



ATM Network Performance Report

August 2019



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Summary

August Performance

Comparatively higher instances of lower capacity operations at Melbourne and Sydney in response to meteorological conditions has been a factor in Network Performance during August. The combined 75th percentile performance during August for airborne delay across the four major airports (Sydney, Melbourne, Brisbane and Perth) was **4.4** minutes. The median airborne delay across these airports was **1.0** minutes. These results did not meet the KPI targets. The median and 75th percentile increased compared to the same period last year.

The contributing factors to significant delay increases experienced during August include the extended taxiway works on Rapid Exit Taxiway F at Melbourne airport and single runway operations at Sydney. As the taxiway works at Melbourne are planned to be complete in early 2020, close monitoring of the airborne delay is being undertaken to ensure appropriate controls are in place to regulate delay, including offering revisions to the Ground Delay Program, which would reduce airborne delay, but increase ground delay. Collaborative decision making with our airline customers about the impact of these works on network performance has resulted in an increased tolerance for Airborne Delay for arrivals into Melbourne rather taking higher levels of ground holding.

The number (38) of notable events in August was one lower than in July (but higher than any month in the previous FY). This month there were sixteen notable events in Sydney, fourteen in Melbourne, four in Brisbane and four in Perth.

The 38 notable events in August are summarised under each of the airport sections below. Eighteen of these notable events resulted in a prolonged and moderately elevated airborne delay for the entire day (i.e. 75th percentile greater than seven minutes across the entire day). These events are labelled in **Figure 1**. Twenty events resulted in a shorter and more intense period of elevated airborne delay (i.e. two or more consecutive hours where the 75th percentile was over 10 minutes).

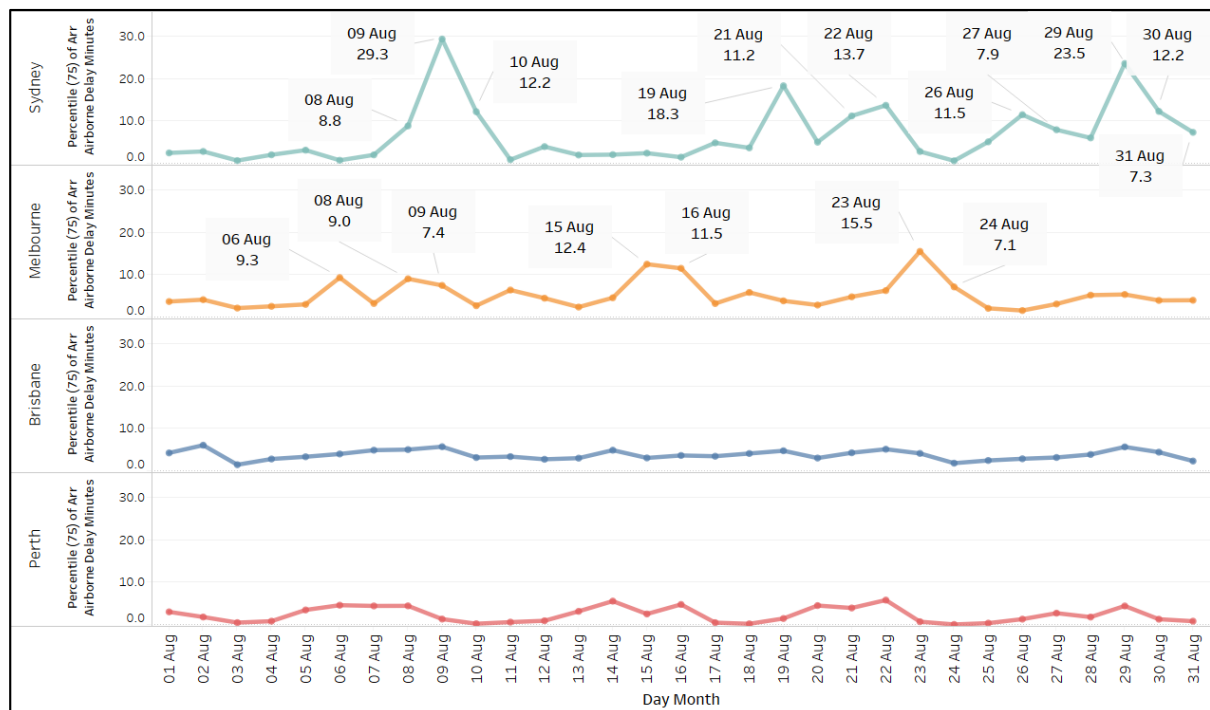


Figure 1: Notable prolonged delay impact events during August 2019

Numbers underneath the dates indicate the extent of the 75th percentile of airborne delay in minutes across the day.

Network Wide Performance

Airborne delay

The combined median and 75th percentile airborne delay at the four major airports is indicated in **Figure 2**. The trend is upward for the median and 75th percentile.

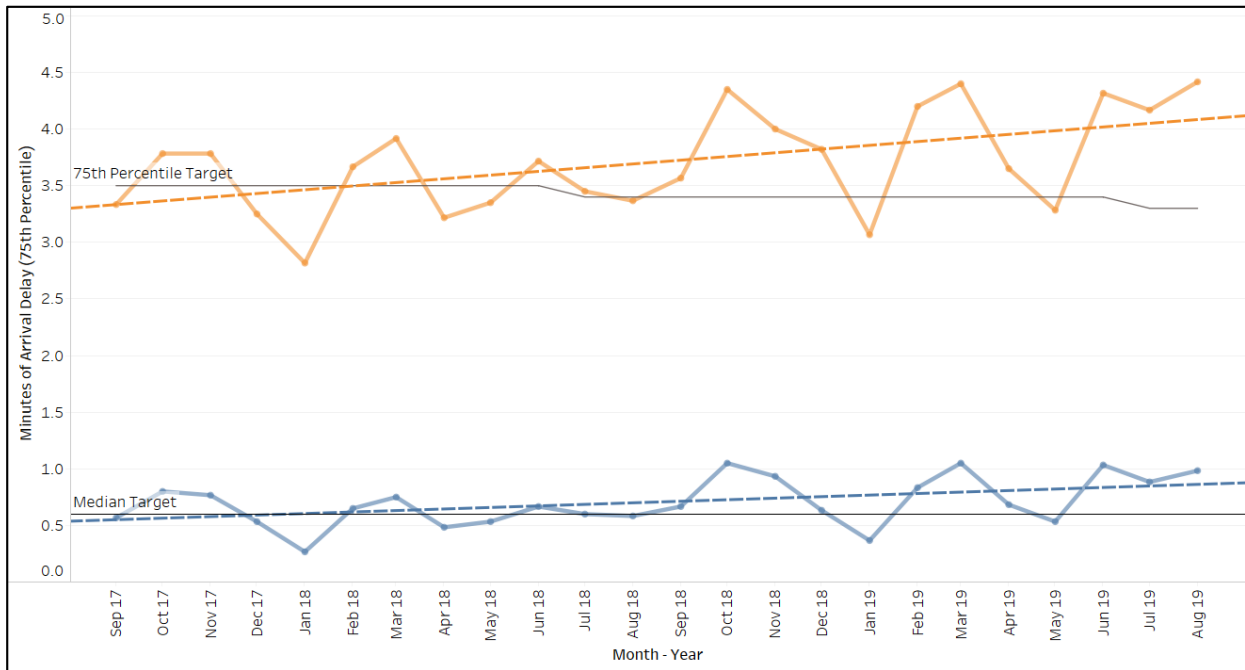


Figure 2: 24-month trend for airborne delay

The long term (48-month) trends of the 75th percentile airborne delay for each of the four major airports are depicted in **Figure 3**. The trends for Sydney and Melbourne are upwards. More detailed analysis for each airport is presented later in this report.

