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Dynamics and Trends of Air Traffic at Stefan Cel Mare Airport in Suceava. Strategic Perspectives

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Abstract: *The motivation for choosing this topic for the present article lies in the significant economic and social importance of Ştefan cel Mare Airport in Suceava for Suceava County and its neighboring regions. The analysis of air traffic at Suceava Airport between 2015 and 2024 highlights periods of significant growth as well as major challenges faced by this public service. It can be said that the presence of an airport, a regional hospital, and a university represents fundamental pillars for the development of a city, each contributing uniquely and essentially to economic, social, and cultural growth. The evolution of air traffic provides a detailed perspective on the operational dynamics and development of this regional hub in Suceava.*
Our analysis identifies periods of expansion driven by increased demand and the diversification of air routes, alongside sharp declines caused by factors such as the pandemic, economic instability, and pronounced seasonality in traffic. The main challenges identified include insufficient terminal capacity during peak periods, high dependence on seasonal traffic, and limited diversity in available destinations.
To improve airport performance, it is essential to modernize infrastructure, expand operational capacities, and adopt digital and automated solutions. Diversifying revenue sources through the development of logistics services and cargo transport, as well as attracting new air operators, can mitigate seasonal vulnerabilities. These measures could transform Suceava Airport into a competitive regional transportation hub, significantly contributing to population mobility, tourism stimulation, and regional economic development.

Keywords: *Ştefan cel Mare Airport, public services, Passenger Statistics, Movement Statistics, Air Traffic.*

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Introduction

In this article, we conducted an analysis of Stefan cel Mare Airport in Suceava, emphasizing its strategic importance for regional development. The airport is considered, alongside the regional hospital and university, one of the three essential pillars for city development. The analyzed data regarding movements and passenger numbers during 2015-2024 will provide us with an overview of Suceava Airport's capacity to meet current air transport market requirements. In the final part, we will outline the identified problems and recommendations for optimizing airport traffic at Suceava Airport.This favorable geographical position (Lupchian & Saghin, 2020) not only facilitates tourist access to one of Romania's most picturesque regions, Bucovina, but also supports trade development, attracts foreign investment, and stimulates the local economy.

Ştefan cel Mare Airport in Suceava operates as an autonomous administration. The importance of autonomous administrations derives not only from their central role in providing essential services to the population but also from their ability to stimulate economic development at national and regional levels (Oprisan et al., 2023).

Transport infrastructure, regardless of its form, can be defined as a factor that guarantees growth and economic development due to its function of facilitating the movement of people and the exchange of goods (Kadyraliev et al., 2022).

Comparative Analysis of Traffic and Passenger Data (2015-2024)

The evolution of air traffic over a decade provides a valuable perspective on the dynamics and development of an airport. The table "Comparative Passenger and Movement Statistics (2015-2024)" presents essential data on the number of annual air movements and registered passengers at Suceava Airport, also highlighting the year-over-year percentage variations. Chronological comparisons reveal periods of significant growth driven by route expansion and increased demand for flights, as well as periods of decline influenced by external factors such as economic crises, travel restrictions, or changes in air operators' strategies.

Analyzing this table not only provides a clear snapshot of Suceava Airport's performance in recent years but also helps identify patterns and important lessons for efficient resource management and anticipating future challenges. Furthermore, it highlights the direct contribution of the airport to regional connectivity and its impact on mobility and the local economy.

Table No. 1: Comparative Situation of Passengers / Movements for the Period 2015-2024

Year	Number of Movements	Change % (Movements)	Number of Passengers	Change % (Passengers)
2015	170	-	2349	-
2016	1785	950.00%	57226	2336.19%
2017	3069	71.93%	262165	358.12%
2018	3446	12.28%	353280	34.75%
2019	4111	19.30%	430123	21.75%
2020	2558	-37.78%	189199	-56.01%
2021	4421	72.44%	346697	83.24%
2022	7755	76.78%	764067	121.38%
2023	8138	4.94%	802167	4.85%
2024	5464	-19.75%	597338	-11.22%

Source: Own elaboration based on internal data provided by RA Ştefan cel Mare Airport Suceava, *https://aeroportsuceava.ro/ro/*

We specify that the data for the year 2024 is not complete, as it has been provided by Suceava Airport up to October 11, 2024.

