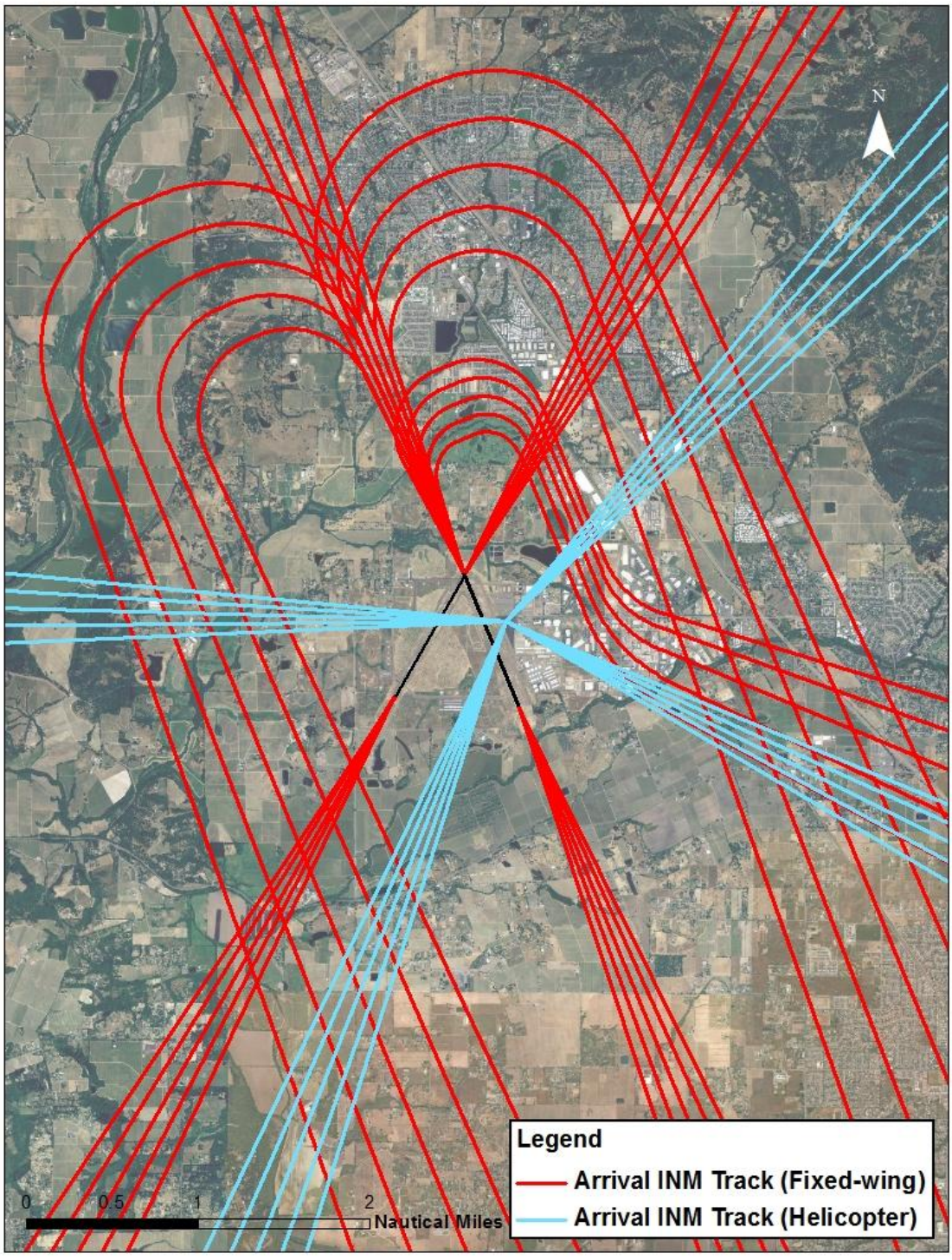
*Figure 4-2a*

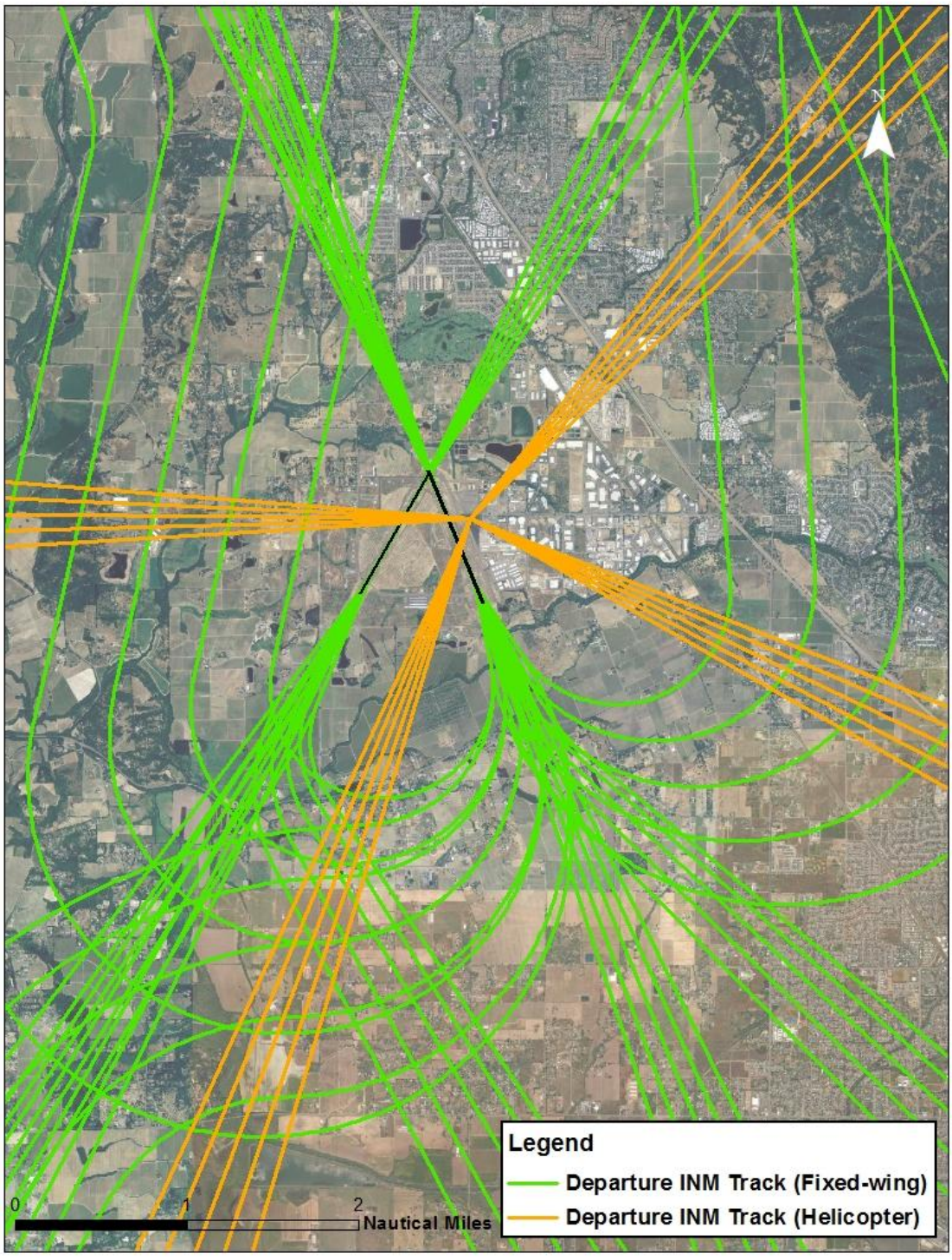
**BASELINE 2009 INM ARRIVAL FLIGHT TRACK**




SOURCE: FAA, MGA/L&B (2011)

