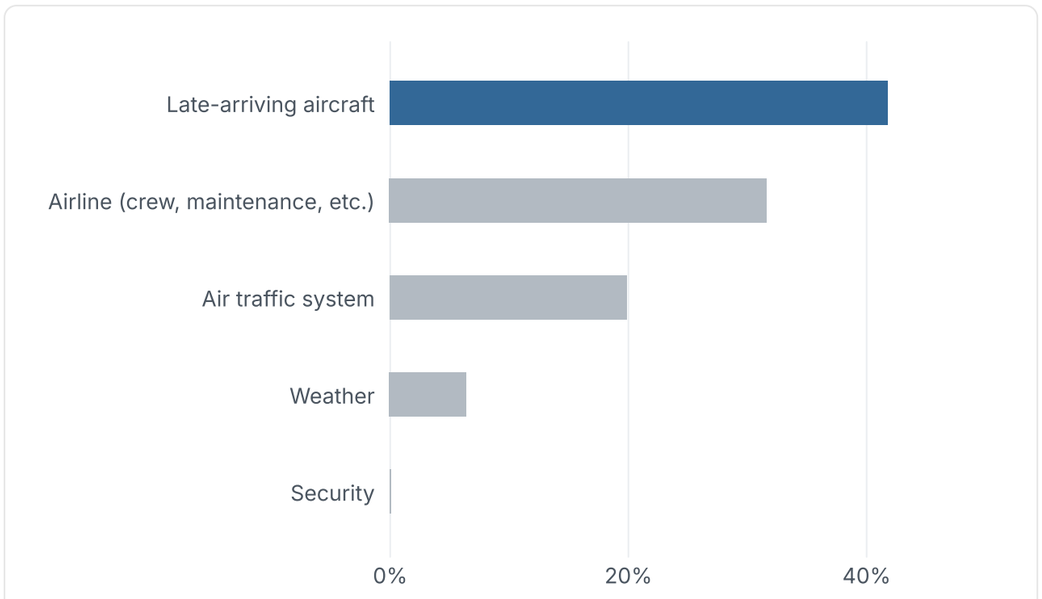
IMAGINE

You're an airline executive reviewing schedules. Why are delays happening? How much are they costing us, and how can we improve?

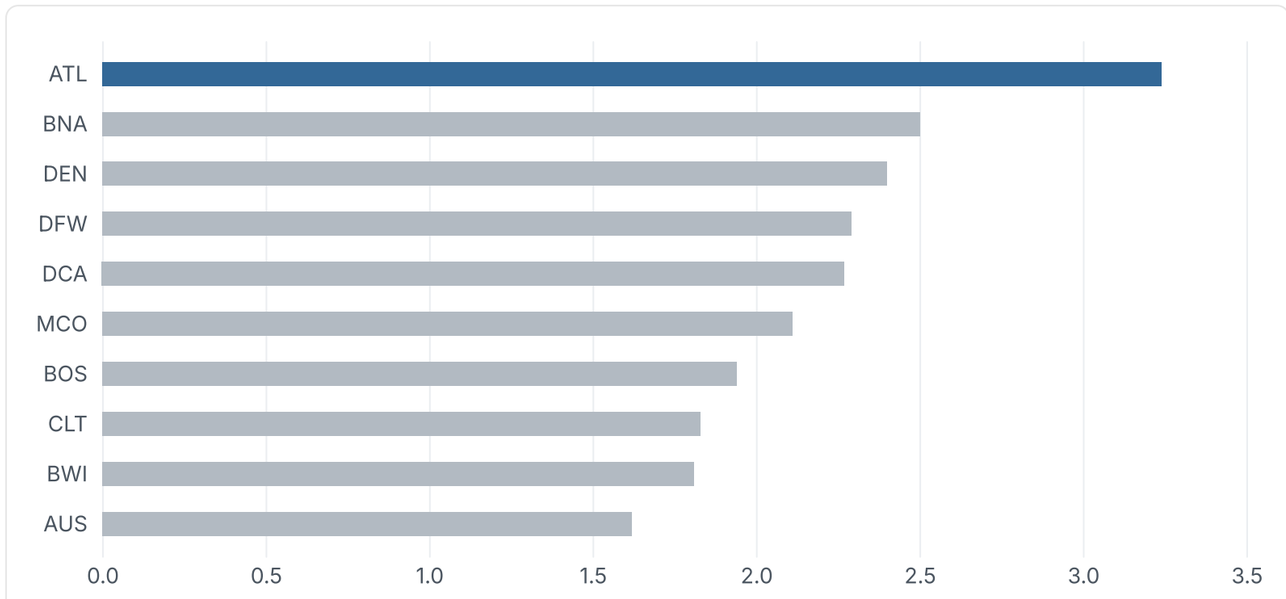
Why are we late? 42% of delay minutes start with a plane that was already late, and the delay grows on the ground.
What does it cost? Late planes with under an hour on the ground added 734,000 minutes in July, **about $74M at stake**.
How do we improve? Give late-arriving planes more turn time where delays snowball most, starting with ATL.

