

MEMORANDUM

DEPARTMENT OF AVIATION

TO: DISTRIBUTION

FROM: GEORGE C. SIMS, PLANNER

SUBJECT: JULY THROUGH SEPTEMBER 2014 NOISE COMPLAINT REPORTS

DATE: OCTOBER 20, 2014

Attached for your review are the Clark County Department of Aviation's (CCDOA) Monthly Noise Complaint Reports for July through September 2014. 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 (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 (652-2750), and noise complaints regarding aircraft operations from the Boulder City Airport are forwarded to the Boulder City Airport Coordinator (293-9405). Individuals who express concerns regarding aircraft operations originating from private facilities (i.e., Valley Hospital, the private helipad located near Las Vegas Blvd. and Larson Lane, or the private helipad located near Cheyenne Road and North 5th Street) 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 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

July 2014: 273 total complaints - a 1,417% increase from 2013 and a 388% increase from 2012. On average, each caller (or household) issued 21.0 calls. The most calls received from one household totaled 255.

Calls by Community - (Exhibits 1 and 3)

Majority (more than 50%): The *Paradise and Winchester* communities issued 263 calls (96%). These communities are typically impacted by aircraft departing to the north (from Runway 01R and Runway 01L) and aircraft arriving from the north (into Runways 19R and 19L).

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

Repeat Caller Impact: One household issued 93% (255 calls) of all the calls received in July 2014.

Calls by Operation - (Exhibit 2)

LAS: 97% of the total calls were due to *LAS* fixed-wing operations.

- 83% were due to departures to the west from Runways 25L and 25R (96% from one household).
- 12% were due to departures to the east from Runways 07L and 07R (88% from one household, which is the same household that issued 96% of the calls for Runways 25L and 25R).

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

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

Helos: 3% of the total calls were due to *helicopter* operations.

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

Overall: 444 daily *departures*¹ – a 4% increase from 2013 and 1% decrease from 2012.

- 63% of departures were to the west, 31% east, 4% north, and 3% south.

481 daily *arrivals* – a 2% increase from 2013 and no change from 2012.

- 60% of arrivals were from the east, 25% north, 12% west, and 3% south.

Daytime: 362 daily *departures*² – a 6% increase from 2013 and a 2% decrease from 2012.

- 57% of departures were to the west, 36% east, 4% north, and 2% south.

415 daily *arrivals* – a 3% increase from 2013 and a 1% decrease from 2012.

- 57% of arrivals were from the east, 27% north, 14% west, and 2% south.

¹ Note: 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 AirScene 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.

² See footnote #1.

Nighttime: 83 daily *departures*³ – a 2% decrease from 2013 and a 3% increase from 2012.
▪ 87% of departures were to the west, 5% east, 5% south, and 3% north.
67 daily *arrivals* – a 1% decrease from 2013 and a 3% increase from 2012.
▪ 81% of arrivals were from the east, 14% north, 4% south, and 1% west.

Daytime vs. Nighttime: Approximately 81% of all *departures* and 86% of all *arrivals* occurred during the daytime hours.

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

Overall: 76 daily *departures*⁴ – a 17% increase from 2013 and 4% increase from 2012.
▪ 44% of departures were to the south, 33% east, 17% west, and 6% north.
86 daily *arrivals* – a 14% increase from 2013 and 3% increase from 2012.
▪ 70% of arrivals were from the north, 15% west, 10% east, and 4% south.

Daytime: 67 daily *departures*⁵ – a 20% increase from 2013 and a 3% increase from 2012.
▪ 41% of departures were to the south, 37% east, 16% west, and 6% north.
80 daily *arrivals* – a 15% increase from 2013 and a 4% increase from 2012.
▪ 70% of arrivals were from the north, 16% west, 10% east, and 4% south.

Nighttime: 9 daily *departures*⁶ – a 2% decrease from 2013 and a 13% increase from 2012.
▪ 69% of departures were to the south, 24% west, 5% north, and 2% east.
6 daily *arrivals* – a 2% decrease from 2013 and a 12% decrease from 2012.
▪ 80% of arrivals were from the north, 13% east, 6% south, and 1% west.

Daytime vs. Nighttime: Approximately 88% of all *departures* and 93% of all *arrivals* occurred during the daytime hours.

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

Tropicana: 126 daily *departures* - a 3% decrease from 2013 and a 5% increase from 2012.

Charleston: 126 daily *arrivals* - a 3% decrease from 2013 and a 6% increase from 2012.

Strip: 41 daily *touch and go's* - a 5% increase from 2013 and a 5% increase from 2012.

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 1% 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.

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 7% of the daily traffic.

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

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

Helos: *Touring helicopters* accounted for 23% of the daily traffic.

Noisier Aircraft Types: The hush-kitted Boeing 727 aircraft and Boeing 737 (100 & 200 series) aircraft accounted for no operations per day.

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

Primary: In 2014, 63% departed to the *west* (from LAS's primary departure runways). This figure was 70% in 2013 and 54% in 2012.

Secondary: In 2014, 2% departed to the *south* (from LAS's secondary departure runways). This figure was 1% in 2013 and 4% in 2012

Alternate 1: In 2014, 4% departed to the *north* (from LAS's alternate departure runways). This figure was 4% in 2013 and 2% in 2012.

Alternate 2: In 2014, 31% departed to the *east* (from LAS's alternate departure runways). This figure was 25% in 2013 and 40% in 2012.

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

SVHS: In 2014, 95% of the large air carrier aircraft (excluding those destined to the Nevada National Security Site) that departed to the west from Runway 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 2013 and 94% in 2012.

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 2014, 95% of the large air carrier aircraft (excluding those destined to the Nevada National Security Site) that departed to the west from Runway 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 2013 and 95% in 2012.

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 2014, 94% of the large air carrier aircraft (excluding those destined to the Nevada National Security Site) that departed to the south from Runway 19L or 19R were within 0.3 NM of the intersection of *Pebble Road & Arville Street*. This figure was 87% in 2013 and 95% in 2012.

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 2014, 80% of the large air carrier aircraft that departed to the north from Runway 01L or 01R were within 0.3 NM of the *UNLV sports complex*. This figure was 82% in 2013 and 83% in 2012.

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 2014, 94% of the large air carrier aircraft that departed to the north from Runway 07L or 07R were within 0.3 NM of the extended runway centerline, near *Boulder Highway*. This figure was 97% in 2013 and 97% in 2012.

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 2014, 86% of the large air carrier aircraft destined to the Nevada Test Site that departed to the west from Runway 25L or 25R were within 0.3 NM of the extended runway centerline, near *Hualapai Way*. This figure was 83% in 2013 and 96% in 2012.

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 Test 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 2014, 88% of the touring helicopters destined east of the Las Vegas Valley were within 500 feet of the intersection of *Tropicana Avenue & Eastern Avenue*. This figure was 99% in 2013 and 98% in 2012.

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 2014, 99% of the touring helicopters returning from areas east of the Las Vegas Valley were within 500 feet of the intersection of *Charleston Boulevard & Hollywood Boulevard*. This figure was 99% in 2013 and 99% in 2012.

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 2014, 78% 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 91% in 2013 and 91% in 2012.

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 east (expected during the summer months) and the number of complaints tied to a single household.

August 2014: 379 total complaints - a 3,058% increase from 2013 and a 658% increase from 2012. On average, each caller (or household) issued 19.0 calls. The most calls received from one household totaled 355.

Calls by Community - (Exhibits 1 and 3)

Majority (more than 50%): The *Paradise and Winchester* communities issued 372 calls (98%). (See July 2014 synopsis of typical aircraft overflight impacts on this community.)

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

Repeat Caller Impact: One household issued 94% (355 calls) of all the calls received in August 2014.

Calls by Operation - (Exhibit 2)

- LAS:** 97% of the total calls received were due to **LAS** fixed-wing operations.
- 73% were due to departures to the west from Runways 25L and 25R (99% from one household).
 - 19% were due to departures to the north from Runways 01L and 01R (96% from one household, which is the same household that issued 99% of the calls for 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:** 3% of the total calls received were due to **helicopter** operations (70% from one household, which is the same household that issued 99% of the calls from Runways 25L and 25R, and the 96% of the calls from Runways 01L and 01R).

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

- Overall:** 428 daily *departures*⁷ – a 1% increase from 2013 and 3% decrease from 2012.
- 72% of departures were to the west, 21% east, 5% north, and 3% south.
- 470 daily *arrivals* – no change from 2013 and a 2% decrease from 2012.
- 69% of arrivals were from the east, 17% north, 8% west, and 6% south.
- Daytime:** 360 daily *departures*⁸ – a 3% increase from 2013 and 1% decrease from 2012.
- 69% of departures were to the west, 24% east, 5% north, and 2% south.
- 416 daily *arrivals* – no change from 2013 and a 1% decrease from 2012.
- 68% of arrivals were from the east, 18% north, 9% west, and 6% south.
- Nighttime:** 68 daily *departures*⁹ – a 4% decrease from 2013 and 13% decrease from 2012.
- 87% of departures were to the west, 5% north, 4% south, and 4% east.
- 54 daily *arrivals* – a 1% increase from 2013 and a 12% decrease from 2012.
- 84% of arrivals were from the east, 12% north, 2% south, and 1% west.

Daytime vs. Nighttime: Approximately 84% of all *departures* and 88% 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:** 78 daily *departures*¹⁰ – a 13% increase from 2013 and 10% increase from 2012.
▪ 56% of departures were to the south, 21% east, 17% west, and 6% north.
86 daily *arrivals* – a 6% increase from 2013 and a 2% increase from 2012.
▪ 71% of arrivals were from the north, 11% east, 11% west, and 7% south.
- Daytime:** 70 daily *departures*¹¹ – a 13% increase from 2013 and a 9% increase from 2012.
▪ 53% of departures were to the south, 23% east, 17% west, and 6% north.
80 daily *arrivals* – an 8% increase from 2013 and a 5% increase from 2012.
▪ 70% of arrivals were from the north, 12% east, 12% west, and 7% south.
- Nighttime:** 8 daily *departures*¹² – a 12% increase from 2013 and a 24% increase from 2012.
▪ 78% of departures were to the south, 17% west, 3% north, and 2% east.
6 daily *arrivals* – an 11% decrease from 2013 and a 24% decrease from 2012.
▪ 86% of arrivals were from the north, 9% south, 4% east, and 1% west.

Daytime vs. Nighttime: Approximately 89% of all *departures* and 93% of all *arrivals* occurred during the daytime hours.

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

Tropicana: 137 daily *departures* – a 2% increase from 2013 and a 10% increase from 2012.

Charleston: 139 daily *arrivals* - a 6% increase from 2013 and a 13% increase from 2012.

Strip: 45 daily *touch and go's* - a 13% increase from 2013 and a 17% increase from 2012.

Daytime vs. Nighttime: Approximately 96% 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 1% of the daily traffic.
- Large:** **Large** air carrier turbine-driven aircraft (those weighing more than 75,000 lbs. and less than 300,000 lbs.) accounted for 62% of the daily traffic.
- Medium:** **Medium** turbine-driven aircraft (those weighing more than 41,000 lbs. and less than 75,000 lbs.) accounted for 1% of the daily traffic.
- Small:** **Small** turbine-driven aircraft (those weighing 41,000 lbs. or less) accounted for 7% of the daily traffic.
- Military:** **Military** turbine-driven aircraft accounted for less than 1% of the daily traffic.
- Non-Jet:** **Piston-driven** aircraft and unassigned aircraft types accounted for 4% of the daily traffic.

¹⁰ See footnote #1.

¹¹ See footnote #1.

¹² See footnote #1.

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 zero operations per day.

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

Primary: In 2014, 72% departed to the *west* (from LAS's primary departure runways). This figure was 82% in 2013 and 72% in 2012.

Secondary: In 2014, 3% departed to the *south* (from LAS's secondary departure runways). This figure was 2% in 2013 and 4% in 2012.

Alternate 1: In 2014, 5% departed to the *north* (from LAS's alternate departure runways). This figure was 1% in 2013, and 3% in 2012.

Alternate 2: In 2014, 20% departed to the *east* (from LAS's alternate departure runways). This figure was 16% in 2013 and 22% in 2012.

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

SVHS: In 2014, 96% of the large air carrier aircraft (excluding those destined to the Nevada Test Site) that departed to the west from Runway 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 2013 and 94% in 2012. (See July 2014 synopsis for specific location of the SVHS gate.)

Peace: In 2014, 96% of the large air carrier aircraft (excluding those destined to the Nevada Test Site) that departed to the west from Runway 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 2013 and 95% in 2012. (See July 2014 synopsis for specific location of the Peace gate.)

Pebble: In 2014, 92% of the large air carrier aircraft (excluding those destined to the Nevada Test Site) that departed to the south from Runway 19L or 19R were within 0.3 NM of the intersection of *Pebble Road & Arville Street*. This figure was 95% in 2013 and 96% in 2012. (See July 2014 synopsis for specific location of the Pebble gate.)

UNLV: In 2014, 82% of the large air carrier aircraft that departed to the north from Runway 01L or 01R were within 0.3 NM of the *UNLV sports complex*. This figure was 75% in 2013, and 72% in 2012. (See July 2014 synopsis for specific location of the UNLV gate.)

Boulder: In 2014, 95% of the large air carrier aircraft that departed to the north from Runway 07L or 07R were within 0.3 NM of the extended runway centerline, near *Boulder Highway*. This figure was 97% in 2013 and 95% in 2012. (See July 2014 synopsis for specific location of the Boulder Hwy. gate.)