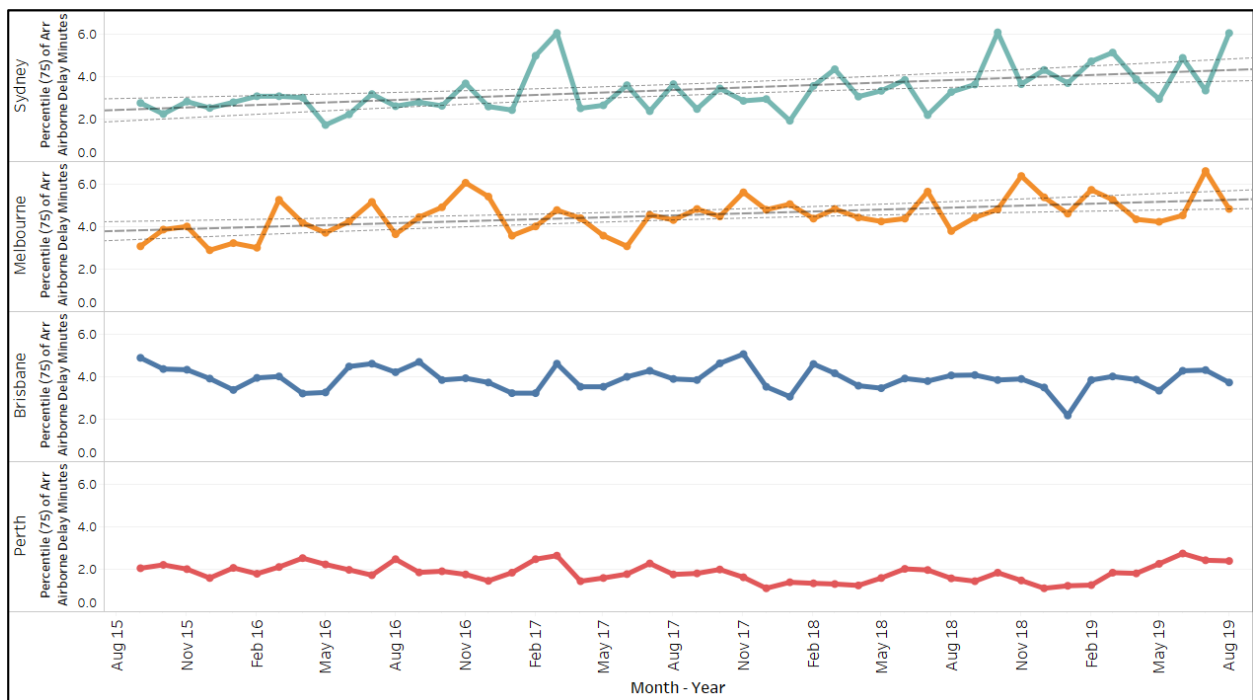


Figure 3: 48-month trend for airborne delay (75th percentile) by airport

Runway configuration

The runway configuration usage for each airport is shown in **Figure 5**. In Melbourne the availability of Land and Hold Short Operations (LAHSO) at Melbourne decreased by around 33% compared to the same month last year (57 hours compared to 85 hours in August 2018). Single runway usage decreased by 10% (202 hours compared to 224 hours in August 2018). Notably the use of Runway 34 for arrivals (single runway 34 and LAHSO operations) decreased by 22% (to 171 hours) compared to July (219 hours). Therefore the impact of Taxiway F works (exit from Runway 34) has been reduced from July.

In Sydney the use of parallel 34 runway operations decreased by 17% compared to the same month last year (255 hours compared to 308 hours in August 2018). Additionally, the use of parallel 16 operations increased by 31% compared to the same month last year (200 hours compared to 153 hours in August 2018). While the overall single runway usage (X-runway and SODPROPS) increased by only six hours compared to the same month last year, the use of only runway 25 increased by 100% (68 hours compared to 34 hours in August 2018). The use of runway 25 only is dictated by weather conditions, as opposed to SODPROPS which is generally used in low demand periods for noise sharing purposes.

Brisbane had single runway operations for 95% of the time for August in 2018 and 89% of the time in August 2019. Single runway 01 operations decreased by 44% compared to the same month last year (166 hours compared to 239 hours in July 2018). Single runway 19 operations increased by 17% (308 hours compared to 263 in August 2018). The use of two runways for arrival in Brisbane increased by 112% compared to the same month last year (53 hours compared to 25 hours in August 2018).

Perth was required to use single runway operations for 51% of the time in August 2019. Single runway operations are 71% higher compared to the same month last year (255 hours compared to 149 hours in August 2018). Changes to reporting at Perth now captures weekend operating configurations which are creating artefact changes to year on year differences (August 2018 had 384 hours, compared to August 2019 having 496 hours of recorded runway usage). Typically weekends at Perth have low traffic volumes which favour single runway configurations.

