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A RE-EXAMINATION OF TARMAC DELAYS CAUSES AND SOLUTIONS

P. PAUL FITZGERALD*

I. INTRODUCTION

ALTHOUGH THEY ARE COMPARATIVELY RARE, tarmac delays are the bane of both passengers and airlines. Passengers want to spend as little time aboard as possible, and airlines want to send the plane aloft again at the nearest opportunity. While some tarmac delays may result from airline operations, more often than not the really long delays are a result of factors not completely within the airlines' control.

Tarmac delays approaching or exceeding twenty-four hours are associated with the diversion of a large number of aircraft on September 11, 2001, and the diversion of distressed aircraft in emergency situations to the closest available airport. Very significant tarmac delays may arise where the airport to which the flight is diverted is distant from the flight's point of origin, its destination, and the airline's home base. In cases such as these, holding the airline responsible for the duration of the delay, especially in cases where the duration is beyond the airline's control, is not reasonable.

This Article examines dozens of tarmac delay cases and over sixty diversions to the isolated airports of Gander, Goose Bay, and Stephenville, in order to understand the degree to which airlines may have control over the duration of those tarmac delays that are not covered by the United States or any other tarmac delay rule. It then makes recommendations with respect to border clearance issues and the inauguration of "no-man's lands" at certain major airports. It concludes that in a world of climate change, where more weather events will affect major airports, smarter and more adaptive government policies are re-

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quired so that airlines are only made responsible for those things that are under their control.

II. DEFINITIONS

For the purpose of this Article, a tarmac delay will arise if an aircraft has not taken off within three hours of the doors closing or passengers have not been given an opportunity to disembark within three hours of the time the aircraft has landed. Here, it is not necessary that the airport where the aircraft lands be the destination listed on the passenger's boarding pass.

A. COUNTER-INTUITIVE

It must be understood that airlines only make money when flying; it is against their interest to keep people on board longer than necessary. Just as a taxi driver does not want the passenger in his or her car a minute longer than necessary, as a jet arrives at an airport, plans are well underway for its next flight. Thus, the idea of keeping passengers on the plane longer than absolutely necessary is an anathema to most airline personnel.

1. *10-Minute Turns*

The idea of keeping planes in the air was what drove Bill Franklin, the former Vice President of Ground Operations at Southwest Airlines, to devise the "10-Minute Turn" in 1972.¹ Having their planes earn money for just a little bit more time is part of the strategy that has kept Southwest Airlines profitable for over four decades.²

2. *Refusal to Disembark*

Understanding that airlines only make money when their planes are flying, disgruntled Chinese passengers have staged sit-ins on planes in an effort to extract concessions from airlines.³ In one incident, passengers who had been delayed for nine

¹ See Daniel Hajek, *The Man Who Saved Southwest Airlines With a '10-Minute' Idea*, NAT'L PUB. RADIO (June 28, 2015), <https://www.npr.org/2015/06/28/418147961/the-man-who-saved-southwest-airlines-with-a-10-minute-idea> [https://perma.cc/MC6L-HRJ7].

² *Id.*

³ See Pamela Boyko? & Michala Sabnani, *Delayed Passengers Stage Plane Sit-In for Refund*, CNN (Nov. 18, 2011), <https://www.cnn.com/2011/11/18/business/hong-kong-plane-sit-in/index.html> [https://perma.cc/G6SR-2JDV].

hours remained on board the aircraft for another five hours, agreeing to leave only after the police arrived.⁴

III. THE EVOLUTION OF THE ISSUE

In this context, it is hard to understand how a tarmac delay can arise. It occurs principally in two situations. First, an airline seeking a truly efficient hub schedules dozens of flights to leave within minutes in an effort to shorten connection times for passengers. If a weather event reduces the number of aircraft that can take off, the result is a cascading effect where incoming flights may be unable to find a gate, and outbound aircraft may not be able to take off. In the other situation, the aircraft will be diverted due to weather, terrorism, or mechanical issues to an airport other than the point of origin or destination. When this airport is in a third country, logistics and border clearance issues can create a long tarmac delay. This Article will first look at over-scheduling and then examine aircraft diversions.

A. OVERCROWDED SKIES

As more and more Americans have taken to the skies, more airlines have offered more flights and the result is heavily crowded skies and congested airports. On the one hand, airlines serve more destinations, often with commuter aircraft that have fewer than ninety seats. On the other hand, major carriers want to increase hub efficiency so that passengers arriving at a hub from one point are able to quickly connect to dozens of other cities served by that carrier and its partners.

By 2007, airlines had scheduled fifty-six departures in a fifteen-minute period at Minneapolis, and thirty-five or more flights, three times a day, in similar fifteen-minute periods at Chicago O'Hare.⁵ In each case, the planned flights exceeded the airports' capacity. And in any situation where weather or other external factors reduced the airport's normal capacity, the clear results were canceled flights, delayed flights, and tarmac delays.⁶

⁴ *See id.*

⁵ *See* Monica Hargrove Kemp, *Mechanisms for Addressing Capacity-Related Delays at U.S. Airports*, 22 No. 2 AIR & SPACE LAW. 1, 18 (2009).

⁶ *Id.* Indeed, this realization provoked an analysis of various options, including building additional capacity, introducing demand-driven landing fees, and tracking of airport performance. *See* U.S. GOV'T. ACCOUNTABILITY OFF., GAO-10-542, NATIONAL AIRSPACE SYSTEM: SETTING ON-TIME PERFORMANCE TARGETS AT CONGESTED AIRPORTS COULD HELP FOCUS FAA'S ACTIONS 4, 36 (2010).

B. KATE HANNI SITUATION

On December 29, 2006, Napa Valley realtor Kate Hanni was stuck at the Austin Airport with several other American Airlines planes for up to nine hours, during which she and her fellow passengers were denied food, water, and access to working bathroom facilities.⁷ Outraged by the fact that she and thousands of others had been treated in this way, she founded a passenger rights advocacy group, Flyers Rights, in early 2007.⁸

C. TARMAC DELAY LEGISLATION

In 2010, partly due to Ms. Hanni's efforts, the United States became the first country to enact a Tarmac Delay Rule⁹ and remained the only country with such legislation until Canada amended the Canada Transportation Act¹⁰ in 2018 to require airlines to deal with tarmac delays. In simple terms, both regimes require that within three hours of the aircraft's doors closing, the aircraft must take off or passengers must be given the opportunity to disembark.¹¹ Similarly, passengers must be given the opportunity to disembark within a specified time after the aircraft has landed.¹² The U.S. rule has a three-hour time limit for domestic flights and a four-hour limit with respect to international flights.¹³ The details of the U.S. Tarmac Delay Rule are very well covered elsewhere,¹⁴ but it is important to note that if airlines unduly delay passengers the airline pays a fine of up to \$32,140.¹⁵

⁷ See Jennifer Henry & Mary Gardner, *New Tarmac Delay Rule and the Volcanic Ash Cloud Over European Airspace: One Year Later*, 76 J. AIR L. & COM. 633, 635–36 (2011); *About Us*, FLYERS RIGHTS, <https://flyersrights.org/about-us/> [<https://perma.cc/KUJ8-6YYN>].

⁸ See *About Us*, *supra* note 7.

⁹ 14 C.F.R. § 259.4 (2018).

¹⁰ See Transportation Modernization Act, S.C. 2018, c 10 (Can.).

¹¹ *Id.* art. 19; 14 C.F.R. § 259.4(b).

¹² See Transportation Modernization Act, *supra* note 10, art. 19; 14 C.F.R. § 259.4(b)(6).

¹³ 14 C.F.R. § 259.4(b)(1), (2).

¹⁴ See generally Henry & Gardner, *supra* note 7.

¹⁵ Pursuant to 49 U.S.C. § 46301, an airline that violates 14 C.F.R. Part 259 or 49 U.S.C. §§ 41712 and 42301 is subject to civil penalties (fines) of up to \$25,000 per violation. 49 U.S.C. § 46301. The penalty has been adjusted for inflation and was \$32,140 until a catch-up adjustment at the end of 2018. See Revisions to Civil Penalty Amounts, 83 Fed. Reg. 60,734 (Nov. 27, 2018) (to be codified at 14 C.F.R. § 13). It is noteworthy that the money does not go to the affected passenger. See 49 U.S.C. § 46301.

The U.S. rule has achieved its desired effect; since its adoption, the number of tarmac delays exceeding three hours has declined by over 93%.¹⁶ At the same time, some of those flights that formerly frequently experienced tarmac delays of over 120 minutes were canceled.¹⁷ In other cases, the airline proactively canceled problem flights or simply removed them from the schedule.¹⁸ By 2014, those few tarmac delays that remained were no longer related to over-ambitious airline scheduling, but rather to weather and other external factors.¹⁹

D. NEW CANADIAN TARMAC DELAY RULES

Recent Canadian legislation²⁰ has introduced the concept of tarmac delay provisions to the Canada Transportation Act.²¹ Section 86.11(1) of the amended Act calls on the Canadian Transportation Agency to, consult with the Minister of Transport to make regulations respecting an airline's obligations for tarmac delays over three hours,²² and to make regulations with respect to an airline's "obligations in the case of flight delay, flight cancellation or denial of boarding."²³ Canada is possibly the only jurisdiction on earth trying to regulate three distinct incidents: flight delay, flight cancellation, and tarmac delay. The combination of these three concepts is potentially dangerous as it puts airlines in a situation where different clauses of the regulation might lead to contradictory market behaviors. This is not a desired outcome; in 2009, this author harshly criticized a previous Canadian initiative covering the same three topics.²⁴ American and European regulators have carefully avoided this potential problem. The United States has regulations on tarmac delays²⁵

¹⁶ This decline occurred between December 2009 and December 2014. See U.S. DEP'T. OF TRANSP., OFFICE OF INSPECTOR GENERAL, ST-2017-003, EFFECTS OF THE TARMAC DELAY RULE ON FLIGHT CANCELLATIONS AND DELAYS 10 (2016).

