

# **Bracknell and Wokingham Data Analysis**

## **Overall summary**

- On easterly days the number of departures through the gate has increased while the number of arrivals has decreased.
- On westerly days the number of departures and arrivals has remained more or less constant.
- The volume of traffic has a cyclical pattern with higher levels in summer than in winter.
- Average heights have remained consistent for departures and arrivals.
- Average minimum heights on easterly departures have increased from 6000 feet to just over 7000 feet.
- The average position of easterly departures shifted north in mid-2014 due to realignment of the CPT SID, while the position of easterly arrivals remained the same.
- The average position of westerly departures shifted south during the trials but returned to its original position afterwards, with a slight shift towards the south in late 2015.
- The proportion of large aircraft has increased.

## **Easterly departures**

### **Numbers**

- The average daily departure traffic through the gate on easterly days has increased from 75 flights per day in 2011 to 108 flights per day in 2015.

### **Altitude**

- The average height has remained consistent at approximately 9500 feet from 2011 to 2016, although there is day-to-day variation.
- The average minimum height shows an upwards trend from 2011 to 2016 from 6000 feet to just over 7000 feet.

### **Distribution**

- The average position of traffic shifted north in mid-2014 due to realignment of the CPT SID.
- There is a broad peak between 10:00 and 14:00 hours with lower levels at other times. The peak level increased from 2014 to 2015.

### **Aircraft types**

- The proportion of large aircraft increased from 71% in 2011 to 78% in 2015. A380s currently make up 2% of the total.
- The proportion of ultra long and long-haul destinations served by easterly departure traffic has remained consistent from 2011 to 2016 at approximately 77% of the total.

## **Westerly departures**

### **Numbers**

- The average daily departure traffic through the gate on westerly days has remained more or less constant, with 83 flights per day in 2011 and 87 flights per day in 2015.

### **Altitude**

- The average height has remained consistent at approximately 7500 feet from 2011 to 2016, although there is considerable day-to-day variation.
- The average minimum height has remained consistent at approximately 5000 feet, although there is day-to-day variation.
- Departures are higher in winter than in summer.

### **Distribution**

- The average position of traffic shifted south during the trials but returned to its original position after the trials finished.
- The trials resulted in traffic being concentrated in swaths.
- There appears to have been a slight in traffic shift towards the south in late 2015.

### **Aircraft types**

- The proportion of large aircraft increased from 53% in 2011 to 61% in 2015. A380s currently make up 2% of the total.
- The proportion of ultra-long haul traffic has increased from 9% to 14%, short-haul has remained constant at 42% and long haul has decreased from 47% to 44% between 2011 and 2016.

## **Easterly arrivals**

### **Numbers**

- The average daily arrival traffic through the gate on easterly days has decreased from 188 flights per day in 2011 to 175 flights per day in 2015.

### **Altitude**

- The average height of both streams has remained consistent from 2011 to 2016 with no trend upwards or downwards, at approximately 4000 feet for the northerly stream and 5500 feet for the southerly stream.
- The average minimum height of both streams has remained consistent, at 3000 feet for the northerly stream and 4000 feet for the southerly stream.

## **Distribution**

- There are two streams of easterly arrivals traffic crossing the gate, one in the southern half of the gate as traffic leaves the stacks, the other in the northern half of the gate as traffic approaches the runways.
- The average position of both streams has remained stationary from 2011 to 2016.
- Traffic volume is uniform from 06:00 to 21:30 hours with lower levels at other times. The early morning traffic comprises a high proportion of large aircraft.

## **Aircraft types**

- The proportion of large aircraft increased from 36% in 2011 to 42% in 2015. A380s currently make up 3% of the total.
- The proportion of ultra long and long-haul origins increased from 36% in 2011 to 38% in 2015.

## **Westerly arrivals**

### **Numbers**

- The average daily arrival traffic through the gate on westerly days is of low volume and has remained more or less constant from 2011 to 2016 at approximately 2.5 flights per day.
- Because of the low volume detailed analysis has not been performed.