

An Analysis of Mandated Flight Reductions at Orlando International Airport*

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November 2025

1 Background

1.1 Lapse in Appropriations

The federal government experienced a lapse in appropriations on September 30th, 2025, after the Senate failed to reach the super majority necessary to end cloture and vote on a spending package or continuing resolution. The lapse, referred to as a “government shutdown,” left most of the federal workforce to work without pay until after the lapse ended. During this time, this included Air Traffic Controllers, who were already short-staffed even before the shutdown. This put stress on the already fragile air traffic control system, exacerbating existing staffing shortages and raising concerns about controller fatigue, operational safety, and growing delays throughout the National Airspace System.

1.2 Schedule Reduction Orders

On November 6th, 2025, the Department of Transportation (DOT) and Federal Aviation Administration (FAA) invoked the National Environmental Policy Act¹ to issue an emergency order mandating schedule reductions by 10%.² The order was structured in phases to give air carriers time to adapt while addressing the strain that the shutdown imposed on the National Airspace System.

Rather than requiring 10% reductions immediately, the order imposed schedule reductions in phases over 7 days at 40 high-density airports. Carriers were required to achieve a 4% reduction in operations by 6:00 a.m. EST on November 7, 2025, a 6% reduction by November 11, an 8% reduction by November 13, and

* Preprint

¹ 42 U.S.C. §§ 4321, et seq.

² Federal Aviation Administration. *Emergency Order Establishing Operating Limitations on the Use of Navigable Airspace*. Notice in the Federal Register, 90 FR 50884 (11/12/2025). Effective November 7 2025; Document No. 2025-19850, Nov. 2025. <https://www.federalregister.gov/d/2025-19850/>.

the full 10% reduction by 6:00 a.m. EST on November 14, 2025. Airlines were directed to submit their planned reductions to the FAA daily, leaving carriers little advance notice to consolidate frequencies and re-time operations in order to comply with the mandate.

On November 12th, on the eve of the government re-opening and just shy of the 10% cancellation mandate, the FAA issued revised guidance freezing schedule reductions to only 6%.³ Two days later, on November 14th, the FAA cut the mandate to 2%,⁴ and then finally on November 16th, 2025, the FAA announced the elimination of the mandate all together⁵ and called on air carriers to return to normal operations.

1.3 About Orlando International Airport

Orlando International Airport (MCO) is the ninth busiest airport in the United States⁶ by enplanements⁷ and busiest in Florida, serving well over 57 million passengers annually to over 170 non-stop domestic and international destinations. Up until 2007, it also served as a hub for Delta Air Lines (DL) and still operates a significant number of non-hub-to-hub trips through MCO.⁸ It also serves as an operating base for Breeze Airways (MX), Frontier Airlines (F9), Southwest Airlines (WN) and Spirit Airlines (NK), a focus city for JetBlue Airlines (B6), and a maintenance base for United Airlines (UA). Besides the tourism market from the nearby city of Orlando propelling passenger traffic through MCO, several airlines run connecting itineraries through MCO (especially WN). MCO was one of the 40 high-density airports identified by the FAA's flight reduction mandate.

³Federal Aviation Administration. *Cancellation and Replacement of Emergency Order Establishing Operating Limitations on the Use of Navigable Airspace*. Notice in the Federal Register, 90 FR 51426 (11/17/2025). Effective November 13 2025; Document No. 2025-19986, Nov. 2025. <https://www.federalregister.gov/documents/2025/11/17/2025-19986/cancellation-and-replacement-of-emergency-order-establishing-operating-limitations-on-the-use-of>.

⁴Federal Aviation Administration. *Addendum to November 12, 2025 Cancellation and Replacement of Emergency Order Establishing Operating Limitations on the Use of Navigable Airspace*. Addendum issued by the Federal Aviation Administration, Nov. 14, 2025. <https://www.faa.gov/newsroom/November-14-Addendum.pdf>.