Hualapai: In 2014, 91% of the large air carrier aircraft destined to the Nevada Test Site that departed to the west from Runway 25L or 25R were within 0.3 NM of the extended runway centerline, near *Hualapai Way*. This figure was 95% in 2013, and 92% 2012. (See July 2014 synopsis for specific location of the Hualapai gate.)

Eastern: In 2014, 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 97% in 2013 and 99% in 2012. (See July 2014 synopsis for specific location of the Eastern gate.)

Hollywood: In 2014, 99% of the touring helicopters returning from areas east of the Las Vegas Valley were within 500 feet of the intersection of *Charleston Boulevard & Hollywood Boulevard*. This figure was 98% in 2013 and 99% in 2012. (See July 2014 synopsis for specific location of the Hollywood gate.)

Stratosphere: In 2014, 92% of the north-bound helicopters providing tours of the Las Vegas Strip were within 500 feet of the intersection of Oakey Boulevard & Las Vegas Boulevard, *northeast of the Stratosphere Tower*. This figure was 84% in 2013 and 84% in 2012. (See July 2014 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 east (expected during the summer months) and the number of complaints tied to a single household.

September 2013: 175 total complaints – a 430% increase from 2013 and a 154% increase from 2012. On average, each caller (or household) issued 10.9 calls. The most calls received from one household totaled 141.

Calls by Community - (Exhibits 1 and 3)

Majority (more than 50%): The *Paradise and Winchester* communities issued 152 calls (87%). (See July 2013 synopsis of typical aircraft overflight impacts on this community.)

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

Repeat Caller Impact: One household issued 81% (141 calls) of all the calls received in September 2014.

Calls by Operation - (Exhibit 2)

LAS: 96% of the total calls received were due to *LAS* fixed-wing operations.

- 83% were due to departures to the west from Runways 25L and 25R (97% 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: 2% of the total calls received were due to *helicopter* operations.

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

- Overall:** 433 daily *departures*¹³ – a 2% increase from 2013 and a 1% decrease from 2012.
▪ 78% of departures were to the west, 15% east, 4% north, and 3% south.
471 daily *arrivals* – no change from 2013 and no change from 2012.
▪ 75% of arrivals were from the east, 16% north, 7% west and 2% south.
- Daytime:** 374 daily *departures*¹⁴ – a 1% increase from 2013 and no change from 2012.
▪ 76% of departures were to the west, 18% east, 4% north, and 3% south.
425 daily *arrivals* – a 1% decrease from 2013 and 1% increase from 2012.
▪ 74% of arrivals were from the east, 17% north, 8% west, and 2% south.
- Nighttime:** 60 daily *departures*¹⁵ – a 6% increase from 2013 and 10% decrease from 2012.
▪ 91% of departures were to the west, 5% north, and 4% south.
46 daily *arrivals* – a 16% increase from 2013 and 5% decrease from 2012.
▪ 90% of arrivals were from the east, 9% north, and 1% south.

Daytime vs. Nighttime: Approximately 86% of all *departures* and 90% of all *arrivals* occurred during the daytime hours.

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

- Overall:** 78 daily *departures*¹⁶ – a 3% decrease from 2013 and a 14% decrease from 2012.
▪ 67% of departures were to the south, 14% east, 12% west, and 6% north.
89 daily *arrivals* – a 3% decrease from 2013 and a 12% decrease from 2012.
▪ 78% of arrivals were from the north, 10% west, 9% east, and 3% south.
- Daytime:** 69 daily *departures*¹⁷ – a 4% decrease from 2013 and a 17% decrease from 2012.
▪ 65% of departures were to the south, 16% east, 12% west, and 6% north.
82 daily *arrivals* – a 3% decrease from 2013 and a 12% decrease from 2012.
▪ 77% of arrivals were from the north, 10% east, 10% west, and 3% south.
- Nighttime:** 9 daily *departures*¹⁸ – a 9% increase from 2013 and a 10% increase from 2012.
▪ 77% of departures were to the south, 15% west, and 8% north.
7 daily *arrivals* – a 3% decrease from 2013 and a 7% decrease from 2012.
▪ 89% of arrivals were from the north, 7% east, and 4% south.

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

¹³ See footnote #1.

¹⁴ See footnote #1.

¹⁵ See footnote #1.

¹⁶ See footnote #1.

¹⁷ See footnote #1.

¹⁸ See footnote #1.

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

Tropicana: 126 daily *departures* – no change from 2013 and a 5% decrease from 2012.

Charleston: 129 daily *arrivals* - a 3% increase from 2013 and a 2% decrease from 2012.

Strip: 44 daily *touch and go's* - a 5% increase from 2013 and a 6% increase from 2012.

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 63% 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 3% of the daily traffic.

Helos: **Touring helicopters** accounted for 24% of the daily traffic.

Noisier Aircraft Types: The hush-kitted Boeing 727 aircraft and Boeing 737 (100 & 200 series) aircraft accounted for almost no operations per day.

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

Primary: In 2014, 78% departed to the **west** (from LAS's primary departure runways). This figure was 78% in 2013 and 78% in 2012.

Secondary: In 2014, 3% departed to the **south** (from LAS's secondary departure runways). This figure was 3% in 2013 and 5% in 2012.

Alternate 1: In 2014, 4% departed to the **north** (from LAS's alternate departure runways). This figure was 8% in 2013 and 5% in 2012.

Alternate 2: In 2014, 15% departed to the **east** (from LAS's alternate departure runways). This figure was 11% in 2013 and 12% in 2012.

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

- SVHS:** In 2014, 95% of the large air carrier aircraft (excluding those destined to the Nevada Test Site) that departed to the west from Runway 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 2013 and 94% in 2012. (See July 2014 synopsis for specific location of the SVHS gate.)
- Peace:** In 2014, 96% of the large air carrier aircraft (excluding those destined to the Nevada Test Site) that departed to the west from Runway 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 2013 and 96% in 2012. (See July 2014 synopsis for specific location of the Peace gate.)
- Pebble:** In 2014, 95% of the large air carrier aircraft (excluding those destined to the Nevada Test Site) that departed to the south from Runway 19L or 19R were within 0.3 NM of the intersection of *Pebble Road & Arville Street*. This figure was 99% in 2013 and 98% in 2012. (See July 2014 synopsis for specific location of the Pebble gate.)
- UNLV:** In 2014, 81% of the large air carrier aircraft that departed to the north from Runway 01L or 01R were within 0.3 NM of the *UNLV sports complex*. This figure was 83% in 2013 and 81% in 2012. (See July 2014 synopsis for specific location of the UNLV gate.)
- Boulder:** In 2014, 97% of the large air carrier aircraft that departed to the north from Runway 07L or 07R were within 0.3 NM of the extended runway centerline, near *Boulder Highway*. This figure was 96% in 2013 and 98% in 2012. (See July 2014 synopsis for specific location of the Boulder Hwy. gate.)
- Hualapai:** In 2014, 93% of the large air carrier aircraft destined to the Nevada Test Site that departed to the west from Runway 25L or 25R were within 0.3 NM of the extended runway centerline, near *Hualapai Way*. This figure was 90% in 2013 and 93% in 2012. (See July 2014 synopsis for specific location of the Hualapai gate.)
- Eastern:** In 2014, 94% 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 89% in 2013 and 99% in 2012. (See July 2014 synopsis for specific location of the Eastern gate.)
- Hollywood:** In 2014, 99% of the touring helicopters returning from areas east of the Las Vegas Valley were within 500 feet of the intersection of *Charleston Boulevard & Hollywood Boulevard*. This figure was 99% in 2013 and 99% in 2012. (See July 2014 synopsis for specific location of the Hollywood gate.)
- Stratosphere:** In 2014, 98% of the north-bound helicopters providing tours of the Las Vegas Strip were within 500 feet of the intersection of Oakey Boulevard & Las Vegas Boulevard, *northeast of the Stratosphere Tower*. This figure was 98% in 2013 and 84% in 2012. (See July 2014 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 the number of complaints tied to a single household.

Other Notable Issues

Helicopter Operator Users Meeting: On September 4, 2014, DOA staff members met with FAA and local helicopter tour operators to discuss noise complaints tied to helicopter operations, route compliance, and operational growth. DOA staff provided information about additional helicopter companies that will begin conducting tour operations. With the addition of the new operators, and the expected increase in overall traffic, all routes and procedures were carefully reviewed and discussed with the FAA to maintain safety and compliance.

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

October 20, 2014

Page 15 of 30

Distribution: Commissioner Sisolak, Chair
Commissioner Brager
Commissioner Collins
Commissioner Weekly
Saeed Bonabian
Donald G. Burnette
Ralph LePore
Sam Ingalls
Teresa Motley
Dan Kezar
Linda Healey
Tucker Field
Tina Frias
Judy Villalta
Sandra Cikity
Donna Bergstrom

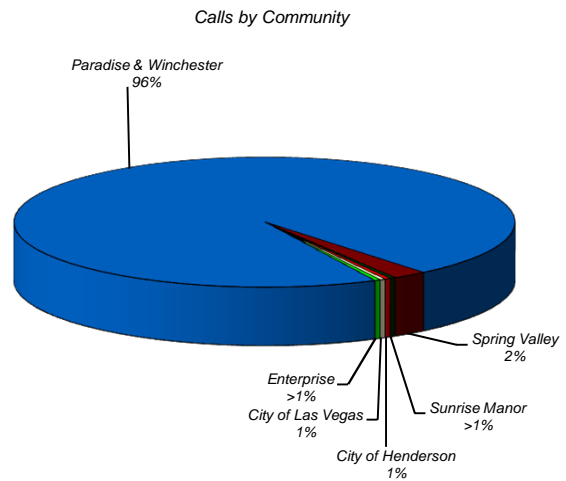
Commissioner Brown, Vice-Chair
Commissioner Giunchigliani
Commissioner Scow
Rosemary Vassiliadis
Harry Waters
Brian McMahon
E. Lee Thomson
Chris Jones
Barbara Bolton
Jeff Jacquart
Charlie Hall
Ben Czyzewski
Dennis Anderson
Tom Peterson
Mark Silverstein
Brenda Bell

Stephen J. Lloyd (FAA TRACON)
Jon Holman (FAA ATC)
Charlie Halterman (HND Tower)
Richard Falcon (FAA FSDO)
Bristol Ellington (COH)
Josh Reid (COH)
Elizabeth Fretwell (CLV)
Vicki Mayes (CBC)
Mayor Carolyn Goodman (CLV)
Councilman Bob Beers (CLV)
Councilman Bob Coffin (CLV)
Councilwoman L. Tarkanian (CLV)
Mayor Pro Tem S. Anthony (CLV)
Councilman Ricki Barlow (CLV)
Councilman Steven Ross (CLV)
Bradford Jerbic, (CLV)
Mayor Roger Tobler (CBC)
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.)
Frank Fiori (CNLV)
James Davies (Sky Harbor Airport)
Karen Everitt (Dallas City Hall)
Thomas Miller (Nellis AFB)
Stephanie Garcia-Vause (COH)
Andrew Powell (COH)
William Ruggiero (FAA TRACON)

James Erbeck (CLV)
Wayne M. Niimi (FAA ATC)
Paul Alukonis (FAA FSDO)
Sydney Lowe (University Libraries)
Bob Brown (BBA)
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)
Nigel Turner (Heli USA Airways)
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)
William Olivieri (Citizen)
Samuel Carter (ITT)
Steven Peacock (Dallas City Hall)
Jacob Snow (COH)
John Dietz (FAA TRACON)

Exhibit 1: Noise Complaint Calls by Community* - July 2014

Community	No. of Calls in 2014	No. of Callers in 2014	No. of Calls in 2013	No. of Calls in 2012
City of Boulder City	1	1	2	26
City of Henderson			2	3
City of Las Vegas	1	1	2	3
City of North Las Vegas			1	
Enterprise	1	1	5	
Lone Mountain				1
Paradise & Winchester	263	4	7	21
Spring Valley	6	5		1
Summerlin South			1	
Sunrise Manor	1	1		4
Whitney				
Location unknown				
Overall Total	273	13	18	56



Difference between 2013 and 2012 Total Calls: 1,417%

Difference between 2013 and 2011 Total Calls: 388%

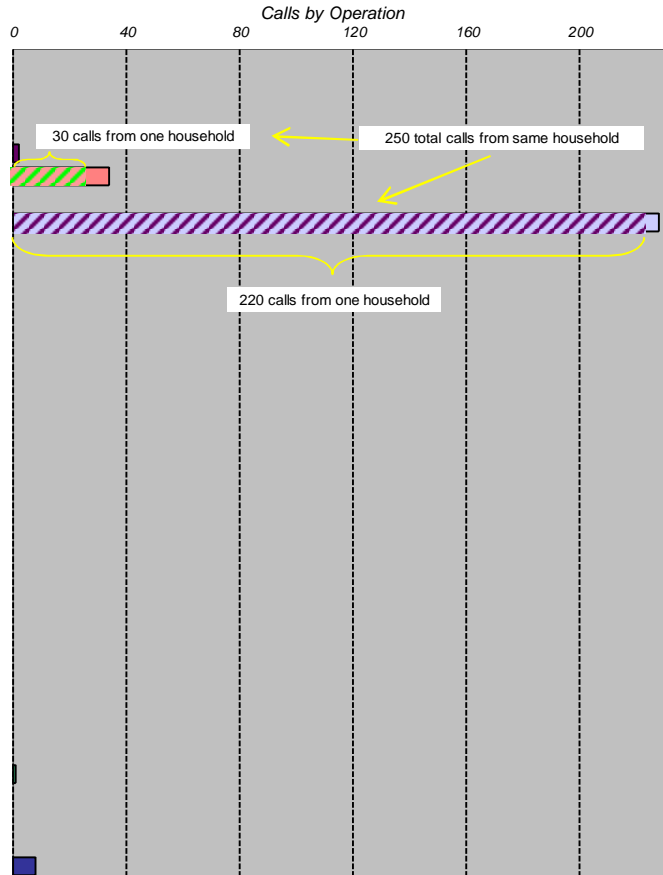
Average Number of Calls per Caller: 21.0