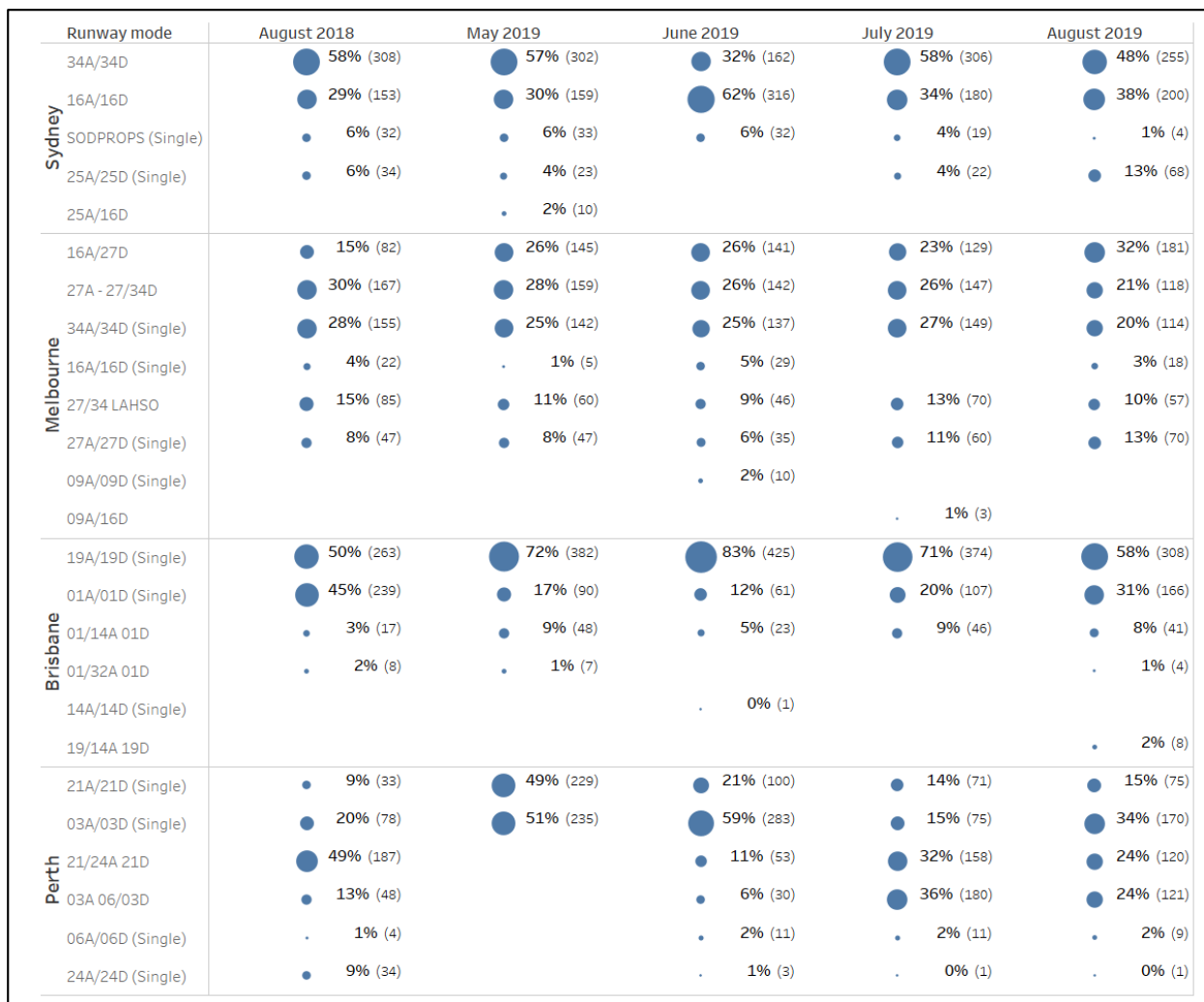


Figure 5: August runway configuration usage (percentage of total and hours in brackets) by airport (Sydney 06-22L, Melbourne 06-23L, Brisbane 06-22L and Perth 06-21L). Single runway configurations indicated in parentheses. Note: Sydney runway mode selection takes into account the Long Term Operating Plan to manage aircraft noise.

Traffic levels and composition changes

Figure 6 shows traffic levels and composition changes since the beginning of 2017. The domestic traffic decline seen at Sydney in the first three months of 2019 (and much of 2018), which had not been observed in the April to July 2019 period, is again noticeable in August. The general increase of international traffic in 2018 has levelled off in 2019. Traffic in Melbourne for 2019 is fairly steady compared to the previous year, with the growth of international traffic in 2018 no longer seen. In 2018 Brisbane traffic generally showed a decrease compared to the same month in the previous year, but with growth in international traffic. For 2019 traffic is increasing, driven by domestic traffic, as international growth has slowed. Perth traffic levels were relatively stable in 2018, while 2019 has shown overall growth driven by domestic traffic (with a drop in the international component).

Comparing traffic levels in August 2019 to August 2018, Sydney (-2.5%) and Melbourne (-1.1%) have decreased, while Brisbane (1.5%) and Perth (0.8%) have increased. International traffic numbers decreased in Sydney (-1.7%), Melbourne (-3.7%) and Perth (-5.0%), while Brisbane (1.9%) showed an increase.

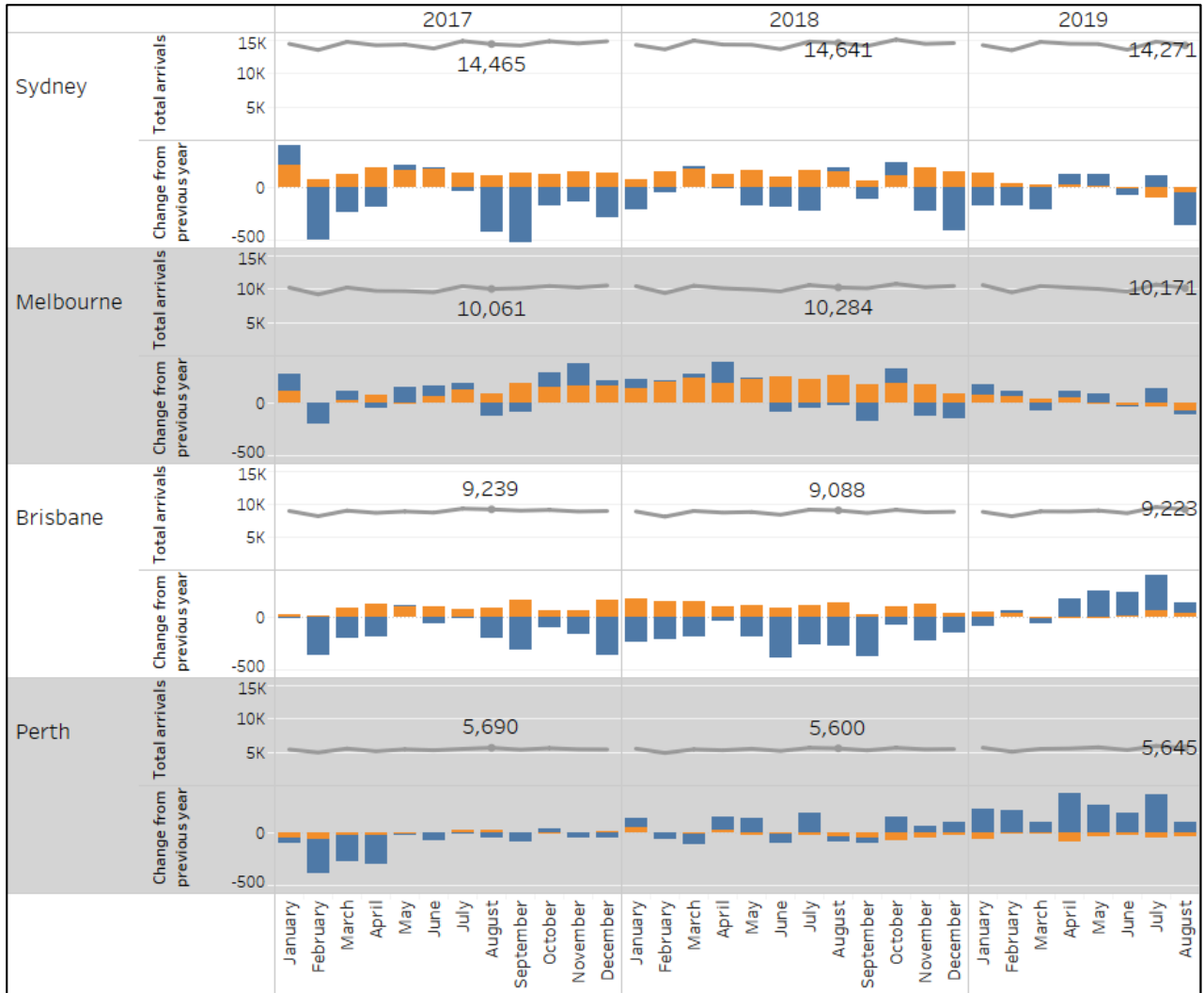


Figure 6: Traffic levels and composition change since January 2017. Grey lines show overall traffic numbers (annotated figures compare current month to same month one and two years earlier). Coloured bars show change in traffic compared to the same month the previous year for domestic (blue) and international (orange) flights.