⁵Federal Aviation Administration. *Cancellation of Emergency Order Establishing Operating Limitations on the Use of Navigable Airspace*. Unpublished order issued by the Federal Aviation Administration. Effective November 16, 2025. Nov. 16, 2025. <https://www.faa.gov/newsroom/Cancellation-of-Emergency-Order.pdf>.

⁶Federal Aviation Administration. *CY 2024 Enplanements at All Commercial Service Airports (by Rank)*. PDF report. Accessed 2025-11-18. Federal Aviation Administration, Oct. 12, 2025. https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger/arp-cy2024-commercial-service-enplanements.pdf.

⁷Enplanements is the total number of revenue passengers who board an aircraft at a specific airport in a given period, including both origin and connecting passengers.

⁸Delta Air Lines announced 7 new and unique routes in June 2025 from MCO, going to destinations like Cincinnati, Raleigh-Durham, and other smaller markets and recently served some international markets like direct trips to London Heathrow. This is definitely unusual for a non-hub.

2 Objective

This report evaluates the operational impact of the FAA's November 2025 emergency schedule reduction order by analyzing cancellations to and from MCO. MCO was selected for analysis in this report because it is a major non-hub connecting airport with high leisure demand and is serviced by every large U.S. carrier, making it a sensitive indicator of system-wide stress. Since it was selected as one of the 40 high-density airports in the order, it is useful to analyze the impacts of the order it was named in.

The analysis quantifies the scale and timing of cancellations, identifies which airlines and routes absorbed the greatest reductions, and estimates the number of passenger seats removed from the system during the mandate period.

3 Data Collection and Methods

3.1 Flight Schedule Data

The flight schedules for Orlando International Airport (MCO) was obtained from the official API of the Greater Orlando Aviation Authority (GOAA)⁹, which powers the departure and arrival boards on flymco.com. A rolling 72-hour ingest window was implemented: every three minutes, the application queried the endpoint

```
https://api.goaa.aero/flights?scheduledTimestamp={start_epoch}..{end_epoch}
```

with `{start_epoch}` and `{end_epoch}` set to cover all scheduled flights within the current three-day window. Because this feed is operated by GOAA, the data are treated as an authoritative source for flight schedules and status at MCO.

All returned flight records were normalized and stored in a SQLite database stored on my server. Each polling cycle upserted records so that status changes (e.g., from "scheduled" to "canceled") were captured over time. For analysis purposes, cancellations were treated as irreversible events: once a flight was observed as canceled, it was retained as canceled in the dataset indefinitely.¹⁰ The SQLite database then served as the backend for computing live metrics and driving real-time charts and tables on the web dashboard.

3.2 Live Dashboard and Data Pipeline

The web dashboard and data pipeline were written entirely in Python. NiceGUI was used to generate the live web interface, while Matplotlib and pandas pow-

⁹Greater Orlando Aviation Authority. *Orlando International Airport Flight Statuses*. API provided by the Greater Orlando Aviation Authority. Data retrieved via API; accessed 2025-11-17, 2025. <https://api.goaa.aero/flights>.

¹⁰In some rare cases, airlines changed the flight number for routes they've initially canceled but ended up flying an additional "section" the following day to rescue stranded passengers. This occurs rarely in the data. For the purposes of this analysis, we will consider these flights still canceled, since the airline technically is operating an additional flight, not the flight that was canceled.