The analysis of air traffic in Suceava begins in 2015, as this year marked the modernization of the airport, transforming it into a regional and international reference point for air transport. With a total of 170 movements and 2,349 passengers, 2015 serves as the starting point for this analysis and is used as the reference year, with no comparative percentage values.

In 2016, there was a remarkable increase in the number of movements, rising from 170 to 1,785—a leap of 950%, driven by the completion of modernization works. This extraordinary evolution was reflected in passenger numbers, which surged from 2,349 to 57,226, marking a 2,336.19% increase. This significant growth reflects considerable progress in airport activity, likely due to investments (modernizing the airport, rehabilitating the runway and terminal) or the introduction of new air routes and the resumption of regular domestic and international flights.

In 2017, the upward trend continued, albeit at a slower pace. The number of movements increased by 71.93% compared to 2016, reaching 3,069. Passenger numbers totaled 262,165, a 358.12% increase from the previous year. The ratio of passengers to movements grew significantly, indicating greater efficiency in aircraft utilization.

The year 2018 marked a stabilization of the growth rate. Growth continued at a more moderate pace, supported by the introduction of new

international flights. The number of movements increased by 12.28%, reaching 3,446, while passenger numbers grew by 34.75%, totaling 353,280. This period highlights continued expansion, although at a slower rate compared to 2016 and 2017.

In 2019, the airport activity experienced more pronounced growth, with a 19.30% increase in movements, reaching 4,111. Passenger numbers rose by 21.75%, totaling 430,123. This year reflects consolidation of air traffic, with a favorable ratio between passengers and movements, suggesting optimal utilization of transport capacity.

The year 2020 followed, when air traffic was disrupted by the COVID-19 pandemic, which had a severe impact due to travel restrictions and other measures imposed globally. This led to a decrease in the number of movements by 37.78%, reaching 2,558, and a decline in the number of passengers by 56.01%, reaching 189,199.

Recovery began in 2021, with a 72.44% increase in movements, reaching 4,421. Passenger numbers grew by 83.24%, totaling 346,697. This year reflects a gradual recovery of airport activity as restrictions were eased.

In 2022, modern check-in and security control systems were implemented at Suceava. This year marked growth in both aircraft movements and passenger numbers. Movements increased by 76.78%, reaching 7,755, while the number of passengers grew by 121.38%, totaling 764,067. These figures indicate an almost complete recovery of activity, nearing pre-pandemic levels and highlighting the airport's growth potential, which authorities should consider.

In 2023, growth was also recorded, but at a much slower rate of only 4.94% in movements, reaching 8,138, despite the expansion of the terminal and improvements in passenger comfort. This year indicates stabilization in traffic, with clear signs of maturity in Suceava Airport's operations.

Estimates for 2024 (data from the last two months of the year are currently missing) indicate a 19.75% decrease in movements, dropping to 5,464, and an 11.22% reduction in passenger numbers, to 597,338. This downward trend may reflect economic or other factors affecting airport activity, such as changes in routes or reduced capacity of air operators.

Thus, the operational dynamics analysis for the investigated period reveals notable fluctuations, driven by macroeconomic variables—particularly the pandemic's impact—as well as infrastructural development (or lack thereof in road infrastructure) and fluctuations in demand in the air transport sector. The analysis of the ratio between passenger numbers and air movements indicates an upward trend until 2023, followed by potential declines in 2024.