Most calls received from one household: 255

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

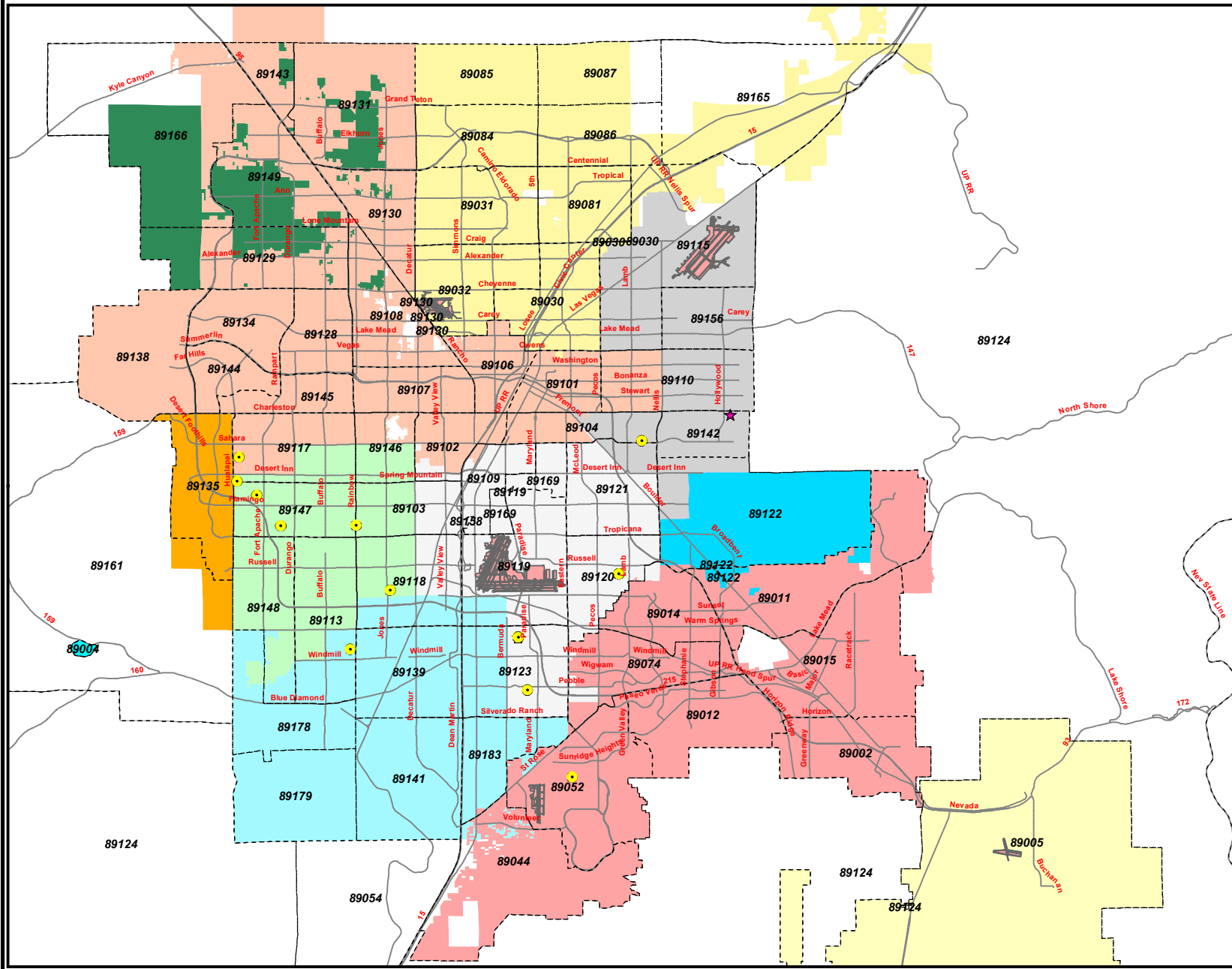
Exhibit 2: Noise Complaint Calls by Type of Operation - July 2014

Operation	No. of Calls in 2014	Percent of Overall Total	No. of Calls in 2013	No. of Calls in 2012
LAS 01R/L Arrivals			1	1
LAS 07R/L Arrivals				2
LAS 19R/L Arrivals			2	
LAS 25R/L Arrivals				
LAS 01R/L Departures	2	0.7%	6	6
LAS 07R/L Departures	34	12.5%	1	24
LAS 19R/L Departures			1	
LAS 25R/L Departures	228	83.5%	2	3
LAS Run-ups				
LAS GA				
LAS Other				
LAS Total	264	96.7%	12	36
VGT 07 Arrivals				
VGT 12R/L Arrivals				
VGT 25 Arrivals				
VGT 30R/L Arrivals				
VGT 07 Departures				
VGT 12R/L Departures				
VGT 25 Departures				
VGT 30R/L Departures				
VGT Run-ups				
VGT GA			2	
VGT Other				
VGT Total	0	0.0%	2	0
HND 17R/L Arrivals				
HND 35R/L Arrivals				
HND 17R/L Departures				
HND 35R/L Departures				
HND Run-ups				
HND GA	1	0.4%	1	1
HND Other				
HND Total	1	0.4%	1	1
Helicopters**	8	2.9%	3	19
Overall Total	273	100%	18	56



** 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 - July 2014



Legend

July 2014
Total Complaints: 273

- Aircraft Complaints Received 265 Mapped 265
- ★ Helicopter Complaints Received 8 Mapped 8

- 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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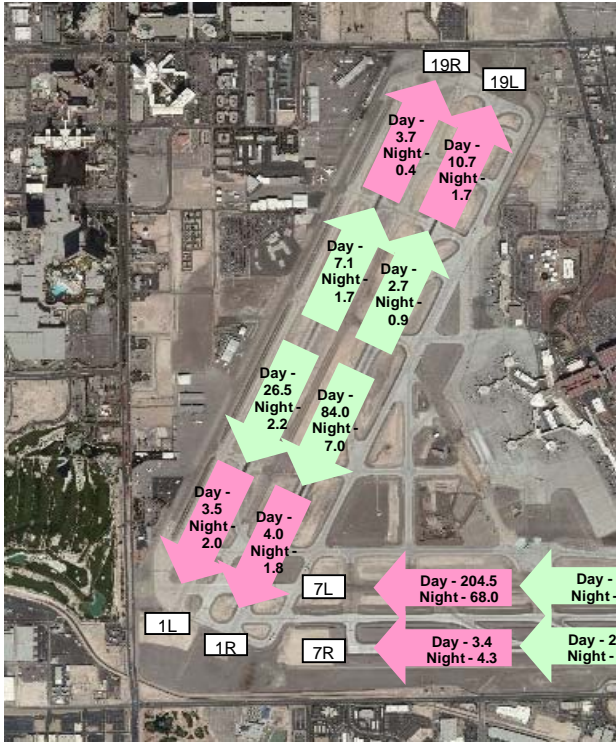
Geographic Information Systems

Oct 15, 2014

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* - July 2014



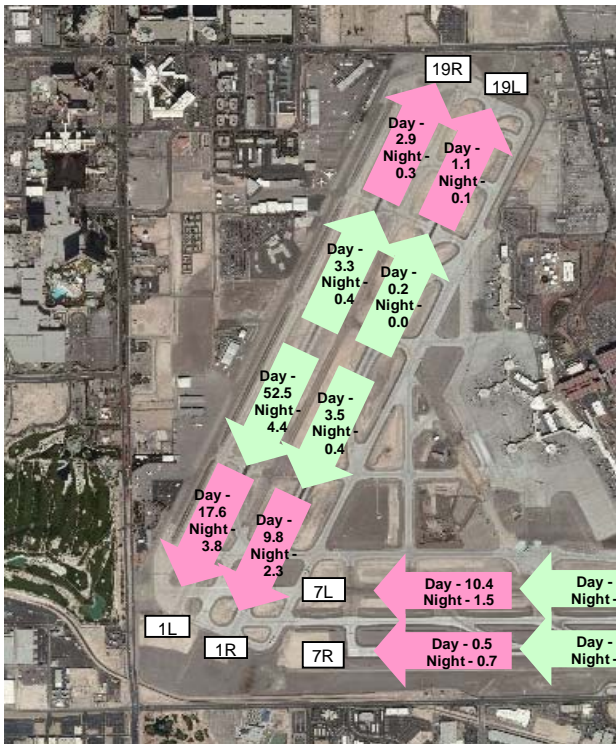
Year	2014		2013		2012	
Daytime Departures	362	81%	343	80%	370	82%
Nighttime Departures	83	19%	85	20%	80	18%
Total Departures	444	100%	427	100%	450	100%

Daytime Arrivals	415	86%	403	86%	417	87%
Nighttime Arrivals	67	14%	67	14%	64	13%
Total Arrivals	481	100%	470	100%	481	100%

Growth	Overall	Daytime	Nighttime
Depts. 2014 vs 2013	4%	6%	-2%
Depts. 2014 vs 2012	-1%	-2%	3%
Arrivals 2014 vs 2013	2%	3%	-1%
Arrivals 2014 vs 2012	0%	-1%	3%

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

Exhibit 5: LAS Daily Average Operations by Runway for Non-Large Air Carrier Aircraft** - July 2014



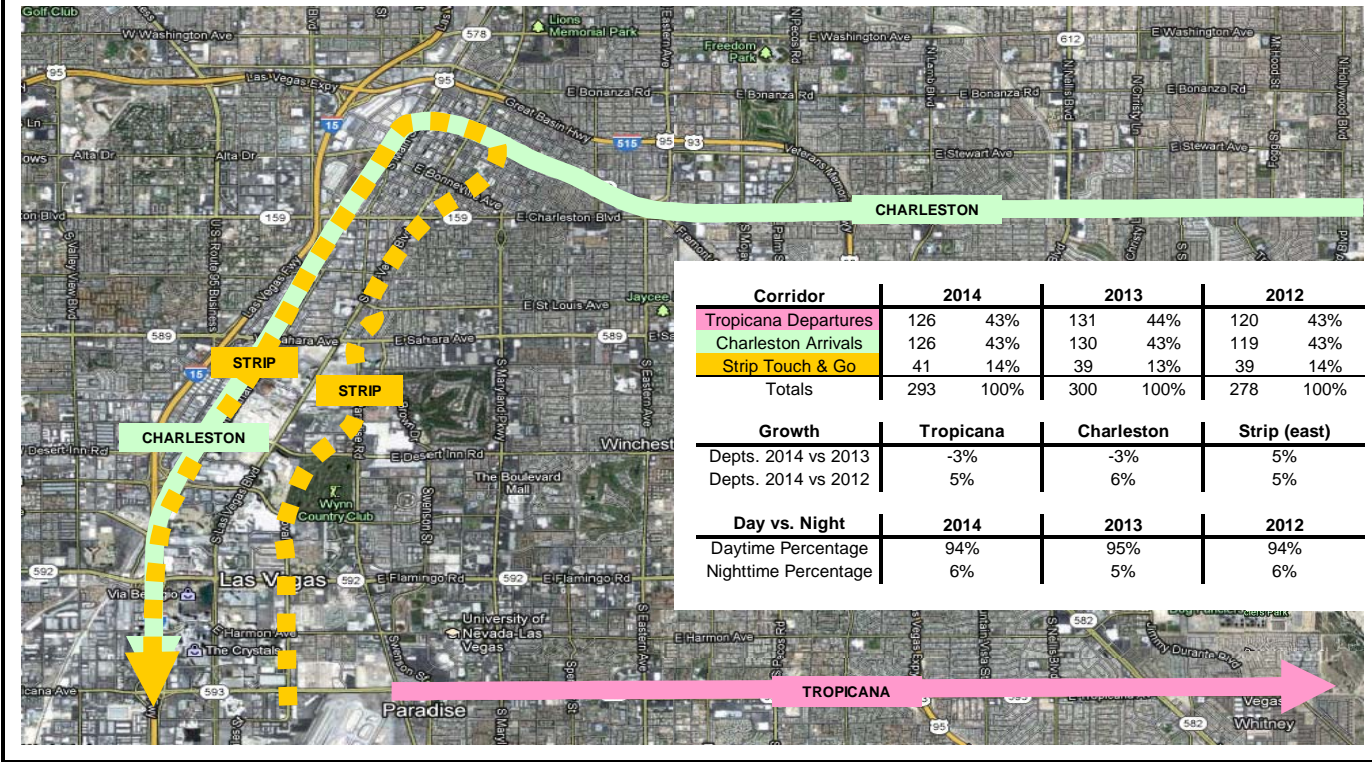
Year	2014		2013		2012	
Daytime Departures	67	88%	56	86%	65	89%
Nighttime Departures	9	12%	9	14%	8	11%
Total Departures	76	100%	65	100%	73	100%

Daytime Arrivals	80	93%	70	92%	77	92%
Nighttime Arrivals	6	7%	6	8%	7	8%
Total Arrivals	86	100%	76	100%	84	100%

