

BRAINARD AIRPORT PROPERTY STUDY

2022/2023

EXECUTIVE SUMMARY



BRAINARD AIRPORT PROPERTY STUDY: 2022/2023

Prepared for:

Connecticut Finance, Revenue and Bonding Committee

And

The Department of Community and Economic Development

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Executive Summary

SUMMARY

The Study analyzes the property's economic, environmental, and legal aspects concerning its current and potential uses. The methodology encompasses economic impact assessments of current and alternative uses, environmental and flood control evaluations, regulatory and contractual obstacles identification, and cost analysis for developmental suitability. These assessments collectively feed into a comprehensive analysis to determine the property's highest and best use, ensuring alignment with specific legislative goals. Analyzing the impacts of potential repositioning scenarios for Airport property involves a comprehensive evaluation beyond assessing the operational impact. The economic feasibility of each scenario, including development costs and regional needs, is key to this assessment. This evaluation includes the expenses related to environmental remediation and those directly tied to the Airport's closure.

The Internal Rate of Return (IRR) offers a deeper economic insight, a standard financial metric that helps gauge an investment's possible profitability. Further enhancing the financial analysis, the study incorporated the Net Present Value (NPV) analysis. By accounting for the time value of money, NPV assists in discerning the likely positive or negative returns on investment for each scenario. This analysis chose a 4% rate, mirroring public sector borrowing costs minus an inflation risk premium, considering all cash flows are represented in real terms. A project would be considered financially viable if its NPV is positive when using a discount rate reflecting the capital cost.

Table 1: Return Metrics Over 30-Year Analysis Period

Scenario	Total Benefits	Total Costs	IRR	NPV @ 4.00%	Payback Period
Scenario 2	\$92,200,000	(\$7,400,000)	57%	\$43,400,000	5 Years
Scenario 3	\$724,300,000	(\$70,800,000)	32%	\$287,300,000	7 Years
Scenario 4	\$1,175,200,000	(\$868,100,000)	5%	\$27,000,000	24 Years

Both Scenarios 3 and 4 would require the complete closure of the airport and the razing of all structures on the property, with an expected remediation cost of approximately \$45 million. The analysis delves into the consequences of a hypothetical delay in airport closure under Scenarios 3 and 4, altering the start from Year 1 to Year 10. This delay precipitates distinct financial repercussions for each scenario. For Scenario 3, the IRR experiences a negligible decline of less than 1%, preserving much of its investment appeal. However, its NPV suffers, dropping from \$287 million to \$97 million, a two-thirds decrease that significantly undermines its long-term fiscal promise. Scenario 4 takes a more detrimental hit; its IRR plunges into negative territory at -7%, and the NPV collapses to negative \$91 million, signaling financial infeasibility. Even though Scenarios 3 and 4 show positive rates of return on investment, the postponement also affects the payback timelines. Specifically, the payback year for Scenario 3 is pushed to 17 years, a substantial extension within the 30-year analysis framework. In contrast, the return period for Scenario 4 exceeds the 30-year analysis boundary, marking it as an unsustainable investment option in the context of long-term financial planning and returns.

Table 2: Return Metrics Over 30-Year Analysis Period – Alternative Start Date for Full Closure Scenarios

Scenario	Project Start Date	IRR	NPV @ 4.00%	Payback Period
Scenario 2	Year 1	57%	\$43,400,000	5 Years
Scenario 3	Year 10	32%	\$96,800,000	17 Years
Scenario 4	Year 10	-7%	(\$91,200,000)	+30 Years*

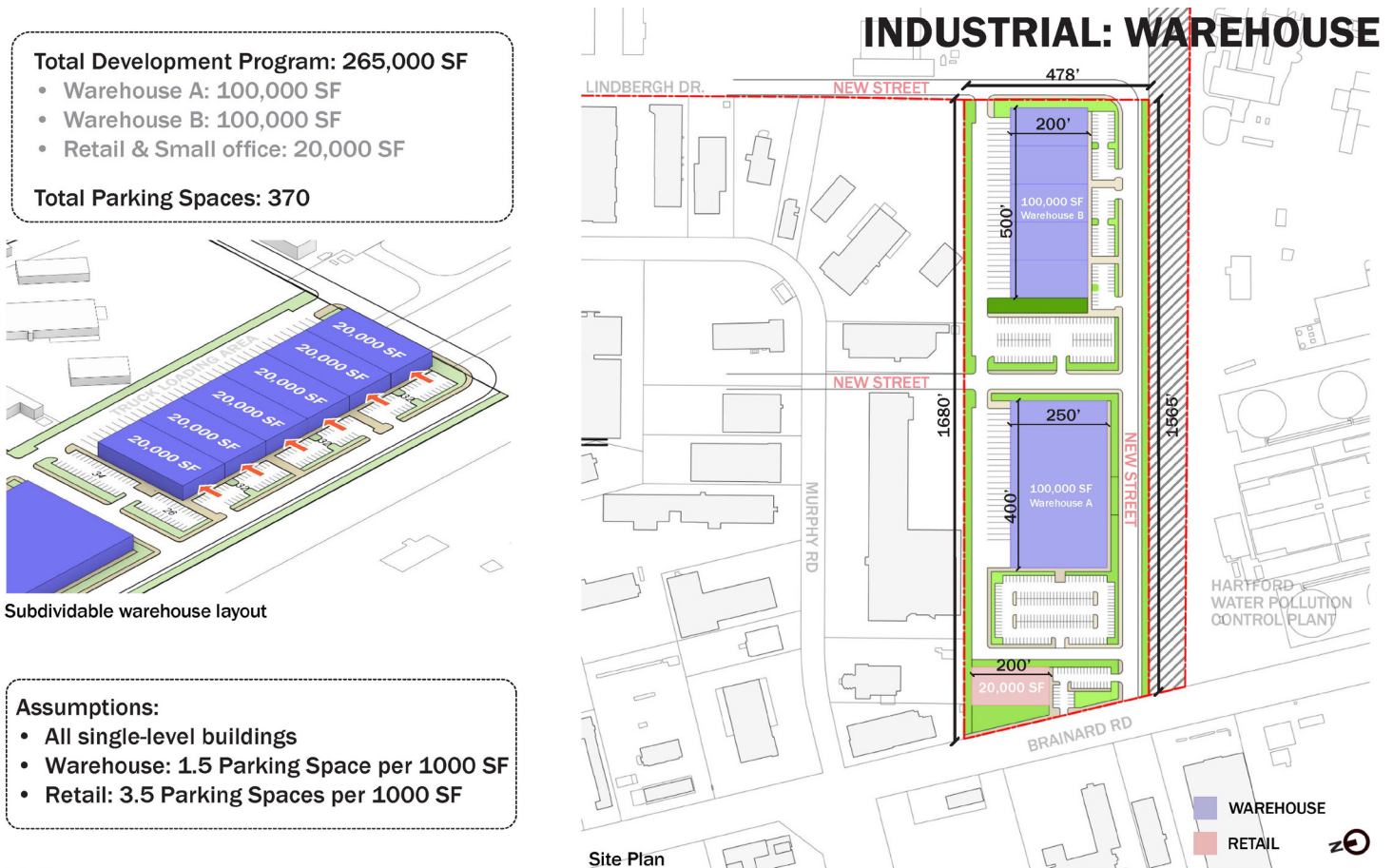
* - Payback period beyond the 30-year analysis period.

The closure of Hartford-Brainard Airport is definitely feasible, but it introduces a complex element that could significantly affect the investment returns in any situation, given that the State wouldn't reap any potential advantages for several years due to the indeterminate time required for the airport shutdown.

These financial insights, derived from rigorous evaluation, are compounded by the analysis of comprehensive environmental, economic, and regulatory assessments. Considering all these multifaceted considerations, Scenario 2 is the optimal choice primarily due to its exceptional IRR at 57%, attributed to lower initial investment demands, especially in development subsidies, and a consistent increase in tax revenues.

The endorsement is based on economic performance, particularly its high IRR and reasonable NPV, and bolstered by its alignment with broader strategic considerations of the legislation, confirming Scenario 2 as the most prudent, beneficial, and sustainable investment pathway.

Figure 1: Scenario 2- Closure of Runway 11-29 and development of industrial uses.



1.0 INTRODUCTION

Public Act No. 22-118, Section 426 mandated the CT Department of Economic and Community Development (DECD) on behalf of the State of Connecticut to assess the benefits and opportunity costs to the City of Hartford and the State of Connecticut of the current and alternative uses of the Hartford-Brainard Airport property.

Connecticut Public Act No. 22-118, Section 426 states:

“The state shall, consistent with and supportive of the goals of promoting the health, welfare, and safety of the people of the state and increasing their quality of life, boosting tourism, stimulating the economy and enhancing the ability of people to enjoy the Connecticut River, assess the benefits and opportunity costs to the city of Hartford and to the state of the current use and alternative uses of the Hartford-Brainard Airport property.”

This legislative act mandates the following study components:

To further such assessment and identify the related costs, the Department of Economic and Community Development shall have an analysis conducted that includes, but is not limited to, the following:

- 1. The economic impact, direct, indirect, quantitative and qualitative, of the current use of the property to the State and to the region surrounding the property;*
- 2. The economic impact, direct, indirect, quantitative and qualitative, of alternative uses of the property, including commercial, residential and recreational opportunities, to the State and the region surrounding the property;*
- 3. Identification of any environmental or flood control obstacles to the development of alternative uses of the property, including the conducting of any required testing of the site and the possible avenues and associated costs to render the property environmentally developable;*
- 4. Identification of any federal, State, or local governmental obstacles, including existing contractual obligations, to the development of alternative uses of the property, the possible avenues to remove each such obstacle and the associated costs of pursuing each avenue; and*
- 5. The highest and best use of the property, if not its current use, taking into consideration the findings of subdivisions (2) to (4), inclusive, of this subsection and the goals set forth in subsection (a) of this section.*

DECD issued a request for proposals for an entity to oversee the Analysis and the production of the report and selected BFJ Planning to lead the project. The legislation required the completion of this report by October 15, 2023. This Final Report synthesizes 1) a decision pathway for continued use or redevelopment of the Airport following Federal and State regulations; 2) a preferred development scenario with a clear regulatory pathway for redevelopment following Federal, State, and Local laws; and 3) a Final Report summarizing the community engagement program, identify impacts and an environmental remediation phasing plan. The report highlights development constraints and provides other recommendations to assist the final decision-making by members of the State Legislature.

2.0 METHODOLOGY OF THE STUDY

The Study, mandated by a legislative act, requires a multi-disciplinary team to analyze the property’s economic, environmental, and legal aspects concerning its current and potential uses. The methodology involves a mixed-methods approach, encompassing economic impact assessments of current and alternative uses, environmental and flood control evaluations, regulatory and contractual obstacles identification, and cost analysis for developmental suitability. These assessments collectively feed into a comprehensive analysis to determine the property’s highest and best use, ensuring alignment with specific legislative goals. The findings were compiled into a detailed report ensuring the Study’s validity and adherence to the legislative mandate’s objectives.

Figure 2: Summary of Study Methodology

STEP 1 Project Initialization	STEP 2 Study Design	STEP 3 Environmental and Flood Control Assessment
<p>Team Formation: Issue RFP for experts from economic analysis, environmental science, airport planning, and legal.</p> <p>Stakeholder Engagement: Identify key stakeholders (government bodies, local communities, business entities) and establish a communication plan.</p>	<p>Precedent Study Review: Analyze existing studies, data, and their impacts.</p> <p>Data Collection Strategy: Define methods for gathering quantitative data (economic statistics, environmental data) and qualitative data (stakeholder opinions, business surveys).</p>	<p>Environmental Screening: Conduct environmental assessments, including potential flood risks, to identify challenges to redevelopment.</p> <p>Remediation and Mitigation Analysis: Based on the environmental assessment, identify the steps to make the property suitable for development and estimate the associated costs.</p>
STEP 4 Airport Operations and Economic Impact Analysis	STEP 5 Legal and Regulatory Obstacles	STEP 6 Highest and Best Use Analysis
<p>Current Use Assessment: Employ economic models to evaluate the direct and indirect impacts of the property’s current use on local and state economies.</p> <p>Alternative Use Assessment: Similar to the current use assessment, analyze potential economic scenarios if the property were repurposed for commercial, residential, or recreational uses</p>	<p>Regulatory Mapping: Identify all relevant local, state, and federal regulations that could impact the potential for repurposing the property.</p> <p>Contractual Review: Examine existing contractual obligations associated with the property that could hinder development.</p> <p>Barrier Removal Analysis: Propose strategies for overcoming identified legal and regulatory barriers, including negotiations, legal amendments, or contractual revisions, and estimate the costs involved in these processes.</p>	<p>Scenario Development: Based on findings from the above analyses, develop comprehensive scenarios for the property’s potential uses.</p> <p>Impact Forecasting: For each scenario, forecast the economic, regulatory, and environmental impacts.</p> <p>Feasibility Assessment: Compare the Net Present Value (NPV) and Internal Rate of Return (IRR) to evaluate the potential profitability of an investment or project of each scenario to determine the best option</p> <p>Final Recommendation: Conclude with a recommendation on the property’s highest and best use, supported by data collected and analyzed in the previous stages.</p>



Figure 3: View of Flight School at Hartford-Brainard Airport

3.0 PROJECT INITIALIZATION

3.1 CONSULTANT SELECTION

In compliance with its contract for Brainard Airport with the State of Connecticut DECD, BFJ Planning initiated an RFP process, targeting distinct aspects of the Airport's operational analysis. This procedure, conducted between December 15 and 30, 2022, sought detailed proposals from consultants for economic, environmental, and regulatory studies, as stipulated by DECD's RFP #22ECD2185. The selection process prioritized candidates with proven experience, relevant project history, specialized staff, and knowledge of airport operations, also emphasizing adherence to affirmative action and the engagement of certified minority businesses as subcontractors.

Upon rigorous evaluation based on these criteria, BFJ Planning enlisted Tighe & Bond (environmental), HR&A Advisors (economic), and QED Airport and Aviation Consultants (Airport operations and regulatory) as subconsultants. These teams played a crucial role in dissecting the current operational framework of the Airport, providing valuable insights into its economic viability with potential enhancement strategies, and exploring alternative developmental scenarios for the site. This comprehensive approach ensured a multi-faceted assessment, aligning with regulatory mandates and incorporating diverse professional perspectives.

3.2 STAKEHOLDER ENGAGEMENT

BFJ Planning executed a comprehensive community outreach for the Hartford-Brainard Airport Property Study with a primary goal: to ensure inclusive stakeholder involvement. This inclusivity aimed to educate stakeholders about the Study, incorporate their feedback, and acknowledge their concerns. The Public Information Meetings were a chance to educate the public on information from the study's sub-consultants study and explore future possibilities of the Hartford-Brainard Airport Property if the site were to remain a functional airport or be closed down and redeveloped. Notably, stakeholders encompassed state government, regional entities, airplane owners, business owners, nearby residents, and the general public.

Partnering with Camelo Communications, BFJ Planning established a multi-pronged community engagement strategy. First, there was a commitment to providing the public with accessible information prominently displayed on the project website. Second, the public was given ample opportunity to engage with the project, assured timely responses, and advance notice of meetings. Lastly, efficient coordination was emphasized to ensure the public received accurate and up-to-date information.

