International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322

To cite this article: Ana Lazarovska Ph. D, Prof. Dr. SC. Verica Dancevska and prof. Dr. SC. Violeta Manevska (2025). ECONOMIC VIEW FOR THE BIRTH OF AERODROME IN THE VINCINITY OF SIBENIK CITY, International Journal of Research in Commerce and Management Studies (IJRCMS) 7 (2): 298-322 Article No. 365 Sub Id 660

ECONOMIC VIEW FOR THE BIRTH OF AERODROME IN THE VINCINITY OF SIBENIK CITY

Ana Lazarovska Ph. D[1], Prof. Dr. SC. Verica Dancevska[2] and prof. Dr. SC. Violeta Manevska[3]

· [1]Atlantic International University Honolulu, Pioneer Plaza, 900 Fort Street Mall #905, Honolulu, HI 96813, United States, Post- doctorate of science with a major in Aeronautical Science management
E-mail. alazarovska@gmail.com
[2]University St Kliment Ohridski Bitola, Faculty of Technical Sciences, Makedonska falanga 33, 7000 Bitola

[3]University St Kliment Ohridski Bitola, Information and Communication Technologies, Partizanska bb, 7000 Bitola

DOI : https://doi.org/10.38193/IJRCMS.2025.7223

ABSTRACT

Conducting an economic analysis and assessment for the establishment of an aerodrome near šibenik requires evaluating various factors, including regional demand for air travel, potential economic impact on local tourism and commerce, accessibility to transportation networks, and environmental considerations. A cost-benefit analysis should assess initial infrastructure investments versus long-term economic growth, job creation, and increased connectivity for business and leisure travelers. Additionally, examining competitive advantages over existing airports, potential partnerships with local government, and stakeholder engagement is crucial. Ultimately, a well-rounded feasibility study will inform decision-making and drive strategic planning for the aerodrome's successful integration into the šibenik region.

KEYWORDS: economic analysis, economic assessment, sustainable development

1. INTRODUCTION

This paper analyzes the interplay between transport economics and sustainable development in Croatia, highlighting a significant gap in both theoretical and practical research on the factors influencing transport and infrastructure development, particularly in sports and education sectors. It emphasizes the adverse effects of this lack of research on airport infrastructure, crucial for national aviation, advocating for a systematic approach to address these issues through diagnosis, prognosis, and therapy. By doing so, it aims to mitigate the harmful repercussions on both aviation and other transport sectors, aligning with the dissertation's primary focus on enhancing transport infrastructure development in Croatia.

The subject of the research arises from the defined problem:

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322

The research posits that understanding the interrelationship between transport economics and sustainable development in Croatia's airport infrastructure, particularly in Šibenik, is crucial for enhancing air traffic efficiency and regional integration within the European transport system. By utilizing an informed cost-benefit analysis model grounded in equilibrium theory, the study aims to demonstrate that optimizing air traffic can lead to improved economic and sustainability outcomes, thus facilitating Croatia's alignment with EU standards. The successful implementation of this approach has the potential to not only elevate the quality of airport infrastructure but also substantiate Croatia's position in the wider European transport network.

The post-doctoral dissertation aims to optimize transport economics through a cost-benefit analysis, incorporating equilibrium theory to enhance sustainability in air traffic management at the state level, aligned with European Union standards. The research seeks to deliver an analysis that ensures economic viability, safety, speed, and regularity for air traffic projects, while harmonizing services for national security, environmental sustainability, and adaptability to diverse user needs within a unified framework.

The economic aspects of the sustainable development of Croatian air traffic encompass a multi-faceted approach that integrates economic theories, financing mechanisms, and regulatory frameworks, particularly focusing on emissions trading and management practices. It emphasizes the necessity for rational resource allocation to ensure both the efficiency of air traffic operations and the reduction of environmental impacts, aligning with global sustainability goals. Moreover, the analysis underlines the importance of compatibility between Croatia's air traffic economic strategies and broader EU frameworks, fostering collaboration and enhancing the sustainable development of airport infrastructure to support long-term growth while minimizing ecological harm. This holistic approach is essential for fostering a resilient air transport sector capable of adapting to both economic pressures and environmental challenges.

The research presented in the postdoctoral dissertation "TRANSPORT ECONOMY IN FUNCTION OF SUSTAINABLE DEVELOPMENT FOR DESIGNING A COMMERCIAL AIRPORT" employed a comprehensive and diverse array of twenty-two scientific methods to analyze the complex interplay between transport economics and sustainable development. These methods include both qualitative and quantitative techniques, such as the Mosaic method, mathematical models, and statistical analyses, alongside various approaches like case studies, forecasting, and comparative studies. By strategically combining these methodologies, the research aims to provide robust insights into the economic implications and sustainability considerations essential for the design and operation of commercial airports in contemporary contexts.

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322

2. THE ECONOMIC RATIONALE FOR AERODROME IN THE VICINITY OF SIBENIK CITY

— **The "without project" scenario encompasses the baseline conditions against which the project's benefits can be evaluated and consists of two key elements: first, it describes the current state of affairs or conditions in the absence of the project, capturing existing resources, activities, and social or economic conditions; second, it anticipates future developments or trends that would likely occur without the project, including potential challenges or missed opportunities. Together, these components provide a framework for comparing the projected outcomes of the project against what would happen without its implementation, thereby aiding in the assessment of its overall economic viability.**

— In addressing the challenges of repair projects within existing airport infrastructure, it is essential to consider that the "without project" scenario entails a scenario where no additional investments are made, leading to a gradual deterioration of the airport and eventual inoperability. Conversely, if the project focuses on expanding operational flow, the "without project" scenario must include investments necessary to maintain the current operational capacity, thereby ensuring that the airport can continue to function regardless of the expansion efforts. This dual consideration underscores the importance of strategic planning and investment to avoid adverse outcomes for both current and future operations.

— Institutional constraints play a critical role in evaluating the feasibility and impact of projects like the construction of a commercial airport near Sibenik, as they encompass various policies imposed by government entities, airports, and airlines that can shape the parameters of "with project" and "without project" scenarios. These constraints might include limitations on aircraft size due to the runway's structural capabilities, dominance of a particular airline that may resist changes in operation, and environmental regulations that restrict aircraft movement below the runway's design capacity. Consequently, a thorough evaluation must incorporate these specific constraints and consider ad-hoc adjustments to effectively analyze the proposed project scenario.72F[1]

2.1 Economic benefit from airport infrastructure

Investments in airport infrastructure yield significant economic benefits that surpass the revenues generated by airlines and airport operators, particularly by enhancing both air and ground operations. This involves improving airspace management for efficient aircraft movements and expanding ground facilities for passenger and cargo services, as is planned for the upcoming airport near Sibenik. Such projects aim to alleviate congestion, reduce travel

[1] https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/about/economic-regulation/RBP-detailed-plan.pdf

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322

times, and increase overall service quality, leading to greater profitability from land use compared to operational income alone. By investing in cargo and passenger terminals along with improved access roads, airports can significantly enhance efficiency and passenger experience, ultimately outweighing the costs involved.