Why flights run late
Share of delay minutes by cause



A late first flight makes more delays 1.7× as likely.

Where it costs the most
Amount (in Millions USD) at stake from tight turns after a late arrival, top 10 airports



Giving late-arriving planes 60+ minutes on the ground at airports like ATL could reduce what's at stake, which = minutes added × rate of $100.76/min (Airlines for America, 2024 average aircraft cost). A yardstick, not an exact bill.

Source: U.S. DOT Bureau of Transportation Statistics, On-Time Performance, July 2026

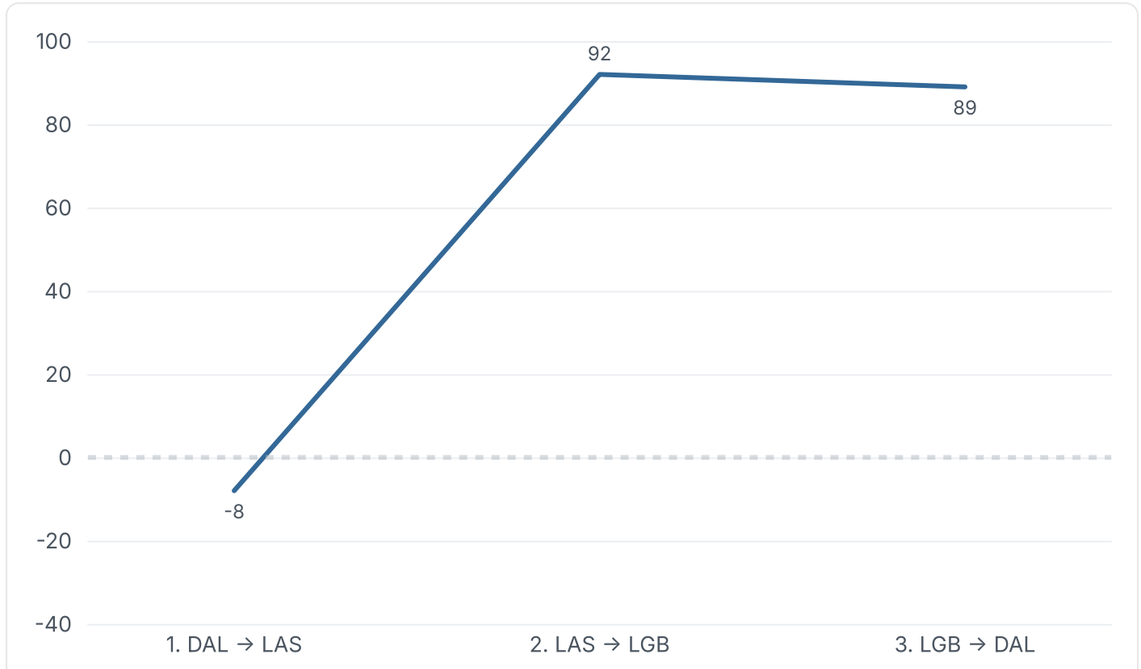
Data by Toren

ONE PLANE'S JOURNEY

Meet N1776R – let's follow the plane and examine the difference between a smooth day and one with delays.