Demand and capacity

Figure 7 details estimates of the number of hours each month where demand is significantly above capacity (hours where demand is three or more flights higher than the METCDM rate). The 24-month trend for excess demand is down in Brisbane and upward in Perth. Sydney's excess demand in August 2019 is higher than any previous month, likely due to relatively high demand during periods of single 25A/D runway operations.

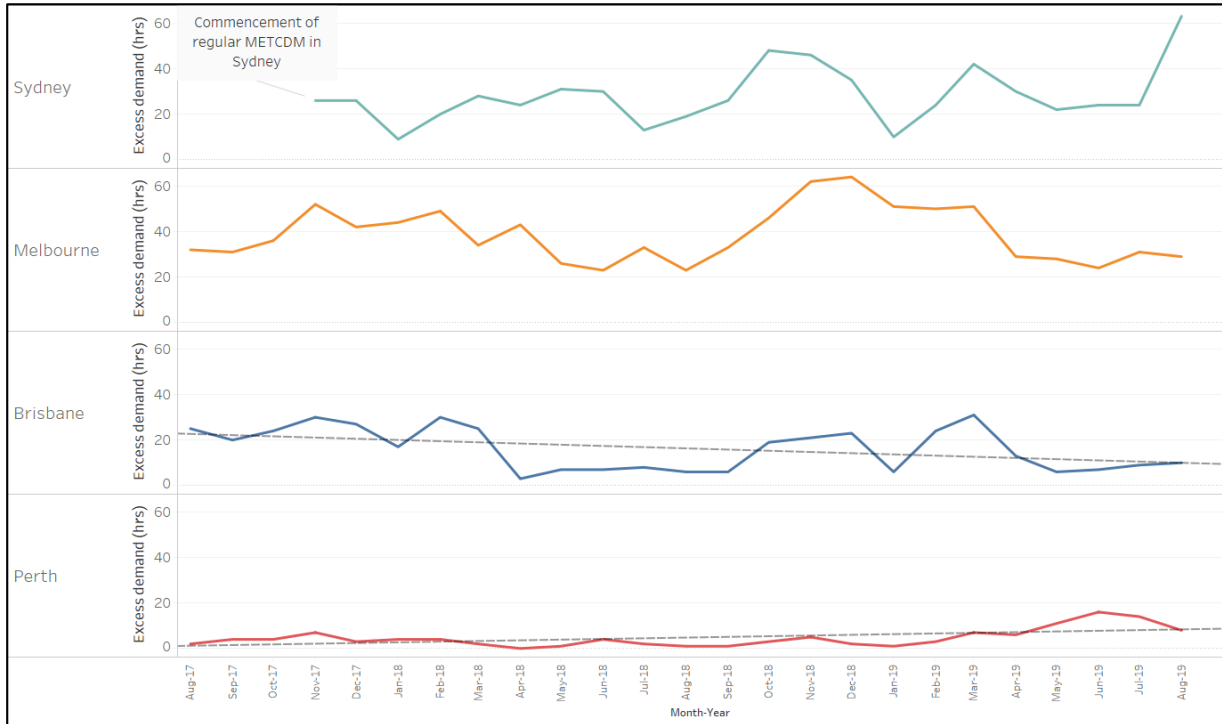


Figure 7: Excess demand estimates. Line indicates number of hours where estimated demand exceeds the METCDM rate for that hour by three or more flights. Demand is estimated using Harmony Base Estimated Landing Time.

Sydney

Airborne delay

The 75th percentile performance figures for airborne delay at Sydney are indicated in **Figure 8**. August performance for the median (1.1 minutes) and the 75th percentile (6.0 minutes) did not meet the targets. Compared to the same month last year, there was an increase in the airborne delay performance for the median (from 0.3 minutes) and 75th percentile (from 3.3 minutes).

The long-term (48-month) and 24-month trends for airborne delay at Sydney are upwards.

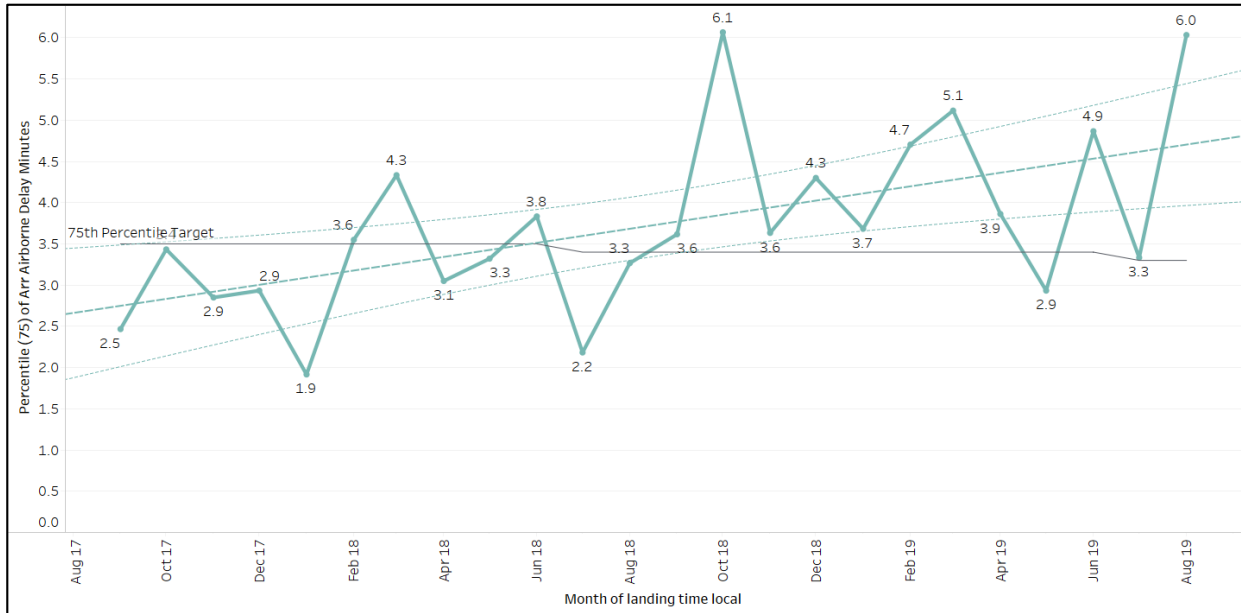


Figure 8: Sydney airborne delay 75th percentile (last 24 months)