Growth	Overall	Daytime	Nighttime
Depts. 2014 vs 2013	17%	20%	-2%
Depts. 2014 vs 2012	4%	3%	13%
Arrivals 2014 vs 2013	14%	15%	-2%
Arrivals 2014 vs 2012	3%	4%	-12%

** 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 - July 2014



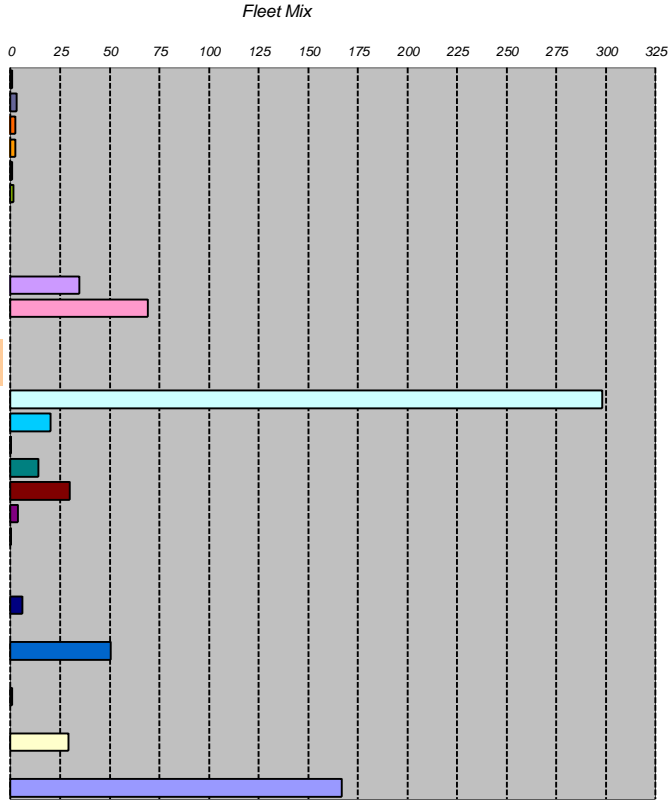
Corridor	2014	2013	2012
Tropicana Departures	126 43%	131 44%	120 43%
Charleston Arrivals	126 43%	130 43%	119 43%
Strip Touch & Go	41 14%	39 13%	39 14%
Totals	293 100%	300 100%	278 100%

Growth	Tropicana	Charleston	Strip (east)
Depts. 2014 vs 2013	-3%	-3%	5%
Depts. 2014 vs 2012	5%	6%	5%

Day vs. Night	2014	2013	2012
Daytime Percentage	94%	95%	94%
Nighttime Percentage	6%	5%	6%

Exhibit 7: LAS Aircraft Arrival Fleet Mix* - July 2014

Operation	Daily Average in 2014	Percent of Overall Total	Daily Average in 2013	Daily Average in 2012
A300s, A310s	0.81	0.1%	1.16	1.13
A330s, A340s	3.23	0.4%	2.74	3.58
B747s	2.48	0.3%	2.35	2.35
B767s	2.29	0.3%	1.77	2.84
B777s	0.87	0.1%	0.77	0.03
DC10, L1011, MD11	1.39	0.2%	1.03	1.16
Misc. (B707s, DC8s, etc.)	0.00	0.0%	0.00	0.00
Heavy Jets (>300,000 lbs.)	11.06	1.5%	9.84	11.10
A318s, A319s	34.61	4.7%	36.32	43.65
A320s, A321s	69.23	9.4%	60.65	48.10
B717s	0.00	0.0%	0.00	0.00
B727s	0.00	0.0%	0.00	0.00
B737-100s, -200s	0.00	0.0%	0.00	0.00
B737-300s to -900s	298.23	40.6%	297.10	300.13
B757s	20.16	2.7%	24.77	24.87
BAC 111s, E170s, E190s	0.06	0.0%	2.77	2.61
CRJ7s, CRJ9s	14.13	1.9%	5.26	14.00
MD80s	29.90	4.1%	32.52	36.61
MD90s	3.77	0.5%	1.06	0.06
Misc. (Bae 146s, DC9s)	0.13	0.0%	0.10	0.03
Large Jets (>75,000 lbs.)	470.23	64.0%	460.55	470.06
Medium Jets (>41,000)	5.97	0.8%	4.74	7.48
Small Jets (<41,000 lbs.)	50.39	6.9%	47.45	46.84
Military Jets	0.71	0.1%	0.29	0.42
Non-Jets & Unknowns	29.26	4.0%	23.39	28.90
Helicopter Tours	166.80	22.7%	169.10	0.56
Overall Total*	734	100%	715	565



* 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* - July 2014 to 2012

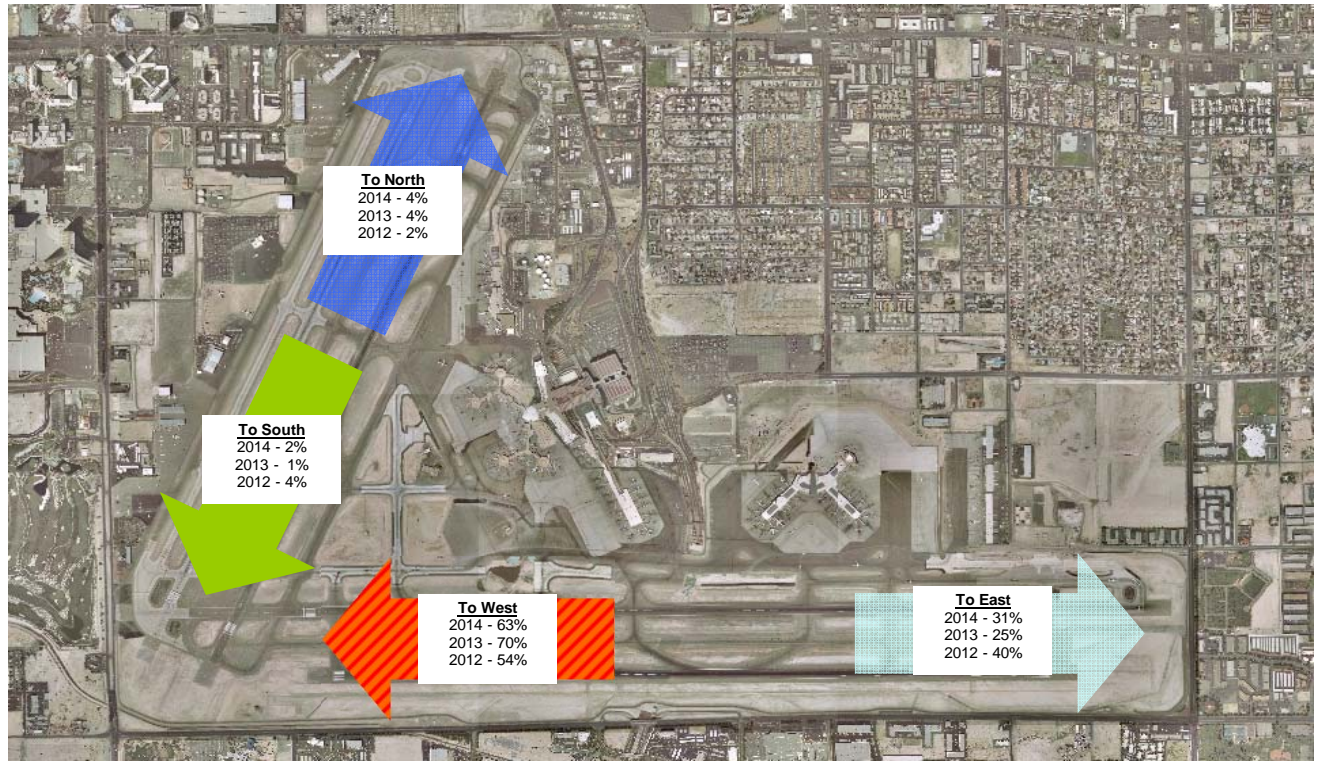
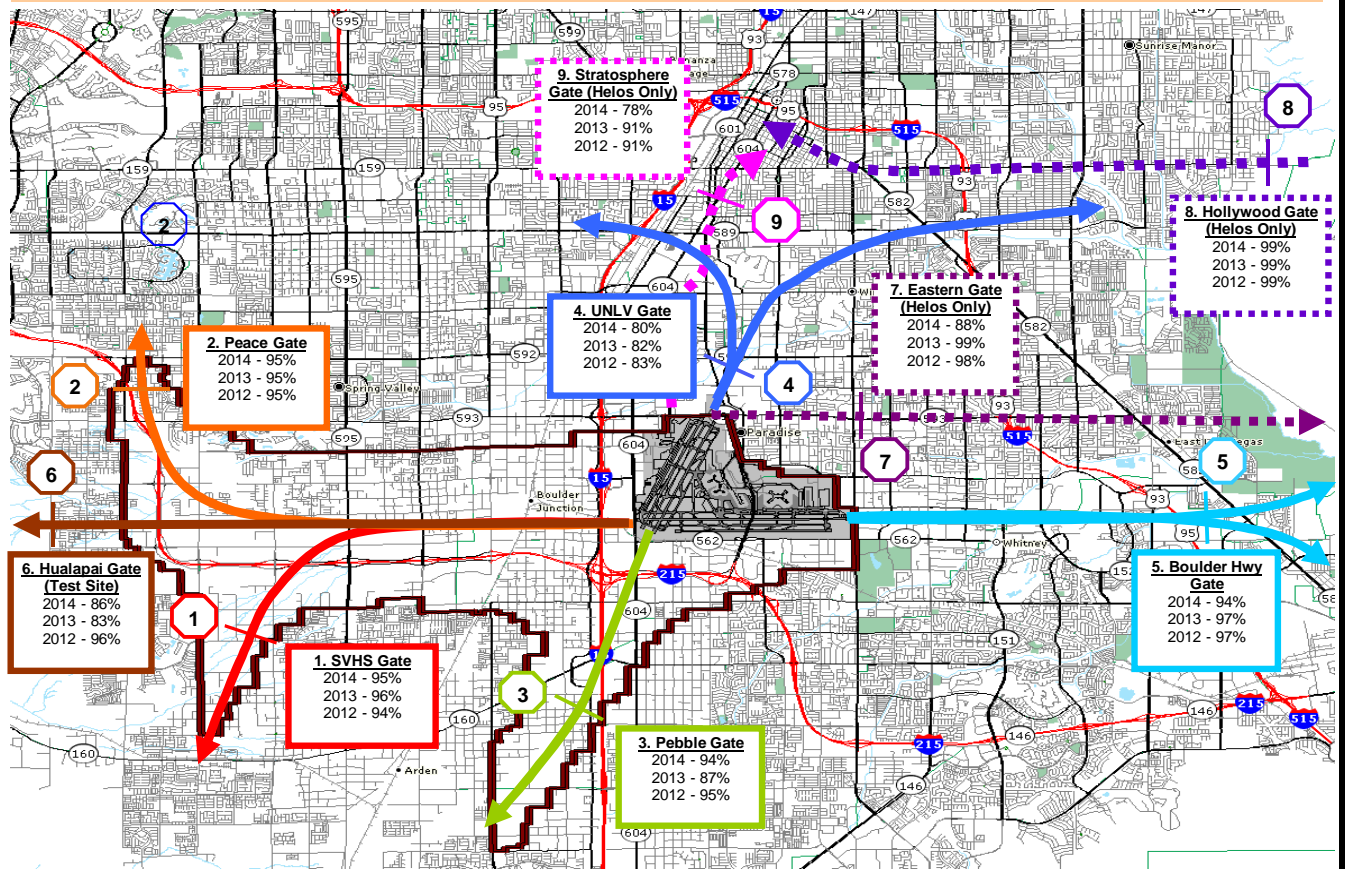


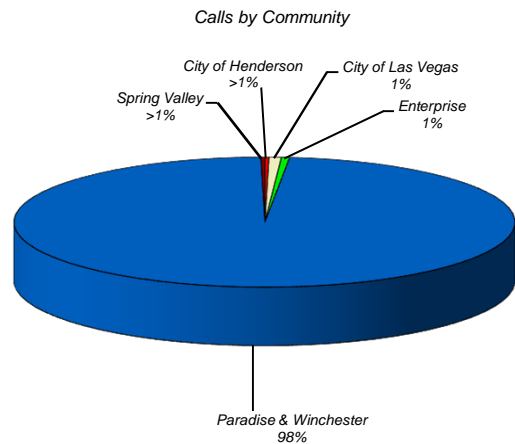
Exhibit 9: "Gate" Compliance for Large Aircraft* & Helicopter Tours - July 2014



* 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* - August 2014

Community	No. of Calls in 2014	No. of Callers in 2014	No. of Calls in 2013	No. of Calls in 2012
City of Boulder City	1	1	2	28
City of Henderson	3	3	1	8
City of Las Vegas				
City of North Las Vegas				
Enterprise	2	2	1	3
Lone Mountain				
Paradise & Winchester	372	13	8	7
Spring Valley	1	1		4
Summerlin South				
Sunrise Manor				
Whitney				
Location unknown				
Overall Total	379	20	12	50