Under this strategy, five public meetings/workshops were organized, each focusing on specific themes, from introductions to airport operations and potential uses. All meetings were hosted at the Metzner Early Learning Center in Hartford, CT. Additionally, BFJ Planning launched a project website (<https://hartfordbrainardairportstudy2023.com/>) that shared information about these meetings and draft documents and featured a virtual engagement tool called Social Pinpoint. This tool fostered online interaction, allowing the public to communicate their ideas, queries, and concerns.

3.3 STRENGTH, WEAKNESS, OPPORTUNITIES AND THREATS ANALYSIS

As part of the community outreach process, the Consultant Team utilized an online engagement tool to gather public feedback on the site's strengths, weaknesses, opportunities, and threats (SWOT). This SWOT analysis was launched in conjunction with Public Workshop #1 and consisted of 742 total visits, 248 unique users, and 180 comments. The highest percentage of comments, 34.4%, were categorized as opportunities, showing an interest in overall site improvement across all potential use scenarios. The figure below summarizes the public comments received during the SWOT analysis and reflects similar sentiments to those voiced through public workshops and stakeholder meetings.

Figure 4: Strengths, Weakness, Opportunity and Threats Analysis

STRENGTHS	WEAKNESSES
<ol style="list-style-type: none"> 1. Variety of youth programs 2. Centralized location for pilot and mechanic training 3. Vibrant general aviation community with many aerospace industry employees and general aviation pilots 4. Convenient location proximate to the center of Hartford 5. Workforce training related to aviation 6. Only A&P school accessible to students in the area 7. Civil Air Patrol, Urban Search and Rescue, and Life Star base 8. Located near the Health Center 9. Airport is large enough to support a variety of light aircraft 10. Historical significance 11. Convenient highway access 12. Within 300-mile radius of major cities 13. Provides exposure to various STEM disciplines 14. Potential enterprise zone 	<ol style="list-style-type: none"> 1. Airport is not used by the larger community of Hartford or Wethersfield 2. Airport does not operate at a surplus; requires subsidy for operating and capital costs 3. Planes emit air pollution in surrounding neighborhoods 4. Destruction of natural habitats 5. Noise pollution in Old Wethersfield impacts tourism and property values 6. Frequent noise affects the quality of life in Old Wethersfield 7. Planes create light pollution in the nighttime 8. Flights over Main Street in Wethersfield disrupt the Old Wethersfield Historic and Cultural District 9. Programming, such as outdoor summer theater performances, in Old Wethersfield are interrupted by noise 10. Flight school activity generates repeated unwanted noise levels throughout the day 11. Noise pollution affects ability for residents to work remotely 12. Low-flying flight traffic has increased over the Green 13. Extending Runway 2-20 to the south would impact the vitality of Wethersfield's businesses underneath the flight path 14. Noise from airplanes shakes historic homes 15. Airport site is very polluted and would take many years to remediate and build upon, relying on taxpayer support from surrounding communities
OPPORTUNITIES	THREATS
<ol style="list-style-type: none"> 1. Advances in aircraft powerplant systems including electric-powered aircraft can reduce noise pollution 2. Public has access to on-demand aircraft charter service 3. Protection of riverfront habitat 4. Restaurants, shops, condos, etc. could enhance the desirability of Hartford 5. Redevelopment of the site could include the post secondary CT AERO School, which offers well-paying aviation career paths 6. Expanded aviation education and connections to regional high schools and universities 7. Windsor, Wethersfield and Hartford could connect via trails and cultural activities along the CT River 8. Potential future Advanced Air Mobility site 9. More marketing regarding historical significance of the airport 10. Attract corporate businesses and grow jobs 11. Potential solar farm installation 12. Transportation/cargo hub for the Northeast and/or regional logistics with electric eVTOL platforms 13. Small airshows, tourist flights, floatplanes, and banner towing 14. Recreation center with golf driving range, zip lines, adventure park, zoo, restaurants, stores, Go Kart tracks 	<ol style="list-style-type: none"> 1. Low-flying aircraft over schools and residential areas cause air pollution 2. Lack of data to support economic benefit from airport 3. Contentious politics 4. Potential motivations for MDC expansion 5. Lack of investment 6. Short-sighted visions 7. Influential lobbying firms 8. Environmental remediation necessary for alternative uses 9. Flood risk 10. Environmental Justice area

4.0 STUDY DESIGN

The Brainard Airport site has been the subject of numerous studies and plans investigating its future operations, redevelopment potential, and ways to enhance waterfront access. Building upon these prior efforts, the current Study delves deeper into the Airport's operations, environmental testing to gauge remediation efforts, a regional market scan, and analysis of industrial, retail, and housing sectors, as well as looking at the recreation opportunities to gauge the redevelopment possibilities align with current market conditions for the City of Hartford and MetroCOG region. Informed by the findings of past studies, this Study aims to understand comprehensively the opportunities and challenges tied to the site. The research leverages historical data and insights, ensuring decisions resonate with the area's evolving needs. The Study focuses on the airport's local economic impact and the transformative potential of the site. Considering the insights and recommendations from these earlier plans and studies, the current Study aims to comprehensively understand the opportunities and challenges associated with the Hartford-Brainard Airport site. The ultimate goal of the Study is to determine the highest and best use for the Hartford-Brainard Airport site that echoes input from the community and remains attuned to the area's economic climate, ensuring outcomes that benefit the broader community.

4.1 BACKGROUND STUDIES

NATIONAL AND REGIONAL PLANS

Several FAA directives and plans, including environmental and infrastructural aspects of evolving aviation technologies and operations, could impact the future of Hartford-Brainard Airport. Firstly, Order 1050.19C outlines the environmental due diligence necessary for FAA real property transactions, emphasizing a systematic Environmental Screening Checklist to identify potential ecological contamination linked to materials and equipment used on the properties. This process is integral to maintaining compliance and safety in FAA property management and must be followed for any action on the site.

In technological advancement, the focus shifts to incorporating Advanced Air Mobility (AAM), as highlighted in the 2023 AAM Implementation Plan. AAM represents a transformative approach in U.S. transportation, utilizing cutting-edge aircraft, including electric and eVTOL aircraft, for passenger and cargo transit. The initiative, targeting operational commencement between 2025 and 2028, anticipates utilizing modified airports and heliports in line with interim vertiport design guidance. This phase involves close collaboration with numerous manufacturers to advance AAM-specific technologies, including sophisticated propulsion systems, energy sources like large lithium-ion batteries or hydrogen fuel cells, and automated VTOL functionalities.

Concurrently, the FAA is pioneering the development of Urban Air Mobility (UAM), with particular emphasis on the design standards for facilities servicing VTOL aircraft, known as vertiports. These standards cover a multitude of operational prerequisites, such as design geometry, electric propulsion and charging systems, hazardous materials management, and noise control. The initiative began with a comprehensive RFI issued by the FAA to gather industry insights on VTOL design and infrastructure, underscoring the FAA's commitment to revolutionizing transportation through emerging aviation technologies.

STATEWIDE AND LOCAL AIRPORT PLANS

The 2016 Connecticut Airport Authority (CAA) laid out strategic plans to enhance airport operations, infrastructure, and economic impact within the state. One plan sets forth a five-year strategy addressing key challenges, such as the necessity for substantial capital investment to maintain growing passenger levels and airport infrastructure, alongside the unpredictability of state and federal funding. Strategic goals include streamlining the "home-to-plan" experience through modernized facilities, achieving self-sufficiency for General Aviation airports, and enhancing overall economic contributions. These efforts are geared towards creating a favorable operational environment while increasing the value recognition of CAA's airports among all stakeholders.

Parallely, the Statewide Airport System Plan, also from the CAA, evaluates broader aviation trends and infrastructure needs, predicting modest growth from 2015 to 2035. It highlights the need for extended runways, advanced hangar facilities, and improved overall access to meet future demands. Among the key recommendations, the plan emphasizes enhancing services at General Aviation airports, particularly Brainard, to diversify revenue streams. It advocates for adherence to FAA regulations,

runway safety enhancements, and expanding economic incentive zones around airport areas for increased commercial activity and compliance. Both plans collectively underscore a commitment to economic growth, operational efficiency, and strategic investment in Connecticut's aviation future.

LOCAL PLANS

Over the years, the Hartford-Brainard Airport has been the focal point of numerous studies and strategic plans, reflecting its significant economic role and potential for redevelopment. A study by the Connecticut General Assembly's Legislative Program Review and Investigations Committee (PRI) in 2016 underscored the Airport's economic benefits while cautioning against the financial burdens of its closure and redevelopment. Similarly, the CAA's Hartford-Brainard Airport Business Plan of 2012 concentrated on augmenting the Airport's fiscal sustainability, suggesting property development and a shift in management paradigms. These economic deliberations were accompanied by environmental assessments, which tackled pertinent issues like tree obstruction and flood control, and broader city plans in 2019 and 2020 that advocated for a revitalized connection between the City and the Connecticut River.

The discourse around the Airport's future gained substantial depth with proposals for its extensive redevelopment. The 2006 Riverfront South MDC Master Plan envisioned a sweeping urban renewal project, converting the Airport into a vibrant mix of residential, commercial, and recreational spaces. This transformative idea was echoed in various forms in subsequent reports, including the Connecticut Regional Market Reports of 2018 and 2022, which emphasized the site's strategic importance for distribution and proposed a comprehensive reimagination of the adjacent regional market area.

In a more recent study, the Hartford-Brainard Airport Visioning Plan of 2022, the City of Hartford proposed four contrasting development strategies, considering community engagement, economic implications, and environmental factors. These strategies included maintaining the current airport operations, evolving into a logistics and distribution hub, transforming into a mixed-use activity center, or developing an advanced manufacturing, R&D, and aviation technology hub. Each approach carries distinct economic, community, and environmental considerations, underscoring the need for a nuanced decision-making process that harmonizes various stakeholder perspectives and the site's unique potential.

4.2 DATA COLLECTION STRATEGY

In the Hartford-Brainard Airport analysis, two primary types of data collection methods were employed: quantitative and qualitative. Quantitative data collection involved economic statistics and environmental data, providing empirical and measurable information about the airport's impact on the economy and its surroundings. Qualitative data was gathered to capture more subjective and nuanced information, primarily from stakeholder opinions and a survey of businesses and pilots at the Airport. This offered insights into the perceptions, beliefs, and sentiments of those directly or indirectly affected by the Airport's operations. Both types of data provided a comprehensive understanding of the Airport's overall impact and stakeholder sentiments.

Figure 5: Public Workshop Interactive Map Exercise



Figure 6: Public Workshop Breakout Group Discussion





Figure 7: View of Flood Protection at Hartford-Brainard Airport

5.0 ENVIRONMENTAL AND FLOOD CONTROL ASSESSMENT

The Hartford-Brainard Airport's future developmental considerations necessitate a comprehensive Environmental Due Diligence Assessment in multiple phases. This process aims to scrutinize the existing conditions, understand potential risks, evaluate prospective impacts, and strategize for mitigation. Essential to this procedure is collaboration between environmental experts and regulatory consultants to ensure strict adherence to federal and state regulations. Suppose a decision to close the Airport is reached. In that case, the Federal Aviation Administration (FAA) will thoroughly review this environmental assessment, potentially issuing a Finding of No Significant Impact (FONSI) or initiating a more exhaustive Environmental Impact Statement (EIS).

Initially, the environmental assessment starts by updating an earlier Phase I Environmental Site Assessment (ESA) from 2012. This stage delves into identifying Areas of Concern (AOCs) and Recognized Environmental Conditions (RECs) pertinent to the site's historical and contemporary uses. A three-pronged methodology encompasses archival research of the site's history, on-ground site inspections, and informative interviews with key stakeholders. Following this, a Preliminary Conceptual Site Model (CSM) is curated, merging the gathered data into a coherent visual and textual portrayal of the location's environmental context.

Subsequent phases, namely Phase II/III, emphasize a deep dive into the RECs and AOCs pinpointed during the initial phase. This involves subsurface investigations, comprehensive data collation on the release of REC/AOCs, and further characterization of these releases. Special attention is paid to analyzing contaminants in soil and groundwater, including petroleum, metals, and other hazardous substances. Upon concluding these investigations, a preliminary Remedial Action Plan (RAP) is formulated per CT DEEP standards, detailing suggested remediation tactics while prioritizing environmental and human safety. The environmental review also encompasses an exhaustive study of historical floods at the site and a Determination of Release and Fate/Transport Analysis for every REC/AOC, aligning with CT DEEP RSR guidelines. All acquired data, from floodplain studies to permitting stipulations, culminates in a comprehensive report, including illustrative maps in the report's appendices. This ensures that any redevelopment scenarios analyzed align with sustainability objectives and adhere to all pertinent regulations.

5.1 PHASE I OVERVIEW

During the Phase I ESA at Hartford-Brainard Airport, the subconsultant uncovered significant environmental concerns, identifying 5 RECs and 23 AOCs. Given these findings, a Phase II ESA was recommended to investigate the soil, groundwater, and environmental impacts of the RECs and AOCs. Additionally, the site qualifies as an "Establishment" under the Connecticut Property Transfer Act, necessitating consultation with environmental legal counsel before any property or business transaction.

5.2 PHASE II/III INSIGHTS

The Phase II/III ESA, conducted from April to August 2023, involved rigorous testing of subsurface and surface soil samples along with groundwater analysis. The objective was to determine if any environmental releases had occurred due to the identified RECs and AOCs. The draft of the Phase II/III ESA report revealed 30 release areas (RAs) across 12 RECs/AOCs. Several contaminants were discovered at levels above the regulatory safety criteria, indicating potential health and environmental risks.

Despite these findings, the site remains suitable for continued use as an airport or future residential, commercial, or industrial development, provided that appropriate remedial actions or institutional controls are implemented. This could involve soil removal (for hot spots exceeding regulatory criteria) or capping, especially under proposed building areas. Any construction activity would also necessitate a comprehensive Soil and Materials Management Plan.

A preliminary remediation scenario suggests conventional methods like excavation and offsite disposal for impacted soils, with more complex strategies required for specific areas or contaminants. Future redevelopment plans could allow for impacted areas to be capped, making them inaccessible, as per CTDEEP Residential Direct Exposure Criteria (RES DEC) and Pollutant Mobility Criteria (GB PMC). The presence of contaminants in most samples eliminates the option of using an Environmental Use Restriction (EUR) to restrict residential use.