¹⁷ *Id.* at 9.

¹⁸ *Id.* at 13.

¹⁹ For example, in 2016 American was assessed fines with respect to forty-six of its flights between February 2013 and February 2015 that had experienced tarmac delays in excess of three hours. See American Airlines, Inc., Docket No. 2016-0002 (OST Dec. 14, 2016) [hereinafter Consent Order American]. All of the delays were caused by weather and related incidents. See *id.*

²⁰ See Transportation Modernization Act, *supra* note 10, art. 19.

²¹ See Canada Transportation Act, S.C. 1996, c 10, s. 86.11(1) (Can.).

²² *Id.* at s. 86.11(1)(f).

²³ *Id.* at s. 86.11(1)(b).

²⁴ See generally P. Paul Fitzgerald, *Air Passenger Rights: The First Canadian Efforts . . . An Inauspicious Beginning*, 9 ISSUES IN AVIATION L. & POL'Y 33 (2009).

²⁵ 14 C.F.R. § 259.4(b) (2018).

and denied boarding compensation,²⁶ but not on canceled flights. The EU has regulations²⁷ on denied boarding,²⁸ flight cancellation,²⁹ and flight delay,³⁰ but not on tarmac delay.

The new Canadian regulations will also have potential extra-territorial application. Canada intends to regulate “in relation to flights to, from and within Canada, including connecting flights.”³¹ Thus, if a Canadian traveling between Latin America and Canada via Houston on United Airlines suffers a tarmac delay in Houston, Canada’s new regulations might apply.

E. THE LOOPHOLE IN THE U.S. TARMAC DELAY RULE

Under the U.S. rule, air carriers are not bound to allow passengers to disembark within the applicable time period if the “pilot-in-command determines there is a safety-related or security-related reason (e.g. weather, a directive from an appropriate government agency) why the aircraft cannot leave its position on the tarmac to deplane passengers.”³² Presumably, it would be unsafe to allow passengers to disembark on a runway or taxiway, and it might be illegal to allow passengers on a foreign-originating flight to disembark anywhere other than through a process that does not allow passengers to avoid border clearance formalities. In addition, the U.S. Department of Transportation may also find there was no violation of the Tarmac Delay Rule where “extenuating circumstances prohibited the carrier from deplaning passengers within three hours and enforcement action was not in the public interest for those particular flights.”³³ These extenuating circumstances existed with respect to nineteen flights, but no examples were given, and thus it is hard

²⁶ *Id.* § 250.5.

²⁷ See Commission Regulation 261/2004 of Feb. 11, 2004, Establishing Common Rules on Compensation and Assistance to Passengers in the Event of Denied Boarding and of Cancellation or Long Delay of Flights, and Repealing Regulation (EEC) No 295/91, 2004 O.J. (L 46/1).

²⁸ *Id.* art. 4.

²⁹ *Id.* art. 5.

³⁰ *Id.* art. 6.

³¹ Canada Transportation Act, *supra* note 21, at s. 86.11(1).

³² 14 C.F.R. § 259.4(b)(1)(i). Section 259.4(b)(1)(i) applies to domestic flights while § 259.4(b)(2)(i) applies to international flights. *Id.* § 259.4(b)(2)(i). Further, § 259.4(b)(1)(ii) and (b)(2)(ii) excuse the airline when air traffic control tells the pilot that moving the plane to the gate or elsewhere would “significantly disrupt airport operations.” *Id.* § 259.4(b)(1)(ii), (b)(2)(ii).

³³ Consent Order American, *supra* note 19, at 1–2 n.3.

to discern what facts might lead to an extenuating circumstance.³⁴

Nonetheless, it is clear that the obligation to comply with border formalities takes precedence over the Tarmac Delay Rule. Thus, when a Copa Airlines flight from Panama City to Los Angeles was diverted³⁵ to Ontario International Airport on December 21, 2016, passengers were unable to disembark as the airport did not have adequate border clearance facilities.³⁶ However, because the toilets became inoperable during the two hour and thirty-nine minute delay, the U.S. Department of Transportation found the airline to be in violation of the Tarmac Delay Rule since it requires the toilets to be operable during the delay.³⁷ The airline was fined only \$25,000, perhaps out of recognition that unsuccessful attempts were made by the crew to fix the toilets, and that no suggestion had been made that the passengers should have been disembarked under the circumstances.³⁸

IV. WHEN DO TARMAC DELAYS OCCUR?

There is no doubt that tarmac delay rules have dramatically reduced the number of delays and probably largely eliminated the former situation of over-scheduling multiple flights at a congested hub. However, tarmac delays still occur and many of them are lengthy. The following examples were provoked by weather, terrorism, or mechanical issues and happened at airports where the U.S. Tarmac Delay Rule does not apply.

A. BEFORE DEPARTURE

One of the worst pre-departure delays on record is a twelve-hour delay on Air Canada Flight 156 from Vancouver to To-

³⁴ See Consent Order American, *supra* note 19, at 1–2 n.3.

³⁵ Compañía Panameña de Aviación, S.A., Docket No. 2018-0001 (OST Mar. 23, 2018) [hereinafter Consent Order Copa]. The aircraft diverted because Los Angeles advised the crew of heavy rain and congestion and the aircraft did not have enough fuel to wait. *See id.*

³⁶ *See id.* In 2016, the airport only had customs officers on site for a four-hour period late at night. *See* Liset Márquez, *Why Ontario International Airport is Making More than \$1 Million in Improvements Ahead of China Airlines' Arrival*, DAILY BULLETIN (Feb. 2, 2018), <https://www.dailybulletin.com/2018/02/02/why-ontario-airport-is-making-more-than-1-million-in-improvements-ahead-of-china-airlines-arrival/> [<https://perma.cc/BL7B-2HB4>].

³⁷ See Consent Order Copa, *supra* note 35, at 2.

³⁸ *See id.* at 3.

ronto on December 23, 2008.³⁹ At the time, there was a snowstorm in metro Vancouver.⁴⁰ The airport received twelve inches of snow and Air Canada canceled all short- and medium-haul flights.⁴¹ In the spirit of trying to get passengers home for Christmas, Air Canada focused on operating its trunk routes, including services to Toronto.

Flight 156 was affected by creeping delays, which extended as each new impediment came into focus. During the twelve-hour period, the aircraft was de-iced at least twice, the crew ran out of duty time and had to be replaced, the airport ran out of de-icing fluid, the aircraft was unable to taxi due to snow-filled runways, and it needed to be refueled again.⁴² For passengers, creeping delays are horrible.

“Every time something came over the intercom we just didn’t believe it. ‘Cause they’d say, ‘Oh, we’re going to be going in five minutes. Oh, we’re going to be going in 35 minutes.’ It just didn’t happen. It was like another hour, another two hours, and we never got communication to tell us what was happening.”⁴³ According to another passenger, “[the] worst of all, people didn’t know when they would get off the ground.”⁴⁴

During the delay, the passengers were kept on board, but they were given food and drinks, the lavatories were functional, the in-flight entertainment system was switched on and working, and regular announcements were made.⁴⁵ In addition, Air Canada offered each passenger a \$500 voucher.⁴⁶ More importantly, those passengers made it home for Christmas.

However, after arriving in Toronto, passengers spoke of a twenty-four-hour ordeal, which included the twelve-hour tarmac delay, and reported being treated as hostages.⁴⁷ In fact, the inci-

³⁹ See “We Felt Like Hostages”: *Passengers on Delayed Vancouver-Toronto Flight*, CBC NEWS (Dec. 24, 2008), <https://www.cbc.ca/news/canada/toronto/we-felt-like-hostages-passengers-on-delayed-vancouver-toronto-flight-1.704186> [https://perma.cc/RGJ9-SZ7J].

⁴⁰ See *id.*

⁴¹ See *Travellers Vent Anger at Air Canada’s Holiday Delays*, CTV NEWS (Dec. 29, 2008), <https://www.ctvnews.ca/travellers-vent-anger-at-air-canada-s-holiday-delays-1.355427> [https://perma.cc/HXM7-QG2R].

⁴² See Fitzgerald, *supra* note 24, at 59.

⁴³ See “We Felt Like Hostages”: *Passengers on Delayed Vancouver-Toronto Flight*, *supra* note 39 (quoting Flight 156 passenger Jae Valentine).

⁴⁴ *Id.* (quoting Flight 156 passenger Pina Belparsi).

⁴⁵ *Id.*

⁴⁶ *Id.*

⁴⁷ *Id.*

dent provoked calls for “new rules to better protect airline travellers.”⁴⁸ Ultimately, the event helped spur a legislative attempt⁴⁹ “to create a passenger bill of rights similar to ones used in New York State and in the European Union.”⁵⁰

1. *Alternatives to Tarmac Delays before Departure*

In hindsight, it might have made more sense for Air Canada to have canceled the above-mentioned Flight 156. The passengers would not have been home for Christmas, but Air Canada would not have had the bad publicity of a twelve-hour tarmac delay and thus might not have had to offer any compensation to the passengers. Indeed, airline crews may learn to be quicker to cancel such flights after such incidents. The creeping delay that plagued Flight 156 can be modeled and broken down into components. Now, once the first few events happen and the pattern of a potential creeping delay becomes evident, the airline should cancel the flight before two hours have elapsed and thereby avoid any potential liability with respect to a tarmac delay.