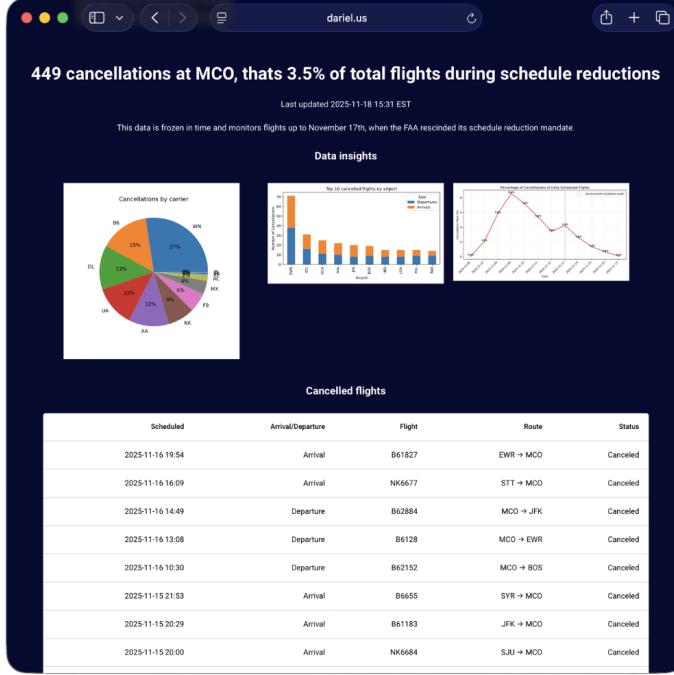


Figure 1: A screenshot of the live dashboard used to track cancellations at MCO on my website: https://www.daniel.us/projects/mco_faa_reduction

ered all data visualizations. The application was served as a lightweight containerized web service and hosted on a Linux-based virtual private server (VPS), where it continuously ingested data, updated the SQLite database through SQL statements, and rendered real-time cancellation metrics accessible via a browser. The dashboard was embedded in my static website underneath an article I had written on the topic.

3.3 Estimating Seats Canceled

To quantify the passenger impact of disruptions, additional enrichment of the data was performed using FlightAware’s AeroAPI¹¹ to identify aircraft types that were supposed to fly each canceled flight. If a flight wasn’t canceled, this data was not collected. These aircraft types were matched to seat configuration data from *SeatMaps*, an online platform that supplies seat maps for aircraft configurations.¹² When multiple seat configurations existed for a given airline, the variant with the smallest seat count was used for the core calculations,

¹¹FlightAware. *AeroAPI*. API provided by FlightAware. Data retrieved via API; accessed 2025-11-17, 2025. <https://www.flightradar24.com/commercial/aeroapi/>.

¹²SeatMaps.com. *SeatMaps*. Website. Accessed 2025-11-18, 2025. <https://seatmaps.com/>.

and the dataset also records minimum and maximum possible seat counts for sensitivity analysis.

3.4 Data and Codebook

The final data set and codebook, including all ingested flights (canceled and uncanceled), cancellation flags, seat cancellation estimates, and various pivot tables, are available for download at <https://github.com/cruzdariel/faa-schedule-mandate-report/>.

4 Findings and Discussion

4.1 Overall cancellation volume

Between the analysis period November 6, the first day of schedule reductions, and November 17, 2025, the last day of schedule reductions, a total of 449 flights to and from MCO were observed to be “canceled.” This represents 3.5% of all scheduled flights during the analysis period.¹³ Because the dataset counts both arrivals and departures, each cancellation reflects a lost airport movement at MCO.

- 229 of those cancellations were flights to MCO (arrivals). This represents 3.3% of all scheduled arrivals during the analysis period.
- 220 of those cancellations were flights from MCO (departures). This represents 3.2% of all scheduled departures during the analysis period.

Cancellations were uneven over the period, Figure 2 illustrates this. They started near zero on November 6, the first day of the mandate (0.1%), then climbed rapidly to a peak of 8.6% on November 9. Rates then declined steadily, dropping to 3.5% by November 12, 2.6% on November 14, and returning to baseline levels ($\approx 0.1\%$) by November 17. It’s important to note that on November 13th, the government re-opened. Despite the government re-opening, airlines were still subject to a revised mandate from the FAA to reduce at least 6% of their schedules until November 16th, when the agency abruptly rescinded their order. Airlines were hesitant to cancel additional flights post-government shutdown, and gradually wind down their flight reduction operations on average by 1.03% per day across the 4 day post-shutdown period.

