# MITRE Air Traffic Update: Peak-Hour Arrivals

February 2021

## Can Airports with Reduced Traffic Still Have Busy Hours of the Day?

While passenger air travel is down nationwide due to the COVID-19 pandemic, the impact on specific airports around the country is uneven. Traffic levels presumably vary depending on local travel restrictions and COVID infection rates, as well as the share of cargo and international flights that individual airports typically see.[1] Most U.S. airports are seeing around 50% - 60% of their typical flights, with some are as low as 25%, and others as high as 75%.

Does this mean that the lower the traffic level, the quieter the airport? The answer is mostly, but not always.

If an airline is using an airport as a hub for connecting passengers, that airline will typically schedule a *bank* of flights arriving within a few minutes of each other. Once passengers have had an opportunity to change planes, those flights are then scheduled to depart within a few minutes of each other, too. The "peakiness" of these arrival and departure banks can impact local airport congestion at certain times of the day.

**Flights in and out of hub airports are often scheduled close together to help passengers connect. This can lead to busy periods throughout the day, even if traffic is low overall.**

[1] Cargo flights are running at or above their levels last year, while international passenger flights are down disproportionately more than domestic flights.

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Figure 1 shows the average number of arrivals every 15 minutes at Chicago's O'Hare Airport (ORD) during the middle of December. Arrivals are illustrated by the yellow bars. The chart also shows a calculated 15-minure arrival rate shown as a line across the top of the chart.[2] The AAR specifies the number of arrival aircraft that an airport, in conjunction with terminal airspace, can accept under specific conditions throughout any consecutive period. If the number of arriving flights is greater than the AAR for a time-period, those flights may experience some delays relative to their scheduled arrival times.

In the case of Chicago O'Hare during the week of December 13 - 19, 2020, we see four distinct arrival banks, roughly clustered around 6:00 AM, 8:00 AM, 11:00 AM, and 4:00 PM. The rest of the day is relatively quiet. In fact, overall arrivals at Chicago O'Hare were only about 55% of their levels in December of 2019. Nevertheless, we can still observe arrival peaks that approach or exceed the 15-minute AAR for brief periods.

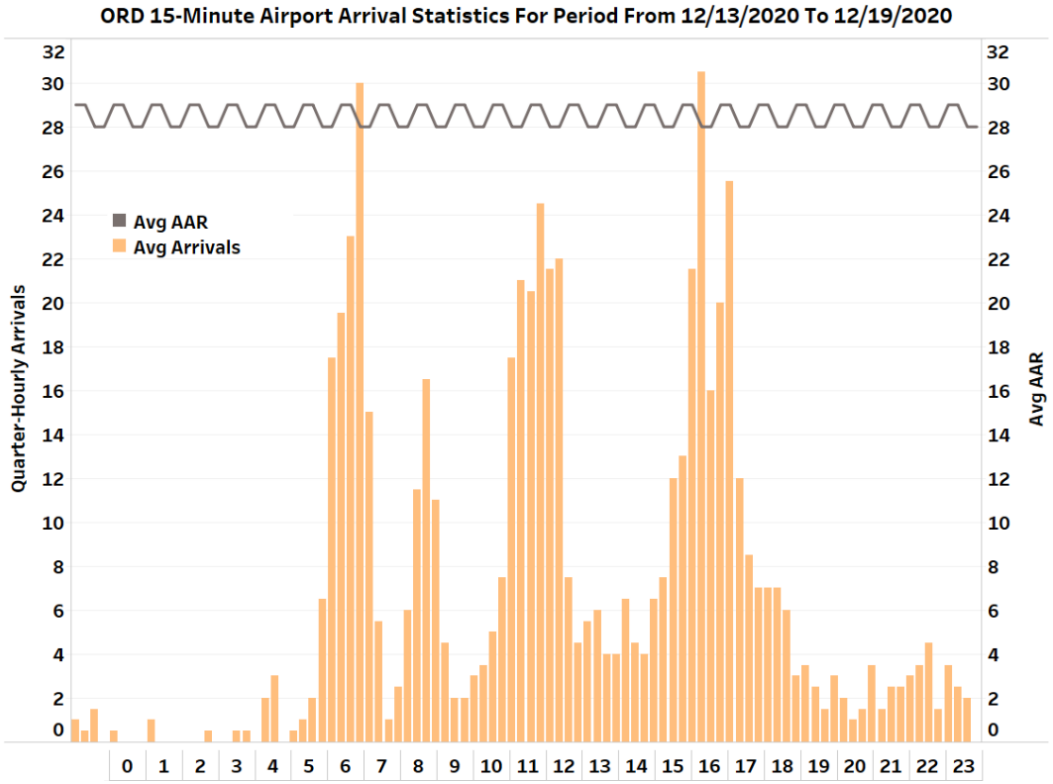


**Figure 1**

We should note that while the majority of U.S. airports do not exhibit this sharp contrast between steep arrival banks and low levels of overall traffic, neither is O'Hare unique. Airports such as Newark Liberty (EWR), Philadelphia International (PHL), and Houston Intercontinental (IAH) are all hub airports whose traffic is 50% - 60% of their pre-pandemic levels, but which have concentrated peaks of arrivals throughout the day.

In normal times, steep banks of arriving flights can cause arrival delays. While we have not seen many delays this year, even during the holiday season, it is conceivable that delays may return at some airports even before traffic is fully recovered.

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[2] The 15-minute AAR varies between 28 and 29 because the hourly rate of 114 is not equally divisible by 4.