Investing in airport infrastructure can lead to significant improvements in air travel efficiency by increasing take-off frequency, reducing flight durations, and ultimately lowering transport costs. Enhanced processing time for aircraft minimizes operating expenses, while benefits such as reduced travel, access, and waiting times directly improve the passenger experience. Additionally, increased service reliability is crucial for air traffic controllers, and a well-planned investment can help meet latent demand when existing capacity falls short. By addressing the supply and demand mismatch, these infrastructural improvements promote a more efficient and cost-effective air travel network.

Shortages in the airport transport system arise from non-random entry and limited capacity, leading to flight delays and congestion through rescheduling; non-congestion shortages can occur when airports fail to adequately price their slot availability. Investments in airport infrastructure enhance service reliability and reduce operational costs for airlines and passengers, ultimately promoting induced traffic from diverted and generated demand. The economic advantages ripple through various stakeholders—including airport users, airlines, and taxpayers—affected both directly and indirectly through secondary market effects, underscoring the importance of assessing economic distortions and their broader impacts.73F[2]

2.2 Net Present Value (NPV) of the Investment

The NSV in transport infrastructure is expressed as:

$$NPV = -I + \sum_{t-1}^{T} (\Delta CS_t + \Delta PS_t)(1+i)^{-t}$$

I : investment costs
T: the life span of the project
ΔCSt: change in consumer surplus in year t
ΔPSt: change in producer surplus in year t
i: the discount rate

The change in consumer surplus can be estimated using the "rule of half":

$$\Delta CS_t = \frac{1}{2}(g_{t0} - g_{t1})(q_{t0} + q_{t1})$$

[2] Ибидем

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322

$$g = p + \tau$$

gt0 : generalized price per year t without investment
gt1 : generalized price per year t with the investment
qt0 : airport users per year t without investment
qt1 : airport users in the year t with the investment
p: travel cost, including airport taxes, airline ticket, access fees and expenses
τ: value of the total travel time (flight, approach, exit and waiting).

The change in producer surplus by producers is equal to:

$$\Delta PS_t = p_{t1}q_{t1} - p_{t0}q_{to} + C_{t0}(q_{t0}) - C_{t1}(q_{t1})$$

where $C_{t0}(q_{t0})$ and $C_{t1}(q_{t1})$ denote total variable costs without the project and with the project.

In assessing changes in surplus related to airport services, it's crucial to examine the interplay between revenues, costs, and market power among various stakeholders, including airport authorities and airlines. The social surplus approach allows for a direct calculation of consumer and producer surpluses to evaluate how new infrastructure impacts prices and service quality, while the resource cost approach focuses on real resource changes, disregarding transfers and emphasizing the cost side of the equation. In competitive markets, benefits can be assessed by looking at resource cost savings, although quality changes must be carefully considered, especially when gauging the impact of taxes. Ultimately, a comprehensive evaluation should not overlook the significance of quality changes and their implications for user costs, particularly in contexts where pricing power exists.

The CBA requires an estimate of airport demand over the life of the project that the baseline demand level is equal to q0, and the annual growth rate is γ, so the annual demand for an airport without changes in overhead costs is:

$$Q_t = q_0(1+\gamma)^t$$

Qt is the number of users willing to pay to use the airport in a year t, and

qt0 and qt1 are equilibrium quantities in year t without and with the investment when the estimating agency knows the annual growth in demand and the equilibrium quantities of social surplus.74F[3]

2.3 Identification of profit from investments in airport infrastructure

2.3.1 Advantages without rationalization

In the context of proposed airport infrastructure near Sibenik, the economic benefits from reduced resource costs could be significant, particularly by decreasing total travel time. Shorter travel times can enhance connectivity, stimulate local economic growth, boost tourism, and improve access to

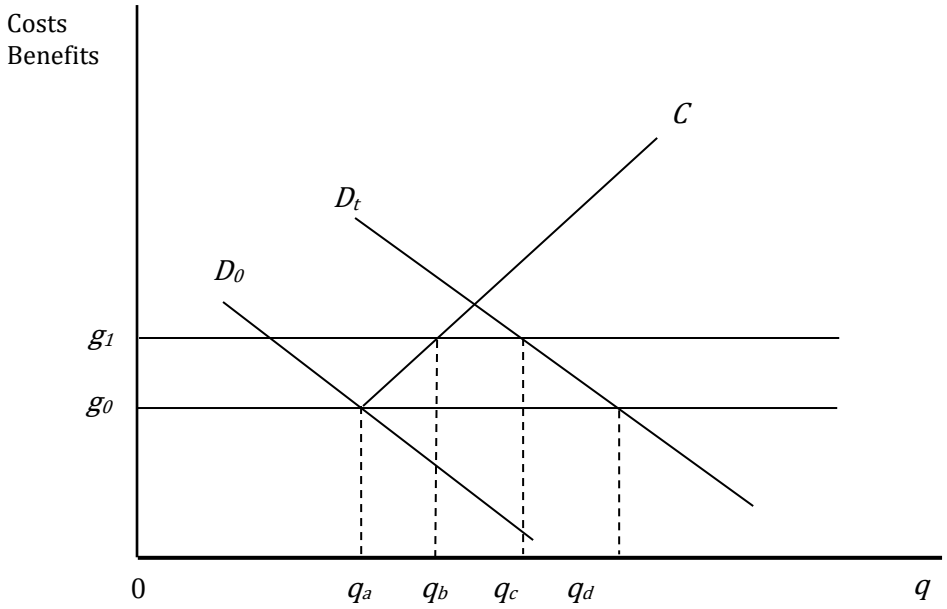
[3] https://www.sciencedirect.com/science/article/abs/pii/S0969699704000213

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322

markets and services. Additionally, efficient airport operations may lower operational costs for airlines and travelers alike, creating a more competitive environment that fosters increased demand and further investment. Overall, the project stands to provide both direct economic advantages and broader regional development opportunities **(*τ1- τ0*)** and without changing prices.



*Graph 1, User benefits*75F[4]

The graph highlights the interplay between investment in airport infrastructure and operational capacity, illustrating that as investment increases, it leads to enhanced capacity, which can justify higher overhead costs through improved passenger satisfaction and potential revenue growth. The horizontal axis reflects demand over time, indicating that with initial capacity at qa and an associated price g0, any further increases in demand can only be accommodated through existing capacity, albeit at elevated prices due to the rising average general cost function C once the critical threshold qa is reached.

In this scenario, the demand for a service at the airport is initially set at level D0, with an imperfect supply leading to a higher price g1 compared to g0. As demand grows at a rate γ, the projected demand for the subsequent period becomes Qt. If the cost of service is at the lower price g0, all demand (Qt = qd) can be met; however, if the price is at g1, the airport can only satisfy part of that demand (Qt = qb). Consequently, traffic may be diverted to alternative services (qc-qb) due to limitations in handling capacity, along with potential restrictions impacting the volume of traffic at the airport (qd-qc).

