Analysis of Airport Equipment to Reduce Airline Delays and Cancellations

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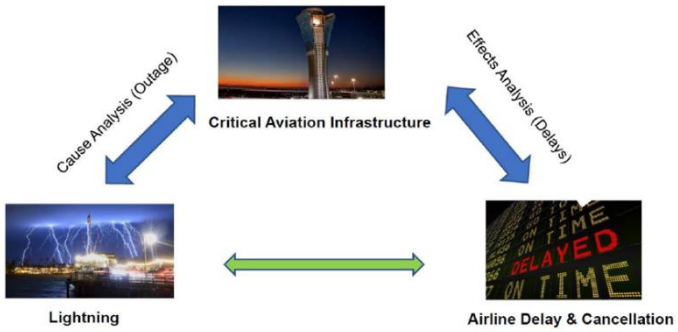
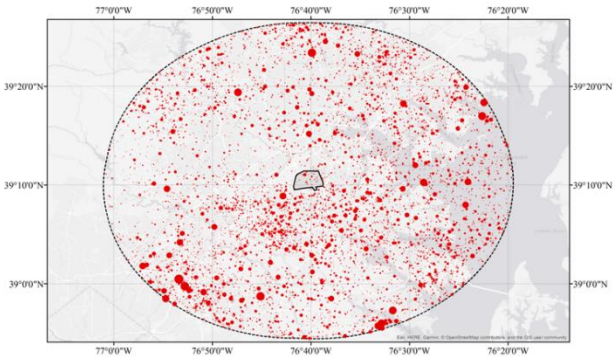
Project Vision Portfolio

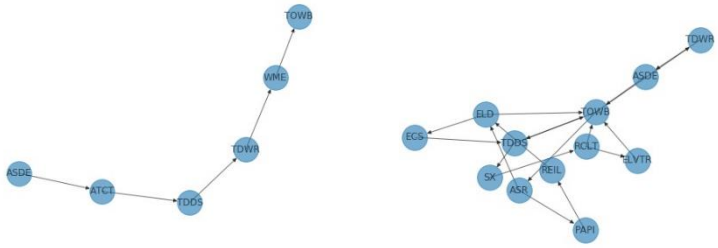


Spatial Analysis*



The figure is from past research and will be updated in due course.

Critical Aviation Infrastructure Analysis



Key Metrics*

- 133 lightning caused outages in past 10 years.
- 20% lightning caused outages will be reduces after fortification.
- 4200 lightning caused outages in next 30 years.
- 300 Million will be saved in next 30 years after fortification.

Cause Analysis (Outage)

Federal Aviation Administration (FAA) suggested 17 high risk airports across America for this study, we have analyzed the airports to explore relation between lightnings and outages base on the data from National Airspace System (NAS) and Aviation System Performance Metric (ASPM). Our research has confirmed that outage have obvious correlation with lightning, and the fortification of critical aviation infrastructure systems could reduce unplanned outage, and correspondingly reduce airline delays and cancelations.

Effect Analysis (Delays)

In the cause analysis part, we have got the relation and ratio of lightning and outage, then we will estimate the direct cost of outage caused by lightning for the period from 2020 to 2050. Firstly, we estimate the future lightning by using global warming model. Secondly, we estimate the future delay and cancelation basis on the ratio of outage and lightning we found in cause

The data is from assumptio

Lastly, we convert the cancelation into delays, and calculate direct cost by using average cost per minute for both airlines and passengers.

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