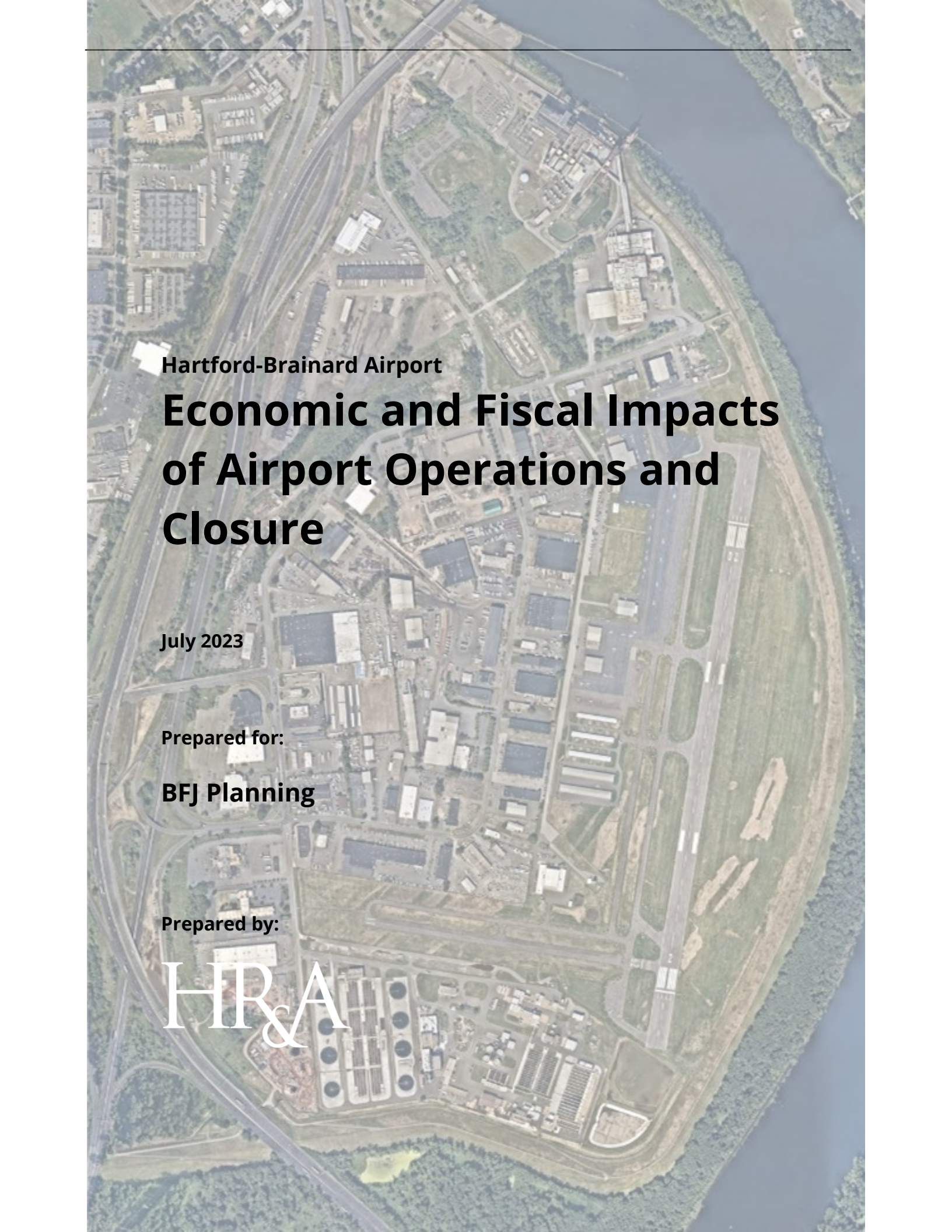


Appendix N

Economic and Fiscal Impacts of Airport Operations and Closure



Hartford-Brainard Airport

Economic and Fiscal Impacts of Airport Operations and Closure

July 2023

Prepared for:

BFJ Planning

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Foreword

Public Act No. 22-118, Section 426 mandates that the Connecticut Department of Economic and Community Development (DECD) 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 (HFD) property. As part of this legislation, a consultant team led by BFJ Planning (BFJ) will submit to the DECD a Final Report which will synthesize:

- The economic impact, direct, indirect, quantitative, and qualitative, of the current use of the property to the state and the region surrounding the property;
- 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;
- 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;
- 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
- 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.

In service of this final report, HR&A Advisors, Inc. (HR&A) analyzed the economic and fiscal impacts of continued operations of a general aviation airport at HFD on the city of Hartford, the Capital Region Council of Governments (CRCOG) region, and the state of Connecticut, as well as the impact of ceasing operations at HFD on these economic and fiscal impacts. This report comprises the content needed to complete the first bullet of synthesized information above.

HR&A is a consulting firm specializing in measuring the economic and fiscal impacts of major policy interventions and development projects. The firm has studied the impacts of airport operations around the county, including Los Angeles, Santa Monica, and Long Island.

HR&A has been supported in this analysis by Audience Research & Analysis (ARA). ARA conducted two separate surveys of aircraft owners and employers at HFD to help develop assumptions related to economic activity owing to airport operations. ARA has conducted similar types of surveys at East Hampton Airport, JFK terminals on behalf of Duty-Free shops, and in Connecticut on behalf of the New Have Arts Council and Yale Peabody Museum. Surveys developed and distributed as part of this analysis are appended to this report.

Executive Summary

HR&A Advisors, Inc. (HR&A) prepared this analysis to assess the economic and fiscal impacts of ongoing operations at Hartford-Brainard Airport (HFD). As part of the state legislation that required study of the airport to consider its highest and best use, this analysis considers what economic benefits are supported by the airport in terms of jobs, labor income, and economic output to Hartford, the Capital Region Council of Governments (CRCOG) region, and Connecticut as well as fiscal benefits accruing to the City of Hartford and State of Connecticut. This analysis also considers the foregone benefits in the event HFD were closed.

As part of this analysis, we considered three types of benefits from ongoing operations of HFD:

1. **Operations benefits** driven by spending directly tied to use of the site including onsite spending by pilots using HFD and employers with operations at, and contingent upon, HFD, spending by visitors using HFD, and capital maintenance spending on the site.
2. **Workforce development benefits** driven by the number of pilots and mechanics and technicians trained at flight schools and CT Aero Tech School at HFD.
3. **Economic development and competitiveness benefits** driven by qualitative factors of having a general aviation airport operating near Hartford's downtown core and separate from the region's primary commercial airport, Bradley International Airport.

We captured these benefits in three ways:

1. **Quantifiable, modeled economic benefits including total employment, wages and income from related labor, and economic output** measured in gross regional product (or gross state product in the case of Connecticut).
2. **Quantifiable benefits** not monetized including workers trained and total potential incremental lifetime earnings.
3. **Qualitative benefits** related to regional competitiveness.

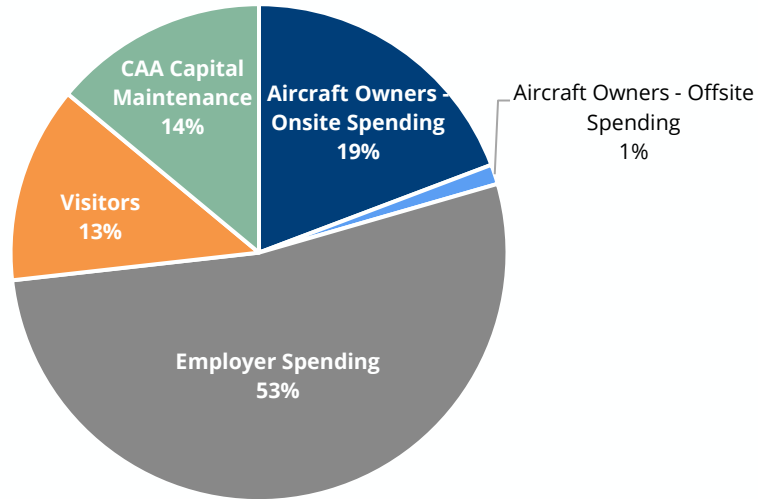
HR&A relied on findings from surveys of HFD aircraft owners and HFD employers to develop spending data, as well as other third-party data and economic and fiscal studies to inform this analysis. To model economic benefits this analysis relied on IMPLAN, a widely used economic tool that enables analysis of the economic effects of changes in various economic sectors.

HFD operations supports up to 360 direct and indirect jobs, \$26 million in labor income, and \$57 million in gross state product (GSP) in Connecticut. The vast majority of these benefits accrue to the CRCOG region (350 jobs, \$24 million in labor income, and \$54 million in gross regional product (GRP)), with a significant share benefiting Hartford (230 jobs, \$16 million in labor income, and \$32 million in GRP).

Direct and Indirect Economic Impacts	Hartford		CRCOG 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%) drive two-thirds of total economic benefits in terms of economic output from ongoing operations at HFD. In addition, spending by aircraft owners generates another fifth of total economic output, with the vast majority of this driven by expenditures onsite as opposed to offsite at nearby retailers and restaurants. Visitor spending accounts for the remaining 13% of total economic output from offsite purchases.

SHARE OF ECONOMIC OUTPUT OF EXISTING OPERATIONS BY DRIVER



Ongoing operations at HFD and the workforce development activity that the airport facilitates the training of approximately 25 new pilots and 57 aircraft technicians annually. Both fields currently face a shortage of qualified workers, which has resulted in high placement rates. While graduates may not stay in the region, average salaries in these fields would result in up to \$2.6 million annually in incremental labor income.