2. *How is Compensation Affected When a Tarmac Delay Results in a Canceled Flight?*

The legislative initiative introduced in the aftermath of Flight 156 would have introduced compensation for tarmac delays *and* canceled flights.⁵¹ If airlines are to be liable to compensate passengers both for tarmac delays and also for canceled flights, the decision on when to cancel may shift from the crew to management, who will try to minimize their legal obligations.⁵²

Just as Air Canada might have been wise to cancel Flight 156 early in the process, had the company been liable for cancellations and tarmac delays, the company might have decided to not even attempt to offer any flights out of Vancouver during the snowstorm. Indeed, depending on the inter-relation between compensation for tarmac delays and compensation for canceled flights, one can imagine a scenario in which flights will either be pre-emptively canceled, not scheduled at all, or very expensively

⁴⁸ *Travellers Vent Anger at Air Canada’s Holiday Delays*, *supra* note 41.

⁴⁹ See An Act to Provide Certain Rights to Air Passengers, Bill C-310, 2d Sess., 40th Parl. (2009) (Can.).

⁵⁰ See Greg Knott, *Mayors Want Passengers’ Bill of Rights*, TELEGRAM, Jan. 13, 2008, at A3.

⁵¹ See Fitzgerald, *supra* note 24, at 64.

⁵² See *id.* at 45–51.

priced to cities with particularly inclement weather. Instead of protecting passengers in places like St. John's, compensation regimes could make air tickets from St. John's to Toronto in January either harder to find or more expensive to purchase.

B. AFTER ARRIVAL

Where a tarmac delay occurs after arrival, it is often due to ground congestion or obstacles of some sort between the runway and the gate.

1. Domestic Arrival at Alternate or Diversion Airports

Aircraft arriving from domestic destinations simply need a safe place to disembark their passengers, and this could happen either at a gate or by using stairs and a bus. Perhaps for this reason, there are remarkably few current examples of lengthy tarmac delays; there were only four such delays in 2010.⁵³ Thus, one of the few cases is where an Air Canada 787, operating from Calgary to Frankfurt, had to divert to Goose Bay due to an engine oil leak.⁵⁴ Usually, in cases such as this, the affected aircraft would not be able to continue the flight and passengers would have to wait at least four to five hours⁵⁵ for a replacement aircraft to arrive. As this was a domestic flight, there were no obstacles to disembarking the passengers at Goose Bay during the wait, but it is difficult to determine whether this actually happened. If not, this would be one of the longer tarmac delays of an aircraft arriving from a domestic point of origin at another airport in the same country.

2. International Arrival at Alternate or Diversion Airports

When an aircraft in-bound from a foreign destination is diverted, there are often complex border clearance issues. Few of the passengers of a Toronto-bound flight from Delhi that had to

⁵³ See CHIWEI YAN ET AL., TARMAC DELAY POLICIES: A PASSENGER-CENTRIC ANALYSIS 6 (2015).

⁵⁴ See Simon Hradecky, *Incident: Canada B789 Over Atlantic on May 29th 2018, Engine Oil Leak*, AVIATION HERALD (June 4, 2018), <http://avherald.com/h?article=4b97542a&opt=0> [<https://perma.cc/EH4R-9TTP>].

⁵⁵ The length of the delay is, in part, based on the distance the replacement aircraft has to fly. In this case, the aircraft was probably based in Toronto, and a non-stop flight from Toronto to Goose Bay is roughly 3.5 hours.

divert to Moscow Domodedovo⁵⁶ would have had valid visas for Russia.⁵⁷ Russians destined for Thailand encountered visa issues when their plane diverted to Delhi.⁵⁸ Russian diplomats got involved when a Russian aircraft bound for Cuba diverted to Atlantic City.⁵⁹ Such complexities appear to be impacting decisions as to where to divert. When an aircraft flying from Madrid to Shanghai experienced a fuel leak over Novosibirsk, they chose to divert the aircraft to Helsinki rather than to Moscow.⁶⁰

a. Logistics

A diversion airport must be big enough to accommodate the aircraft, and its runway must be long enough for the plane to land safely and later take off safely. When a Singapore Airlines A380 experienced cabin pressure problems over Afghanistan, a landing in Kabul was unthinkable and the airport at Ashgabat could not handle the aircraft.⁶¹ Similarly, the diversion of an Air France A380 with 497 passengers and twenty-four crew to Goose

⁵⁶ See Simon Hradecky, *Incident: Canada B789 Near Moscow on June 4th 2018, Engine Flamed Out and was Restarted*, AVIATION HERALD (June 7, 2018), <http://avherald.com/h?article=4b997d46> [<https://perma.cc/33XP-27T8>].

⁵⁷ At that airport, passengers who transfer between international flights typically must pass through Russian passport control. See *Transfer*, DOMODEDOVO, <http://www.dme.ru/en/transfer/> [<https://perma.cc/RUS5-EJWD>] (last visited Mar. 27, 2019). Moscow's Sheremetyevo International Airport has an international transit area and only a boarding pass is required for international passenger. See *Frequently Asked Questions*, SVO, <http://www.svo.aero/en/passengers/faq/> [<https://perma.cc/U8RH-GDVE>].

⁵⁸ Simon Hradecky, *Incident: Nordwind B772 Near Delhi on Feb 4th 2018, Engine Trouble*, AVIATION HERALD (Feb. 6, 2018), <http://avherald.com/h?article=4b499bfb&opt=0> [<https://perma.cc/M86V-MJSZ>]. The passengers remained on the plane for over nine hours while visa issues were sorted out. *Id.* The airline sent replacement aircraft which departed Delhi for Thailand twenty-nine hours after the troubled aircraft had landed. See *id.* Fortunately, the Indian authorities were able to find a solution that allowed the passenger to disembark and be taken to hotels. See *id.*

⁵⁹ See Simon Hradecky, *Incident: Azur B763 Near Atlantic City on Jan 31st 2018, Engine Problem*, AVIATION HERALD (Feb. 1, 2018), <http://avherald.com/h?article=4b4578c0&opt=0> [<https://perma.cc/T4UK-3SLV>]. A replacement plane retrieved the passengers from Atlantic City and brought them to Cuba twenty hours later than scheduled. See *id.*

⁶⁰ See Simon Hradecky, *Incident: Iberia A332 Over Russia on Feb 9th 2018, Suspected Fuel Leak*, AVIATION HERALD (Feb. 13, 2018), <http://avherald.com/h?article=4b4e1e0a&opt=0> [<https://perma.cc/2H8Q-MNDX>]. Finland is a member of the EU. See *Countries*, EUROPA.EU, https://europa.eu/european-union/about-eu/countries_en [<https://perma.cc/QP5L-AB3Y>].

⁶¹ See Simon Hradecky, *Incident: Singapore A388 Near Baku on Jan 6th 2014, Loss of Cabin Pressure*, AVIATION HERALD (Apr. 24, 2017), <http://avherald.com/h?article=46e1dcdb/0001&opt=0> [<https://perma.cc/TC6L-7CW6>]. The aircraft, flying

Bay, a town of 8,000 people, was an overwhelming prospect and there was some doubt as to whether the airport had stairs that could grant access to the aircraft.⁶²

b. Customs Availability

Even if an airport is a designated port of entry for the country in which it is located, many airports without significant international traffic do not have customs facilities which are available twenty-four hours a day,⁶³ there may be reduced staff at certain periods of the day, and some airport's customs facilities may only be available at specific terminals.⁶⁴

i. Customs May Be Closed or Under-Staffed

On Saturday, March 8, 2008, two Montreal-bound aircraft of Cubana, the national Cuban airline, were diverted to Ottawa because of a significant snowstorm in Montreal.⁶⁵ The aircraft, Cubana Flights 170 and 172, landed at Ottawa at roughly 6:00 P.M., where snow was also falling, and their crews subsequently found that the Montreal airport had closed due to inclement weather.⁶⁶ As the delay became longer, there was a question of getting access to a gate, but the aircraft were stuck in the snow and, as inbound international flights, the passengers needed to

from London to Singapore, diverted to Baku (Azerbaijan), which was the next nearest airport. *See id.* No serious visa problems would have existed in Azerbaijan.

⁶² See Simon Hradecky, *Incident: France A388 Over Greenland on Sep 30th 2017, Uncontained Engine Failure, Fan and Engine Inlet Separated*, AVIATION HERALD (Sept. 30, 2017), <http://avherald.com/h?article=4af15205> [<https://perma.cc/NLF4-KNU2>].

⁶³ Even at an airport as large as Minneapolis-St. Paul International Airport, customs is only open from 6:00 A.M. to 10:00 P.M. *See Airport Guide*, BOOMERANG CARNETS, https://www.atacarnet.com/sites/default/files/documents/airport_maps/MSP_Airport_Map_T2_-_US_Version.pdf [<https://perma.cc/A66T-F5Q6>]. As of August 2018, Minneapolis received under a dozen international flights a day from destinations requiring U.S. customs clearance. The earliest flight arrived at 8:44 (Saskatoon) and the last arrived at 18:22 (Cancun). Intercontinental flights from Amsterdam, London, Paris, and Tokyo all arrived within roughly a six-hour window between 11:20 and 5:17. *See Delta Air Lines System Timetable: Validity Period: Sunday, 1st July 2018 to Wednesday, 15th August 2018.*

⁶⁴ At Chicago O'Hare, only Terminal 5 has customs facilities. *See International Traveler*, FLY CHICAGO, <https://www.flychicago.com/ohare/myflight/international/pages/default.aspx> [<https://perma.cc/Z6SG-9Y75>]. The location of customs is only a problem when the airport is particularly congested.