*Figure 4-2b*

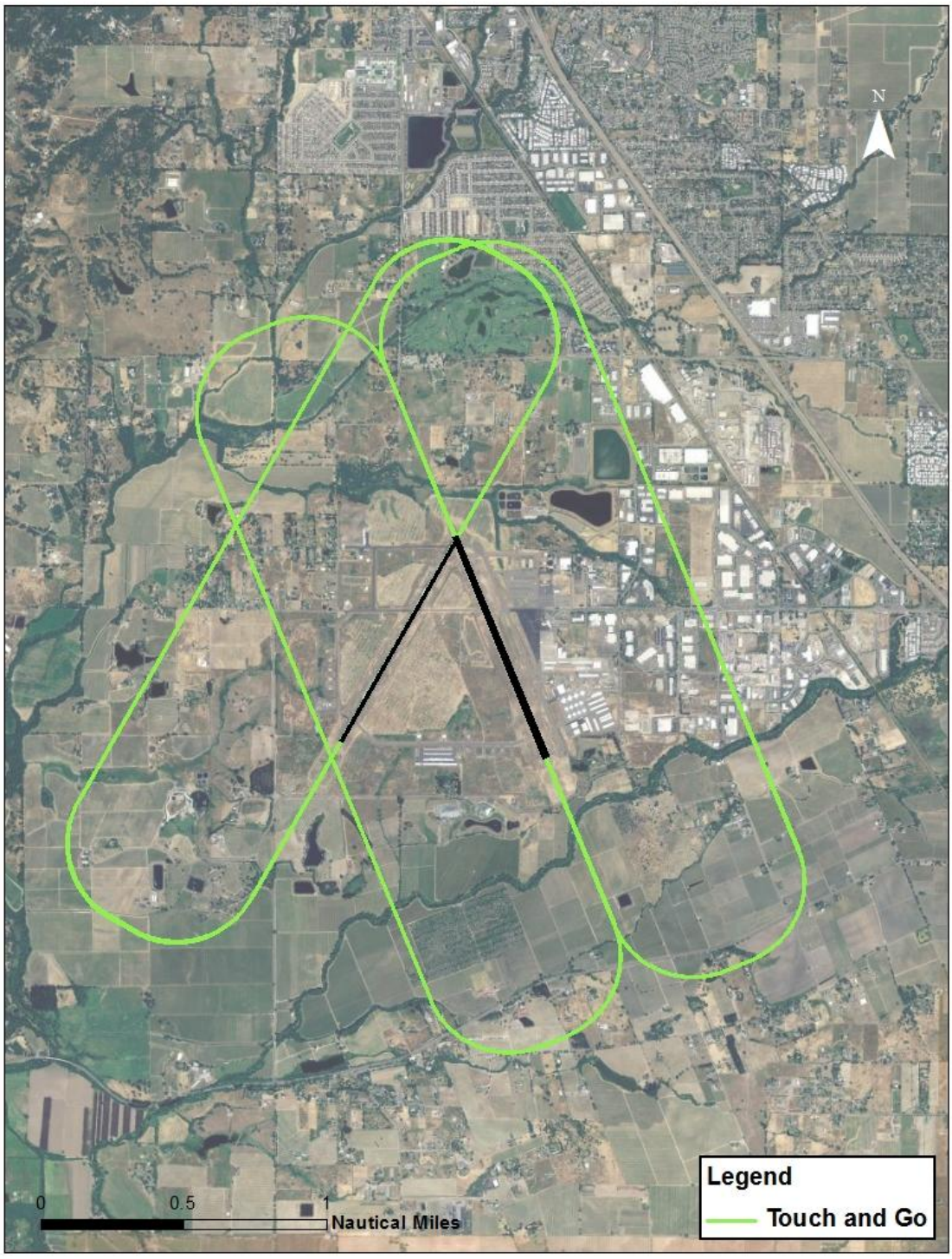
**BASELINE 2009 INM DEPARTURE FLIGHT TRACKS**




SOURCE: FAA, MGA/L&B (2011)