HFD generates additional economic benefits that are not quantified but more difficult to quantify but no less tangible to airport users and beneficiaries. For example, aviation-related industries such as Vertical Takeoff and Landing (VTOL) and drone industries can benefit from use of HFD where busier commercial airports may not be able to accommodate their use. Private and corporate use may also attract businesses and key executives, who desire an airport close-in to downtown Hartford. Lastly, the city, region, and state all benefit from public services that use HFD including Public Safety, Civil Air Patrol, and Medflight use.

State and local governments derive \$3.6 million annually in fiscal benefits including sales, income, and property taxes owing to economic activity at HFD. This includes a share of the State PILOT to the City of Hartford for the Connecticut Airports Authority-owned (CAA) airport property.

FISCAL BENEFITS	City of Hartford	State of Connecticut	Other Local Governments	Total
Sales Taxes	-	\$333,600	-	\$333,600
Individual Income Taxes	-	\$643,400	-	\$643,400
Corporate Income Taxes	-	\$122,000	-	\$122,000
Property Taxes*	\$668,700	-	\$1,772,000	\$2,440,700
Other Fiscal Benefits*	\$25,200	\$59,100	-	\$84,300
Total	\$693,900	\$1,158,100	\$1,772,000	\$3,624,000

* - Property Taxes includes State PILOT attributed to HFD. Other Fiscal Benefits include registration fees and gross earnings tax.

More than 70% of economic benefits generated by operations at HFD would be lost to the state if the airport closed. This share is even greater in terms of loss of benefits to the CRCOG region (82%) and Hartford (87%) and is a result of HFD employers closing or relocating, HFD aircraft relocating to other airfields in the region and state, and other aircraft moving out of state. If HFD closed, sales and income taxes from HFD operations would be halved but depending on the nature of the closure and disposition of the site, Hartford property taxes may increase if the site were taxed as private property. Any residual benefits are a result of activity moving to other airports in the region and state, and the continued visitation to Hartford using airports and modes.

Introduction

Hartford-Brainard Airport (HFD) is a general aviation airport comprising of 201 acres located in the South Meadows neighborhood of the City of Hartford. The Airport is situated along the Connecticut River and located three miles south of the downtown business district. Chosen as the site of the City's airfield in 1921, HFD was later designated as a major United States Army Air Forces training center for pilots and aircrews during World War II. Following the war, commercial jets moved their operations from HFD to the developing and larger Bradley International Airport north of Hartford. In 1958 the City of Hartford handed control over the Airport to the State while using approximately half of the land for an industrial park. In 2013 the Federal Aviation Administration (FAA) approved the transfer of the State's six airports, including HFD, from the Connecticut Department of Transportation to the Connecticut Airport Authority.

The Airport is designated as a Regional General Aviation Airport and also a Reliever Airport in the Federal Aviation Administration's (FAA) National Plan of Integrated Airport Systems, meaning the Airport can relieve congestion at nearby commercial service airports, including Bradley.

HFD has three runways: two asphalt runways of 4,400 feet and 2,300 feet. In addition, HFD has a seasonable turf runway that is 2,350 feet long and runs parallel to the 4,400-foot main runway. In addition to these three runways, the Airport has one lighted helipad and supporting infrastructure, including a taxiway system, aircraft parking aprons, an instrument landing system, an air traffic control tower, and a weather station. The Connecticut Airport Authority (CAA) contracts with Midwest ATC System to provide air traffic controls that operate the tower from 6 a.m. to 12 a.m. daily.

More than 130 aircraft are based at HFD today, the majority of which are single- and multi-engine aircraft. Other aircraft in the based fleet include 1 business jet, 3 single-engine, and 2 rotary wing aircraft assigned to the State Police Department. In 2022 HFD saw more than 67,000 aircraft operations, including more than 32,100 itinerant operations and nearly 35,200 local operations. This value is substantially higher than even pre-pandemic levels: 2022 operations represented a 40% increase over 2019 aircraft operations.

Hartford Jet Center is the fixed base operator (FBO), offering a range of business services, including concierge, fueling, ground support, aircraft repair, avionics, and flight school training. Other business service offerings include T-hangar and corporate aircraft storage, aircraft sales and rental, and car rental. HFD is also home to two flight schools, several public service activities – medflight, state police, the federal government, etc. – and CT Aero Tech School. This career school offers training programs in the aviation maintenance technology fields. (For a full list of operators and employers at HFD, see: [APPENDIX A | LIST OF EMPLOYERS USING HFD.](#))

Methodology

HR&A analyzed the economic and fiscal impacts of the current operations of Hartford-Brainard Airport (HFD), including the impacts from existing airport operations, offsite spending supported by airport operations, and annual capital expenditures on the City of Hartford, the jurisdiction of the Capital Region Council of Governments (CRCOG or “CRCOG region”), and the State of Connecticut. For analysis of existing activity at HFD and its related economic and fiscal impacts, HR&A focused on recurring impacts in terms of employment, labor income, and economic output measured in gross regional product (GRP) annually.

This analysis provides an enhanced understanding of HFD’s place within the local, regional, and state economy, as well as the net effects on public fiscal outcomes. The analysis discusses both quantitative and qualitative impacts in a systematic way that will allow for consideration of several tradeoffs between the status quo and potential alternatives for HFD.

To perform this analysis, HR&A relied on three types of inputs.

1. **Survey Instruments.** HR&A and its subconsultant Audience Research and Analysis (ARA) developed two survey instruments to inform inputs into the economic impact analysis, factoring input from the broader BFJ consultant team. The first survey was distributed to aircraft owners that lease hangar space at HFD. The second survey was distributed to employers with operations at HFD. Surveys requested annual expenditure data related to operations at HFD for both aircraft owners and employers and employment and labor income for employers at HFD. Based on response rates and the total number of survey recipients, HR&A and ARA extrapolated values to reflect annual economic activity from the Airport and estimated employment and spending inputs to the economic impacts model. Moreover, responses from these surveys helped to inform what share of activity may continue to occur in the CRCOG region or the State of Connecticut if HFD were to close. (See: **APPENDIX C | SURVEY OF EXPENDITURES AND PREFERENCES AMONG AIRCRAFT OWNERS AND BUSINESS OPERATORS AT HARTFORD BRAINARD AIRPORT.**)
2. **Third-Party Data.** Data collected and analyzed from the U.S. Bureau of Labor Statistics, Bureau of Economic Analysis, U.S. Census Bureau, and Connecticut Airports Authority (CAA) informs assumptions about direct and indirect economic model inputs.
3. **Other Economic and Fiscal Studies.** In addition, our team reviewed third-party analyses of industries within the region to understand their relationship to HFD and how ongoing activities at the general aviation airport may affect their future economic competitiveness. This includes both more directly related industries, such as aerospace, whose labor pool is affected by workforce development occurring at HFD, as well as indirect industries that may see benefits from the existence of a general aviation airport proximate to Downtown Hartford, such as the insurance and financial services industries, whose corporate users may opt to use HFD now or in the future. To support these third-party reports, HR&A relied on discussions with economic development professionals and business representatives in the region to gain additional context on HFD’s role as it relates to regional competitiveness.

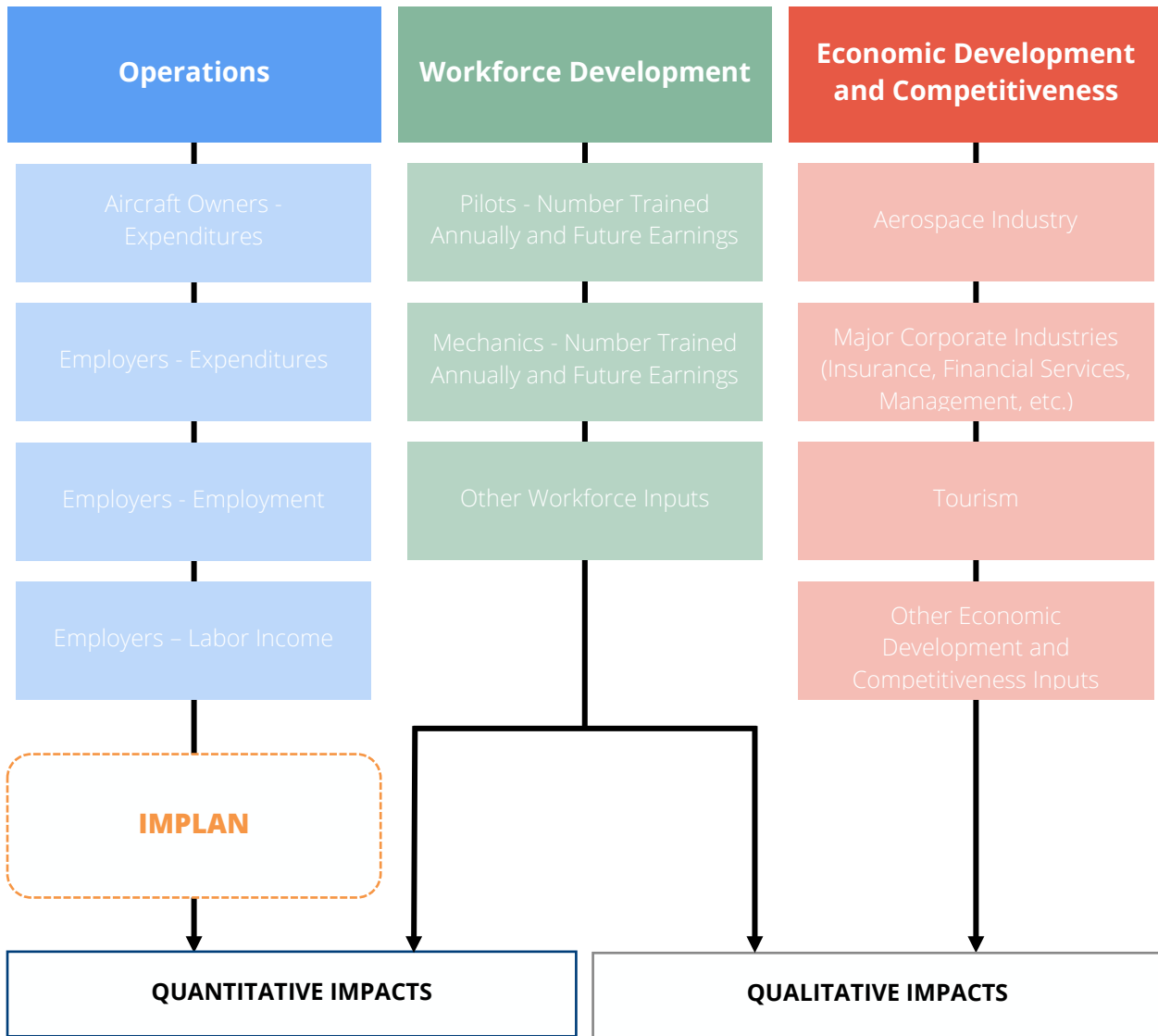
FIGURE 1 below shows a conceptual model of the relationships between inputs and quantitative and qualitative outputs in the economic impact analysis.