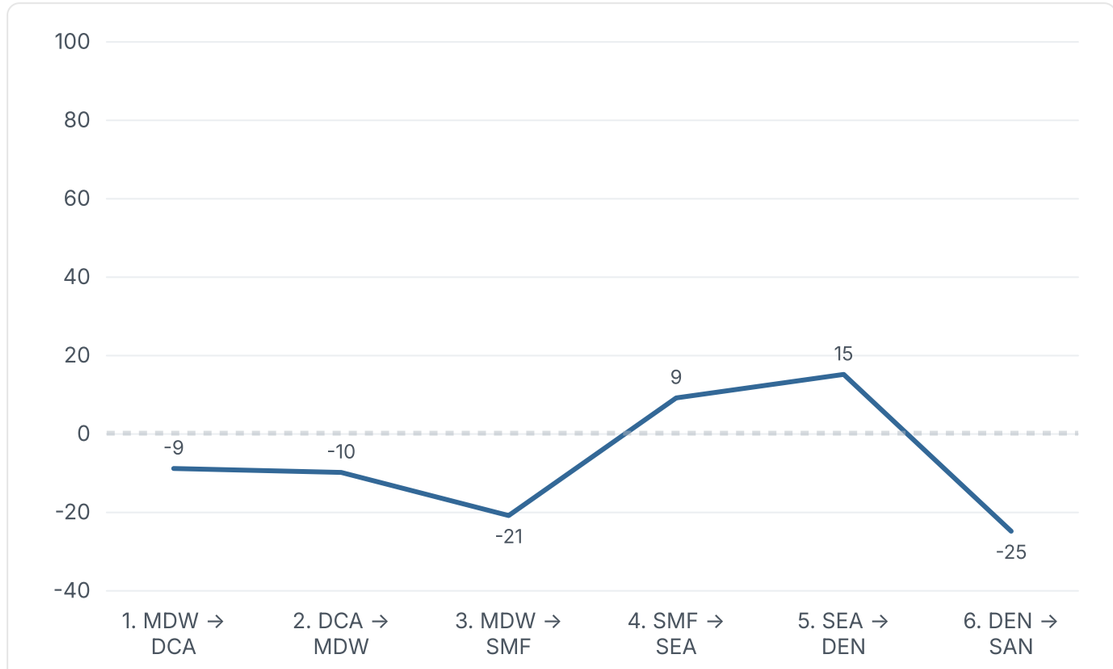
What turns one late flight into a late day? An individual plane can only recover so much time. Once it is late, especially over 60 mins late early in the day, that sets up a late day.

July 1
Large combined delays ruins day
Arrival delay at each stop, in minutes



LAS to LGB landed 92 mins late, then LGB to DAL inherited it and the day was shot.

July 15
Smaller delays can be recovered, rescuing the day
Arrival delay at each stop, in minutes



A small delay crept in by Denver (15 min late), then the schedule had room to catch up and the plane landed in San Diego 25 min early.

Source: U.S. DOT Bureau of Transportation Statistics, On-Time Performance, July 2026

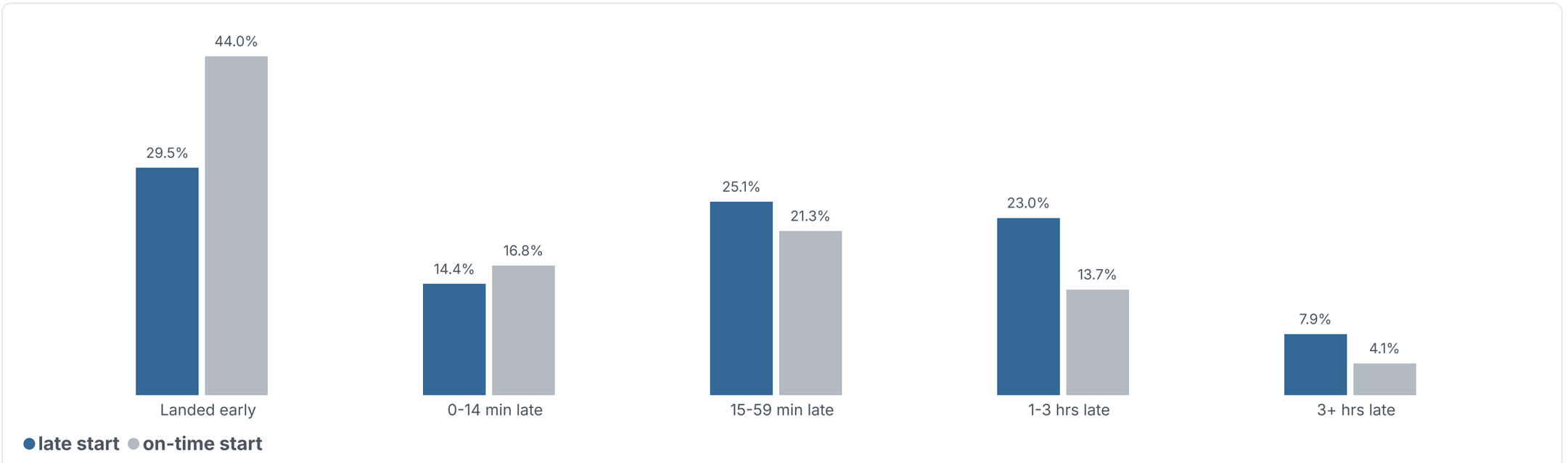
Data by Toren

THE DOMINO EFFECT

Comparing groups of planes by whether their first flight of the day departed on time or not.