In this project scenario, when demand shifts to Dt, the equilibrium quantity of demand increases to

[4] Авторска слика, извор: Ибидем

International Journal of Research in Commerce and Management Studies

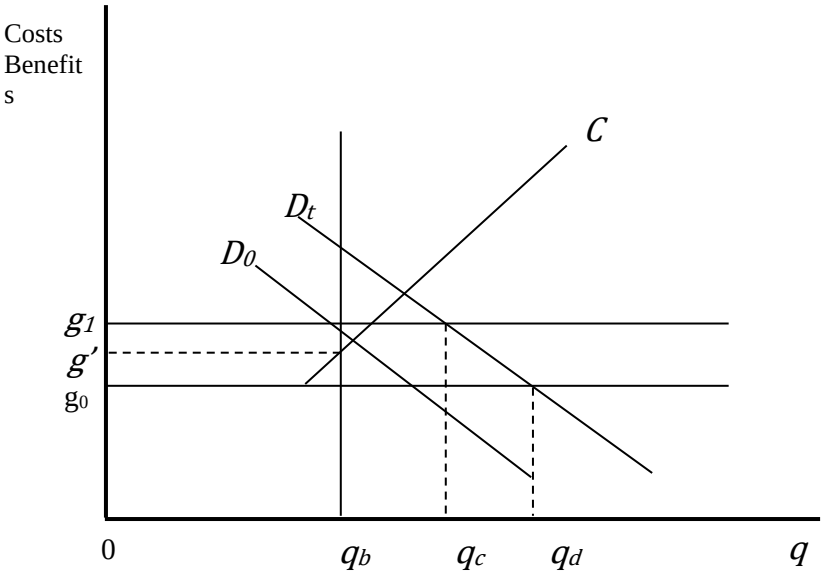
ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322

qd, indicating a favorable outcome for the project as it can maintain movement at general pricing levels due to higher demand. In contrast, without the project, the equilibrium quantity is limited to qb (where qb < qd), suggesting that the absence of the project results in underperformance relative to potential demand, potentially leading to lost opportunities for revenue and market share. This underscores the importance of the project in aligning supply with increased demand.

In estimating the economic benefit of a project, we identify three key categories: benefits to existing users (qb), benefits from avoided diversion costs (qc-qb), and benefits from generated traffic (qd-qc). The benefits to existing users represent the increase in consumer surplus for the maximum number of users influenced by alternatives with lower costs, defined as (g1-g0) qb. Avoided diversion costs reflect reduced inconvenience for passengers shifting from less favorable alternatives, quantified by (g1-g0) (qc-qb). Meanwhile, the benefits from generated traffic, calculated as 0.5(g1-g0)(qd-qc), denote the surplus derived from new passengers as future demand increases. The analysis also highlights the significance of administrative efficiencies and varying pricing structures for different passenger segments, alongside potential capacity constraints during the project's execution.76F[5]

Advantages of streamlining



Graph 2, User profit with administrative capacity rationalization [6]

The analysis illustrates how airport capacity rationalization impacts overhead costs, highlighting a discrepancy between existing and ceded users. In the base case, the overhead costs are equal for both

[5] https://www.sciencedirect.com/science/article/abs/pii/S0969699704000213

[6] Авторски граф, извор: https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/about/economic-regulation/RBP-detailed-plan.pdf

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322

user groups, but with project implementation, overhead for ceded traffic becomes higher compared to permanent traffic due to altered slot allocations. This results in a lower overhead cost for existing traffic, enhanced by the project's execution, while displaced traffic transitions to less optimal alternatives, leading to both ceded and disrupted user flows. Overall, the project exposes the nuances of economic efficiency within airport operations, emphasizing the implications of overhead cost differentiation on user allocation and traffic distribution.

The analysis indicates that while the benefits to current users (g0g0) qb decrease with administrative rationalization compared to without it, the avoided diversion costs ((qc-qb)(g1-g0)) increase due to improved conditions, highlighting that traffic generation benefits remain comparable. The findings suggest that under high congestion conditions, optimizing capacity without project implementation may yield better financial results, although the substantial benefits derived from airport infrastructure in the initial graph emphasize the criticality of clearly defining the baseline scenario.7[7]

2.3.2 Capacity limitation

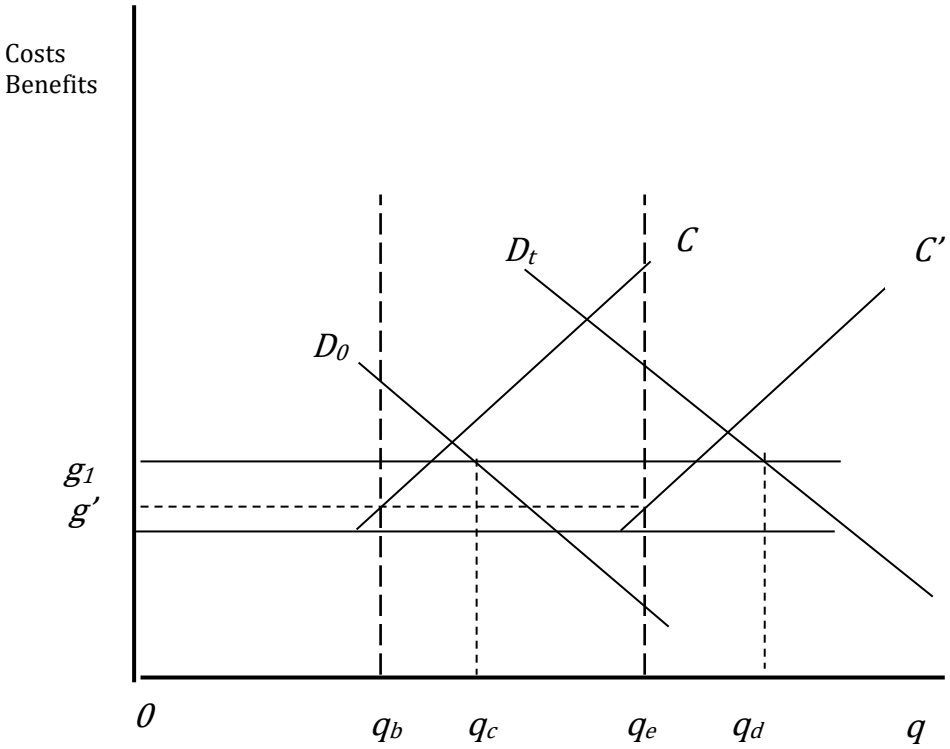
In scenarios where demand for a project exceeds baseline levels at a constant price g0, resulting in unmet demand due to congestion, it may be inefficient to invest in additional capacity immediately, especially if investments are indivisible and significant. Instead, the optimal approach might be to delay capacity expansion for several years while monitoring demand patterns and market conditions, given that information is considered perfect and compatible. This allows the project to avoid unnecessary investments until there is clearer evidence of sustained increased demand, ultimately maximizing economic efficiency over the typical 15 to 20 year project life.

