resulting from construction activities on Runway 07L/25R, only 43% 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 86% in 2015 and 98% 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 99% of the large air carrier aircraft (excluding those destined to the Nevada National Security Site) that departed to the south from Runways 19L or 19R were within 0.3 NM of the intersection of *Pebble Road & Arville Street*. This figure was 87% in 2015 and 98% in 2014.

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

UNLV: In 2016, 91% of the large air carrier aircraft that departed to the north from Runways 01L or 01R were within 0.3 NM of the *UNLV sports complex*. This figure was 83% in 2015 and 81% in 2014.

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

Boulder: In 2016, 98% of the large air carrier aircraft that departed to the north from Runways 07L or 07R were within 0.3 NM of the extended runway centerline, near *Boulder Highway*. This figure was 91% in 2015 and 84% 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, 91% of the large air carrier aircraft destined to the Nevada National Security Site that departed to the west were within 0.3 NM of the extended runway centerline, near *Hualapai Way*. This figure was not available in 2015 and 94% 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, 99% of the touring helicopters destined east of the Las Vegas Valley were within 500 feet of the intersection of *Tropicana Avenue & Eastern Avenue*. This figure was 95% in 2015 and 91% in 2014.

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

Hollywood: In 2016, 98% 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.

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, 97% of the north-bound helicopters providing tours of the Las Vegas Strip were within 500 feet of the intersection of Oakey Boulevard & Las Vegas Boulevard, *northeast of the Stratosphere Tower*. This figure was 97% in 2015 and 98% in 2014.

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

The information denoted in this monthly summary represents **typical** residential complaints, flight activity, fleet mix, and gate compliance with the exception of increased departures to the north as a result of the closure of Rwy 25R/07L on October 28, 2015 for construction, and the number of complaints tied to a single household.

February 2016: 81 total complaints - an 80% decrease from 2015 and a 91% decrease from 2014. On average, each caller (or household) issued 4.1 calls. The most calls received from one household totaled 56.

Calls by Community - (Exhibits 1 and 3)

Majority (more than 50%): The *Paradise and Winchester* communities issued 69 calls (85%). (See January 2016 synopsis of typical aircraft overflight impacts on this community.)

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

Repeat Caller Impact: One household issued 69% (56 calls) of all the calls received in February 2016.

Calls by Operation - (Exhibit 2)

- LAS:** 77% of the total calls received were due to *LAS* fixed-wing operations.
- 72% were due to departures to the north from Runways 01L and 01R (78% from one household).
- VGT:** 0% of the total calls received were due to *VGT* fixed-wing operations.
- HND:** 0% of the total calls received were due to *HND* fixed-wing operations.
- Helis:** 23% of the total calls received were due to *helicopter* operations.
- 53% from one household which is the same household that issued 78% of the calls for LAS Runways 01L and 01R.

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

- Overall:** 473 daily *departures*⁷ – (see footnote).
- 88% of departures were to the north, 8% south, 3% east, and 1% west.
- 470 daily *arrivals* – a 4% increase from 2015 and 6% increase from 2014.
- 60% of arrivals were from the east, 37% from the south, and 3% from the north.
- Daytime:** 397 daily *departures*⁸ – (see footnote).
- 88% of departures were to the north, 8% south, and 4% east.
- 421 daily *arrivals* – a 5% increase from 2015 and a 7% increase from 2014.
- 59% of arrivals were from the east, 38% from the south, and 3% from the north.
- Nighttime:** 76 daily *departures*⁹ – (see footnote).
- 86% of departures were to the north, 9% south, and 5% west.
- 49 daily *arrivals* – a 7% decrease from 2015 and 1% decrease from 2014.
- 70% of arrivals were from the east, 27% from the south, and 3% from the north.

Daytime vs. Nighttime: Approximately 84% of all *departures* and 90% of all *arrivals* occurred during the daytime hours.

⁷ See footnote #1.

⁸ See footnote #1.

⁹ See footnote #1.

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

- Overall:** 95 daily *departures*¹⁰ – (see footnote).
▪ 89% of departures were to the north, 7% south, 3% east, and 1% west.
93 daily *arrivals* – a 3% increase from 2015 and 6% decrease from 2014.
▪ 64% of arrivals were from the south, 28% east, 7% north, and 1% west.
- Daytime:** 86 daily *departures*¹¹ – (see footnote).
▪ 89% of departures were to the north, 7% south, 3% east, and 1% west.
86 daily *arrivals* – a 3% increase from 2015 and an 8% decrease from 2014.
▪ 64% of arrivals were from the south, 29% east, 6% north, and 1% west.
- Nighttime:** 9 daily *departures*¹² – (see footnote).
▪ 89% of departures were to the north, 10% south, and 1% west.
7 daily *arrivals* – a 1% decrease from 2015 and an 11% increase from 2014.
▪ 73% of arrivals were from the south, 15% east, 11% north, and 1% west.

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

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

Tropicana: 73 daily *departures* – a 11% decrease from 2015 and a 13% decrease from 2014.

Charleston: 74 daily *arrivals* - a 12% decrease from 2015 and a 12% decrease from 2014.

Strip: 52 daily *touch and go's* - a 36% increase from 2015 and a 76% 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 66% of the daily traffic.
- Medium:** **Medium** turbine-driven aircraft (those weighing more than 41,000 lbs. and less than 75,000 lbs.) accounted for 1% of the daily traffic.
- Small:** **Small** turbine-driven aircraft (those weighing 41,000 lbs. or less) accounted for 9% of the daily traffic.
- Military:** **Military** turbine-driven aircraft accounted for less than 1% of the daily traffic.
- Non-Jet:** **Piston-driven** aircraft and unassigned aircraft types accounted for 4% of the daily traffic.

¹⁰ See footnote #1.

¹¹ See footnote #1.

¹² See footnote #1.

Helos: *Touring helicopters* accounted for 18% of the daily traffic.

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

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

Primary: In 2016, 1% departed to the *west* (from LAS's primary departure runways). This figure was 2% in 2015 and 71% in 2014.

Secondary: In 2016, 8% departed to the *south* (from LAS's secondary departure runways). This figure was 15% in 2015 and 3% in 2014.

Alternate 1: In 2016, 87% departed to the *north* (from LAS's alternate departure runways). This figure was 72% in 2015 and 20% in 2014.

Alternate 2: In 2016, 3% departed to the *east* (from LAS's alternate departure runways). This figure was 11% in 2015 and 6% in 2014.

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

SVHS: In 2016, 91% 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 88% in 2015 and 96% in 2014. (See January 2016 synopsis for specific location of the SVHS gate.)

Peace: In 2016, due to an unusually low number of western departures resulting from construction activities on Runway 07L/25R, only 50% 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 89% in 2015 and 97% in 2014. (See January 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 National Security Site) that departed to the south from Runways 19L or 19R were within 0.3 NM of the intersection of *Pebble Road & Arville Street*. This figure was 97% in 2015 and 99% in 2014. (See January 2016 synopsis for specific location of the Pebble gate.)

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

Boulder: In 2016, 97% of the large air carrier aircraft that departed to the north from Runways 07L or 07R were within 0.3 NM of the extended runway centerline, near *Boulder Highway*. This figure was 90% in 2015 and 95% in 2014. (See January 2016 synopsis for specific location of the Boulder Hwy. gate.)

Hualapai: In 2016, 87% of the large air carrier aircraft destined to the Nevada National Security Site that departed to the west were within 0.3 NM of the extended runway centerline, near *Hualapai Way*. This figure was 88% in 2015 and 93% in 2014. (See January 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 90% in 2015 and 89% in 2014. (See January 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 January 2016 synopsis for specific location of the Hollywood gate.)

Stratosphere: In 2016, 96% 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 95% in 2013. (See January 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 departures to the north as a result of the closure of Rwy 25R/07L on October 28, 2015 for construction, and the number of complaints tied to a single household.

March 2016: 60 total complaints - an 89% decrease from 2015 and a 93% decrease from 2014. On average, each caller (or household) issued 1.8 calls. The most calls received from one household totaled 21.

Calls by Community - (Exhibits 1 and 3)

Majority (more than 50%): The *Paradise and Winchester* communities issued 37 calls (61%). (See January 2016 synopsis of typical aircraft overflight impacts on this community.)

Minority (between 10% and 50%): The *Enterprise* community issued 13 calls (22%). (See January 2016 synopsis of typical aircraft overflight impacts on this community.)

Repeat Caller Impact: One household issued 35% (21 calls) of all the calls received in March 2016.

Calls by Operation - (Exhibit 2)

LAS: 72% of the total calls received were due to *LAS* fixed-wing operations.

- 42% were due to departures to the north from Runways 01L and 01R (60% from one household).

VGT: 0% 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: 27% of the total calls received were due to *helicopter* operations.

- 38% from one household which is the same household that issued 60% of the calls for LAS Runways 01L and 01R.

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

- Overall:** 493 daily *departures*¹³ – (see footnote).
▪ 63% of departures were to the north, 30% south, 4% west, and 2% east.
491 daily *arrivals* – a 2% increase from 2015 and 4% increase from 2014.
▪ 59% of arrivals were from the east, 27% south, and 14% north.
- Daytime:** 399 daily *departures*¹⁴ – (see footnote).
▪ 64% of departures were to the north, 30% south, 3% east, and 2% west.
426 daily *arrivals* – a 3% increase from 2015 and 3% increase from 2014.
▪ 57% of arrivals were from the east, 28% south, and 15% north.
- Nighttime:** 94 daily *departures*¹⁵ – (see footnote).
▪ 55% of departures were to the north, 31% south, 13% west and 1% east.
65 daily *arrivals* – a 2% decrease from 2015 and 5% increase from 2014.
▪ 71% of arrivals were from the east, 19% south, and 10% north.

Daytime vs. Nighttime: Approximately 81% of all *departures* and 87% of all *arrivals* occurred during the daytime hours.

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

- Overall:** 91 daily *departures*¹⁶ – (see footnote).
▪ 63% of departures were to the north, 32% south, 3% east, and 2% west.
91 daily *arrivals* – a 5% decrease from 2015 and a 13% decrease from 2014.
▪ 46% of arrivals were from the south, 27% north, 25% east, and 1% west.
- Daytime:** 82 daily *departures*¹⁷ – (see footnote).
▪ 65% of departures were to the north, 30% south, 3% east, and 2% west.
85 daily *arrivals* – a 4% decrease from 2015 and a 14% decrease from 2014.
▪ 46% of arrivals were from the south, 26% east, 26% north, and 1% west.
- Nighttime:** 9 daily *departures*¹⁸ – (see footnote).
▪ 49% of departures were to the north, 42% south, 8% west, and 1% east.
6 daily *arrivals* – a 14% decrease from 2015 and no change from 2014.
▪ 47% of arrivals were from the south, 39% north, 12% east, and 3% 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: 88 daily *departures* – a 7% decrease from 2015 and a 17% decrease from 2014.

Charleston: 86 daily *arrivals* - a 9% decrease from 2015 and a 19% decrease from 2014.

¹³ See footnote #1.

¹⁴ See footnote #1.

¹⁵ See footnote #1.

¹⁶ See footnote #1.

¹⁷ See footnote #1.

¹⁸ See footnote #1.

Strip: 60 daily *touch and go's* - a 22% increase from 2015 and a 50% increase from 2014.

Daytime vs. Nighttime: Approximately 95% of all helicopter tour operations occurred during the daytime hours.

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

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

Large: *Large* air carrier turbine-driven aircraft (those weighing more than 75,000 lbs. and less than 300,000 lbs.) accounted for 65% 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 20% of the daily traffic.

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

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

Primary: In 2016, 4% departed to the *west* (from LAS's primary departure runways). This figure was 3% in 2015 and 64% in 2014.

Secondary: In 2016, 30% departed to the *south* (from LAS's secondary departure runways). This figure was 23% in 2015 and 2% in 2014.

Alternate 1: In 2016, 63% departed to the *north* (from LAS's alternate departure runways). This figure was 61% in 2015 and 23% in 2014.

Alternate 2: In 2016, 2% departed to the *east* (from LAS's alternate departure runways). This figure was 13% in 2015 and 11% in 2014.

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

SVHS: In 2016, 95% of the large air carrier aircraft (excluding those destined to the Nevada National Security Site) that departed to the west from Runways 25L or 25R and made a left-hand turn were within 0.3 NM of *Sierra Vista High School* (SVHS). This figure was 96% in 2015 and 96% in 2014. (See January 2016 synopsis for specific location of the SVHS gate.)

