

The global impact of COVID-19 on commercial flights

The COVID-19 pandemic has had a monumental impact on air travel, which has shaken how airlines schedule their flights. Cirium joins CANSO to cover the data insights surrounding the impact on flight schedules and flights flown.

Pre-COVID-19

Before the pandemic, airlines flew 98+% of their published schedule, which was typically filed six to 11 months in advance. Schedule changes inside of four months of departure were minor in most cases and last minute changes were caused by unforeseen events like extreme weather and equipment / technical issues. Airline network planners had a clear idea of available capacity by route and ANSPs could predict incoming traffic.

The impact

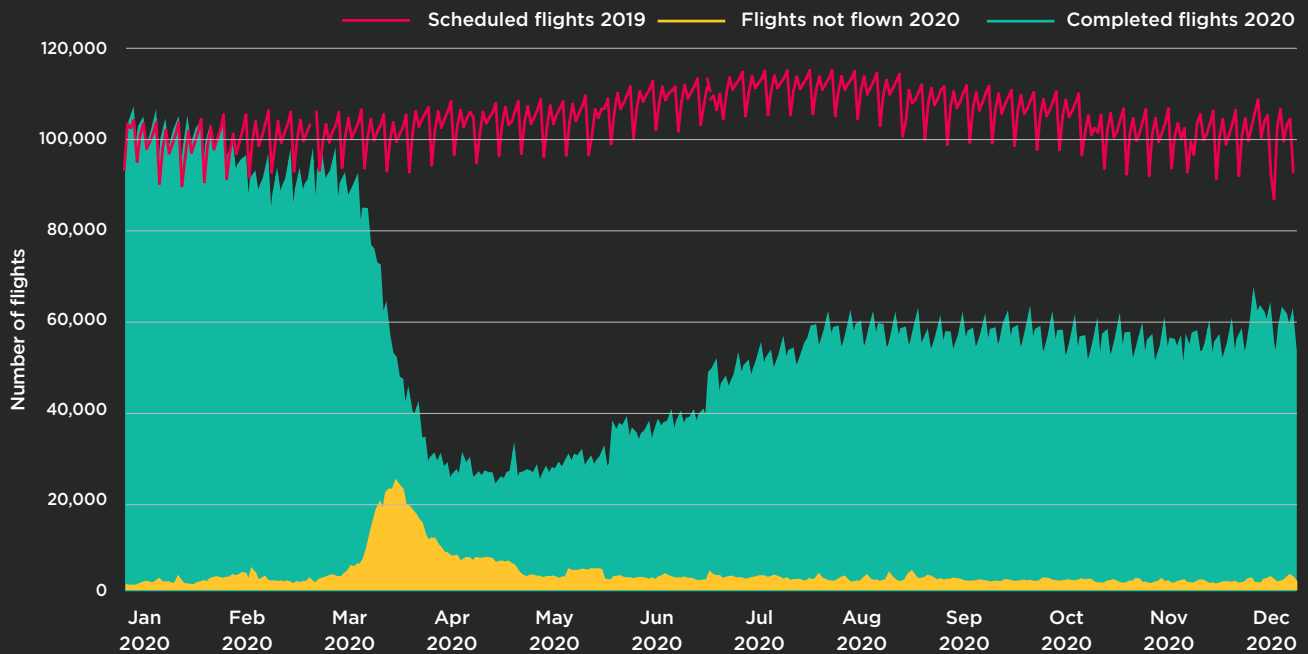
As a result of the pandemic, travel restrictions were enforced and passenger confidence to travel reduced. The airlines could not adjust their schedules quick enough and so peaks in cancellations occurred, for example in February, March and April. In 2020, global scheduled passenger flights were down 42% year-over-year (YoY) versus 2019. In addition, 154% more flights didn't fly YoY, which means the actual number of flights flown dropped by 45%.

The positive story surrounded domestic flights as they began to recover from May onwards, especially in China and the US.