4.2 Cancellations by carrier

The distribution of cancellations was heavily concentrated among the largest operators at MCO, but it was not evenly distributed by carrier. Southwest alone accounted for 123 cancellations, 27% of all disruptions. JetBlue, Delta,

¹³There were 13871 scheduled flights during the analysis period, 6943 departures and 6928 arrivals.

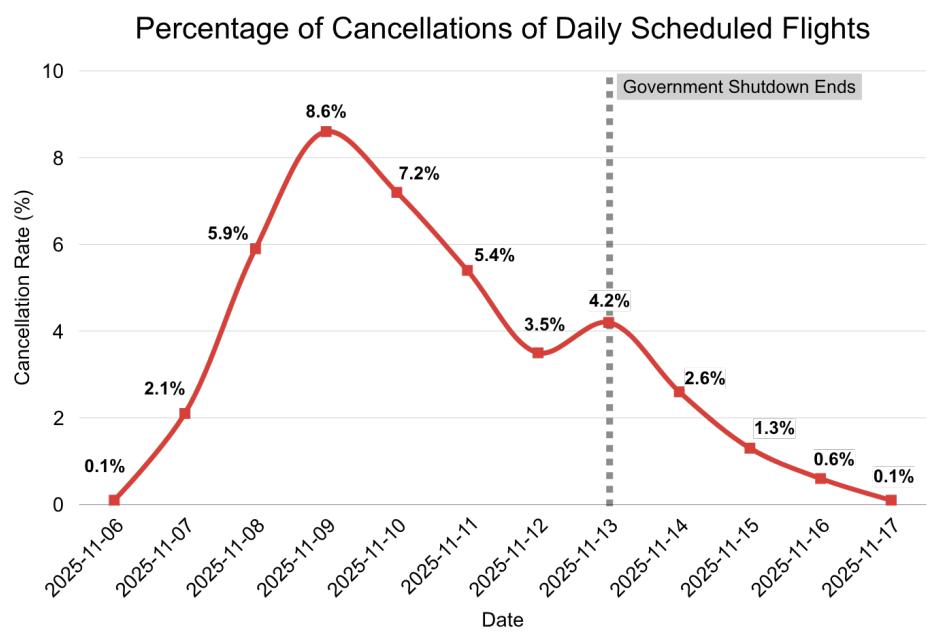


Figure 2: Percentage of daily scheduled flights that were canceled at MCO during the analysis period. Cancellations peaked on November 9th, and decreased almost linearly post-government shutdown. N=13871 total scheduled flights.

United, and American (AA)¹⁴ formed the next tier, bringing the total share of the five largest U.S. carriers to 82% of all cancellations at MCO.

This distribution very closely mirrors market share at the airport. However, the magnitude of WN's cancellations especially stands out. WN operates a point-to-point network with high aircraft utilization (multiple legs a day). This means that at MCO (a focus city for WN), individual cancellations cascade more quickly across the network. Unlike network carriers that can re-bank hubs and consolidate flights, WN must cancel whole rotations to preserve schedule integrity. This structural characteristic makes WN more vulnerable during system wide strain such as reduced ATC staffing. The widespread WN cancellations are reminiscent of their *SkySolver* meltdown in December 2022. Though the schedule reduction mandates did not arise to the severity of that meltdown, the instability of their flight scheduling model is all the same apparent.

JetBlue's second-highest cancellation count reflects a different dynamic. Although smaller than DL, UA, or AA at MCO, B6 operates a high proportion of transcontinental and Northeast-originating flights, many of which route through dense, slot-controlled airspace.¹⁵ Because the Northeast experienced the greatest operational pressure during the shutdown period, B6's exposure translated directly into outsized cancellations relative to its station size.