Notable events

Table 2 describes the notable airborne delay and other events during August in Sydney.

| Day | Local Time | Delay (minutes – 75 th percentile) | Event Descriptions (Contributing causes to increased delays) |
|-----------|-----------------------|---|--|
| 8 August | 15-18 | 8.8 | Concentration of demand due to non-compliance during extended period of planned single runway operations |
| 9 August | 06-11 & 13-14 & 16-23 | 29.3 | Strong winds in circuit, multiple missed approaches due wind shear and turbulence. Extended period of single runway operations. Concentration of demand (internationals, non-compliance) |
| 10 August | 10-13 & 18-19 | 12.2 | Strong winds. Extended period of single runway operations. Concentration of demand (internationals, non-compliance) |
| 12 August | 08-09 | 3.9 | Worse than forecast winds/turbulence lowered tactical rates. |

| | | | |
|-----------|-----------------------------------|------|--|
| 19 August | 09-14 & 17-20 | 18.3 | Extended period of single runway operations. Afternoon: tactical releases offered. |
| 20 August | 11-13 | 5.0 | Cross winds, extended period of single runway operations. |
| 21 August | 17-21 | 11.2 | Strong winds, extended period of single runway operations. |
| 22 August | 08-13 & 17-19 | 13.7 | Morning: Single runway operations lasted an hour longer than anticipated. Afternoon: Concentration of demand (non-compliance), reduction in tactical rates due to strong wind. |
| 24 August | 05-06 | 0.6 | Flights requiring delay due to scheduled arrival prior to end of curfew. |
| 25 August | 18-19 | 5.0 | Concentration of demand due to off-schedule internationals and non-compliant flights. |
| 26 August | 06-07 & 09-11 & 17-19 | 11.5 | Morning: lower than forecast cloud, PRM failure. Afternoon: Concentration of demand due to off-schedule internationals and non-compliant flights. |
| 27 August | 18-20 | 7.9 | Concentration of demand due to off-schedule internationals and non-compliant flights. Slight lowering of tactical rates. |
| 28 August | 08-09 | 6.0 | Closure of 16R due unserviceable tug. |
| 29 August | 08-09 & 17-22 | 23.5 | Morning: Concentration of demand due to off-schedule internationals and non-compliant flights. Afternoon: medical flights, missed approaches due wind shear and weather diversions in circuit. Lowering of tactical rates. |
| 30 August | 08-09 & 14-15 & 17-19 | 12.2 | Morning: Lowering tactical rates. Strong winds and turbulence in circuit. Afternoon: lowered rates due strong winds. Concentration of demand due to off-schedule internationals and non-compliant flights. |
| 31 August | 06-08 | 7.3 | Lowered tactical rates with no explanation. Concentration of demand due to off-schedule internationals and non-compliant flights. |

Table 2: Notable event descriptions for Sydney.

CTOT variations

Variations from CTOT at Sydney from 0600-2300 local are the focus of this section due to notable events evident at almost any time of day at some point during the month. **Table 3** provides the flights within this period that departed either early or late with respect to their CTOTs (-5 to +15 minutes). Flights that appear at least twice (early) or five times (late) have been included. This facilitates collaboration to identify patterns and causes of delay.

The CTOT against the ATOT (actual take off time) measure is used as a proxy until the COBT (calculated off blocks time) against AOBT (actual off blocks time) can be routinely reported on.

| CTOT Variation | ACID | ADEP | Local - ALDT HOUR | | |
|----------------|---------|------------|-------------------|----|---|
| Early | JST671 | Darwin | 6 | ■ | 5 |
| | RXA311 | YGFN | 8 | ■ | 5 |
| | JST661 | Ayers Rock | 18 | ■ | 3 |
| | QLK117D | YCFS | 18 | ■ | 3 |
| | VEU | YNBR | 11 | ■ | 3 |
| | JST767 | Adelaide | 15 | ■ | 2 |
| | JST913 | YBTL | 17 | ■ | 2 |
| | PE721 | YTRE | 6 | ■ | 2 |
| | QLK171D | YPMQ | 14 | ■ | 2 |
| | QLK435D | Toowoomba | 20 | ■ | 2 |
| | RXA116 | YMRV | 10 | ■ | 2 |
| | | | 12 | ■ | 2 |
| | RXA311 | YGFN | 9 | ■ | 2 |
| | RXA313 | YGFN | 9 | ■ | 2 |
| | RXA333 | YGFN | 18 | ■ | 2 |
| | RXA527 | YPKS | 18 | ■ | 2 |
| | RXA623 | Bathurst | 10 | ■ | 2 |
| | RXA629 | Bathurst | 18 | ■ | 2 |
| | RXA953 | YARM | 7 | ■ | 2 |
| | | | 8 | ■ | 2 |
| | RXA955 | YARM | 12 | ■ | 2 |
| | TGG214 | Melbourne | 11 | ■ | 2 |
| | Late | TGG262 | Melbourne | 20 | ■ |
| JST500 | | Melbourne | 7 | ■ | 5 |
| JST514 | | Melbourne | 16 | ■ | 5 |
| VOZ811 | | Melbourne | 8 | ■ | 5 |

Table 3: CTOT variation for Sydney arrivals 0600-2300 local – August 2019. Number of occasions that each flight departed early or late with respect to its CTOTs (-5 to +15 minutes).

Melbourne

Airborne delay

The 75th percentile performance figures for airborne delay at Melbourne are indicated in **Figure 9**. August performance for the median (1.4 minutes) and the 75th percentile (4.8 minutes) did not meet the targets. Compared to the same month last year, there was an increase in the airborne delay performance for the median (from 1.0 minutes) and 75th percentile (from 3.8 minutes)

The long-term (48-month) trend for airborne delay at Melbourne is upwards.