For Suceava Airport, the 10-year traffic evaluation highlights dynamic growth, characterized by an upward trajectory until 2019. This growth was interrupted by a temporary contraction in 2020, followed by a gradual recovery in subsequent financial years. The downward trend observed in 2024 underscores the need for strategic policies aimed at diversifying the portfolio of air operators and optimizing the existing network of destinations.

Comparative Evaluation of Passenger Traffic and Air Movements in the Last Two Years

A comparison of air traffic over the last two consecutive years provides a clear picture of recent trends, adaptability, and operational performance of an airport. The table below presents detailed data on the number of air movements and passengers for each month in 2023 and 2024, allowing for the identification of significant differences and variations.

This information is essential for understanding the seasonal impact on airport activity, traffic management efficiency, and the potential effects of external factors such as economic changes, schedule adjustments, or passenger travel behavior.

Monthly data comparison highlights both peak periods characterized by intense activity and months with low traffic, providing a solid basis for resource planning and the implementation of tailored strategies to optimize Suceava Airport's performance.

Table No. 2: Comparative Passenger Traffic and Movements for 2023–2024

Month	Movements 2023	Passengers 2023	Movements 2024	Passengers 2024
January	562	63282	426	44822
February	582	67794	483	45854
March	605	64961	494	48513
April	581	63715	524	50526
May	825	64150	533	55346
June	774	79483	698	76375
July	992	80492	706	84076
August	869	84305	702	86861
September	783	76279	663	78784
October	746	65002	235	26181
November	402	42540	-	-
December	417	43989	-	-
Total	8138	802167	5464	597338

Source: Own elaboration based on internal data provided by RA Ștefan cel Mare Airport Suceava, *https://aeroportsuceava.ro/ro/*

The table above contains data that allows us to compare monthly traffic between 2023 and 2024. The analysis shows a significant decrease in both categories: movements and passengers. Looking at the first ten months of 2024, each month records lower values compared to the previous month, suggesting a general trend of decreasing airport activity. For example, in January, the number of movements decreased from 562 to 426, and the number of passengers reduced from 63,282 to 44,822. The situation is even more evident in October, where the decline is even steeper, with only 235 movements compared to 746 in 2023, and the number of passengers drastically reduced from 65,002 to 26,181.

Despite this generalized decline, the summer months of July and August show relatively stable passenger traffic figures. In July 2024, 84,076 passengers were recorded compared to 80,492 in 2023, while in August 2024, passenger numbers reached 86,861, compared to 84,305 the previous year.

This stability indicates strong demand during the summer season, despite declines in other months of the year.

We observe that airport traffic in 2024, compared to 2023, experienced a significant decrease. To prevent such declines, the airport could establish partnerships for new air routes and offer promotional campaigns to balance passenger flow throughout the entire year.

Identified Issues and Recommendations for Optimizing Air Traffic at Suceava Airport

The analysis of airport traffic data for Suceava for the 2023-2024 period, along with the examination of historical trends from 2015 to 2024, provides a clear picture of the challenges and opportunities faced by the airport. A comparative graph of passenger numbers and air movements highlights significant variations, with pronounced seasonality and a visible decline in traffic during off-peak months. This trend suggests the presence of structural and contextual issues affecting the airport's performance.

We have identified several key issues and propose specific recommendations for addressing each. The goal is to contribute to the sustainable development of the airport by optimizing resources, diversifying flight offerings, and increasing its attractiveness to passengers and air operators.

1. Pronounced Seasonality of Air Traffic

Suceava Airport's air traffic is characterized by pronounced seasonality, a phenomenon typical of airports located in tourist regions or economic zones with seasonally influenced activities. This variation is most

evident during summer and winter holidays, as well as during festivals or special events. The highest traffic volumes are recorded in the summer months (July and August), contrasting with significant declines in the autumn and winter months (October and January). This fluctuation creates challenges for the airport's operational efficiency and complicates optimal resource allocation. To reduce dependency on the summer season, the airport should collaborate with air operators to introduce regular and attractive flights during off-peak months. Additionally, campaigns promoting regional tourism in Suceava outside the peak season could stimulate demand.