*Figure 4-2c*

**BASELINE 2009 TOUCH AND GO FLIGHT TRACKS**




SOURCE: FAA, MGA/L&B (2011)

## 4.4 TIME OF DAY

In the CNEL metric, any operation that occurs after 10 p.m. and before 7 a.m. is considered more intrusive and is penalized 10 dBA. The result of this mathematical weighting is in terms of CNEL calculation, one night operation is equivalent to ten (10) daytime operations. Therefore, the percentage of nighttime operations has a large influence on the CNEL noise contours. Similarly, any operation that occurs between 7 p.m and 10 p.m. is penalized approximately 5 dBA, or approximately 3 daytime operations. Analysis was conducted to determine the actual time of day of each operation at the Airport. The number of evening and nighttime operations for each type of aircraft was determined from discussions with ATCT personnel, the review of airline and radar data. This data is presented in Tables 4-6 and 4-7.

*Table 4-6*

**AIRCRAFT DEPARTURES AND TOUCH AND GO OPERATIONS BY DAY/EVENING/NIGHT PERIOD – BASELINE 2009**

| Aircraft Type | Day | Evening | Night |
|---|---|---|---|
| 737700 | 100% | | |
| BEC58P | 83% | 12% | 5% |
| CNA172 | 83% | 12% | 5% |
| CNA182 | 83% | 12% | 5% |
| CNA206 | 83% | 12% | 5% |
| CNA208 | 83% | 12% | 5% |
| CNA20T | 83% | 12% | 5% |
| CNA441 | 83% | 12% | 5% |
| DHC6 | 83% | 12% | 5% |
| GASEPF | 83% | 12% | 5% |
| GASEPV | 83% | 12% | 5% |
| PA30 | 83% | 12% | 5% |
| PA31 | 83% | 12% | 5% |
| S70 | 83% | 12% | 5% |
| SD330 | 83% | 12% | 5% |
| A109 | 83% | 12% | 5% |
| B407 | 83% | 12% | 5% |
| B222 | 83% | 12% | 5% |
| R44 | 83% | 12% | 5% |
| EC130 | 83% | 12% | 5% |
| DHC830(Q400) | 61% | 17% | 22% |
| C130 | 83% | 12% | 5% |
| OV10A | 83% | 12% | 5% |
| SD330 | 83% | 12% | 5% |

| Aircraft Type | Day | Evening | Night |
|---|---|---|---|
| CIT3 | 91% | 7% | 2% |
| CL600 | 91% | 7% | 2% |
| CNA500 | 91% | 7% | 2% |
| CNA510 | 91% | 7% | 2% |
| CNA750 | 91% | 7% | 2% |
| EMB120 | 91% | 7% | 2% |
| EMB145 | 91% | 7% | 2% |
| DO328 | 91% | 7% | 2% |
| FAL20 | 91% | 7% | 2% |
| GII | 91% | 7% | 2% |
| GIIB | 91% | 7% | 2% |
| GIV | 91% | 7% | 2% |
| GV | 91% | 7% | 2% |
| IA1125 | 91% | 7% | 2% |
| LEAR25 | 91% | 7% | 2% |
| LEAR35 | 91% | 7% | 2% |
| MU3001 | 91% | 7% | 2% |

SOURCE: FAA, MGA/L&B (2011)

*Table 4-7*

**AIRCRAFT ARRIVALS BY DAY/EVENING/NIGHT PERIOD – BASLINE 2009**

| Aircraft Type | Day | Evening | Night |
|---|---|---|---|
| 737700 | 75% | 25% | |
| BEC58P | 83% | 12% | 5% |
| CNA172 | 83% | 12% | 5% |
| CNA182 | 83% | 12% | 5% |
| CNA206 | 83% | 12% | 5% |
| CNA208 | 83% | 12% | 5% |
| CNA20T | 83% | 12% | 5% |
| CNA441 | 83% | 12% | 5% |
| DHC6 | 83% | 12% | 5% |
| GASEPF | 83% | 12% | 5% |
| GASEPV | 83% | 12% | 5% |
| PA30 | 83% | 12% | 5% |
| PA31 | 83% | 12% | 5% |