Does a late start ruin the day? A big delay early in the day is very hard to recover from and can ride along to the last stop. When the first flight leaves 15+ min late, almost 31% of the planes finish the day 1+ hour late.

How each plane's day ended
Share of plane-days by last-flight arrival delay, July 2026



Planes that started on time finished early 44% of the time, vs 29.5% for late starts.

Source: U.S. DOT Bureau of Transportation Statistics, On-Time Performance, July 2026

Data by Toren

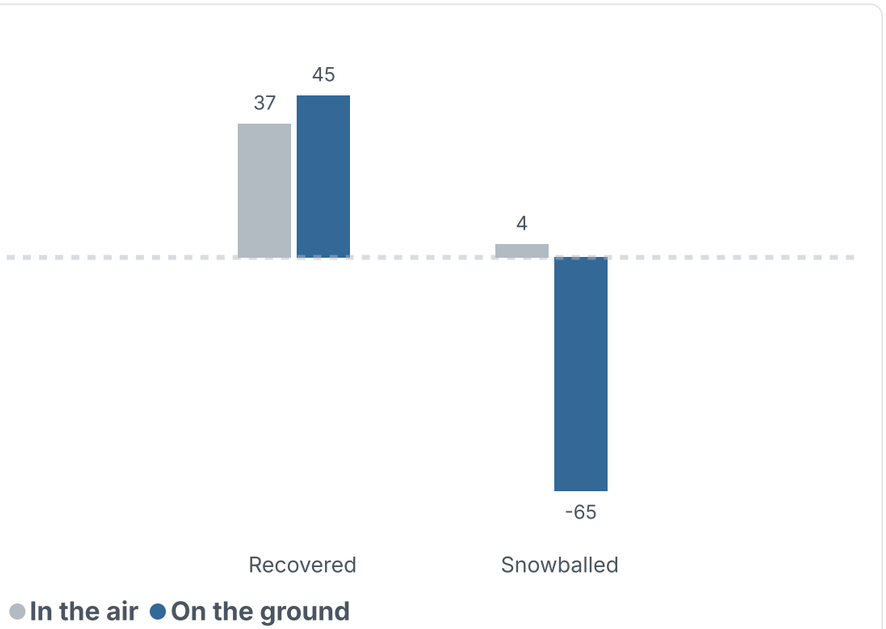
THE LEVER: TIME ON THE GROUND

Delays grow at the gate, and an hour of turn time decides whether they do.

How do late planes catch up, or fall further behind? Planes that recovered won back 37 min in the air and 45 on the ground. Planes that snowballed roughly broke even in the air (+4) but lost 65 min on the ground. And with under an hour between flights, a late plane leaves late again about 9 times in 10.

Where time is won and lost

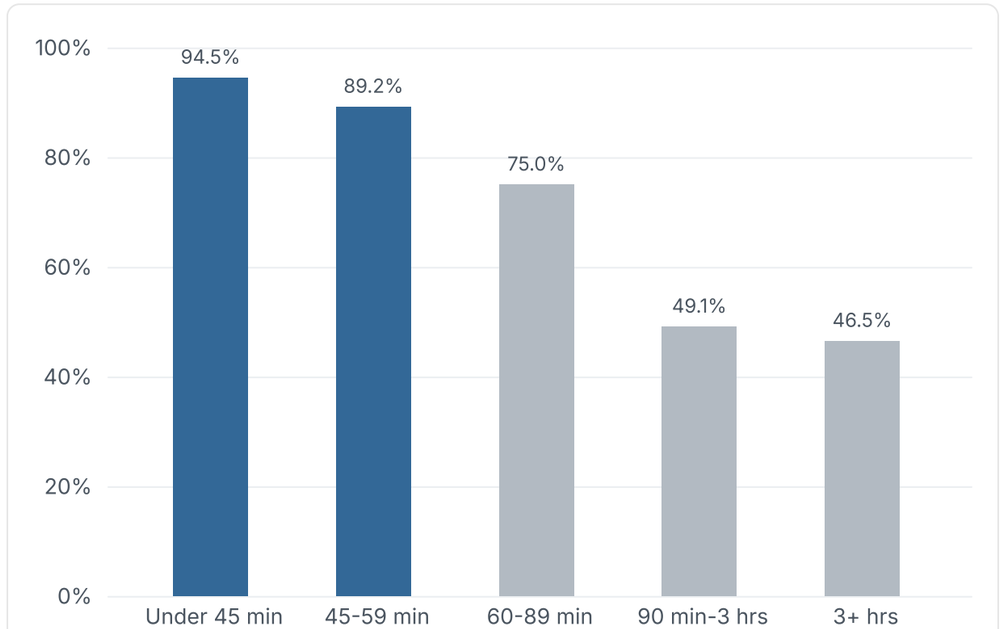
Avg minutes won back, planes whose first flight left late