⁶⁵ *Fliers' Bill of Rights is a Timely Idea*, MONTREAL GAZETTE (Mar. 12, 2008), www.pressreader.com.

⁶⁶ *See id.*

clear customs and immigration formalities.⁶⁷ By the time the crews decided to disembark the passengers in Ottawa, it was after 3:45 A.M. and customs and immigration facilities were closed. Eventually, after being on the ground for eleven hours, a passenger called 911 and the Royal Canadian Mounted Police let them off the plane.⁶⁸ It is not clear whether the passengers were sent to a holding area or processed through the Canadian border formalities, but the incident produced a significant amount of finger-pointing between the various authorities and provoked calls for tarmac delay legislation in Canada.⁶⁹

ii. Customs May be Unavailable

On September 11, 2001, thirty-eight wide-body planes were diverted to Gander⁷⁰ and each one of them had to proceed through Canadian border formalities. Gander does not usually receive inbound wide-body flights⁷¹ and so Canadian officials told the captain of the thirty-third inbound plane that she and her passengers would not be getting off the plane until the next day.⁷² The people of Gander brought supplies to her plane, but she and her passengers spent twenty-one hours on the tarmac at Gander, waiting to be cleared through Canadian border formalities.⁷³ Amazingly, the record for the longest tarmac delay is probably held by the passengers of Delta Flight 37, who spent nearly twenty-seven hours on their plane at Gander.⁷⁴

⁶⁷ See *id.*

⁶⁸ See Nicole Michaud, *Attente Interminable à Bord du Vol 170*, LE DEVOIR (Mar. 18, 2008); *Fliers' Bill of Rights is a Timely Idea*, *supra* note 65.

⁶⁹ See *Fliers' Bill of Rights is a Timely Idea*, *supra* note 65.

⁷⁰ See 11-09-2001 FOUR DAYS IN SEPTEMBER, TRANSPORT CANADA 18 (2002), https://www.tc.gc.ca/media/documents/mediaroom/Sept_11_2001_Four_Days_in_September.pdf [<https://perma.cc/2ZW7-PHW8>].

⁷¹ Indeed, Gander does not usually receive international flights and so customs agents had to be brought to Gander by car from St. John's and a make-shift customs facility was set up. See Marc Weissman, *Remembering 9/11*, CBC "THE WORD" (Sept. 8, 2011), <http://www.cbc.ca/nl/theword/2011/09/08/marc-weissman-thank-you-to-gander/> [<https://perma.cc/X39E-EVJR>].

⁷² See Terry Maxon, *Tales of 9/11: Beverley Bass Took a Detour to Gander*, DALL. MORNING NEWS (Sept. 10, 2011), https://www.dallasnews.com/business/air_lines/2011/09/10/tales-of-911-beverley-bass-too [<https://perma.cc/Q7KB-DXJA>].

⁷³ *Id.*

⁷⁴ Passengers on Delta Flight 37 London-Cincinnati spent roughly thirty-one hours on the plane, which would have taken roughly four hours to reach Gander from London. See Weissman, *supra* note 71.

iii. Getting Off and Getting On

Obviously, the best way to avoid a lengthy tarmac delay is to allow the passengers to enter the terminal. However, this is no simple request, particularly where the aircraft has been diverted to an unplanned destination and passengers are eager to arrive as quickly as possible at the destination printed on their boarding pass. Allowing passengers to access the terminal requires bringing the aircraft to a gate or bringing stairs and perhaps a bus to the aircraft. The passengers must clear the country's border formalities and then, prior to boarding the new aircraft, the passengers will be subject to pre-board screening.

It should not be assumed that all of the passengers will have the correct immigration documentation to enter the country, unless the airport is located in the same country as the final destination.⁷⁵ However, even if all of the passengers have the right documents, the process of disembarking the passengers, clearing them through the country's border formalities, and then clearing them through pre-board screening will take between 90⁷⁶ and 120 minutes.⁷⁷ If many aircraft are in the same situation, these times could increase dramatically.

⁷⁵ On September 11th, at least three Mexico-bound flights from European airports were diverted to Canada. See 777-500er, *All Flight Diversions!*, AIRLINERS.NET (Sept. 2001), <https://www.airliners.net/forum/viewtopic.php?t=106431> [<https://perma.cc/8MF9-KWZ5>]. Many of the passengers would likely not have had immigration documentation for Canada as they had boarded non-stop flights to Mexico. The flights were: (1) Airtours 039, flying Glasgow to Cancun, and diverted to Halifax; (2) Martinair 932, flying Amsterdam to Mexico and diverted to Moncton; and (3) Aeromexico 006, flying from Paris to Mexico and diverted to Stephenville. See *id.*

⁷⁶ In 1989, when Delta was flying from Tokyo to Atlanta via Portland, they allowed ninety minutes in Portland for Atlanta-bound passengers to clear U.S. customs and immigration, go through security screening, and re-board the plane. Delta was using a 216-passenger Lockheed L-1011-500 and not all of the passengers arriving in Portland would have been continuing on to Atlanta. Had the plane been bigger or had a greater percentage of the passengers been destined for Atlanta, more time might have been allocated for the stop in Portland. At the time, Delta was the only carrier providing international service to Portland.

⁷⁷ In 1975, years before Calgary had U.S. pre-clearance facilities, U.S.-bound passengers would usually clear U.S. border formalities at Spokane, Washington, which was the nearest U.S. port of entry. Hughes AirWest knew that none of its passengers were bound for Spokane, and so it budgeted an hour to clear seventy-eight passengers through customs and immigration and provide pre-board screening. Of course, this was a quarter century before September 11, 2001, and the Hughes AirWest aircraft was the only one on the tarmac that needed to access customs and immigration facilities.

Thus, even if the parents of toddlers want access to toilet facilities and a play area, if a passenger wants to be able to walk around and get some fresh air, or if a smoker really needs to light up, the crew must add 90–120 minutes to the time the passengers will be in the terminal and assure themselves that the passengers will be back on the plane before it is time to depart. Consequently, in situations where the duration of the delay is unknown, crews may be reluctant to allow terminal access out of fear that such access would actually prolong the delay and further slow the flight's final arrival at its scheduled destination.

C. NATURE OF THE STOP

Over sixty incidents at three small Canadian airports were studied in order to analyze tarmac delays in isolation. The airports included Gander, Goose Bay, and Stephenville, all in the Canadian province of Newfoundland and Labrador. Gander is a former global crossroads and en-route fuel stop for transatlantic flights,⁷⁸ Goose Bay is an air base of the Royal Canadian Air Force,⁷⁹ and Stephenville airport is a former U.S. Air Force base.⁸⁰

The airports are located close to the flight path followed by aircraft operating transatlantic flights and they all have very long runways.⁸¹ Yet none of the three airports receives wide-body aircraft on a scheduled basis and none are served by a foreign carrier.⁸² Thus, when a foreign carrier lands a wide-body aircraft at one of these airports, the normal infrastructure the airline might have had at the airport of departure or the airport of arrival is lacking and each of the airports are thousands of miles away from any major international airport.

Predictably, when the crew of an airliner experiences a problem over these airports, the general desire is to land somewhere else. Thus, when a U.S.-bound Virgin Atlantic flight had a fuel-transfer problem, the crew initiated a diversion to Stephenville

⁷⁸ Adam Gollner, *Gander Airport: When the Going Was Good*, N.Y. TIMES (Mar. 20, 2005), www.nytimes.com/2005/03/20/travel/tmagazine/20TGANDER.html?_r=1& [<https://perma.cc/MJ6V-BGKV>].

⁷⁹ *5 Wing Goose Bay*, ROYAL CANADIAN AIR FORCE, <http://www.rcaf-arc.forces.gc.ca/en/5-wing/index.page> [<https://perma.cc/RQL9-XSA8>].

⁸⁰ It served as Ernest Harmon Air Force Base from 1948 to 1966. *See About Us, STEPHENVILLE AIRPORT CYJT*, <http://cyjt.com/about-us/> [<https://perma.cc/GT32-5CXE>].

⁸¹ *See id.*; Gollner, *supra* note 78; *5 Wing Goose Bay*, *supra* note 79.

⁸² *See About Us*, *supra* note 80; Gollner, *supra* note 78; *5 Wing Goose Bay*, *supra* note 79.

but ultimately landed in Boston;⁸³ when a Paris-bound Delta flight experienced generator failure over Goose Bay, the crew diverted to New York;⁸⁴ and when the crew of a Rome-bound Alitalia flight discovered fuel contamination over Gander, the crew initiated a diversion to Gander but ultimately landed in St. John's.⁸⁵

1. Quick Stop

Airlines will land at one of the three airports in the case of a minor repair. Thus, when the auxiliary power unit (APU) of an Atlanta-bound Delta Airline flight failed over Goose Bay, the crew chose to land and have the APU fixed and quickly took off again.⁸⁶ Possibly because Goose Bay is a well-equipped Air Force base, a Delta crew landed there due to smoke in the cockpit,⁸⁷ a

⁸³ See Simon Hradecky, *Incident: US Airways A333 Near Gander on May 24th 2014, Fuel Became Unusable*, AVIATION HERALD (June 3, 2014), <http://avherald.com/h?article=4755395a&opt=0> [<https://perma.cc/5KVK-4WKF>].

