Problem Statement No.: 732

Flight Shaming and the Impacts of Reducing Greenhouse Gas Emissions by Flying Local

Recommended Allocation: $400,000

Tags: Air-Service, Environment, Public-Relations, Sustainability

Related Emerging Issues/Themes: None

Research Roadmaps: N/A

Staff Comments: The author did not provide a cost estimate; staff recommends $400,000, recognizing that the quantification of net GHG emissions will likely need to consider many factors and could be a complex process.

Average Airport Employee Review Rating: 2.60

ACRP Oversight Committee (AOC) Disposition: Some communities are making recommendations to curtail aviation activity without consulting airports. Guidance on telling the positive story of airports and engaging with communities would be helpful. Approved as ACRP Project 02-102 and funded for $400,000.

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Summary

Flight shaming, a social pressure more common in Europe, may gain traction in the United States under a new administration focused on environmental sustainability. With air travel for tourism being the main target, the flight shaming movement could ultimately negatively impact air service and economic recovery, especially in small communities. Airports that have historically relied on the leisure traveler to boost passenger traffic, and in turn sustain routes for the business passenger (or essential workers), may be the most impacted. Air service losses at small hub airports contributes to passenger leakage to large hub airports, which then contributes to higher GHGs (Ryerson & Kim, 2017).

Background

Flight shaming, a social pressure more common in Europe, may gain traction in the United States under a new administration focused on environmental sustainability.

Flygskam, a Swedish word that translates in English to "flight shame" is the name of an anti-air travel movement that originated in Sweden in 2019, which 'shames' people into stop taking flights in an effort to lower carbon emissions (Coffey, 2020).

The idea was originally championed by Olympic athlete Bjorn Ferry and gained momentum after teenage activist Greta Thunberg's mother, the opera singer Malena Ernman, publicly announced she would stop flying, with various Swedish celebrities following suit (Coffey, 2020).

Potentially fueling a rise in flight shaming in the U.S., greenhouse gas (GEG) emissions in 2020 dropped significantly from the impacts of the COVID-19 global pandemic.

Based on preliminary economic and energy data, we estimate that this historic shock to economic activity led to a 10.3% drop in US greenhouse gas (GHG) emissions in 2020. That is the single largest drop in annual emissions in the post-World War II era, outpacing the Great Recession of 2009 when emissions dipped 6.3%. This puts US GHG emissions below 1990 levels for the first time (Larsen, Pitt, & Rivera, 2121).

Arguably, the airline industry was hit the hardest by the pandemic, with passenger numbers dropping to five percent of normal in April and May of 2020. In response, airlines parked half their fleet, slashed remaining flight schedules, and flew routes averaging just 17 passengers per domestic flight, according to Airlines for America (Schaper, 2020).

At the same time, maintaining the availability of air travel during the pandemic has been critical in ensuring essential workers, including those in medical and military service, could get to where they needed to go. Recovery from the severe financial impacts of the pandemic will again drive home the importance of a robust air transportation system and it will be leisure travel that will leads the way.

With air travel for tourism being the main target, the flight shaming movement could ultimately negatively impact air service and economic recovery, especially in small communities. Airports that have historically relied on the leisure traveler to boost passenger traffic, and in turn sustain routes for the business passenger (or essential workers), may be the most impacted. Air service losses at small hub

airports contributes to passenger leakage to large hub airports, which then contributes to higher GHGs (Ryerson & Kim, 2017).

Our research indicates the strength of the connection between the air and intercity surface transportation system and provides justification for integrated air-highway transportation planning… one possible cure for congestion on the highway is to increase air service at small local airports (Ryerson & Kim, 2017).

A study by Chester and Horvath (2009) finds that the per passenger mile emissions of a conventional sedan are larger than those of a small aircraft used to connect a local airport to a hub or other local airport. A passenger choosing a larger hub vs a local airport is thus substituting an air trip with a less environmentally efficient auto trip; it is therefore possible that an environmental efficient solution to highway traffic is to encourage fly local campaigns and additional air service at small airports.

Included below is an informal review by staff at the Eugene Airport comparing the GHG emissions impact of driving from a small hub airport catchment area to access commercial flights at a large hub airport.