- Peace:** In 2016, due to an unusually low number of western departures resulting from construction activities on Runway 07L/25R, only 9% 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 55% in 2015 and 97% in 2014. (See January 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 National Security Site) that departed to the south from Runways 19L or 19R were within 0.3 NM of the intersection of *Pebble Road & Arville Street*. This figure was 97% in 2015 and 97% in 2014. (See January 2016 synopsis for specific location of the Pebble gate.)
- UNLV:** In 2016, 91% of the large air carrier aircraft that departed to the north from Runways 01L or 01R were within 0.3 NM of the *UNLV sports complex*. This figure was 81% in 2015 and 81% in 2014. (See January 2016 synopsis for specific location of the UNLV gate.)
- Boulder:** In 2016, 98% of the large air carrier aircraft that departed to the north from Runways 07L or 07R were within 0.3 NM of the extended runway centerline, near *Boulder Highway*. This figure was 91% in 2015 and 98% in 2014. (See January 2016 synopsis for specific location of the Boulder Hwy. gate.)
- Hualapai:** In 2016, 84% of the large air carrier aircraft destined to the Nevada National Security Site that departed to the west were within 0.3 NM of the extended runway centerline, near *Hualapai Way*. This figure was 79% in 2015 and 92% in 2014. (See January 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 86% in 2015 and 99% in 2014. (See January 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 January 2016 synopsis for specific location of the Hollywood gate.)
- Stratosphere:** In 2016, 95% 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 88% in 2014. (See January 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 departures to the north and south as a result of the closure of Rwy 25R/07L on October 28, 2015 for construction, and the number of complaints tied to a single household.

Other Notable Issues

Helicopter Operator Users Meeting: On March 17, 2016, CCDOA met with FAA, local helicopter tour operators, and Las Vegas Metropolitan Police to discuss noise complaints tied to helicopter operations, route compliance, and operational growth. Attendees reviewed the successful use of a modified route to accommodate helicopter flights to and from the Las Vegas Motor Speedway for an annual NASCAR racing event. All helicopters maintained a high rate of route compliance resulting in zero noise complaints tied to this route for the event.

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

GCS:jj

Attachments

Airport Noise Report

April 15, 2016

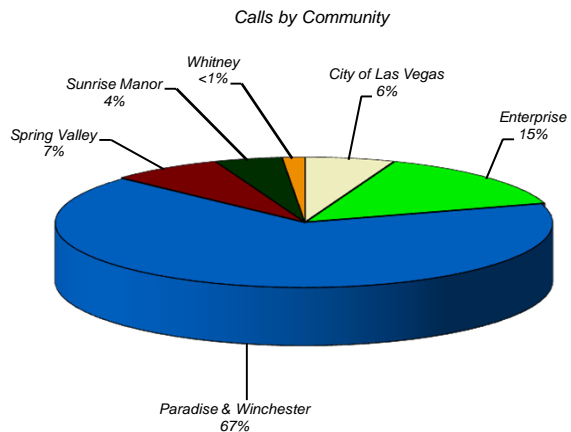
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Distribution:

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

Exhibit 1: Noise Complaint Calls by Community* - January 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			4	2
City of Henderson				2
City of Las Vegas	4	4		
City of North Las Vegas			1	
Enterprise	10	7	6	3
Lone Mountain				
Paradise & Winchester	46	11	496	235
Spring Valley	5	2	6	12
Summerlin South			2	
Sunrise Manor	3	3	1	
Whitney	1	1	2	
Location unknown				
Overall Total	69	28	518	254



Difference between 2016 and 2015 Total Calls: -87%

Difference between 2016 and 2014 Total Calls: -73%

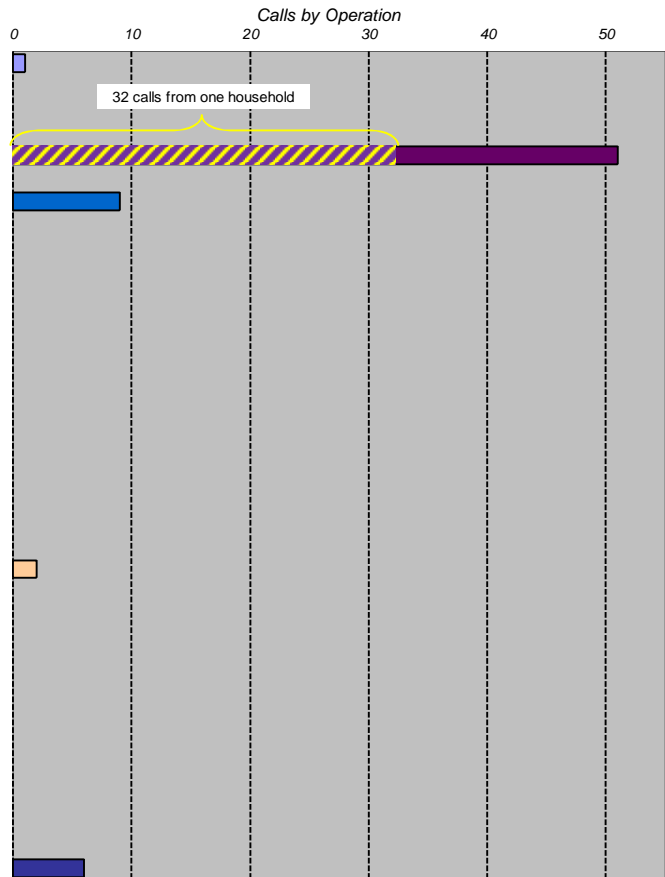
Average Number of Calls per Caller: 2.5

Most calls received from one household: 34

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

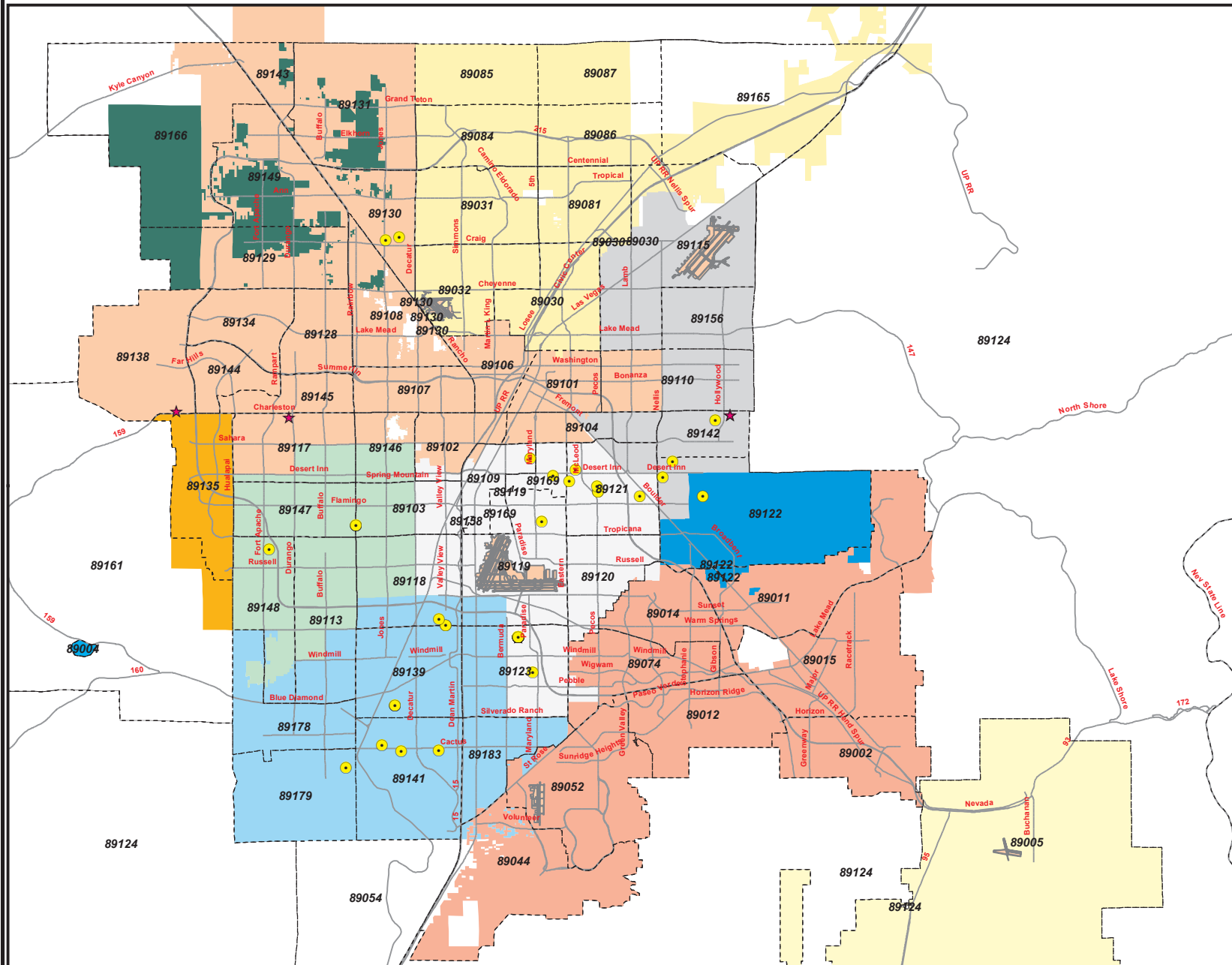
Exhibit 2: Noise Complaint Calls by Type of Operation - January 2016

Operation	No. of Calls in 2016	Percent of Overall Total	No. of Calls in 2015	No. of Calls in 2014
LAS 01R/L Arrivals	1	1.4%		
LAS 07R/L Arrivals				
LAS 19R/L Arrivals				
LAS 25R/L Arrivals			2	
LAS 01R/L Departures	51	73.9%	509	118
LAS 07R/L Departures				
LAS 19R/L Departures	9	13.0%	1	
LAS 25R/L Departures				115
LAS Run-ups				
LAS GA				
LAS Other				
LAS Total	61	88.4%	512	233
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	2.9%	1	2
VGT Other				
VGT Total	2	2.9%	1	2
HND 17R/L Arrivals				
HND 35R/L Arrivals				
HND 17R/L Departures				
HND 35R/L Departures				
HND Run-ups				
HND GA			1	3
HND Other				
HND Total	0	0.0%	1	3
Helicopters**	6	8.7%	4	16
Overall Total	69	100%	518	254



** 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 2016



Legend

Jan 2016
Total Complaints: 69

- Aircraft Complaints Received 63 Mapped 63
- ★ Helicopter Complaints Received 6 Mapped 6

- Major Streets
- Airports
- - - Zip Code Boundaries

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

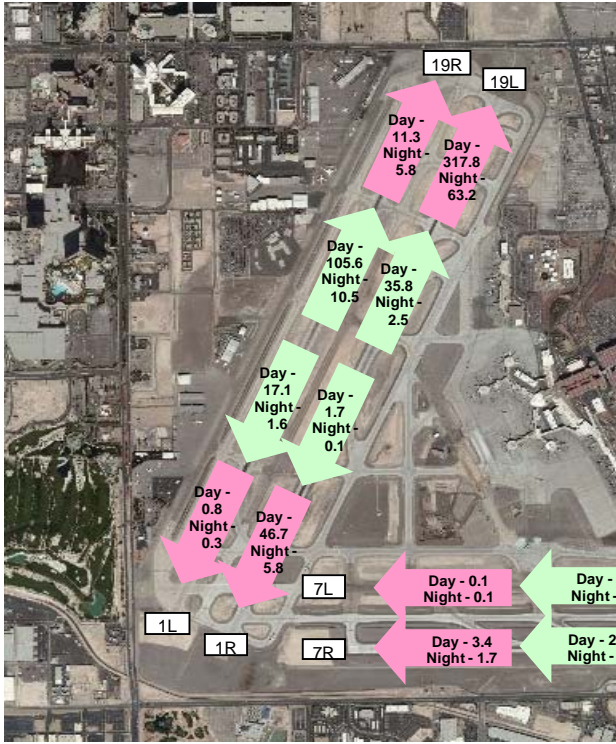
Department of Aviation
Geographic Information Systems

April 11, 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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Exhibit 4: LAS Daily Average Operations Runway for Large Air Carrier Aircraft* - January 2016