Analyzing cancellations by carrier more granularly, WN held the most amount of canceled flights and canceled seats, the likely amount of seats on an aircraft that could have flown a passenger had the flight not been canceled. WN had 18,728 canceled seats, almost double of its runner up B6, which had 9,912 canceled seats as shown in Table 1.

4.3 Cancellations by airport

Another way to analyze the impact of flight cancellations is to look at the route pairings of canceled flights. Disruption was highly concentrated along specific route pairs. Newark Liberty International Airport (EWR) alone accounts for 16% of all cancellations, driven by combined ATC staffing constraints in the Northeast and carrier operational decision-making. EWR cancellations at MCO were more than double the cancellations to/from ATL, in second place on Figure 4.

Interestingly however, despite EWR serving as a major hub for UA, the 71 cancellations to and from EWR were not exclusively, or even overwhelmingly for that matter, United's. Of these 71 canceled flights, UA accounts for 37 (52%), but B6 accounts for 20 ($\approx 28\%$) and NK for 14 ($\approx 20\%$), better shown in Table 2. In other words, nearly half of the cancellations on the MCO-EWR route pairing came from non-hub carriers.

¹⁴Cancellation counts for the remaining carriers are: JetBlue (66), Delta (59), United (55), and American (54)

¹⁵JetBlue's has two focus cities in the Northeast in addition to MCO already being a focus city: Boston-Logan International Airport (BOS), and New York John F. Kennedy International Airport (JFK)

Table 1: Estimated total seats on flights canceled during the analysis period by carrier by flight type.

Carrier Code	Departure Seats	Arrival Seats	Total canceled Seats
WN	9482	9246	18728
B6	4956	4956	9912
UA	4700	4960	9660
DL	4547	4522	9069
AA	3856	3856	7712
NK	2746	3961	6707
F9	2502	3348	5850
MX	1134	1134	2268
AC	607	438	1045
4Y	283	283	566
XP	189	189	378
IB	292	0	292
Total canceled Seats	35294	36893	72187

Table 2: Count of canceled flights during the analysis period between the MCO-EWR city pairing.

Carrier	canceled Flights
UA	37
B6	20
NK	14
Total	71

This mix is important for interpretation. If cancellations in the MCO-EWR city pairing were significantly caused by UA, it would make sense to infer that UA was prioritizing reductions in their hub flights of which they run multiple daily. However, the presence of a substantial B6 and NK input suggests that the constraint is at the airport-level, not airline-level. All three airlines rely on the slot-controlled EWR, and terminal resources have become scarce as of recent times due to staffing shortages. As a result, all faced pressure during the FAA mandate to reduce their schedules to EWR.

Additionally, it's noteworthy to mention that 7 out of the top 10 airports¹⁶ ranked by canceled flights to and from MCO are located in the Northeast. This geographic clustering reinforces that the surge in cancellations at MCO reflects broader constraints in the New York-Washington-Boston corridor where chronic congestion, slot controls, and reduced controller staffing interact, as reflected in Figure 3.

4.4 Conclusion

The phased schedule reductions were effective in temporarily lowering the volume of flights in the National Airspace System to and from MCO during the period of strain on air traffic control. Cancellations at MCO closely follow the timeline of the mandate, rising rapidly as they took effect, peaked at the height of the shutdown, and declined linearly after the government re-opened up to the point of the FAA rescinding its mandate all together.

Despite the controlled nature of the cancellations, it appears as if some carriers did not comply with the FAA's mandate. The agency itself said in a November 16th, 2025 news release "*the FAA is aware of reports of non-compliance by carriers over the course of the emergency order.*"¹⁷ This is worthy of analysis on a broader scale, but at MCO we can identify at least some trends that are unusual. For example, WN consistently kept the cancellation rate between 4-6% of their arrivals and departures at MCO despite it serving as a focus city (that is, many flights in its network go through MCO) while legacy carriers American and Delta spiked as high as cancelling 15% of their scheduled flights at MCO at one point as seen on November 9th in Figure 5. Despite the interesting findings, it is impossible however, to imply non-compliance of a nationwide order with an analysis only covering one of the 40 airports.

