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Taking your airline to new heights



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DON'T DELAY

Under the new tarmac delay laws, passed by the U.S. Congress in April, airlines face harsh penalties of approximately US\$27,500 per passenger for extraordinarily delayed flights of more than three hours.

■ By Michael Clarke | *Ascend* Contributor



The U.S. domestic airline industry has experienced phenomenal growth during the past 30 years since deregulation. In spite of major geopolitical events that have caused temporary reductions in passenger traffic, the number of passengers traveling within the domestic market as well as the number of aircraft movements has increased three fold.

At the same time, there has been little growth in the underlying airport and air traffic control system necessary to support this immense growth. As a result, there has been a consistent increase in the number of delayed and cancelled flights as measured by the U.S. Department of Transportation.

Year over year, there has been a pronounced increase in the number of cancelled flights. Looking back at the month of May, for example, there were 6,716 cancelled flights reported by the 12 major carriers, representing a 40 percent increase in cancelled flights versus May 2009. During the first half of 2010, nearly 25 percent of flights were delayed,

cancelled or diverted. Of those flights arriving late, passengers experienced an average delay of 57 minutes.

The majority of flight delays in the United States result from network effects across the system driven by problems in the national airspace and aircraft routings. When a weather pattern develops, air traffic control authorities introduce a traffic management program depending on the severity of the disruption. This includes, for instance, a ground delay program where all scheduled flights are metered into an impacted airport and given a specified arrival time to reduce the demand on the airport. Alternately, ATC authorities would initiate a ground stop that prohibits any flights from departing to a given airport until a prescribed time and/or restrict a flight from departing until a required airspace sector is available. The distribution of flight delays is strongly correlated to the level of scheduled flights, which has pronounced bias toward the eastern seaboard of the United States, with the New York City area airports experiencing the worst delays.

Not far behind are major hub airports such as Hartsfield-Jackson Atlanta International Airport, Chicago O'Hare International Airport and Miami International Airport. Since a large number of flights are connected to these chronically impacted airports, flight delays are prone to propagate throughout the entire U.S. national airspace.

An alarming and disturbing trend observed in delayed flights is a significant increase in duration of taxi-in and taxi-out times, in some cases exceeding five hours. With limited gate availability at major hub airports, airlines are often forced to board flights and reposition aircraft to holding areas until they receive departure clearance. On arrival, inbound flights often end up waiting until gates open, where, in some cases, outbound flights at the occupied gates are waiting for delayed crewmembers on inbound flights.

These tarmac delays, signifying any additional time a passenger sits on an aircraft while it's on the ground and away from the terminal, are measured from the time the aircraft door is locked or unlocked.

Based on observed data collected by the U.S. DOT, the majority of these excessive tarmac delays occur during flight departure. While the occurrence of such extreme delays are small relative to the number of scheduled commercial flights in the U.S. domestic network, when they occur, there is a lot of visibility and media coverage.

Last year, less than 0.20 percent of scheduled flights were subject to excessive delays, with the majority of those (91.5 percent) observed during departures. In addition, excessive tarmac delays are often observed during flight diversions when the alternate airports are not able to support the sudden increase in unplanned operations. After the summer of 2009, many airlines developed internal

processes and procedures to better manage and track flight diversions to help reduce excessive tarmac delays.

Nonetheless, there was a growing call for governmental regulation and/or oversight to be implemented to improve the overall passenger travel experience. In the aftermath of several high levels of tarmac delays observed in December 2008, June 2009 and July 2009, the U.S. Congress published legislation to penalize airlines for situations where there are excessive delays beyond three hours.

In April, the new tarmac delay regulations officially went into law with severe penalties of US\$27,500 per passenger on an excessively delayed flight (more than three hours). For a fully booked Airbus A320 or Boeing 737-800

with 160 passengers, an airline is now subject to a penalty of US\$4.4 million for any flight violating the tarmac delay rule.

Ironically, in many situations, such excessive delays on departure are due to factors beyond an airline's control, such as prevailing weather conditions, U.S. Federal Aviation Administration-instituted air traffic flow management programs and limited airport resources including de-icing equipment and cleared active runways.

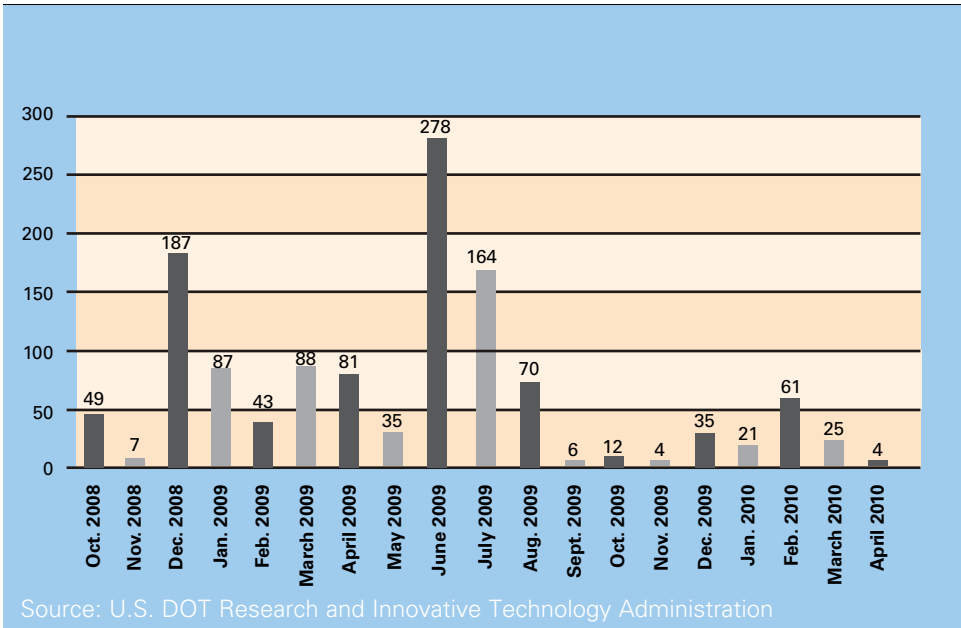
In response to the new legislation, most airlines have become very conservative in their operating procedures and often prefer to cancel a flight subject to a rolling delay versus continuing their traditional "wait-and-see" approach for managing delays. As a result,