This analysis considers Direct Operations, Workforce Development, Economic Development, and Competitiveness impacts as affecting the total economic impact of HFD. Selected impacts are quantified, while others are analyzed and discussed at a qualitative level. The first section will describe the economic and fiscal impacts of current operations at HFD. The second section will describe the change in those impacts based on a conceptual closure of the Airport.

This analysis focuses on two types of quantitative impacts. The first includes employment levels, labor income, and economic output resulting from the activities related to the ongoing operations of HFD as a general aviation

airport. The analysis relied on the Impact Analysis for Planning (IMPLAN) input-output model IMPLAN for the regions outlined above to measure these impacts.

FIGURE 1 | CONCEPTUAL HFD OPERATIONS ECONOMIC IMPACTS MODEL



IMPLAN is a widely used economic tool that allows users to analyze the economic effects of changes in various economic sectors. The model is based on the concept of inter-industry relationships, where the output of one industry serves as an input to another industry. IMPLAN captures these relationships by breaking down the economy into a set of industries and measuring the flow of goods and services between them.¹ The data summarizes how industries produce and consume commodities and is customized for smaller regions of the country, using each region’s unique industry mix and spending patterns.

¹ The IMPLAN model consists of three components: the industry sector database, the regional social accounting matrix (SAM), and the impact analysis model. The industry sector database provides information on the production, employment, and other economic activities of different industries, while the regional SAM captures the inter-industry relationships specific to a particular region.

FIGURE 2 | ECONOMIC INPUT AND OUTPUT MEASURES



HR&A used IMPLAN and data from airport operations to produce the following:

- **Direct Impacts.** Employment, wages, and output from spending immediately associated with ongoing operations of at HFD
- **Indirect Impacts.** Employment, wages, and output associated with businesses that supply the businesses and ongoing activities occurring at HFD.
- **Induced Impacts.** Employment, wages, and output associated with household spending are directly and indirectly affected by HFD's ongoing operations.

In addition to employment, labor income, and economic output, this analysis measures other quantifiable impacts resulting from ongoing operations at HFD that are not direct outputs of the IMPLAN model outlined above. For example, the report captures the impacts of the workforce development that occurs at HFD.

Operations Impacts Analysis

This section describes the inputs used for modeling the economic and fiscal impacts of existing operations at HFD, the direct, indirect, and induced economic impacts of existing operations at HFD, the resulting fiscal impacts, and other related qualitative impacts.

IMPLAN Model Inputs

HR&A developed inputs for the IMPLAN analysis from a variety of sources, including:

- **Survey of aircraft owners** renting hangar space at HFD
- **Survey of employers** with operations at HFD
- **CAA** operations and capital planning data
- **FAA flight data and 2012 visitor spending data** from previous analyses of HFD operations.

HR&A analyzed survey results and third-party data and mapped spending values to corresponding IMPLAN multipliers that reflected the associated economic activity. (For more detail on the IMPLAN multipliers used, see: Appendix B | Selected IMPLAN Data for Hartford, CROG Region, and Connecticut.)

Aircraft Owners Expenditures – Onsite

To estimate total spending on aircraft based at HFD, ARA surveyed the 115 aircraft owners leasing hangar space at HFD and asked them to self-report how much they spend in a typical year to maintain, service, and supply their aircraft at HFD and the estimated share of total spending by selected categories. Some aircraft owners and businesses own multiple aircraft, so the 115 surveyed owners accounted for a total of 132 aircraft based at HFD.

Of 115 surveyed aircraft owners, 67 responded (58%). HR&A adjusted responses for total expenditures from owners of multiple aircraft by taking an average across spending per aircraft. The mean total expenditures for all owners was \$55,800, which was higher than the median (\$15,000) and mode (\$20,000).² (See: **TABLE 1**.)

TABLE 1 | AIRCRAFT OWNER ONSITE EXPENDITURES

Category	Value or Assumption
Number of Respondents	67
Mean	\$55,800
Median	\$15,000
Mode	\$20,000
Total Expenditures for Survey Respondents	\$3,739,000
Total Estimated Expenditures for Non-Respondents	\$720,000
Total Estimated Expenditures for All Aircraft Owners	\$4,459,000
Expenditure Category	
Maintenance	32%
Insurance	14%
Fuel	24%
Supplies	9%
Hangar/ Tie-down	21%

Source: ARA Survey of Aircraft Owners at HFD, 2023; HR&A Analysis

² Some owners responded with particularly high expenditure totals per aircraft, resulting in a mean far above the median, and is likely not reflective of non-responsive survey recipients.

The mean included outliers that responded with expenditures much greater than the vast majority of other respondents. Therefore, to calculate total expenditures by aircraft owners, HR&A added the total expenditures of the 67 respondents to the product of the 48 non-responsive aircraft owners and the median expenditures of \$15,000 to arrive at an estimated total annual spending by aircraft owners at HFD of nearly \$4.5 million.³

The survey asked aircraft owners to estimate the share of total spending across broad categories related to associated economic activities. These categories are tied to distinctive multipliers in the input-output model, and HR&A used responses to estimate shares of expenditures to assign to corresponding IMPLAN codes.⁴ The resulting model input assumes the majority of expenditures are assigned to “Scenic and sightseeing transportation and support activities for transportation” (81%), with the balance assigned to “Retail – Motor vehicle and parts dealers” (9%). (See: **TABLE 2.**)

TABLE 2 | AIRCRAFT OWNER ONSITE EXPENDITURES IMPLAN MODEL INPUTS

IMPLAN Code	Description	Direct Spending	Description
402	Retail – Motor vehicle and parts dealers	\$401,282	Captures spending on supplies as reported by the survey.
420	Scenic and sightseeing transportation and support activities for transportation	\$4,057,410	Captures all other spending related to the aviation industry on-site. This approach is consistent with previous studies relies on a code that captures a broad range of activities related to non-commercial use. The activities covered include aircraft hangar rental; aircraft maintenance and repair; fueling aircraft; and insurance as reported by the survey.

Source: ARA Survey of Aircraft Owners at HFD, 2023; HR&A Analysis; IMPLAN, 2023.

Aircraft Owners Expenditures – Offsite

ARA surveyed aircraft owners about their spending related to their flight activity on HFD but occurring *outside of the confines* of the Airport. This includes spending at local retailers and restaurants and other goods and services. There was a wide range of spending reported, and HR&A used the median of responses for gasoline sales (\$375) and the mean of responses for food service and accommodation (\$718) and retail sales (\$1,495). (See: **TABLE 3.**)

TABLE 3 | AIRCRAFT OWNER OFFSITE EXPENDITURES IMPLAN MODEL INPUTS

IMPLAN Code	Description	Direct Spending	Description
408	Retail - Gasoline stores	\$43,125	Captures spending offsite as other retail (the median spending was \$375, as reported in the survey).
412	Retail - Miscellaneous store retailers	\$82,570	Captures spending offsite as convenience retail (the average spending was \$718, as reported in the survey).
509	Full-service restaurants	\$171,925	Captures spending offsite as food and beverage and convenience retail (the average spending was \$1,495, as reported by the survey).

Source: ARA Survey of Aircraft Owners at HFD, 2023; IMPLAN, 2023.

Employer Expenditures

ARA also surveyed employers with operations at HFD with a separate survey requesting operational expenditures, including labor and non-labor expenses, as well as other quantitative and qualitative data based on the type of

³ HR&A assumed that nonresponsive aircraft owners were as likely to have responses above or below the median, but not likely to representational additional high-spending outliers.