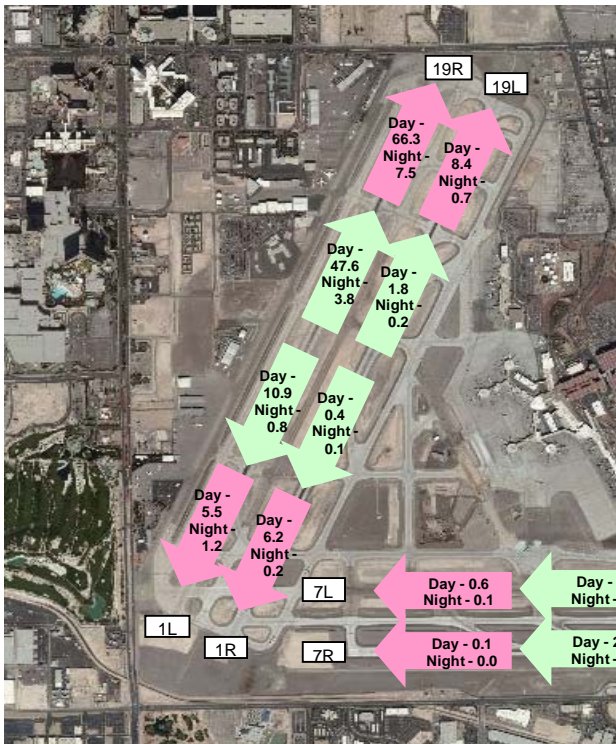


Year	2016		2015		2014	
Daytime Departures	389	83%	N/A	N/A	N/A	N/A
Nighttime Departures	77	17%	N/A	N/A	N/A	N/A
Total Departures	466	100%	N/A	N/A	N/A	N/A
Daytime Arrivals	411	89%	389	89%	395	90%
Nighttime Arrivals	52	11%	48	11%	45	10%
Total Arrivals	463	100%	437	100%	441	100%

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	6%	6%	8%
Arrivals 2016 vs 2014	5%	4%	14%

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

Exhibit 5: LAS Daily Average Operations by Runway for Non-Large Air Carrier Aircraft** - January 2016

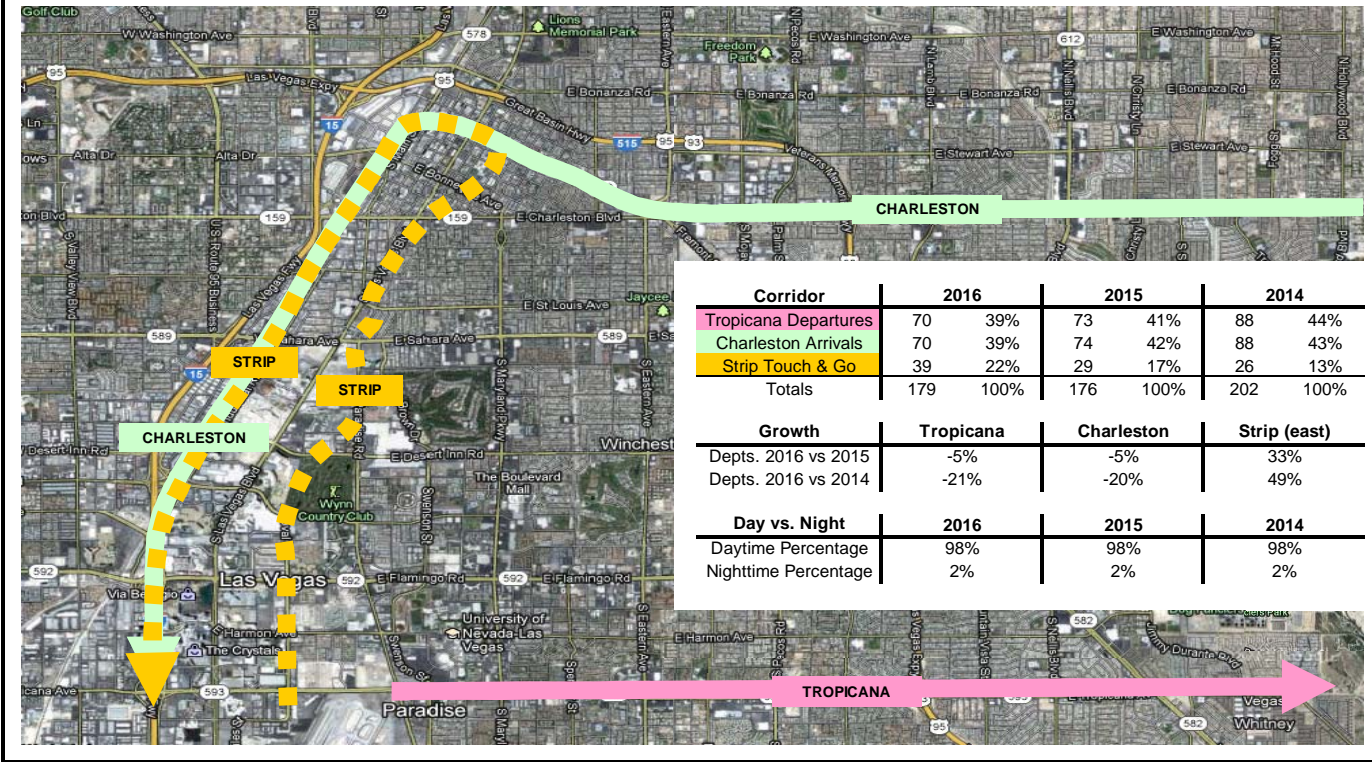


Year	2016		2015		2014	
Daytime Departures	89	90%	N/A	N/A	N/A	N/A
Nighttime Departures	10	10%	N/A	N/A	N/A	N/A
Total Departures	99	100%	N/A	N/A	N/A	N/A
Daytime Arrivals	89	94%	99	95%	100	94%
Nighttime Arrivals	6	6%	6	5%	7	6%
Total Arrivals	95	100%	105	100%	107	100%

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%	-10%	5%
Arrivals 2016 vs 2014	-11%	-11%	-13%

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

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



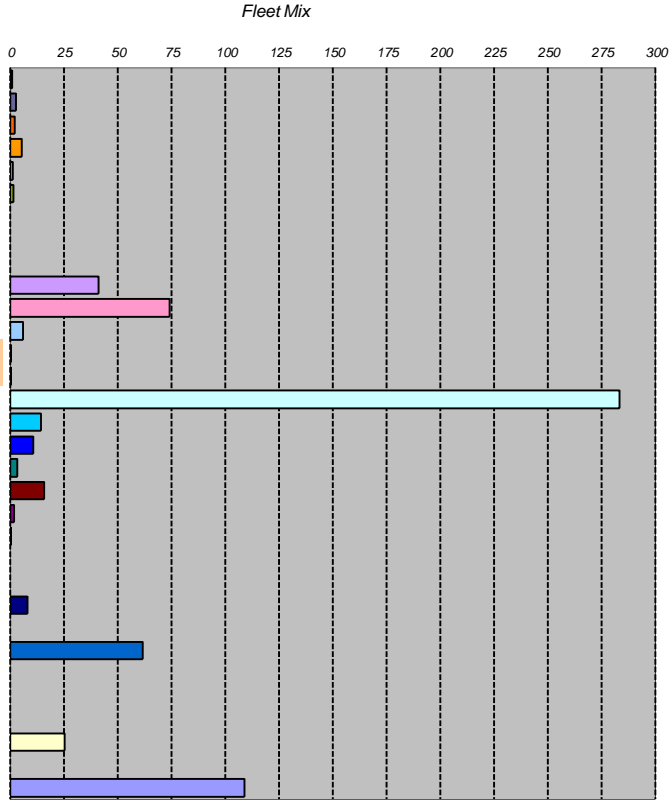
Corridor	2016	2015	2014
Tropicana Departures	70 39%	73 41%	88 44%
Charleston Arrivals	70 39%	74 42%	88 43%
Strip Touch & Go	39 22%	29 17%	26 13%
Totals	179 100%	176 100%	202 100%

Growth	Tropicana	Charleston	Strip (east)
Depts. 2016 vs 2015	-5%	-5%	33%
Depts. 2016 vs 2014	-21%	-20%	49%

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

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

Operation	Daily Average in 2016	Percent of Overall	Daily Average in 2015	Daily Average in 2014
A300s, A310s	0.81	0.1%	1.03	0.81
A330s, A340s	2.58	0.4%	2.61	2.42
B747s	1.97	0.3%	1.68	1.77
B767s	5.13	0.8%	7.81	3.00
B777s	1.03	0.2%	0.61	0.81
DC10, L1011, MD11	1.45	0.2%	0.06	1.65
Misc. (B707s, DC8s, etc.)	0.00	0.0%	0.00	0.00
Heavy Jets (>300,000 lbs.)	12.97	1.9%	13.81	10.45
A318s, A319s	41.03	6.2%	35.52	37.35
A320s, A321s	74.06	11.1%	60.61	49.71
B717s	5.77	0.9%	0.00	0.00
B727s	0.06	0.0%	0.00	0.10
B737-100s, -200s	0.06	0.0%	0.03	0.03
B737-300s to -900s	283.32	42.5%	273.81	280.39
B757s	14.13	2.1%	13.84	24.19
BAC 111s, E170s, E190s	10.61	1.6%	4.16	0.16
CRJ7s, CRJ9s	3.06	0.5%	8.10	11.58
MD80s	15.77	2.4%	24.61	26.03
MD90s	1.81	0.3%	1.94	0.26
Misc. (Bae 146s, DC9s)	0.32	0.0%	0.32	0.29
Large Jets (>75,000 lbs.)	450.03	67.5%	422.94	430.10
Medium Jets (>41,000)	8.03	1.2%	8.55	7.77
Small Jets (<41,000 lbs.)	61.61	9.2%	69.00	69.81
Military Jets	0.00	0.0%	0.61	0.45
Non-Jets & Unknowns	25.06	3.8%	26.48	28.61
Helicopter Tours	108.97	16.3%	103.40	114.00
Overall Total*	667	100%	645	661