⁸⁴ See Simon Hradecky, *Incident: Delta B763 Near Goose Bay on Jan 2nd 2018, Generator Failure*, AVIATION HERALD (Jan. 3, 2018), <http://avherald.com/h?article=4b32a0c2&opt=0> [<https://perma.cc/5JUJ-YVLL>].

⁸⁵ See Simon Hradecky, *Incident: Alitalia A332 Near St. John's on Nov 22nd 2017, Fuel Contamination*, AVIATION HERALD (Nov. 23, 2017), <http://avherald.com/h?article=4b17187d> [<https://perma.cc/7USY-9JDZ>]. St. John's is the capital of Newfoundland and Labrador and has roughly twenty times Gander's population of approximately 11,000. See *Census Profile, 2016 Census: Gander*, STATISTICS CAN., <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=POPC&Code1=0311&Geo2=PR&Code2=47&E2%80%A6> [<https://perma.cc/WZ5E-C6V7>]; *Census Profile, 2016 Census: St. John's*, STATISTICS CAN., <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/details/page.cfm?Lang=E&Geo1=CSD&Code1=1001519&Geo2=CD&Code2=10&E2%80%A6> [<https://perma.cc/7TKH-YZ6U>]. Air Canada has a maintenance base there and there are scheduled flights to Halifax, Montreal, Ottawa, and Toronto. Alitalia flew a replacement 777 from Rome, and the passengers had over a half a day to explore St. John's. See Hradecky, *Incident: Alitalia A332 Near St. John's*, *supra* note 85.

⁸⁶ The aircraft spent two hours on the ground at Goose Bay. See Simon Hradecky, *Incident: Delta B763 Near Hudson Strait on Apr 22nd 2012, APU Failure*, AVIATION HERALD (May 2, 2012), <http://avherald.com/h?article=44eeda66&opt=0> [<https://perma.cc/VFY9-3C66>].

⁸⁷ The aircraft spent 3.45 hours on the ground at Goose Bay. See Simon Hradecky, *Incident: Delta Airlines B763 Near Goose Bay on Nov 13th 2009, Smoke in Cockpit*, AVIATION HERALD (Nov. 25, 2009), <http://avherald.com/h?article=422d9777&opt=0> [<https://perma.cc/UL6H-AFD9>].

United crew landed there to deal with smoke in the cabin,⁸⁸ and a Continental crew landed there to deal with a faulty lavatory.⁸⁹

Airlines such as Lufthansa,⁹⁰ Jet Airways,⁹¹ Emirates,⁹² and Northwest⁹³ have made emergency landings at Gander to drop sick passengers at Gander's hospital. Similarly, airlines such as Virgin Atlantic,⁹⁴ US Airways,⁹⁵ and Jet Airways⁹⁶ have deposited unruly passengers with the Gander Royal Canadian Mounted Police detachment, and these passengers have quickly been ordered to pay large fines and compensate the airline for the costs of the diversion. In addition, the unruly passenger has to find his or her way home from Gander, an endeavour which is neither cheap nor easy.

⁸⁸ The aircraft spent 4.5 hours on the ground at Goose Bay. See Simon Hradecky, *Incident: United B752 Near Goose Bay on May 3rd 2012, Smoke in Cabin*, AVIATION HERALD (May 11, 2012), <http://avherald.com/h?article=44f683ff&opt=0> [<https://perma.cc/2HUK-5JF8>].

⁸⁹ The aircraft spent one hour on the ground at Goose Bay. See Simon Hradecky, *Incident: Continental B764 Near Goose Bay on Oct 22nd 2009, Lavatory Issues*, AVIATION HERALD (Oct. 23, 2009), <http://avherald.com/h?article=421aba12&opt=0> [<https://perma.cc/8SKK-MAGM>].

⁹⁰ The aircraft spent seventy minutes on the ground at Gander. See Simon Hradecky, *Incident: Lufthansa A346 Near Gander on Aug 4th 2011, Medical Emergency*, AVIATION HERALD (Aug. 5, 2011), <http://avherald.com/h?article=440d50b8&opt=0> [<https://perma.cc/G3HQ-GWML>].

⁹¹ The aircraft made a quick stop at Gander. See Simon Hradecky, *Incident: Jet Airways A332 Near Gander on Apr 23rd 2011, Medical Emergency*, AVIATION HERALD (Apr. 26, 2011), <http://avherald.com/h?article=43b96bfd&opt=0> [<https://perma.cc/4D7S-7KXA>].

⁹² The aircraft spent ninety minutes on the ground at Gander. See Simon Hradecky, *Incident: Emirates B772 Near Gander on Mar 13th 2009, Medical Emergency*, AVIATION HERALD (Mar. 14, 2009), <http://avherald.com/h?article=41670602&opt=0> [<https://perma.cc/K2SZ-BN67>].

⁹³ The aircraft spent ninety minutes on the ground at Gander. See Simon Hradecky, *Incident: Northwest A333 Near Gander on Jul 24th 2008, Medical Emergency*, AVIATION HERALD (July 26, 2008), <http://avherald.com/h?article=40a39651&opt=0> [<https://perma.cc/3MWK-DZKH>].

⁹⁴ The aircraft spent 1.5 hours on the ground at Gander. See Simon Hradecky, *Incident: Virgin Atlantic B744 Near Gander on Oct 21st 2010, Unruly Passenger*, AVIATION HERALD (Oct. 27, 2010), <http://avherald.com/h?article=43287248&opt=0> [<https://perma.cc/6VDB-37BK>].

⁹⁵ The aircraft spent one hour on the ground at Gander. See Simon Hradecky, *Incident: US Airways B752 Near Gander on Mar 18th 2010, Unruly Passenger*, AVIATION HERALD (Mar. 22, 2010), <http://avherald.com/h?article=428dffff&opt=0> [<https://perma.cc/G5YN-S78A>].

⁹⁶ The aircraft spent one hour on the ground at Gander. See Simon Hradecky, *Incident: Jet Airways Near Gander on Jun 4th 2012, Unruly Passenger*, AVIATION HERALD (June 7, 2012), <http://avherald.com/h?article=450c508d&opt=0> [<https://perma.cc/FUW8-QXYQ>].

Whether at Gander, Goose Bay, or Stephenville, none of the aircraft making a quick stop spent more than four hours on the ground and the crews could always count on local authorities to replenish any needed supplies.⁹⁷

2. *Complex Stop*

When an aircraft crew experiences flight control problems,⁹⁸ an in-flight loss of an engine,⁹⁹ a generator and APU failure,¹⁰⁰ an indication of an on-board fire in the crew area¹⁰¹ or in the cargo hold,¹⁰² or a bomb threat,¹⁰³ the decision is made to land at the nearest available airfield big enough for the plane to land and take off again. Once on the ground, an assessment is made of how serious the problem is. If the crew determines that the aircraft cannot fly safely, the airline will summon another aircraft to bring the passengers to their final destination. Depending on the facilities at the airport, and whether passengers need to clear border formalities, it may make sense for the passengers to remain on the aircraft.

When one of the engines of a Los Angeles-bound Air France Airbus A-380 blew out over Nuuk, Greenland, the crew immediately initiated a diversion for Goose Bay and informed the airline.¹⁰⁴ When the plane arrived in Goose Bay, the 497

⁹⁷ In 2011, a Continental flight bound for Hamburg made a three-hour stop at Gander when they ran out of potable water. See Simon Hradecky, *Incident: Continental B752 Near Gander on Jul 28th 2011, Dry Pipes*, AVIATION HERALD (Aug. 10, 2011), <http://avherald.com/h?article=4411883b&opt=0> [<https://perma.cc/KN93-N4AU>].

⁹⁸ See Simon Hradecky, *Incident: United B763 Near Goose Bay on Jun 12th 2015, Flight Controls Problem*, AVIATION HERALD (June 23, 2015), <http://avherald.com/h?article=487dda05> [<https://perma.cc/3EVU-N8Q4>].

⁹⁹ See Simon Hradecky, *Incident: United B763 Over Atlantic on Apr 3rd 2018, Engine Shut Down in Flight*, AVIATION HERALD (Apr. 12, 2018), <http://avherald.com/h?article=4b740f36&opt=0> [<https://perma.cc/44RY-BXXJ>].

¹⁰⁰ See Simon Hradecky, *Incident: United B763 Over Labrador Sea on Sep 15th 2016, Generator and APU Failure*, AVIATION HERALD (Sept. 22, 2016), <http://avherald.com/h?article=49e5953d&opt=0> [<https://perma.cc/QND2-H7HT>].

¹⁰¹ See Simon Hradecky, *Incident: Lufthansa A343 Over Atlantic on Jun 17th 2011, Fire Indication*, AVIATION HERALD (June 18, 2011), <http://avherald.com/h?article=43e5ddc2&opt=0> [<https://perma.cc/R9VP-BWRS>].

¹⁰² See Simon Hradecky, *Incident: Air France B773 Near Goose Bay on Aug 10th 2010, Cargo Fire Indication*, AVIATION HERALD (Aug. 13, 2010), <http://avherald.com/h?article=42f7d23f&opt=0> [<https://perma.cc/L5YW-LLSZ>].

¹⁰³ See Simon Hradecky, *Incident: Delta Airlines B763 Near Gander on Jul 20th 2008, Bomb Hoax*, AVIATION HERALD (July 21, 2008), <http://avherald.com/h?article=409fb124&opt=0> [<https://perma.cc/L5YW-LLSZ>].

