# Nantucket Memorial Airport, Community Data Platforms & Gravy Analytics: Using Location Analytics for Air Service Development

# Overview: Proving the Value of Increased Flight Options for Nantucket Residents & Visitors

## THE CLIENT

Nantucket Memorial Airport (ACK) is a public airport located on the island of Nantucket, approximately 30 miles off the coast of Massachusetts. ACK is a primary small hub airport served by a mix of commercial airlines and general aviation traffic. Aircrafts flying into ACK range from regional jets that travel between LaGuardia, Boston, and JFK, to 9-seat passenger planes that travel to small, non-secure airports.

Primarily a summer colony, Nantucket residents are typically affluent and well-traveled. According to the U.S. Census Bureau, just 11,229 people live on Nantucket year-round, but other sources show the population of the island swells to 46,000 or more during the summer months. The airport is one of only two ports of entry to the 14-mile-long island for both residents and visitors – the second being a ferry terminal.

> **"The ability to drill down on these numbers, at this detail, for an airport-specific use case is incredible."**
>
> **Noah Karberg, Assistant Airport Manager, ACK**

## THE PROBLEM

ACK desired to expand air services but needed data and analysis to convince one or more airlines that it was a good business decision to do so. Air routes are largely determined during two industry conferences, held annually, at which airport personnel meet with airline partners to pitch the advantages of adding service to an airport. The challenge for ACK was to assemble a compelling business case in advance of the next industry conference, which would inform airline routes for the upcoming year.

The lifeblood of every airport is air service development: airports must identify new routes or expand existing routes—by increasing flight frequency, size of aircraft, or by adding new destinations served by the airport—in order to create new revenue streams.

While air service development generates more revenue for the airport, most of the value accrues to the local community: to the town and state through tax revenue, and to business organizations like the Chamber of Commerce. An economic impact study published by the Massachusetts Department of Transportation found that each visit to Nantucket brings a benefit of about $1,400 to the island, corrected for inflation in subsequent years.

To inform air service decisions, many airports rely on statistics from the USDOT Bureau of Transportation. This data reflects approximately 10% of ticket sales, including date, origin, and destination information. Unfortunately, the data is not always useful because of its limitations:

**10% sample of ticket sales data;** limited to a single destination.

Not only is the data a sample of all ticket sales, it does not capture the origin of airport customers with multiple destinations—for example, people flying to Boston and then boarding a second flight with a different carrier to Nantucket.

Data for **commercial flights only.**

The data does not capture general aviation traffic—that is, traffic from private planes – which is a meaningful share of ACK's total flight traffic.

**No ability to understand visitors** arriving through alternate ports-of-entry.

For a community like Nantucket with two ports of entry, people flying to Boston and then taking the ferry to Nantucket would not be captured as potential airport customers.

## TEAMING UP FOR BETTER TRAVELER INSIGHTS

ACK hypothesized that mobility data could be a great way to better understand who its potential airport passengers really were, where they were going, and when they were traveling. To perform this analysis, ACK engaged Community Data Platforms, a data science startup with roots in Nantucket to help.

CDP worked closely with ACK to first understand the gaps in quantifying potential air passengers. CDP then turned to Gravy Analytics for a high-quality mobility data set, Gravy Observations, to use in its analysis. Given the airport's interest in general aviation traffic, CDP also secured data from a source that monitors both airline and general aviation traffic. Collectively, this data was used by CDP to provide a more comprehensive analysis of airport passengers and Nantucket visitor travel patterns. The goal was to inform ACK's service expansion by providing leading indicators that would help to pinpoint where to develop new non-stop routes.

Post-analysis, CDP provided ACK with a series of data tables reflecting where Nantucket visitors were coming from and going to by metropolitan area. The data was also segmented by weekday and weekend, providing detailed insight into visitor travel patterns by day-of-week.

At a glance, the ACK & Community Data Platforms data tables revealed:



**Very high churn rates** between Boston and DC and New York.

The data showed incredible back-and-forth velocity between New York and Boston. A breadwinner may routinely travel back to NY during the work week and return on weekends, for example.