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

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

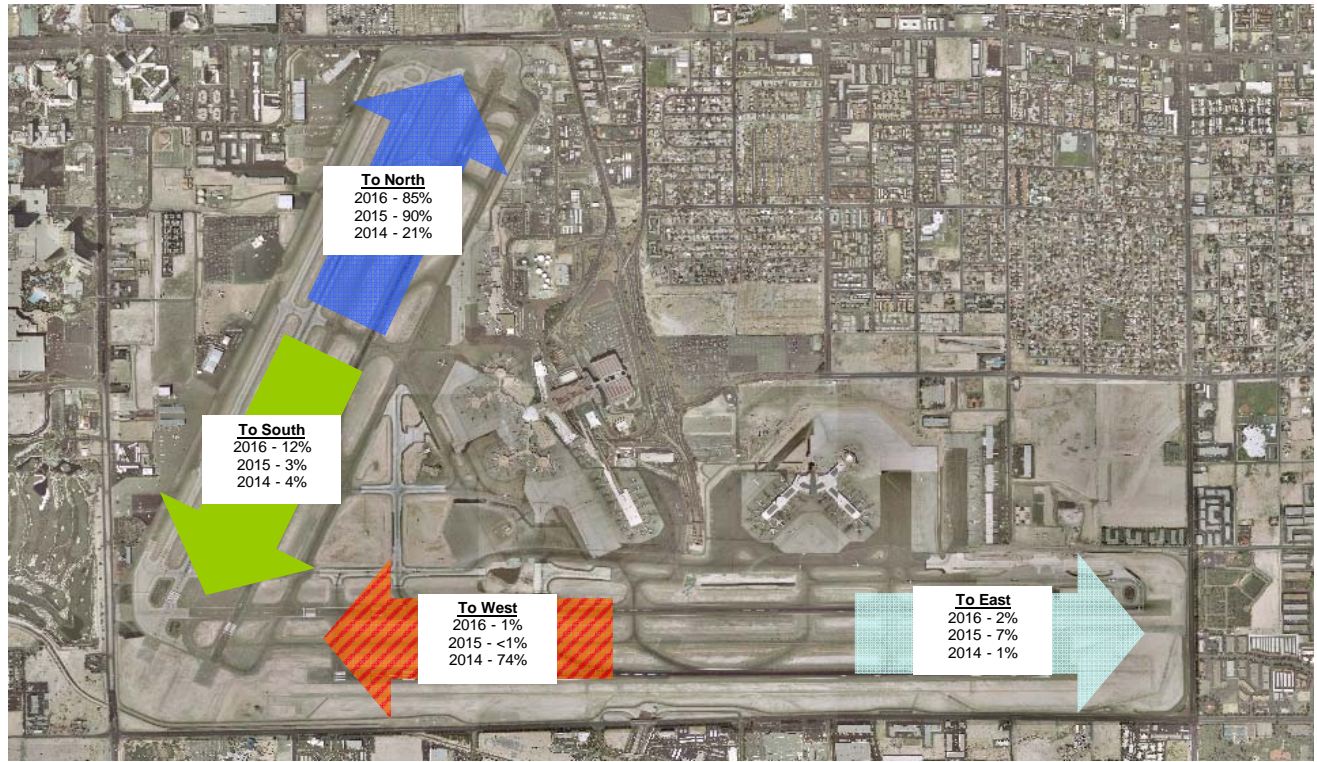
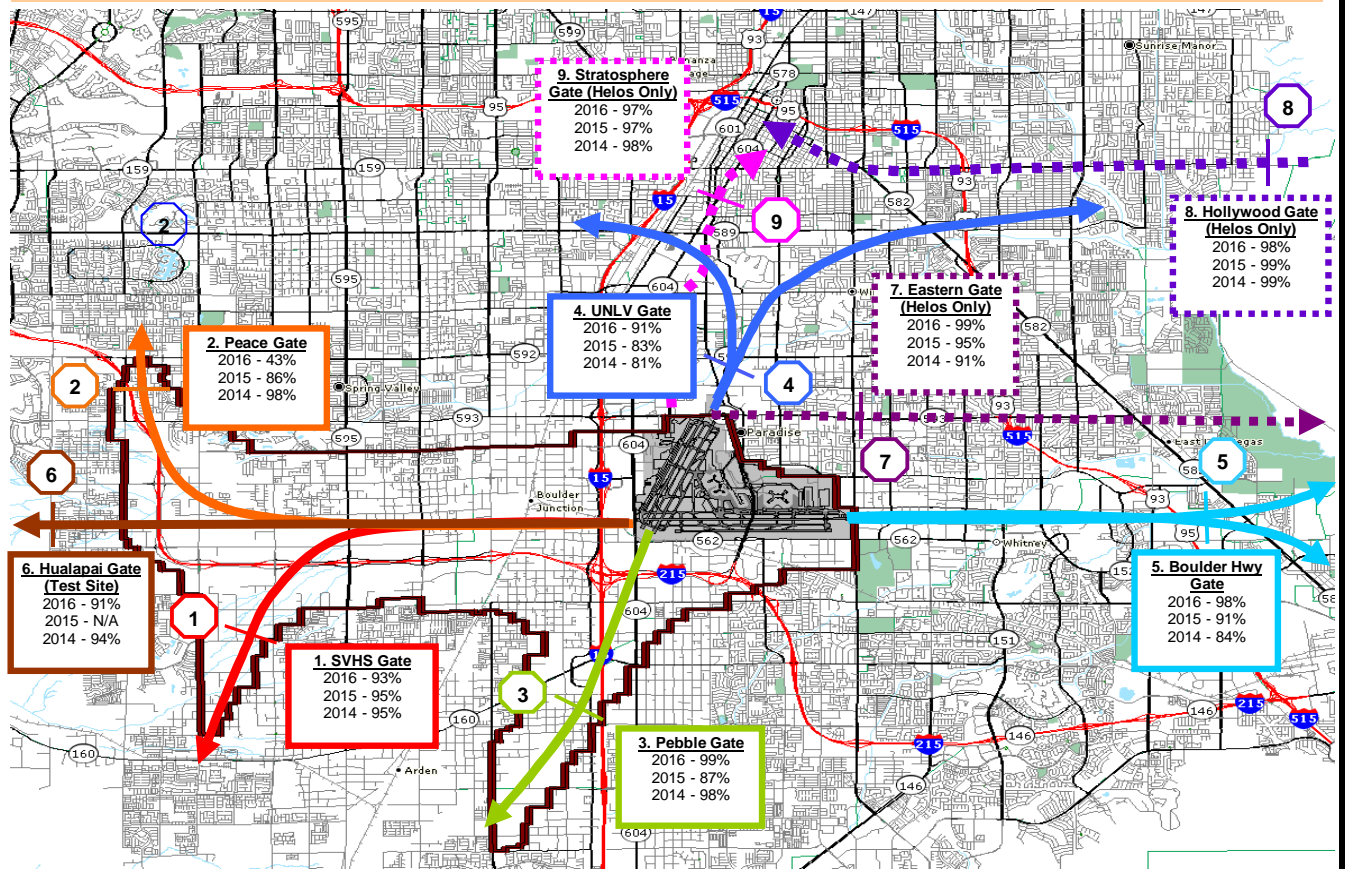


Exhibit 9: "Gate" Compliance for Large Aircraft* & LAS Helicopter Tours - January 2016



* 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, A370, B707, B717, B727, B737, B747, B757, B767, B777, CRJ7, CRJ9, DC8, DC9, DC10, E170, E190, HA4T, L1011, MD80, MD90, MD10, MD11, VC10.

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

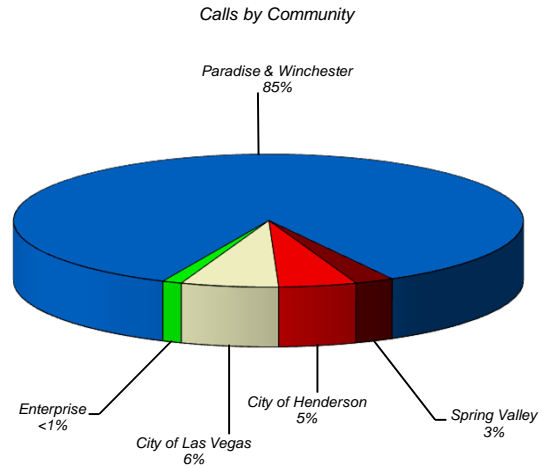
Community	No. of Calls in 2016	No. of Callers in 2016	No. of Calls in 2015	No. of Calls in 2014
City of Boulder City	4	3	1	4
City of Henderson	5	5	4	4
City of Las Vegas	1	1	12	3
City of North Las Vegas	69	9	376	844
Enterprise	2	2	1	4
Lone Mountain			4	2
Paradise & Winchester				
Spring Valley				
Summerlin South				
Sunrise Manor				
Whitney				
Location unknown				
Overall Total	81	20	401	862

Difference between 2016 and 2015 Total Calls: -80%

Difference between 2016 and 2014 Total Calls: -91%

Average Number of Calls per Caller: 4.1

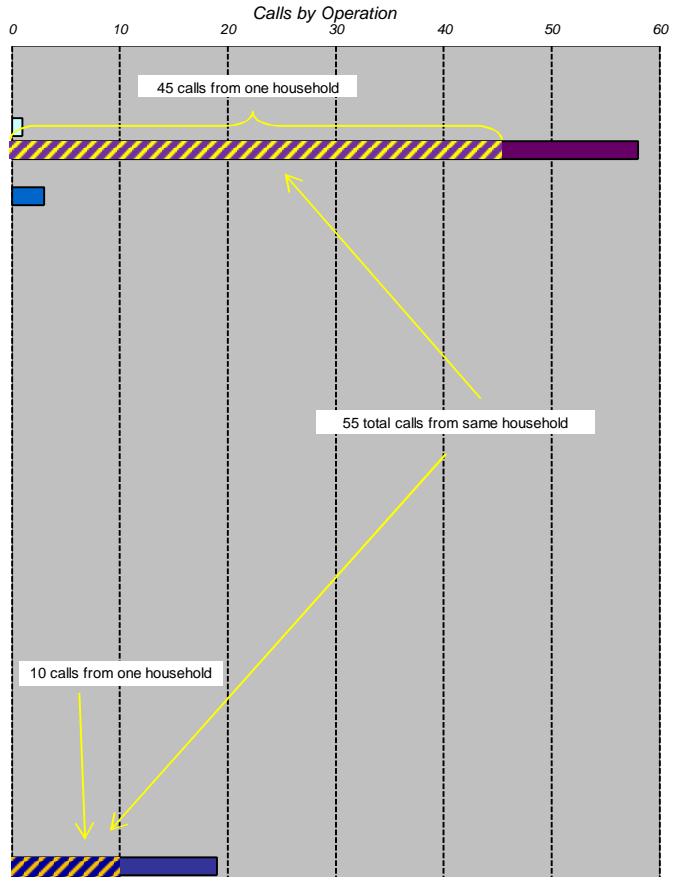
Most calls received from one household: 56



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

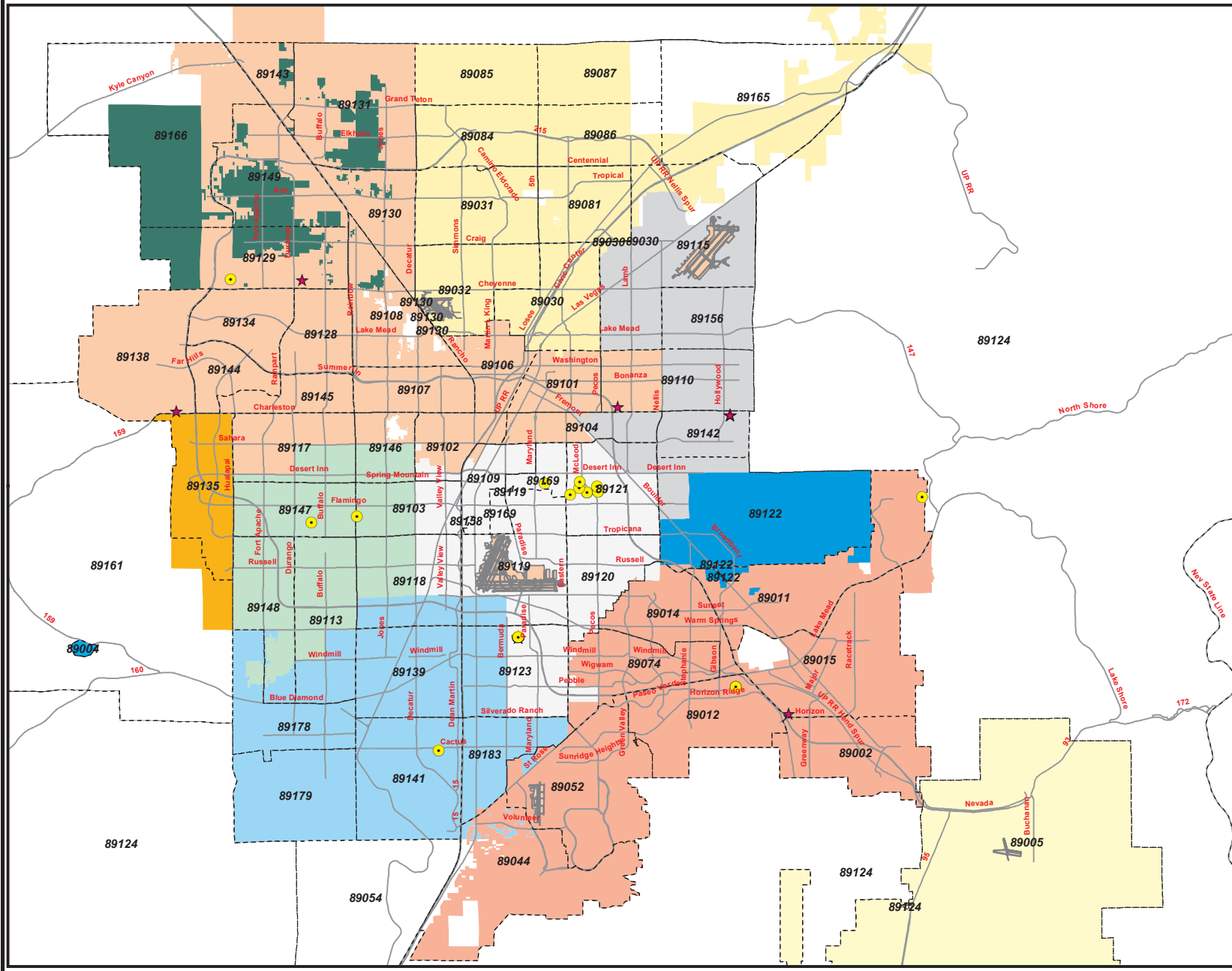
Exhibit 2: Noise Complaint Calls by Type of Operation - February 2016