¹⁰⁴ See Hradecky, *Incident: France A388 Over Greenland*, *supra* note 62.

passengers and twenty-four crew were informed that the airport did not have stairs that were high enough to allow a safe disembarkation.¹⁰⁵ Moreover, the Canadian border formalities at Goose Bay airport are not designed to handle an aircraft with more than fifteen passengers and crew¹⁰⁶ and thus, even if stairs had existed, Canadian officials might not have permitted the passengers to disembark.

The A-380 landed at 12:41 P.M. Labrador time, and an Air France 777 arrived from Montreal at 2:50 A.M. the next morning and departed for Atlanta at 6:55 A.M. with some passengers, some fourteen hours after the A-380 had landed.¹⁰⁷ Four hours later, at roughly 2:52 P.M., a 737-700 leased from Nolinor arrived to take the remaining passengers to Los Angeles with a technical stop in Winnipeg.¹⁰⁸ When the Air France 777 arrived, stairs were found that would facilitate the safe disembarkation of passengers from the A-380.¹⁰⁹

Given that the stairs facilitated people destined for the United States to board aircraft bound for the United States, it is possible that the real obstacle to an earlier disembarkation of the A-380's passengers and crew were officials with the Canadian Border Services Agency. In any event, one of the passengers who waited for the Los Angeles-bound Nolinor flight told a journalist that he was on the A-380 for almost twenty-four hours.¹¹⁰

A more typical situation might be that which faced passengers on Delta Flight 446, flying from New York to Reykjavik in June 2016. The crew diverted the flight to Goose Bay due to deteriorating weather conditions in Iceland.¹¹¹ While the crew waited for the weather in Iceland to improve, they found themselves in a situation where they would reach the end of their duty time

¹⁰⁵ *See id.*

¹⁰⁶ *See Goose Bay Airport*, CANADA BORDER SERVS. AGENCY (Aug. 31, 2016), <https://www.cbsa-asfc.gc.ca/do-rb/offices-bureaux/47-eng.html> [<https://perma.cc/9DC2-JR3Y>].

¹⁰⁷ *See Hradecky, Incident: France A388 Over Greenland*, *supra* note 62.

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*

¹¹⁰ *See Daniel MacEachern, Wheels Up: Air France Passengers Depart Goose Bay on Two Flights After Hours on Tarmac*, CBC NEWS (Oct. 1, 2017), <http://www.cbc.ca/news/canada/newfoundland-labrador/air-france-passengers-goose-bay-1.4315625> [<https://perma.cc/YQ8P-PLC2>].

¹¹¹ *See Delta Flight 446 to Iceland Diverted to Happy Valley-Goose Bay*, CBC NEWS (June 22, 2016), <https://www.cbc.ca/news/canada/newfoundland-labrador/delta-flight-446-diverted-labrador-1.3647132> [<https://perma.cc/W7FP-5T3X>].

before they could land in Reykjavik.¹¹² Delta sent a replacement crew, and the flight resumed about eight hours after the plane had landed in Goose Bay.¹¹³ The passengers were kept on board during the stop in Goose Bay.¹¹⁴

Typically, a longer tarmac delay will happen if the airline's base is very far from the airport where the emergency landing was made. When Delta made a diversion to Goose Bay due to engine trouble, a replacement aircraft arrived within five hours.¹¹⁵ However, when a Qatar Airways 777 diverted to Gander under similar circumstances, the record does not indicate where the Airbus A332 that carried the passengers from Gander to London was based.¹¹⁶ If it were based in New York or in London, it could have flown to Gander in under four hours, but if it were based in Doha, the trip would have taken much longer. In situations such as this, where a long delay is known in advance, airlines will often try to disembark the passengers and give them meals and accommodations while they wait to depart again.

Thus, when the crew of a Lufthansa 747 was informed of smoke in the cabin because of an electrical problem in the galley, they diverted to the closest airport, which was Goose Bay.¹¹⁷ Shortly after landing, it became apparent that the source of smoke was a malfunctioning coffee maker and a decision was made to bring in mechanics from Germany to fix it.¹¹⁸ Given that the mechanics would not arrive for at least sixteen hours, the decision was made to disembark the passengers, process them through Canadian border formalities, and work with local authorities to meet the passengers' needs for food and accommodation.¹¹⁹ As a result, rather than being subject to an eternal

¹¹² See *id.*

¹¹³ See *id.*

¹¹⁴ See *id.*

¹¹⁵ See Hradecky, *Incident: United B763 Over Atlantic*, *supra* note 99. The replacement plane probably came from Newark.

¹¹⁶ See Simon Hradecky, *Incident: Qatar Airways B773 Near Gander on Sep 6th 2008, Engine Failure*, AVIATION HERALD (Sept. 19, 2008), <http://avherald.com/h?article=40d0107c&opt=0> [<https://perma.cc/XR3F-6247>].

¹¹⁷ See Simon Hradecky, *Incident: Lufthansa B744 Near Goose Bay on Oct 26th 2012, Smoke in Cabin*, AVIATION HERALD (Oct. 27, 2012), <http://avherald.com/h?article=458146e5&opt=0> [<https://perma.cc/MJ2P-YBKT>].

¹¹⁸ See *id.*

¹¹⁹ See *id.*

wait on the aircraft, passengers spoke of a twenty-three-hour vacation in Goose Bay.¹²⁰

3. *Evolving Stop*

The worst nightmare is, of course, the evolving stop. This is where the conditions change after the plane has landed or other unforeseen factors come into play. These can dramatically extend any delay.

Normally, as has been seen already, a medical emergency involves a fairly quick stop at the chosen airport, and these delays rarely exceed two hours. But when a Cork-bound Norwegian 737-800 and a Gatwick-bound British Airways 777-200 both diverted to Gander within twenty minutes of each other at around 2:40 A.M., the duration of the stop greatly exceeded what the crews anticipated.¹²¹ In both cases, the diversions were to deal with a medical emergency, but once on the ground the delays mounted and passengers on both aircraft remained on board for six hours or more.¹²² At this point, the crews realized that they would not be able to complete the flights within their duty time, and thus, the stays extended to nearly twenty-four hours.¹²³ Given that the length of the extension was known, both crews decided to disembark their passengers and process them through Canadian border formalities. The Norwegian airlines passengers were put up in a hotel; the British Airways passengers stayed in the airport terminal.¹²⁴

4. *Many Aircraft Seeking a Quick Stop*

In 2017, fourteen major airports and airline hubs including “Boston, Chicago, Delhi, Houston, London, Miami, Montreal, Mumbai, New York, Philadelphia, Phoenix, Tokyo, Toronto, and Washington, were fully or partially closed at least on one occasion due to weather or weather-related events.”¹²⁵ In each

¹²⁰ *See id.*

¹²¹ *See* Tyler Dunne, *Pair of Diversions Lead to Chaotic Day at Gander Airport*, CBC NEWS (June 26, 2018), <https://www.cbc.ca/news/canada/newfoundland-labrador/gander-airport-two-flights-make-emergency-landings-1.4723868> [https://perma.cc/J8Q3-93CU].

¹²² *See id.*

¹²³ *Id.*

¹²⁴ *Id.*

¹²⁵ *See* ARMAND DE MESTRAL ET AL., SUSTAINABLE DEVELOPMENT, INTERNATIONAL AVIATION, AND TREATY IMPLEMENTATION 3 (2018).

case, aircraft bound for those airports were diverted to other airports.

In cases where numerous aircraft were diverted to a single smaller airport, the consequences on passenger comfort were often serious. In almost every case where an inbound international aircraft is diverted to a small airport which is not used to receiving large numbers of international flights, the crew's intention is to land, re-fuel, and depart as quickly as possible for the final destination.

a. Halifax, September 11, 2001 and Ottawa, July 31, 2017

On July 31, 2017, twenty aircraft were diverted to Ottawa when bad weather closed both Montreal and Toronto airports.¹²⁶ This number is roughly half that of the number of planes diverted to Halifax on September 11, 2001.¹²⁷

On September 11, the United States closed its skies at 9:25 A.M. EDT and Canada followed suit within an hour,¹²⁸ as of 11:25 A.M. ADT.¹²⁹ At that time, 157 west-bound trans-Atlantic flights were still cleared to land in North America.¹³⁰ Ten minutes later, the first diverted plane landed in Halifax and the first passenger disembarked at 15:30,¹³¹ resulting in a minimum tarmac delay of roughly four hours. The fortieth plane landed prior to 22:30¹³² and its passengers began disembarking at 4:00

¹²⁶ Vito Pilienci, *Bad Weather Forces 20 Flights to Divert to Ottawa on Monday*, OTTAWA CITIZEN (Aug. 1, 2017), <https://ottawacitizen.com/business/local-business/bad-weather-in-toronto-forces-up-to-20-flights-to-divert-to-ottawa-on-monday> [<https://perma.cc/5LSX-586F>].

¹²⁷ Forty planes were diverted to Halifax. See *September 11 Attacks and Halifax's Response Remembered*, CBC NEWS (Sept. 11, 2015), <https://www.cbc.ca/news/canada/nova-scotia/september-11-attacks-and-halifax-s-response-remembered-1.3223825> [<https://perma.cc/KVG6-7EQP>].

¹²⁸ Roger A. Mola, *Shutdown of National Airspace System Was "Organized Mayhem"*, AIN ONLINE (Oct. 8, 2007), <https://www.ainonline.com/aviation-news/2007-10-08/shutdown-national-airspace-system-was-organized-mayhem> [<https://perma.cc/9YRW-4SUT>].

