A Year Later, Tarmac-Delay Rule Needs Some Maintenance

By Amy Cohn
Associate Professor, Industrial and Operations Engineering
University of Michigan, College of Engineering

In April 2010, the U.S. Department of Transportation instituted the three-hour tarmac delay rule, which allows for fines of up to $27,500 per passenger whenever an airline keeps a plane on the tarmac for more than three hours without giving passengers the option to deplane. More than a year later, what can we say about the impact of this hard-fought rule?

If the question is simply, “Has the rule reduced three-hour tarmac delays?” then the answer is a resounding “yes!” In the 12 months before the rule was put into effect, there were 623 outbound tarmac delays of more than three hours; there were 1,257 in the 12 months before that. In the first 12 months after the ruling, 18. For passengers who are ill, traveling with small children, afraid to fly or claustrophobic: If your highest priority is to not be on the plane for an extended period of time, then the new rule has been very successful.

But many other passengers have other priorities, with the need to reach their destination outweighing the discomfort of an extended period on the plane. For example, the willingness of many passengers to experience a long tarmac delay goes up if they are trying to get home for Christmas. And for a businessman used to 12-plus-hour flights to Asia, sitting on the tarmac for four hours before a one-hour domestic flight, while highly undesirable, may still be preferable to missing a big meeting. Whether it’s making an important job interview, getting to a World Series game, starting a long-awaited vacation or just returning home to see their families, many passengers actually are willing to tolerate a long delay on the tarmac if the result is to get them to their destination faster. So we should also be asking the question, “How have these passengers been affected by the ruling?” This question is far less simple.

To answer it, we must first note that the ruling does not address the underlying causes of delay (typically a combination of inclement weather and the associated congestion it causes), but focuses instead on how to respond once these delays have occurred. It’s not that these delays no longer exist—for example, in the year after the rule went into effect, roughly 11,500 flights spent 90 minutes or more on the tarmac after leaving the gate. It’s just that these delayed flights now typically return to the gate rather than continuing to wait for takeoff.

This is bad news for all passengers. For those whose priority is to not be on the plane, these are still long tarmac delays to be endured. What about those passengers whose top priority is reaching their destination as soon as possible? While it is very difficult to make direct comparisons from one year to the next (each year is different in terms of weather conditions, flight schedules, capacity levels and so on), we can say a few things.

First, if you have been sitting on the tarmac for an extended period of time, the likelihood of your flight taking off has decreased since the new rule went into effect. Two years prior to the ruling, 93 percent of flights on the tarmac for more than 120 minutes eventually took off without returning to the gate; one year prior, this number was 81 percent. In the 12 months after the new rule went into effect, this number dropped to 66 percent.

And it’s not just the gate return that delays passengers’ arrival at their destination. Once a flight returns to the gate, the odds of that flight being canceled are significant. (This appears to be independent of the new rule. The percentages of flights that were canceled after a gate return of 90 minutes or more were 31 percent, 30 percent, and 32 percent for the past three years, respectively.) Once a flight cancels, the time before a passenger can be reaccommodated on other flights depends heavily on how full those flights are. During such peak travel periods as the holidays and during periods of lots of cancellations, seat availability can be quite low, and it may take several subsequent flights—even several days in some cases—before all passengers can be rebooked to make up for a cancellation.

Clearly, then, there are still plenty of problems facing travelers in terms of lengthy delays. What can be done to make this better? First, DOT should begin tracking the number of passengers who get off when a flight returns to the gate. Anecdotally, carriers have been claiming very small numbers—one or two passengers on any given flight, often none at all. If a flight is returning to the gate (not only incurring additional delays but also higher fuel and crew costs and greater environmental impact through emissions) and no one is choosing to get off before the flight pushes back again, this gate at three hours (rather than be back by three hours), or the time limit should be raised. Any of these would increase the number of flights that reach their destination and decrease the length of the delay to do so.

In any case, current rules about how passengers are treated while on board should be maintained, and possibly reinforced. Access to food, water and lavatories, as well as a steady stream of updates from the cockpit, should be non-negotiable. In my own experience, this does seem to be an area where the passenger experience has improved in the past year, with carriers much more vigilant about tracking long tarmac delays and pilots providing more frequent and detailed information.

But most importantly, passengers will benefit from fundamental changes to the underlying system, to reduce these causes of delay in the first place. Our time, energy and resources would be better spent looking at ways to reduce congestion, increase capacity and improve the robustness of the underlying system for all passengers, not just those experiencing three-hour delays.