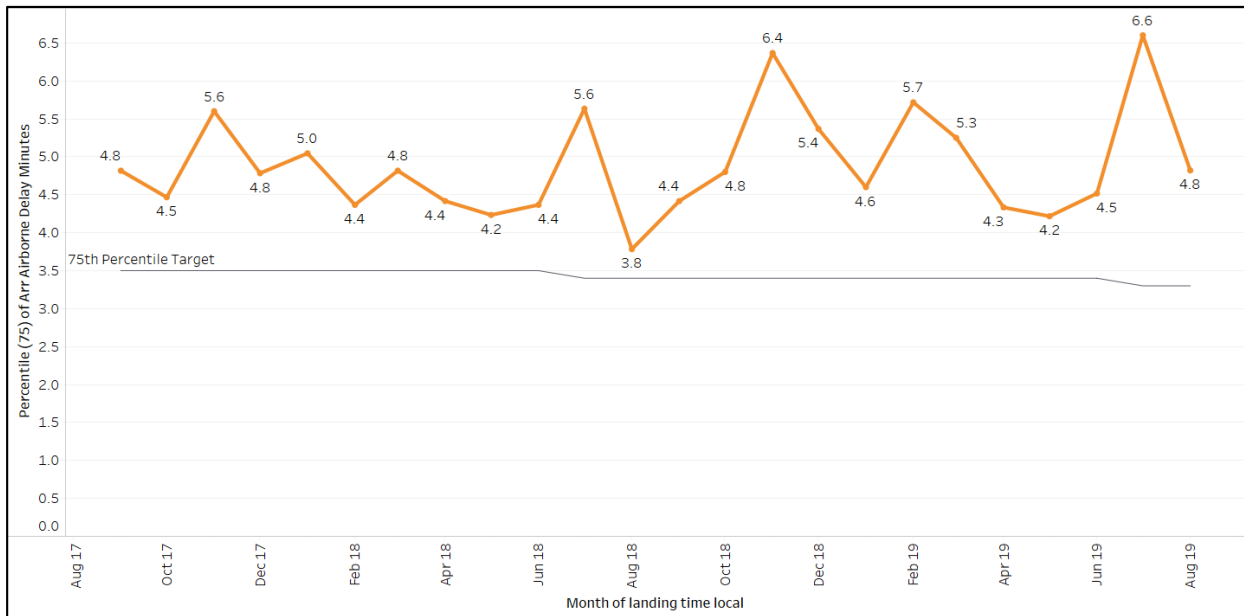


Figure 9: Melbourne airborne delay 75th percentile (last 24 months)

Notable events

Table 4 describes the notable airborne delay events during August in Melbourne. Any delay figures marked with an asterisk in the table indicates that the arrival rate reduction required for the Rapid Exit Taxiway F works was a contributing factor to the delay event. Nine of the fourteen events had the taxiway works as a contributing factor. Collaborative decision making with our airline customers about the impact of these works on network performance has resulted in an increased tolerance for Airborne Delay for arrivals into Melbourne rather taking higher levels of ground holding. The works are anticipated to be completed in early 2020 with a break over the Christmas period to avoid disruption during the busy holiday period. Co-ordination group meetings with airlines and airports decided to monitor the situation each month to determine if any further controlling actions are required to manage delay.

| Day | Local Time | Delay (minutes – 75 th percentile) | Event Descriptions (Contributing causes to increased delays) |
|----------|------------|---|---|
| 2 August | 18-19 | 4.1 | Concentration of demand due to off-schedule internationals and non-compliant flights. RPAS (not sure if impact) |

| | | | |
|-----------|-----------------------------------|--------|--|
| 6 August | 18-20 | 9.3 * | Extended period of single runway operations. Closure of Taxiway F. |
| 8 August | 18-21 | 9.0 * | Extended period of single runway operations. Closure of Taxiway F. |
| 9 August | 08-09 & 11-12 | 7.4 | Poor conditions, lowered tactical rates. Concentration of demand due to off-schedule internationals and non-compliant flights. |
| 11 August | 18-19 | 6.4 | Low cloud and visibility. Concentration of demand due to off-schedule internationals and non-compliant flights. |
| 14 August | 11-12 | 4.5 * | Extended period of single runway operations. Closure of Taxiway F. Concentration of demand due to off-schedule internationals and non-compliant flights. |
| 15 August | 08-09 & 11-12 & 17-22 | 12.4 * | Extended period of single runway operations. Closure of Taxiway F. Go around due departing aircraft with technical issue. Concentration of demand due to off-schedule internationals and non-compliant flights. |
| 16 August | 07-08 & 18-20 | 11.5 * | Morning: Extended period of single runway operations. Closure of Taxiway F. Afternoon: poor weather conditions and medical flight. |
| 18 August | 17-19 | 5.8 * | A period of single runway operations. Closure of Taxiway F. Cross winds and a wet runway lowered the tactical rate and did not accommodate a planned runway change. |
| 23 August | 16-21 | 15.5 * | Extended period of single runway operations. Closure of Taxiway F. Lowered tactical rates at end of period. |
| 24 August | - | 7.1 * | Extended period of single runway operations. Closure of Taxiway F. Lowered tactical rates for part of day. |
| 28 August | 18-20 | 5.1 | Concentration of demand. Tactical releases offered. LAHSO was not achieved as planned for 1800 local and at 1815 local an industry teleconference was held. The consensus from the industry teleconference was to remain with the current plan and accept the increase in airborne delay for approx. 45 minutes until 2100 local. Some aircraft diversions to YPAD & YMAV. LAHSO achieved at 2037 local. |

| | | | |
|-----------|-------|-------|---|
| 30 August | 18-19 | 3.9 | Concentration of demand due to off-schedule internationals and non-compliant flights. |
| 31 August | 11-12 | 3.9 * | Extended period of single runway operations. Closure of Taxiway F. |

Table 4: Notable event descriptions for Melbourne.

CTOT variations

Variations from CTOT at Melbourne from 0600-2300 local are the focus of this section due to notable events evident at almost any time of day at some point during the month. **Table 5** provides the flights within this period that departed either early or late with respect to their CTOTs (-5 to +15 minutes). Flights that appear at least twice (early) or five times (late) have been included. This facilitates collaboration to identify patterns and causes of delay.

The CTOT against the ATOT (actual take off time) measure is used as a proxy until the COBT (calculated off blocks time) against AOBT (actual off blocks time) can be routinely reported on.

| CTOT Variation | ACID | ADEP | Local - ALDT HOUR | | |
|----------------|---------|---------------|-------------------|---|----|
| Early | JST665 | Ayers Rock | 15 | ■ | 8 |
| | QLK286D | Launceston | 18 | ■ | 5 |
| | JTE7485 | Adelaide | 21 | ■ | 3 |
| | QLK58D | Devonport | 18 | ■ | 3 |
| | QLK282D | Launceston | 11 | ■ | 3 |
| | RXA3574 | YWYY | 17 | ■ | 3 |
| | RXA3657 | Mildura | 11 | ■ | 3 |
| | RXA3772 | Mount Gambier | 18 | ■ | 3 |
| | JST441 | Gold Coast | 18 | ■ | 2 |
| | QFA688 | Adelaide | 19 | ■ | 2 |
| | QLK58D | Devonport | 17 | ■ | 2 |
| | QLK77D | Mildura | 7 | ■ | 2 |
| | RXA3653 | Mildura | 7 | ■ | 2 |
| | RXA3685 | Mildura | 19 | ■ | 2 |
| | RXA3752 | Mount Gambier | 8 | ■ | 2 |
| | TGG663 | Canberra | 18 | ■ | 2 |
| Late | VOZ1508 | YBSU | 15 | ■ | 14 |
| | JST712 | Hobart | 16 | ■ | 11 |
| | QFA839 | Darwin | 17 | ■ | 10 |
| | JST437 | Gold Coast | 15 | ■ | 9 |
| | VOZ318 | Brisbane | 11 | ■ | 9 |
| | VOZ830 | Sydney | 11 | ■ | 9 |
| | JST797 | YBSU | 22 | ■ | 8 |
| | QFA421 | Sydney | 11 | ■ | 8 |
| | TGG541 | Brisbane | 22 | ■ | 8 |
| | JST521 | Sydney | 18 | ■ | 6 |
| | JST525 | Sydney | 21 | ■ | 6 |
| | QFA415 | Sydney | 9 | ■ | 6 |
| | QFA423 | Sydney | 11 | ■ | 6 |
| | QFA441 | Sydney | 16 | ■ | 6 |
| | QFA447 | Sydney | 17 | ■ | 6 |
| | QFA465 | Sydney | 20 | ■ | 6 |
| | QFA881 | Gold Coast | 14 | ■ | 6 |
| | TGG241 | Sydney | 14 | ■ | 6 |
| | TGG504 | Hobart | 17 | ■ | 6 |
| | VOZ352 | Brisbane | 21 | ■ | 6 |
| | VOZ738 | Gold Coast | 14 | ■ | 6 |
| | VOZ740 | Gold Coast | 15 | ■ | 6 |
| | VOZ878 | Sydney | 20 | ■ | 6 |
| | VOZ1510 | YBSU | 16 | ■ | 6 |
| | JST515 | Sydney | 16 | ■ | 5 |
| | JST523 | Sydney | 20 | ■ | 5 |
| | JST708 | Hobart | 14 | ■ | 5 |
| | QFA425 | Sydney | 12 | ■ | 5 |
| | QFA427 | Sydney | 12 | ■ | 5 |
| | QFA459 | Sydney | 19 | ■ | 5 |
| | QFA491 | Sydney | 22 | ■ | 5 |
| | QFA703 | Cairns | 17 | ■ | 5 |
| | TGG229 | Sydney | 12 | ■ | 5 |
| | VOZ834 | Sydney | 12 | ■ | 5 |
| 13 | | | ■ | 5 | |
| VOZ842 | Sydney | 15 | ■ | 5 | |
| VOZ854 | Sydney | 17 | ■ | 5 | |