[7] https://www.sciencedirect.com/science/article/abs/pii/S0969699704000213

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322



*Графикон 3, Профит на корисниците со административно рационализирање и метеж*79F[8]

To assess the social profitability of airport capacity expansion, we must analyze the reduction in overhead costs, quantify diversion costs (attributable to the difference in costs per passenger), and evaluate user benefits through time savings and consumer surplus. The investment's economic impact primarily reflects time savings for travelers while redistributing surplus favors to the airport authorities and airlines, thereby changing operating costs and revenues. A comprehensive graphical analysis, grounded in a resource cost approach, should capture these dynamics, especially under conditions of similar supply and demand. By assuming that reductions in airline operating costs translate to lower ticket prices for consumers, we can streamline calculations of the change in social surplus for year t, facilitating an informed decision regarding the investment's overall viability.

$$\Delta(CS_t + PS_t) = (\mathrm{g}_{t0} - \mathrm{g}_{t1})q_0 + (p_{t1} - p_{t0})q_0 + \frac{1}{2}(\mathrm{g}_{t0} - \mathrm{g}_{t1})(q_{t1} - q_{t0}) + p_{t1}(q_{t1} - q_{t0})$$

Considering that $g = p + \tau$, social surplus is expressed as:

$$(\tau_{t0} - \tau_{t1})q_0 + \frac{1}{2}[(\tau_{t0} - \tau_{t1}) + (p_{t1} + p_{t0})]\Delta q$$

[8] Авторска слика, извор: ибидем

International Journal of Research in Commerce and Management Studies

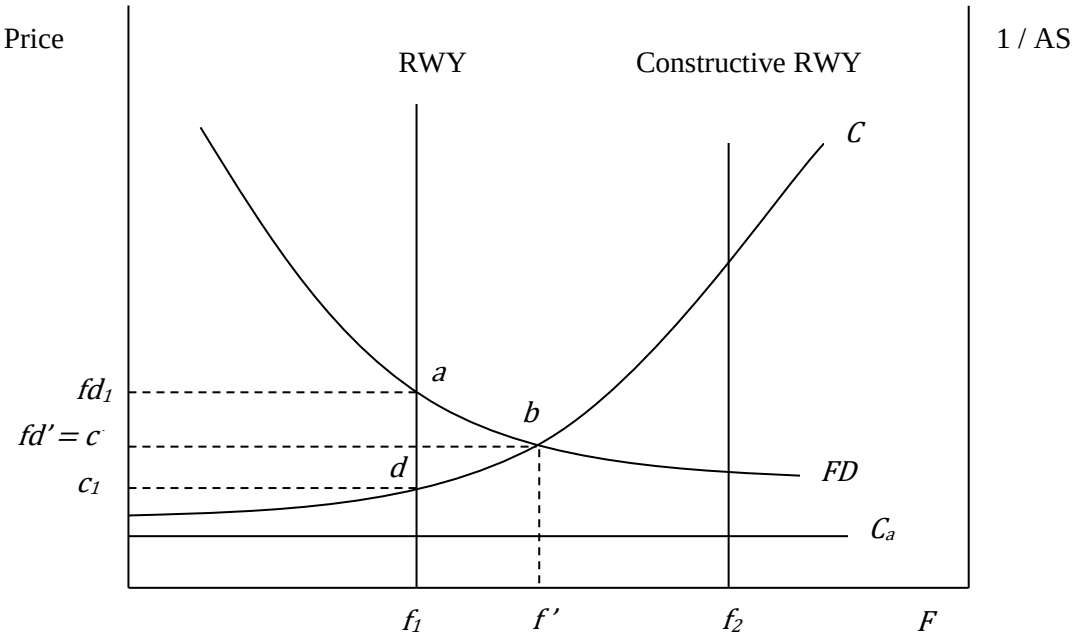
ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322

The benefit to current users is calculated based on total time savings, with specific adjustments for generated passengers, where only half of the time savings plus the average charges of previous and ex-airport are considered. To account for discrepancies in time savings, it is necessary to calculate this benefit separately for existing and diverted traffic, ensuring that the time savings are applied uniformly across all traffic without causing disruptions. This rationalization allows for a more precise estimation of the overall benefits by acknowledging the different impacts on the two traffic types.80F[9]

2.3.3 Additional investment considerations

Increasing airport capacity enhances passenger and cargo potential while promoting higher flight frequency, which can shift airlines toward larger, more cost-effective aircraft. If capacity does not expand adequately, airlines may resort to operating smaller aircraft to compete for business passengers through frequency, potentially limiting overall efficiency. Lack of infrastructure investment, such as new runways, forces airlines to use larger aircraft, requiring them to weigh the costs and benefits of adding new routes against the trade-offs of frequency delays and operating costs per seat. Thus, optimal capacity management is essential to balance these competing factors and maximize operational efficiency.



Graph 4, Income from investments on the air side of the airport [10]

The described graph illustrates the interactions between various cost dynamics in aviation, showcasing

[9] https://www.sciencedirect.com/science/article/abs/pii/S0969699704000213
[10] Авторски граф, извор: Ибидем

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322

an inverse relationship between departure frequency and overhead cost (illustrated by the FD schedule), while highlighting constant returns to scale in the airport marginal cost schedule (Ca). The marginal total cost schedule (C), which incorporates both airport and aircraft-related expenses, further demonstrates that as departure frequency increases alongside total traffic and aircraft size, the marginal cost per seat decreases, manifesting as a clockwise rotation of curve C downward on the graph. This indicates that larger aircraft and higher total traffic can lead to more efficient cost distributions, ultimately lowering prices for consumers.

The analysis illustrates the benefits of constructing a second runway, as it allows for increased aircraft movement frequency (from f1 to f2), which is essential due to heightened passenger congestion costs exceeding operational marginal costs at current frequency levels. This results in airlines opting for more frequent, smaller aircraft, establishing equilibrium at point b, where demand for frequency and operational costs align. Over time, increased traffic and rising income elevate the value of time, expanding the benefits area (abd) from the new runway, making the economic returns from the investment more favorable. As long as the resulting demand does not surpass the new runway's capacity, there is no immediate need for a third runway.82F[11]

2.3.4 Airport operating costs

The airport near Šibenik incurs significant fixed costs associated with both ground and air handling operations, essential for ensuring cost efficiency as it develops. Ground handling costs focus on passenger and cargo processing through terminal facilities, while air handling costs are related to the maintenance and operation of essential infrastructure such as runways, taxiways, and parking areas. As the airport expands and possibly constructs a new terminal, effectively managing these costs will be crucial for enhancing overall operational efficiency.

— The relationship between path and unit cost is influenced by density and scale economies, which can enhance efficiency in infrastructure usage. Density economies arise from higher traffic volumes utilizing existing facilities more effectively, while scale economies can occur in two ways: by boosting infrastructure capacity to manage increased flow without compromising density and by integrating varied outputs—such as passenger and freight services—to optimize resource use. Airports, benefiting from both airside and ground-side density economies due to fixed costs, are prime examples of how these concepts can lower unit costs through increased operational throughput and facility utilization.

The efficiency and cost-effectiveness of airport expansions are influenced by the balance between landside and airside capacity, where unilateral expansions, especially of the airside, can lead to higher unit costs due to reduced density of air traffic flow. While enhancing landside facilities can optimize aircraft density and improve cost-effectiveness, the different impacts of expanding airside and landside

[11] https://www.sciencedirect.com/science/article/abs/pii/S0969699704000213

capacities complicate the assessment of their overall economic benefits. Consequently, traditional benchmarks in aviation literature may not accurately reflect the complex dynamics of airport expansions, making it challenging to derive a clear conclusion on the optimal approach to achieve economies of scale.

