

Airline Tarmac Delays: Implications of Government Regulation

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History/Motivation

- “Passenger Bill of Rights” currently under debate as part of FAA Re-Authorization
- Lengthy tarmac delays occur almost daily, but the Bill is being motivated/propelled forward by rare, high-impact, and high-visibility events
 - E.g. Minnesota Rochester flight brought on Sen. Amy Klobuchar as a supporter of the bill
- As a result, focus of bill is on “three-hour tarmac rule”

Implications

- The Bill will pass ...
- ... or it won't...
- But either case will likely have the same outcome (virtually no change)
 - Very few flights fall into the three+ hour category
 - Maybe of them would be exceptions to the rule

Implications

- If flights *are* forced to turn back, benefit to passengers on impacted flights will be mixed
 - Some passengers will opt to get off (but may have trouble re-booking if load factors remain high)
 - Some passengers will want to continue on
 - Even longer delay as flight re-enters departure queue
 - More likely, flight will be cancelled

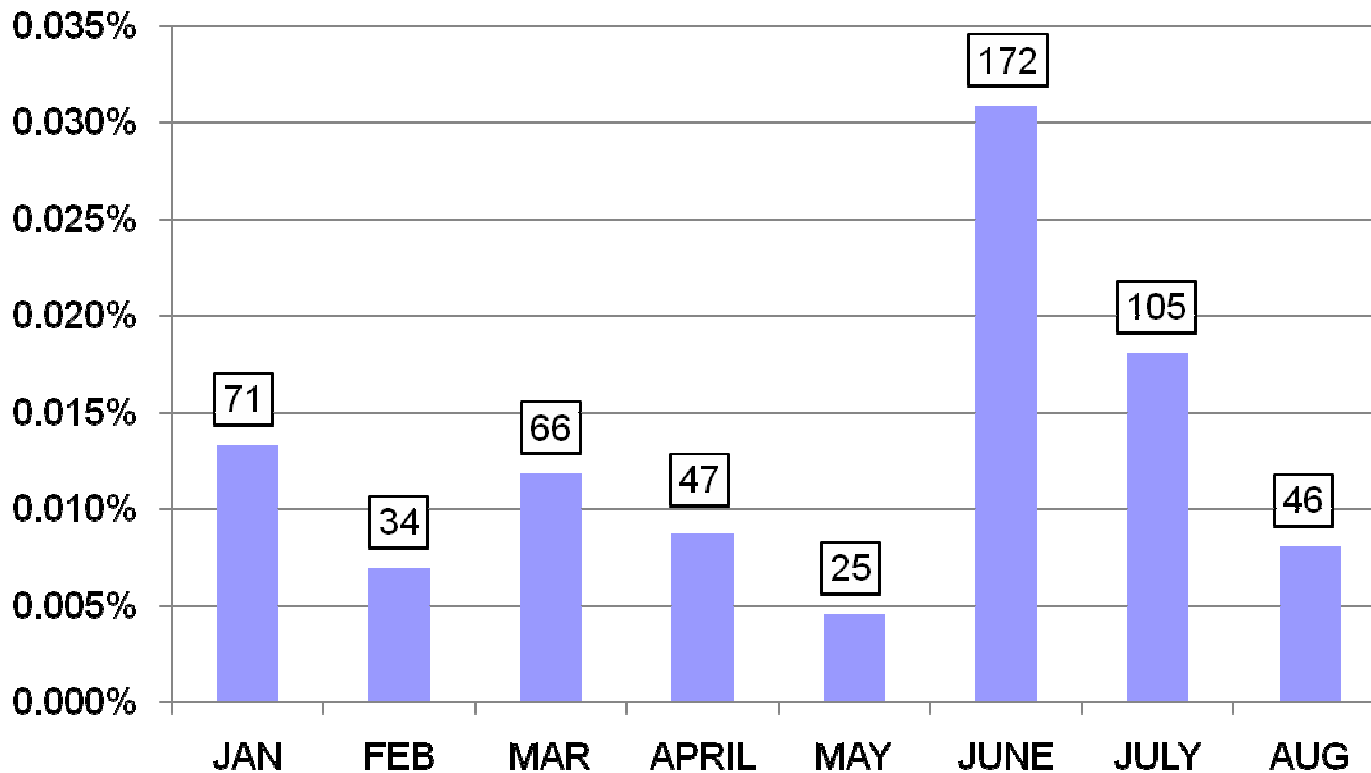
Going Forward

- The Bill may well disappear from focus, but the problem will not
- Real opportunities to exist to reduce tarmac delays
 - Benefit to passengers
 - Benefit to airlines
 - Benefit to environment