Table 5: CTOT variation for Melbourne arrivals 0600-2300 local – August 2019. Number of occasions that each flight departed early or late with respect to its CTOTs (-5 to +15 minutes).

Brisbane

Airborne delay

The 75th percentile performance figures for airborne delay at Brisbane are indicated in **Figure 10**. August performance did not meet the target for the median (1.0 minutes) or the 75th percentile (3.7 minutes). Compared to the same month last year, there was a decrease in the airborne delay median performance (from 1.2 minutes) and 75th percentile (from 4.1 minutes).

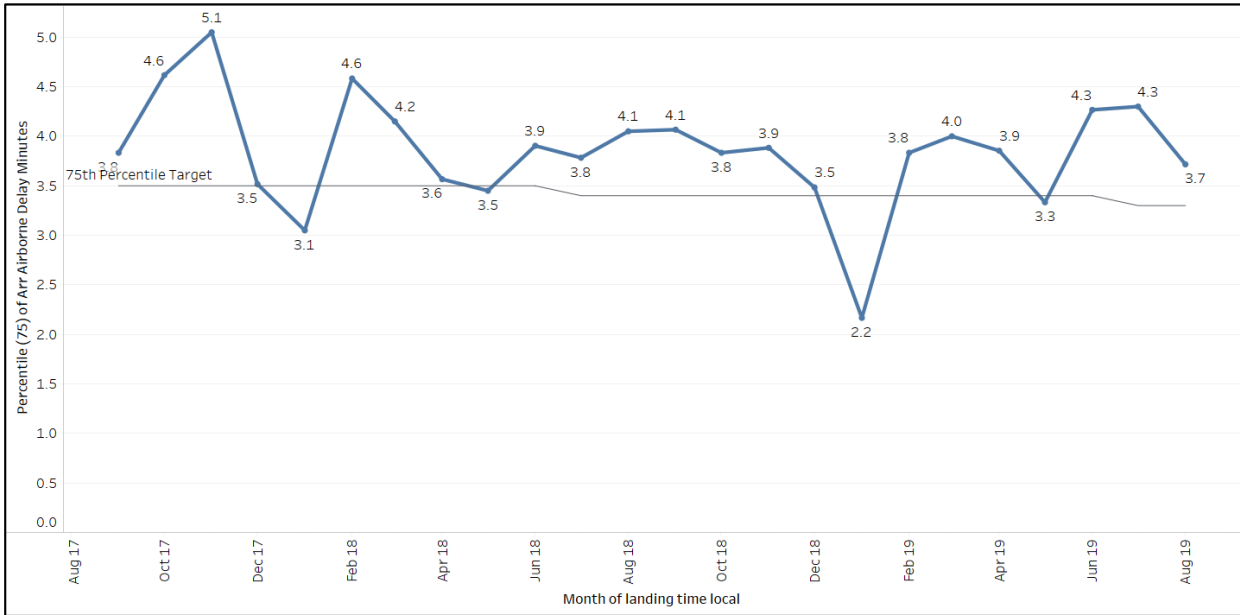


Figure 10: Brisbane airborne delay 75th percentile (last 24 months)

Notable events

Table 6 describes the notable airborne delay events during August in Brisbane.

| Day | Local Time | Delay (minutes – 75 th percentile) | Event Descriptions <i>(Contributing causes to increased delays)</i> |
|-----------|------------|---|---|
| August 9 | 16-17 | 5.7 | Concentration of demand due to off-schedule internationals and non-compliant flights. |
| August 14 | 18-19 | 4.8 | Concentration of demand due to off-schedule internationals and non-compliant flights. |
| August 19 | 07-08 | 4.7 | Ground stop and Level 2 Revision due to fog. Additional airborne delay due to aircraft waiting to depart. |
| August 22 | 19-20 | 5.1 | Concentration of demand due to off-schedule internationals and non-compliant flights. |

Table 6: Notable event descriptions for Brisbane.

CTOT variations

Variations from CTOT at Brisbane from 0600-2300 local are the focus of this section to be consistent with Sydney and Melbourne which each had notable events at various time periods across the day. **Table 7** provides the flights within this period that departed either early or late with respect to their CTOTs (-5 to +15 minutes). Flights that appear at least twice (early) or five times (late) have been included in the table below. This facilitates collaboration to identify patterns and causes of delay.

The CTOT against the ATOT (actual take off time) measure is used as a proxy until the COBT (calculated off blocks time) against AOBT (actual off blocks time) can be routinely reported on.