Adding to compliance, airlines did not comply uniformly at MCO. Instead, reductions were distributed according to network structure, business models, and geographic exposure. Even if Southwest's individual schedule was not impacted as much as the legacy carriers, WN absorbed the largest overall share of cancellations and seat losses, implying vulnerability of its high-utilization

¹⁶In order as they appear: EWR, DCA, JFK, BOS, LGA, PHL, BWI

¹⁷Federal Aviation Administration. *FAA Announces Termination of Emergency Order — Return to Normal Operations.* News release. Accessed 2025-11-18, Nov. 2025. <https://www.faa.gov/newsroom/dot-faa-announce-termination-faa-emergency-order-return-normal-operations>.

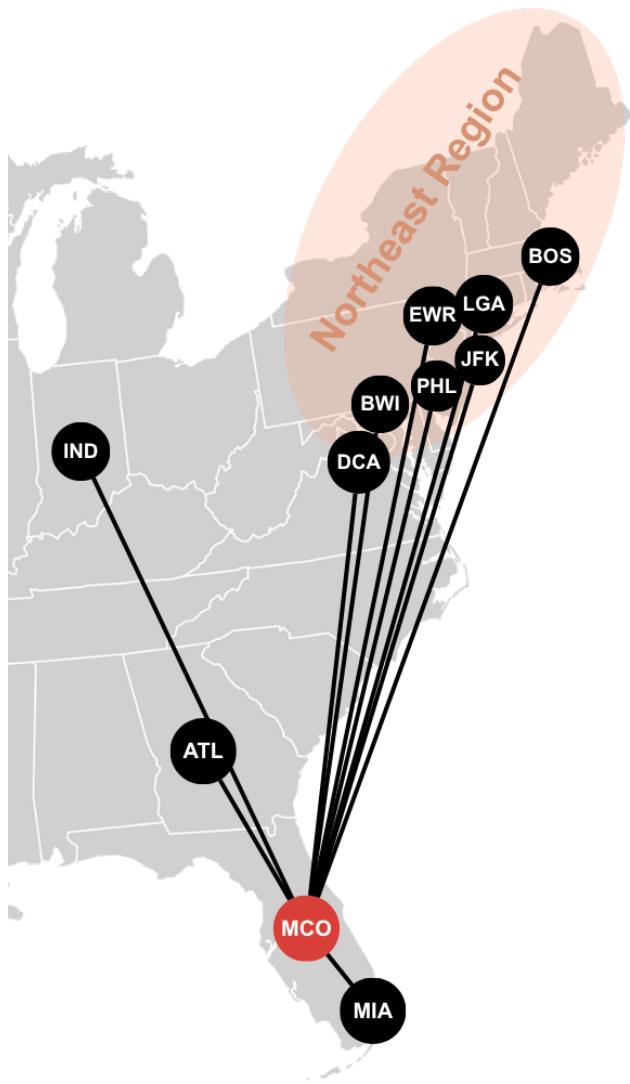


Figure 3: Top 10 destination/arrival airports at MCO with canceled flights during the analysis period, plotted geographically along the east coast.