Research Goal

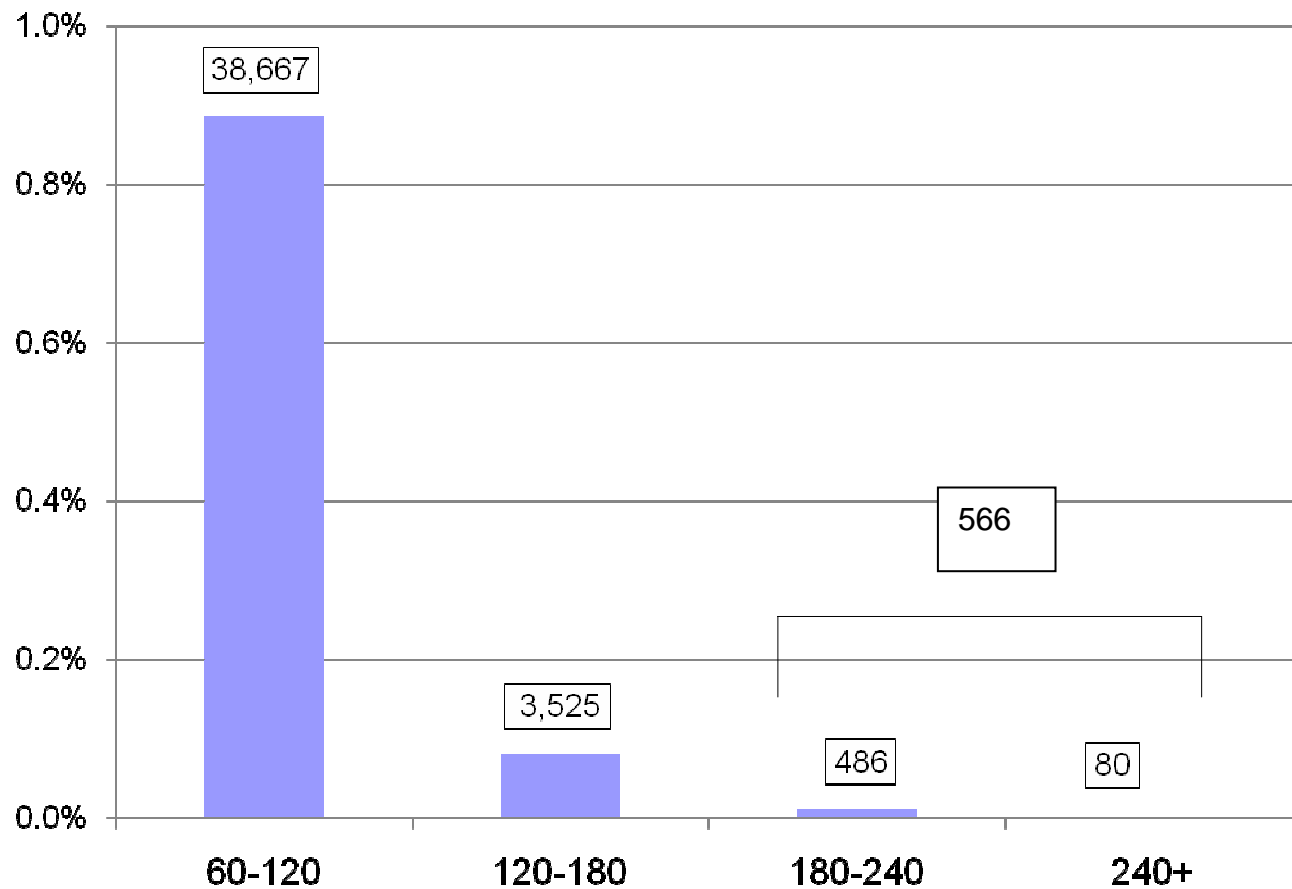
- Quantifying, codifying, and analyzing ground delays
- Evaluating cost impacts of different types of delays
- Identifying resources/policies that could reduce delays; assessing their costs (true, opportunity)