¹²⁹ Atlantic Time (UTC - 4) is one hour ahead of Eastern Time (UTC - 5).

¹³⁰ See *How NATS Responded to the Day of Terror*, UNITED KINGDOM FLIGHT SAFETY COMM. (Sept. 20, 2008), http://www.ukfsc.co.uk/files/Safety%20Briefings%20-%20Presentations/ATM%20How%20NATS%20responded%20to%20the%20day%20of%20terror_%20Sept%202008.pdf [<https://perma.cc/9UHK-YA7S>].

¹³¹ See *Chronology of Events*, HALIFAX STANFIELD INT'L AIRPORT AUTHORITY, <https://halifaxstanfield.ca/airport-authority/airport-history/september-11-2001/> [<https://perma.cc/ZA5B-B3HW>].

¹³² Susan Bradley, *Terror Strikes; Jets Find Safe Runways in Halifax; North American Air Travel Shut Down, Passengers Find Refuge in N.S.*, CHRONICLE HERALD (Sept. 12, 2001), A4.

A.M.,¹³³ resulting in a maximum tarmac delay of roughly six and a half hours. By comparison, the first diverted aircraft that landed in Ottawa on July 31, 2017, spent one hour and twenty-five minutes on the ground,¹³⁴ whereas the twelfth of eighteen aircraft (Air Transat 157) that landed endured a tarmac delay of almost six hours.¹³⁵

i. Factors in Common

Prima facie, the Halifax diversions of September 11, 2001, and the Ottawa diversions of July 31, 2017, are comparable. Both were extraordinary events. The Halifax situation was provoked by an unprecedented terrorist attack of New York and Washington and the subsequent closure of North American skies. The Ottawa situation was provoked by the unprecedented simultaneous closure of both Toronto and Montreal airports, which serve as the primary Canadian destinations for flights from Europe, the Middle East, and South Asia.

Both Halifax and Ottawa were non-hub airports that did not have significant international traffic and they received dozens of aircraft in a short time frame; Halifax received twenty-three inbound international flights in under two hours¹³⁶ and Ottawa received eighteen inbound international flights in roughly the same time interval.¹³⁷ In both cases, many aircraft were parked on runways and taxiways, in positions that made disembarkation difficult. In both cases, the length of tarmac delay increased as the aircraft's position in the queue increased; aircraft that arrived earlier in the process had shorter delays than those that arrived later.

In both cases, there were factors that made shortening the delay difficult. Planes in Halifax faced the need to clear passengers and their baggage through a growing queue for Canadian border formalities. Planes in Ottawa needed to wait for fuel at one of the few Canadian airports where it is still delivered by

¹³³ See *Chronology of Events*, *supra* note 131.

¹³⁴ See Declaration of Matthew Jackson, Flight Safety Director of Air Transat A.T., Canadian Transport Agency's 2017 Air Transat Tarmac Delay Inquiry, 3, ¶¶ 12, 14, <https://drive.google.com/drive/folders/0Bzfg6iOhPjDMTC02aUpjZ2drQ0U> [<https://perma.cc/A7BW-DAV2>].

¹³⁵ *Id.* at 3, ¶¶ 12, 21.

¹³⁶ Bradley, *supra* note 132.

¹³⁷ See Declaration of Matthew Jackson, *supra* note 134, at 4–5, ¶ 26.

tanker truck,¹³⁸ and on a day when only seven of the nine trucks were operational.¹³⁹ Thus, to a certain extent, the duration of the tarmac delays was unknown to the crew and was also largely beyond their control.

ii. Points of Distinction

However, the situations at the two airports are different as well. It was immediately clear to the crews of the aircraft landing in Halifax in 2001 that their aircraft would be on the ground for at least twenty-four hours. By contrast, the crews of the aircraft landing in Ottawa in 2017 believed that they would be landing, refueling, and departing for their final destination once the weather had cleared.

Thus, from the moment of landing, the passengers had very different expectations. The passengers in Halifax quickly recognized that they would face a lengthy tarmac delay and that the duration of the delay was principally in the hands of Canadian officials who would decide when they would be disembarked and processed through Canadian border formalities. The passengers in Ottawa were told that Ottawa was a re-fueling pit-stop, and that the flight would take off as soon as the flight was fueled and the destination airport was re-opened. These very different passenger expectations made a 6.5-hour tarmac delay in Halifax quite acceptable, while making a shorter 5.75-hour tarmac delay in Ottawa the subject of a public outcry.¹⁴⁰

Thus, when officials looked into the 2017 Ottawa tarmac delay, rather than looking holistically at how mass diversions to small- or medium-sized airports can be better managed in the

¹³⁸ See *Canadian Airports With Fuel Consortiums*, FSM MANAGEMENT GRP., <http://fsmgroup.ca/canadian-fuel-consortia/canadian-airport-information> [<https://perma.cc/SBU5-48CB>]. FSM Group provide jet fuel at Calgary, Edmonton, Halifax, Hamilton, Montréal, Ottawa, Toronto, Vancouver, and Winnipeg. See *id.* All of them use an underground hydrant system to fuel planes, except for the airports in Hamilton and Ottawa. See *id.*

¹³⁹ See Jean-Michel Gagnon, *Inquiry Officer's Report – Investigation of Air Transat Flight Nos. 157 and 507 Delayed on the Tarmac at Ottawa's Macdonald-Cartier International Airport on July 31, 2017*, CAN. TRANSP. AGENCY (Aug. 25, 2017), <https://otccta.gc.ca/eng/inquiry-officers-report-investigation-air-transat-flight-nos-157-and-507> [<https://perma.cc/Q7ZX-VHCV>].

¹⁴⁰ See Kristy Nease, “You Can’t Do This to Us”: Fuming Passengers Stuck on Planes for Hours Call 911, CBC NEWS (Aug. 1, 2017), <https://www.cbc.ca/news/canada/ottawa/air-transat-ottawa-planes-parked-hours-delay-1.4230048> [<https://perma.cc/3FSM-E5GX>].

future, they focused on the two flights on which passengers had made 911 calls, namely Air Transat Flights 157 and 507.¹⁴¹

V. TARMAC DELAY: ARE AIRLINES CULPABLE?

Given that major airlines schedule a large number of airlines to land at their hubs within a relatively short interval of time, there will be cases where a delayed departure of one aircraft will mean that a gate is not available for an arriving aircraft. In such cases, to the extent that a lengthy tarmac delay affects the arriving aircraft, such a delay would be largely the fault of the airline in the sense that they could have avoided it through better planning, such as having spare gates or not scheduling so many flights within a given time frame.

Similarly, if a plane experiences a lengthy tarmac delay prior to departure because the crew scheduling department did not assign a crew with enough duty time to fly to the intended destination, this would be the fault of the airline, and consequently, any resulting tarmac delay would also be their fault. However, as has been pointed out, since the passage of the U.S. Tarmac Delay Rules, these types of tarmac delays have been virtually eliminated.

A. DELAY IS NOT IN AN AIRLINE'S INTEREST

Airlines measure efficiency by available seat miles and aircraft utilization. Thus, any lengthy delay affects both measures negatively and, consequently, has potential effects on the airline's balance sheet. For example, when a malfunctioning coffee maker forced the crew of a Lufthansa 747 bearing registration D-ABTL to divert to Goose Bay,¹⁴² the unplanned twenty-three-hour stop in Goose Bay forced Lufthansa to get Canadian officials to allow the 293 passengers to disembark, and to be fed and accommodated at Lufthansa's expense. In addition, Lufthansa had to divert a second 747 to Goose Bay to drop off the mechanics to fix the coffee maker, causing the second aircraft a three-hour delay in reaching its destination.¹⁴³

The fact that D-ABTL was kept on the ground for nearly a day meant that Lufthansa was unable to use its aircraft to operate a planned round-trip flight between the United States and Ger-

¹⁴¹ See *Letter Decision No. LET-A-49-2017*, CAN. TRANSP. AGENCY (Aug. 9, 2017), <https://otc-cta.gc.ca/eng/ruling/let-a-49-2017> [<https://perma.cc/DN8J-SFS3>].

¹⁴² See Hradecky, *Incident: Lufthansa B744 Near Goose Bay*, *supra* note 117.

¹⁴³ *Id.*

many and derive revenue from those flights. In addition, the carrier would have had to find a replacement aircraft to operate those flights or cancel those flights and pay compensation to 586 passengers¹⁴⁴ of up to EUR 600 each¹⁴⁵ for a total of up to EUR 351,600 in disbursements.

If the compensation to the passengers of the canceled flights is added to the cost of feeding and accommodating D-ABTL's passengers, Lufthansa's total out-of-pocket cost for the incident involving the malfunctioning coffee maker could easily exceed EUR 500,000. Given the costs of dealing with a tarmac delay and the consequent effect of the delay or cancelation of subsequent flights, it is clear that tarmac delays are definitely not in an airline's interest.

B. DELAY MAY BE DUE TO FACTORS BEYOND AN AIRLINE'S CONTROL

In virtually all of the more than sixty incidents where airlines made en-route landings at Gander, Goose Bay, or Stephenville, the landings were provoked by safety issues which had not been apparent to the crew of the aircraft when the flight departed for its destination. In every case, the landing was made by the crew in the interest of aviation safety and none of the landings were subsequently found to have been unnecessary. Thus, the landing was provoked by factors beyond the crew's control, and in each case the length of time the aircraft spent on the ground was often beyond the control of the crew as well. As has been pointed out above,¹⁴⁶ at a foreign airport, it would take between 90 and 120 minutes to disembark and re-embark passengers who wanted to enter the terminal as a result of the need to clear both border formalities and pre-board passenger screening. Thus, unless the crew is reasonably certain from the moment of arrival at the airport that the stop will exceed 120 minutes, little thought is given to this idea.