Difference between 2013 and 2012 Total Calls: 3,058%

Difference between 2013 and 2011 Total Calls: 658%

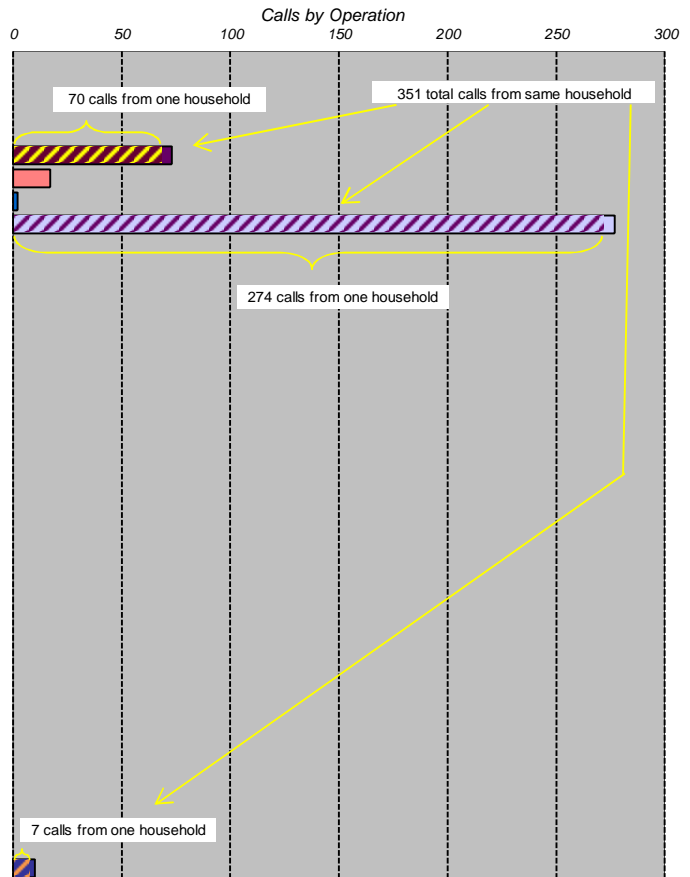
Average Number of Calls per Caller: 19.0

Most calls received from one household: 355

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

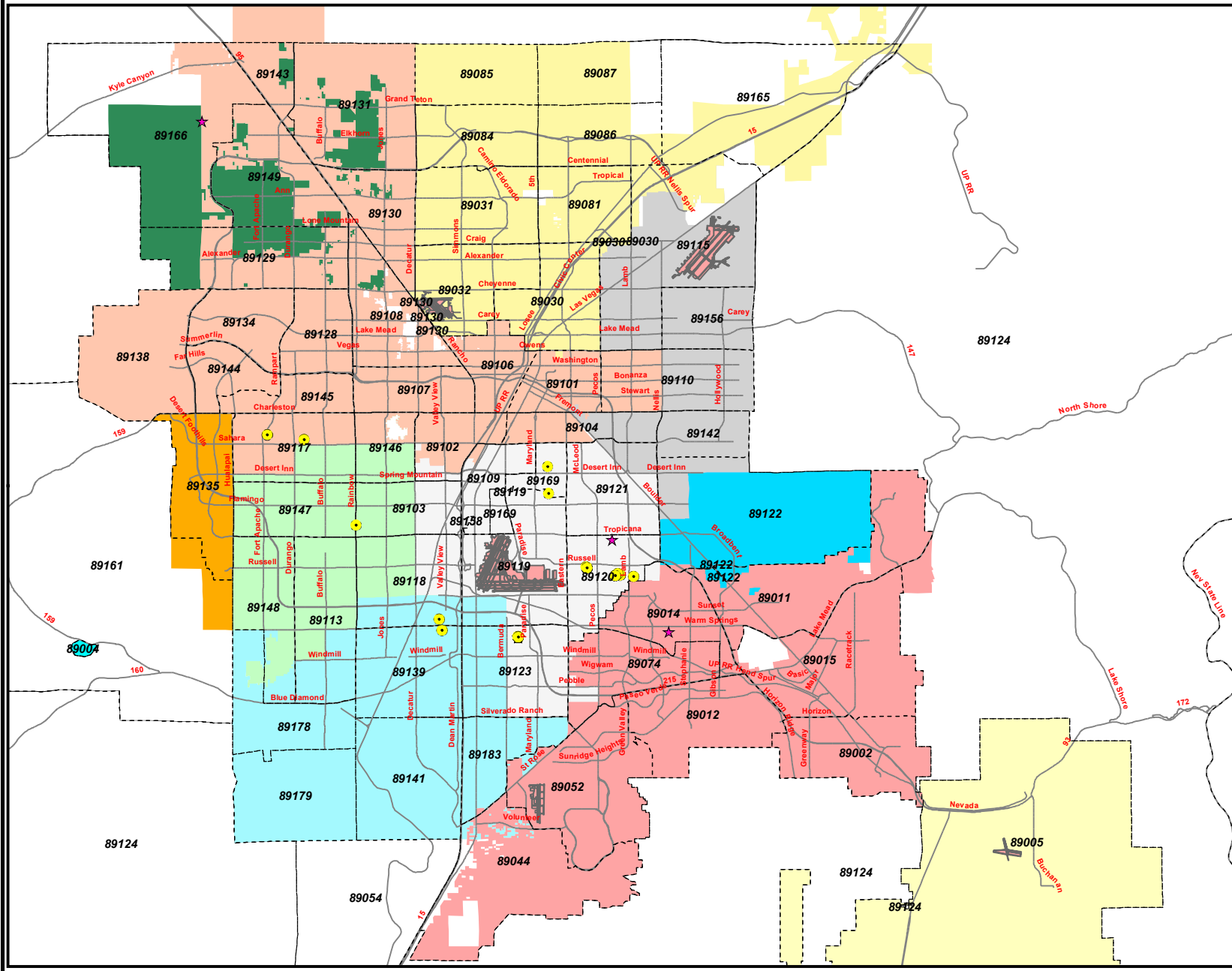
Exhibit 2: Noise Complaint Calls by Type of Operation - August 2014

Operation	No. of Calls in 2014	Percent of Overall Total	No. of Calls in 2013	No. of Calls in 2012
LAS 01R/L Arrivals			1	1
LAS 07R/L Arrivals				
LAS 19R/L Arrivals				
LAS 25R/L Arrivals				
LAS 01R/L Departures	73	19.3%	1	3
LAS 07R/L Departures	17	4.5%	3	5
LAS 19R/L Departures	2	0.5%	1	1
LAS 25R/L Departures	277	73.1%		12
LAS Run-ups				
LAS GA				
LAS Other				
LAS Total	369	97.4%	6	22
VGT 07 Arrivals				
VGT 12R/L Arrivals				
VGT 25 Arrivals				
VGT 30R/L Arrivals				
VGT 07 Departures				
VGT 12R/L Departures				
VGT 25 Departures				
VGT 30R/L Departures				
VGT Run-ups				
VGT GA				
VGT Other				
VGT Total	0	0.0%	0	0
HND 17R/L Arrivals				
HND 35R/L Arrivals				
HND 17R/L Departures				
HND 35R/L Departures				
HND Run-ups				
HND GA				1
HND Other				
HND Total	0	0.0%	0	1
Helicopters**	10	2.6%	6	27
Overall Total	379	100%	12	50



** 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 - August 2014



Legend

August 2014
Total Complaints: 379

- Aircraft Complaints Received 369 Mapped 369
- ★ Helicopter Complaints Received 10 Mapped 10

- 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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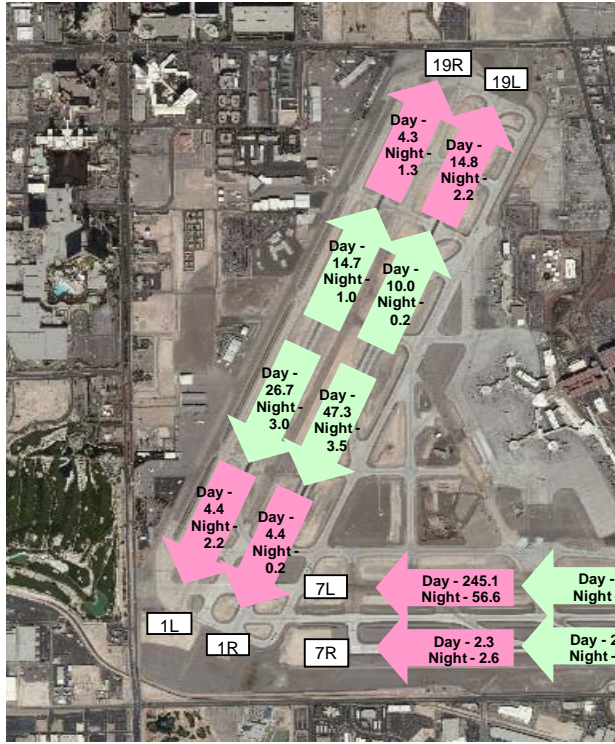
Geographic Information Systems

Oct 15, 2014

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* - August 2014

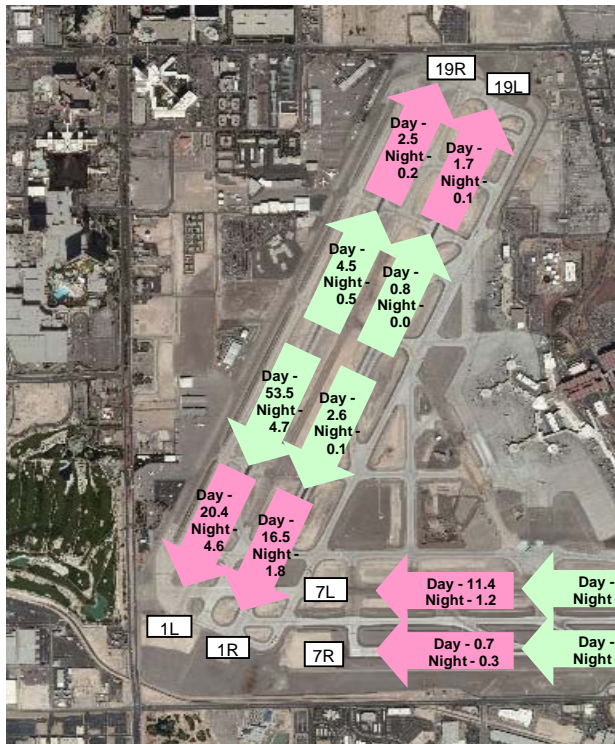


Year	2014		2013		2012	
Daytime Departures	360	84%	351	83%	364	82%
Nighttime Departures	68	16%	71	17%	79	18%
Total Departures	428	100%	422	100%	443	100%
Daytime Arrivals	416	88%	414	89%	419	87%
Nighttime Arrivals	54	12%	54	11%	62	13%
Total Arrivals	470	100%	468	100%	480	100%

Growth	Overall	Daytime	Nighttime
Depts. 2014 vs 2013	1%	3%	-4%
Depts. 2014 vs 2012	-3%	-1%	-13%
Arrivals 2014 vs 2013	0%	0%	1%
Arrivals 2014 vs 2012	-2%	-1%	-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** - August 2014

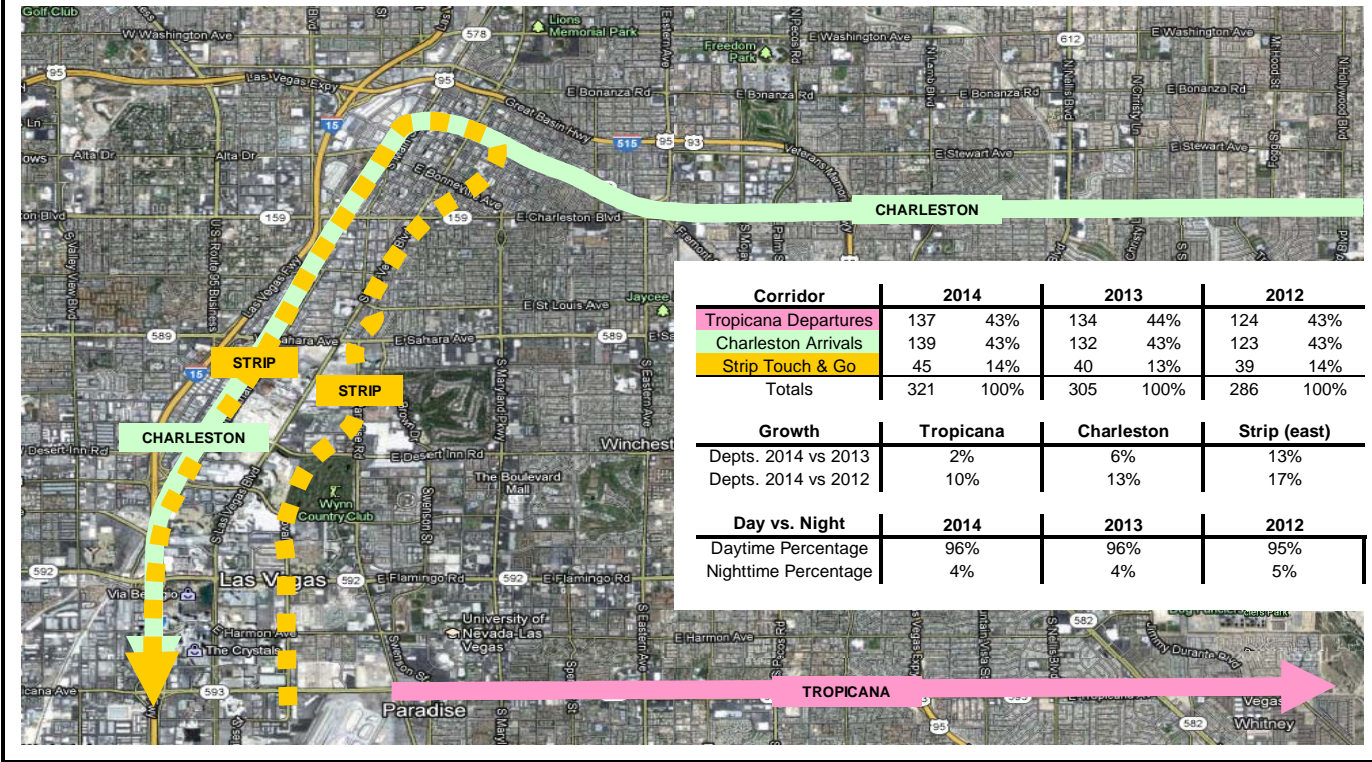


Year	2014		2013		2012	
Daytime Departures	70	89%	61	89%	64	90%
Nighttime Departures	8	11%	7	11%	7	10%
Total Departures	78	100%	69	100%	71	100%
Daytime Arrivals	80	93%	75	92%	77	91%
Nighttime Arrivals	6	7%	6	8%	7	9%
Total Arrivals	86	100%	81	100%	84	100%

