Measuring Impacts of 3-Hour Tarmac Delay Rule

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Some Slides from Last Year…

Oct. 2009: 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"

Oct. 2009: 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

Oct. 2009: 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

And Now This Year…

High-Level Update

- The regulation was in fact passed in December of 2009

- Went into effect late April 2010

- We now have about four (summer) months of data under new regulation

- Not enough for conclusive analysis but…

Initial Observations

- There has not been a catastrophic impact on the airlines
  - No fines levied (UA exception)
  - Number of flights returning to the gate is not dramatic, nor is number of cancellations

BTS Data

- May:
  - Total flights = 542747
  - TaxiOut>90 = 760
  - LongestADDGtime>90 = 281

- June:
  - Total flights = 551687
  - TaxiOut>90 = 1189
  - LongestADDGtime>90 = 278

BTS Data

- **July:**
  - ☐ Total flights = 570788
  - ☐ TaxiOut>90 = 1340
  - ☐ LongestADDGtime>90 = 419

- **August:**
  - ☐ Total flights = 569217
  - ☐ TaxiOut>90 = 739
  - ☐ LongestADDGtime>90 = 166

Initial Observations, cont.

- Passengers are seeing some improvements in flying experience
  - Airlines are more aware of LOBs
  - Improved communication to passengers

My Initial Observations, cont.

- Passengers are *not* reaching their destinations faster, however
  - □ Non-trivial cancellations (and then down-stream effects)
  - □ Return to gate > 90 minutes:
    - May: 80/281 = 28% cancelled
    - June: 87/278 = 31% cancelled
    - July: 140/419 = 33% cancelled
    - August: 40/166 = 24% cancelled

My Initial Observations, cont.

- **Interesting observation**
  - ☐ Anecdotally, when aircraft return to gate, very few passengers actually get off

- **Key issue**
  - ☐ No dramatic changes in how to *avoid* long delays, only on how to deal with them when they happen

Limitations of Reported Results

- The reports coming out so far to analyze results mainly focus on:
  - ☐ Number of cancellations this year vs. last year
  - ☐ Number of 3+ hour tarmac delays this year vs. last year

- What's missing:
  - ☐ When do passengers arrive at destination?
  - ☐ How many customers get off when returning to gate?
  - ☐ Are shorter delays (e.g. 90 minutes to 3 hours) being reduced?

- Comparisons should not be time-based but with/without policy

"Being" Back vs. "Turning" Back

- One issue that is not getting much discussion is the uncertainty of how long it takes to return to the gate, and the fact that airlines aren't solely in control

  - ☐ Other carriers blocking gates
  - ☐ ATC needed to gain access to runways to return
  - ☐ General congestion