Figure 8: Phase II ESA AOCs

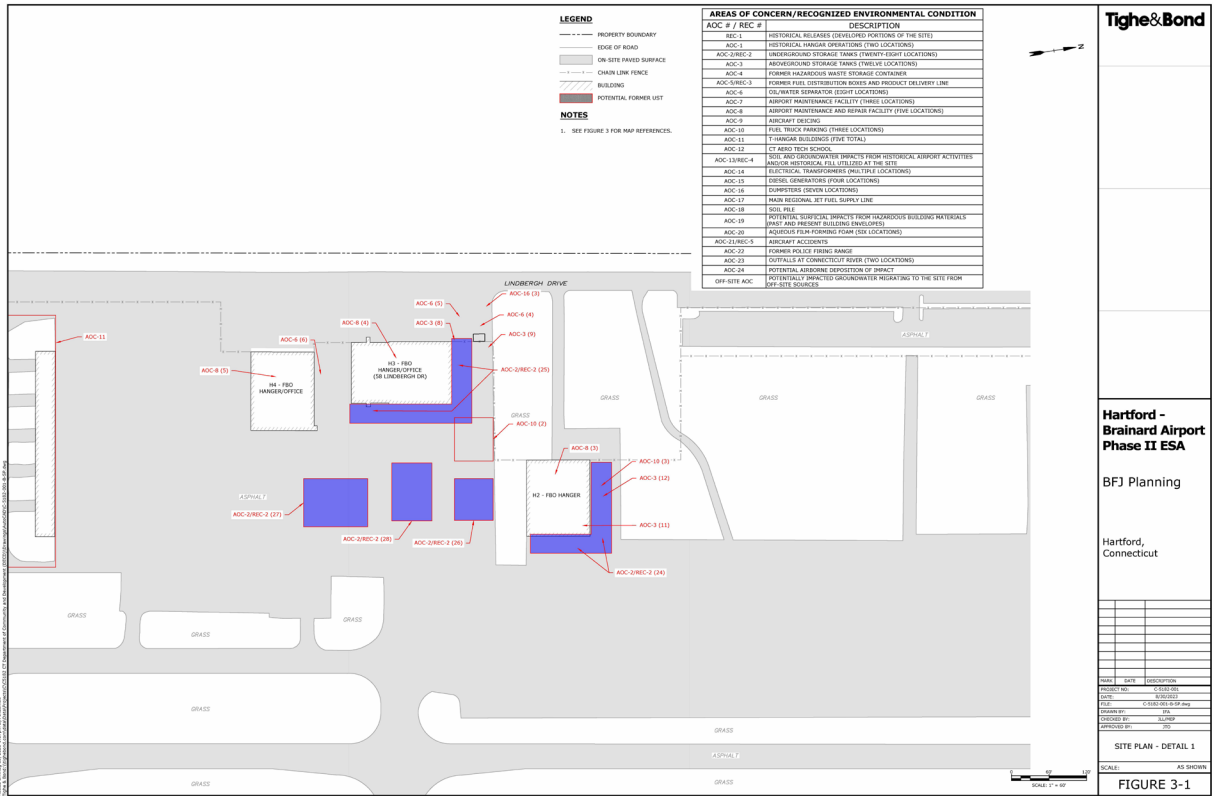
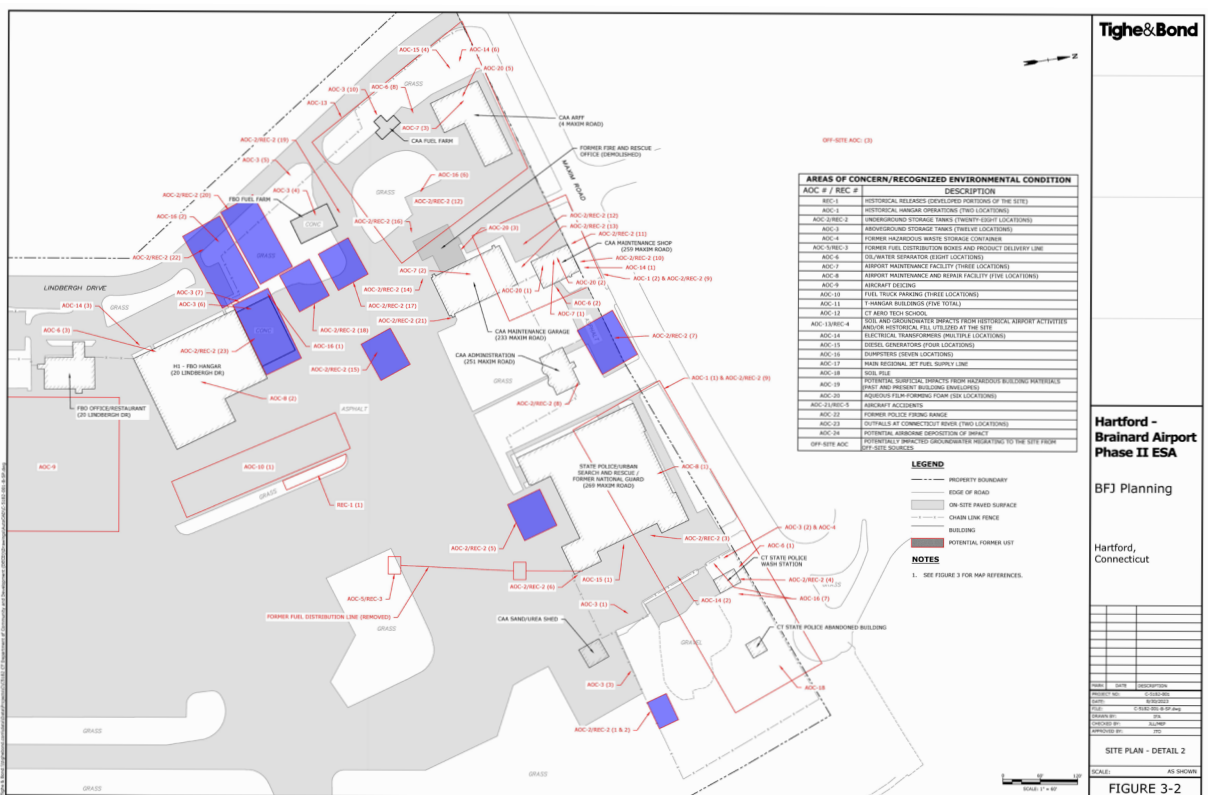


Figure 9: Phase II ESA AOCs



5.3 GROUNDWATER CONCERNS AND REMEDIATION STRATEGY

Groundwater analysis showed limited impact from site releases. However, the presence of PFAS, particularly in monitoring well TMW-18, raises concerns due to its emerging contaminant status and the absence of established criteria for such substances in groundwater areas. Potential regulatory changes could mandate future remediation efforts.

The Preliminary RAP explores various techniques for compliance with regulatory safety criteria. Given the moderate site impact and to accommodate flexible redevelopment options, removing and disposing of substances above the safety criteria offsite was chosen for areas above the high water table. Below this level, where remediation is less feasible, alternative strategies like establishing an Environmental Use Restriction (EUR) might be necessary.

5.4 HARTFORD FLOOD PROTECTION SYSTEM

The Hartford Flood Protection System is a critical infrastructure element safeguarding the City of Hartford and surrounding areas, including Hartford-Brainard Airport. The protection system, initially constructed by the Federal Government and subsequently managed by the City of Hartford, protects an extensive urban area against the catastrophic consequences of potential flooding from the Connecticut and Park Rivers.

Despite recent improvements, the system's integrity is contingent on its weakest component. The Department of Public Works (DPW) recognizes the urgency of addressing both structural and operational deficiencies to prevent a system breach. A failure could endanger 26,200 individuals during the day and 5,500 at night, with economic losses estimated between \$300 million and \$1 billion.

Potential Risks:

- **Loss of Accreditation:** If the levee loses its accreditation, it could lead to stringent flood insurance requirements and adherence to floodplain regulations for property owners, significantly impacting future development and reconstruction efforts.
- **Pumping Station Failures:** The system's levees rely on pumping stations to manage runoff. A failure in this component could lead to localized flooding, impacting properties and the overall functionality of the levee system.
- **Levee Breach/Overtopping:** Structural compromises could result in devastating breaches, while historic flood studies may not accurately predict future risks due to environmental and climatic changes, potentially leading to overtopping scenarios during unprecedented adverse weather conditions.

The area situated behind the levee, as it stands, is not designated as a Special Flood Hazard Area. This classification permits development in this zone without the legal obligation to incorporate floodproofing measures. Nonetheless, the absence of a high-risk flood designation does not imply immunity from potential flooding events. It's crucial to recognize that any proposed modifications to the levee or the adjacent easement areas are subject to a stringent scrutiny process by the United States Army Corps of Engineers (USACE). This regulatory oversight aims to uphold public safety standards and preserve the structural resilience of the levee, ensuring it maintains its protective function in the face of environmental challenges.

The North and South Meadows Dike Toe Drain Replacement Project, set to commence in 2024, embarks on an essential initiative to overhaul the current state of the toe drain system, specifically addressing urgent issues associated with its deterioration. The first phase of this extensive project encapsulates a range of corrective and preventive strategies. These include the replacement or refurbishment of the critical toe and collector drains, improvements in accessibility to facilitate ongoing maintenance efforts, and measures to stabilize the channels.

In the context of the Hartford-Brainard Airport's proximity, there's a concentrated effort near the Clark Dike to tackle the complications arising from inadequate impervious blankets, contributing to potential seepage problems. The project delineates the introduction of robust structural enhancements to fortify the dike's defense against flood risks. Among these are the construction of a landside buttress and the integration of a chimney drain, both of which are instrumental in bolstering the dike's capacity to withstand flooding while ensuring the surrounding areas' safety and operational integrity.

5.5 REMEDIATION COST FOR HARTFORD-BRAINARD AIRPORT FOR GROUND CONTAMINATION

The environmental subconsultant developed a preliminary Opinion of Probable Cost (OPC) for the remediation of the Hartford-Brainard Airport. It is important to note that Preliminary OPC is based on data obtained from previous investigations and is specific to the current limits of the Hartford-Brainard Airport property. The OPC does not define the extent of impacts, and contractor, transport, and disposal costs are based on recent bid information obtained from a remediation contractor for projects in Connecticut. A Phase III ESA should be completed before a final RAP to define remediation costs further. The preliminary OPC does not include costs for completing a Phase III ESA. In addition, given the size of the site and lengthy history, the impact above RSR criteria may exist at other locations that were not previously tested and would require remediation. The OPC contains a contingency to address the impact that could be present beneath Site buildings/structures; however, should significant contamination be identified, additional remedial costs beyond this preliminary OPC may be incurred. The estimate does not include costs for building demolition, including abatement of hazardous building materials. Preliminary OPC does not include additional remedial costs for PFAS due to potential regulatory changes, including the development of new criteria. Based on the draft Phase II/III ESA findings and current assumptions, the following estimated costs were developed:

Table 3: Remediation Cost for Hartford-Brainard Airport for Ground Contamination

Items	Estimated Costs (rounded)
Remediation Oversight, Post-Excavation Sampling, Documentation, and Reporting	\$100,000
Excavation, Loading, Transport, Disposal, and Backfill	\$900,000
Subtotal	\$1,000,000
100% Contingency¹	\$1,000,000
TOTAL	\$2,000,000

Notes: 1 = includes remediation of potential impact at previously untested locations beneath

5.6 REMEDIATION COST FOR ENTIRE HARTFORD-BRAINARD AIRPORT SITE

The Hartford-Brainard Airport location presents unique challenges that significantly increase the costs associated with both the foundational infrastructure and the construction of vertical developments. The initial stage of preparing the Hartford-Brainard Airport property for development will be a costly proposition. An estimated sum of over \$45 million is needed for the removal and safe disposal of existing structures, treatment of soils that leaks from underground storage tanks have contaminated, and establishment of the site’s roads, utilities, and parks.

Adding to these expenses are the site’s unique geological challenges. The soil conditions and the water table’s level necessitate specialized construction techniques, particularly for the low- and mid-rise residential buildings discussed in Scenario 4. These structures will require piles that reach the bedrock, contributing an additional \$9 to \$27 per GSF in hard costs, variable with each building’s use and height. Furthermore, industrial developments discussed in Scenario 3 are not exempt from these additional requirements, with an estimated one-fifth of these constructions also necessitating piling methods at an extra expense of \$35 per GSF. These additional measures ensure the stability and longevity of future buildings, accounting for the site’s specific environmental conditions.

6.0 AIRPORT OPERATIONS ANALYSIS AND ECONOMIC IMPACT ON THE REGION

6.1 AIRPORT OPERATIONS

The Airport Operations Subconsultant undertook an in-depth review of the current operations at Hartford-Brainard Airport. The foundational aspects of this analysis were the financial record provided by the CAA, and the Hartford-Brainard Airport Master Plan Update (2014), both offered critical insights into the future utilization of the Airport.

A detailed inspection of the airport's infrastructure formed the core of the evaluation, utilizing resources such as strategic airport plans, exhaustive onsite examinations, and invaluable dialogues with the CAA. The assessment categorized the facilities into 'airside' - those essential for direct aircraft operations, and 'landside' - encompassing support structures such as terminals, hangars, maintenance edifices, parking spaces, and access pathways, potentially linking to airside components. This methodical scrutiny extended to various infrastructure elements, including runways, taxiways, aprons, illumination systems, and navigational aids.

6.1.1 CURRENT AIRPORT FISCAL STATUS

A thorough financial analysis revealed a static trend in the Airport's operating revenue, primarily generated through land leases, facility rents, fuel surcharges, and miscellaneous fees, struggling to surpass the cumulative operating expenses historically.

A noteworthy development in the fiscal dynamics was the renegotiation of rents for several tenants from March 2023, a strategic move reflected in the FY 2023 financial blueprint. This fiscal strategy encompasses a pivotal long-term lease agreement with a chief tenant, enduring until 2052 with subsequent extension options. Inflation-adjusted rate modifications are enacted periodically, correlating with the consumer price index alterations or land appraisal fluctuations. The fuel flowage fees, levied on aviation fuel and lubricants, contribute to the revenue, with landing fees imposed on non-based commercial crafts operating for hire collected by the fixed-base operator.

Operating expenditures are significantly impacted by staffing costs, covering salaries, benefits, and pension contributions under the Connecticut State Employees Retirement System (SERS) - applicable to state public workers, not exclusively the airport staff. A significant portion of the operating costs, beyond personnel expenses, involves the upkeep and servicing of the airfield, terminal pavements, and associated facilities. Administrative overheads also feature CAA central office support and equipment expenses.

The Airport's financial forecast, considering potential increments in lease rates, consumer price trends, land valuations, and prospective tenancy contracts suggests a continual net and net-net loss scenario. This financial pattern mirrors the situation in numerous general aviation airports nationwide, particularly those serving sophisticated crafts with higher fuel demands.

Capital ventures at the Airport are financed through revenue bonds issued by the CAA, supplemented by possible fund allocations from Bradley International Airport, acknowledging Hartford-Brainard Airport's reliever status.

Despite operating at a consistent loss, Hartford-Brainard Airport, confined by its physical characteristics, primarily caters to the general aviation sector, including modest business jets. It successfully meets the requirements of its patrons, barring certain limitations for larger business jets. Potential advancements in instrument approach protocols could significantly improve the Airport's operational efficiency and reliability.

One critical shortfall is the noncompliance of the main runway with ROFA and RSA design standards, necessitating adjusted thresholds and potential declaration of distances. While the Airport's facilities remain functional, an impending requirement for the private sector is the replacement of 30 aging T-hangars, underscoring the ongoing demand for infrastructural investment.

6.1.2 CURRENT AIRPORT FISCAL IMPACTS ON THE REGION

The economic subconsultant conducted a comprehensive overview of the fiscal benefits of Hartford-Brainard Airport’s current operations, demonstrating significant regional impacts. This analysis encompassed various dimensions of economic influence, reflecting the tangible and intangible advantages of the Airport’s activities.

Key Findings:

- 1. Operations Benefits:** The Airport’s operational efficacy resonates directly through expenditures linked to its utilization. This includes spending by pilots, operational employers at Hartford-Brainard Airport, outlays by visitors through the Airport, and capital maintenance investments on the site. These factors collectively fuel the economic engine associated with the Airport’s day-to-day functioning.
- 2. Workforce Development Benefits:** The Airport emerges as a crucible for skill development, particularly for pilots and aviation mechanics/technicians, courtesy of the training programs at flight schools and the CT Aero Tech School. This aspect underscores Hartford-Brainard Airport’s role in enhancing human capital within the aviation industry.
- 3. Economic Development and Competitiveness Benefits:** The strategic advantage of having a general aviation airport proximate to Hartford’s Downtown, independent of the region’s primary commercial hub, Bradley International Airport, is substantial. It heightens regional competitiveness and augments economic development, influenced by qualitative dynamics.