Growth	Overall	Daytime	Nighttime
Depts. 2014 vs 2013	13%	13%	12%
Depts. 2014 vs 2012	10%	9%	24%
Arrivals 2014 vs 2013	6%	8%	-11%
Arrivals 2014 vs 2012	2%	5%	-24%

** 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 - August 2014

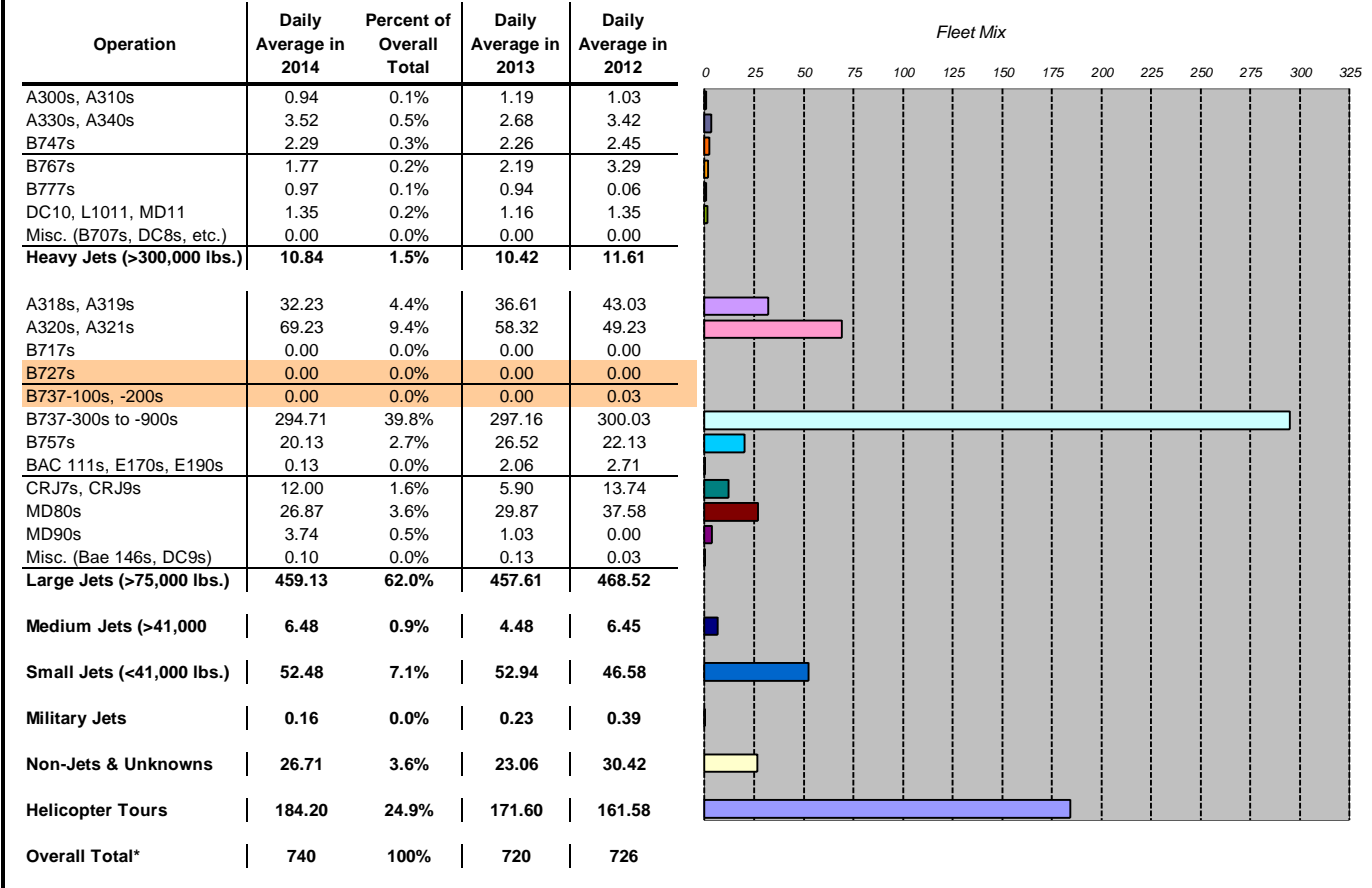


Corridor	2014	2013	2012
Tropicana Departures	137 43%	134 44%	124 43%
Charleston Arrivals	139 43%	132 43%	123 43%
Strip Touch & Go	45 14%	40 13%	39 14%
Totals	321 100%	305 100%	286 100%

Growth	Tropicana	Charleston	Strip (east)
Depts. 2014 vs 2013	2%	6%	13%
Depts. 2014 vs 2012	10%	13%	17%

Day vs. Night	2014	2013	2012
Daytime Percentage	96%	96%	95%
Nighttime Percentage	4%	4%	5%

Exhibit 7: LAS Aircraft Arrival Fleet Mix* - August 2014



* 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* - August 2014 to 2012

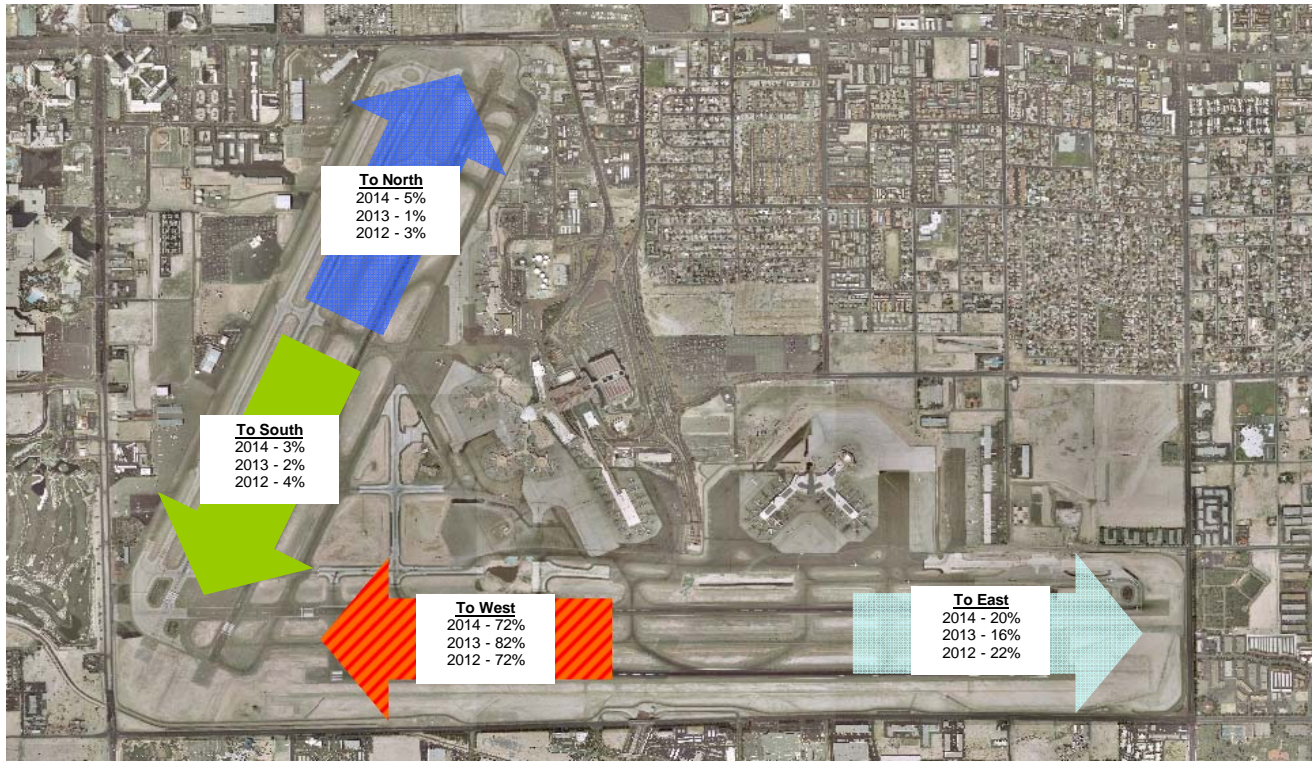
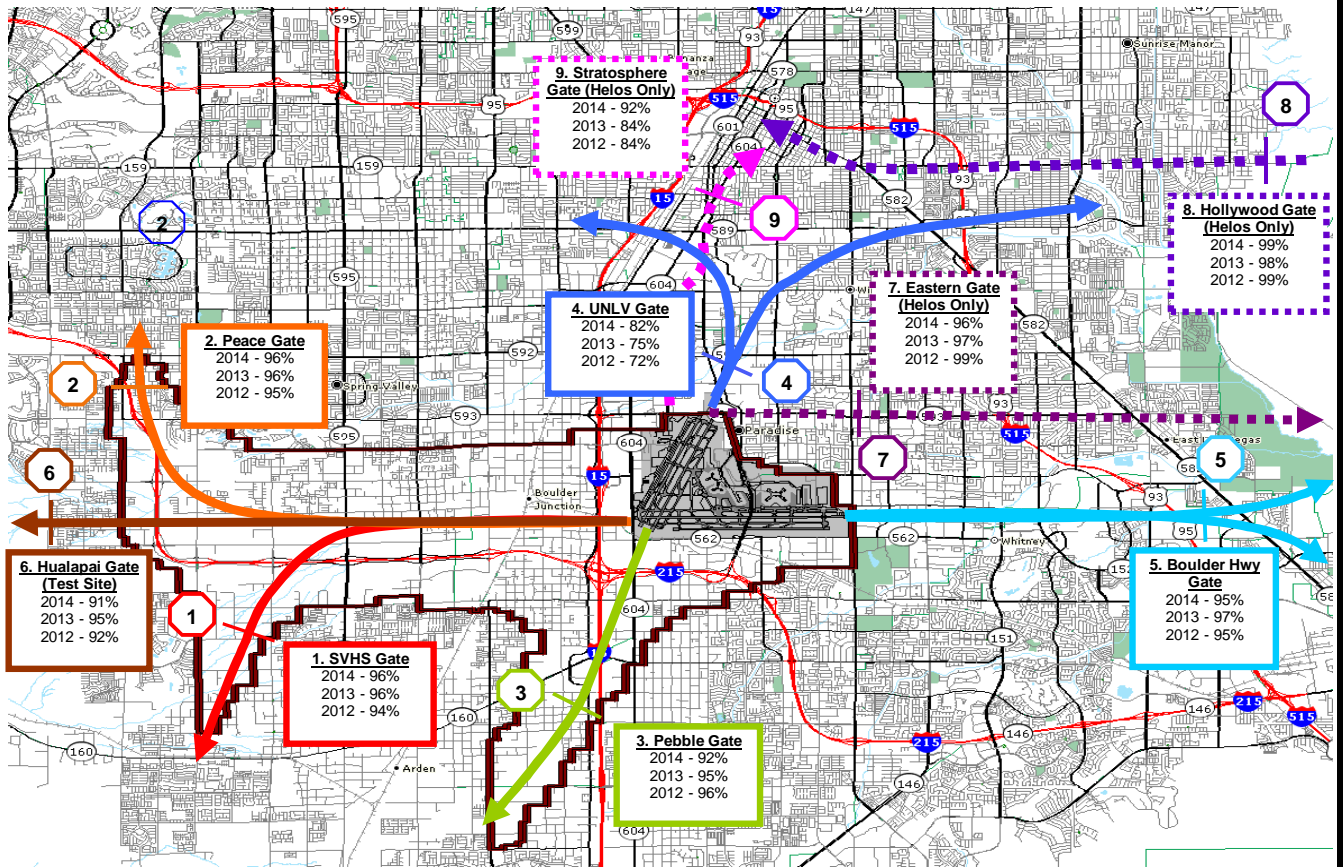


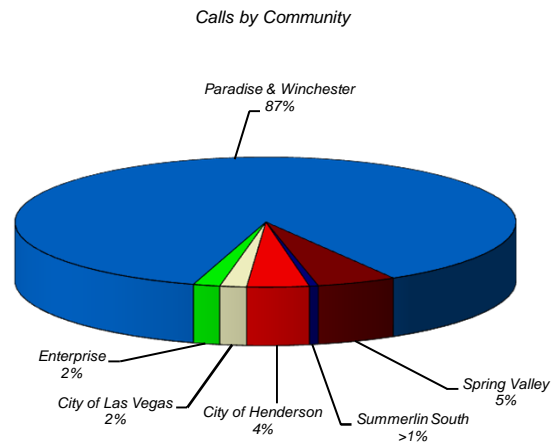
Exhibit 9: "Gate" Compliance for Large Aircraft* & Helicopter Tours - August 2014