Operation	No. of Calls in 2016	Percent of Overall Total	No. of Calls in 2015	No. of Calls in 2014
LAS 01R/L Arrivals			1	
LAS 07R/L Arrivals				
LAS 19R/L Arrivals				
LAS 25R/L Arrivals	1	1.2%		
LAS 01R/L Departures	58	71.6%	301	370
LAS 07R/L Departures			2	2
LAS 19R/L Departures	3	3.7%	83	1
LAS 25R/L Departures			8	480
LAS Run-ups				
LAS GA				
LAS Other				
LAS Total	62	76.5%	395	853
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			0	2
VGT Other				
VGT Total	0	0.0%	0	2
HND 17R/L Arrivals				
HND 35R/L Arrivals				
HND 17R/L Departures				
HND 35R/L Departures				
HND Run-ups				
HND GA			1	2
HND Other				
HND Total	0	0.0%	1	2
Helicopters**	19	23.5%	5	5
Overall Total	81	100%	401	862



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

Exhibit 3: Aircraft Noise Complaints by Community - Feb 2016



Legend

Feb 2016
Total Complaints: 81

- Aircraft Complaints Received 62 Mapped 62
- ★ Helicopter Complaints Received 19 Mapped 19
- Major Streets
- Airports
- - - Zip Code Boundaries
- Unincorporated Clark County
- Boulder City
- Whitney
- Henderson
- Las Vegas
- North Las Vegas
- Paradise/Winchester
- Summerlin
- Spring Valley
- Sunrise Manor
- Winchester
- Enterprise
- Lone Mountain

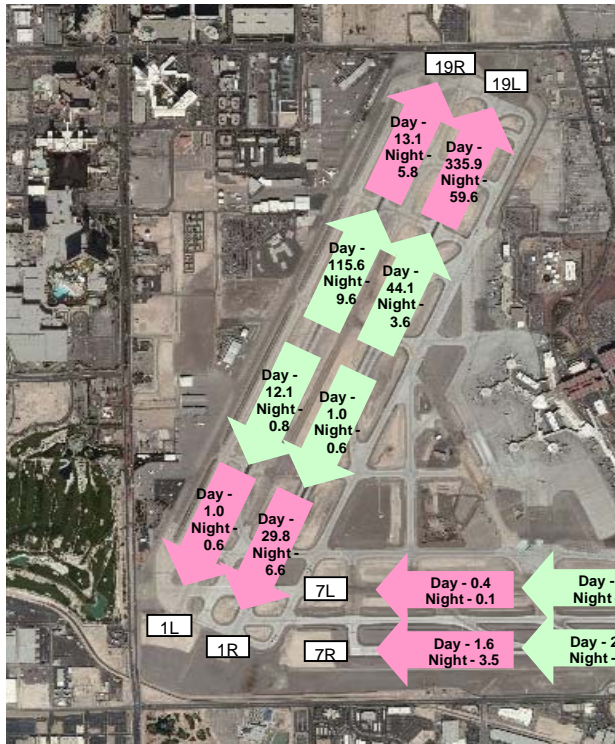
Department of Aviation
Geographic Information Systems

April 11, 2016

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



Year	2016		2015		2014	
Daytime Departures	397	84%	N/A	N/A	N/A	N/A
Nighttime Departures	76	16%	N/A	N/A	N/A	N/A
Total Departures	473	100%	N/A	N/A	N/A	N/A

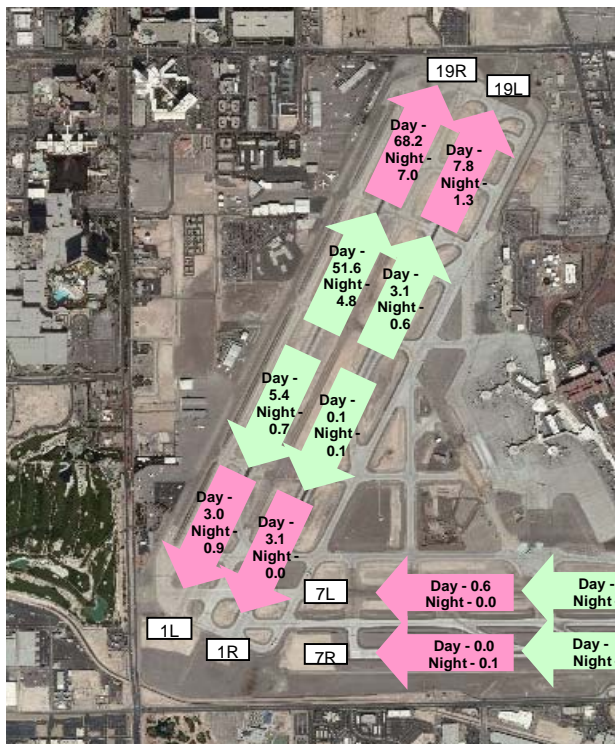
Daytime Arrivals	421	90%	400	88%	393	89%
Nighttime Arrivals	49	10%	53	12%	50	11%
Total Arrivals	470	100%	452	100%	442	100%

Growth	Overall		Daytime		Nighttime	
Depts. 2016 vs 2015	N/A	N/A	N/A	N/A	N/A	N/A
Depts. 2016 vs 2014	N/A	N/A	N/A	N/A	N/A	N/A

Arrivals 2016 vs 2015	4%	5%	-7%
Arrivals 2016 vs 2014	6%	7%	-1%

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

Exhibit 5: LAS Daily Average Operations by Runway for Non-Large Air Carrier Aircraft** - February 2016



Year	2016		2015		2014	
Daytime Departures	86	90%	N/A	N/A	N/A	N/A
Nighttime Departures	9	10%	N/A	N/A	N/A	N/A
Total Departures	95	100%	N/A	N/A	N/A	N/A

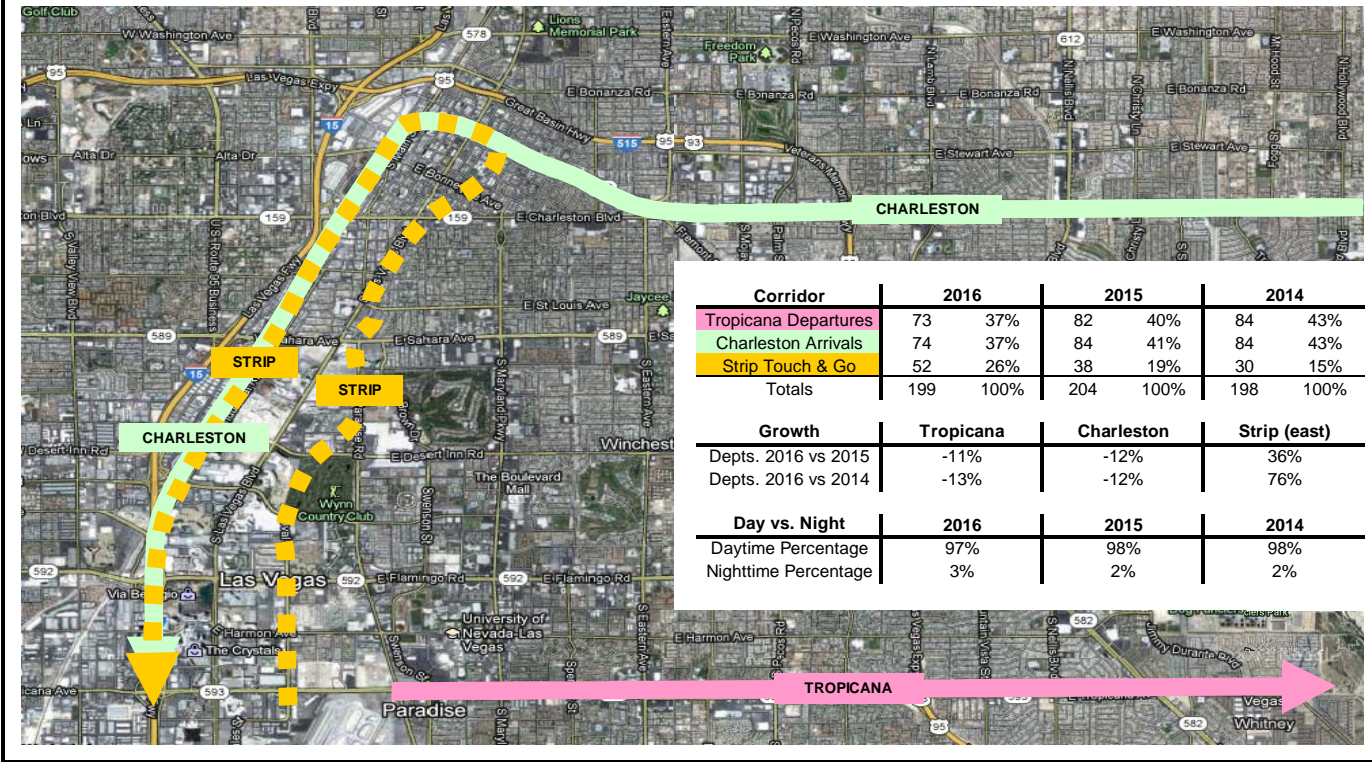
Daytime Arrivals	86	92%	83	92%	93	93%
Nighttime Arrivals	7	8%	7	8%	7	7%
Total Arrivals	93	100%	90	100%	100	100%

Growth	Overall		Daytime		Nighttime	
Depts. 2016 vs 2015	N/A	N/A	N/A	N/A	N/A	N/A
Depts. 2016 vs 2014	N/A	N/A	N/A	N/A	N/A	N/A

Arrivals 2016 vs 2015	3%	3%	-1%
Arrivals 2016 vs 2014	-6%	-8%	11%

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

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



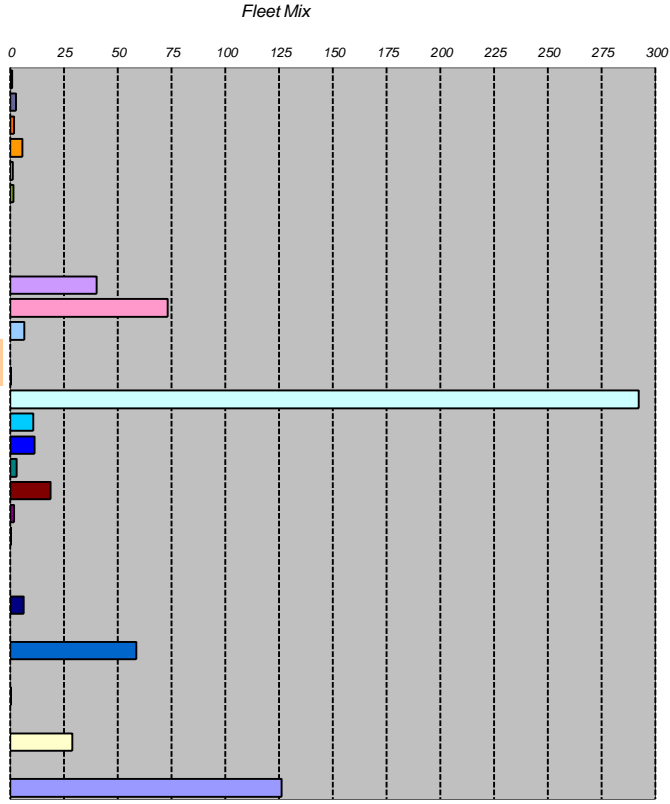
Corridor	2016	2015	2014
Tropicana Departures	73 37%	82 40%	84 43%
Charleston Arrivals	74 37%	84 41%	84 43%
Strip Touch & Go	52 26%	38 19%	30 15%
Totals	199 100%	204 100%	198 100%

Growth	Tropicana	Charleston	Strip (east)
Depts. 2016 vs 2015	-11%	-12%	36%
Depts. 2016 vs 2014	-13%	-12%	76%