| Aircraft Type | Day | Evening | Night |
|---|---|---|---|
| S70 | 83% | 12% | 5% |
| SD330 | 83% | 12% | 5% |
| A109 | 83% | 12% | 5% |
| B407 | 83% | 12% | 5% |
| B222 | 83% | 12% | 5% |
| R44 | 83% | 12% | 5% |
| EC130 | 83% | 12% | 5% |
| DHC830(Q400) | 61% | 17% | 22% |
| C130 | 83% | 12% | 5% |
| OV10A | 83% | 12% | 5% |
| SD330 | 83% | 12% | 5% |
| CIT3 | 91% | 7% | 2% |
| CL600 | 91% | 7% | 2% |
| CNA500 | 91% | 7% | 2% |
| CNA510 | 91% | 7% | 2% |
| CNA750 | 91% | 7% | 2% |
| EMB120 | 91% | 7% | 2% |
| EMB145 | 91% | 7% | 2% |
| DO328 | 91% | 7% | 2% |
| FAL20 | 91% | 7% | 2% |
| GII | 91% | 7% | 2% |
| GIIB | 91% | 7% | 2% |
| GIV | 91% | 7% | 2% |
| GV | 91% | 7% | 2% |
| IA1125 | 91% | 7% | 2% |
| LEAR25 | 91% | 7% | 2% |
| LEAR35 | 91% | 7% | 2% |
| MU3001 | 91% | 7% | 2% |

SOURCE: FAA, MGA/L&B (2011)

According to ATCT, it is difficult to calculate exact runway utilization, time of day, and flight track location due to available means to gather such information. Please note that the above operational information is estimated as best as possible.

## 4.5 STAGE LENGTH

Stage length refers to the distance of aircraft travel for each departure from the airport to a destination city. In noise modeling practice, stage length is a surrogate for aircraft departure weight. Aircraft departure weight is important, as noise levels are higher for heavier aircraft of a given type. This is due to the decreased climb performance and higher thrust settings required by heavier aircraft. These factors do not apply to arriving aircraft.

The data used for this analysis includes standard INM aircraft weight data based upon the average aircraft departure weights for given distances from the Airport to flight destinations. The INM includes different departure profiles based upon the departure procedures being used. The primary differences between these departure profiles are aircraft engine thrust settings, flap configurations, airspeed, and climb gradient. Aircraft types and typical operations were examined to determine which of the departure profiles available in the INM best represent actual departure operations at the Airport. Based upon this analysis the Standard INM departure profile and Stage Length 1 (flight length of 0-500 nautical miles) were used for all aircraft for the development of the INM contours.

## 4.6 BASELINE 2009 CNEL CONTOURS

Baseline 2009 contours for the Airport were prepared using INM Version 7.0b and are shown in Figure 4-3 for the 55, 60, 65, 70, and 75 CNEL levels. See Figure 2-4 as a reference to CNEL noise levels. Table 4-8 below describes the size of the respective CNEL contours in 5 dB increments.

*Table 4-8*
**BASELINE 2009 CNEL AREA IN ACRES**

| CONTOUR CNEL (dB) | TOTAL ACRES |
|---|---|
| 55 – 60 | 1,006 |
| 60 – 65 | 398 |
| 65 – 70 | 159 |
| 70 – 75 | 71 |
| 75 + | 50 |
| **55 CNEL & greater** | **1,684** |

SOURCE: MGA/L&B (2011)

Baseline 2009 noise contours are shown in Figure 4-3. The contours shown are the 55, 60, 65, 70 and 75 CNEL. The largest contour is the 55 CNEL contour and the smallest contour is the 75 CNEL. The runway utilization and operational flow are clearly depicted in the shape of the noise contours. Noise contours southeast of the Airport are primarily influenced by departures from Runways 14. The small —nod" of noise contours east of the Airport are primarily influenced by helicopter operations at the helipad.