The analytical framework employed by the economic subconsultant to encapsulate these benefits featured:

- 1. Quantifiable Economic Benefits:** Metrics such as employment levels, labor-related income, and economic output, articulated through gross regional or state product, spotlight the Airport’s financial influence. These tangible benefits are a direct reflection of the Airport’s operational vitality.
- 2. Non-Monetized Quantifiable Benefits:** This encompasses the training of aviation professionals, translating into potential incremental lifetime earnings, a critical investment in workforce quality, and industry competency.
- 3. Qualitative Competitiveness Benefits:** The Airport’s existence bolsters the region’s appeal and competitive stance, though these benefits are not easily translated into monetary terms. They resonate through enhanced business attraction, connectivity, and regional prestige.

Utilizing data from surveys among Hartford-Brainard Airport aircraft owners and employers, alongside other reliable sources, the economic subconsultant executed an IMPLAN-based analysis. This sophisticated model allowed for a detailed exploration of economic repercussions attributable to shifts across various sectors.

Table 4: Direct and Indirect Economic Impacts of Current Airport Operations

Direct and Indirect Economic Impacts	Hartford		CROG Region		Connecticut	
	Low	High	Low	High	Low	High
Employment (Jobs)	125	230	190	350	190	360
Labor Income (\$M)	\$8.7	\$16.1	\$13.0	\$24.2	\$13.9	\$25.8
Economic Output (\$M)	\$17	\$32	\$29	\$54	\$31	\$57
Employer spending at HFD (53%) and annual capital maintenance investments by CAA at HFD (14%)						

The economic impact of Hartford-Brainard Airport's operations is substantial, playing a crucial role in supporting local employment and contributing significantly to Connecticut's economy. Specifically, Hartford-Brainard Airport sustains around 360 jobs and contributes \$26 million in labor income, enriching Connecticut's Gross State Product (GSP) by \$57 million. The majority of these economic advantages are enjoyed by the CRCOG region, significantly impacting the City of Hartford. These contributions are mainly driven by employer expenditures at Hartford-Brainard Airport, accounting for 53% of the financial influence, and the CAA's capital maintenance activities, making up 14%. Furthermore, spending by aircraft owners, especially those based at Hartford-Brainard Airport, also forms a significant part of this economic activity, with visitor expenditures complementing the overall economic footprint.

6.1.3 IMPACTS OF CLOSURE

Since its development in the 1950s, the significance of Hartford-Brainard Airport as an economic hub has evolved. Presently, ongoing operations at this general aviation airport sustain 120 to 225 direct jobs and up to 230, 350, and 360 total jobs in Hartford, the CRCOG region, and the state of Connecticut, respectively. Hartford-Brainard Airport contributes around \$26 million in labor income and \$57 million in economic output to Connecticut. While these impacts are relatively modest, the Airport serves a crucial role as a regional workforce development asset. It hosts flight schools training approximately 160 pilots, with 25 in each graduating class becoming commercial pilots. CT Aero Tech School also offers training programs for Aviation Maintenance Technicians, graduating and placing more than 55 students annually. Located on the site are state and federal facilities, as well as the Civil Air Patrol, which would need to be relocated to another airport within the region. The cost for a new building was not incorporated into the development scenarios, but would need to be considered as part of Scenarios 3 and 4 closure options.

From a fiscal perspective, Hartford-Brainard Airport's benefits for the City and State are limited. As a CAA-owned property, if it were not tax-exempt, its property tax liability would contribute to the State's PILOT to the City, resulting in approximately \$670,000 in annual payments to the City. Additionally, economic activity from Hartford-Brainard Airport operations generates an estimated \$1.2 million in taxes and fees and nearly \$1.8 million in local property taxes across the state. Closing aviation operations at Hartford-Brainard Airport would significantly reduce economic and fiscal impacts. Employers indicated they would either close or relocate outside the region, resulting in a 60% to 90% reduction in economic impacts. Fiscal impacts to the state and local governments would also decrease. However, if the Airport were taxed as private property, local property tax to the City of Hartford would increase, leading to a net decrease in fiscal benefits of only 13%.

7.0 LEGAL AND REGULATORY OBSTACLES TO AIRPORT CLOSURE

Each closure option for the Hartford-Brainard Airport carries its own set of distinct challenges and benefits. These options have significant implications for costs, legal complexities, public perception, and compliance with regulatory requirements. Therefore, it is paramount for the State to carefully weigh the feasibility, consequences, and strategic outcomes associated with each option before deciding if a closure of the Airport is warranted.

Option 1: Wait Out Grant Obligations until 2035

Option 1 proposes a strategy to wait until 2035, after all current grant obligations are met, to proceed with the Airport's closure. This approach involves immediately ceasing to accept new grants, as these would extend the closure period, and notifying the FAA within 30 days, assuming no perpetual operational requirements exist. During the waiting period, the Airport must operate without FAA funding, adhering strictly to federal regulations and policies to avoid liabilities, especially regarding safety and potential accidents. This could mean significant maintenance costs and the possibility of increased operational subsidies due to decreased business activities.

Despite these challenges, the strategy offers the advantage of greater autonomy, eliminating the need for federal oversight and allowing decisions that align more closely with local community needs. This independence facilitates strategic, context-specific planning for the Airport's future, including repurposing land and assets post-closure. However, this route demands a thorough assessment to weigh the financial and legal responsibilities against the benefits of self-governance and the potential for tailored local development post-2035.

Option 2: Apply to FAA for Closure

Option 2 involves seeking direct permission from the FAA for an early airport closure, arguing that this action would result in a net benefit for civil aviation. The strategy necessitates a rigorous application process, providing compelling evidence and rationale due to the FAA's strict criteria for closures and expected opposition from aviation industry groups like the National Business Aviation Association and the Aircraft Owners and Pilots Association. These entities may undertake legal actions to prevent the closure, further complicating the process.

The FAA stipulates specific conditions for early closure, including financial requisites concerning the unamortized value of existing grants and an environmental assessment for repurposing the airport land, potentially extending the closure timeline and increasing costs. However, these costs for environmental assessments are grant-eligible and exempt from repayment upon closure approval. One significant advantage of Option 2 is timing flexibility, as the application for closure can begin anytime, allowing for strategic alignment with other initiatives or adapting to new circumstances. While this option is riddled with potential hurdles, including a high rejection probability, legal battles, and additional costs, choosing a suitable time for application is a critical consideration. Pursuing this route requires balancing its timing advantage against the multi-faceted challenges inherent in this complex closure process.

Option 3: Secure Passage of Federal Legislation

Option 3 proposes a strategic approach to closing the Airport by seeking the passage of federal legislation. This action involves lobbying for an act of Congress to instruct the FAA to authorize the Airport's closure. A significant challenge lies in garnering adequate support from Congress members, demanding extensive lobbying, discussions, and negotiations to accommodate various stakeholders' and legislators' interests. This option also mandates preparing an environmental assessment and addressing the unamortized value of existing grants, similar to Option 2. Moreover, potential legal challenges may arise, emphasizing the importance of fostering a robust relationship with state representatives in Congress.

Despite these challenges, Option 3 presents several advantages. It may allow bypassing some or all FAA requirements regarding airport sales, simplifying the closure process. This strategy also provides flexibility in timing, as legislative efforts can commence at any point, ensuring alignment with ideal timelines and adaptability to evolving circumstances. In the past two decades, only two federally obligated airports have closed before their grant expiration, each necessitating federal legislation. This historical precedent indicates that if Option 2 is unfeasible or encounters setbacks, Option 3 might emerge as the most viable strategy to pursue the Airport's closure. Balancing this option's challenges and benefits is essential for making an informed decision about the Airport's future.

Option 4: Destroy Runways without Notice

Option 4 proposes a radical approach to the Airport's closure by deliberately crippling its operational capabilities by destroying runways without prior notice. This extreme strategy, while offering immediate execution, comes with significant risks and challenges. The immediate financial cost of destroying and potentially repairing the runways is considerable. More so, this approach will likely trigger severe legal and financial consequences due to its illegal nature, including sanctions, fines, and lawsuits from both the FAA and airport tenants, posing a serious financial and regulatory burden.

Moreover, the strategy substantially harms public perception due to its irresponsible and drastic nature. The loss of credibility and trust from the public and stakeholders, accompanied by negative publicity, could extend its impact beyond the airport issue, tarnishing the reputation of associated parties and individuals. This could have lasting effects on the current and future endeavors of the involved entities.

The profound potential for legal repercussions, financial burdens, and extensive damage to public relations and stakeholder trust makes this a highly risky strategy. It demands careful consideration of its immediate and long-term potential impacts on all involved parties, the broader community, and the aviation industry. The decision to proceed with such a drastic measure must critically evaluate these risks against any perceived strategic advantages.

STEPS TO PHYSICAL AIRPORT CLOSURE

The following are the steps for Option 2, which presents a comprehensive procedure for the CAA to follow in closing the Hartford-Brainard Airport, with FAA approval and release from all associated obligations. This procedure emphasizes regulatory compliance, detailed financial and environmental considerations, and the strategic handling of assets and obligations. Here's a breakdown and analysis of the steps involved:

- 1. Updating and Submitting the Exhibit A Property Map:** This initial step ensures that all areas of obligation are recognized and included in the appraisal process. Updating the map is crucial as it serves as a reference for the property's current status and obligations.
- 2. Property Appraisal and Fair Market Value:** Obtaining a fair market value based on the property's highest and best use is crucial. It ensures the FAA receives due compensation, reflecting the property's real worth. The requirement for re-appraisal, if the sale is delayed, ensures that the most current property value is considered.
- 3. Relocation Plan for Tenants:** This step acknowledges the impact of closure on existing tenants, necessitating a clear strategy for their relocation. It underscores the CAA's responsibility in mitigating the disruption caused by the closure.
- 4. Property Transfer Options:** This section outlines the CAA's options for transferring the property through direct fund transfer based on the appraised value or through a bid process. The detailed requirements for the bid advertisement and the FAA's role in reviewing the offers ensure transparency and fairness in the process.
- 5. Transferring Assets and Repayment:** This complex step involves several financial considerations, including handling salvageable equipment, compensating based on fair market value, and managing unamortized grants. Coordinating with the FAA ensures compliance with federal laws during fund transfers.
- 6. Environmental Requirements:** Compliance with NEPA is vital, necessitating at least an Environmental Assessment (EA) or potentially an EIS. This step reflects the federal government's emphasis on environmental considerations during significant changes like airport closures.
- 7. Public Notice and Comment Period:** The inclusion of a public notice and comment period reflects a commitment to transparency and public involvement, allowing for community input before final decisions are made.
- 8. Release Agreement:** This formal document signifies the completion of all requirements, allowing the property sale to proceed. It is a crucial legal instrument that ensures all parties are aware of the obligations and rights conferred upon them with the closure.
- 9. Final Notifications and Closure:** Filing the necessary forms and making formal announcements, including the notice in the Federal Register, are procedural finalizations that make the closure official. It underscores the importance of regulatory compliance up to the final stages.

The preceding action items are based on similar requirements imposed by the FAA on the City of St. Clair, Missouri, in April 2015 for the sale of its Airport and release from grant obligations and assurances. This example is the last known publicly-owned, grant-obligated Airport to close successfully for repurposing an airport property. It is possible that some of the action items above may be subject to discussion with the FAA and may be modified to accommodate any unique situations at the Hartford-Brainard Airport, provided that they do not violate federal law.



Figure 10: View of Signage at Hartford-Brainard Airport

8.0 ECONOMIC ANALYSIS OF REAL ESTATE MARKET CONDITIONS

The Study mandated to assess both the benefits and opportunity costs associated with the current and potential alternative uses of Hartford-Brainard Airport property. The subconsultant performed a real estate market analysis to explore various development opportunities. This analysis aims to provide insights into various potential uses for the airport property, including mixed-use development, commercial spaces, retail establishments, and recreational areas. The objective is to comprehensively understand the market forces at play and identify the most viable development scenarios that align with community needs and economic feasibility.

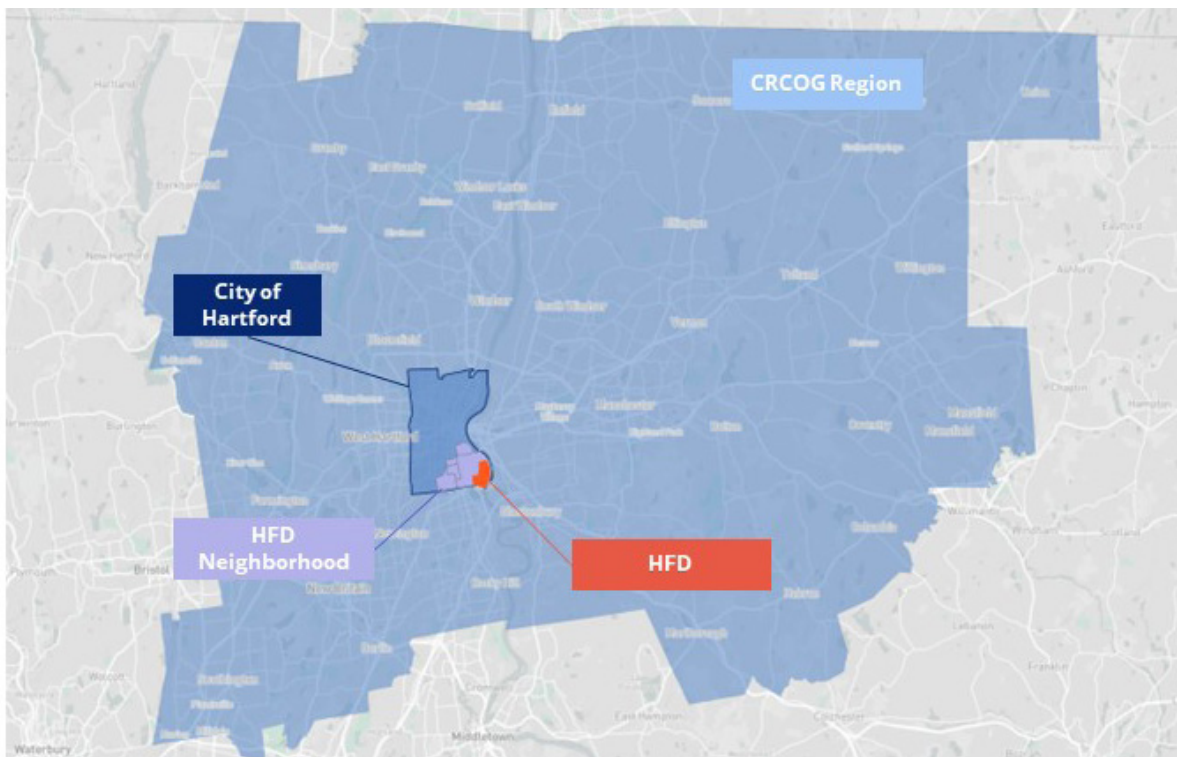
The real estate market analysis findings are systematically organized based on different types of usage, including multifamily residential, office, retail, industrial, and recreation. Two distinct study areas have been considered for each type of use. The primary study area is the City of Hartford, which represents the immediate market in which any potential development at Hartford-Brainard Airport will likely compete. The secondary study area is the CROCOG (Capitol Region Council of Governments) region, offering a broader perspective on market trends. These areas are specifically delineated for residential, retail, and office uses, as shown in Figure 11.