⁴ Multipliers for all IMPLAN codes used in this analysis can be found in

employer. There are fewer than 20 employers located on HFD, including three in aviation education and one each in avionics installation and repair, aircraft maintenance and parts, regional aircraft sales, and hangar rental. In addition, the FAA contracts out operations of the traffic control center for HFD. Additional employers use the Airport, including the Connecticut State Police, the Coast Guard, and multiple medical flight companies. Employers like medical flight companies may use HFD, but their use is not necessarily daily, and they do not occupy physical space on HFD. HR&A captured selected expenditures for these employers through supporting documentation from the CAA related to revenues from fuel sales. (For a full list of employers using HFD, see: [APPENDIX A | LIST OF EMPLOYERS USING HFD.](#))

Seven of nine responsive employers reported full-time workers, with an average of 7 per employer. Only six of these seven reported annual payrolls, which averaged \$565,000 each. In addition, six employers reported part-time employees or independent contractors with an average annual expense of \$50,000. Employers reported fuel, utilities, office, repairs, and equipment lease expenditures. However, not all respondents reported spending in all categories. Most of the spending was on fuel (\$1.6 million) and repairs (\$2.3 million). HR&A estimated spending for nonresponsive employers and apportioned total spending across three different IMPLAN codes. First, spending related to reported repairs and payroll associated with sales operators were coded for parts dealers (\$1.3 million). Second, payroll spending at the flight schools was coded for other educational services, which was also consistent with previous studies of HFD (\$1.0 million). Third, all other spending related to employers onsite was grouped with “Scenic and sightseeing transportation and support activities for transportation” (\$9.5 million). (See [TABLE 4.](#))

TABLE 4 | EMPLOYER EXPENDITURES IMPLAN MODEL INPUTS

IMPLAN Code	Description	Direct Spending	Description
402	Retail - Motor vehicle and parts dealers	\$1,289,000	Captures annual expenditures on equipment leases and purchases (e.g., tugs, cables, power units, baggage carts, etc.)
482	Other educational services	\$1,025,800	Captures payroll for educational staff at CT Aero Tech and the two flight schools located on HFD. The code 482 was used because it best aligns with the code used in the 2012 report.
420	Scenic and sightseeing transportation and support activities for transportation	\$9,524,939	Captures all other spending related to the aviation industry onsite. This approach is consistent with previous studies relies on a code that captures a broad range of activities related to non-commercial use. The activities covered include aircraft hangar rental; aircraft maintenance and repair; fueling aircraft; and insurance as reported by the survey.

Source: ARA Survey of Aircraft Owners at HFD, 2023; IMPLAN, 2023.

ARA emailed employers with the survey multiple times and followed up with all survey recipients by phone. Nine employers submitted responses.⁵ When interpreting survey results and developing inputs for the input-output model, HR&A screened results to ensure the analysis did not double-count impacts. For example, the CAA reports its total rent roll, so HR&A relied on data from the CAA rather than self-reported responses from individual employers.

Annual Capital Expenditures

Additionally, HR&A assumed that ongoing operations include annual capital maintenance projects funded and managed by the CAA. We derived this information from the CAA capital improvement program for HFD, which indicates that over the next five years, the CAA will spend approximately \$16 million on capital improvements, including the demolition of an administration building and the reconstruction of one of the runways. These types

⁵ As of May 31, ARA had received nine completed questionnaires including three in aviation education and one each in avionics installation and repair, aircraft maintenance and parts, aircraft sales, hangar rental, and FBO management plus a traffic control center for Brainard and other Southern New England airspace.

of improvements are needed to maintain the Airport and have been treated as a constant expense with an average of \$3.3 million per year. HR&A assumed these expenditures would be split evenly between investments in buildings and non-buildings (i.e., runways, taxiways, etc.) to capture variations in the type of expenditures needed to maintain an Airport. (See: **TABLE 5**.)

TABLE 5 | CAPITAL EXPENDITURES IMPLAN MODEL INPUTS

IMPLAN Code	Description	Direct Spending	Description
60	Maintenance and repair construction of nonresidential structures	\$1,637,719	Captures 50% of the average annual CAA capital expenditure (\$3.3 million) over the next five years.
62	Maintenance and repair construction of highways, streets, bridges, and tunnels	\$1,637,719	Captures 50% of the average annual CAA capital expenditure (\$3.3 million) over the next five years.

Source: CAA, 2023; IMPLAN, 2023.

Visitor Expenditures

In addition to spending by aircraft owners and onsite employers, visitors to HFD also make purchases that flow through the rest of the regional economy. Some of this economic activity is already captured through employer expenditures as they serve visitors with related services (e.g., fuel sales, avionics, etc.) However, additional offsite expenditures also occur.

This analysis did not survey visitors to HFD; instead, HR&A relied on information and assumptions from past reports, flight activity at HFD in 2022, and broader Hartford visitor spending metrics. Of an estimated annual 67,300 flights in 2022, approximately 10% (6,500) were multi-engine and jet engine flights, which is the most likely flight to generate overnight stays. However, other general aviation flights may also result in overnight stays, particularly larger planes. (See: **TABLE 6**.) HR&A assumed that 25% of all multi engine and jet engine flights and 2.5% of all other flights resulted in an overnight stay or an annual estimated total of 2,380 overnight visits. Relying on data from previous studies of HFD visitation adjusted for inflation, HR&A assumed that each overnight stay included \$462 in offsite spending.

TABLE 6 | OVERNIGHT VISITOR ASSUMPTIONS

Category	Multi Engine and Jet Flights	All Other Flights	Total
Total Flights	6,500	29,500	36,000
Share Staying Overnight	25%	2.5%	6.6%
Overnight Flights	1,640	740	2,380
Average Passenger Occupancy	2.7	2.7	2.7
Average Spending Per Person Per Trip	\$462	\$462	\$462
Total Estimated Visitation Spending (\$M)	\$2.0	\$0.9	\$3.0

Source: FAA, 2023; HR&A analysis; 2012 Hartford Brainard CAA

Absent surveyed respondents, HR&A assumed that visitor spending would be broken into categories consistent with the CAA 2012 HFD Business plan and including spending on accommodation, car rental and gas, and food and drink. (See: **TABLE 7**.)

TABLE 7 | VISITOR EXPENDITURES BY CATEGORY

IMPLAN Code	Description	Direct	Description
408	Retail - Gasoline stores	\$148,216	5% of spending
507	Hotels and motels, including casino hotels	\$1,185,729	40% of spending
450	Automotive equipment rental and leasing	\$889,296	30% of spending (includes car rental)
406	Retail - Food and beverage stores	\$148,216	5% of spending
509	Full-service restaurants	\$592,864	20% of spending

Source: ARA Survey of Aircraft Owners at HFD, 2023; HR&A analysis; IMPLAN, 2023.

Quantitative Economic Impacts

HR&A used the assumptions generated through the analyses above as inputs to the IMPLAN input-output model, focusing on jobs supported, labor income, and economic output for the City of Hartford, CROG Region, and the state of Connecticut. To account for non-responsive survey recipients, potential errors in the survey answers provided by responsive recipients, and other variances between historically observed values and future ongoing economic impacts of HFD operations, HR&A established a range of outputs based on a +/- 30% sensitivity on the input assumptions.⁶ All values are also rounded to avoid a false sense of precision lent by these outputs, as indicated in the tables below.

Jobs

HFD operations support between 125 and 230 jobs in the City of Hartford and between 190 and 360 jobs in the state of Connecticut. (See: **TABLE 8**.) Most jobs likely occur onsite, but additional direct jobs are supported by direct activities that may occur, offsite, such as fuel and parts sales in Hartford. Indirect and induced jobs support activity and jobs onsite (e.g. advanced manufacturing). The activity generated by onsite employers is the largest generator of jobs with estimated direct jobs supported by HFD being between 80 and 150.

TABLE 8 | JOBS SUPPORTED BY EXISTING OPERATIONS

Impact	Hartford		CROG Region		Connecticut	
	Low	High	Low	High	Low	High
Direct	120	225	120	225	120	225
Indirect	5	5	20	40	20	40
Induced	0	5	50	90	50	100
Total	125	230	190	350	190	360

All values are rounded to the nearest 5. Totals may not add due to rounding.

Source: HR&A analysis of IMPLAN, 2023.

Labor Income

Labor income represents the take home earnings for workers and proprietors resulting from activity on HFD. Total direct, indirect, and induced labor income from HFD operations is between \$8.7 million and \$16.1 million in Hartford, \$13.0 million and \$24.2 million in the CROG region, and \$13.9 million and \$25.8 million in Connecticut. (See: **TABLE 9**.) A much larger share of income is generated in the broader region than locally in Hartford because of the larger number of indirect jobs created in the state than in Hartford. The labor income for direct jobs on HFD averages \$69,000 annually per job. More than half of the direct labor income generated by activity at HFD is

⁶ HR&A used a value of 30% for the sensitivity because doing so allowed the analysis to include a range of outputs that would reflect high and lower values of spending including outliers, particularly for the aircraft owner spending responses.

created by the onsite businesses. There is between \$5.8 million and \$10.8 million in direct labor income annually in Connecticut.

TABLE 9 | LABOR INCOME OF EXISTING OPERATIONS

Impact (\$000,000)	Hartford		CROG		Connecticut	
	Low	High	Low	High	Low	High
Direct	\$8.3	\$15.5	\$8.3	\$15.5	\$8.3	\$15.5
Indirect	\$0.2	\$0.3	\$1.5	\$2.8	\$1.8	\$3.4
Induced	\$0.1	\$0.3	\$3.2	\$5.9	\$3.7	\$6.9
Total	\$8.7	\$16.1	\$13.0	\$24.2	\$13.9	\$25.8

All values rounded to the nearest \$0.1 million. Totals may not add due to rounding.

Source: HR&A analysis of IMPLAN, 2023.