The findings suggest that while smaller airports like the planned facility near Sibenik benefit from decreasing average costs, larger airports tend to experience stable or rising costs as they expand, highlighting the importance of accurately assessing both capital investments and operating costs for effective financial planning. Given the uncertainties surrounding future operating cost estimates, the analyst will need to rely on careful projections and possibly sensitivity analyses to ensure a comprehensive assessment of potential returns, shaping decision-making for airport development and expansion strategies.

The findings from various studies indicate that while larger airports typically experience constant average costs within the range of 10-20 thousand passengers per year, smaller airports like the one planned near Sibenik demonstrate decreasing average costs. This suggests that small airports have a different cost structure, potentially benefiting from economies of scale at lower passenger volumes. Conversely, larger airports may encounter constant or even increasing average costs as they expand, indicating the possibility of retrofitting or modifying their operations in later phases to enhance efficiency and manage costs effectively.

To estimate operating costs for a project like the expansion of Sibenik airport, the analyst can utilize data from similar facilities to establish a relationship between unit costs and capacity utilization. With the new terminal increasing capacity by 50%, initial unit costs are expected to rise by about 25% due to the increased operational demands, but over time, as capacity utilization approaches full efficiency, unit costs will gradually decrease, reflecting economies of density inherent in infrastructure operations. This approach ensures that financial forecasts remain realistic, taking into account both immediate impacts and long-term operational efficiencies.

— The operational efficiency and long-term profitability of an airport are influenced by its average spare capacity and the associated costs of additional investments required to accommodate traffic growth. A higher degree of spare capacity may allow the airport to manage costs more effectively, while the need for substantial investment in infrastructure, regulatory compliance, and traffic management can significantly impact operational expenditures and long-term returns. Balancing these factors is crucial for sustainable airport management and ensuring sufficient service levels as demand fluctuates.

The Sibenik Airport management faces challenges due to its simple structure, where conflicting interests among various stakeholders, historical growth patterns, and fragmented services can hinder optimization. While constant returns to scale are assumed, increased marginal costs associated with additional infrastructure capacity need to be carefully assessed. Efficient resource use through

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322

integrated operations can lead to improved airport throughput and better exception management, thus addressing potential issues stemming from localized decision-making and lack of a comprehensive overview of airport operations.83F[12]

3. ECONOMIC ASPECTS OF SUSTAINABLE AIR TRAFFIC DEVELOPMENT

Economic aspects as part of the sustainable development of air traffic will be elaborated on the following seven issues: 1) Economic theories in the focus of sustainable air traffic development; 2) financing of sustainable air traffic development; 3) financing of sustainable development of airport infrastructure; 4) Economic and legal aspects of aircraft trading; 5) rational management of sustainable development in air traffic; 6) Compatibility and complementarity of the economics of sustainable development of air traffic in Croatia and the European Union; 7) Compatibility and complementarity of the economics of sustainable development of Croatia and the European Union's airport infrastructure.

3.1. ECONOMIC THEORIES IN THE FOCUS OF SUSTAINABLE AIR TRAFFIC DEVELOPMENT

To effectively assess the environmental impacts of the airport infrastructure project near Sibenik, a comprehensive evaluation of the surrounding ecosystem's value is essential. This assessment must go beyond mere monetary quantification, acknowledging that the intrinsic worth of the environment and its contribution to quality of life cannot be fully captured through financial metrics alone. Efforts to establish meaningful measurement units for environmental value and damage are crucial for informing sustainable development decisions, promoting a deeper appreciation for nature's role in our lives, and aligning economic initiatives with environmental stewardship.

Environmental damage is categorized into four distinct groups:

1. Objective damage encompasses tangible impacts such as pollution and costs associated with aircraft harm;
2. Subjective damage reflects personal assessments not quantifiable through remediation expenses;
3. Economic or cash damage indicates financial losses experienced by the airline industry and related sectors, including earnings and repair costs; and
4. Non-economic damage pertains to intangible losses, such as diminished quality of life and dissatisfaction stemming from environmental pollution.

Assessing environmental damage from aviation-related harmful gases involves understanding the complexity of pollution and its multifaceted impacts, necessitating advanced techniques and funding for accurate evaluations. Challenges arise from the interplay of pollutants and their delayed effects,

[12] Ибидем

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322

making comprehensive cost-benefit analyses crucial. These analyses must consider primary, secondary, and tertiary costs, including pollution sources, quantification, mitigation expenses, and timeframes for assessment. Environmental valuation can be approached through direct monetary methods or indirect ecological methods, emphasizing the need for realistic and effective investment in environmental protection strategies.91F[13]

The monetary method of environmental evaluation quantifies direct benefits and damages, such as improved views and air quality, by assessing environmental changes as marketable resources, thereby encouraging investment in environmental improvements. Conversely, the natural method estimates the indirect impact of pollution on environmental health by analyzing the relationship between harmful emissions and their effects, a process that can lead to complications due to the diverse functions of the ecological systems being evaluated. To enhance the assessment process, particularly in complex environments like airport ecosystems, it's beneficial to establish standard norms for environmental quality that allow for valuation even in the absence of comprehensive data, facilitating better land use planning and resource allocation.

Monetary valuation of environmental resources, particularly in the context of airport infrastructure development, aims to assess the benefits derived from environmental services by examining community needs, individual preferences, and the overall willingness to pay. This process involves evaluating multiple criteria to identify the most favorable solutions that maximize environmental quality while accounting for stakeholder interests. The concept of consumer surplus highlights instances where individuals are willing to pay more than the market price for environmental benefits, thereby guiding decision-makers in selecting locations and designs that align with both economic and ecological objectives. Ultimately, the goal is to achieve a balance between infrastructure development and environmental preservation through systematic analysis and informed choices.

1. Methods that determine the “demand curve “;
2. Methods that do not determine the “demand curve “.

Methods that use the consumer curve are:

(а) a method of determining travel costs (travel cost metod -TCM);

(б) a hedonistic method of determining the value of the environment (hedonistic pricing method – HPM);

(в) a method of possible evaluation (contingent valuation method – CVM).

The second group of methods include:

1. Dose response method;
2. Method of replacement costs;
3. Method of mitigating behavior;

[13] Črnjar, M.: Ekonomika i politika zaštite okoliša, op. cit. , str. 100.

