

Revenue and Customer Satisfaction Decision-Enabler Model

Click here to see problem statement in IdeaHub: <http://ideascale.com/t/UKsrZBVK7> (Note: you must be a registered user in myACRP/IdeaHub.)

TAGS: Airport Planning, Customer Experience, Finance Economics, Policy, Terminal

STAFF COMMENTS

Recommend increase in funding to \$550,000 to collect data from airports with common use, carrier operated, and P3 arrangements and segment results for these different models.

AVERAGE INDUSTRY RATING SUMMARY

	Committees¹	Airport Community²
Achievable	3.40	3.75
Applicable	4.00	4.25
Implementable	4.20	3.36
Understandable	4.20	3.75
OVERALL	3.95	3.73

Notes: 1. Includes TRB aviation committees and committees from ACI-NA and AAAE.

2. Includes airport employees serving on active ACRP project panels.

[USE THIS LINK TO SEE DETAILED INDUSTRY RATINGS.](#) Click on the arrow in the Problem Statements dropdown menu in the upper right and select the problem statement number.

[USE THIS LINK TO SEE DETAILED INDUSTRY COMMENTS.](#) Click on the arrow in the Problem Statements dropdown menu in the upper right and select the problem statement number.

ACRP OVERSIGHT COMMITTEE (AOC) DISPOSITION

The average AOC rating among its voting members was 2.6 on a scale of 1 to 5. There was no discussion. The problem statement was not selected for ACRP funding and will be returned to the idea collection phase of ACRP's IdeaHub.

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TAGS: Airport Planning, Customer Experience, Finance Economics, Policy, Terminal

OBJECTIVE

A research paper and computational model is needed to help airports thoroughly look at financial decisions for new infrastructure that result in improved processing rates, increasing non-aeronautical revenue justifications, prioritizing gating requests that match with changes in airline network models, creating the best financial return for all parties, and improves the overall satisfaction of passengers (check-in, security screening, border clearance, etc.).

The paper and model will be developed to match the specific airport role (hub, non-hub, small hub, etc.) in order to tailor results to the changing roles of airports as carriers hub/de-hub operations and evolve with different forms of low-cost carrier (LCC) operations.

BACKGROUND

The infrastructure deficit at airports is well published by ACI North America at \$100 billion 2017-21. This gap is accelerating amidst continued growth of air travel. Limited sources of funding and other structural systems issues are prompting a wholesale rethink into the way that airports move to the next level. While airports typically determine that they need to renovate or build new because they have outgrown or are outgrowing existing facilities, there is limited input from two key areas: revenue drivers and quantifiable improvements in customer satisfaction.

There is the need to produce a set of guidelines to make sure that data collected today are helping with the decisions to justify the outcomes of tomorrow. Airports, terminal operators and airlines collectively have efforts associated with the overall terminal experience. There are also a number of other actors that have an influence over the way gating, passenger processes, security screening and border processing shape a facility.

The genesis of this problem statement was a think-tank session by Optimas and InterVISTAS to review the experiences working in revenue management at airports, hub and connectivity improvements, process facilitation and customer satisfaction. There was an initiative done by project proponents to develop a revenue model per minute of wait time in the past that helped to inform decision-making at airports. This was used to build upon literature associated with major changes at airports.

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APPROACH TO RESEARCH

The proposed research involves the following:

Task 1: Synthesis of existing research

The first task involves a compilation of existing ACRP reports, industry sources as well as other analyses involving airport financial models. The researchers will compile a literature review to synthesis existing research on the way capital decision-making is advanced (e.g., time value of passengers, block-hour operating costs) as well as a critical analysis of revenue drivers for airports, terminal operators and airlines.

Task 2: Conduct surveys

Airports continue to evolve in the role they serve with legacy network carriers, changing alliances and interline agreements as well as the emergence of low-cost carrier models. Recent mergers have recalibrated roles for hubs/non-hubs as well as focus cities for low-cost and ultra-low-cost carrier models. International growth is up 20% over the past five years and continues to lead the growth globally, as well as in the United States.