* 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* - September 2014

Community	No. of Calls in 2014	No. of Callers in 2014	No. of Calls in 2013	No. of Calls in 2012
City of Boulder City	7	4	6	25
City of Henderson	3	1	6	3
City of Las Vegas	3	1	6	3
City of North Las Vegas				
Enterprise	3	2	4	5
Lone Mountain				1
Paradise & Winchester	152	6	10	20
Spring Valley	9	2	5	13
Summerlin South	1	1		
Sunrise Manor			1	1
Whitney			1	1
Location unknown				
Overall Total	175	16	33	69



Difference between 2013 and 2012 Total Calls: 430%

Difference between 2013 and 2011 Total Calls: 154%

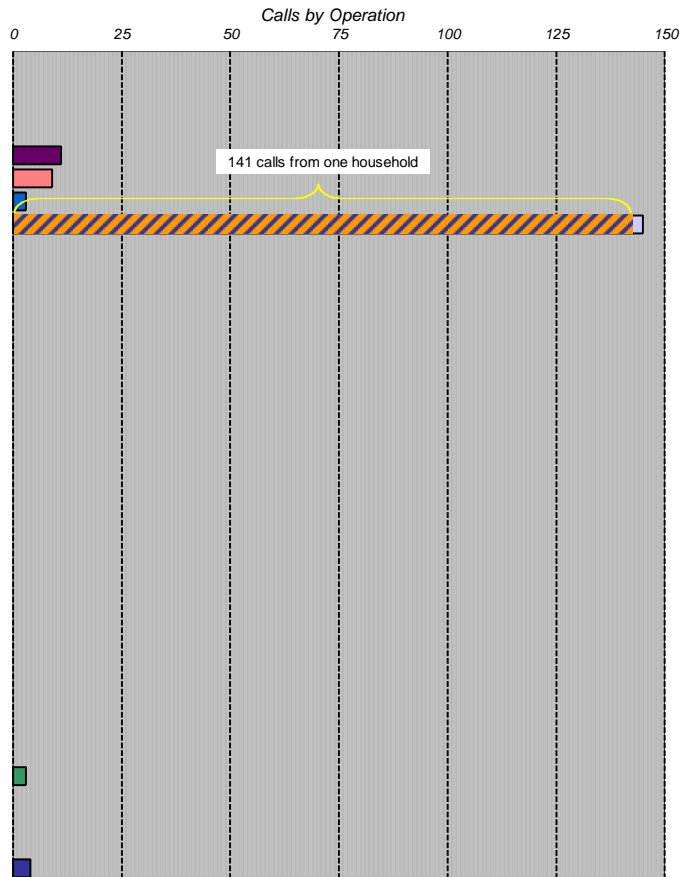
Average Number of Calls per Caller: 10.9

Most calls received from one household: 141

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

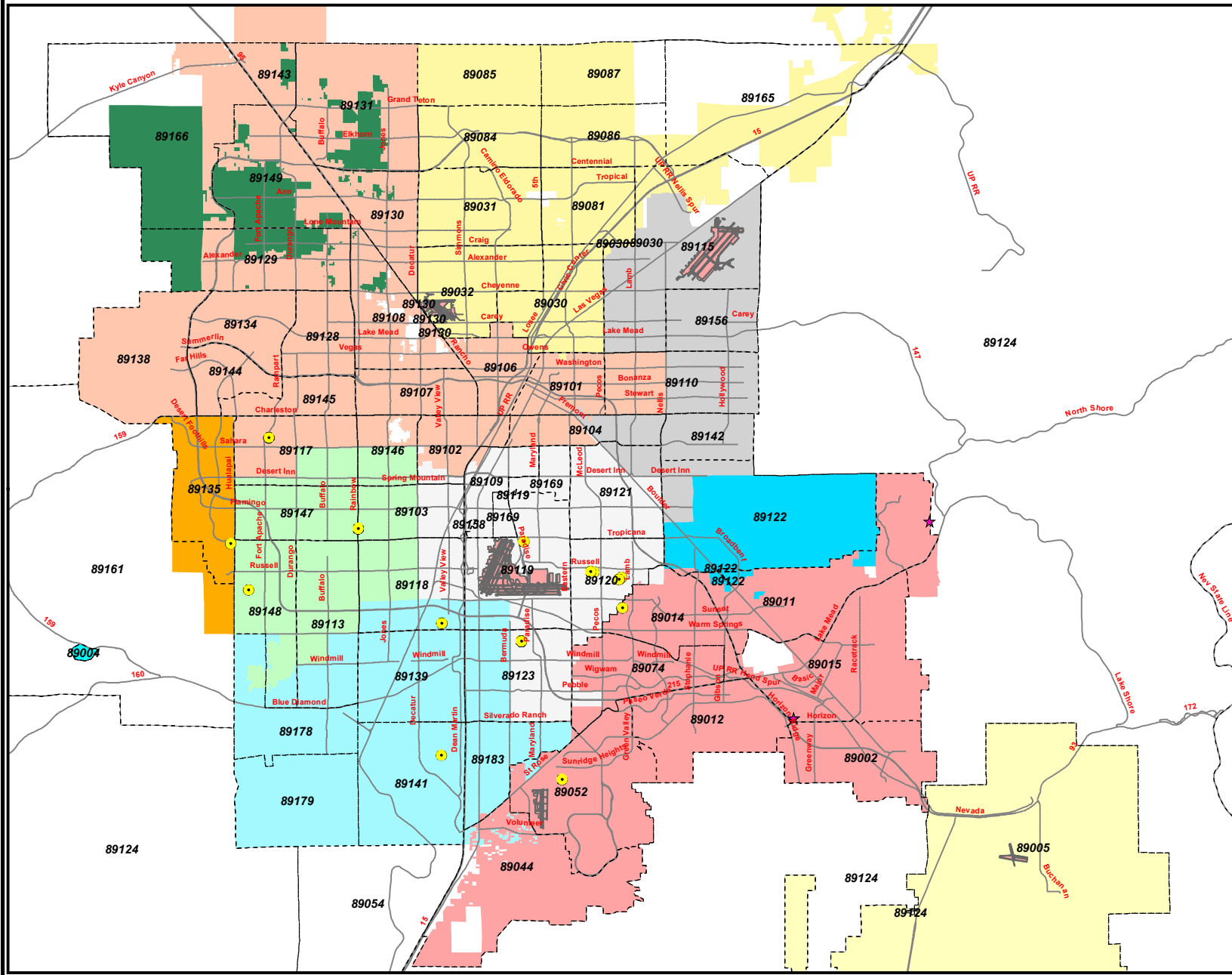
Exhibit 2: Noise Complaint Calls by Type of Operation - September 2014

Operation	No. of Calls in 2014	Percent of Overall Total	No. of Calls in 2013	No. of Calls in 2012
LAS 01R/L Arrivals				
LAS 07R/L Arrivals				
LAS 19R/L Arrivals				
LAS 25R/L Arrivals			1	
LAS 01R/L Departures	11	6.3%	9	8
LAS 07R/L Departures	9	5.1%	6	19
LAS 19R/L Departures	3	1.7%	5	3
LAS 25R/L Departures	145	82.9%	6	12
LAS Run-ups				
LAS GA				
LAS Other				
LAS Total	168	96.0%	27	42
VGT 07 Arrivals				
VGT 12R/L Arrivals				
VGT 25 Arrivals				
VGT 30R/L Arrivals				
VGT 07 Departures				
VGT 12R/L Departures				
VGT 25 Departures				
VGT 30R/L Departures				
VGT Run-ups				
VGT GA			1	1
VGT Other				
VGT Total	0	0.0%	1	1
HND 17R/L Arrivals				
HND 35R/L Arrivals				
HND 17R/L Departures				
HND 35R/L Departures				
HND Run-ups				
HND GA	3	1.7%	3	3
HND Other				
HND Total	3	1.7%	3	3
Helicopters**	4	2.3%	2	23
Overall Total	175	100%	33	69



** 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 - September 2014



Legend

September 2014
Total Complaints: 175

- Aircraft Complaints Received 171 Mapped 171
- ★ 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

Department of Aviation
I.S. Division

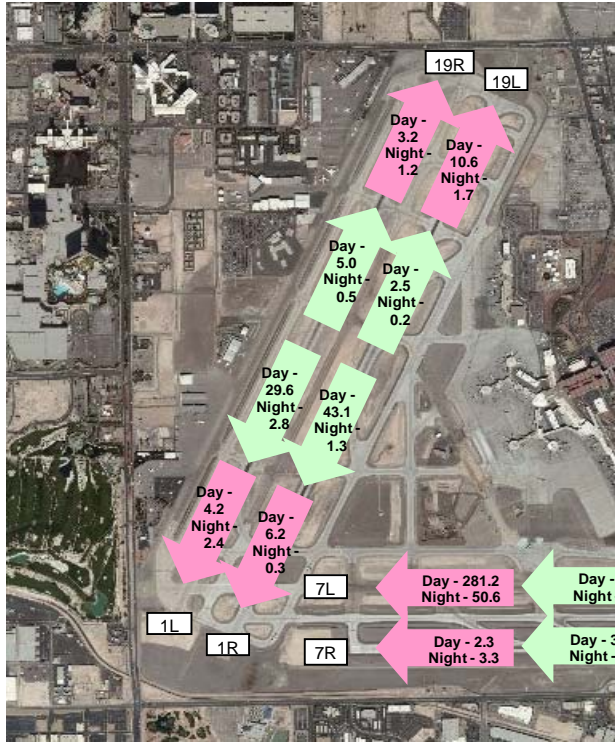
Geographic Information Systems

Oct 15, 2014

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

H:\GIS\Standard Projects\Noise\2014\02_2014

Exhibit 4: LAS Daily Average Operations Runway for Large Air Carrier Aircraft* - September 2014

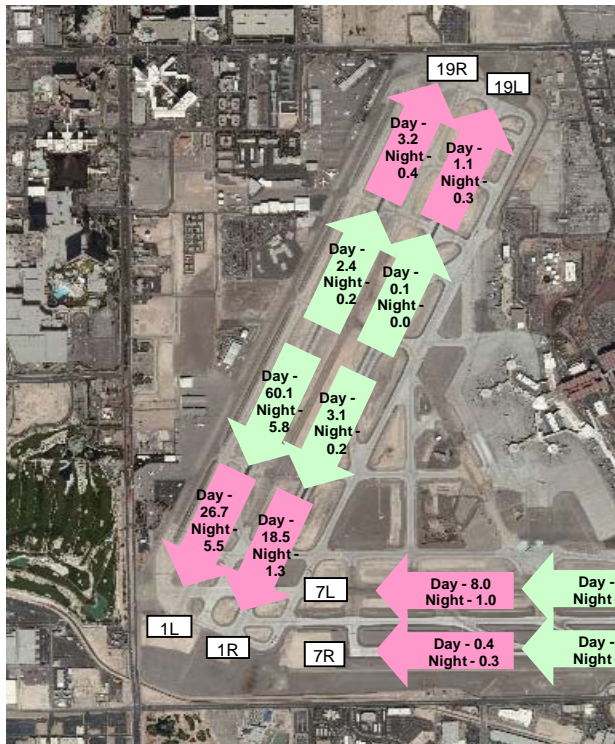


Year	2014		2013		2012	
Daytime Departures	374	86%	369	87%	373	85%
Nighttime Departures	60	14%	56	13%	66	15%
Total Departures	433	100%	425	100%	439	100%
Daytime Arrivals	425	90%	429	91%	422	90%
Nighttime Arrivals	46	10%	40	9%	49	10%
Total Arrivals	471	100%	469	100%	470	100%

Growth	Overall	Daytime	Nighttime
Depts. 2014 vs 2013	2%	1%	6%
Depts. 2014 vs 2012	-1%	0%	-10%
Arrivals 2014 vs 2013	0%	-1%	16%
Arrivals 2014 vs 2012	0%	1%	-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** - September 2014



Year	2014		2013		2012	
Daytime Departures	69	89%	72	90%	83	91%
Nighttime Departures	9	11%	8	10%	8	9%
Total Departures	78	100%	80	100%	91	100%
Daytime Arrivals	82	92%	84	92%	94	93%
Nighttime Arrivals	7	8%	7	8%	7	7%
Total Arrivals	89	100%	91	100%	101	100%

Growth	Overall	Daytime	Nighttime
Depts. 2014 vs 2013	-3%	-4%	9%
Depts. 2014 vs 2012	-14%	-17%	10%
Arrivals 2014 vs 2013	-3%	-3%	-3%
Arrivals 2014 vs 2012	-12%	-12%	-7%