- Carriers turn back early enough to ensure with high certainty hitting the 3 hour mark – often much earlier than needed
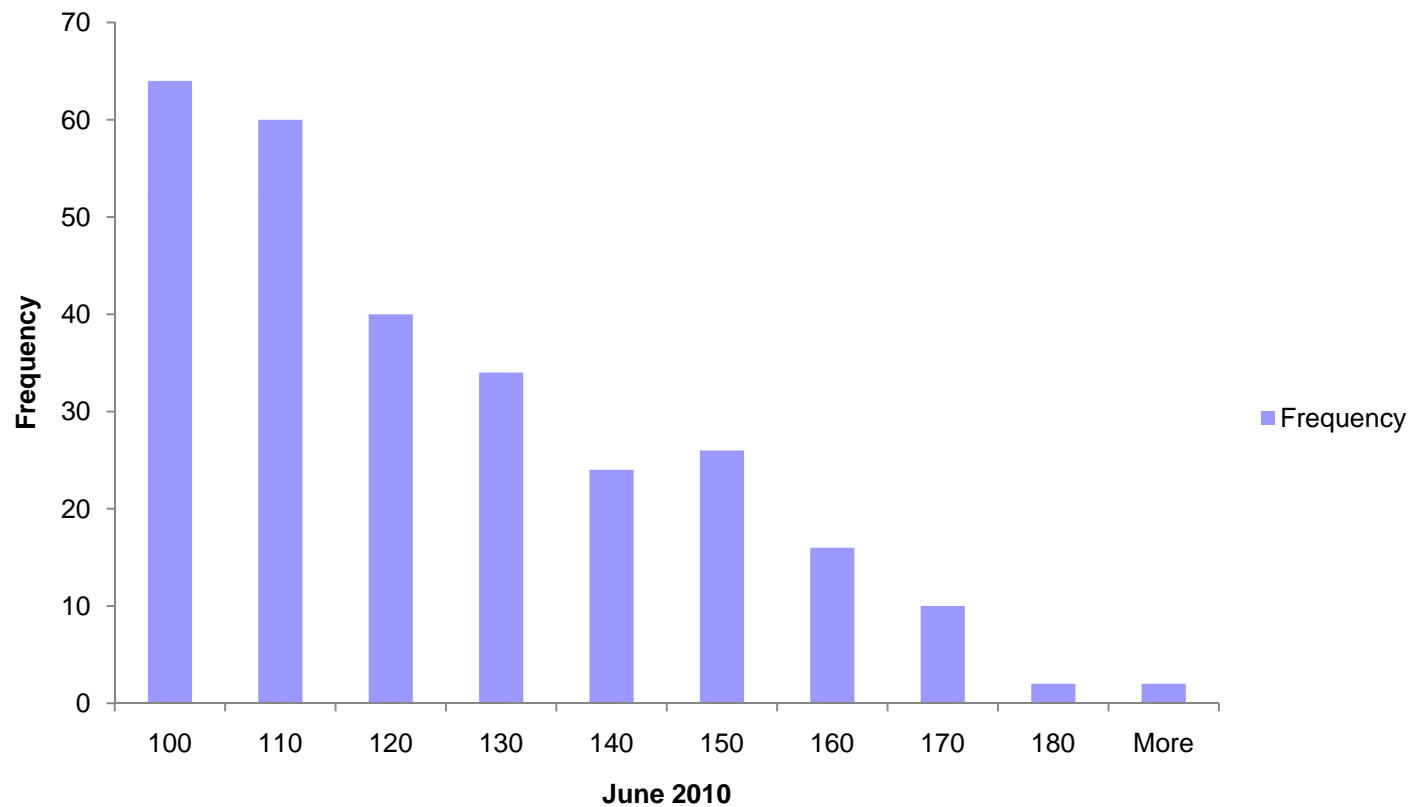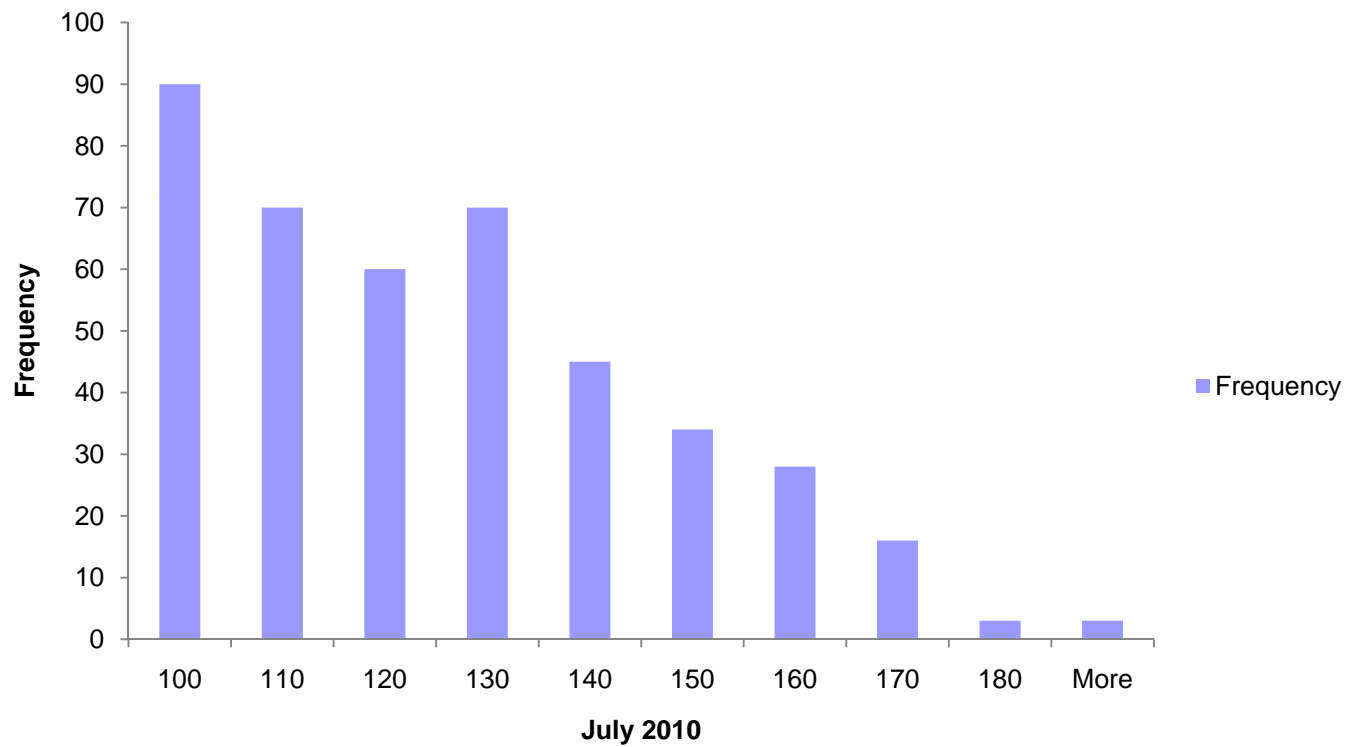
"Being" Back vs. "Turning" Back
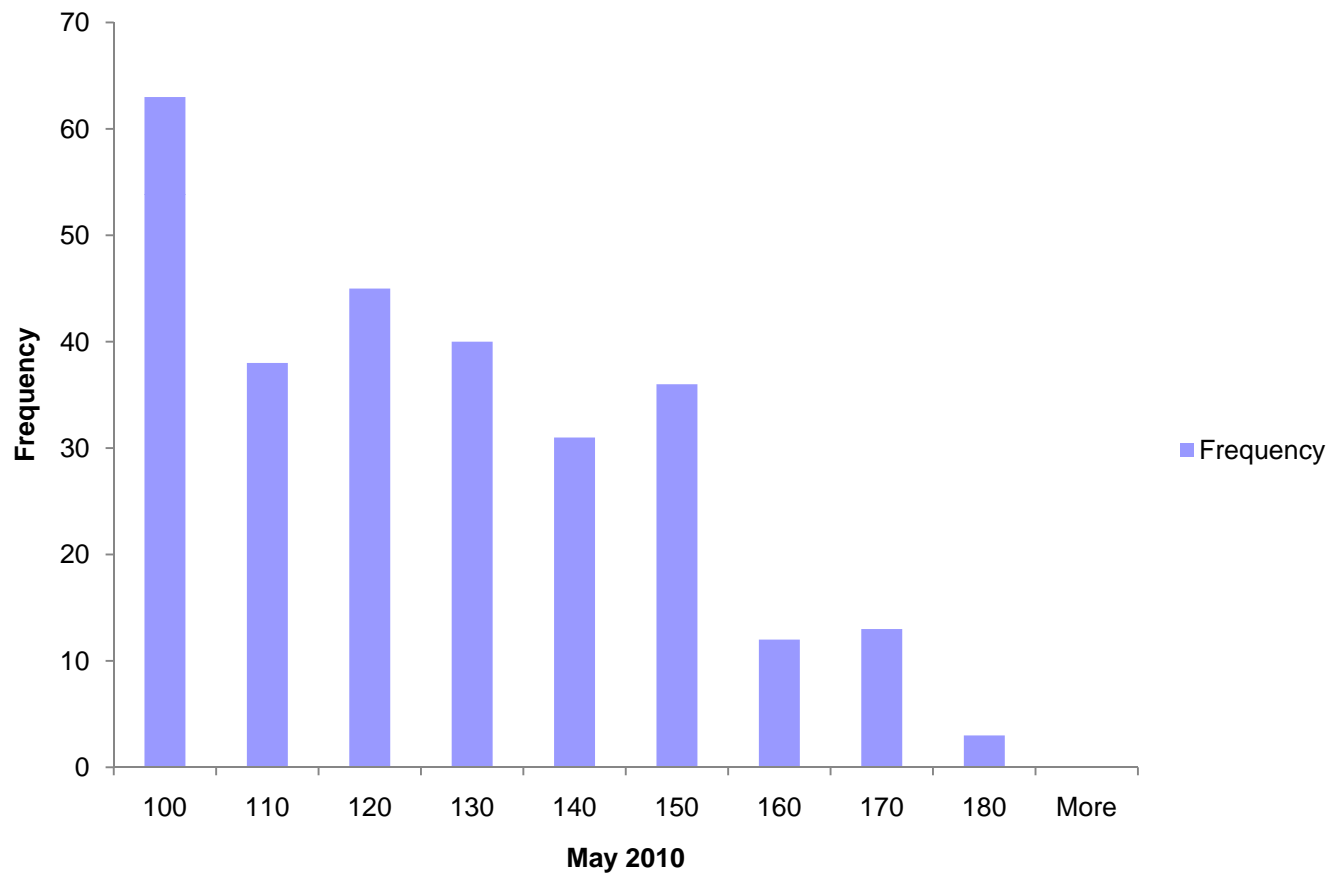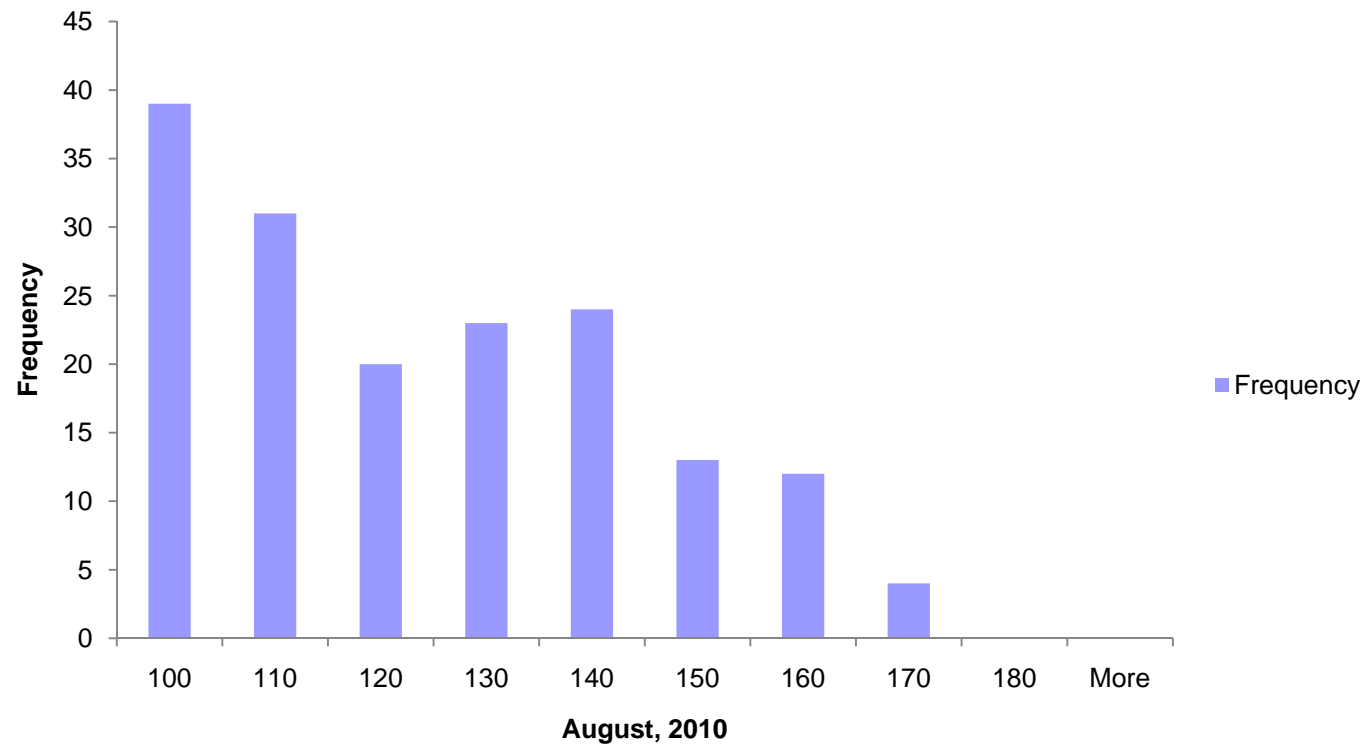
"Being" Back vs. "Turning" Back

Histogram

"Being" Back vs. "Turning" Back

Histogram

"Being" Back vs. "Turning" Back

Histogram

International Application of Ruling

- Will we be having the same conversation next year about implementing LOB rules for international flights?

- Some key differences:
  - (Lack of) frequency of flights for re-accommodation
  - Greater issue of diversions to non-accommodating airports
  - Crew duty hour issues and impact on cancellations
  - On-board facilities (food, entertainment, etc.)

Current Research Questions

☐ What has changed since the ruling went into effect? How have passengers been impacted?

☐ How much variability is there in returning to the gates? How much capacity is being "left on the table" because of uncertainty in return times? If the rule were re-phrased as "turn back by…", how would passengers have been affected?

Current Research Questions

- Rather than comparing this year to last year, can we compare this year with and without the ruling?

- Rather than focusing on flights, can we analyze passenger delays?

Current Research Questions

- How do we fix the problem? How do we reduce delays before they happen, rather than dealing with them after they've happened?

Questions and Discussion