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

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

Operation	Daily Average in 2016	Percent of Overall Total	Daily Average in 2015	Daily Average in 2014
A300s, A310s	0.79	0.1%	0.86	0.75
A330s, A340s	2.62	0.4%	2.89	2.68
B747s	1.76	0.3%	1.71	1.64
B767s	5.59	0.8%	6.64	3.68
B777s	1.00	0.1%	0.75	0.86
DC10, L1011, MD11	1.48	0.2%	0.14	1.68
Misc. (B707s, DC8s, etc.)	0.00	0.0%	0.00	0.00
Heavy Jets (>300,000 lbs.)	13.24	1.9%	13.00	11.29
A318s, A319s	39.97	5.8%	35.82	33.64
A320s, A321s	72.97	10.6%	60.25	52.25
B717s	6.31	0.9%	0.00	0.00
B727s	0.00	0.0%	0.04	0.00
B737-100s, -200s	0.03	0.0%	0.00	0.00
B737-300s to -900s	292.17	42.4%	287.96	281.71
B757s	10.55	1.5%	16.61	23.36
BAC 111s, E170s, E190s	11.07	1.6%	2.79	0.07
CRJ7s, CRJ9s	2.86	0.4%	9.57	12.64
MD80s	18.55	2.7%	24.89	26.71
MD90s	1.72	0.3%	1.00	0.21
Misc. (Bae 146s, DC9s)	0.21	0.0%	0.39	0.14
Large Jets (>75,000 lbs.)	456.41	66.3%	439.32	430.75
Medium Jets (>41,000)	6.10	0.9%	5.86	5.93
Small Jets (<41,000 lbs.)	58.41	8.5%	58.54	65.29
Military Jets	0.03	0.0%	0.54	0.43
Non-Jets & Unknowns	28.69	4.2%	25.46	28.00
Helicopter Tours	126.00	18.3%	121.79	113.80
Overall Total*	689	100%	665	655



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

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

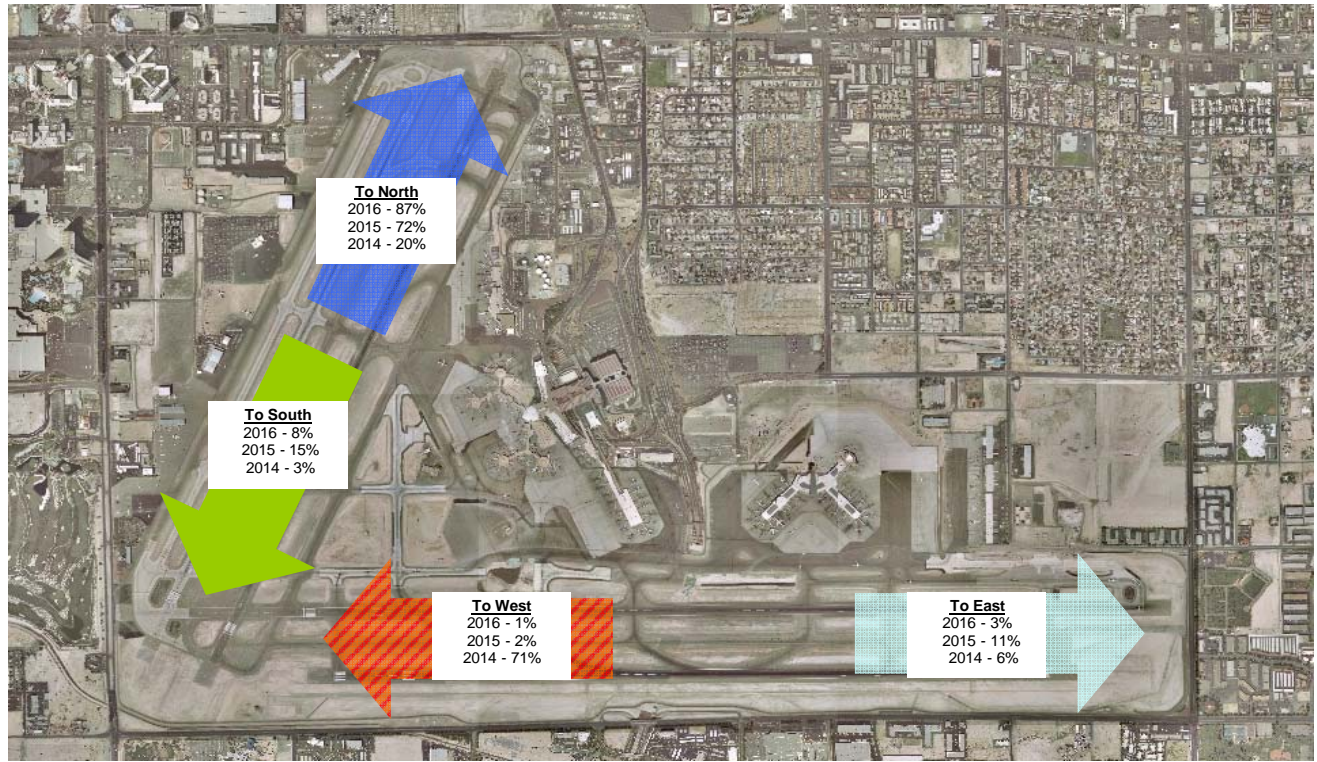
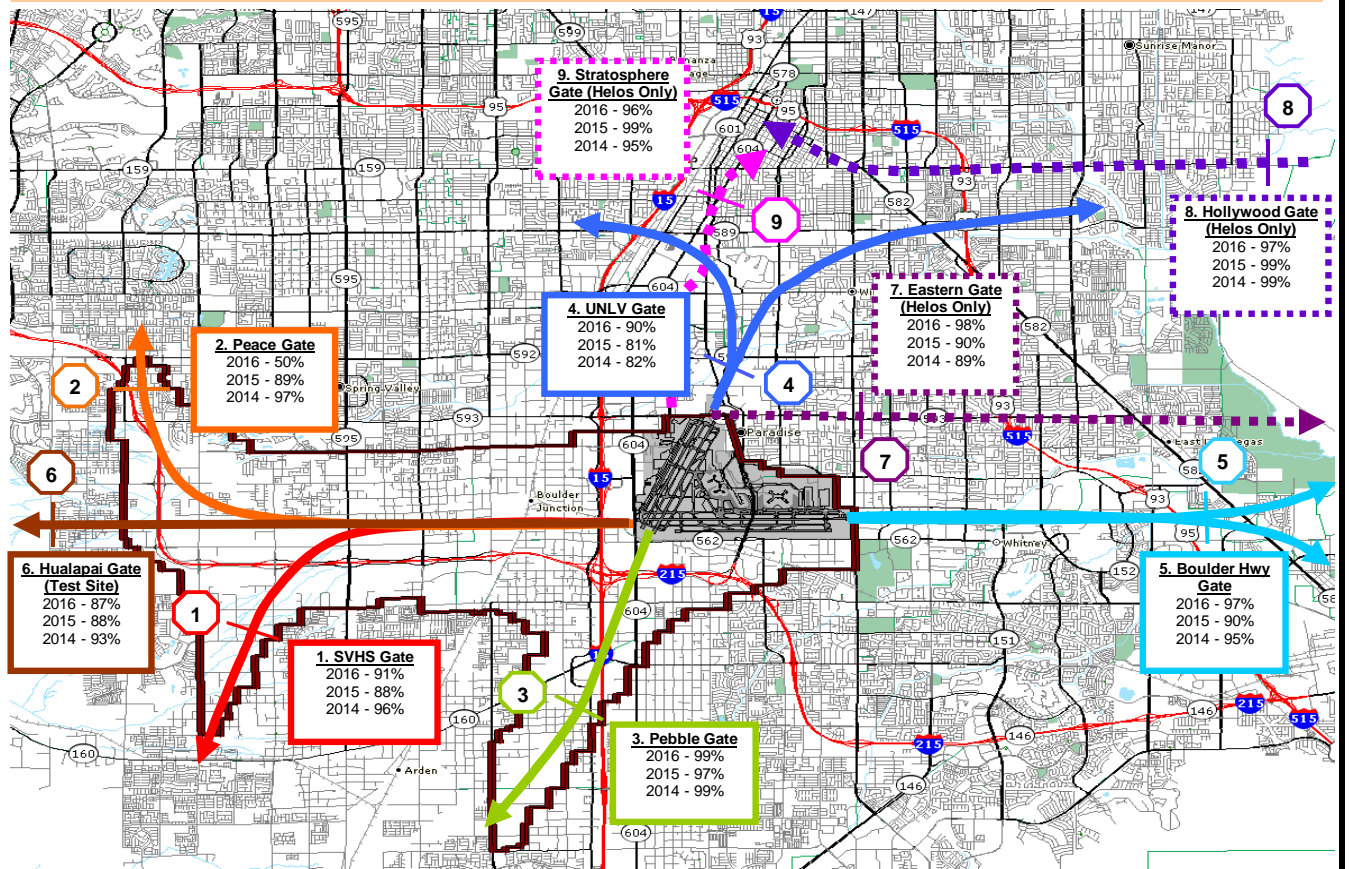


Exhibit 9: "Gate" Compliance for Large Aircraft* & LAS Helicopter Tours - February 2016



* 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, A370, B707, B717, B727, B737, B747, B757, B767, B777, CRJ7, CRJ9, DC8, DC9, DC10, E170, E190, HA4T, L1011, MD80, MD90, MD10, MD11, VC10.

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

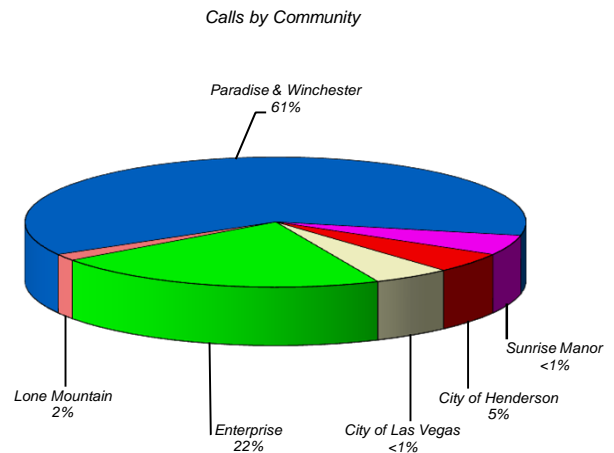
Community	No. of Calls in 2016	No. of Callers in 2016	No. of Calls in 2015	No. of Calls in 2014
City of Boulder City	3	3	2	7
City of Henderson	3	3	13	1
City of Las Vegas	3	3	3	1
City of North Las Vegas				
Enterprise	13	11	21	6
Lone Mountain	1	1		
Paradise & Winchester	37	12	482	828
Spring Valley				21
Summerlin South				
Sunrise Manor	3	3	3	1
Whitney				
Location unknown				
Overall Total	60	33	524	864

Difference between 2016 and 2015 Total Calls: -89%

Difference between 2016 and 2014 Total Calls: -93%

Average Number of Calls per Caller: 1.8

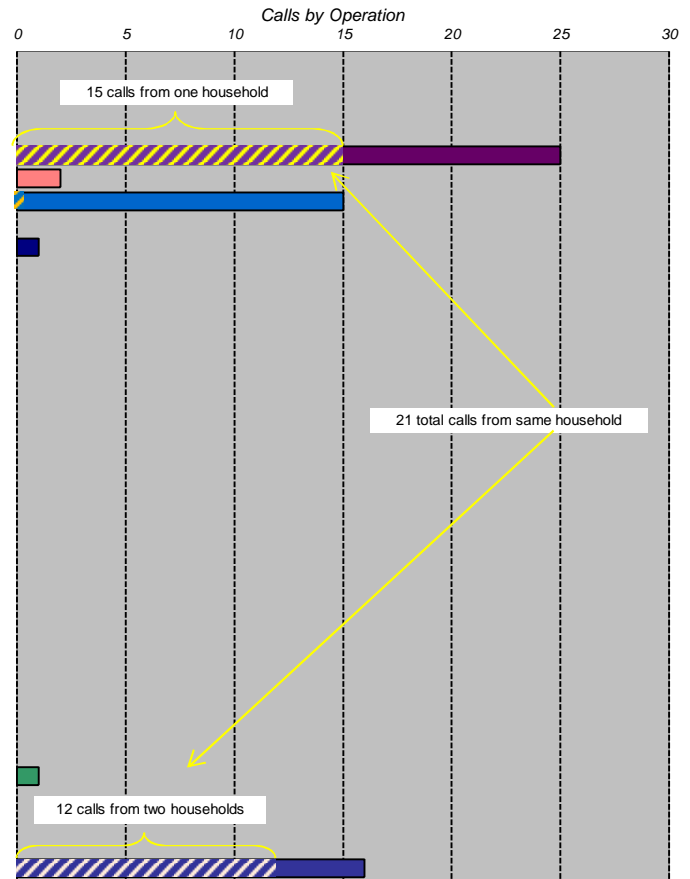
Most calls received from one household: 21