	Total scheduled flights	Total flights not flown	Actual flights flown
2019	38,490,000	471,200	38,018,800
	42% drop YoY	154% uptick YoY	45% drop YoY
2020	22,214,700	1,198,400	21,016,300

Global passenger flight disruption 2020 versus 2019

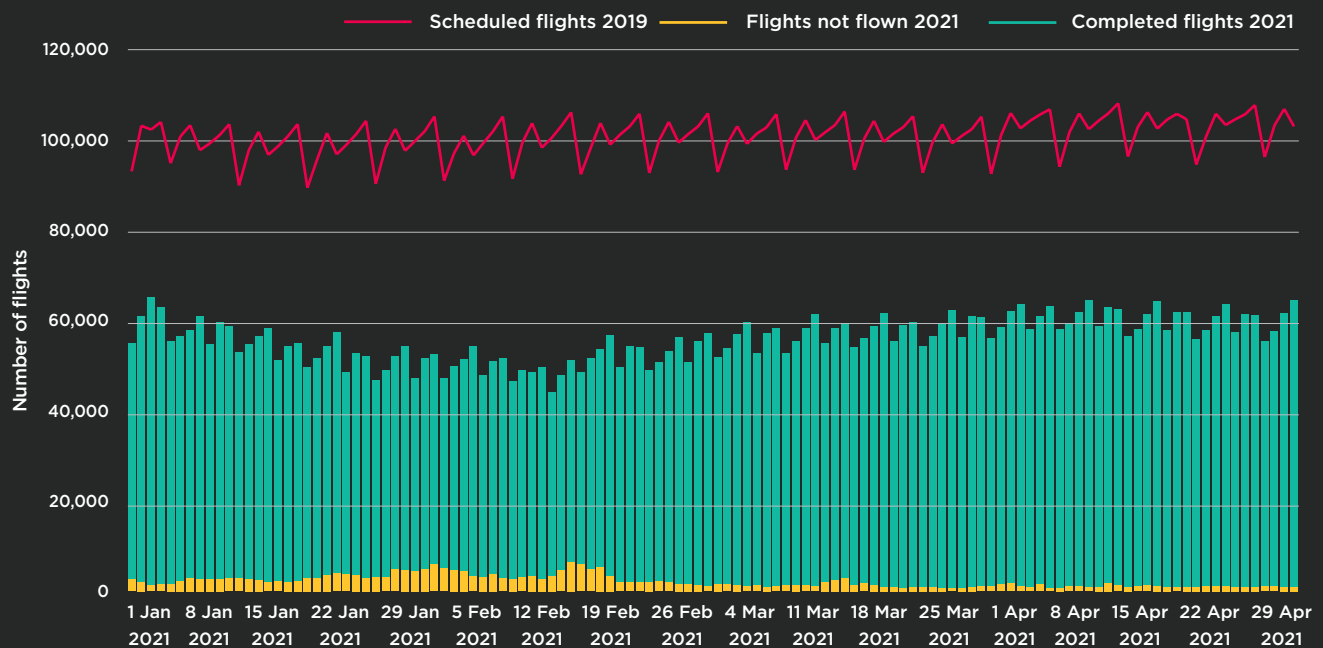


Source: The Cirium Core

The global view of flight disruption in 2020 shows the precipitous decline in flights and rapid increase in cancellations. Despite the slow return of flights globally, you can see that December closed with a huge gap versus 2019 levels.

The trend continues into 2021 as air travel is still being impacted significantly by the pandemic. If you compare the first four months of 2021 with 2019, almost half the flights were scheduled globally. The additional flights not flown / cancellations closer to the time of travel are still volatile as fluctuations in travel restrictions take place, which are highly driven by the reactions to infection rates per country.

Daily impact on flights globally, 2021 versus 2019



Source: The Cirium Core

Jan-Apr total scheduled flights		Jan-Apr total flights flown	
2019	2021	2019	2021
12,221,000	6,783,000	12,043,000	6,523,000
44% drop YoY		46% drop YoY	

Figures include all flights categorized as passenger or combi flights and aircraft types. Source: The Cirium Core

Airline network planning teams have adjusted their behavior to accommodate the changes. The flights are being scheduled four to eight weeks prior to departure versus the six to 11 month period pre-COVID-19. Schedule changes are happening as close as one week before departure and in some cases only a few days ahead. Flight cancellations are happening one to two days out, for non-operational reasons.

How can airlines and ANSPs mitigate the impact?

The traditional methods for accurately forecasting travel demand and deploying the appropriate capacity are no longer relevant. There is still a lot of uncertainty around the return of air travel, which is highly dependent on government restrictions, and also people’s willingness to travel again. However, one way airlines and ANSPs can anticipate some of the impact is through harnessing data.

Fusing the data is key, such as combining a variety of quality data sources and working with dynamic datasets for analysis to compare historical, current, and future scenarios.

Network planning and business development teams can for example, delve deeper with scenario analysis when combining the flight schedules with fleets and flight status data. The access to that data is equally important for it to be available in a format that makes sense for the systems using it.





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