Period	Number of Regularly Scheduled Flights	Tarmac Times of 3 Hours or Longer		Stage Of Operation Of The 3-Hour Tarmac Time				
		Total	Percent	Prior To Cancellation	Multiple Gate Departure	Taxi-Out	Taxi-In	At Diversion Airport
2010								
April 2010	529,330	4	0.00	0	0	1	0	3
March 2010	548,282	25	0.00	9	2	11	1	2
Feb. 2010	481,988	61	0.01	5	1	53	1	1
Jan. 2010	521,809	21	0.00	2	3	11	2	3
2008								
Dec. 2009	529,269	35	0.01	5	3	22	0	5
Nov. 2009	509,540	4	0.00	0	1	2	0	1
Oct. 2009	531,799	12	0.00	0	0	12	0	0
Sept. 2009	510,852	6	0.00	0	0	4	0	2
Aug. 2009	568,301	70	0.01	7	11	45	0	7
July 2009	580,134	164	0.03	21	20	105	0	18
June 2009	557,594	278	0.05	40	42	172	1	23
May 2009	546,832	35	0.01	7	2	25	1	0
April 2009	537,793	81	0.02	12	10	47	0	12
March 2009	557,422	88	0.02	6	9	66	0	7
Feb. 2009	488,410	43	0.01	5	4	34	0	0
Jan. 2009*	532,339	87	0.02	7	10	70	0	0
2009 Total	6,450,285	903	0.18	110	112	604	2	75
2008								
Dec. 2008	544,956	187	0.03	40	14	116	7	10
Nov. 2008	523,272	7	0.00	0	1	4	0	2
Oct. 2008	556,205	49	0.01	2	6	35	0	6

Source: Bureau of Transportation Statistics

The stage of operation by which tarmac delays occurred is broken down by "prior to cancellation" (the flight left the gate but was cancelled at the origin airport), "multiple gate departure" (the flight left the gate, then returned and then left again to resume normal operation), "taxi-out" (the time between gate departure and wheels-off), "taxi-in" (the time between wheels-on and gate arrival) and "at diversion airport" (the tarmac time at the alternate airport). Of which, the majority of excessive tarmac delays occur during departures.

Tarmac Times Of More Than Three Hours



During the course of nearly two years, from October 2008 through April 2010, the U.S. national airspace has observed excessive tarmac delays where passengers were stranded for three hours or more on the tarmac. As a result, the U.S. government has passed a law that will severely penalize carriers for lengthy tarmac delays in an effort to reduce the number of impacted passengers.



As a result of the new tarmac delay legislation, passed in April, airlines are sometimes forced to use extra gates, causing a need to potentially increase resources and staffing levels to accommodate the higher level of operations once there is authorization to recommence operations. If a carrier chooses not to increase its ground resources, there could be further departure delays on flights where passengers are no longer stuck on the aircraft but rather in overcrowded terminal buildings.

an increase in the level of flight cancellations as a direct byproduct of this new rule is anticipated.


Since the penalty only applies to boarded passengers, airlines have also decided to postpone the boarding process and keep passengers in the terminal until they are confident the aircraft can depart within three hours of block off.

Consequently, airlines are being forced to use additional gates and potentially increase their ground resources and staffing levels to meet the higher level of operations once there is clearance for resumed operations. If an airline elects not to increase its ground resources (gates, ground equipment, staff, etc.), the result could be additional departure delays on flights where passengers are no longer stuck on the aircraft but rather in overcrowded terminal buildings.

If the current situation continues unchecked, passengers will potentially be exposed to unnecessary additional flight delays and cancellations unless airlines and regulatory bodies act now to do something to change the rules of engagement.

For starters, airlines must be better equipped with the necessary decision-support tools (see related article on page 82) that will enable them to monitor their operations for prolonged tarmac delays. They need to be more proactive in making informed decisions about whether or not to return an aircraft to the gate before exceeding the three-hour threshold limit.

Working in conjunction with the FAA, airlines need to better sequence their outbound traffic, especially at airports with congested taxiways and/or limited runway capacity. In situations where there are active ground stops and/or ground delay programs, flights should be released from the gate based on the estimated departure control times that are provided by the central air traffic control center.

Based on anticipated taxi times and the number of departing aircraft, airlines and air traffic control can better manage the flow of aircraft, thereby reducing the potential of departure queues developing at the end of active runways. 

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