8.1 MARKET SCAN AND ANALYSIS

Land adjacent to the Airport includes privately and publicly owned parcels and is used primarily for commercial and industrial purposes and major civic infrastructure facilities. Adjacent properties include the now-closed Materials Innovation and Recycling Authority (MIRA) waste-to-energy plant, the Connecticut regional market for farmers and wholesalers distributing food and farming products, the South Meadows Industrial Park, and the MDC main wastewater treatment facility. MIRA and MDC have significant negative externalities, while the rest of the nearby uses contain traditional older storage, logistics, and light industrial uses consistent with the current ID-1 zoning district.¹

¹ ID-1 provides for medium to heavy industry characterized by a minimum of noise, odor, glare, and pollution, and by moderate traffic. See: City of Hartford Adopted Zoning – August 5, 2020.

Figure 11: Study Area Map



Source: Esri, U.S. Census Bureau, Capital Region Council of Governments

8.2 REGIONAL COMPETITIVENESS

The Hartford MSA has demonstrated strength or specialization in key industries, including Finance and Insurance, Management of Companies and Enterprises, Health Care, and Manufacturing. Hartford's location quotient of 5.79 for Finance and Insurance indicated that this sector was highly concentrated in the City of Hartford compared to the national average, reflective of its reputation of "insurance capital of the world" with major companies like Aetna, The Hartford, and Travelers headquartered there.² The industry's trajectory in Hartford has changed, notably in the mid-to-late 2010s when Aetna announced they were leaving Hartford, only to stay after CVS Health acquired it, which resulted in a reduced company workforce in downtown Hartford. CVS pledged to keep Aetna's operations in Hartford for ten years and expressed plans to make Hartford the location of its center of excellence for the insurance business.³ More recently, UnitedHealthcare has announced it will downsize its office footprint to around 57,000 SF, down from a high of 450,000 SF a little over a decade ago, and Prudential Financial makes plans to reduce its current 250,000 SF footprint to 25,000 SF after the company sold off its retirement business and adopts a long-term hybrid work policy.⁴ The result has been a 15% drop in the total number of jobs in the MSA and a 17% drop in the City of Hartford, with additional job losses likely to occur soon.

Advanced manufacturing in the Hartford region accounts for 16% of Hartford's GRP. Furthermore, other advanced manufacturers like Otis Elevator, Pegasus Manufacturing (fabricated tube and pipe assemblies, precision machining, and gearing manufacturer), and Stanley Black and Decker contribute to the metal manufacturing sector in the region. A 2022 report by the Metro Hartford Alliance estimated advanced manufacturing in the region generated \$2.3 billion in economic output and impacted more than 15,600 jobs.⁵

The region is increasingly supplying workers with the education needed to support the aerospace and advanced manufacturing industries with completions in related degrees up significantly over the past 10 years, including Engineering (22%), Precision Production (182%), and Computer and Information Sciences (17%). However, completions in Mechanic and Repair Technologies and Technicians are down (57%). Institutions such as Central Connecticut State University, Lincoln Technical Institute-East Windsor, Asnuntuck Community College, Bristol Technical Education Center, and CT Aero Tech School increasingly provide workers with two- and four-year degrees and technical certifications in these disciplines.⁶

8.3 RESIDENTIAL MARKET FEASIBILITY

The Hartford multifamily housing market has remained robust, boasting low levels of vacancies. However, annual rent increases have been relatively modest, not exceeding 2.4% over the last half-decade. The broader region has seen the emergence of new large-scale developments, with several more in the planning phase. Furthermore, in the Downtown Hartford vicinity, a number of projects are either in progress or proposed to convert existing office, hotel, and manufacturing spaces into unique residential options. These will inevitably compete with any development at the Hartford-Brainard Airport site for overall demand. The Hartford-Brainard Airport location is at a disadvantage in this competition, lacking easy access to public services like transportation and parks, and being located near existing industrial facilities, including a wastewater plant that emits odors seasonally. Given these drawbacks, it's unlikely that residential development at the Hartford-Brainard Airport site could effectively compete with the broader Hartford market, which has absorbed between 250 and 300 units annually since 2015.

² Location quotients compare the concentration of an industry within a specific area to the concentration of that industry nationwide. A Location Quotient above 1 means that the area has a higher concentration of given industry than the national average. A quotient below 1 means that a given industry is less concentrated than the national average. See: Lightcast, "Glossary" (accessed May 2023).

³ Wall Street Journal, "CVS to Keep Aetna in Hartford, Conn." (January 12, 2018).

⁴ Hartford Business Journal, "Major downtown Hartford employers shedding hundreds of thousands of sq. ft. of office space" (August 22, 2022)

⁵ Metro Hartford Alliance, "Aerospace/Defense in "Aerospace Alley™", 2022.

⁶ Lightcast analysis of National Center for Education Statistics' (NCES) IPEDS data.

8.4 RETAIL MARKET FEASIBILITY

While the Hartford retail market remains robust, its underlying fundamentals suggest it may struggle to accommodate additional inventory. As downtown office spaces undergo conversion to residential units, the City is utilizing federal aid to incentivize startups and business expansions into vacant storefronts. For the larger region, the retail landscape looks promising, marked by low vacancies, consistent rent levels, and a moderate development pipeline. However, the Hartford-Brainard Airport site doesn't present an optimal setting for new retail endeavors. Its location in the industrial-centric South Meadows area poses challenges related to visibility, accessibility, and compatibility with potential retail tenants. Given the lack of a residential population in the immediate vicinity, any new retail at the Hartford-Brainard Airport site would likely need to operate as a destination in its own right, perhaps attracting large-scale "big box" retailers. The site seems more suited to businesses like wholesalers, breweries, or fast-food establishments supporting nearby industrial operations and taking advantage of easy access to the I-91 highway.

8.5 OFFICE DEVELOPMENT FEASIBILITY

There is limited demand for new office development as there has been limited office growth, a high vacancy level, and no rent growth in the past five years. Additionally, Hartford-Brainard Airport is not located Downtown and is surrounded by industrial uses, making it a suboptimal location for Class A office. The region's current pipeline is comprised mostly of medical office space. This product is not well-suited for Hartford-Brainard Airport's location because of the site's isolated nature and the nearby incompatible uses. Consideration of office space development should only play a limited role in any mixed-use redevelopment scenario for Hartford-Brainard Airport, with some potential for minimal office development to support light industrial development.

8.6 INDUSTRIAL DEVELOPMENT FEASIBILITY

The industrial market has healthy fundamentals and has seen record-breaking growth in rents, deliveries, and absorption. Despite nearly 5 million SF in new space being constructed over the past five years and another 10.9 million SF in the pipeline primarily built to suit, rents have grown at an average annual rate of 5.5% over the past ten years. The development of more than 2.5 million SF of space directly across the river in East Hartford at Rentschler Field and any future yet unplanned phases of that project would likely compete with development at Hartford-Brainard Airport.

8.7 RECREATION FEASIBILITY

Open space is not a market-driven use, and though some types of recreation uses may be privately developed, such as indoor multisport complexes, others are publicly supported. In either case, developing recreation at the Hartford-Brainard Airport site would require commitments from the City of Hartford, the State of Connecticut, or other partners to support feasibility. The area does appear to be underserved by indoor fieldhouses, but these facilities have specific site considerations – space, access, parking, etc. – that may be difficult to accommodate at Hartford-Brainard Airport.

8.8 MARKET FINDINGS

Hartford-Brainard Airport's redevelopment potential is likely limited to certain industrial uses, which could be compatible with recreation uses on part of the site. Industrial development is most viable given the market's overall health and the site's proximity to I-91. Both local and macro trends in office development present high risks for developing office space, though some limited office space supporting industrial uses may be appropriate based on given tenants' needs. A big-box destination retail user may also find the large site and proximity to the highway appealing. Residential development is much less suitable due to the lack of onsite and nearby amenities, transportation, and site infrastructure, and the industrial character of the surrounding properties. All uses will have to contend with negative externalities generated by nearby properties, such as the Metropolitan District (MDC) wastewater treatment plant south of the Airport.

9.0 HIGHEST AND BEST USE ANALYSIS

The assessment of the economic and fiscal benefits of four potential future scenarios for Hartford-Brainard Airport considers the impacts of both continued operations as an airport and the potential redevelopment of the Airport for repositioning purposes. This analysis aims to determine the economic benefits of jobs, labor income, and economic output for Hartford, the CROG region, and the State of Connecticut. Additionally, it assesses the fiscal benefits that would accrue to the City of Hartford and the State of Connecticut. This assessment aims to provide stakeholders with a comprehensive understanding of the potential economic and fiscal implications associated with each of these scenarios, ultimately guiding decision-making processes regarding the future of the Hartford-Brainard Airport and its impact on the region and the state of Connecticut.

Each of the four development options were developed based on the market scan and analysis of the current real estate market conditions in the area and offers distinct opportunities and challenges. To ensure a comprehensive analysis of the Hartford-Brainard Airport area, it is crucial to carefully plan and consider various factors, including prevailing market conditions, environmental remediation requirements, and governmental regulations.

The four repositioning scenarios for the Hartford-Brainard Airport that were examined are as follows:

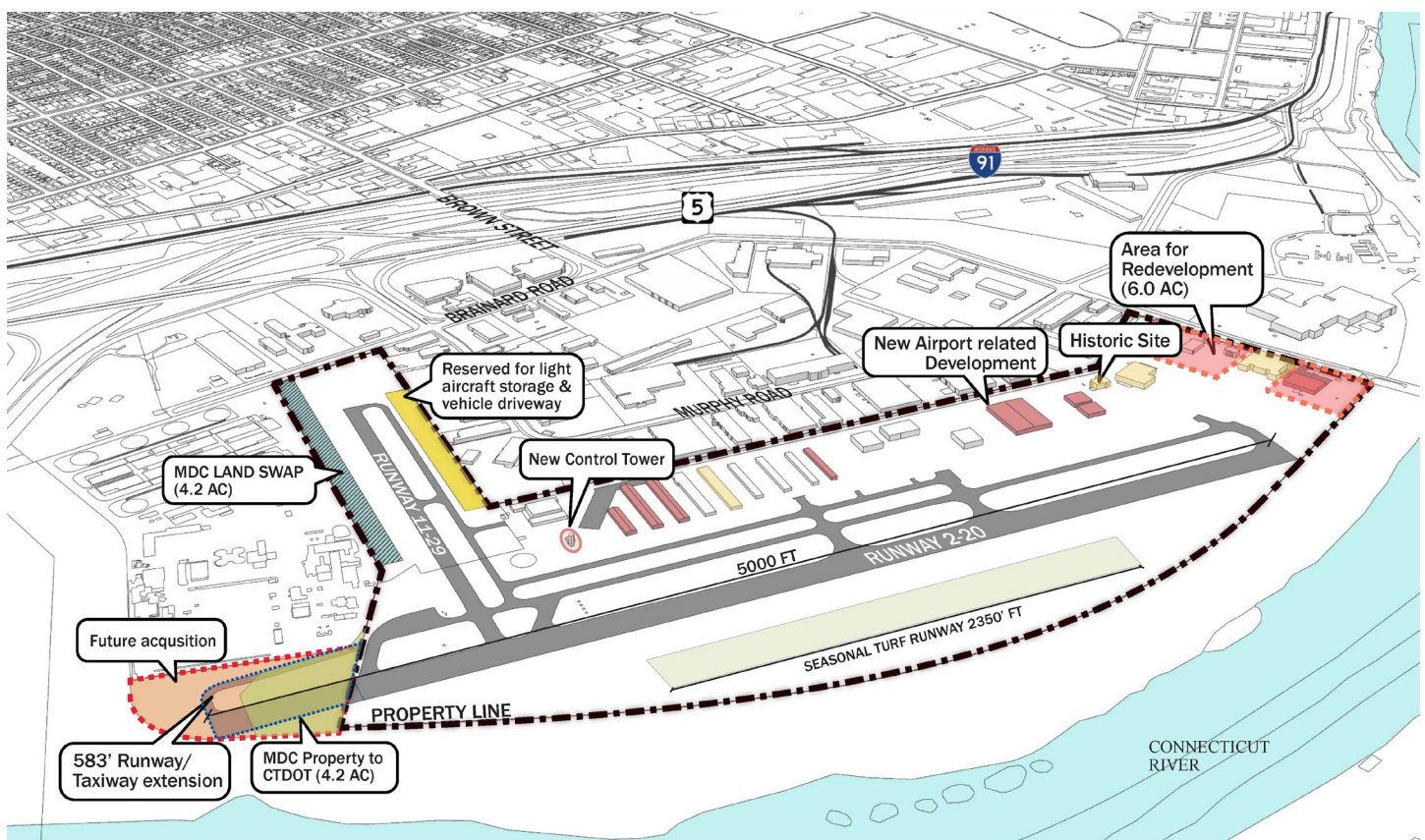
- 1. Economic Impacts:** Assessment of the economic impacts of potential alternative uses of the property to the State and the broader region. This includes evaluating how different uses might contribute to economic development, job creation, and tax revenues.
- 2. Environmental and Flood Control Considerations:** The analysis considers environmental and flood control considerations. It examines any environmental challenges or flood-related issues that may need to be addressed to make the property suitable for development. This includes identifying potential actions and resources required to render the property environmentally developable.
- 3. Governmental Considerations:** Assessing regulatory hurdles that may need to be overcome to repurpose the property. It also considers existing contractual obligations related to the property and explores avenues to eliminate or modify such constraints, along with an estimation of the associated costs.
- 4. Market Demand Analysis:** An analysis of the region's market demand for various alternative uses. This includes assessing the potential demand for residential mixed-use developments, commercial spaces, retail establishments, recreational facilities, and industrial uses at the Hartford-Brainard Airport property. This analysis helps in understanding the feasibility of these alternative uses.

This information is essential for making informed decisions about the property's future use if it ceases to operate as an airport. The consulting team generated four scenarios based on enabling legislation, market conditions analysis, and input from the public.

Scenario 1: The Airport remains open with limited new development of aviation uses. This scenario presumes the Airport remains open and any development is related to aviation uses. Scenario 1 proposes modest development at Hartford-Brainard Airport while maintaining its current operational framework. Key developments include the construction of a 50,000 square foot vertiport, additional hangars, and an aviation-supporting office building, totaling approximately 44,000 square feet. The plan involves extending the main runway to 5,000 feet, accommodating a higher proportion of jet-engine planes, and potentially boosting regional overnight visitation. This extension is also significant for compliance with FAA safety guidance and meeting aircraft insurers’ usage criteria, which could broaden Hartford-Brainard Airport’s appeal to a wider array of corporate jets—a factor in Hartford’s economic development strategies.

Furthermore, the introduction of a vertiport is positioned as a competitive advantage, aligning the region with emerging trends in the aviation and aerospace sectors, particularly with VTOL technologies, drones, and other advanced aerial innovations. The construction phase in Scenario 1 is anticipated to be brief due to its limited scope, leading to a rapid stabilization of its impacts. The scenario carries over the qualitative benefits identified in prior reports, such as workforce development, alignment with state economic priorities, and support for public service initiatives.