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322

4. Method of possible expense.92F[14]

Environmental Life Cycle Assessment (LCA) is a crucial method for evaluating the ecological impacts of economic resources throughout their lifecycle, particularly within the framework of sustainable development management. It aims to quantify environmental damages and benefits associated with production processes, promoting global awareness while encouraging local action to reduce environmental harm. However, the complexity and costs involved in assessing these impacts can lead to challenges in efficiently managing resources and making informed decisions, particularly for infrastructure projects where Cost-Benefit Analysis may yield fluctuating outcomes. The interconnectedness of various sectors and activities complicates LCA, which can hinder effective project cycling and ultimately impact environmental strategies:

i. the impossibility of a "right" answer due to the large number of alternatives; in the potential choice they are not compared with other potential alternatives;

ii. because there is no single quantitative or qualitative indicator of the real damages;

iii. With the increase in the precision of the LCA method, its complexity increases with a significant change in costs and benefits;

iv. LCA identifies more environmental problems that are "related" to the "caused" ones based on the analysis that may be different from expectations;

The valuation of airport infrastructure and environmental services within aviation underscores the complexity of accurately assessing their worth, as methodologies like the hedonistic approach and possible evaluation method can yield varying results depending on their application. Combining multiple valuation methods may enhance result accuracy and provide a comprehensive understanding of the project's overall value. If environmental services were appropriately valued in economic terms, it could lead to a transformative shift in the global pricing system, integrating these services into the pricing of aviation products and services, thereby ensuring that sustainability and development are considered in economic evaluations.94F[15]

3.2. FINANCING THE SUSTAINABLE DEVELOPMENT OF AIR TRAFFIC

Agenda 21 emphasizes the importance of mobilizing both public and private funding to support sustainable development, particularly for less economically developed countries (LEDCs) that often lack the necessary resources and technologies for growth. The aviation sector, as a major industry, incurs significant costs but also has the potential to contribute to the funding required for development initiatives. To support the United Nations' goals, it is vital for developed nations to commit 0.7% of their gross national product towards assisting developing countries. Major international financial institutions, including the International Development Association and Regional Development Banks,

[14] Докторска дисертација, Верица Данчевска
[15] Докторска дисертација, Верица Данчевска

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322

play a crucial role in facilitating this funding and enhancing the capacity for sustainable development through shared expertise and flexible financial strategies.95F[16]

To enhance sustainable development in Croatia, particularly in air traffic and transport, it is essential to garner external funding and technology transfer through public contributions to NGOs, addressing the significant environmental impacts caused by aviation. The current assessment of airport infrastructure in Croatia reflects a lack of comprehensive evaluation and financing mechanisms for sustainable initiatives, highlighting the urgent need for consistent policies and targeted actions that align with sustainable development principles. By focusing on reducing pollutants from air traffic and investing in cleaner technologies, Croatia can foster economic growth while mitigating adverse environmental effects.**:**

- a certain percentage of the budget;
- Sustainable Development and Protection Fund;
- Substitutes according to the principles "Payer Pay" and "The User Pays";
- fines;
- motivating economic-environmental instruments;
- state funds, enterprises and local self -government;
- funds by side.

To achieve sustainable air traffic development, it is essential to implement targeted financial measures, including establishing a fuel price that supports environmental goals, ensuring funds are allocated for the maintenance of air infrastructure, and investing in the upkeep and modernization of aircraft. These strategies align with transport economics, aiming for continuous and secure financing that adheres to the sustainability principles necessary to enhance the air traffic system, thereby enabling progress toward the standards observed in developed European Union countries.

3.3. FINANCING SUSTAINABLE DEVELOPMENT OF AIRPORT INFRASTRUCTURE

Contribute to economic growth while ensuring social equity and environmental stewardship. Investments in green technologies, renewable energy, and sustainable infrastructure are crucial, as they not only reduce ecological footprints but also create job opportunities and foster innovation. The long-term success of sustainable development relies on a comprehensive strategy that aligns public spending with sustainable goals, maximizing resource efficiency and enhancing community resilience, ultimately leading to a balanced approach to economic and environmental health:

1. Each country has its own unique issue with the structure, industry, the amount of the measures taken by them, and so on.
2. The standard of living,
3. The diversity of technology with the different impact of the environment.

[16] Докторска дисертација, Верица Данчевска

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322

In general, financing of sustainable development is provided by:

- state funds;
- general or special funds;
- funds from the economy;
- combined sources.

Sustainable development funds are particularly important for the decentralization of state functions and building a new system of sustainable development. State budgets are insufficient with various costs for reform, which adds significant importance.

The main goal of introducing economic instruments for "incentives to reduce emissions" is to collect revenues for environmental protection, and in OECD countries there are four main common institutions:

- Community Action for the Environment - CAE;
- European Regional Development Fund – ERDF;
- Community structural funds;
- European Investment Bank – EIB.96F[17]

Use from investing in environmental protection in ELDC countries is in:

- Reduce environmental damage;
- Improving competitors;
- Reduce pollution.

Within the Ministry of Environment and Physical Planning there is a Sustainable Development Fund with funds for implementing goals where:

i. Profitability without harm to future generations;
ii. percentage growth rate;
iii. tax on products and services;
iv. Implementation of the "pollutant pays" and "The user pays";
v. removal of polluting industries;
vi. use of collectors to reduce negative impact;
vii. Harmful emissions to be regulated by special environmental permits;
viii. Creating a "culture" for sustainable development.

3.4.ECONOMIC AND LEGAL ASPECTS IN AVIATION SHOW TRADING

The total emissions limit is lowered periodically to encourage industries to adopt cleaner technologies and practices. This cap-and-trade system allows companies with lower emissions to sell their extra allowances to those that exceed their limits, creating a financial incentive to reduce pollution. By

[17] Докторска дисертација, Верица Данчевска

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322

setting a decreasing cap on emissions over time, the system drives innovation and investment in sustainable practices, ultimately leading to a more environmentally responsible economy and the preservation of natural resources. However, establishing a fair and effective allocation formula is crucial to ensure that the system remains equitable and efficient:

- Initial granting permits is a reduction in existing pollution, or
- The original issuance of permits is reduced.

Any pollutant who exceeds a lower level of pollution than the number of permits he holds receives a cheaper solution than the price he receives for sale.

Trading permits as a major factor at the core of the entire permit system takes place freely with the main essence in determining the simplerity of lowering the level of pollution. Both pollutants receive an impetus for trading at permits when the salesman of the permits at a higher price than the cost of reducing emissions levels, and the high -cost pollutant earns by buying a lower price permits, making the total standard without changing the total number of permits, ie the level of pollution.

To work with environmental permits and market price, the Environmental Protection Office defines the requirements for application:98F[18]

1. the areas of importance;
2. Area quality standards;
3. Type of pollution on the basis of environmental permits;
4. Shelf life;
5. Procedure after the termination of validity;
6. Method of sale;
7. Method of control and penalties to cross the permissible pollution.

The State Agency plays a crucial role in enforcing environmental standards by monitoring polluters' compliance with emission permits, which are designed to regulate both the total emissions allowed and the specific limits on individual pollutants. This permit trading system incentivizes companies to reduce emissions while maintaining environmental quality, offering a more cost-effective alternative to traditional regulatory approaches. By setting clear rules and oversight mechanisms, the agency ensures that environmental protections are upheld while allowing for market flexibility in how these standards are met “.