¹⁴⁴ See *id.* D-ABT was carrying 293 passengers when it was diverted. For the purposes of this calculation it will be assumed that the round-trip flight the next day would have carried the same number of passengers in each direction for a total of 586.

¹⁴⁵ See Commission Regulation 261/2004 of Feb. 11, 2004, *supra* note 27, arts. 5, 7. Europe's Passenger Rights regulations apply to European airlines on all routes to and from the EU. See *id.*

¹⁴⁶ See *supra* section IV.B.2.b.iii.

VI. SHOULD OTHER ENTITIES PLAY A ROLE?

In cases where a large number of aircraft from foreign points of origin are diverted to an airport in another country, consideration should be given to whether there may exist options other than leaving the passengers on the plane or processing them through border clearance formalities to disembark and then pre-board screening to re-embark.

For example, it is in fact true that on the morning of September 11, 2001, none of the passengers on the various European U.S.-bound flights that were subsequently diverted to Canada were expecting to visit Canada during their trip. Thus, they did not have Canadian dollars and, in the case of non-European or non-American passengers, they probably did not have Canadian visas in their passports. Their arrival in Canada was just as much a surprise to them as it was to Canadian officials.

A. THE ELEMENT OF SURPRISE

Generally speaking, if an event is a complete surprise to all involved, it is also a surprise to mal-intentioned people who wish to take advantage of the situation. In 2009, on his first visit to Canada, U.S. President Barack Obama's motorcade "made an unannounced detour to Ottawa's historic ByWard Market" where he picked up some souvenirs.¹⁴⁷ The visit was so spontaneous that even the Royal Canadian Mounted Police only got a few minutes notice.¹⁴⁸ But the length of the visit, which was less than ten minutes, plus the element of surprise, resulted in a situation where the President of the United States was at very little real risk. His security detail was present and no adversaries had an idea he would be visiting the ByWard market until after he had left it. Indeed, this strategy of surprise, short, secret visits has been used often before and with considerable success: "[t]he White House has a history of making unpublicized visits to parts of the world where security is an issue."¹⁴⁹

¹⁴⁷ See John Geddes, *A Warm Welcome in Ottawa: Behind the President's Visit Was an Intricate Mix of Diplomacy and Riveting Spectacle*, MACLEANS (Mar. 5, 2009), <https://www.macleans.ca/news/canada/a-warm-welcome-in-ottawa/> [<https://perma.cc/723J-2XRD>].

¹⁴⁸ *Id.*

¹⁴⁹ See Daniel Stone, *The Reason for Obama's Secret Trip to Afghanistan*, NEWSWEEK (Mar. 28, 2010), <https://www.newsweek.com/reason-obamas-secret-trip-afghanistan-212946> [<https://perma.cc/8HLS-BDBS>].

B. HOW IMPORTANT IS SECURITY?

While there can be no doubt that the highest standards of aviation security must be maintained, especially in the post-September 11 context, the need for proper risk analysis cannot be overstated. On September 11, thirty-eight aircraft were diverted to Gander,¹⁵⁰ and some of the passengers waited up to thirty-one hours to disembark.¹⁵¹ Given that the aircraft brought 6,656 passengers to a town with a population of less than 10,000¹⁵² and that there were no other aircraft departing Gander for ninety-six hours afterwards, if the passengers had not been cleared through Canadian border formalities, the risk would have been minimal. This is because none of the passengers had intended to visit Gander on the morning of September 11, 2001, and none intended to stay in Gander once the skies re-opened. Furthermore, in a tight-knit community like Gander, the foreign passengers, virtually none of whom had a Newfoundland accent, would have been conspicuous to all. However, all of the passengers were cleared through Canadian border formalities because that is what the law and process required. Nonetheless, no risk-based analysis would have supported keeping foreigners on planes for over twenty-four hours in order to clear them through border formalities in an isolated town they had no intention of visiting.

C. ARE PASSENGERS REALLY VISITING THE COUNTRY?

The idea of simplifying a fast visit is central to the customs and immigration protocols in place for cruise ship passengers at Caribbean ports. For most of these, no passport is required.¹⁵³ Passengers keep their cruise card which is scanned when they leave the ship and scanned again when they re-enter.¹⁵⁴ This is because the local authorities know that the passengers have no intention of staying in their country and that they will make every effort to re-board the cruise ship. By not making passengers go through customs and immigration, they allow passengers more time to visit local tourist attractions, buy souvenirs, and dine in local restaurants. The ship provides the local au-

¹⁵⁰ See 11-09-2001 FOUR DAYS IN SEPTEMBER, *supra* note 70.

¹⁵¹ See Weissman, *supra* note 71.

¹⁵² See 11-09-2001 FOUR DAYS IN SEPTEMBER, *supra* note 70.

¹⁵³ See *What to Expect on a Cruise: Visiting Cruise Ports*, CRUISE CRITIC, <https://www.cruise critic.com/articles.cfm?ID=1161> [<https://perma.cc/MJN4J934>].

¹⁵⁴ See *id.*

thorities with the passport information of those passengers who have disembarked and confirms which passengers have re-embarked.¹⁵⁵

If the same risk-based approach were applied to diverted aircraft at Gander, Goose Bay, and Stephenville, it would eliminate most of the tarmac delays in Canada and might even set a precedent for behavior abroad.

1. *No-Man's Land*

Airports, especially in situations where past lengthy tarmac delays have occurred after the arrival of un-scheduled aircraft flying from foreign lands, should consider the establishment of “no-man’s lands” or other “sterile” facilities which could be temporarily used by the passengers of such aircraft. This would allow passengers to disembark and use clean toilet facilities, other passengers might walk around to stretch their legs, young children would have a chance to run around, others might buy a drink or a sandwich, and yet others might phone loved ones to update them on potential arrival times.

The facility would be set up so that passengers could not leave it except to return to the plane and thus, it would not be necessary for them to clear border formalities of a country they had no intention to visit. Moreover, if the only people in this sterile area were fellow passengers, airport security, airline and concession employees, and possibly passengers from other, similarly-affected flights, these passengers would not need to be processed through any pre-boarding screening. Where a facility at an airport is not heavily used most of the time and has convenient air-side access, thought should be given to making it available in times of potential tarmac delays to give respite to beleaguered passengers. In addition, non-isolated airports that have experienced the phenomenon of multiple diverted international in-bound flights during a short time interval should be forced to identify a facility where such passengers could be granted temporary access to a sterile “no-man’s land” or, in the case where none exists, to create one.

¹⁵⁵ *Frequently Asked Questions from Congressional Offices*, DEP’T OF HOMELAND SECURITY (June 22, 2018), <https://www.cbp.gov/about/congressional-resources/faqs> [<https://perma.cc/X4JH-K5RK>]. Where passengers miss the ship, they are responsible for getting home or to the next port of call. *What to Expect on a Cruise*, *supra* note 153. Often this would be a very expensive proposition.

D. SOME FINAL THOUGHTS

In almost all the cases of tarmac delay considered here, the principle cause of delay has been the need to process the passengers through border formalities and then, as required, pre-screen them before allowing them to board the continuation of their flight. This raises three issues:

- (1) In such cases, to what extent is the airline responsible for the duration of the tarmac delay?
- (2) Are there cases where a risk-based approach might eliminate the need to process certain passengers who have no intention to visit and no documents to enter the state in which the airport is based?
- (3) Have airport authorities provided sterile facilities where inbound international passengers could be temporarily accommodated without the need to be processed through border formalities and later pre-screening procedures?

First, to the extent that the airline has no control over customs and immigrations, it should not be fair to hold airlines responsible for delays caused by their action or inaction. Moreover, given the relative isolation of Gander, Goose Bay, and Stephenville, and the fact that it would be impossible to leave any of these for a major airport without boarding an aircraft and showing a passport, serious reconsideration should be given to whether it is really necessary to process passengers of aircraft diverted to these remote airfields through Canadian border formalities. Second, a risk-based approach needs to be taken in responding to the challenge of dealing with inbound, foreign-originating passengers with no intention of visiting the country in which the diversion airport is located. Third, and finally, many airports have facilities that could be quickly set up as sterile “no-man’s lands” to accommodate in-bound foreign-originating passengers. In a world where climate change is a reality, airports need to be able to adapt to evolving situations; and in the future the number of diversions due to weather events is likely to increase. In this context, having a sterile “no-man’s land” should be required of any major airport that routinely receives international flights.

VII. CONCLUSION

There is no doubt that tarmac delays must be avoided at all costs, and to the extent that these were caused by over-ambitious scheduling, the U.S. Tarmac Delay Rule has done a very admirable job of virtually eliminating such delay. If one understands the impact of a tarmac delay on airline operations, it is obvious that tarmac delays are hated more by the airlines than by the passengers. However, the over sixty tarmac delays that were considered by this Article show that government policies and actions to a great extent may influence both the duration of the delay and the decision as to whether and at what point to allow passengers to disembark.

Ideas such as waiving customs clearance where risk analysis suggests there is no threat to public safety, and creating “no-man’s lands” at major airports are two ways that governments can reduce the length of tarmac delays at airports to which aircraft are diverted.

It is one thing to punish, fine, or force airlines to compensate passengers for tarmac delays; it is far better for governments to consider the role that government institutions might play in eliminating such delays.