Example: Assessing Severity of Delay



2009 TAXI OUT TIME >= 180 min

Example: Assessing Severity of Delay



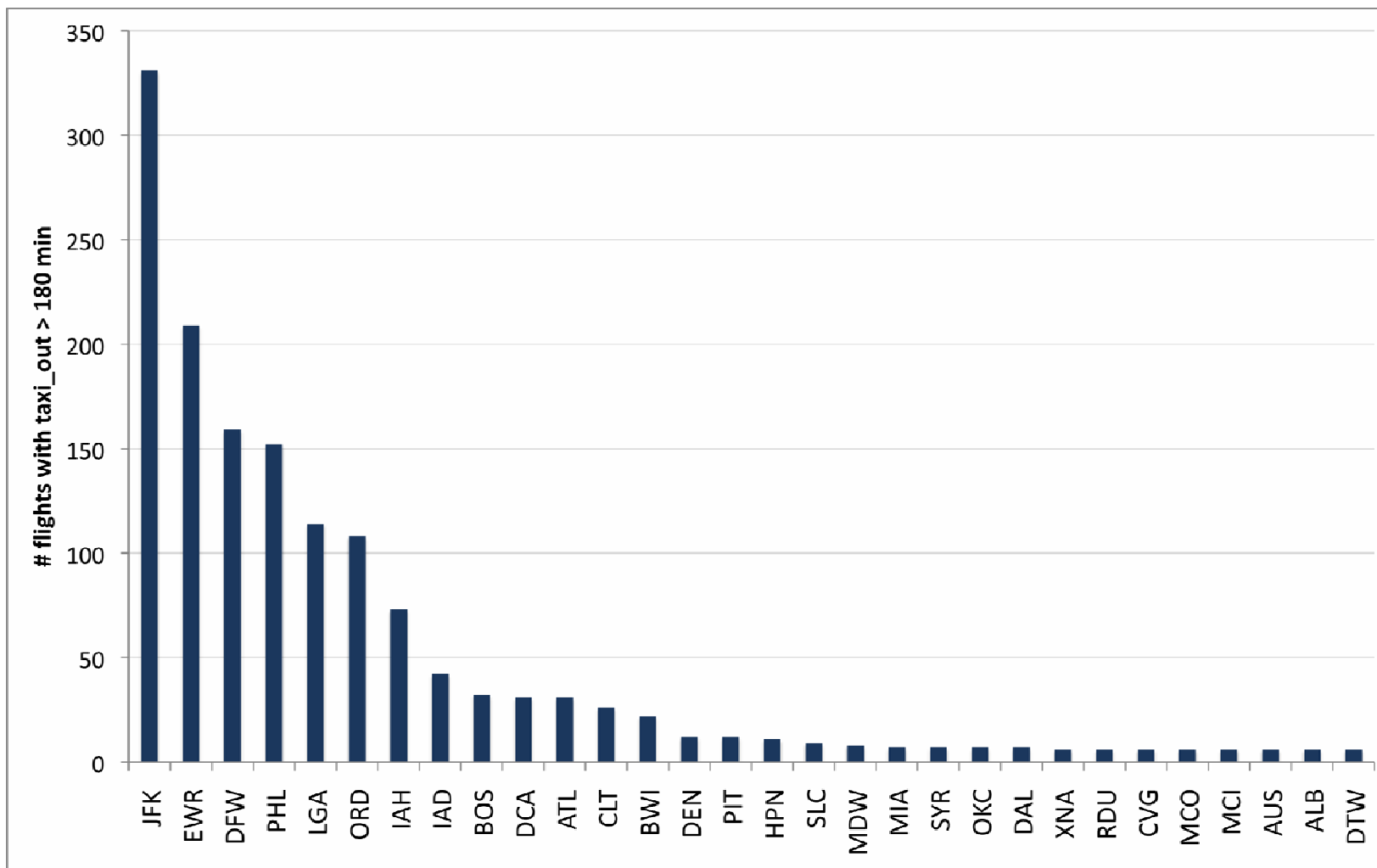
TAXI OUT TIME (JANUARY 2009 - AUGUST 2009)