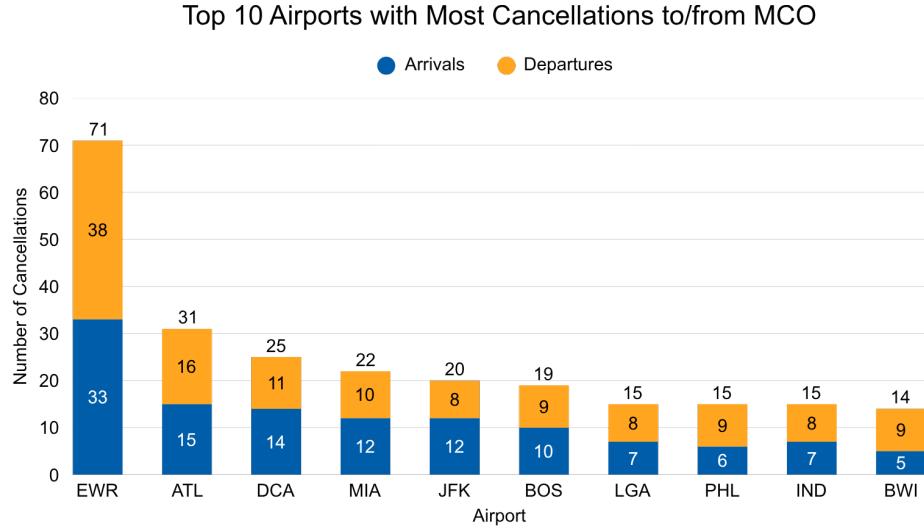


Figure 4: Top 10 canceled flights by airport other than MCO, split between flight type

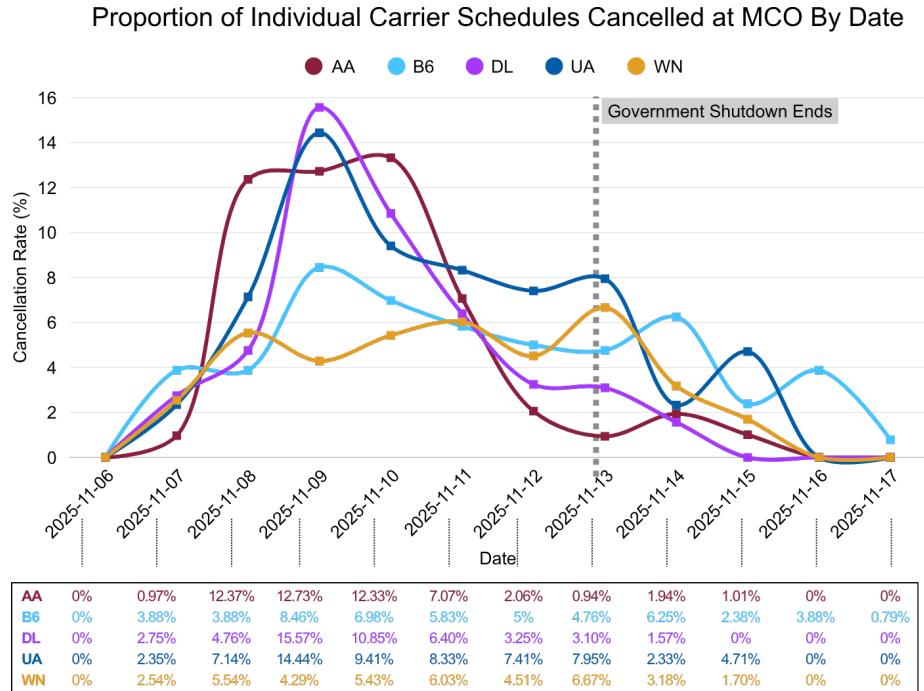


Figure 5: Proportion of the top 5 individual carrier's schedules to/from MCO canceled per day. Legacy carriers had to cancel their schedules at a much larger proportion than WN, but recovered faster than WN and B6 after the 11/9 peak.

Date	AA	B6	DL	UA	WN
2025-11-06	92	115	100	73	266
2025-11-07	103	129	109	85	315
2025-11-08	97	129	105	84	361
2025-11-09	110	130	122	90	303
2025-11-10	105	129	129	85	313
2025-11-11	99	120	125	84	282
2025-11-12	97	120	123	81	288
2025-11-13	106	126	129	88	285
2025-11-14	103	128	127	86	314
2025-11-15	99	126	120	85	352
2025-11-16	109	129	122	85	297
2025-11-17	103	126	130	84	282
Total Flights	1223	1507	1441	1010	3658

Table 3: Total flights scheduled by the top 5 individual carriers to/from MCO per day.

point-to-point network and large-scale operation at MCO.¹⁸ Meanwhile, legacy carriers with hub-and-spoke flexibility were able to spread reductions across multiple frequencies, resulting in a faster recovery after the November 9th peak, as Figure 5 shows.