2. Decline in Traffic in 2024 Compared to 2023

Analyzing the figures for the first ten months of 2024, we observe a decrease in the total number of air movements and the number of passengers compared to the same period in 2023. This downward trend can be attributed to general economic factors and reduced activity by some partner air operators who have decreased flight frequencies or eliminated certain routes. These changes highlight the airport's vulnerability to external influences.

The airport could negotiate with airlines to introduce promotional offers during low-traffic months and stimulate demand by reducing airport fees for off-season flights.

3. Absence of Transit Traffic

Statistical data reveals that Suceava Airport is not currently utilized as a transit hub, and the number of transit passengers is virtually nonexistent.

To strengthen its position as a regional transit hub, the airport should establish strategic partnerships with airlines offering regional and international flights. Moreover, investments in infrastructure and services for transit passengers can significantly increase the airport's attractiveness to this segment.

4. Dependence on Certain Routes and Operators

Suceava Airport’s operations are dominated by a small number of airlines and a few popular routes, leading to significant operational dependence. This situation increases the airport's vulnerability to the commercial decisions of these operators, such as reducing flight frequencies or eliminating specific destinations. This concentration also limits the airport's ability to diversify passenger flows and attract new airlines, affecting its long-term competitiveness and stability. An active strategy to attract new airlines and expand available routes can reduce dependence on current partners. In this context, the airport should offer financial incentives and logistical support to airlines interested in inaugurating new destinations.

5. Limited Infrastructure and Resources During Peak Periods

During peak months, the airport's capacity may become insufficient to handle the heavy traffic. This can lead to delays, congestion, and an overall poorer experience for passengers. Developing and optimizing airport infrastructure components, including integrated passenger processing systems, secure control devices, and automated baggage handling facilities, would significantly improve operational fluidity during high-traffic periods.

Conclusions

The Ştefan cel Mare Airport in Suceava is the main gateway to the Bucovina region, facilitating both domestic and international tourism development and strengthening trade relations with other areas abroad (Stanciu, 2017). The challenges faced by Suceava Airport reflect a combination of internal issues and external factors that hinder optimal operations and sustainable infrastructure development

Among the primary difficulties are the insufficient terminal capacity during peak periods, the lack of diversity in air routes to key European destinations, and a high dependence on seasonal traffic, which causes significant fluctuations in the utilization of available resources. In addition to these structural challenges, economic instability, geopolitical crises, and fuel price volatility create operational uncertainties and reduce the airport's attractiveness to airlines.

To address these issues, it is essential to implement integrated measures that optimize operational processes, modernize infrastructure, and diversify airport activities. Digitalization and process automation can enhance operational efficiency and passenger experience by utilizing automated check-in kiosks and biometric access control systems. Simultaneously, expanding terminals and updating infrastructure capacity, including parking platforms and cargo facilities, are crucial to meet growing traffic demands.

The airport can become more competitive by attracting new airlines to open regular routes to popular destinations and offering financial incentives for flights to European hubs. Equally important is promoting the airport as the main gateway to the Bucovina region through strategic partnerships with tour operators and travel agencies, as well as marketing campaigns that highlight the cultural and economic appeal of the area.

Developing auxiliary services, such as logistics facilities and cargo transport, can generate additional income regardless of the season. Additionally, investments in sustainable infrastructure and the adoption of innovative solutions will ensure greater adaptability to industry changes.

A strategic, integrated long-term approach is vital to transforming Suceava Airport into a competitive regional hub. Modernizing infrastructure, increasing operational efficiency, and expanding the air route network will strengthen the airport's strategic position within the European transport network. Furthermore, these measures will generate significant economic and social benefits for the region, stimulating tourism, trade, and mobility. By adopting these solutions, Suceava Airport can maximize its potential and contribute substantially to the economic development of the area.

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