While Nantucket is a summer colony, it sees **heavy weekend travel even during the off-season.**

Nantucket remains a popular weekend destination even during the off-season. It is very typical for family and friends to use the home of a homeowner, or for staff to travel back-and-forth, during the off-season months.



Travel plans **change with extreme weather.**

When the weather becomes questionable, people routinely leave the island by ferry to find refuge on the mainland in Providence or Boston. In fact, ACK found that they were losing 2x as many potential passengers as actual passengers during the winter months.

The industry refers to such changes in travel plans as "leakage"— and the number of potential flight passengers opting to leave the island via ferry is significant enough to potentially support a year-round regional jet service, multiple times each week. For the island, this would mean more convenient flights year-round, more jobs locally, and additional financial benefit to the community.

## RESULTS IN THE SKIES

The resulting data and analysis helped ACK to:



**Increase plane capacity and frequency of flights** offered by JetBlue.

Early on, ACK was able to capitalize on the results of the analysis with JetBlue. ACK was able to increase flight frequency from JFK and added both LaGuardia and White Plains service. JetBlue's 100-seat jets now fly into ACK between 3 and 10 times per day in season (pre-COVID).



**Add new direct service from Philadelphia** with American Airlines.

By understanding the true origin of their visitor population, ACK was able to identify Philadelphia as an unserved market. After presenting this information in a business case to American Airlines, a new route was added from Philadelphia to Nantucket.  Even with COVID-19 travel restrictions, the route has performed particularly well since its inception.

> **"With mobility data, we were able to build a business case to justify further investment. That's the major takeaway."**
>
> **Noah Karberg, Assistant Airport Manager, ACK**

**Discover future opportunties** for air service expansion.

Today, Nantucket has just one year-round incumbent carrier. JetBlue, Delta, and American Airlines all operate in the summer and leave during the winter. Using mobility data to quantify passenger leakage in a pilot study, ACK was able to uncover critical proof points needed to start building a business case for additional, year-round flights in the future.

Finally, ACK was able to identify 3 or 4 other potential use cases for mobility data. For example, CDP's initial research project focused on the final destinations of Providence and Boston but could be expanded to look at destinations farther away. The COVID-19 era, coupled with other financial challenges, creates other opportunities for traveler analysis, as well.

## A BETTER BUSINESS CASE WITH COMMUNITY DATA PLATFORMS & MOBILITY DATA

With Gravy Analytics' mobility data and analysis performed by Community Data Platforms, Nantucket Memorial Airport was able to double its large air carrier capacity in less than 3 years. By using mobility data in a pilot leakage study (which most airports perform every few years) ACK now has the potential to double its off-season air carrier capacity.

Moreover, the analysis provided by CDP gave ACK the critical data it needed to expand in a hyper-competitive industry. Airlines do not necessarily have the local market to identify potential new destinations, aircraft, and schedules—in short, to build the business case for expansion on their behalf. The consulting services provided by CDP, underpinned by Gravy's mobility data, gave ACK a true advantage over the more than 300 other U.S. airports with a similar operating profile, enabling ACK to better serve more passengers and benefitting the Nantucket community as a whole.

## ABOUT COMMUNITY DATA PLATFORMS

Community Data Platforms (CDP) is on a mission to help leaders in nonprofits, government, and small businesses build smarter and stronger communities by harnessing the power of data analytics. Our locally driven community data platforms aggregate the most reliable hyper-local and national data. These platforms then drive CDP's proprietary methodologies and visualizations, which provide actionable insights so community leaders can make evidence-based decisions.

## ABOUT GRAVY ANALYTICS AND MOBILITY DATA

Gravy Analytics is a leading provider of location intelligence for businesses in industries including commercial real estate, retail and restaurant, travel, automotive, and connected TV and digital-out-of-home.

Gravy's location data platform, AdmitOne™, processes and interprets billions of pseudonymous location signals from millions of opted-in mobile devices every day. The resulting insights reveal consumer movement patterns, including consumer visits to millions of commercial places of interest, for thousands of leading brands. This information can then be used to discern travel patterns, brand loyalty, and consumer behavior classifications. The result? Improved understanding of the interests and habits of your target audiences, allowing your business to market to them more effectively and to increase sales.