A survey will be conducted of airports to ascertain their existing methodologies to conduct revenue and analyses of customer satisfaction to drive results. While some (e.g., ACI Airport Service Quality) are published cross-airport comparators, the survey will uncover the kinds of methods used to be decision-enablers for capital expenditures for renovations, new-builds or optimizing facilities. The use of common use self-service will also be considered to determine if it drives turn times, flexibility, overall satisfaction, and revenue.

Task 3: Develop base revenue model

Part A

A model will be developed to provide a baseline that includes but is not limited to aeronautical charges, aircraft parking fees, passenger spend rates by concession type (i.e., Duty Free, specialty retail food/beverage).

The model will provide results to help with gate assignment, such as revenue generators around security screening checkpoints, as well as:

- a. Time series analyses to determine progress for a strategy
- b. Flow of passengers
- c. Spend per flight before a terminal renovation has been done compared to after

Part B

A revenue model will also be created to quantify the benefits from the airline perspective, as improved passenger processes generally allow for reductions in minimum connect times. These improvements in turn drive higher passenger volumes and/or more efficient aircraft scheduling at connecting airports. Using airline network modelling

software, the researchers will demonstrate the impacts of minimum connect time reduction for air carriers in terms of incremental demand stimulation and increased revenue for the airline and airport. This will provide the ability to model the cost per passenger from both the airport and the airline's perspective, and inform the actions to be done to reduce the cost if there isn't sufficient return on investment for the airline.

At the same time, there will also be a revenue model to calculate the potential retail/concessions revenue per seat by destination by carrier (home vs international carrier). Different types of passengers have spend rates that can factor into potential incremental spend.

Task 4: Revenue per hour of day

The researcher will outline a revenue model per hour of day that will help for change management. Reduction of TSA screening lines and CBP processing is one emerging area that relies on the customer service aspects. However, with a model developed by the research team, there will be the ability to calculate the "opportunity cost" of lost revenues from the basis of spending by category of retail/concessions.

The model developed in Task 4 will also guide the amount of funding for process re-engineering or developing facilities for the government agencies and airlines to work quicker while helping the agencies to increase the performance of their mandate.

Task 5: Revenue and customer satisfaction per annum compared to capital investment

Making business decisions for new terminals and renovations can be generated from a model developed in Task 5. If you have an area of the building that you spent a great deal of capital on, and there is a return on investment by virtue of customer satisfaction and high spend rate increases, when you go to remodel another area you will know how to determine your financial proposal for submission to senior management. The model in Task 5 will be able to compare the payback period and return on investment tied specifically to customer satisfaction rates. This model will particularly be useful to make sure a focus is placed on customer satisfaction with ageing facilities, as well as management of community approval issues.

COST AND JUSTIFICATION

The recommended funding is \$400,000, with about \$100,000 for each of Tasks 3, 4 and 5 and \$50,000 for Tasks 1 and 2 each.

The research period is 15 month in duration, including a 3-month period for review.

Although there is a move to increase the amount of federal infrastructure spending, every indication is that there will be a gap requiring local, state and private funds. The shortfall and quality of capital projects have generated major spending projects (e.g., LAX, ORD, LGA, etc.). However, there is the need to provide practical guidance to help with both the development/prioritization of projects as well as the ongoing operations/optimization of existing facilities.

RELATED RESEARCH

The following is a list of related research

ACRP Report 120: Airport Capital Improvements: A Business Planning and Decision-Making Approach - consists of a guidebook and a spreadsheet-based cost-estimating model to assist practitioners with estimating the cost of construction projects regularly proposed in an airport's capital improvement plan.

ACRP Project 01-19: Airport Capital Improvements: Developing a Cost-Estimating Model and Database - describes the research process to develop and test a cost estimating model and database intended for use during airport capital planning.

ACRP Project 03-19: Passenger Value of Time, Benefit-Cost Analysis and Airport Capital Investment Decisions, Volume 1: Guidebook for Valuing User Time Savings in Airport Capital Investment Decision Analysis - provides an up-to-date understanding of how recent airport developments, such as changes in security measures since 9/11, the proliferation of airside passenger amenities, and the adoption of new technology, have changed the way travelers value efficient air travel.

FAA: Airport Benefit-Cost Analysis Guidance - provides clear and thorough guidance to airport sponsors on the conduct of project-level benefit-cost analysis for capacity-related airport projects.

IDEA CREATOR

Person who first shared the idea with the IdeaHub community.

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