3.5.RATIONAL SUSTAINABLE DEVELOPMENT MANAGEMENT IN AIR TRAFFIC

The rights and obligations arising out of the legal provisions on sustainable development apply to all of the rational management of sustainable development, while monitoring to be performed by specially trained and authorized persons, locally and at the state level with the following basic

[18] Črnjar, M.: Ekonimika i politika zaštite okoliša, op.cit. str. 246

principles:

- Management and planning lead to adequate use of resources;
- Sustainable development is not an "anti -development" concept;
- account of equality and justice between generations;
- Environmental subjects should be consulted, involved in decision -making and informed by the problems of sustainable development;
- Realistic assessment of the possibility of applying sustainable development and possible reach in the future;
- utilization of market advantages by applying sustainable development;
- concessions and compromises are needed for misunderstandings about the use of resources;
- For the use of sustainable development the opinion of individuals to which the thoughtful development has an impact.

Reforms in sustainable development in our country require comprehensive action across legal, regulatory, and environmental frameworks to enhance ecological protection and management. The Law on Protection and Promotion of the Environment has established essential instruments for defining rights and responsibilities, preparing critical planning documents like the NEAP and LEAP, and enforcing compliance via the State Inspectorate and Environment Fund, which fosters public awareness aligned with EU directives. The Ministry of Environment is actively formulating framework laws, including the Law on Environment, to ensure procedural consistency in environmental management, facilitate public participation, and meet international standards. Legislative alignment with EU legislation, including areas such as noise, chemicals, and genetically modified organisms, and the development of a national strategy for environmental legislation under the CARDS 2005 program, are crucial steps towards harmonizing national policies with EU frameworks

The new legislation for the protection and improvement of the environment incorporates the EU environmental principles with a national, regional and local dimension with the basic principles on which they are based.

3.6.STRATEGIC PLANNING FOR A SUSTAINABLE TRANSPORT SYSTEM

One of the key goals of sustainable urban development is the construction and development of the city transport system, which will enable sustainable mobility of the population, support the accelerated development of the city and its competitiveness in the region and beyond and assumes:

1. Careful development of surface uses to reduce travel length without affecting mobility;
2. Replacement of passenger car movement, bicycles or introduction of electric vehicles or combinations with the public transport system;
3. Modern transport imposes the need for sustainability in the economic, social and environmental population.

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322

The three prerequisites for sustainability in transport—efficiency, fairness, and sustainability—underscore the need for comprehensive traffic solutions that maximize resource utilization while addressing the diverse needs of all users. Efficiency emphasizes creating solutions that optimize quality with available resources, fairness prioritizes accessibility for every user, and sustainability highlights the importance of aligning transport policies with broader social and economic goals to foster a balanced interaction with environmental considerations. Together, these principles guide the development of more equitable and environmentally conscious transport systems.

A comprehensive strategic framework for transport is essential to address the intricate relationships between economic development, environmental sustainability, and infrastructure needs. By encompassing all users and types of movements, it facilitates effective collaboration among stakeholders and ensures that the strategies devised are inclusive and responsive to real-world challenges. This framework not only identifies and addresses current issues related to infrastructure but also outlines pathways to stimulate economic growth, ultimately creating a sustainable transport system that supports broader developmental goals.106F[19]

3.7.PLANNING DOCUMENTATION OF STRATEGIC PLANNING OF AIR TRAFFIC DEVELOPMENT AT LOCAL LEVEL

Documentation addressing air traffic development encompasses various levels and types, including Spatial Plans, General Urban Plans, and specialized traffic studies, each serving distinct roles in urban and transport planning. The Spatial Plan and General Urban Plan provide a framework for legal and comprehensive infrastructure development, while studies like the Air Traffic Improvement Study propose tactical solutions over shorter timeframes. The City Master Plan for Transport serves as a critical long-term strategy, facilitating the evaluation of transport solutions and strategic planning over extended periods. Equally important is the Strategy for Sustainable Development of Transport, which acts as an initial document setting priorities and enabling rapid progress on air transport projects, ultimately aimed at achieving swift, impactful results in transport development.109F[20]

3.8. AIR TRAFFIC DEVELOPMENT STRATEGY

The local strategy for sustainable development is the general strategic plan of the city that defines guidelines and key activities for future development in accordance with national and regional plans and strategies. The basic principles of methodology in the process of making plans are the local self - government unit management the process and an participatory approach with a wide participation of all stakeholders.

The process is organized in five stages in ten -year cycles:

[19] Mustafa Mehanović, Institucionalno upravljanje u oblasti planiranja saobraćaja u BiH- od lokalne zaednice do državnog nivoa
[20] Ибидем

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322

1. Stage of preparation

2. Sectoral analysis

3. Strategic framework

4. Action Plan

5. Preparation for implementation

The document represented by the local strategy for the development of the transport of local self - government is organized in different ways with the following document chapters:

1. Introduction

2. General information about the city

3. An analysis of traffic conditions

4. Strategic framework

5. Action Plan

6. Tracking and evaluation.

The basic steps in conducting the situation analysis are:

1. Defining the time range and the space under consideration

2. Introducing and reviewing existing documentation.

On the basis of the analysis, an assessment of the current situation is given: regarding the identified indicators and regarding the established facts arising from the analysis. A general assessment of the state of the observed area and assessment of existing critical parts of the network or parts that will become critical in the observed period is given.

Indicators for analysis and monitoring are: traffic efficiency, traffic safety, economics, accessibility, comfort and environmental protection that can only be achieved by exploring customer opinions or citizens' attitudes with an appropriate survey.110F[21]

4. MEASURES TO IMPROVE SPATIAL PLANNING IN CROATIA

To improve spatial planning in the Republic of Croatia. Croatia in the aviation sector requires the following measures:

1. Creating and strengthening capacity and institutions for spatial planning and regulating state level,

[21] Mustafa Mehanović, Institucionalno upravljanje u oblasti planiranja saobraćaja u BiH- od lokalne zaednice do državnog nivoa

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322

2. If it is necessary to amend the legislation in order to ensure the more regular and timely preparation of spatial planning documentation at all levels,

3. Simplification of the criteria for urban institutions that unjustifiably restrict the availability of qualified organizations to develop and update spatial planning documentation,

4. Introducing professional licensing measures in order to improve the quality of spatial and urban planning;

5. Establishing or better defining existing standards through regulations and legislation on: implementation of zones planning, measures to support European principles for spatial development, establish spatial databases, exchange and distribution of spatial data, reorganization of the method of operation of services and institutions in charge of spatial planning,

6. Strengthening institutional capacities by supporting the introduction of spatial information systems and digitization of spatial planning data to monitor the use of space with spatial planning plans;

7. Introducing control mechanisms for implementing the set goals of spatial development.

Planning the Croatia traffic system is not at a satisfactory level for current problems in the field of spatial planning to take measures and activities that will strategically be treated at the local level to resolve priority issues at the local cooperation system in the Republic Croatia.

From the analysis of the situation in Croatia, the experiences of the countries of the environment and the EU, there is a need to define a process of strategic planning for the development of local cooperation at the local level such as the planned airport near the city of Sibenik, which will be followed by local government and agencies, national institutions and international organizations.