| CTOT Variation | ACID | ADEP | Local - ALDT HOUR | | |
|----------------|---------|-------------|-------------------|----|---|
| Early | SKP738 | YCCA | 17 | ■ | 8 |
| | QLK323 | Bundaberg | 10 | ■ | 4 |
| | QLK319 | Bundaberg | 7 | ■ | 3 |
| | QLK327 | Bundaberg | 13 | ■ | 2 |
| | QLK517D | Mackay | 16 | ■ | 2 |
| | RXA5632 | Toowoomba | 16 | ■ | 2 |
| | RXA5661 | Toowoomba | 16 | ■ | 2 |
| | UJS | Toowoomba | 19 | ■ | 2 |
| | VEO | Dubbo | 18 | ■ | 2 |
| | | YBSU | 15 | ■ | 2 |
| | | YSTW | 19 | ■ | 2 |
| | VEU | YIVL | 15 | ■ | 2 |
| | VOZ786 | Cairns | 18 | ■ | 2 |
| | VOZ1101 | Williamtown | 8 | ■ | 2 |
| | VOZ2972 | Bundaberg | 15 | ■ | 2 |
| | Late | QFA825 | Darwin | 17 | ■ |
| QFA632 | | Melbourne | 20 | ■ | 8 |
| QFA626 | | Melbourne | 18 | ■ | 7 |
| TGG518 | | Melbourne | 11 | ■ | 7 |
| VOZ333 | | Melbourne | 17 | ■ | 7 |
| VOZ705 | | Hobart | 16 | ■ | 7 |
| JST576 | | Melbourne | 20 | ■ | 6 |
| JST935 | | Cairns | 16 | ■ | 6 |
| QFA512 | | Sydney | 10 | ■ | 6 |
| QFA608 | | Melbourne | 10 | ■ | 6 |
| QFA610 | | Melbourne | 11 | ■ | 6 |
| QFA624 | | Melbourne | 17 | ■ | 6 |
| QFA628 | | Melbourne | 19 | ■ | 6 |
| VOZ341 | | Melbourne | 19 | ■ | 6 |
| VOZ1405 | | Adelaide | 21 | ■ | 6 |
| JST820 | | Sydney | 21 | ■ | 5 |
| VOZ337 | | Melbourne | 18 | ■ | 5 |

Table 7: CTOT variation for Brisbane arrivals 0600-2300 local – August 2019. Number of occasions (minimum two early; minimum five late) that each flight departed early or late with respect to its CTOT (-5 to +15 minutes)

Perth

Airborne delay

The 75th percentile performance figures for airborne delay at Perth are indicated in **Figure 11**. August performance for the median (-0.1 minutes) and the 75th percentile (2.4 minutes) met the targets. Compared to the same month last year, there was an increase in the airborne delay median performance (from -0.3 minutes) and 75th percentile performance (from 1.6 minutes).

The 24-month trend for airborne delay at Perth is upwards.

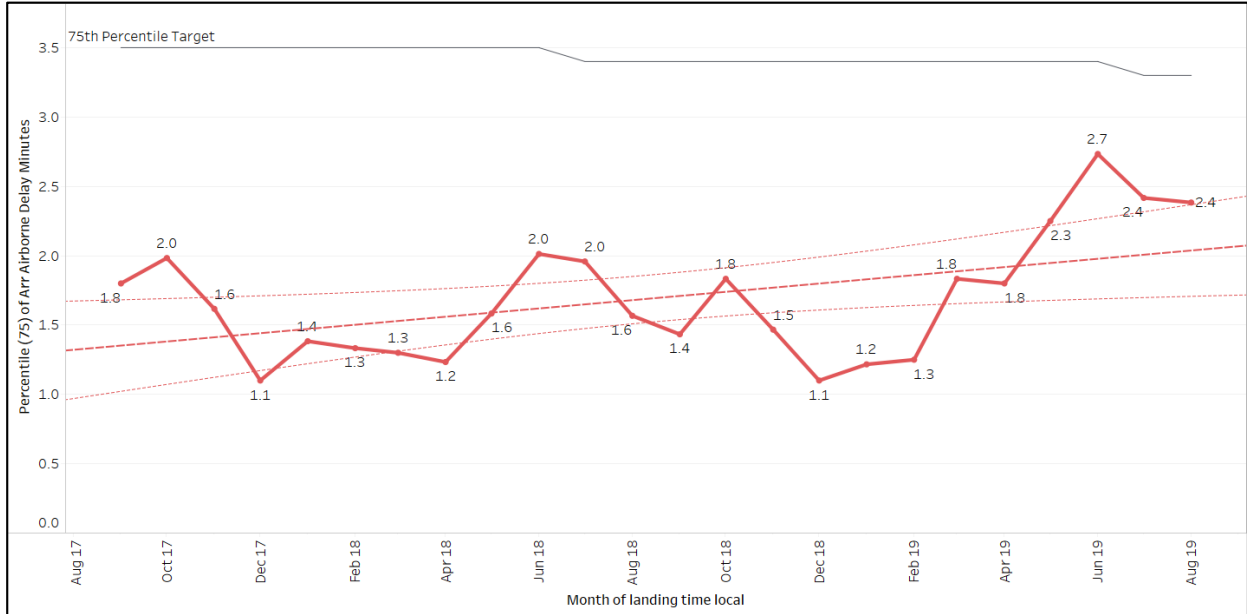


Figure 11: Perth airborne delay 75th percentile (last 24 months)

Notable events

Table 8 describes the notable airborne delay events during August in Perth.

| Day | Local Time | Delay (minutes – 75 th percentile) | Event Descriptions (Contributing causes to increased delays) |
|-----------|------------|---|--|
| 5 August | 13-14 | 3.4 | Showers and thunderstorm – staff off ramps. |
| 8 August | 10-11 | 4.4 | Concentration of demand due to off-schedule internationals and non-compliant flights. |
| 16 August | 18-19 | 4.7 | Thunderstorm, heavy showers, reduced visibility – multiple go-arounds. 15-20 minutes of no approaches. |
| 29 August | 10-11 | 4.3 | Low cloud, aircraft with radio failure. |

Table 8: Notable event descriptions for Perth.

Appendix A

Corporate Plan Key Performance Indicator Profile: Arrival airborne delay

Corporate Plan Description:

The median (and 75th percentile) excess time incurred during the arrival airborne phase of flight in reference to the estimated time of arrival for high-volume operations. (High volume operating environments defined as Brisbane, Melbourne, Perth and Sydney).

Corporate Plan Targets:

| Year | 18/19 | 19/20 | 20/21 | 21/22 |
|--------|-------|-------|-------|-------|
| 75% | 3.4 | 3.3 | 3.2 | 3.1 |
| Median | 0.6 | 0.6 | 0.6 | 0.6 |

What is it: Excess time incurred during the arrival phase of flight.

What is measured: It is measured by comparing the estimated flight time and actual flight time for the portion of the flight within 250 NM of the destination aerodrome.

Why 250NM: The 250NM threshold has been identified as the distance from the aerodrome at which tactical arrival demand/capacity balancing measures start taking effect. It is a true reflection of the tactical arrival management of the flight, and is not skewed by other non-related issues such as congestion at the departure aerodrome.

Why measure Median rather than Average/Mean: In some cases, the actual flight time within 250NM of the destination aerodrome will be less than the estimated flight time (e.g.: ATC has provide track shortening). In the dataset, this translates into a 'negative' value for that particular flight.

The Median shows the mid-point of the data set and allows us to demonstrate our impact on all flights, not just the ones that were delayed. Additionally, over short timeframes and small datasets (such as a daily report), Median measurement is more resilient to data errors and small groups of outliers which may skew the average.

Why measure the 75th percentile: This supplements the Median and is valuable to demonstrate how effectively we have managed the arrival of most of the fleet.

The last 25th percentile can typically contain arrival data from flights that were impacted by non-routine events, such as Medical priority traffic or aircraft in an emergency or diversion.

How do we measure:

Uses the high-fidelity Dalí aircraft trajectory model. For Sydney, some assumptions are built in to calculations as the actual flight path is unique for each flight (open STARs).