Finally, the geographic structure of the disruptions makes clear that MCO’s cancellation rate was not caused by local conditions. As you can see in Figure 3 , seven of the ten most affected origin-destination airports were in the Northeast Corridor, and nearly half of cancellations on the most disrupted city pairing MCO–EWR came from non-hub carriers. This pattern is consistent with a national ATC capacity crisis that propagated through MCO out of the Northeast. As soon as nationwide staffing and regulatory pressure eased, cancellations at MCO collapsed back to baseline, confirming the former.

Although this report cannot determine the effects of the schedule reduction order across all 40 named airports, the MCO case illustrates how non-hub airports can act as indicators of national ATC stress.

References

Federal Aviation Administration. *Addendum to November 12, 2025 Cancellation and Replacement of Emergency Order Establishing Operating Limitations on the Use of Navigable Airspace*. Addendum issued by the Federal Aviation Ad-

¹⁸WN operates on a point-to-point network, unlike legacy carriers which operate on a hub-and-spoke network. In a point-to-point network, airlines schedule nonstop flights directly between many city pairs and occasionally schedule stopovers in focus cities, whereas in a hub-and-spoke network, flights go through one or more hub airports where passengers and aircraft connect.

ministration, Nov. 14, 2025. <https://www.faa.gov/newsroom/November-14-Addendum.pdf>.

- . *Cancellation and Replacement of Emergency Order Establishing Operating Limitations on the Use of Navigable Airspace.* Notice in the Federal Register, 90 FR 51426 (11/17/2025). Effective November 13 2025; Document No. 2025-19986, Nov. 2025. <https://www.federalregister.gov/documents/2025/11/17/2025-19986/cancellation-and-replacement-of-emergency-order-establishing-operating-limitations-on-the-use-of>.
- . *Cancellation of Emergency Order Establishing Operating Limitations on the Use of Navigable Airspace.* Unpublished order issued by the Federal Aviation Administration. Effective November 16, 2025. Nov. 16, 2025. <https://www.faa.gov/newsroom/Cancellation-of-Emergency-Order.pdf>.
- . *CY 2024 Enplanements at All Commercial Service Airports (by Rank).* PDF report. Accessed 2025-11-18. Federal Aviation Administration, Oct. 12, 2025. https://www.faa.gov/airports/planning_capacity/passenger_allcargo_stats/passenger/arp-cy2024-commercial-service-enplanements.pdf.
- . *Emergency Order Establishing Operating Limitations on the Use of Navigable Airspace.* Notice in the Federal Register, 90 FR 50884 (11/12/2025). Effective November 7 2025; Document No. 2025-19850, Nov. 2025. <https://www.federalregister.gov/d/2025-19850/>.
- . *FAA Announces Termination of Emergency Order — Return to Normal Operations.* News release. Accessed 2025-11-18, Nov. 2025. <https://www.faa.gov/newsroom/dot-faa-announce-termination-faa-emergency-order-return-normal-operations>.

FlightAware. *AeroAPI.* API provided by FlightAware. Data retrieved via API; accessed 2025-11-17, 2025. <https://www.flightradar24.com/commercial/aeroapi/>.

Greater Orlando Aviation Authority. *Orlando International Airport Flight Statuses.* API provided by the Greater Orlando Aviation Authority. Data retrieved via API; accessed 2025-11-17, 2025. <https://api.goaa.aero/flights>.

SeatMaps.com. *SeatMaps.* Website. Accessed 2025-11-18, 2025. <https://seatmaps.com/>.