

## Chapter 23

# Determining Maximum Load of Passengers and Goods to an Aerotaxi in Southwestern Chihuahua

**Alberto Ochoa-Zezzatti**  
Juarez City University, Mexico

**Alfonso Uribe**  
Juarez City University, Mexico

**Eder Fuentes**  
Juarez City University, Mexico

### ABSTRACT

*Travel in Chihuahua is a very complicated situation to realize because the distances between land routes is very far because the poor quality of road. The importance of this research is to understand from a Multivariable optimization associated with the path of a group of airplanes associated with an aero taxi company and determine the optimal flight route involve speed, storage and travel resources for determining the cost benefit have partnered with a travel plan, which has as principal basis the orography airstrip restriction, although this problem has been studied on several occasions by the literature failed to establish by supporting ubiquitous computing for interacting with the various values associated with the achievement of the group of airplanes -Cessna 208 Caravan- and their cost-benefit of each issue of the company and comparing their individual trips for the rest of group. There are several factors that can influence in the achievement of a group of Cessna 208 Caravan group for our research we propose to use Bat Algorithm, which has proven to be efficient for the convergence of several issues (artificial bats) when they have such restrictions and obstacles should use this energy to avoid in our case, a gain resource as food which in our case is represented as the use of travel passengers and goods optimally for the duration of a long trip with the uncertainty of not knowing when you have a resupply or reduce this quantity.*

DOI: 10.4018/978-1-4666-9779-9.ch023

### 1. INTRODUCTION

### ***Determining Maximum Load of Passengers and Goods to an Aerotaxi in Southwestern Chihuahua***

The Cessna 208 Caravan, also known as Cargo master, is a regional jet / turboprop short-range utility manufactured in the United States by the company Cessna. The standard version has 10 places (9 passengers and a pilot), although a subsequent design according to new regulations of the Federal Aviation Administration (FAA) can carry up to 14 passengers. The aircraft is also widely used to make connections in freight services, so that goods arrive at smaller airports are transported to major hubs for distribution as in Figure 1.

The concept of the Cessna 208 appeared in early 1980, the first prototype flew on 8 December 1982. After two years of testing and review, in October 1984, the FAA certified the model for flight. Since then, the Caravan has experienced many evolutions. Hand international logistics company FedEx; Cessna produced first the Cargo master, which was followed by an improved and extended version called Super Cargo master and other passengers called Grand Caravan. Practitioners will be free fall boarding a Cessna 208 in the Dutch island of Texel. Currently Cessna 208B offers different configurations to meet the varied market demand. The core 208 can be supplemented with different types of landing gear and can operate in a variety of terrains. Some adaptations include skis, larger tires for unprepared runways or floats with wheels in the case of the Caravan Amphibian. In cabin seats can be placed or leave room for cargo in various configurations. The standard configuration of airline consists of 4 rows of seats 1-2

*Figure 1. A Cessna 208 used to flight with passengers and goods in Southwestern Chihuahua*



15 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:  
[www.igi-global.com/chapter/determining-maximum-load-of-passengers-and-goods-to-an-aerotaxi-in-southwestern-chihuahua/145641](http://www.igi-global.com/chapter/determining-maximum-load-of-passengers-and-goods-to-an-aerotaxi-in-southwestern-chihuahua/145641)

## Related Content

---

### The Impact of the Work Environment on Innovation and Business Sustainability in SMEs: The Case of San José de Cúcuta, Colombia

Rafael Ignacio Pérez-Urbe, Solange Dianira Jordan Bustamante and Carlos Salcedo -Perez (2021). *Handbook of Research on Management Techniques and Sustainability Strategies for Handling Disruptive Situations in Corporate Settings* (pp. 133-156).

[www.irma-international.org/chapter/the-impact-of-the-work-environment-on-innovation-and-business-sustainability-in-smes/285873](http://www.irma-international.org/chapter/the-impact-of-the-work-environment-on-innovation-and-business-sustainability-in-smes/285873)

### Consumer Expectations From Brands During COVID-19: A Grounded Theory Approach

Adarsh Gupta and Pratap Chandra Mandal (2022). *International Journal of Applied Management Theory and Research* (pp. 1-20).

[www.irma-international.org/article/consumer-expectations-from-brands-during-covid-19/300276](http://www.irma-international.org/article/consumer-expectations-from-brands-during-covid-19/300276)

### Price Transmission along the European Food Supply Chain in Selected Northern-Southern Countries

Wael Chouayet and Anthony Rezitis (2016). *International Journal of Food and Beverage Manufacturing and Business Models* (pp. 31-48).

[www.irma-international.org/article/price-transmission-along-the-european-food-supply-chain-in-selected-northern-southern-countries/163274](http://www.irma-international.org/article/price-transmission-along-the-european-food-supply-chain-in-selected-northern-southern-countries/163274)

### Cultural Indoctrination and Management Education Curriculum

Bryan Christiansen (2019). *International Journal of Applied Management Theory and Research* (pp. 1-15).

[www.irma-international.org/article/cultural-indoctrination-and-management-education-curriculum/227053](http://www.irma-international.org/article/cultural-indoctrination-and-management-education-curriculum/227053)

### Coping Better with the Project's Unknown Unknowns: New Competences for Overcoming Uncertainty in Projects

Yvonne-Gabriele Schoper, Fritz Böhle and Eckhard Heidling (2016). *Managing Project Risks for Competitive Advantage in Changing Business Environments* (pp. 1-22).

[www.irma-international.org/chapter/coping-better-with-the-projects-unknown-unknowns/154317](http://www.irma-international.org/chapter/coping-better-with-the-projects-unknown-unknowns/154317)