Economic Output

The total economic output of ongoing operations of HFD is between \$17 million and \$32 million in the City of Hartford, \$29 million and \$54 million in the CROG region, and \$31 million and \$57 million in the state.⁷ (See: **TABLE 10.**) Nearly three-fourths of the economic impact is generated by onsite businesses. Onsite businesses generate between \$10.9 million and \$20.2 million in direct economic impacts and \$9.9 million and \$18.5 million in indirect and induced impacts in Connecticut.⁸

TABLE 10 | ECONOMIC OUTPUT OF EXISTING OPERATIONS

Impact (\$000,000)	Hartford		CROG		Connecticut	
	Low	High	Low	High	Low	High
Direct	\$16	\$30	\$16	\$30	\$16	\$30
Indirect	<\$1	\$1	\$4	\$7	\$4	\$8
Induced	<\$1	\$1	\$9	\$17	\$10	\$19
Total	\$17	\$32	\$29	\$54	\$31	\$57

All values rounded to the nearest \$0.1 million. Totals may not add due to rounding.

Source: HR&A analysis of IMPLAN, 2023.

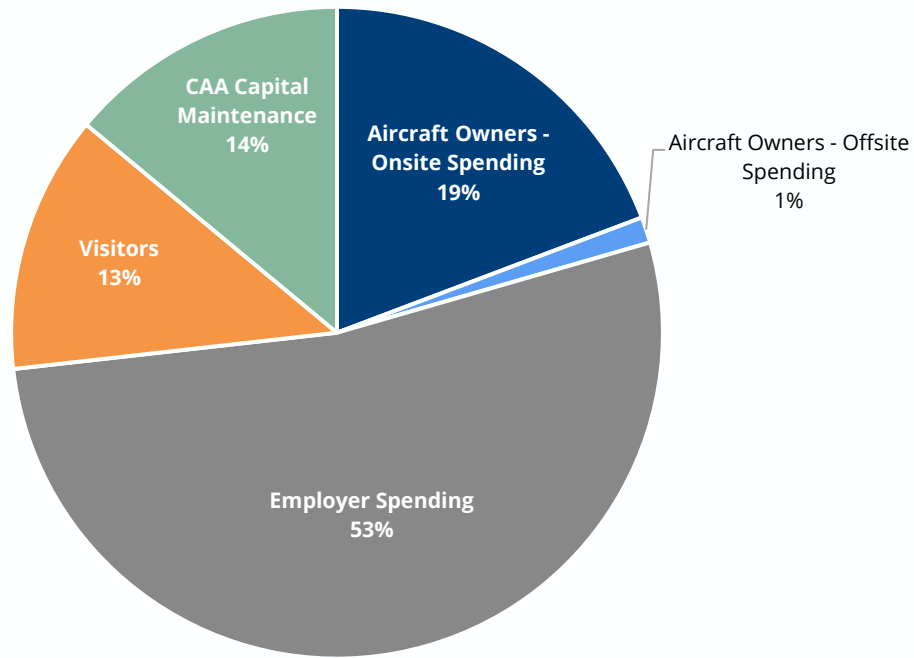
Economic impacts driven by employer spending comprise the majority (53%) of economic output, with another 14% generated by capital investments made by CAA at HFD in the form of annual capital maintenance expenditures. (See: **FIGURE 3.**) In addition, spending by aircraft owners generates another fifth of total economic output, with the vast majority of this driven by expenditures onsite as opposed to offsite at nearby retailers and restaurants. Visitor spending accounts for the remaining 13% of total economic output from offsite purchases.

Employment and monetized economic impacts are an important part of understanding the role of HFD in the City, regional, and state economy, and the use of an input-output model allows for some comparison between ongoing operations at HFD and other recurring drivers of economic activity and one-time investments; however, the Airport generates additional economic impacts that benefit the community. Some of these are quantifiable but cannot be easily incorporated into this input-output model. In contrast, others are more difficult to quantify but can be described qualitatively, backed by data and insight from regional economic development stakeholders.

⁷ Statewide output is sometimes called Gross State Product. Since this analysis is performed on three geographies, we refer to the output for all three, including the state, as Gross Regional Product or GRP.

⁸ This is a slightly smaller overall economic impact than was reported in the 2019 study (\$59 million); however, unlike the previous study, assumptions are based on survey data of aircraft owners and employers at HFD. Decreases – despite inflation over the period – may be attributed to the loss of restaurants onsite and a more refined analysis of potential overnight visitation.

FIGURE 3 | SHARE OF ECONOMIC OUTPUT OF EXISTING OPERATIONS BY DRIVER



Distribution in the figure shows the breakdown of economic output for the state of Connecticut; however, shares vary by less than 1% for all categories for the city of Hartford and the CROCOG region.

Source: HR&A analysis of IMPLAN, 2023.

Other Quantitative and Qualitative Economic Impacts

In addition to quantifiable impacts from the input-output model, HFD is an asset for:

- Workforce development of critical industries;
- Development and expansion of various aviation-related industries such as aerospace, VTOL (Vertical Take off and Landing), drones, and other advanced aerial technologies;
- Private and corporate aviation; and
- Public services.

Workforce Development

Pilots

The United States faces a pilot shortage expected to grow to 30,000 people by 2032.⁹ HFD hosts two aviation education establishments for training pilots in the region. These two centers reported a combined enrollment of 160 students, of which up to 40% pursue a career as a pilot.¹⁰ Graduates that enter the industry as a pilot after training in Premier Flights make salaries ranging from \$100,000 to \$450,000, compared to a median income of \$57,000 annually in Hartford. If each of the estimated 25 graduates of HFD's two flight schools that became professional pilots obtained jobs that paid the reported low end of the salary range (\$100,000 annually), that

⁹ Associated Press, "[Pilot shortage puts pressure on airline operations](#)," 2023.

¹⁰ Others learn to fly as a hobby.

cohort would earn \$1.1 million more annually than if they had received the median earnings for Hartford (\$57,000).¹¹ (See **TABLE 11.**)

TABLE 11 | INCREMENTAL EARNINGS PER COHORT FROM HFD FLIGHT SCHOOLS

Assumption	Value
Low End of Salary Range for Pilots	\$100,000
Median Earnings for Hartford Metro Area Workers	\$57,000
Incremental Earnings for Pilots	\$43,000
Estimated Flight School Graduates Becoming Pilots per Cohort	25
Estimated Incremental Earnings of Graduates	\$1,075,000

Conceptual analysis assumes all pilots stay within Hartford.

Source: Survey of Expenditures and Preferences Among Aircraft Owners and Business Operators at Hartford Brainard Airport; HR&A Analysis; Lightcast.

Though not all students come from Hartford or plan on staying in Hartford, this training opportunity remains an important asset to developing and maintaining the region's aviation, aerospace, and growing VTOL industries.

Technicians

HFD is also home to CT Aero Tech School for Aviation Maintenance Technicians. It is an extension campus of Bristol Technical Education Center and part of the Connecticut Technical Education and Career System. The school provides training programs for Airframe Mechanics and Aircraft Maintenance Technology fields approved by the Federal Aviation Administration (FAA).

As with pilots, the United States faces a shortage of approximately 43,000 technicians by 2027.¹² CT Aero Tech trains workers to fill these roles and has a 95% placement rate for graduates. Aircraft Mechanics and Service Technicians in the Hartford metro area earn an annual median income of \$83,400. This equates to **\$1.5 million in annual incremental income per graduating class** of CT Aero Tech students.

TABLE 12 | INCREMENTAL EARNINGS PER COHORT FROM CT AERO TECH SCHOOL

Assumption	Value
Median Income Aircraft Mechanics and Service Technicians in Hartford Metro Area	\$83,400
Median Earnings for Hartford Metro Area Workers	\$57,000
Incremental Earnings for Aircraft Mechanics and Service Technicians	\$26,400
Estimated CT Aero Tech Graduates Pursuing Related Career	57
Estimated Incremental Earnings of Graduates	\$1,505,000

Conceptual analysis assumes all Aircraft Mechanics and Service Technicians stay within Hartford.

Source: Survey of Expenditures and Preferences Among Aircraft Owners and Business Operators at Hartford Brainard Airport; HR&A Analysis; Lightcast.

CT Aero Tech's programs also benefit the participants and are an important regional asset for building out the talent pipeline in the aviation and aerospace industry, especially as supporting the advanced manufacturing and aerospace industries are state economic development priorities. Additionally, even if students decide to pursue a different career path, the skills learned to become an aviation technician are transferable to a wide array of advanced manufacturing and maintenance jobs.

¹¹ Survey of Expenditures and Preferences Among Aircraft Owners and Business Operators at Hartford Brainard Airport; Lightcast.

¹² "The projected shortage is based on responses to an Oliver Wyman survey from companies in the maintenance, repair, and overhaul (MRO) segment of aviation". Oliver Wynman, "[Not Enough Mechanics](#)", 2022.

Incremental earnings per cohort from HFD's flight schools and CT Aero Tech School are not cumulative with results from the IMPLAN input-output model. Rather, the impacts of incremental earnings on the region are already captured in the economic model and the inputs related to educational services that are attributed to the employers. However, these values offer a quantitative measure that illustrates the incremental benefit of providing these workforce development opportunities to the region in a more tangible way.

Aviation-related Industries

In 2022, for the first time in Connecticut, a battery-powered aircraft took passengers on a five-minute flight from HFD, helping set the stage for potential future uses of electric aircraft and VTOL at HFD. These aircraft only need an area the size of a helipad to land and can benefit from HFD's proximity to downtown Hartford and other neighborhoods south and east of downtown. The region's established aviation industry – with legacy employers like Pratt and Whitney and Sikorsky – makes it an ideal location to test electric aircraft and VTOL, as there already is an established workforce that could help support this type of testing. Furthermore, HFD's lack of commercial flights makes it easier to carry out flight testing.