** 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 - September 2014

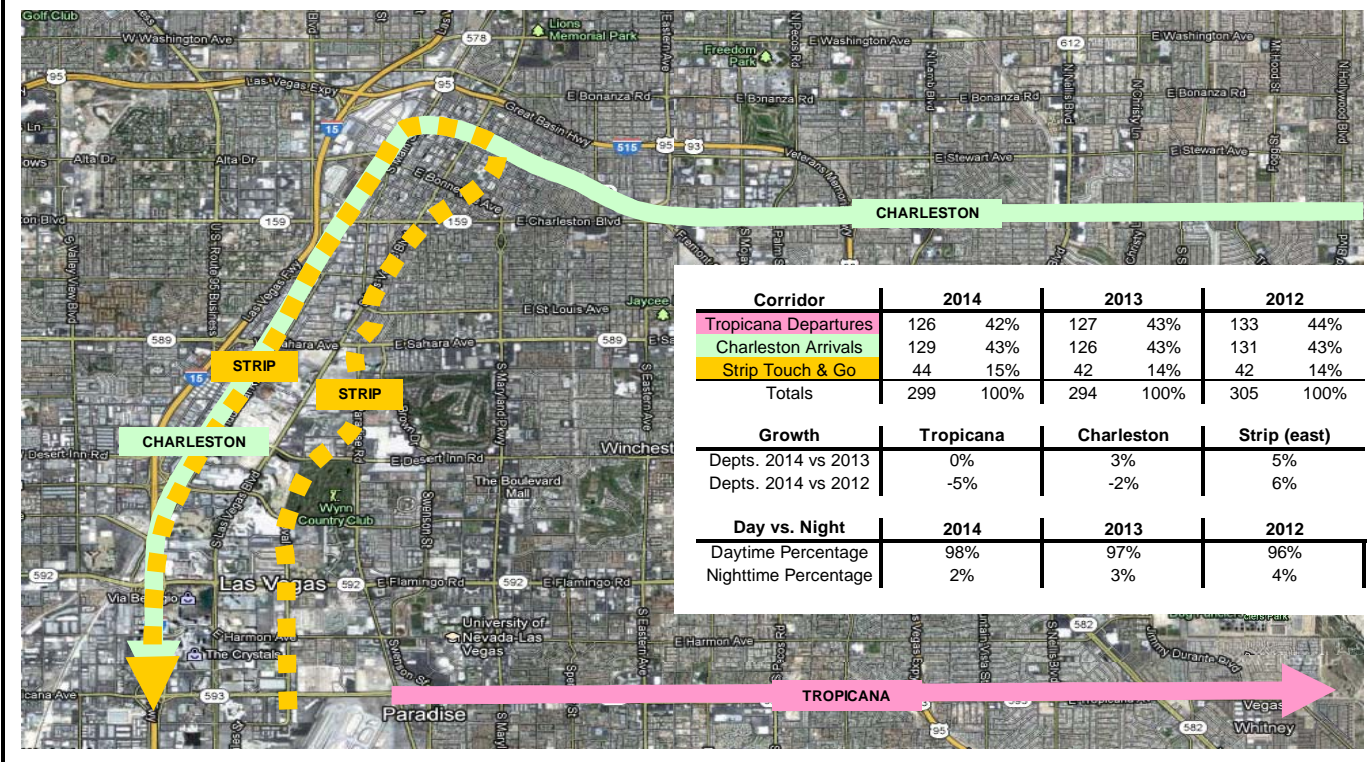
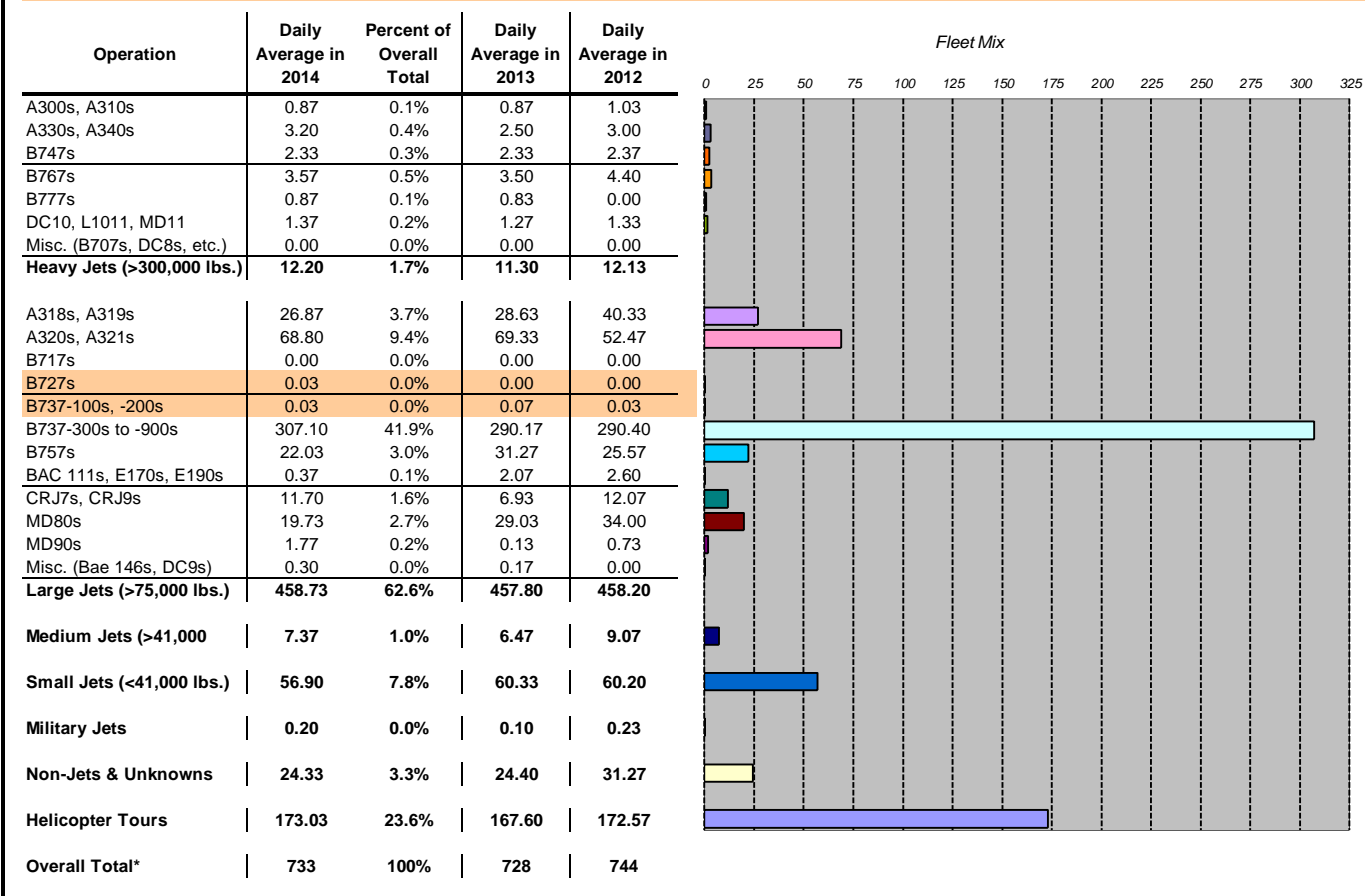


Exhibit 7: LAS Aircraft Arrival Fleet Mix* - September 2014



* 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* - September 2014 to 2012

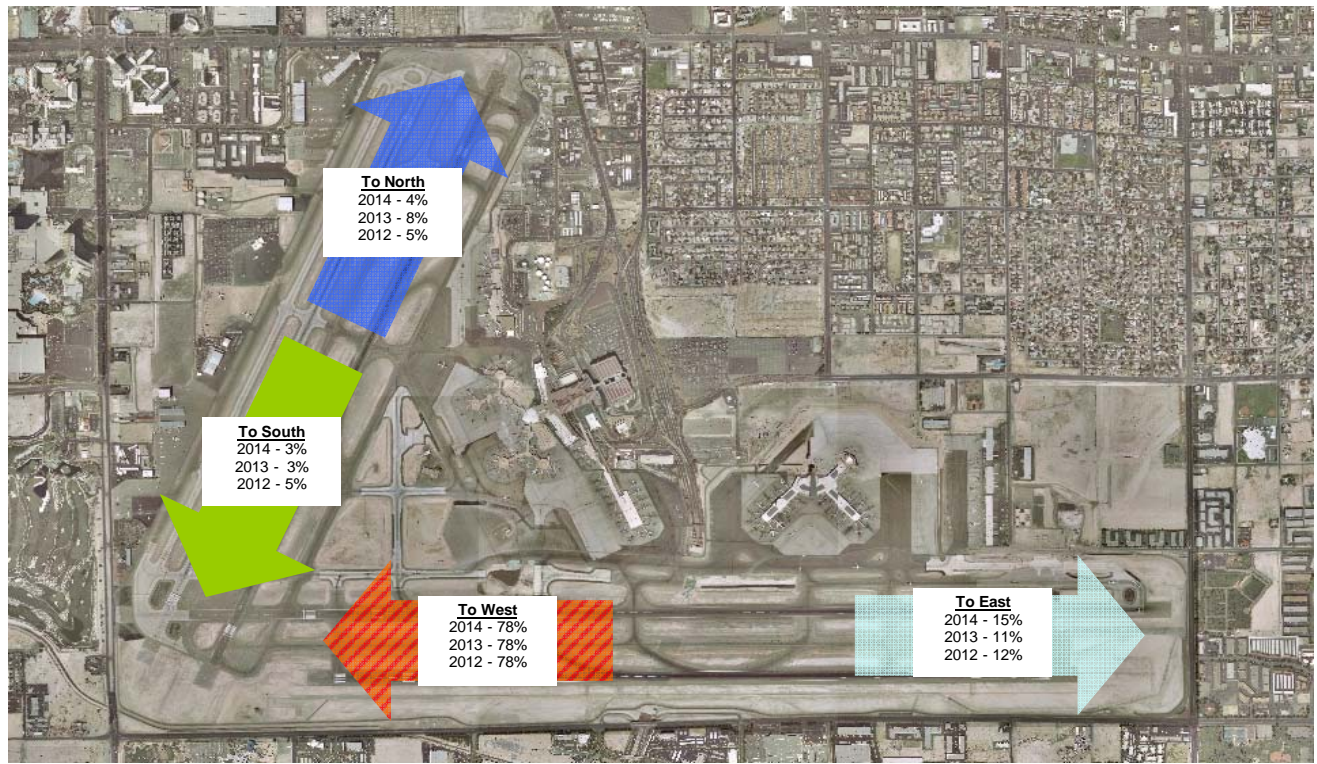
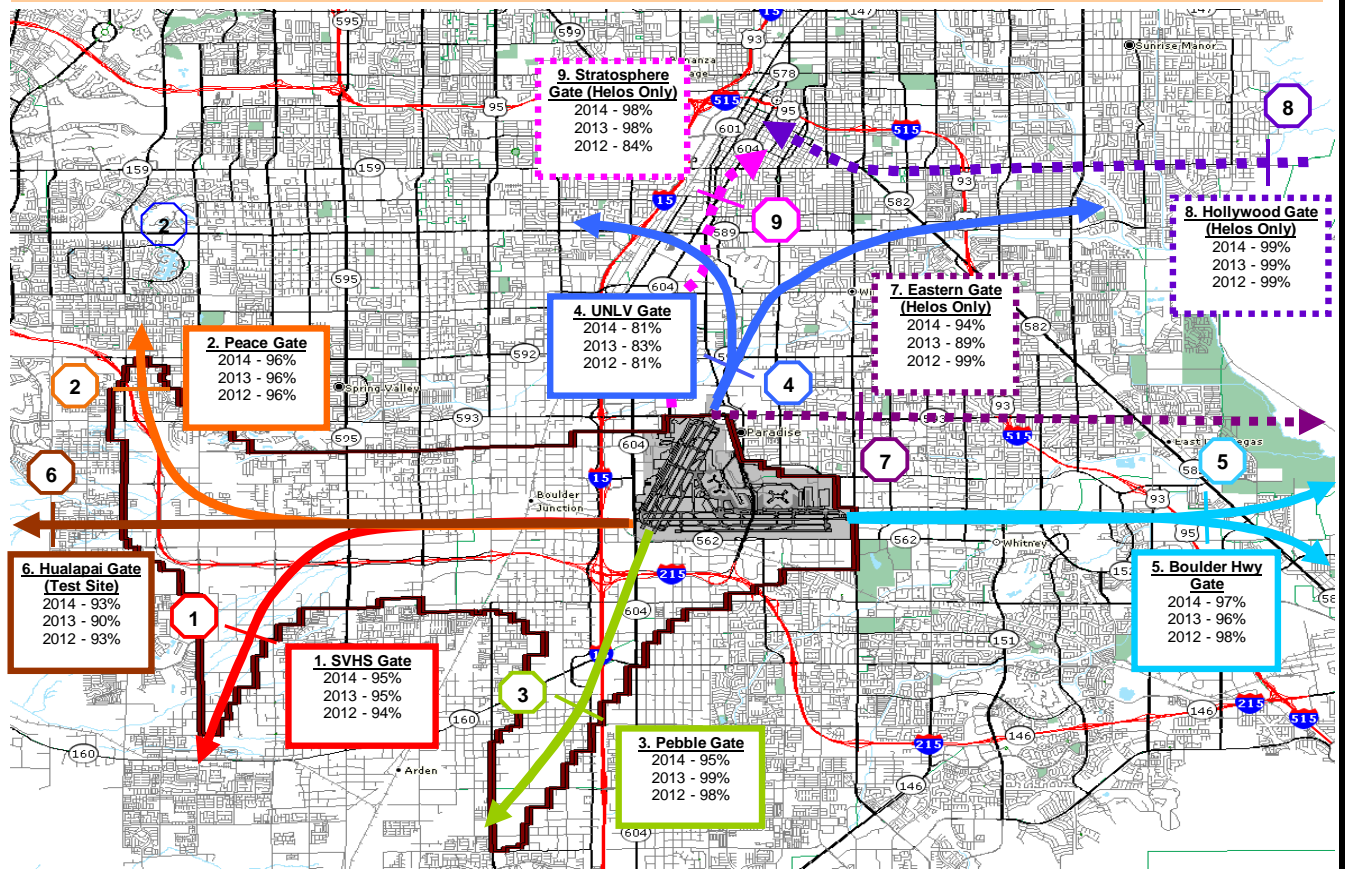


Exhibit 9: "Gate" Compliance for Large Aircraft* & Helicopter Tours - September 2014



* 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.