According to the EPA the average passenger vehicle emits 404 g of CO2 per mile. EUG is approximately 128 miles to PDX. This calculates to approximately 51.7 Kg CO2 that will be emitted into the atmosphere if you chose to drive the extra distance to PDX airport instead of flying out of EUG (EPA Vehicle CO2, n.d.).

According to the International Civil Aviation Organization (ICAO) carbon emission calculator the average flight from EUG to PDX emits 30.4 kg CO2 per passenger one way. By flying to PDX for a connection instead of driving you will save 21.3 Kg CO2 from being emitted to the atmosphere. That is approximately 41% less CO2 to fly to PDX instead of driving to PDX (ICAO Carbon Emission Calculator, n.d.).

Average trip to Seattle:

Flying EUG to SEA- 67.2 Kg CO2 per passenger one way.

Driving EUG to SEA- 281 miles to SEA = 113.5 Kg CO2.

Drive/ fly PDX to SEA- 43 Kg CO2 per passenger one way + 51.7 Kg CO2 driving from EUG to PDX total 94.7 Kg of CO2.

By flying to Seattle from EUG vs driving SEA will save 46.3 Kg CO2 from being emitted to the atmosphere. This is approximately 41% less CO2 if you fly from EUG.

By flying to Seattle from EUG vs driving to PDX and then flying to SEA you will save 27.5 Kg CO2 from being emitted to the atmosphere. That is approximately 29% less CO2 to fly out of EUG instead of driving to PDX for a flight to SEA.

Further research is warranted to evaluate passenger leakage from small hub airports to large hub airports and the impacts both in terms of the loss in air service at small airports and the increase in greenhouse gas emissions by passengers diverting to large airports (Kim & Ryerson, 2017).

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References

Chester, M.V., Horvath, A., 2009. Environmental assessment of passenger transportation should include infrastructure and supply chains. Environ. Res. Lett. 4 (2), 24008. http://dx.doi.org/10.1088/1748-9326/4/2/024008

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Objective

The objective of this research is to produce a report that quantifies the impacts of passenger leakage from small hub airports, driving to large hub airports, in turn increasing in greenhouse gas emissions. Case studies should include small hub airports located in the shadow of large hub airports. Researchers should include GHG calculations for multiple ground vehicles traveling to a distant airport compared to local multi-passenger nonstop commercial air service. The report should include conclusions that will aid airport directors in environmental sustainability and fly local outreach efforts.

Research Approach

N/A

Cost Estimate and Backup

N/A

Related Research

See references.

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Airport Employee Comments

I do not agree with this project especially given the current state of the airline and aviation industry during/post COVID. Flight shaming would likely have significant negative impacts to airlines, further impeding their recovery efforts, potential job loss, etc.
Interesting idea, but the more one digs into this topic, as acknowledged by the problem statement itself, NOT FLYING is the only tenable endpoint.
Interesting, but I do not think this is of great concern for N. American airports.
It is not very clear as to who the audience of this project would be, and how they would use it. It seems as though the research has been done to find emissions and could just be used as a multiplier for other airports. This doesn't seem like the best use of resources for the majority of airports or communities.
The social forces around this topic need to be addressed before becoming ingrained in the public's psyche. For airports to be ahead of this issue we need concrete data that is easily digested by the public as a whole.

TRB Committee Comments

Reviewing Committee(s)	Committee Comments
AV030	ENVIRONMENTAL ISSUES IN AVIATION: Not Recommended. Currently flight shaming is not that high of a concern for U.S. airports and it's not clear if there is an actual demand for this, rather if this is more applicable to European airports. Therefore, this project is not recommended at this time as it is not something U.S. airports could easily use, although it could be a concern in the future.

IdeaHub Votes and Comments

Idea Number: **732**

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The votes and comments below were provided by the **IdeaHub** community prior to the idea's submission as a problem statement.

Idea Link: http://ideascale.com/t/UKsrZBoGW

Tags: Air-Service, Environment, Public-Relations, Sustainability

Votes:

Votes	
Up	2
Down	0
Total	2

Comments:

N/A