Additionally, the drone industry is anticipated to grow substantially by 2030.¹³ HFD can capitalize on this fast-growing industry and support the region in pursuing the drone industry and helping to diversify the existing economy. As with VTOL, a relative lack of commercial flights may make drone activity originating from HFD easier.

Private and Corporate Use

Additionally, multiple HFD stakeholders have mentioned corporate jet use at HFD. The actual value of this is difficult to quantify. Still, Hartford is currently the home to the headquarters of multiple large insurance companies and business travel comprises a large share of Hartford's visitation. The current runway length of 4,417 feet limits corporate aviation to only small jets and light aircraft. Still, the planned runway expansion to 5,000 feet will be able to accommodate most private jets, expanding HFD's ability to attract corporate aviation wishing to use HFD, which is more proximate to downtown Hartford than the region's primary commercial airport, Bradley International Airport.

That is, though current operations likely play a small role in the economic development and business attraction and retention within the region, planned upgrades to HFD may enhance its value for corporate use in the future.

Public Services

The state police and multiple air ambulance services currently use HFD. These essential services will have to be relocated to a nearby airport if HFD were to close. Additionally, HFD had roughly 500 military flights in 2022.

Fiscal Benefits

This chapter also considers the fiscal benefits to the City of Hartford and the State of Connecticut resulting from ongoing operations at HFD. This includes taxes and fees that accrue to the City and State budgets.

City of Hartford

This includes taxes and fees generated by activity at the site and the payment in lieu of taxes (PILOT) that the State makes to the City of Hartford for property it owns within the municipality.

PILOT

The Airport is located on CAA-owned land and is exempt from paying property tax to the City of Hartford. The CAA is a quasi-public agency, so the land that it owns, including HFD, is treated as a part of the PILOT, similarly to other State-owned land. To partially reimburse municipalities for foregone property tax revenue on State-owned land, the State of Connecticut has a payment in lieu of taxes (PILOT) program that provides annual grants to

¹³ GlobeNewswire, "[Commercial Drone Market Projected to Expand...](#)", 2023.

municipalities.¹⁴ Payments for State-owned property are equal to 45% of the baseline property taxes on the property if it were not exempt.

PILOT is appropriated, and the State has generally underfunded this appropriation. Recent legislation acknowledges this underfunding and directs greater shares of limited PILOT funding to higher need municipalities. Connecticut municipalities were broken into three tiers, with Tier 1 receiving the highest level of reimbursement. Hartford is considered a Tier 1 city, and it receives a PILOT equal to 50% of the PILOT payment attributed to State-owned property within the city. Tier 1 cities receive the highest payments as a share of baseline property tax. This results in the State paying an effective rate of 22.5% of the property tax owed attributed to the Airport.

Based on this calculation, future PILOT attributed to HFD should be approximately \$688,000 annually. (See **TABLE 13.**) This new policy substantially increased over has been appropriated to Hartford in recent years for the PILOT attributed to HFD. For example, over the past three fiscal years, the State has appropriated \$10.1 million to Hartford for its PILOT related to State-owned property, including HFD under the ownership of the CAA. If HFD's assessed value as a share of total State-owned property in the city (3.6%) were applied to the total PILOT under the previous appropriation, the share of the PILOT attributed to HFD would be approximately \$368,000.

TABLE 13 | CALCULATED STATE PILOT FROM HFD PROPERTY

	Land	Improvements	Total
Statutory PILOT			
HFD Property Assessed Value	\$27,919,920	\$12,082,980	\$40,002,900
City of Hartford Property Tax Rate	74.29 mills	74.29 mills	74.29 mills
Baseline Property Taxes	\$2,074,171	\$897,645	\$2,971,815
Statutory PILOT Rate	45%	45%	45%
Tier I City PILOT Reimbursement Rate	50%	50%	50%
Calculated PILOT Payment	\$466,700	\$202,000	\$668,700

Source: City of Hartford Assessor; State of Connecticut Office of Policy and Management; HR&A analysis.

However, if the property were privately-owned, it would generate real property tax revenue for the City of Hartford. To assess the fiscal impact of HFD operations, this analysis considers the relative benefit of the PILOT less what would have been raised in property tax from the site if privately owned. To do this, we assume that only the land is taxed, as private ownership would likely imply that the property would no longer act as an airport. In 2023 the City of Hartford assessed the land value of 233-299 Maxim Road at \$27.9 million. Applying the real property tax rate of 74.29 mills would result in annual property tax payments of nearly \$2.1 million. Net against the statutory PILOT, HFD operations result in a reduction in net property tax/PILOT of \$1.4 million annually to the City of Hartford.

Registration Fees

The State of Connecticut, via the CAA establishes a registration program for all aircraft based in the state. This registration is based on the municipality where aircraft is based or primarily used. This annual fee is based on the aircraft's gross weight and ranges from \$90 for aircraft less than 3,000 lbs. to \$2,500 for aircraft larger than 12,500 lbs. All military, government, and aircraft dealers are exempt from this fee. Municipalities retain collected registration fees. In 2023 total fees collected from HFD-based aircraft are estimated to be \$25,200.¹⁵

¹⁴ There are two components to the PILOT 1) Grants to municipalities for state-owned property; and 2) Grants to both municipalities for private nonprofit college and hospital property. The airport falls under the former.

¹⁵ This analysis assumed that of 132 aircraft based at HFD 58% would be less than 3,000 lbs., 33% would be between 3,001 and 4,500 lbs., and 8% would be between 4,501 and 8,000 lbs.

State of Connecticut

This primarily includes taxes owing to activity at HFD, including:

- Sales taxes
- Personal income taxes
- Corporate income taxes
- Gross Earnings Tax on petroleum products sales

To determine the fiscal benefits owing to HFD operations from taxes on sales, personal income, and corporate income, this analysis relies on the historical relationship between personal income and tax and statewide collections and the labor income output of the input-output model to estimate aggregate increases in these taxes owing to direct, indirect, and induced impacts of operations at HFD. From 2018 to 2022, the State of Connecticut collected on average \$60 in sales taxes, \$31 in personal income taxes, and \$163 in corporate income taxes for every \$1 million of personal income.¹⁶ Assuming between \$13.9 million and \$25.8 million in labor income in the State of Connecticut is attributed to operations at HFD, the related annual fiscal benefits are \$233,000 to \$433,000 in sales tax, \$450,000 to \$836,000 in personal income tax, and \$85,000 to \$158,000 in corporate income taxes, respectively. (See **TABLE 14.**)

TABLE 14 | STATE FISCAL BENEFITS FROM HFD OPERATIONS

	Low	High
Sales Taxes	\$233,500	\$433,700
Individual Income Taxes	\$450,400	\$836,500
Corporate Income Taxes	\$85,400	\$158,700
Total	\$769,000	\$1,429,000

Sources: U.S. Census Bureau, 2022 Annual Survey of State Government Tax Collections; Bureau of Economic Analysis, CAINC1 County and MSA personal income summary: personal income, population, per capita personal income; HR&A analysis of IMPLAN, 2023.

Gross Earnings Tax on petroleum products sales are measured directly from fuel sales onsite. The CAA budget projects \$31,600 in fuel flowage fees in fiscal year 2023, and at 13 cents per gallon implies an estimated 243,000 gallons of aviation fuel sold at HFD. (See **TABLE 15.**) Gross Earnings Tax on Petroleum Products Sales caps the base at \$3.00 per gallon and levies an 8.1% tax, resulting in an estimated \$59,000 in tax collections annually from HFD operations.

TABLE 15 | GROSS EARNINGS TAX ON PETROLEUM PRODUCTS SALES FROM HFD OPERATIONS

Assumption	Value
CAA FY 2023 Budget - Fuel Flowage Fees	\$31,608
Fuel Flowage Fee per Gallon	\$0.13
Estimated Gallons of Fuel Sold	243,100
Cap on Revenue Base	\$3.00 per gallon
Gross Earnings Tax Rate	8.1%
Estimated Annual Gross Earnings Tax	\$59,100

Assumes fuel flowage fees at CAA account for all fuel sold at HFD.

Source: CAA FY 2023 Operating Budget; Connecticut State Department of Revenue Services; HR&A analysis

This analysis recognizes that a share of State revenues generated from these tax sources are also returned to the City of Hartford through municipalities sharing grants. For example, in 2015, the legislature enacted the municipal

¹⁶ U.S. Census Bureau, 2022 Annual Survey of State Government Tax Collections; Bureau of Economic Analysis, CAINC1 County and MSA personal income summary: personal income, population, per capita personal income.

revenue sharing program that diverts a portion of sales tax revenue to a dedicated account to fund grant programs for municipalities. Likewise, the State has made transfers from its general fund—supported by a variety of State taxes and fees—in varying amounts to municipalities over the years. Still, other more programmatically specific programs are also in effect. However, we do not consider any intergovernmental transfers from the State to the City as fiscal impacts on the City other than the PILOT for the airport property. Such fiscal benefits are all captured by State collections.

Other Local Governments

HFD operations and their related economic impacts also impact the value of real property across the state, which is a substantial driver of fiscal benefits to local governments. Economic output and property tax can be thought of as a relationship between gross revenues and property tax, a method used for assessing commercial properties in many jurisdictions. To estimate the impact of HFD operations on property taxes broadly – and not on the Airport– this analysis considers the relationship between Connecticut’s economic output and total local property tax collections in the state. In 2022 this ratio was \$40.14 in statewide local property tax collections per \$1,000 in statewide economic output. Using the direct and indirect economic output owing to HFD from the input-output model, HFD operations account for between \$1.2 million and \$2.3 million in local property taxes.