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

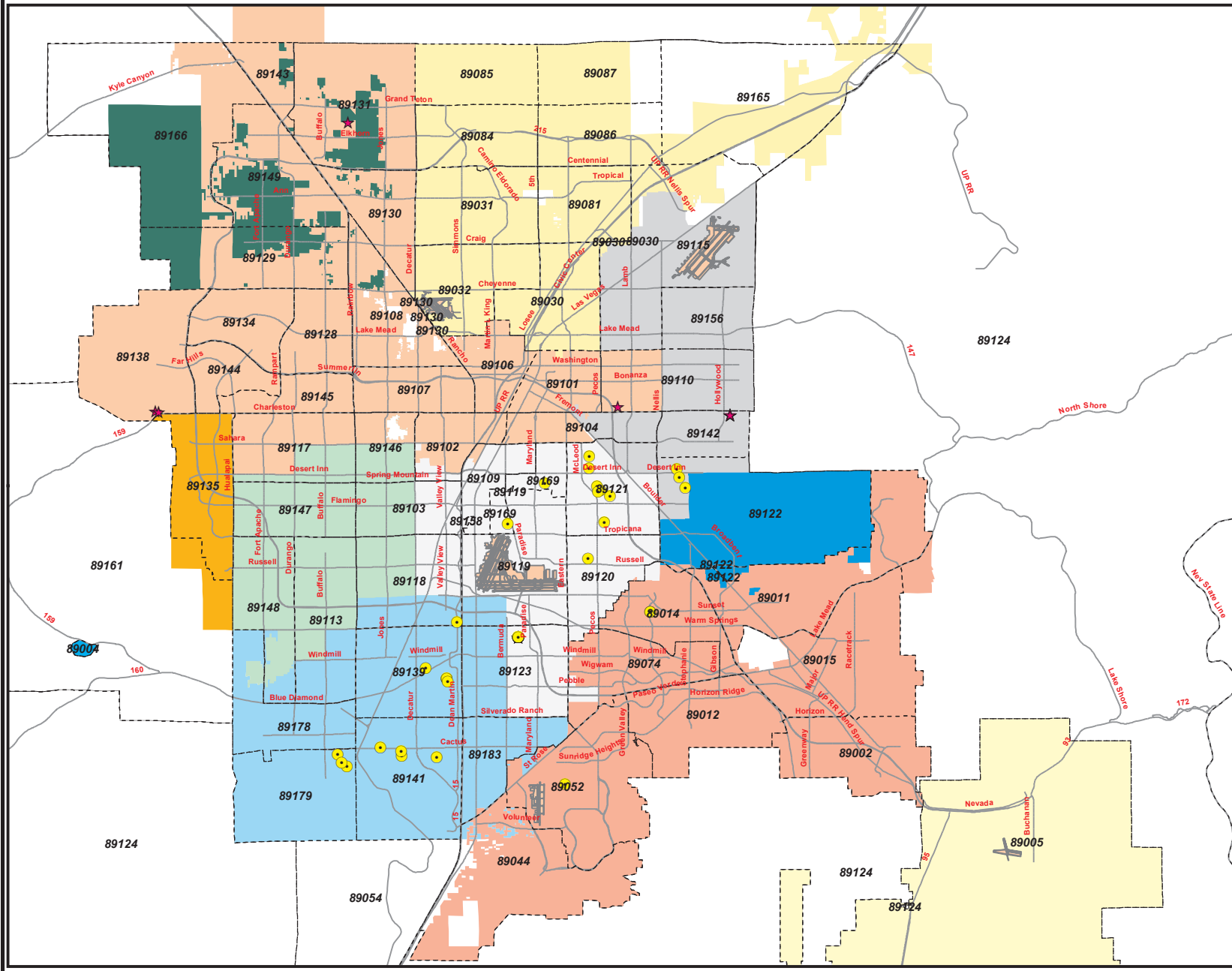
Exhibit 2: Noise Complaint Calls by Type of Operation - March 2016

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				
LAS 25R/L Arrivals			1	
LAS 01R/L Departures	25	41.7%	478	605
LAS 07R/L Departures	2	3.3%	3	1
LAS 19R/L Departures	15	3.3%	27	4
LAS 25R/L Departures				248
LAS Run-ups	1	1.7%	1	
LAS GA				
LAS Other				
LAS Total	43	71.7%	512	858
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	0	0.0%		
VGT Other				
VGT Total	0	0.0%	0	0
HND 17R/L Arrivals				
HND 35R/L Arrivals				
HND 17R/L Departures				
HND 35R/L Departures				
HND Run-ups				
HND GA	1	1.7%	9	4
HND Other				
HND Total	1	1.7%	9	4
Helicopters**	16	26.7%	3	2
Overall Total	60	100%	524	864



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

Exhibit 3: Aircraft Noise Complaints by Community - Mar 2016



Legend

Mar 2016
Total Complaints: 60

- Aircraft Complaints Received 44 Mapped 44
- ★ Helicopter Complaints Received 16 Mapped 16

- Major Streets
- Airports
- Zip Code Boundaries

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

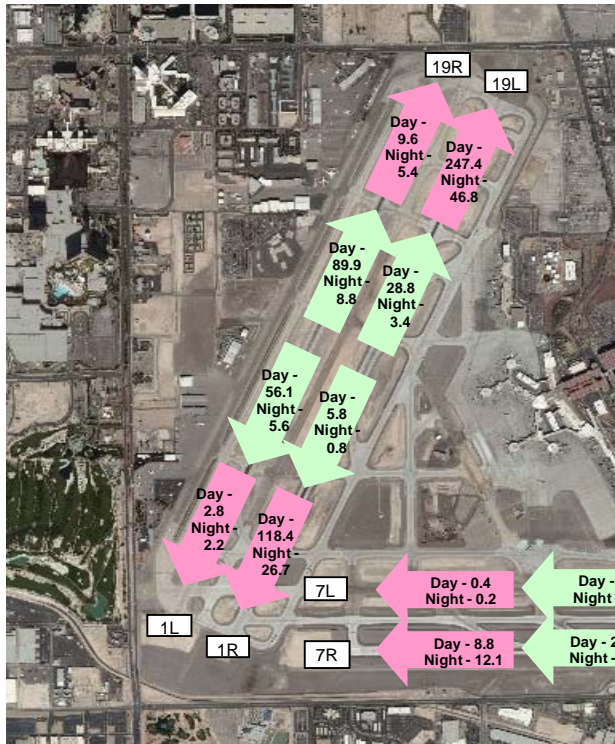
Department of Aviation
Geographic Information Systems

April 11, 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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Exhibit 4: LAS Daily Average Operations by Runway for Large Air Carrier Aircraft* - March 2016



Year	2016		2015		2014	
Daytime Departures	399	81%	N/A	N/A	N/A	N/A
Nighttime Departures	94	19%	N/A	N/A	N/A	N/A
Total Departures	493	100%	N/A	N/A	N/A	N/A

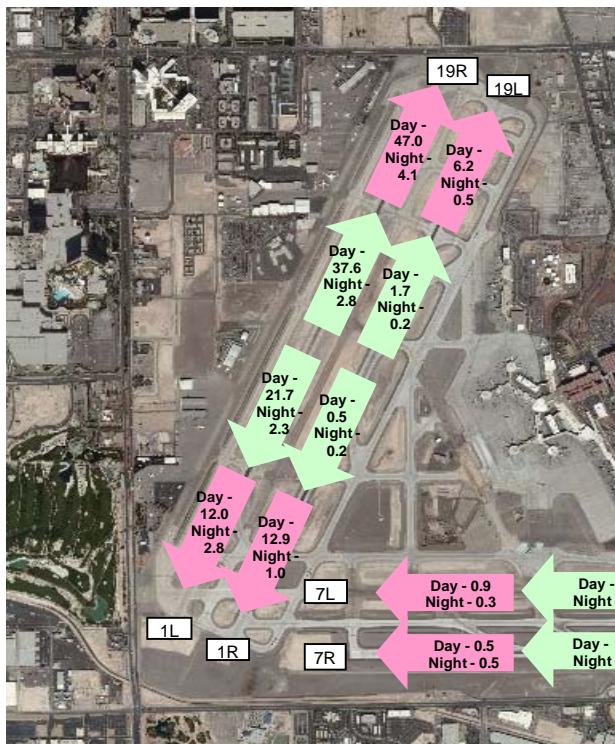
Daytime Arrivals	426	87%	412	86%	412	87%
Nighttime Arrivals	65	13%	67	14%	62	13%
Total Arrivals	491	100%	479	100%	474	100%

Growth	Overall		Daytime		Nighttime	
Depts. 2016 vs 2015	N/A	N/A	N/A	N/A	N/A	N/A
Depts. 2016 vs 2014	N/A	N/A	N/A	N/A	N/A	N/A

Arrivals 2016 vs 2015	2%	3%	-2%
Arrivals 2016 vs 2014	4%	3%	5%

* 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** - March 2016



Year	2016		2015		2014	
Daytime Departures	82	90%	N/A	N/A	N/A	N/A
Nighttime Departures	9	10%	N/A	N/A	N/A	N/A
Total Departures	91	100%	N/A	N/A	N/A	N/A

Daytime Arrivals	85	93%	89	92%	98	94%
Nighttime Arrivals	6	7%	7	8%	6	6%
Total Arrivals	91	100%	96	100%	105	100%

Growth	Overall		Daytime		Nighttime	
Depts. 2016 vs 2015	N/A	N/A	N/A	N/A	N/A	N/A
Depts. 2016 vs 2014	N/A	N/A	N/A	N/A	N/A	N/A