Example: Importance of Focusing on Geography

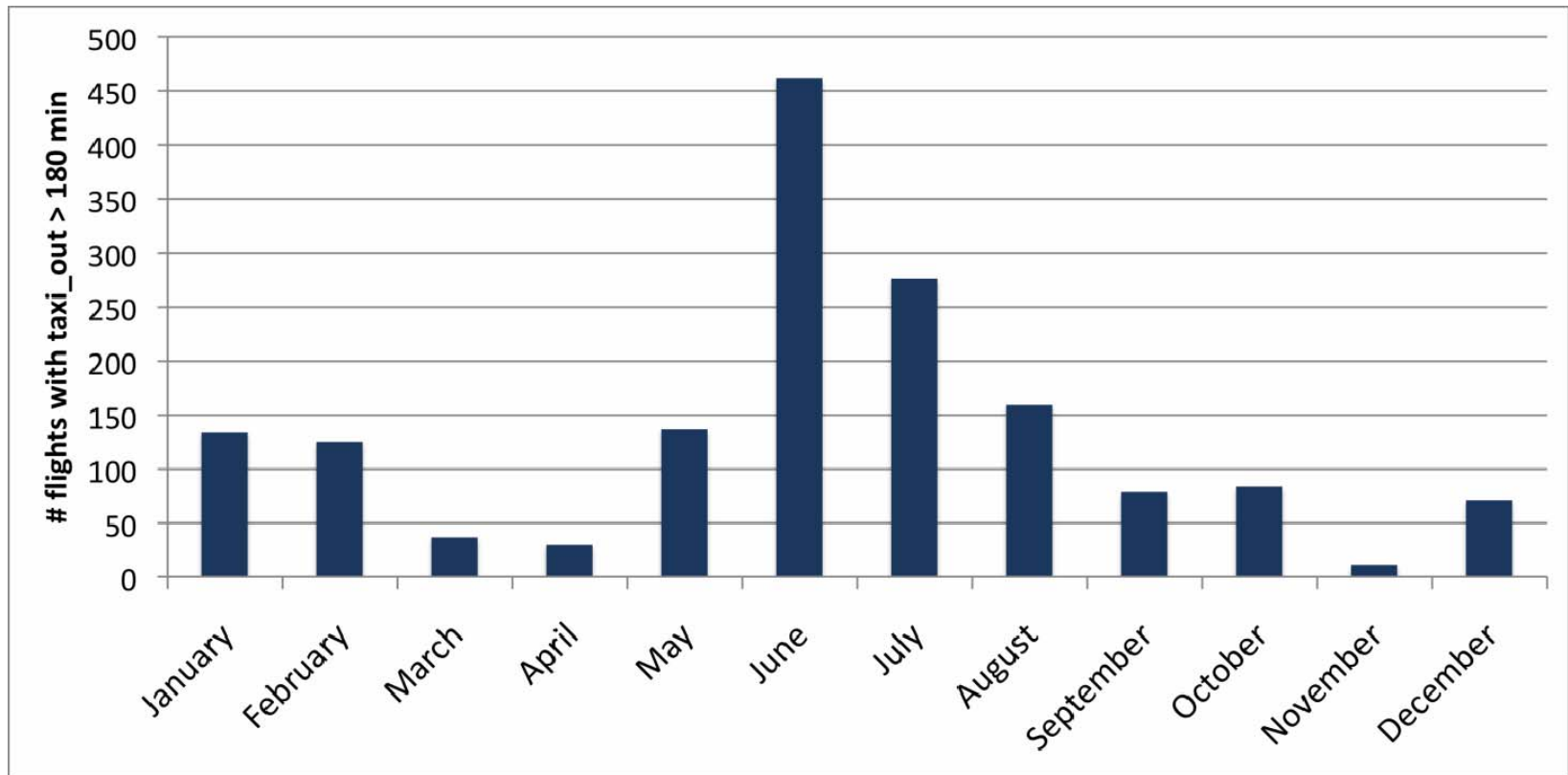
- Sen. Boxer, when asked about NYC congestion: “That’s not what we’re here to talk about”
- In June, 172 flights > 3 hours
- 79 of 172 were from LGA, JFK
- 35 were on June 26 (Friday); 25 were on June 9 (Tuesday); 15 were on June 30 (Tuesday)

Taxi-out Delays by Origin

Origins with ≥ 6 taxi out times of more than 3 hours, 2007



Taxi Delays by Month (2007)



Research Questions

- How should delays be categorized?
 - E.g. Outbound vs inbound; weather (snow vs lightning)
- How are delays distributed within these classes?
 - E.g. Frequency, duration
- How do we measure the impact/cost of delays?
 - Are all delays of the same length equal?
 - Is the increase in cost linear relative to delay length?

Research Questions

- What resources could be used to help mitigate different delays? What are the true/opportunity costs of these resources?
 - Gates?
 - Reserve crews?
- What policies might be considered?
 - New taxi queuing policies?
 - Gate sharing under extreme conditions?

Conclusions

- In order to fix the problem, we need to understand it (analysis vs. sound bites)
- Never-ending plug for:
 - Data
 - Insights
 - Access
 - Opportunity to contrast U.S. and European/Asian/Latin American conditions, best practices