HFD operations support an estimated \$0.7 million annually in City of Hartford fiscal benefits, \$1.1 million annually in State of Connecticut fiscal benefits, and nearly \$1.8 million in benefits to other local governments through increased property taxes. (See **TABLE 16.**) In the case of Hartford, this does not net out foregone revenue from HFD being on the property tax rolls as private property.

TABLE 16 | HFD OPERATIONS FISCAL BENEFITS SUMMARY

	City of Hartford	State of Connecticut	Other Local Governments	Total
Sales Taxes	-	\$333,600	-	\$333,600
Individual Income Taxes	-	\$643,400	-	\$643,400
Corporate Income Taxes	-	\$122,000	-	\$122,000
Property Taxes*	\$668,700	-	\$1,772,000	\$2,440,700
Other Fiscal Benefits*	\$25,200	\$59,100	-	\$84,300
Total	\$693,900	\$1,158,100	\$1,772,000	\$3,624,000

Values for State sales, individual income, corporate income taxes, and Other Local Governments property taxes rely on the midpoint of elasticity related to labor income and economic output.

** - Property Taxes for the City of Hartford includes State PILOT share attributed to HFD. Other Fiscal Benefits include Aircraft Registration Fees and Gross Earnings Tax on Petroleum Products Sales.*

Closure Impacts Analysis

In addition to analyzing the economic and fiscal impacts from continued general aviation operations at HFD, this analysis also explores changes in those impacts based on a conceptual closure of the Airport. This considers what activity would continue to occur in Hartford, the CRCOG region, and the state versus what activity would either cease or leave the state and any related economic and fiscal impacts.

The scenario outlined in this section assumes full closure of HFD as a general aviation airport. This means that all flight activity would cease; however, some other related activities may continue to occur onsite. HR&A developed this scenario in coordination with QED based on responses from aircraft owner and employer surveys. For example, aircraft owners were asked what they would do if HFD closed, including the option to cease flying and sell their airplane or re-base their aircraft at another airport, either within or outside the state. Likewise, surveys asked employers whether they would continue to operate either at HFD's site or at another airport within the state. Lastly, HR&A and QED made assumptions about continuing visitation and what shares of this economic activity might occur at other regional and state airports.

We divide this section into a discussion of inputs, how this analysis derives adjusted inputs for the closure scenario, and a discussion of the quantitative economic impacts, other quantitative and qualitative impacts, and fiscal impacts resulting from a conceptual closure.

Operations Inputs

Aircraft owners

Aircraft owners drive a sizable portion (20%) of the overall economic activity at HFD directly through expenditures at HFD and offsite at nearby businesses, and through patronage of other onsite employers whose spending makes up the majority of economic activity at HFD. According to survey responses, the closure of HFD would significantly impact aircraft owners' willingness and ability to continue flying. Of surveyed aircraft owners, 54% said they would use another airport, 40% would sell their plane, and 6% would stop flying. Respondents who said they would use another airport were asked to identify and rank, in order of preference, the airport they would choose to re-base their aircraft.

TABLE 17 shows the overall rank of respondents to this question. Meriden Markham Municipal Airport garnered the most first-choice votes (8) and had the most respondents choosing it as a top-three relocation airport (22). Robertson Field represented a second preference in both first-choice votes (6) and top-three choices (18). Other airports receiving top-choice votes included Simsbury Airport (5), Windham Airport (5), Waterbury-Oxford Airport (3), Bradley International Airport (2), Skylark Airport (2), and Barnes Municipal Airport (1).¹⁷

HR&A assumed that all respondents would re-base their aircraft and all related expenditures to their first-choice Airport. This was confirmed with QED, indicating that the corresponding airports would have the space and infrastructure to house this aircraft. The result was the shifting of 30 of 132 aircraft to other airports in the CRCOG region and 32 of 132 aircraft to other airports in Connecticut.

Of the 40% that would sell their plane, HR&A, and QED estimated half of those planes would stay in the state and continue to drive economic activity in Connecticut.

We assumed the remaining 6% who would stop flying would not sell their plane, and all related economic activity from flying would cease.

Based on these data and assumptions, in the analysis of the closure scenario, two-thirds of aircraft owner expenditures would continue to occur in the state, and 23% would continue to occur in the CRCOG region.

¹⁷ Additionally, four respondents selected "Other" as the top-choice airport for re-basing their aircraft.

TABLE 17 | AIRCRAFT OWNER ALTERNATIVE AIRPORT RANKINGS

Alternative Airport	First-choice Respondents	Top-three Choice Respondents	In CROG Region?	In State of Connecticut?
Meriden Markham Municipal Airport, CT (MMK)	8	22	No	Yes
Robertson Field, CT (4B8)	6	18	Yes	Yes
Simsbury Airport, CT (4B9)	5	9	Yes	Yes
Windham Airport, CT (IJD)	5	8	No	Yes
Waterbury-Oxford Airport, CT (OXC)	3	6	No	Yes
Bradley International Airport, CT (BDL)	2	12	Yes	Yes
Skylark Airport, CT (7B6)	2	4	Yes	Yes
Barnes Municipal Airport, MA (BAF)	1	2	No	No
Chester Airport, CT (SNC)	0	5	No	Yes
Ellington Airport, CT (7B9)	0	4	Yes	Yes
Danielson Airport, CT (LZD)	0	2	No	Yes
Goodspeed Airport, CT (42B)	0	2	No	Yes
Tweed-New Haven Airport, CT (HVN)	0	1	No	Yes
Westover Metropolitan Airport, MA (CEF)	0	1	No	No

N = 36 respondents

Four respondents selected “Other” as their first-choice alternative Airport.

Source: Survey of Expenditures and Preferences Among Aircraft Owners and Business Operators at Hartford Brainard Airport; HR&A analysis; Esri.

Employers

Seven of the nine HFD employers who responded to the survey would close, while two said they would move operations elsewhere. Relocating employers include CT Aero Tech School, which would not be required to leave if HFD no longer operated as a general aviation airport but indicated they would likely relocate to another airport.

For this analysis, HR&A assumed that all employers indicating they would close would do so under the closure scenario. Based on survey responses, one of the relocating employers would move out of state while the other would move out of the CROG region. While employment and expenditures related to public sector use of the Airport would likely continue within the state, its impacts are not quantified as part of this closure scenario.

Visitation

Visitation to the region was likely not driven by the Airport, but rather the proximity to existing assets. As this is the case, HR&A assumed all visitation would continue to occur in Hartford even in a closure scenario.

Quantitative Economic Impacts

Jobs

The annual jobs supported by the relocated aircraft and visitation are estimated to be between 13 and 24 in Hartford, between 19 and 35 in the CROG, and 36 and 66 in Connecticut. Most of the direct jobs that would continue to exist are supported by the continued full visitation to Connecticut. Still, the direct job variation is mainly driven by aircraft owners relocating to other airports in the CROG and Connecticut. Additional jobs would continue to be supported by the relocated aircraft operations to other airports in the CROG and Connecticut.

TABLE 18 | JOBS SUPPORTED IN CLOSURE SCENARIO

Jobs	Hartford		CRCOG Region		Connecticut	
	Low	High	Low	High	Low	High
Direct	13	24	19	35	36	66
Indirect	<1	1	4	7	6	12
Induced	<1	<1	7	14	14	26
Total	14	25	30	56	56	104

Source: IMPLAN, HR&A Analysis

Labor Income

The labor income supported by the relocated aircraft and visitation would be between \$0.6 million and \$1.2 million in Hartford, \$2.5 million and \$4.6 million in the CRCOG region, and between \$4.7 million and \$9.3 million in Connecticut. (See: **TABLE 19**.) A much smaller ongoing impact in Hartford will be driven by visitation. The only labor income supported in Hartford will be generated by visitation. Labor income in the CRCOG and Connecticut is evenly split between visitor impacts and continued aircraft operations, with very little labor income being continued to be generated by relocated businesses.

TABLE 19 | LABOR INCOME SUPPORTED IN CLOSURE SCENARIO

Impact (\$000,000)	Hartford		CRCOG		Connecticut	
	Low	High	Low	High	Low	High
Direct	\$0.6	\$1.1	\$1.7	\$3.2	\$3.2	\$5.2
Indirect	<\$0.1	<\$0.1	\$0.3	\$0.5	\$0.5	\$1.4
Induced	<\$0.1	<\$0.1	\$0.5	\$0.9	\$1.0	\$2.6
Total	\$0.6	\$1.2	\$2.5	\$4.6	\$4.7	\$9.3

Source: IMPLAN, HR&A Analysis

Economic Output

As with labor income, economic output under the closure scenario will be very low for the city of Hartford, driven entirely by continued visitation to the city. In the CRCOG region and the state of Connecticut, ongoing economic activity will be generated by continued aircraft usage but based out of different airports in Connecticut. In the CRCOG region, there will be between \$7.0 million and \$12 million of ongoing annual activity, and in Connecticut, there will be between a total of \$14 million and \$25 million.

TABLE 20 | ECONOMIC OUTPUT IN CLOSURE SCENARIO

Impact (\$000,000)	Hartford		CRCOG		Connecticut	
	Low	High	Low	High	Low	High
Direct	\$2.1	\$3.9	\$2.8	\$5.2	\$4.7	\$8.7
Indirect	\$0.1	\$0.1	\$0.8	\$1.4	\$1.4	\$2.5
Induced	<\$0.1	\$0.1	\$1.4	\$2.6	\$2.7	\$5.0
Total	\$2.2	\$4.0	\$5.0	\$9.3	\$8.7	\$16.2

Source: IMPLAN, HR&A Analysis

Broadly speaking, closing HFD reduces ongoing economic impacts significantly. There is little opportunity to keep this economic activity within the city limits, and there are substantial challenges in keeping the activity within the CRCOG region based on those airport facilities that can accommodate additional aircraft and are appealing to

owners. Total employment in the city, region, and state is expected to decrease by 89%, 84%, and 71%, respectively.