Strategic documents related to air traffic development planning internationally emphasize integration with the policy of spatial planning and economic development which means that the goals are aligned on a practical basis, with directions for no additional need. Investments in the development of cooperation must coincide with investments in the development of the economy and the normal functioning of the population. Local development policies are compliance with the principles of sustainable development. The participatory nature of strategic documents provides a panel for exchange of views and information needed to prepare all strategic documents.111F[22]

5. CONCLUSION

The proposed construction of a new airport near Šibenik is backed by a thorough analysis confirming its suitability based on topographic and environmental factors, initially envisioned as a sports airport with future expansion possibilities. To assess its viability, a comprehensive cost-benefit analysis is crucial for understanding local demand and guiding investment decisions, underscoring the need for

[22] Mustafa Mehanović, Institucionalno upravljanje u oblasti planiranja saobraćaja u BiH- od lokalne zaednice do državnog nivoa

accurate data and adaptability in recommendations. The project's success will depend on detailed evaluations, realistic assumptions, and the ability of analysts to navigate the complexities of the aviation industry.

The management of the airport near Sibenik faces significant challenges due to obstructed information flow, leading to ineffective decision-making and sustainability issues. While a cost-benefit analysis shows potential profitability and investor interest, liquidity problems stemming from high debt levels hinder operational performance and financial growth. The proposed upgrade to a structural pavement runway aims to address these issues by improving operational capabilities and supporting future expansion, but ongoing refinement and adaptation to technological advancements remain crucial for long-term success. Ultimately, stronger cooperation, education, and emotional intelligence within management are essential to navigating uncertainties and achieving the airport's vision and mission.

The research conducted for the postdoctoral study at Atlantic International University underscores the necessity for a comprehensive and detailed approach toward the development of conceptual designs and major projects, prioritizing vital components such as environmental impact assessments, financial and economic feasibility studies, including cost-benefit analyses, and overall feasibility evaluations to ensure successful real-world implementation.

The conclusion is based on the results of the research conducted through this preliminary financial, economic assessment and risk analysis of the project "Selection of a location for the construction of an airport near the city of Sibenik “:

1. The project "Selection of a location for the construction of an aerodrome near the city of Sibenik" is profitable, because the socio-economic efficiency (economic analysis) is as follows and is shown through:
   - economic net present value,
   - economic internal rate of return,
   - the ratio of the present value of the flow of benefits and costs.
2. The financial analysis has the following indicators:
   (a) total investments (with EU funds) financial net present value and
   (б) capital (excluding EU funds) financial net present value.

The negative financial net present value suggests that the project is not financially viable without EU funding, and the reliance on EU funds for 75% of the total investment is justified, as the financial indicators indicate that this level of support does not result in overfinancing. This reliance on EU funds is essential to ensure the project's feasibility and successful completion, particularly for a significant undertaking like an international airport.

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 02 Mar-Apr; 2025 Page. No. 298-322

3. Profitability indicators remain satisfactory even with a 10% increase in investments and a 50% reduction in all benefits, demonstrating resilience and a robust socio-economic framework that allows for risk mitigation. This suggests that the underlying business model or project has sufficient buffer capacity to absorb shocks, ensuring continued viability and attractiveness for stakeholders despite adverse changes in revenue and cost structures, i.e.:
   → economic net present value,
   → economic internal rate of return.

The socio-economic risk analysis supports the viability of the project, justifying further detailed research and design for implementation, with a proposed 75% co-financing from EU funds unless other financing methods are chosen. The project's focus on developing a balance system for supply and demand aligns with sustainable development goals, leveraging game theory, particularly Nash equilibrium, to optimize resource allocation and manage airport categories. This analytical framework allows for multiple solutions in complex decision-making, underscoring the need for benchmarking and careful consideration of influential factors to guide the project's successful execution.

This paper evaluates the RSA risk assessment model for airport operations, specifically focusing on the design of safer runways around Sibenik city. It highlights the challenges posed by limited access to documentation and flight data, which hindered the establishment of a comprehensive risk assessment model for the planned airport. By examining predictive models for the probability of accidents and the risk posed by obstacles, the study aims to identify optimal airport locations that minimize risks, ultimately enhancing airport service continuity, public health, and environmental protection. The findings suggest that future studies should refine these models in alignment with sustainable development goals, leveraging more comprehensive datasets to improve airport infrastructure planning.

The planning phase of a project is critically important, as research indicates that the assumptions made due to incomplete information can significantly influence the project's overall success or failure. Effective project management methodologies are essential in navigating the complexities of the airspace and ensuring that all stakeholders are adequately addressed. The incorporation of sustainable development principles during this phase plays a pivotal role in facilitating successful project outcomes by mitigating risks associated with planning assumptions and enhancing stakeholder engagement.

Indeed, the significance of aviation project management, particularly in the context of airport infrastructure, cannot be overstated. There is ample opportunity for enhancement through innovative practices and tools that address challenges faced during the project life cycle. Future research could focus on optimizing processes, integrating new technologies, and developing best practices that ensure efficient resource management, stakeholder engagement, and risk mitigation, ultimately contributing

to the excellence and sustainability of commercial aviation infrastructure projects.

BIBLIOGRAPHY

1. Doctoral dissertation, Verica Dancevska, 2005
2. Doctoral dissertation, Ana Lazarovska, 2024
3. Pavlin, S. : Aerodromi, Sveućilišni udžbenik, drugo izdanje, Fakultet Prometnih Znanosti, Sveučilištu u Zagrebu, 2006.
4. Novak, D.: Zrakoplovna računska navigacija, prvo izdanje, Sveučilištu u Zagrebu, 2012.
5. Aerodromes, Annex 14 to the Convention on International Civil Aviation, Volume I, Aerodrome Design and Operations, International Civil Aviation Organization, Fifth Edition, 2009
6. Stolport Manual, Doc. 9150- AN/899, International Civil Aviation Organization, Secound Edition , 1991
7. Carr, D. :City Airports still at centre of controversy, Jane`s Airport Review, September 1995
8. White Paper “The Common Transport Policy”, EC Brisel, 1993.
9. Treaty on European Union, Maastricth, 1992.
10. Green Paper “Towards fair and efficient pricing in transport”, EC Brisel, 1995.
11. Принципи на економијата и економиката, Ратко Зеленика, 2008 година.
12. Črnjar, M.: Ekonomika i politika zaštite okoliša, op. cit. , str. 100.
13. Mustafa Mehanović, Institucionalno upravljanje u oblasti planiranja saobraćaja u BiH- od lokalne zaednice do državnog nivoa
14. https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/about/economic-regulation/RBP-detailed-plan.pdf
15. https://www.sciencedirect.com/science/article/abs/pii/S0969699704000213
16. https://www.sciencedirect.com/science/article/abs/pii/S0969699704000213
17. https://www.heathrow.com/content/dam/heathrow/web/common/documents/company/about/economic-regulation/RBP-detailed-plan.pdf
18. https://www.sciencedirect.com/science/article/abs/pii/S0969699704000213

Thanks to the Faculty of Transport and Traffic Sciences of Zagreb, Economic Faculty of Zagreb, Faculty of Traffic and Communications of Sarajevo, Faculty of Technical Sciences of Bitola and International Atlantic University of Honolulu for increasing my level of education and advising me in all phases of doing my education of all four circle. Thanks to my parents for full support in my life especially expressing my- self and work in the aviation sector.