Snowballing planes roughly broke even in the air but lost 65 minutes on the ground.

Next flight leaves late

Share of turns after a 15+ min late arrival, by scheduled time on the ground



With under an hour on the ground, about 9 in 10 next flights leave late. With 90+ minutes, it drops to about half.

Source: U.S. DOT Bureau of Transportation Statistics, On-Time Performance, July 2026

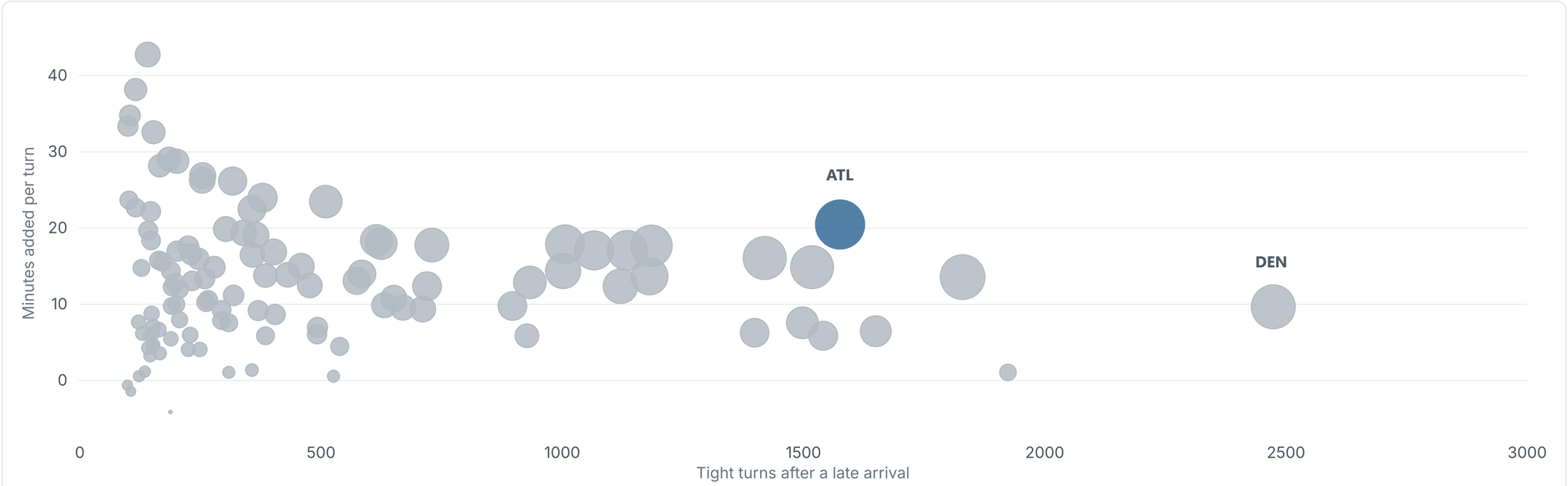
Data by Toren

WHERE TO MAKE CHANGES

Which airports turn a late arrival into a later departure, and how often?

Which airports should get buffer times added? ATL adds the most delay minutes of any airport, and among the 17 busiest it's the worst per turn. DEN adds a lot too, mostly because it's busy. Small airports lose more per turn, but there are fewer turns at stake.

Size vs. severity
Airports with 100+ tight late turns (size = $ at stake)



ATL sits farthest toward the top-right: more tight late turns than almost any airport, and among the slowest to recover. DEN is far right but low: busy, not slow.

Source: U.S. DOT Bureau of Transportation Statistics, On-Time Performance, July 2026

Data by Toren