Arrivals 2016 vs 2015	-5%	-4%	-14%
Arrivals 2016 vs 2014	-13%	-14%	0%

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

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

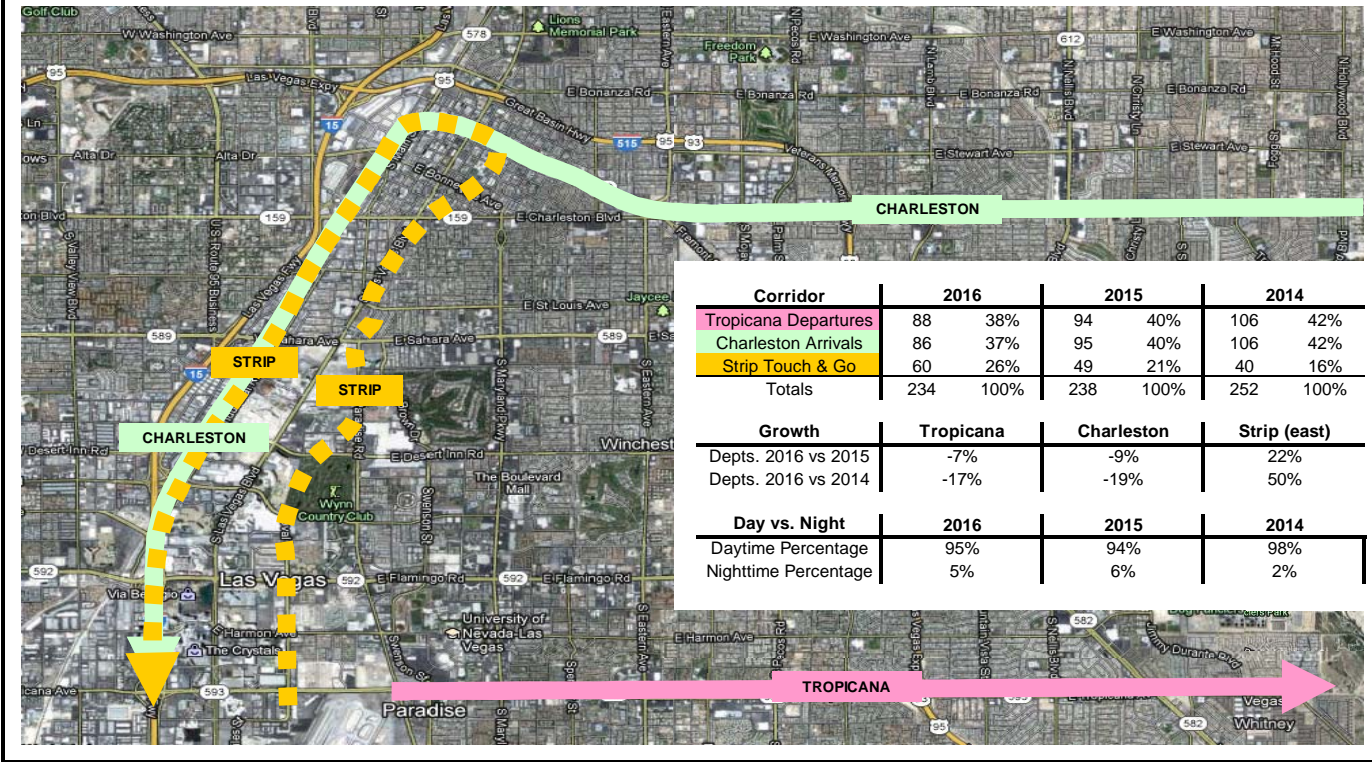
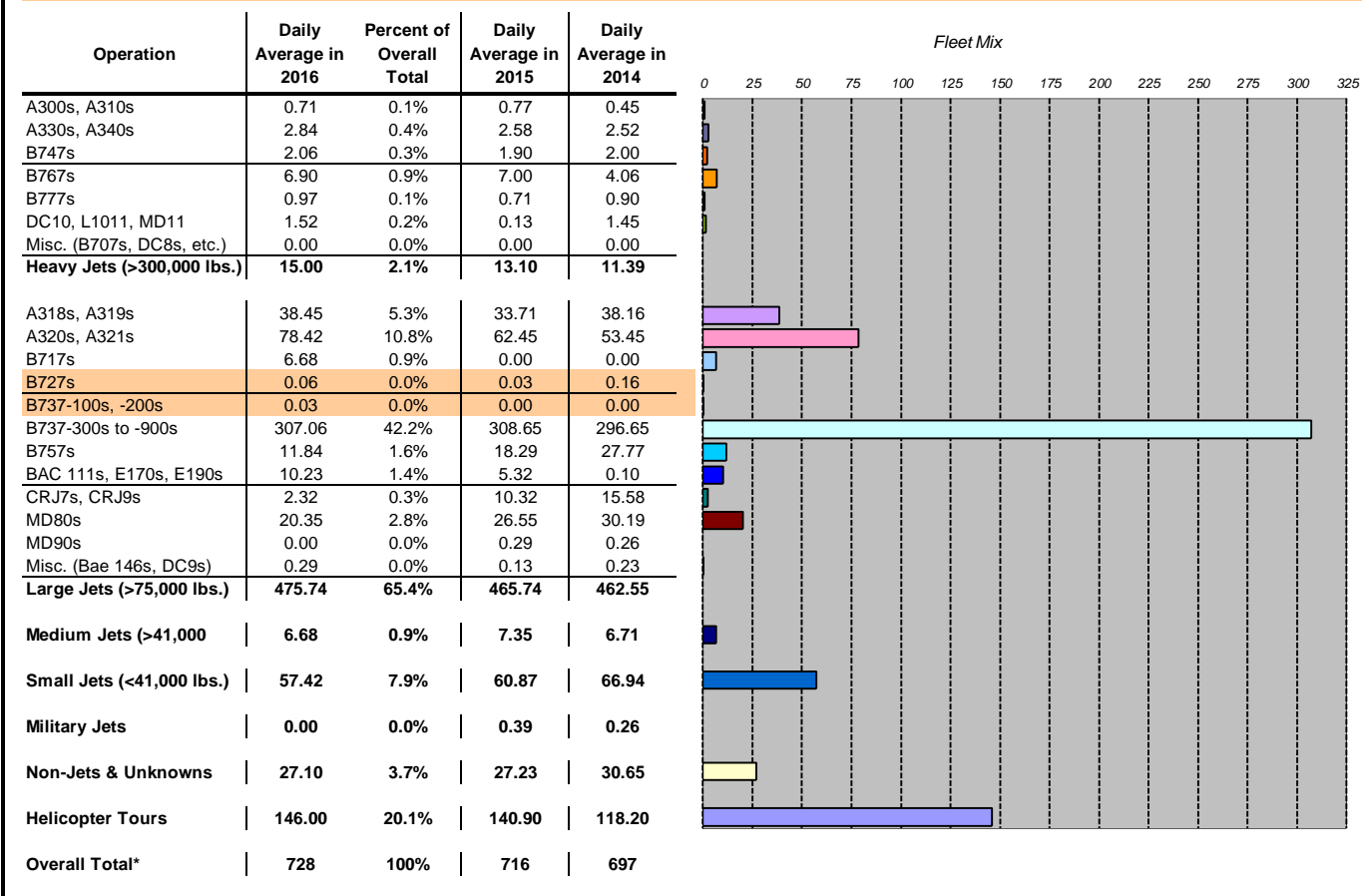


Exhibit 7: LAS Aircraft Arrival Fleet Mix* - March 2016



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

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

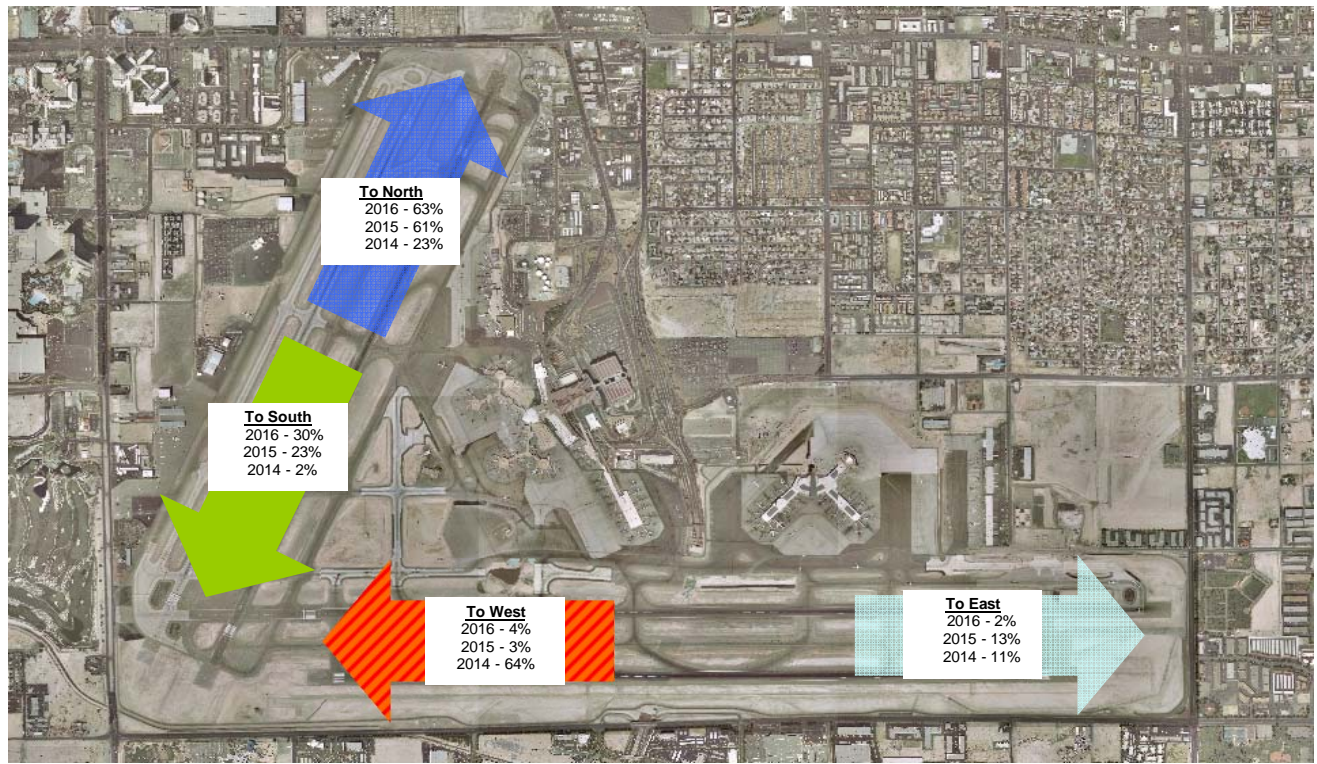
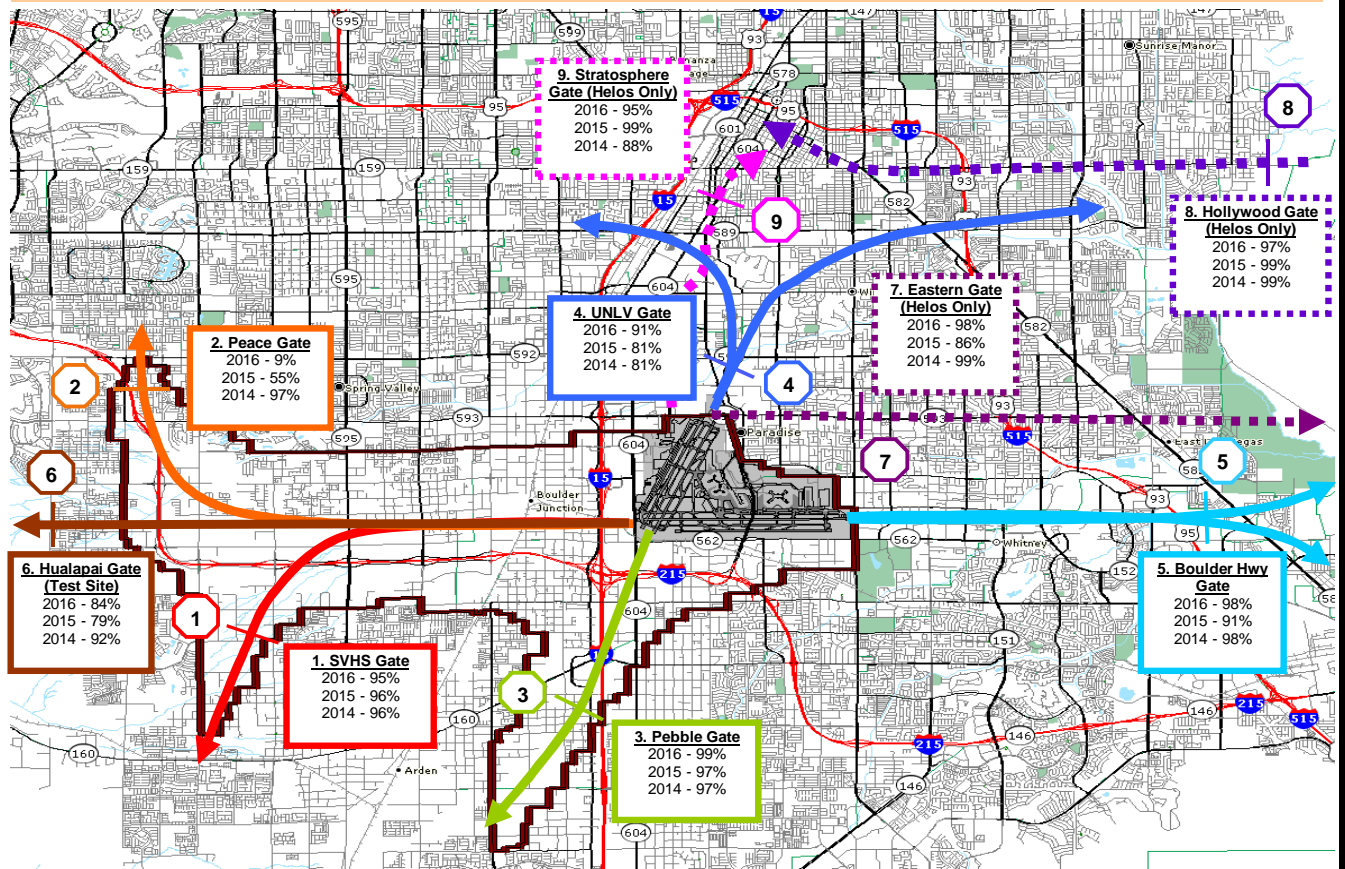


Exhibit 9: "Gate" Compliance for Large Aircraft* & LAS Helicopter Tours - March 2016



* 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, A370, B707, B717, B727, B737, B747, B757, B767, B777, CRJ7, CRJ9, DC8, DC9, DC10, E170, E190, HA4T, L1011, MD80, MD90, MD10, MD11, VC10.