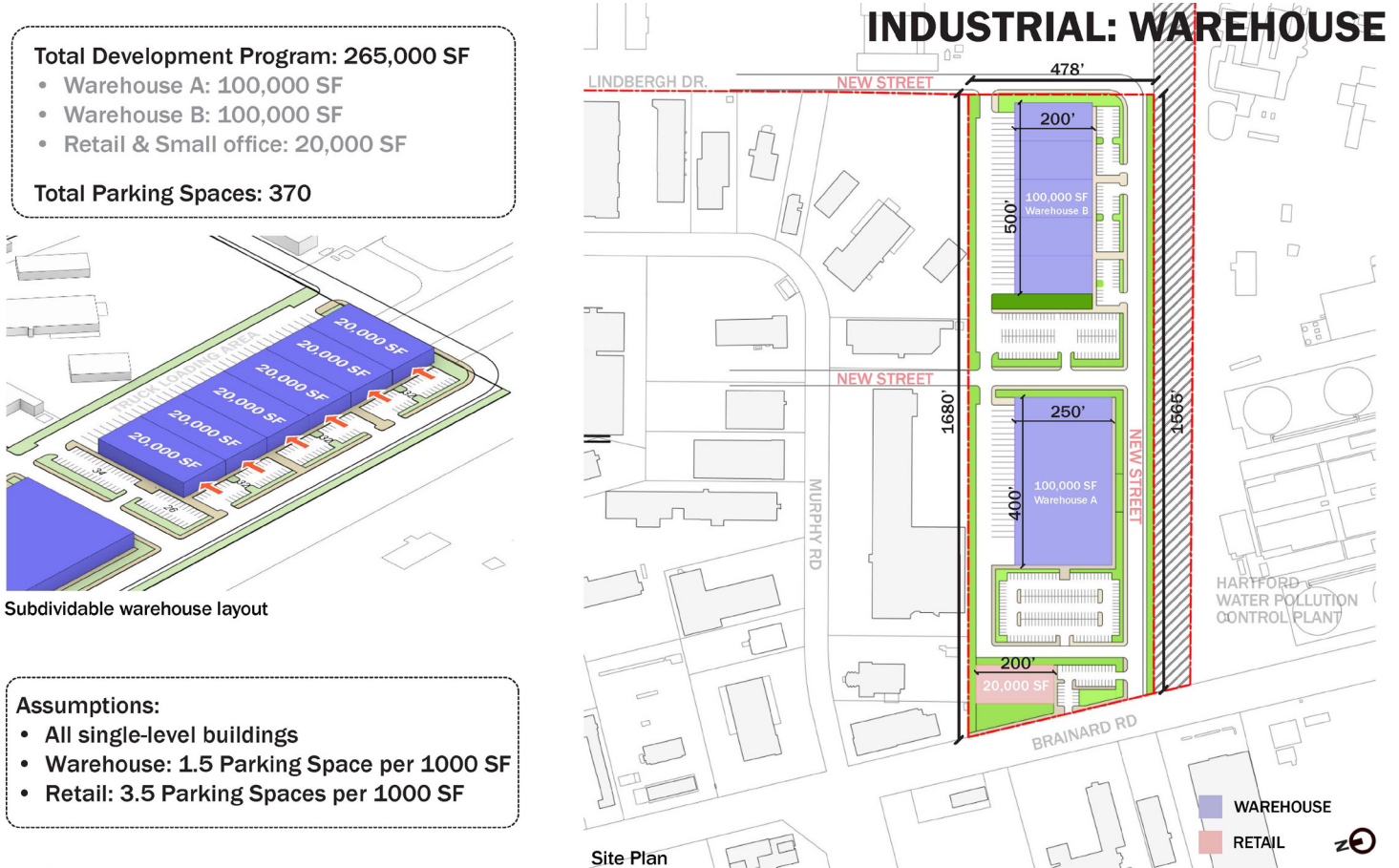
Figure 12: Scenario 1- The Airport remains open with limited new development of aviation uses.



Scenario 2: Closure of Runway 11-29 and development of industrial uses. Scenario 2, like Scenario 1, maintains the current operations of Hartford-Brainard Airport, featuring an extended runway for enhanced activity. However, it diverges by advocating for a more extensive development plan, particularly on an 18-acre segment of the Airport deemed redundant. This area, previously occupied by a seldom-used crosswind runway, is projected for significant redevelopment, a move not expected to impede airport operations. The construction would predominantly cater to industrial purposes, considered most suitable given the site's proximity to similar existing establishments, including a wastewater treatment plant.

The proposed structures under Scenario 2 comprise a 100,000 square foot building split equally between flex industrial and advanced manufacturing spaces, another 100,000 square foot facility dedicated to industrial or manufacturing purposes, and a 20,000 square foot retail area. This extensive development, though more ambitious than Scenario 1, anticipates a swift construction timeline and stabilization period, potentially achievable in one phase, due to the relatively restrained volume of construction compared to Scenarios 3 and 4. Scenario 2 also inherits the qualitative advantages of Scenario 1, reinforcing benefits in workforce development, economic alignment, and public service support while promising an economic boost, as detailed in its economic impact summary.

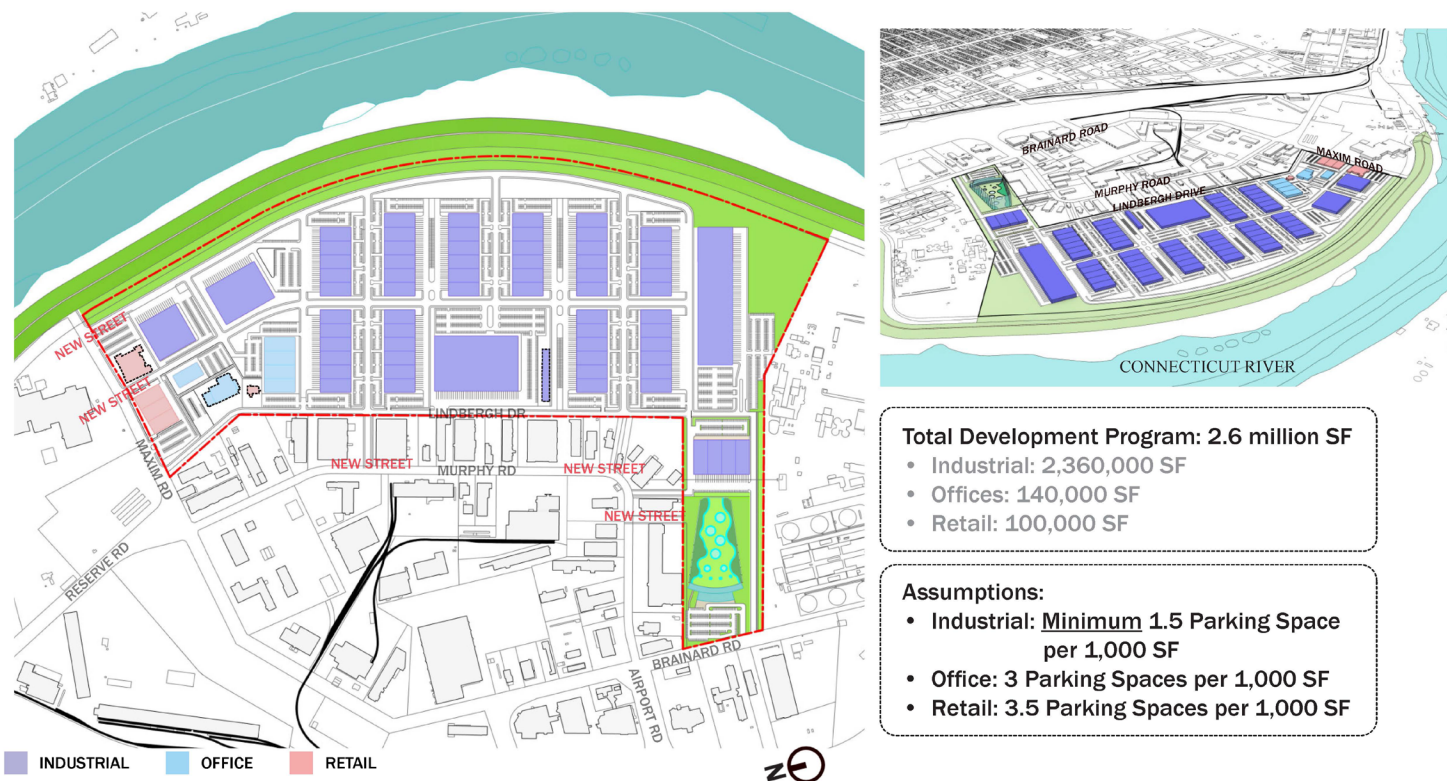
Figure 13: Scenario 2- Closure of Runway 11-29 and development of industrial uses.



Scenario 3: Closure of the Airport and redevelopment with primarily industrial buildings with accessory office and retail uses. Scenario 3 envisions a complete cessation of Hartford-Brainard Airport operations to pave the way for thorough site redevelopment. This would necessitate relocating or terminating all current airport users and tenants. Although the Airport’s full closure without redevelopment might provide limited economic traction for Hartford, ongoing activities would still exist in the broader CRCOG region and the state. For the sake of this analysis, both Scenarios 3 and 4 account for the Airport’s closure effects, with more details accessible in a previous economic subconsultants’ report concerning the economic and fiscal implications of continued Hartford-Brainard Airport operations.

Given the site’s strategic location and the current market trends, industrial and warehousing facilities exhibit robust potential. Although an expansive industrial redevelopment project is underway at Rentschler Field, sizable plots near major transport arteries remain scarce. Under Scenario 3, the plan features a massive 2,360,000 square foot space earmarked for warehousing or manufacturing, complemented by 14,000 square feet of supporting office space, 100,000 square feet for retail, and an additional 75,000 square feet for buildings linked to an open-air driving range. Significant infrastructure investments, encompassing roads, water and sewer lines, and other utilities would be indispensable. Despite the evident strength of the industrial sector in the CRCOG, the phased release of such an extensive area would be vital for its steady integration into the market unless a specific user tailors the space. The construction timeline of Scenario 3 would be substantially longer than Scenarios 1 and 2 because the scenario involves the demolition and remediation of the entire site and the construction of 2,680,000 SF of new space. Furthermore, full absorption of the site would take years.

Figure 14: Scenario 3- Closure of the Airport and redevelopment with primarily industrial buildings with accessory office and retail uses.



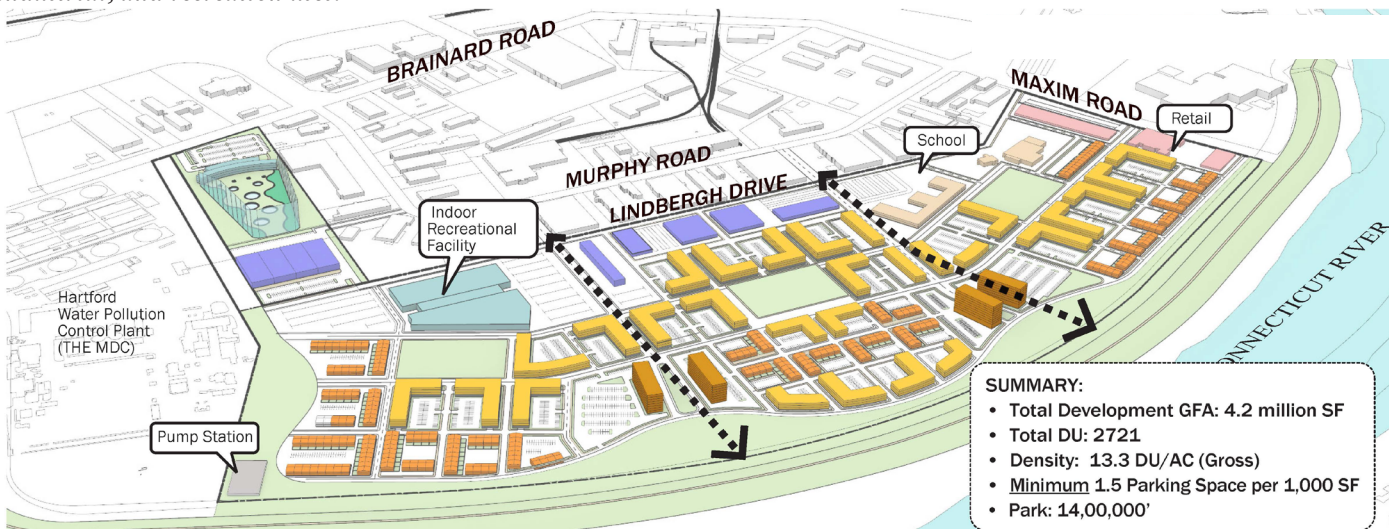
Scenario 4: Closure of Airport and redevelopment with mixed-use development including residential, office, retail, industrial, and recreation uses. Scenario 4 proposes radically transforming the Hartford-Brainard Airport site into an extensive residential mixed-use area. This scenario requires substantial horizontal and vertical construction investment, generating significant one-time employment. The plan involves nearly 4 million square feet of private development, accommodating over 2,700 housing units. Additionally, it features public amenities like a school, community center, and over 14 million square feet of parks and open spaces, enriching the river-adjacent area and emerging neighborhoods.

This intensive development strategy under Scenario 4 stands as the most ambitious among all the scenarios, with its program being 1.5 times larger than that of Scenario 3, contributing to substantial economic boosts. Specifically, it's anticipated to generate 2.6 times the one-time jobs and labor income and 2.4 times the economic output compared to Scenario 3.

However, the residential program's vast scale suggests a multi-phased approach and an extended timeline for completion and stabilization. The introduction of 2,721 multifamily and townhouse units notably exceeds Hartford's current development activities, implying a prolonged absorption period spanning potentially more than nine years, given historical absorption rates, and would severely impact the ongoing Hartford Downtown revitalization projects. Given this, a more realistic timeline would likely take much longer, and relating one-time and ongoing economic impacts should be viewed with that lens.

Furthermore, Scenario 4 is a visionary reconfiguration of the Hartford-Brainard Airport site, promising substantial residential expansion supported by extensive community amenities, including parks, a school, a library, and a community center, poised to benefit both residents and the broader Hartford populace. Additionally, the inclusion of a recreational facility with tournament-capable ball fields hints at further economic opportunities through tourism, although specific forecasts remain unquantified and dependent on event programming. While economically promising, this scenario doesn't account for certain expenditures, such as enhanced surrounding infrastructure (water, sewer, roads, pumping stations, and municipal services), additional educational system demands, and general service provisions for the new development. These uncalculated costs could present considerable financial considerations for the City and the State.

Figure 15: Scenario 4- Closure of Airport and redevelopment with mixed-use development including residential, office, retail, industrial, and recreation uses.



DEVELOPMENT SUMMARY													
	Block Size	Acres	Site Coverage	Multi-Family Lowrise	Multi-Family Highrise	Townhouses	Retail	Recreational	Public	Industrial	Office	Total GFA	Unit Count
Neighborhood A	1,621,507	38	N/A	567,360	104,000	183,000	105,600	-	169,000	-	-	1,128,960	732
Neighborhood B	1,302,984	30	N/A	1,038,138	236,160	162,000	-	-	-	162,000	-	1,578,300	1,328
Neighborhood C	1,375,258	32	N/A	423,240	132,160	315,000	-	255,000	-	-	-	870,400	660
Crosswind Runway	775,446	18	N/A	-	-	-	-	75,000	-	100,000	-	175,000	-
TOTAL	5,075,195	117		2,028,738	472,320	660,000	105,600	330,000	169,000	262,000		3,752,660	2,721
Percentage				54%	13%	18%	3%	9%	5%	7%	0.0%		
DU/AC (GROSS)													13.3
DU/AC (NET)													23.2

In the case of those repositioning scenarios that envision closure and redevelopment of a part or all of the Airport (i.e., Scenarios 2, 3, and 4), all programs are illustrative and intended only to serve as “test-fits” to determine the buildable capacity of these sites. They are not intended to suggest a final master plan for the site, and a private developer is expected to consider these among other possible configurations.