Though this analysis does not seek to calculate other benefits accruing to businesses at alternative airports seeing new aircraft, the share of total aircraft that are expected to leave the state or no longer fly altogether means total economic activity will go down in any scenario.

Other Quantitative and Qualitative Economic Impacts

The other benefits of HFD, such as corporate use, training and workforce development, and public service usage, would disappear from HFD but would likely be relocated elsewhere in the region out of necessity. Emergency services and public use will likely continue nearby as they are needed in the region and cannot be replaced elsewhere. The workforce development uses would likely be replaced elsewhere in the state but would not benefit Hartford similarly. Corporate use is likely diverted to Bradley or another nearby airport.

Fiscal Impacts

For analysis of potential fiscal impacts, HR&A assumed that closure of HFD would result in it being purchased by a private owner thus returning it to the property tax roll. Under this scenario, we assumed the land would be taxed at the City of Hartford rate but that the improvements would be removed from the site. As part of the closure analysis, we do not assume any redevelopment of the site, nor did we assume that any tax abatement is placed on the property.¹⁸ As a result, the approximately \$668,900 State PILOT attributed to HFD would be replaced by an annual property tax payment of \$2.1 million. (See: **TABLE 21.**)

Fiscal benefits to the State and other local governments would drop dramatically under a closure scenario. Total State fiscal benefits would fall from \$1.1 million to \$413,000 (64%), and other local governments could expect to see property taxes fall from nearly \$1.8 million under an HFD operating scenario to \$652,000 under a closure scenario (63%).

TABLE 21 | HFD CLOSURE SCENARIO FISCAL BENEFITS SUMMARY

	City of Hartford	State of Connecticut	Other Local Governments	Total
Sales Taxes	-	\$113,300	-	\$113,300
Individual Income Taxes	-	\$218,600	-	\$218,600
Corporate Income Taxes	-	\$41,500	-	\$41,500
Property Taxes*	\$2,074,200	-	\$652,000	\$2,726,200
Other Fiscal Benefits*	-	\$39,600	-	\$39,600
Total	\$2,074,200	\$413,000	\$652,000	\$3,139,200

Values for State sales, individual income, corporate income taxes, and Other Local Governments property taxes rely on the midpoint of elasticity related to labor income and economic output.

** - Property Taxes for the City of Hartford assumes private ownership of the HFD site and tax assessed only on the land portion of the assessment. Other Fiscal Benefits include Gross Earnings Tax on Petroleum Products Sales, of which two-thirds is still expected to occur in the state.*

¹⁸ HR&A's further analysis of redevelopment is part of a separate phase of this study.

Conclusion

Since the development of Bradley in the 1950s, HFD's importance as a center of economic activity in the city, region, and state has shifted. Today ongoing operations at the general aviation airport are estimated to support between 120 and 225 direct jobs and up to 230, 350, and 360 total jobs in Hartford, the CROG region, and the state of Connecticut, respectively. HFD generates up to \$26 million in labor income for the state of Connecticut from direct, indirect, and induced impacts, as well as \$57 million in economic output in the state measured in Gross State Product.

Though these impacts are relatively modest, the Airport also plays a critical role as a regional workforce development asset. For one, it hosts flight schools that train approximately 160 pilots, with 25 in any given graduating class going on to become commercial pilots. In addition, CT Aero Tech School provides training programs for Aviation Maintenance Technicians, graduating and placing more than 55 students annually who enter this high-demand field.

Fiscal benefits for the City and State are modest. As CAA-owned property, HFD's property tax liability – if it were not tax exempt – contributes to the State's PILOT to the City, which has been recalculated by the legislature this year and should result in approximately \$670,000 annually in payments to the City. In addition, economic activity generated by HFD operations results in an estimated \$1.2 million in sales, personal income, and corporate income taxes, as well as fuel tax fees and nearly \$1.8 million in local property taxes across the state.

Ceasing aviation operations at HFD substantially affects economic impacts measured as part of operations. All employers surveyed indicated they would close or relocate outside the region. While two-thirds of aircraft owners and their related expenditures are estimated to remain in the state, only 22.5% of total expenditures are expected to remain in the CROG region, and none in the city of Hartford. The result is reduced economic impacts between 60% and 90%. Fiscal impacts to the state and other local governments would also be expected to decrease by similar amounts; however, assuming the Airport was transferred from the state and taxed as private property, it is expected that local property tax to the City of Hartford would increase, resulting in a net decrease in fiscal benefits of only 13%.

The quantitative and qualitative impacts included in this report are one way to assess the potential costs of closing the Airport; however, other considerations, such as HFD's future use and the economics and tax environment behind that use, are necessary to consider when developing a set of recommendations for HFD's future.

Technical Appendix

APPENDIX A | LIST OF EMPLOYERS USING HFD

Employer Name	Employer Type
CT Hangar Association	Hangars
Hartford Tees	Hangars
Hartford Jet Center	Full-service provider
United States Parcel Service	Mail
Central Auto & Transport	Towing and Car Repair
CT Lighting Center	Retail (lighting)
Learn2Fly	Flight School
Premier Flight School	Flight School
ATP Flight Academy	Flight School
EAA Young Eagles at Brainard Chapter 166	Flight School
CT Aerotech	Workforce Training
Lifestar Air Ambulance	Emergency Medical Transport
PALS (Patient Airlift Service)	Emergency Medical Transport
Angel Flight NE	Emergency Medical Transport
Total Aircraft	Maintenance and parts
VIP Avionics	Service and Repair
Aquiline Drones	Manufacturing and Drone Activity
Cirrus Aircrafts	Sales representative
CT Airport Authority	Airport Owner
Connecticut State Police	Public Entity
United States Coast Guard	Public Entity
FAA Contract Tower	Aviation

Source: CAA

APPENDIX B | SELECTED IMPLAN DATA FOR HARTFORD, CROG REGION, AND CONNECTICUT

Description		Employment Multiplier	Labor Income Multiplier	Value Added Multiplier
Hartford				
60	Maintenance and repair construction of nonresidential structures	0.00000413	0.35507167	0.371446744
62	Maintenance and repair construction of highways, streets, bridges, and tunnels	0.00000402	0.34991546	0.388174741
402	Retail - Motor vehicle and parts dealers	0.00000666	0.52544190	0.722414594
406	Retail - Food and beverage stores	0.00001103	0.46198389	0.626238549
408	Retail - Gasoline stores	0.00000520	0.43660472	0.637274867
412	Retail - Miscellaneous store retailers	0.00001400	0.52742511	0.658288599
420	Scenic and sightseeing transportation and support activities for transportation	0.00000810	0.86970040	0.768286627
450	Automotive equipment rental and leasing	0.00000117	0.72875065	0.849008235
482	Other educational services	0.00001137	0.53810740	0.560553657
507	Hotels and motels, including casino hotels	0.00000756	0.44779371	0.635796278
509	Full-service restaurants	0.00001066	0.41621980	0.624390353
CROG Region				
60	Maintenance and repair construction of nonresidential structures	0.00000415	0.35360994	0.368353704
62	Maintenance and repair construction of highways, streets, bridges, and tunnels	0.00000404	0.34817337	0.384234721
402	Retail - Motor vehicle and parts dealers	0.00000669	0.52336914	0.721123537
406	Retail - Food and beverage stores	0.00001110	0.45939297	0.623955473
408	Retail - Gasoline stores	0.00000529	0.42593613	0.630680206
412	Retail - Miscellaneous store retailers	0.00001422	0.52002721	0.652813717
420	Scenic and sightseeing transportation and support activities for transportation	0.00000800	0.87077011	0.771314251
450	Automotive equipment rental and leasing	0.00000118	0.72854081	0.848257577
482	Other educational services	0.00001145	0.53405460	0.557405031
507	Hotels and motels, including casino hotels	0.00000755	0.44717335	0.636299209
509	Full-service restaurants	0.00001078	0.41303246	0.620111625

Description	Employment Multiplier	Labor Income Multiplier	Value Added Multiplier
Connecticut			
60 Maintenance and repair construction of nonresidential structures	0.00000418	0.35698923	0.363819262
62 Maintenance and repair construction of highways, streets, bridges, and tunnels	0.00000408	0.35240738	0.378341453
402 Retail - Motor vehicle and parts dealers	0.00000644	0.53985546	0.731590312
406 Retail - Food and beverage stores	0.00001076	0.47243571	0.635574022
408 Retail - Gasoline stores	0.00000518	0.43475732	0.638522037
412 Retail - Miscellaneous store retailers	0.00001377	0.53483748	0.663758485
420 Scenic and sightseeing transportation and support activities for transportation	0.00000677	0.92824389	0.80654736
450 Automotive equipment rental and leasing	0.00000160	0.63556523	0.794479363
482 Other educational services	0.00001140	0.53685591	0.559325443
507 Hotels and motels, including casino hotels	0.00000700	0.46585688	0.662852922
509 Full-service restaurants	0.00001060	0.42092924	0.626501416

Source: IMPLAN, 2023

APPENDIX C | SURVEY OF EXPENDITURES AND PREFERENCES AMONG AIRCRAFT OWNERS AND BUSINESS OPERATORS AT HARTFORD BRAINARD AIRPORT