Moreover, the redevelopment and stabilization timelines will vary by scenario, with Scenarios 1 and 2 likely requiring a substantially shorter period to plan, construct, and absorb users than Scenarios 3 and 4, which envision the full build-out of the 204-acre site. This will result in the City, region, and State experiencing the one-time economic and fiscal impacts of development over varying timelines based on the scenario and a different length of time before reaching the stabilizing annual recurring benefits of the full build-out.

9.2 ASSESSMENT OF ECONOMIC AND FISCAL BENEFITS OF THE DEVELOPMENT SCENARIOS

The economic subconsultant evaluated the economic and fiscal implications of four potential future scenarios for Hartford-Brainard Airport. These scenarios encompassed both the effects of the Airport’s continued operations and potential redevelopment options. The primary metrics used to gauge economic benefits across these scenarios were jobs, labor income, and economic output, targeting their impacts on Hartford, the Capital Region Council of Governments (CRCOG) region, and the state of Connecticut. Additionally, fiscal benefits for both the City of Hartford and the State of Connecticut were assessed. The methodology behind this analysis incorporated assumptions formulated by the consultant team and integrated data from third-party sources and other economic and fiscal studies.

The analysis, focusing on the economic and fiscal implications of the four scenarios regarding Hartford-Brainard Airport’s land use, highlights various impacts each plan would have, considering both the ongoing operations and potential redevelopment of the airport site. Fiscal benefits from these scenarios range from less than \$1 million to \$63 million in one-time benefits and \$6 to \$80 million in annually recurring benefits.

Table 5: Residual Land Value PSF of Vertical Development by Use

	Scenario 1	Scenario 2	Scenario 3	Scenario 4
One-Time Impacts				
State of Connecticut				
Employment	120	720	5,300	13,770
Labor Income (\$000,000)	\$10.2	\$61.5	\$447.4	\$1,142.5
Economic Output (\$000,000)	\$20.8	\$117.1	\$897.2	\$2,171.5
Ongoing Impacts				
State of Connecticut				
Employment (Annual)	410	680	3,540	2,640
Labor Income (\$000,000)	\$35.5	\$52.1	\$217.4	\$146.0
Economic Output (\$000,000)	\$66.4	\$106.8	\$501.8	\$365.0

Scenario 1 offers a modest redevelopment plan, capitalizing on the Airport's current functions, and has a relatively low economic impact but also requires less upfront investment, resulting in less fiscal strain. This scenario supports the current operational structure, ensuring a consistent, albeit limited, economic benefit without significant financial risk or high investment costs. Scenario 2 expands slightly on this by redeveloping a part of the Airport into industrial and minor retail uses, which could draw in more business but is still restricted by the smaller scale of development, offering moderate fiscal benefits.

In contrast, Scenarios 3 and 4 propose more dramatic changes involving the closure and full redevelopment of the Airport, demanding substantial upfront investment, particularly in infrastructure. Scenario 3, focusing on industrial use, projects significant ongoing economic impacts, estimated at over \$502 million annually, primarily due to job creation. Despite its high initial costs, this scenario promises substantial fiscal benefits, potentially energizing the regional economy through new employment opportunities and industrial growth.

Scenario 4, although it incurs the highest one-time economic impacts due to its extensive development program, predicts less fiscal benefit on an ongoing basis due to fewer job-creating opportunities in its residential-focused plan. The ambitious nature of this scenario, featuring 2,700 housing units, faces market absorption challenges, especially with the region's stagnating population growth. It suggests a long-term return on investment, necessitating a sustained financial commitment and potential subsidies due to current market trends.

Overall, each scenario's economic and fiscal outcomes need to be evaluated against the backdrop of long-term regional market demands, upfront costs, and potential fiscal returns. Scenarios 3 and 4, while presenting substantial initial economic benefits, require a phased approach over decades, given their scale and the current economic climate. These scenarios, especially the mixed-use Scenario 4, will also have to navigate the complexities of market demand and demographic trends, balancing development costs with the area's potential economic revitalization. The analysis underscores the need for a cautious approach, factoring in the potential timeline for development and the market's capacity to absorb new housing and industrial spaces.

9.3 RESIDUAL LAND VALUES

The economic sub-consultant employed a residual land value (RLV) analysis to contribute to the study's highest and best-use analysis. Initially, they utilized this analysis to gauge the comparative value of vertical development for various types of uses on a per-square-foot basis. Subsequently, the same methodology was extended to the proposed repositioning scenarios, taking into consideration the costs associated with preparing development-ready sites for new construction at the Hartford-Brainard Airport. This approach evaluated the overall value of the total development programs outlined in each repositioning scenario.

To explore the potential for various uses at a repositioned Hartford-Brainard Airport, the economic subconsultants conducted a financial feasibility analysis for up to eight different types of vertical development:

1. Four-story multifamily residential rental.
2. Mid-rise multifamily residential rental.
3. Single-family attached townhome rental.
4. Accessory retail development.
5. Accessory office development is primarily designed to support industrial uses.
6. Industrial development capable of subdivision to accommodate aerospace, advanced manufacturing, and other flexible industrial requirements.
7. Indoor recreation facility, which includes indoor sports facilities like a fieldhouse with multisport turf fields, courts, an indoor track, and other amenities.
8. Outdoor recreation facility, modeled after the Top Golf concept, featuring a golf driving range facility.

Table 6 summarizes the results of the RLV analysis for each of these use cases. The analysis was conducted using underwriting assumptions developed through a combination of third-party data related to value and cost, and these assumptions were validated with input from real estate market stakeholders in the region. It's important to note that this analysis does not incorporate the costs associated with horizontal infrastructure, such as demolition, environmental remediation, streets, utilities, etc., which may be necessary to prepare the Hartford-Brainard Airport site for vertical development. These infrastructure costs are evaluated separately in the following section, assessing the RLV of different repositioning scenarios. Appendix J of the final report details the Vertical Development Underwriting Assumptions.

Table 6: Residual Land Value PSF of Vertical Development by Use

	Townhome	8-Story Mid-rise	4-Story Low-rise	Industrial	Retail	Office	Indoor Recreation	Outdoor Recreation
Hard Cost	(\$173)	(\$401)	(\$288)	(\$124)	(\$257)	(\$226)	(\$154)	(\$186)
Soft Cost	(\$42)	(\$96)	(\$69)	(\$42)	(\$92)	(\$84)	(\$53)	(\$45)
Financing Cost	(\$16)	(\$37)	(\$27)	(\$12)	(\$24)	(\$21)	(\$14)	(\$17)
Total Cost	(\$231)	(\$534)	(\$383)	(\$177)	(\$373)	(\$331)	(\$221)	(\$247)
Net Operating Income	\$13	\$26	\$24	\$13	\$14	\$18	\$9	\$13
Cap Rate	6.5%	6.5%	6.5%	5.5%	7.5%	8.5%	7.5%	7.5%
Total Value	\$197	\$407	\$367	\$230	\$184	\$213	\$124	\$173
Cost of Sale	(\$3)	(\$6)	(\$6)	(\$3)	(\$3)	(\$3)	(\$2)	(\$3)
Developer Profit	(\$25)	(\$52)	(\$47)	(\$29)	(\$23)	(\$27)	(\$16)	(\$22)
Residual Land Value	(\$62)	(\$185)	(\$68)	\$20	(\$215)	(\$149)	(\$114)	(\$99)

The RLV analysis has revealed that none of the repositioning scenarios at Hartford-Brainard Airport are financially viable as market rate developments. This is primarily due to the substantial horizontal costs required to prepare the Hartford-Brainard Airport site for redevelopment. Interestingly, focusing on higher value industrial uses such as technology, advanced manufacturing, and warehousing generates more value than a mixed-use development heavily oriented toward residential programs. Even with a consistent level of public sector subsidy, a mixed-use residential scenario would still result in a negative RLV.

Table 7: Residual Land Value by Scenario

Category	Scenario 2	Scenario 3	Scenario 4
Gross Project Value	\$49,638,000	\$603,434,000	\$1,037,994,000
Less: Cost of Sale for Rental Uses	(\$745,000)	(\$9,052,000)	(\$15,570,000)
Less: Developer Profit	(\$6,112,000)	(\$74,298,000)	(\$127,803,000)
Less: Total Development Cost	(\$46,066,000)	(\$565,973,000)	(\$1,406,610,000)
Total Residual Land Value	(\$3,285,000)	(\$45,888,000)	(\$511,989,000)
<i>Residual Land Value Per SF Land Area</i>	<i>(\$4 per Land SF)</i>	<i>(\$5 per Land SF)</i>	<i>(\$58 per Land SF)</i>
<i>Residual Land Value Per GSF</i>	<i>(\$15 per GSF)</i>	<i>(\$17 per GSF)</i>	<i>(\$133 per GSF)</i>

While negative RLVs can be mitigated with public subsidies, such as direct grants, low-cost subsidized financing, favorable property tax assessments, or tax abatements, using these resources at the Hartford-Brainard Airport site would limit their availability for other regional investments, including those in Downtown Hartford. This opportunity cost is not factored into the RLV analysis.

Additionally, market analysis indicates that regardless of the scenario and mix of uses, the closure of the Hartford-Brainard Airport site and its transition to repositioned uses would require significant time for absorption. This would likely involve multiple phases spanning several years for market demand to align with the new developments. Whether it's the substantial industrial development in Scenario 3 or the numerous housing units in Scenario 4, both scenarios necessitate the gradual absorption of the market study area's demand over an extended timeframe. Despite the quality of the proposed development, the site's marketing efforts, or the catalytic effects of a well-planned initial phase, such rapid absorption without a comprehensive phasing plan is deemed unrealistic.

A smaller program offers several advantages when comparing industrial use-based Scenarios 2 and 3. It presents a more manageable development program that can be delivered in one or two phases, requires less investment in site infrastructure, aligns with uses in greater demand in the region, and positions the site to serve aviation and aerospace industries that may benefit from proximity to an FAA-authorized airport.

These findings from the RLV analysis will be integrated with other assessments of the Hartford-Brainard Airport site to inform the highest and best-use analysis and provide recommendations for the future of Hartford-Brainard Airport. The RLVs of potential repositioning scenarios will be part of a broader evaluation considering incremental economic and fiscal impacts stemming from their development and ongoing operations.

9.4 BENEFITS AND COSTS

The economic sub-consultant assessed the benefits and costs associated with three different scenarios from the view that the State of Connecticut and the City of Hartford are combined public entities. The analysis covers one-time and ongoing fiscal aspects, including fiscal revenues and development subsidies needed for financial viability and fiscal expenditures. For the purpose of this analysis, it is assumed that development subsidies are provided uniformly as cash grants across all three scenarios.

The development subsidies are assumed to be equivalent to the residual land values, which were negative for all three scenarios assessed in this study. Public expenditure estimates of workers, households, residents, and school-aged residents are derived from the development programs within each scenario and rely on assumptions from various sources, including third-party data from the City of Hartford, the State of Connecticut, and the U.S. Census Bureau. It's important to note that all residents and workers considered in these scenarios are assumed to be incremental newcomers to the City and State.

While the itemized benefits and costs in Figure 1 are not exhaustive, they cover major categories of expected impacts on the public fisc. Additionally, this analysis does not incorporate expenses associated with the closure of part or all of the Airport, which is necessary to implement these scenarios, including the costs related to relocating public services currently using the Hartford-Brainard Airport.

Table 8: Benefits and Costs Measured

	Benefits	Costs
One-Time	Taxes resulting from economic activity generated by construction and pre-development: <ul style="list-style-type: none"> • State sales taxes • State individual income taxes • State corporate income taxes 	Public subsidies are required to make the scenario financially feasible
Recurring	Taxes resulting from ongoing economic activity during repositioning: <ul style="list-style-type: none"> • State sales taxes • State individual income taxes • State corporate income taxes Property taxes based on the income generated by private development on site: <ul style="list-style-type: none"> • Local property tax 	Public expenditures to support incremental residents, workers, and school-aged children: <ul style="list-style-type: none"> • Local general fund expenditures • Local public school expenditures • State general fund expenditures

9.4.1 PHASING AND ABSORPTION

The report employs a conceptual phasing approach to account for the development timelines and absorption rates across the different repositioning scenarios. To spread out development over time, it is assumed that each phase takes four years to reach stabilized occupancy, with full ongoing benefits commencing in the fifth year of each phase. One-time benefits are evenly distributed throughout the construction period for each phase. In contrast, one-time costs, including public subsidies for development, such as soil remediation and potential abatement and demolition of existing airport buildings, are allocated in the first year, referred to as “Phase 0.” The remaining public subsidy (cost) is then divided by the number of phases, with an equal portion applied at the start of each phase. Ongoing costs associated with a phase are incurred after the development period.

This conceptual phasing program translates to an annual absorption of 100,000 square feet (SF) of industrial space in Scenario 2 and approximately 118,000 SF of industrial space in Scenario 3. These figures represent capture rates of 16% and 19% of the average annual absorption of all industrial spaces within the I-84, I-91, and I-95 corridors in the State of Connecticut from 2018 to the second quarter of 2023, respectively. In the case of Scenario 4, the phasing implies an annual absorption of 136 residential units, constituting a 16% capture rate of the average annual absorption for the CRCOG region from 2018 to the second quarter of 2023.

Table 9: Phasing Assumptions

	Program	Phases	Development per Phase	Implied Annual Absorption*
Scenario 2				
Industrial	200,000 SF	1	200,000 SF	100,000 SF
Retail	20,000 SF	1	20,000 SF	10,000 SF
Scenario 3				
Industrial	2,360,000 SF	5	472,000 SF	118,000 SF
All Other	315,000 SF	5	63,000 SF	15,750 SF
Scenario 4				
Residential	2,721 Units	5	544 Units	136 Units
All Other	697,600 SF	5	139,520 SF	34,880 SF

* - Assumes absorption is spread over each phase lasting four years, except for Scenario 2, which assumes a two-year absorption period.

9.4.2 COMPARISON OF REPOSITIONING SCENARIOS OVER TIME

The analysis compares three repositioning scenarios over a 30-year analysis period, assessing total benefits, total costs, IRR, NPV at a 4% discount rate, and payback period. Scenario 2 emerges as the highest performer in terms of IRR at 57%, primarily due to its lower initial costs and consistently recurring incremental tax revenues. In contrast, Scenarios 3 and 4 have lower IRRs at 32% and 5%, respectively, as they must overcome higher initial projected public costs (development subsidies) but generate larger one-time and recurring benefits. Scenario 3, driven by significant industrial development, boasts the highest NPV of \$287 million over the 30 years, primarily due to ongoing fiscal net benefits. However, despite its smaller development program, Scenario 2 outperforms Scenario 4 in terms of NPV (\$43 million vs. \$27 million) due to the upfront costs of residential development and lower recurring benefits.

Table 10: Return Metrics Over 30-Year Analysis Period

Scenario	Total Benefits	Total Costs	IRR	NPV @ 4.00%	Payback Period
Scenario 2	\$92,200,000	(\$7,400,000)	57%	\$43,400,000	5 Years
Scenario 3	\$724,300,000	(\$70,800,000)	32%	\$287,300,000	7 Years
Scenario 4	\$1,175,200,000	(\$868,100,000)	5%	\$27,000,000	24 Years

The analysis acknowledges certain limitations, including the challenge of applying long-term projections to Hartford-Brainard Airport’s development and economic activity, the variability of future real estate and economic conditions, and the inability to encompass all associated benefits and costs. Nevertheless, this comparison offers insights into the relative merits of the three scenarios and aids in the broader Hartford-Brainard Airport study.

As an illustrative example, the report considers the impact of delaying the closure of the Airport. If Scenarios 3 and 4 were to commence in Year 10 instead of Year 1, the IRR for Scenario 3 would only marginally decrease by less than 1%, while Scenario 4 would experience a negative IRR of -7%. NPV for Scenario 3 drops to \$97 million, and Scenario 4 becomes negative at -\$91 million. Additionally, the payback period for Scenario 3 extends to 17 years, while Scenario 4’s payback period exceeds the 30-year analysis period. This underscores the sensitivity of these scenarios to the timing of their implementation, particularly with regard to airport closure.

Table 11: Return Metrics Over 30-Year Analysis Period – Alternative Start Date for Full Closure Scenarios

Scenario	Project Start Date	IRR	NPV @ 4.00%	Payback Period
Scenario 2	Year 1	57%	\$43,400,000	5 Years
Scenario 3	Year 10	32%	\$96,800,000	17 Years
Scenario 4	Year 10	-7%	(\$91,200,000)	+30 Years*

* - Payback period beyond the 30-year analysis period.

9.4.3 OTHER CONSIDERATIONS FOR COMPARISON OF REPOSITIONING SCENARIOS

This analysis compares the conceptual returns associated with repositioning scenarios, employing a straightforward and uniform methodology that considers the timing and absorption of related programs to evaluate multi-year returns. However, it’s crucial to take into account several additional factors when assessing this analysis, including but not limited to:

- 1. Real Estate Market Uncertainty:** The report acknowledges the inherent difficulty in predicting real estate market dynamics over extended periods. Factors such as rent, vacancy rates, absorption rates, and other indicators significantly impact the benefits and costs of the scenarios. The assumptions used in this analysis may either be overly optimistic or overly conservative when considering the trajectory of real estate markets for different uses over a 30-year timeframe. Moreover, the analysis does not incorporate external investments or policies that could influence neighborhood growth, potentially altering the outcomes.
- 2. Airport Closure Risks:** The potential closure of the Airport is a pivotal factor that can affect all three repositioning scenarios, particularly a full closure scenario. Risks associated with airport closure, such as the time and effort required to close the Airport and address FAA grant obligations related to the Hartford-Brainard Airport, are not factored into the analysis. Additionally, unforeseen delays stemming from environmental, geotechnical, entitlement, or other site-related conditions that might hinder redevelopment are not considered.
- 3. Program Flexibility and Demographic Assumptions:** The benefit and cost assumptions in the analysis are derived from conceptual development programs. For Scenarios 3 and 4, these programs are envisioned to unfold over decades based on historical absorption rates within the region and an expected share of absorption at the Hartford-Brainard Airport site. It is important to recognize that the actual program size and composition may change upon implementation, potentially resulting in variations in job numbers, job types, household sizes, and the average number of school-aged children compared to current averages. Moreover, the analysis assumes that all workers and residents are net-new to the region without accounting for potential shifts from other parts of the region.

10.0 FINAL RECOMMENDATION

10.1 ENVIRONMENTAL CONSIDERATIONS

The Study undertook a rigorous Environmental Due Diligence Assessment to evaluate the environmental risks, potential impacts, and mitigation strategies to analyze the potential of future development. If airport closure is considered, the FAA would need to review the environmental assessments. The initial Phase I ESA, updated in 2012, revealed significant environmental conditions and areas of concern. The ESA uncovered numerous potential hazards, specifically five RECs and twenty-three AOCs, prompting a more detailed Phase II/III ESA. This deeper analysis exposed release areas with contaminants above regulatory safety criteria.

Factors for Consideration for Development of the Property:

- **Environmental Concerns:**
 - Addressing Recognized Environmental Conditions (5 RECs) and Areas of Concern (23 AOCs).
 - Implementing remedial actions based on Phase II/III ESA findings.
 - Consulting with environmental legal counsel due to the Connecticut Property Transfer Act.
 - Contaminants in soil and groundwater, especially PFAS, need to be addressed.
- **Groundwater Analysis & Strategy:**
 - Monitoring and potentially remediating emerging contaminants like PFAS.
 - Establishing an Environmental Use Restriction for areas below the high water table.
- **Flood Protection System:**
 - Monitoring the Hartford Flood Protection System's health and improvements.
 - Being aware of potential risks, including levee breaches, pumping station failures, and levee overtopping.
 - Ensuring compliance with the U.S. Army Corps of Engineers regulations on modifications to the levee or adjacent areas.
 - Monitoring the North and South Meadows Dike Toe Drain Replacement Project, especially concerning the Clark Dike's structural enhancements.
- **Environmental Justice:**
 - Prioritizing community engagement, especially with vulnerable populations within the environmental justice census tract.
 - Ensuring equitable and environmentally sound development.
- **Regulatory Oversight:**
 - Adhering to guidelines set by federal and state agencies, including FAA and CT DEEP.

For Scenarios 1 and 2, the environmental sub-consultant's preliminary OPC for remediation, formulated from historical data and recent bids, calls for an estimated \$2 million for cleanup. This figure accounts for various contingencies but excludes several critical expenses, including a comprehensive Phase III ESA, demolition, hazardous material abatement, and any unforeseen remediation costs stemming from future regulatory changes, notably concerning PFAS (Per- and polyfluoroalkyl substances). Beyond remediation, the site's physical and geological peculiarities further complicate development.

For Scenarios 3 and 4, In order to preparing the Hartford-Brainard Airport site necessitates an investment of over \$45 million, designated for demolishing existing infrastructure, treating contaminated soils, and constructing new facilities, inclusive of a functional road and park system. The terrain demands specialized construction methods due to soil and water table conditions, significantly impacting cost. Particularly, buildings in Scenarios 4 and 3 will require deep foundational support systems, incurring additional expenses ranging from \$9 to \$27 per GSF or \$35 per GSF, ensuring structural integrity in response to the area's environmental challenges.

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For Scenarios 3 and 4, In order to preparing the Hartford-Brainard Airport site necessitates an investment of over \$45 million, designated for demolishing existing infrastructure, treating contaminated soils, and constructing new facilities, inclusive of a functional road and park system. The terrain demands specialized construction methods due to soil and water table conditions, significantly impacting cost. Particularly, buildings in Scenarios 4 and 3 will require deep foundational support systems, incurring additional expenses ranging from \$9 to \$27 per GSF or \$35 per GSF, ensuring structural integrity in response to the area's environmental challenges.

10.2 REGULATORY CONSIDERATIONS

The procedure of closing an airport, especially one with the stature and operational scope of Hartford-Brainard Airport, is a multifaceted process, demanding extensive collaborative efforts among various stakeholders. These entities range from local to federal authorities, with significant emphasis on the FAA's role. The FAA typically champions the continued operation of airports, underlining their strategic importance in supporting regional and national economic stability and logistical networks. The decision to shut down an airport is far from straightforward, entailing a labyrinth of regulatory, legal, and contractual channels. For instance, any closure proposition must convincingly justify the move, overcoming the FAA's general resistance based on their mandate to preserve the national airport network's integrity.

Scenario 2 would require the cessation of Runway 11-29 operations in order to redevelop the 18-acre parcel. The closure of Runway 11-29 has been under consideration due to its limited utility and the low benefit/cost ratio of keeping it operational. By discontinuing investments in this runway, resources could be reallocated, operational inefficiencies reduced, and the land repurposed for more profitable uses. Scenarios 3 and 4 would require full closure of the Airport and could take several years through the FAA process. The economic analysis of these scenario uses a timeline of ten years for full closure to be completed and economic benefits to begin. However, the timeline from closure decision to tangible redevelopment is a long-term undertaking, often unfolding over several years due to the complexities of planning, stakeholder engagement, legal formalities, and actual construction work. The nature of the final developed space also introduces variables in market absorption rates, with industrial spaces potentially reaching stability faster within the market compared to residential sectors, owing to prevailing market forces.

Moreover, unique legal elements, like the stipulations within Hartford-Brainard Airport's 1959 Airport Deed, introduce additional nuances. This deed grants the City of Hartford preemptive purchasing rights, adding layers to the already complex decision-making matrix, thereby extending the timeline and necessitating even more comprehensive planning and coordination among involved parties.

10.3 ECONOMIC CONSIDERATIONS

The economic subconsultant conducted a comprehensive assessment of four potential future scenarios for Hartford-Brainard Airport, measuring their economic and fiscal outcomes. The analysis considered the airport's possible continued operation or redevelopment, using job creation, labor income, and economic output as critical evaluative metrics. Each scenario presented distinct implications for Hartford, the CROG region, and the state of Connecticut. The fiscal benefits, depending on the scenario, showed considerable variation, from less than \$1 million to \$63 million in one-time returns and \$6 to \$80 million in annual recurring benefits. While Scenarios 1 and 2 propose limited changes and maintain some airport functions, offering stable economic advantages with minimal investment risks, Scenarios 3 and 4 suggest extensive redevelopment with significant upfront costs on an uncertain timeline for the development.

Scenario 3, emphasizing industrial use, anticipates over \$502 million in annual economic activity, largely driven by job creation, despite high initial investment. Scenario 4, proposing a vast residential development, predicts substantial one-time economic impacts but faces long-term market absorption issues, partly due to regional demographic trends. The analysis recommends careful consideration of each plan, balancing immediate costs against future fiscal returns and market realities. Particularly, the ambitious redevelopment in Scenarios 3 and 4 would necessitate a phased, multi-decade strategy responsive to ongoing economic and demographic shifts to ensure the area's sustainable growth and revitalization.

The RLV analysis as part of a broader highest and best-use study for Hartford-Brainard Airport is crucial for evaluating the feasibility of various proposed repositioning scenarios, focused on the comparative value of different types of vertical developments, excluding the substantial horizontal infrastructure costs. Despite exploring a range of uses, from multifamily residences to industrial spaces and recreation facilities, the RLV analysis concluded that none of the repositioning scenarios were financially feasible without public subsidies due to high preparatory costs. Particularly, scenarios heavily oriented toward residential programs yielded less value compared to those prioritizing higher-value industrial uses.

The findings underscore that significant public sector subsidies would be necessary to offset negative RLVs, implicating potential trade-offs with other regional investment opportunities. Moreover, any redevelopment would face a prolonged market absorption period, necessitating a multi-phased approach over several years, irrespective of the scenario pursued. Smaller, more manageable development programs, especially those aligned with regional demand and offering proximity advantages to specific industries, appear more viable.

The analysis outlines a phased approach to the redevelopment of Hartford-Brainard Airport, adjusting for realistic timelines and market absorption. It adopts a strategic allocation of costs and benefits over each developmental phase, spanning four years until stable occupancy is achieved. The initial phase, “Phase 0,” incurs significant one-time costs, including public subsidies for essential groundwork. The plan foresees specific absorption rates for industrial and residential spaces, gauged from historical data, to ensure the development aligns with market demand.

In a 30-year comparative analysis of the repositioning scenarios, Scenario 2 shows the most robust IRR at 57%, attributed to lower initial costs and steady tax revenues. Scenarios 3 and 4, while presenting substantial public costs, forecast larger benefits, with Scenario 3 leading in NPV due to substantial ongoing fiscal gains. Scenario 4, despite its ambitious development plan, lags due to higher upfront costs and lower recurring benefits.

Interestingly, delaying the airport’s closure significantly impacts the scenarios’ financial viability. If Scenarios 3 and 4 starts in Year 10, Scenario 3 maintains a positive, albeit reduced, IRR and NPV, while Scenario 4 turns negative, underscoring the financial models’ sensitivity to timing. This insight is crucial, stressing the importance of strategic timing in harnessing the full potential of the developmental plans.

10.4 HIGHEST AND BEST USE OPTION

Analyzing the impacts of potential repositioning scenarios for Airport property involves a comprehensive evaluation beyond assessing the operational impact. Crucially, the economic feasibility of each scenario, including development costs and regional needs, is central to this assessment. This evaluation includes the expenses related to environmental remediation and those directly tied to the Airport’s closure. The IRR was used to offer a deeper economic insight, a standard financial metric that helps gauge an investment’s possible profitability. While a higher IRR generally indicates higher potential returns, it’s a relative metric and doesn’t provide a precise dollar-based return value.

Further enhancing the financial analysis, the study incorporated the NPV analysis. By accounting for the time value of money, NPV assists in discerning the likely positive or negative returns on investment for each scenario. However, the accuracy of the calculations hinges on selecting an apt discount rate—a challenge in long-term evaluations. This analysis chose a 4% rate, mirroring public sector borrowing costs minus an inflation risk premium, considering all cash flows are represented in real terms. A project would be considered financially viable if its NPV is positive when using a discount rate reflecting the capital cost.

The returns on each reposition scenario were examined, weighing total benefits against costs and accounting for variables such as the IRR, NPV at a 4% discount rate, and a payback period based on a 30-year analysis frame.

Table 12: Return Metrics Over 30-Year Analysis Period

Scenario	Total Benefits	Total Costs	IRR	NPV @ 4.00%	Payback Period
Scenario 2	\$92,200,000	(\$7,400,000)	57%	\$43,400,000	5 Years
Scenario 3	\$724,300,000	(\$70,800,000)	32%	\$287,300,000	7 Years
Scenario 4	\$1,175,200,000	(\$868,100,000)	5%	\$27,000,000	24 Years

The analysis delves into the consequences of a hypothetical delay in airport closure under Scenarios 3 and 4, altering the start from Year 1 to Year 10. This delay precipitates distinct financial repercussions for each scenario. For Scenario 3, the IRR experiences a negligible decline of less than 1%, preserving much of its investment appeal. However, its NPV suffers, dropping from \$287 million to \$97 million, a two-thirds decrease that significantly undermines its long-term fiscal promise. However, Scenario 4 takes a more detrimental hit; its IRR plunges into negative territory at -7%, and the NPV collapses to negative \$91 million, signaling financial infeasibility.

Table 13: Return Metrics Over 30-Year Analysis Period – Alternative Start Date for Full Closure Scenarios

Scenario	Project Start Date	IRR	NPV @ 4.00%	Payback Period
Scenario 2	Year 1	57%	\$43,400,000	5 Years
Scenario 3	Year 10	32%	\$96,800,000	17 Years
Scenario 4	Year 10	-7%	(\$91,200,000)	+30 Years*

* - Payback period beyond the 30-year analysis period.

The postponement also affects the payback timelines. Specifically, the payback year for Scenario 3 is pushed to 17 years, a substantial extension within the 30-year analysis framework. In contrast, the return period for Scenario 4 exceeds the 30-year analysis boundary, marking it as an unsustainable investment option in the context of long-term financial planning and returns.

These financial insights, derived from rigorous evaluation, are compounded by the analysis of comprehensive environmental, economic, and regulatory assessments. Considering all these multifaceted considerations, Scenario 2 is the optimal choice primarily due to its exceptional IRR at 57%, attributed to lower initial investment demands, especially in development subsidies, and a consistent increase in tax revenues. **The endorsement is based on economic performance, particularly its high IRR and reasonable NPV, and bolstered by its alignment with broader strategic considerations, confirming Scenario 2 as the most prudent, beneficial, and sustainable investment pathway.**

